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Oversight hearings on Data Collection Issues in relation to the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act

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House Natural Resources Committee

Chairman Fleming, Ranking Member Sablan, and Members of the Committee, thank you for the opportunity today to speak to you today on the importance of data collection in sustainably managing our nation's fisheries. My name is Mike Colby and I have been a participant in the Gulf of Mexico fishery for the better part of 50 years. I spent many years part-time in the for-hire fishery while I was a contractor for the U.S. Fish & Wildlife Service and an adjunct instructor in the environmental sciences. In 1986, I received my first Merchant Mariners Credential and became a full-time operator in 1995. I have always felt that the charter industry was my pathway to becoming an ambassador for our fishery.

Over the past several decades, I began to see myself not just as a participant in the fishery, but as someone who is responsible for the fishery. This was a growth in perspective that I attribute to my background in the biological sciences and a true concern for natural resources. My involvement in current fishery management issues is the direct result of my vested interest in our fishery resources.

This hearing and last week's Managing Our Nation's Fisheries Conference call attention to the importance of sustainable fisheries to our coastal communities and economies. NOAA, the National Marine Fisheries Service (NMFS) and regional fishery management councils have made strides over the past decade to rebuild stocks and to end overfishing and increase the number of stock assessments and status reviews. Since 2000, 32 fish stocks have been rebuilt and many more have been assessed; 11 have been rebuilt since I last testified in 2011. The Magnuson-Stevens Fishery Conservation and Management Act is working and fish populations are rebuilding. This is good for fish, fishermen and the coastal economies that depend on a healthy resource.

Science based catch limits and accountability measures are key components of the successes we have seen on the water in ending overfishing and rebuilding fisheries. National Standard two of the Magnuson-Stevens Fishery Conservation and Management Act requires that "Conservation and management measures shall be based on the best available science." Data collection in the recreational and commercial fisheries forms the basis for the best available science used when managing our nation's fisheries.

As a young wildlife and fisheries student I can remember a fishery biologist telling me that he "never saw a perfect data set". He also reminded me that all data give us direction, trends and

the need for more data. While I can think of no one who would argue the need for more reliable fishery data, we need to look at the existing science and scientific process we have now.

Existing Data Collection Methods for Gulf Recreational Fisheries

Three separate programs are used to sample and calculate catch and effort estimates for the marine recreational fishery in Gulf of Mexico: the Marine Recreational Information Program (MRIP), Southeast Regional Headboat Survey (SRHS) and the Texas Marine Sport-Harvest Monitoring Program (TPWD).¹

Before we address MRIP, we need to address its predecessor the Marine Recreational Fisheries Statistics Survey (MRFSS). The Magnuson Fishery Conservation and Management Act² passage in 1976 mandated collection of data for both commercial and recreational marine fisheries by National Marine Fisheries Service (NMFS). NMFS established MRFSS as a program in 1979 to serve as a reliable database for estimating the impact of marine recreational fishing on marine resources.³ A nationwide standardized data collection methodology and statistical estimation process began in 1981. All of the Gulf of Mexico states originally participated in MRFSS; however, Texas dropped out of the program in 1986 and returned to its original survey design. Louisiana, Mississippi, Alabama and Florida have continued to use MRFSS as their primary marine recreational fishery sampling methodology.

MRFSS was not specifically designed for management rather it was to estimate the impact fishing had on the resource; however, as this program was the main source for recreational fishery catch and effort, managers had to rely on it as their source of recreational information. As management needs evolved, MRFSS could not provide catch and effort estimates in a manner fitting to these needs. These concerns, and others, prompted a study by the National Research Council. In their final report, the NRC recommended a systemic overhaul of the survey methods of MRFSS and additional changes were mandated in the MSA reauthorization of 2006.

MRFSS was thusly rebranded ‘Marine Recreational Information Program’ (MRIP) and work began to redesign the survey. The redesigned system was supposed to be operational by 2009, however due to the complexity of the new system, it did not launch in 2013.

Marine Recreational Information Program (MRIP)

The goal of MRIP (*and MRFSS*) is to provide a reliable database for estimating the impact of marine recreational fishing on marine resources⁴. The function of the survey is to provide Fishery Management Councils, Interstate Fisheries Commissions, and State and Federal fishery management agencies to draft fishery management plans, to evaluate future demands on fish stocks, to predict and evaluate the impact of fisheries regulations, and to develop recreational facilities for anglers. MRIP, like MRFSS, calculates recreational fishery catch and effort

¹National Research Council. 2006. Review of recreational fisheries survey methods. Committee on the Review of Recreational Fisheries Survey Methods, National Research Council. The National Academies Press. 187p.

² 16 U.S.C. §§ 1801-1884 (specifically § 303 & 304(e))

³ <http://data.recfin.org/mrfssov.htm>

⁴ http://www.st.nmfs.noaa.gov/st1/recreational/pubs/data_users/chap_1.pdf

estimates for all water areas (inland, state and EEZ) and all species of recreational take, including discarded species.

Two regions and some US territories, the 15 Atlantic States and four of the Gulf of Mexico States (Louisiana, Mississippi, Alabama, and Florida) participate in MRIP.⁵ The west coast, Texas and Alaska do not use MRIP.

The basic design of MRIP is through two independent, yet complementary, surveys: a telephone survey of households⁶ and an intercept survey of anglers at fishing access sites. The telephone survey captures number of trips and other similar aspects; whereas, the intercept survey captures creel data, basic spatial data, time fished and avidity data.

The telephone survey is completed in a two-week period that starts the last week of each wave through first week of the following new wave. Participants asked to recall on a trip-by-trip basis all marine recreational fishing trips made within their state during the 60 days prior to the interview. The two month period was selected as it has been shown this is the limit of reasonable data recall by multiple studies. Important to note, the original design limited the phone survey to coastal households. As the NRC found, and other critiques, this biased the data and potential resulted in under coverage of the angler frame.⁷ MRIP addresses this issue and will use an angler license database and some random digit dialing to account for unlicensed anglers to accomplish the same task. This should result in better coverage of the sampling frame (i.e., anglers).

The intercept survey consists of on-site interviews which gather catch and demographic data from marine recreational anglers in three fishing modes: party/charter boat, private/rental boat, or shore based (e.g., man-made structures, beaches, and banks). The Gulf of Mexico MRIP has not collected catch data from headboats since 1985. This is covered by a separate survey, the Southeast Regional Headboat Survey, run by NMFS/SEFSC in Beaufort, NC.

In the Gulf of Mexico, the Gulf States Marine Fisheries Commission (GSMFC) administers the survey. GSMFC is responsible for data entry.

MRIP Data Flow & Timeline:

MRIP calculates catch effort estimates in two month ‘wave’ periods. The following table and figure summarize the process. The gray shaded areas are the estimation period. In short, estimates, for any given wave, are not available until 45 days after the wave ends, e.g., May/June (wave 3) estimates are available August 15.

Step	Post Sample to Next Level	Example Receival Date
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⁵ As of 5/2013

⁶ Note: effort data collection will incorporate mail based interview methods possibly by 2014.

⁷ National Research Council. 2006. Review of recreational fisheries survey methods. Committee on the Review of Recreational Fisheries Survey Methods, National Research Council. The National Academies Press. 187p.

1	Field Data: 2-7 days to Supervisor	June 3
2	2 days to GSMFC	June 9
3	7-10 days to Data Entry	June 21
3.5	July Data: 12 days to GSMFC	July 22
4	7 days to Final Data Entry	July 29
5	Telephone Data to GSMFC	July 29
6	Estimate	August 15

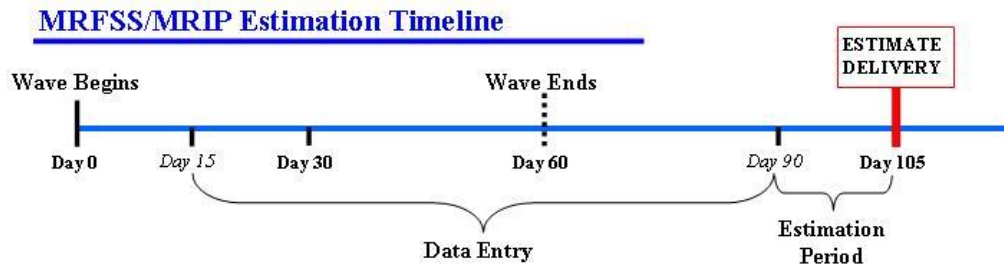


Figure 1. Generic timeline for MRFSS estimates. *Based on Salz & Rossetti, 2011.*⁸

MRIP was not designed as a management tool for in season management, it was designed to address the surveys biases identified in the NRC report. MRIP provides catch and effort estimates in six two-month waves, over a calendar year. The estimates for each wave are produced 45 days after the wave ends, e.g., May/June (wave 3) estimates are available August 15. A final annual estimate is produced approximately two months after the start of the year, essentially a re-run of the data to incorporate any corrections. Another important note is many fishing seasons are completed within a wave or straddle two waves. For example, the red snapper season is contained within a wave, but total catch estimates are not available until 45 days after the wave ends. MRIP does not have the ability to calculate in-season estimates or forecasts, which often leads to overfishing the quota in many species.

Marine Recreational Information Program (MRIP) is relied upon to predict catch per unit effort for the recreational angler; not an easy task given there were more than 3 million recreational anglers in the Gulf of Mexico in 2011. This model is commonly referred to by some fishermen as “junk science”. In August 2010 the Gulf Regional Council re-opened the Gulf red snapper season for a fall fishery after the BP Deepwater Horizon disaster based on data from MRFSS. The data indicated that the recreational quota had not been caught during the regular fishing season and that additional quota could be released to the recreational sector allowing for a fall fishing season. Recreational fishing organizations praised this decision. Yet, when MRFSS showed that a fishery closure was needed in the recreational greater amberjack fishery, it was dismissed as faulty data. Interesting, that the data are decried as “junk science” when they tell us what we don’t want to hear, yet applauded when they give us the outcome we want.

MRIP vs MRFSS:

⁸ www.countmyfish.noaa.gov/workshop/Salz_Rossetti_lag_timeliness_workshop_final.pdf

While the NRC recommended a complete redesign of MRFSS to address survey biases, it did not dictate changes of monitoring a specific fishery. While NRC mentioned timeliness as a needed component, the NRC focused on methods to “improve its effectiveness and appropriateness of sampling and estimation procedures, its applicability to various kinds of management decisions, and its usefulness for social and economic analyses.”⁹

The purpose of MRFSS was to establish and maintain a reliable database of recreational catch and effort to better understand the Nation’s impact on marine fisheries. The NRC report notes “[MRFSS] mission is to provide accurate, precise, and timely fisheries-dependent information for U.S. marine waters through the coordination and administration of recreational fisheries surveys nationwide¹⁰,” however, the term ‘timely’ is difficult to define. Each fishery has different temporal data delivery needs, some need monthly estimates, while others can operate on annual estimates. MRIP, like MRFSS, is designed to provide estimates for the entire marine recreational fishery and not the fine scale management units currently employed by fishery managers to meet conservation goals. The levels of sampling for a national survey lack the precision necessary for reduced spatial and temporal scales. Therefore, to provide estimates for specific fisheries, using the scope at which MRIP operates, is impractical.

For example, in-season management has the most need of timely data delivery to prevent overrun of quota. This requires, in general, sampling the fishery at a very high rate at a smaller geographic scale and greatly increases the cost.

Texas Marine Sport-Harvest Monitoring Program

The Texas program was established in 1974. The state was sampled by the MRFSS through 1985. The goal of this survey is to estimate participation in the Texas sport fishery. The primary focus of this survey is those anglers fishing in inshore and nearshore waters. There have been added components to capture EEZ fishery data, but at this time¹¹ is not a high priority with the state. Currently, Texas has not performed shore based (i.e., man-made structures and beaches) creel surveys due to budgetary issues since 1992.¹² The survey is focused on private boats and for-hire boats. Federally permitted headboats are sampled by the SRHS.

TPWD calculates catch and effort estimates based on field surveys. Unlike MRIP, Texas does not employ a phone survey component to obtain effort data. The components of the survey are an access point intercept survey for angler information and catch data and a roving count of effort at boat ramps.

Whereas MRIP produce estimates based on a calendar year, TPWD does not. The basic timeline of TPWD’s survey is based on High-Use (May 15-Nov 20) and Low-Use (Nov 21-May 14) seasons Meaning, Texas does not follow the more common used scheme of Jan-Dec, but rather May to May. In general, final estimates are published 3-4 months after the survey year ends.

⁹ NRC

¹⁰ National Oceanic and Atmospheric Administration. 2005. *NOAA Recreational Fisheries Statistics Program*. [Online]. Available: <http://www.st.nmfs.gov/st1/recreational/index.html> [2013, May 14].

¹¹ May 2013

¹² Mark Fisher, TPWDs Science Director, stated they were to complete these surveys every 10 years

Estimates are therefore a combination of 7 months of the first calendar year and 5 months of the following.

Data Flow & Timeline

Step	Post Sample to Next Level	Example Receival Date
1	7 days	June 7, 2011
2	2 months	August 7
3	Final estimate (annual)	June 1, 2012

Southeast Regional Headboat Survey

The SHRS has been administered since 1972 and is the one of the longest recreational fishery time series in the US.¹³ This survey started in the Gulf in 1986. The first goal of this survey is to collect, dockside, biological samples (length, weight, otoliths, etc.) from headboat landings. This is the primary source for SEDAR and stock assessment age-growth structures.¹⁴ The second goal of this survey is logbooks from each of the headboats. Crew completed logbooks are a mandatory requirement for all federally permitted headboats. Each boat must report, on a trip by trip basis, such information as location, anglers, fish (A, B1 &2).

Data Flow & Timeline

There are two components to the survey, biological specimen collection and logbook data. SEFSC samplers sample headboat catch to obtain biological data and obtain the logbooks from the vessels. Logbooks not collected by the sampler are sent to the Beaufort Lab monthly.¹⁵

Step	Post Sample to Next Level	Example Receival Date
1	7-30+ days	July 1, 2011
2	14 days	July 15
3	2 -4 months	Sept-Nov
4	~3-4 months post new year	March or April 2012

Improving Data Collection in the Recreational Fishery:

MRIP cannot address all the challenges with recreational data collection. With sufficient participation it can estimate catch and effort but to go above and beyond MRIP and improve timeliness in the data we need to have better industry and angler engagement. Recreational anglers have traditionally been participants, but as a user group that can have such a large impact

¹³ Brennan, Ken, Southeast Region Headboat Survey Program Description. SEDAR 24, South Atlantic Red Snapper Data Workshop, April 28, 2010.

¹⁴ <http://www.sefsc.noaa.gov/labs/beaufort/sustainable/headboat/>

¹⁵ Note: As of 2014, all headboat logbooks will be electronic and sent on a more timely basis (weekly)

on the resource, it is time that we fulfilled our role as stewards. Fishery managers are working to address problems on the water and it is now up to industry and anglers to find solutions that work for the fishery. There are a variety of methods we could employ to better track recreational catch effort

1. *Increase funding for data collection and monitoring:* US commercial and recreational fisheries represent a multi billion dollar industry and supports millions of jobs. Congress should invest in fish and fishermen through increasing funding for fisheries management. Increased funding would help provide additional stock assessments, an important tool in setting ACLs; improve recreational data collection and monitoring; and facilitate cooperative research.
2. *Promote innovation in fisheries data collection:* One of the key ways NMFS could improve data collection without the need for Congressional legislation is to explore the use of modern, electronic methods for collecting data from fishermen. Electronic data collection can be more timely, accurate, and cost effective compared to traditional sampling methods. Recently a pilot study conducted by the Texas A&M Corpus Christi Hart Research Institute demonstrated that data could be collected from for-hire fishermen using a mobile device, in this case an iphone, and sent directly to the NMFS. This application collected catch, discard, location, fishing effort, and economic data. This data collection platform called *isnapper* has shown great promise in several pilot programs within the charter for-hire sector. Isnapper is a self-reporting electronic program that enables the user to collect and report on a daily basis. Using a tag or other harvest documentation in conjunction with isnapper could likely give managers the higher certainty in recreational harvest data that is needed. Congress should support efforts to modernize our fisheries data collection by funding efforts to expand these types of programs to support region-wide implementation.
3. *Use tags to measure effort:* Tags are used to measure effort in numerous ways from land based hunting to salt water game fish like snook and tarpon. Tags can be used to supplement monitoring and enforcement and provide data on fishing effort. For the purposes of this testimony, tags would be used to estimate effort only and *not* to control effort.
4. *Bring fishermen to the table:* This is where recreational fishing advocates and participants answer the challenge of improving fishery dependent data and collection. MRIP provides the platform, and now fishermen need to provide the near to real time harvest data that fishery managers need. As stewards of the resource it is incumbent on us to provide as much information as we can to state and federal managers. Lack of information does not mean management efforts will cease; it unfortunately requires managers to estimate the needed information for reliable harvest numbers. I have heard from fishermen who are reluctant to participate in creel surveys (dock side intercepts) and many times do not participate in the random phone surveys. Our challenge is to inform fishermen of their obligation to provide badly needed fishery dependent data. As users of a public resource I believe it is our obligation to report our impact on that resource.

Conclusion

Our Nation's fishery resources are an integral part of our coastal economies and cultural heritage. Healthy fisheries not only promote strong business and coastal jobs but also our way of life. Nationwide, progress is being made to end overfishing and as we look to reauthorize the MSA we need to ensure that we work to improve the law and not roll back the key conservation measures that are working. Many of the ideas I have suggested can be done without reauthorizing the law and we would see benefits on the water sooner. Innovation in data collection and management that works for our country's fishing public will ensure the long-term prosperity in our coastal fishing communities. Thank you for the opportunity to share my thoughts on this important issue.