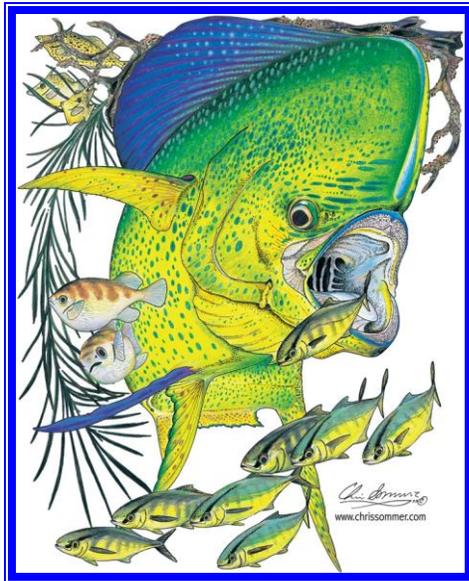


Cooperative Science Services, LLC Dolphinfish Research Program

June 2015



A Comparison of DRP and NOAA Fishery's Data

The Magnuson Fishery Conservation And Management Act passed by Congress in 1976 (MFCMA) extended the U.S. jurisdiction of fisheries out to 200 miles and created a new form of regional fisheries management through the establishment of eight regional fishery management councils. When the regional fisheries councils were created under the Department of Commerce, there was a division of responsibilities between the councils and NOAA Fisheries.

The role of the councils is to develop fishery management plans needed to manage fishery resources within federal waters. NOAA Fisheries is responsible for providing them with information on the fisheries that the managers need to properly regulate the fish stocks. A good example of how serious NOAA Fisheries takes its responsibilities is the speed at which they instituted a new sampling and statistical program to replace the old Marine Recreational Fisheries Statistics program (MRFS). The information produced by the MRFS program was recognized by fishery managers as unreliable to downright unbelievable. The new Marine Recreational Information Program (MRIP) was mandated to begin by 2012 but was not actually started until 2013 and is still undergoing changes.

"Better Fishing, Better Data" is the mantra of the NOAA's Office of Science and Technology, the section responsible for collecting the fishery data under the MRIP. The MRIP is intended to survey both inshore and offshore marine recreational fisheries. In South Carolina the survey is conducted throughout the year with all recreational fishing access points, marinas, boat landings, piers, bridges, etc. subject to being surveyed. Field staff visit

preselected sites and conduct direct interviews with the fishermen. Samplers identify the fish caught, record fish that may have been thrown back and collect length data on fish retained.

In 2013 and 2014 DRP staff began a monitoring program of dolphin harvested by recreational boats fishing out of a large marina in Charleston, South Carolina. This marina has a dry-stack storage associated with it, so in addition to the larger wet-stored charter and private sport fishing vessels, it had smaller boats down to 19-footers with single outboards that fished for dolphin. This unique combination allowed for staff to sample the dolphin harvest from all sizes of private vessels as well as charter boats.

The study was conducted during the spring of 2013 and 2014, mid-April through mid-August, the primary dolphin season. Boats were intercepted as they returned from fishing; all of their dolphinfish were measured, and sexed with weights obtained for most fish. Staff attempted to survey every boat fishing each day. This assured there was no bias in the fish measured, sexed or weighed. During the 2013 survey 653 dolphin were processed while 999 fish were processed in 2014.

It is important to know the size distribution of the fish being caught. This shows the fishing pressure being placed on the various age classes within the stock. In the case of dolphin, age can often suggest the fish's natal region especially for small fish. Having identified the major routes for dolphinfish entry into the U.S. East Coast fishery, we can often look back to the areas where the dolphin were probably spawned.

The following two graphs depict the size distribution generated by the two studies for dolphin caught by South Carolina anglers in 2013 and 2014. The size composition

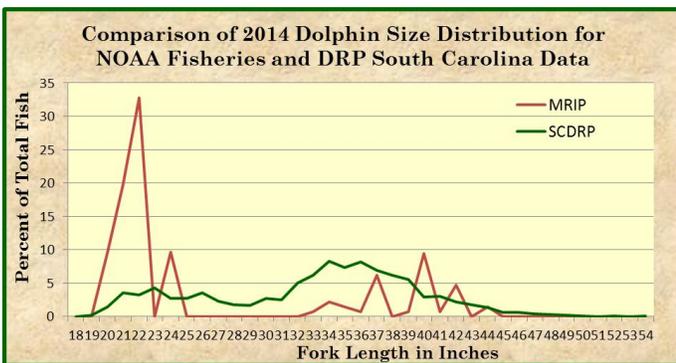
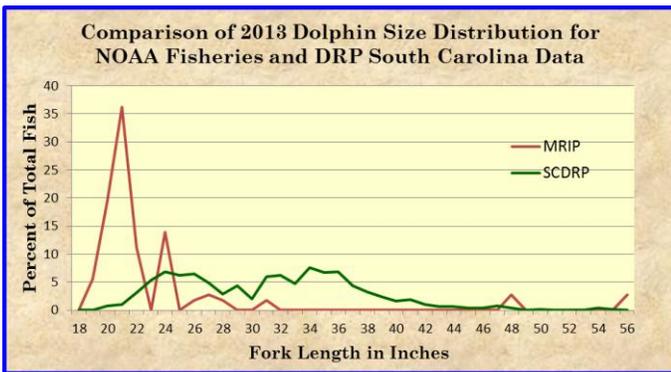
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for the South Carolina harvest that NOAA says is representative for the state has little in common with the harvest observed by the DRP. The NOAA data show significant gaps in the sizes of the fish they encountered, indicating a low number of fish actually measured. One such gap extended for 16 inches from 31 to 48 inches, which was shown by DRP data to account for 49.3 percent of the dolphin harvested by fishermen in 2013. The 2014 NOAA data were a little better with just an eight-inch gap, 24 to 33 inches, which the DRP data indicated represented 22.3 of the harvest, but no fish over 44 inches were shown. The NOAA lengths with the lowest percentages are likely where only one fish of that size was actually encountered. In the DRP data only the very largest size categories (more than 50 inches) were represented by only one fish each year.



The stark difference in the characterization of the South Carolina recreational dolphin harvest becomes more apparent in the following tables where the size data were compressed into three size categories: small fish, 25 inches or less in fork length (FL), which are potentially immature; medium fish, those 26 through 35 inches FL, which are approaching 12 months of age; and large fish, those 36

inches or more in FL, which are approaching or more than one year of age.

2013 Fish Size Data Comparison

| Category | SC DRP % | MRIP % |
|----------|----------|--------|
| Small | 23.25 | 86.45 |
| Medium | 51.46 | 7.95 |
| Large | 25.24 | 5.58 |

2014 Fish Size Data Comparison

| Category | SC DRP % | MRIP % |
|----------|----------|--------|
| Small | 18.00 | 71.87 |
| Medium | 41.40 | 4.30 |
| Large | 40.50 | 23.86 |

The NOAA MRIP data showed South Carolinians primarily harvested small fish composing an average of nearly 80 percent of all dolphin they kept each year. The DRP data, however, indicated that small fish made up an average of only 21 percent of the dolphin they retained. This is an almost fourfold difference. A similar difference in the data for the two studies is found when medium and large size fish presence in the catch is compared. NOAA says that between the two years these older fish made up an average of just 21 percent of the dolphin kept while the DRP findings show these larger fish making up 79 percent of the harvest. Again, there is an almost fourfold difference.

At best the NOAA data grossly misrepresent the size of the dolphin being caught by South Carolina anglers. This raises the question: does such a large error exist in the dolphin harvest for Florida's east coast and North Carolina? These two states typically account for more than 90 percent of the dolphin harvested recreationally each year off the U.S. Atlantic Coast. Looking at the NOAA data a fishery manager could infer that few large breeding adults are left in the population.

At worst it indicates a gross under-estimation of the quantity of dolphin being caught and presents the opportunity for fishery managers to consider dolphin as overfished.

Dolphin Tagging Introduced to the Cayman Islands

Thanks to the generosity of the **Guy Harvey Ocean Foundation**, I was able to join Dr. Harvey in the Cayman Islands as part of his scientific crew during a saturation tagging effort April 30 through May 3. The scientific effort coincided with the Kirk Slam Fishing Tournament held in George Town. This was done to take advantage of the blue marlin, oceanic white tip sharks, and small dolphin that would be caught by participating anglers and made available for tagging.

The Dolphinfish Research Program needs your financial support. No federal funds support this important research. This program exists because of private donations.

Your donations to the Dolphin Study are Fully Tax-Deductible

Make checks out to:

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Dr. Guy Harvey, center in teal colored shirt, amassed an international team of renowned fisheries scientists and photographers to place satellite tags on oceanic white tip shark and blue marlin while introducing tagging dolphin to island fishermen during a local tournament. Photo by GHOF.

A total of 16 boat crews volunteered to tag their small and unwanted dolphin off the Cayman Islands in the northwestern Caribbean Sea. These anglers hold the key to unlocking the mystery of dolphin movements in these western Caribbean waters. With the help of these anglers, we hope to learn whether the fish turn northwest, passing through the Yucatan Strait into the Gulf of Mexico, or southwest, headed toward Honduras and Venezuela. While I suspect the northwesterly movement based on ocean current patterns, we really don't have solid evidence as to what direction they travel.

In addition to providing the opportunity to introduce local fishermen to tagging dolphin for science, Dr. Harvey also volunteered for his office in George Town to serve as a local office to sign up new fishermen to tag dolphin and to provide additional tags to the fishermen as they need them. Such support by the renowned local scientist and artist will go a long way in encouraging local anglers to tag their small dolphin.

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