

Cooperative Science Services, LLC Dolphinfish Research Program

Made possible by a grant from the Guy Harvey Ocean Foundation

July 2016



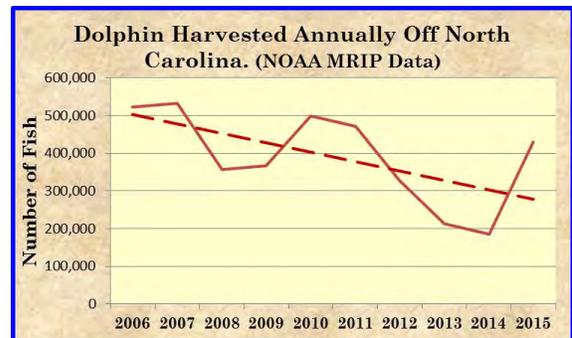
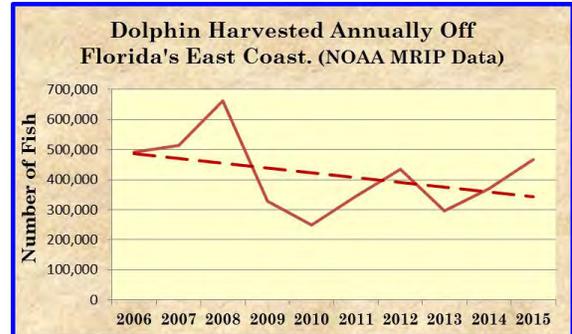
A New Normal?

Are we beginning to see a new normal for the migration pattern of dolphin along the U. S. East Coast, or is this just another short-term variation in their movement pattern? If it is the new normal, there will be some major adjustments made in offshore fishing.

The one program that provides information on the recreational dolphin fishery is the National Oceanic and Atmospheric Administration's Marine Recreational Information Program (MRIP). Unfortunately the level of sampling does not provide an accurate view in the fluctuations of the dolphin catches from week to week or even month to month. So it does not show short temporal shifts in the abundance of dolphinfish.

What the MRIP does show is that anglers in the states of Florida and North Carolina have historically harvested 90 percent of the recreational dolphin caught each year off the East Coast. So what happens with the dolphin fishery in these two states tells the major story about the fishery. The following two graphs depict the recreational dolphin harvest calculated by MRIP over the past 10 years for these two states. The dashed trend lines in these depictions clearly indicate a declining harvest over time. Comparing the average annual harvest for the first five years against the last five years, Florida's harvest dropped 14.6 percent, while North Carolina's recreational harvest fell 28.6 percent.

The declines in the dolphin harvest indicated by these graphs paint a dismal picture for the future of the fishery,



but you must look at how the fishing pressure has changed over the same period to get a better understanding. Since dolphin can be caught in state ocean waters in both states on a regular basis, we looked at how the total ocean fishing effort fared during the same ten-year period. The data showed an 18.2 percent decline in Florida angler-trips during the second half of the study period over the first half and a 28.5 percent drop in the number of angler-trips made off North Carolina during the second half.

The similar declines seen in both harvest and fishing effort suggest that the decline in the number of fish could be related to less fishing. However, anyone who has been involved with offshore fishing knows that fishermen respond quickly to fishing success. When a few boats make good catches of dolphin, then many fishermen, who had not been thinking about going fishing, will jump in their boats and go. Likewise, when the boats that are going out are catching few fish, would-be fishermen find other things to do.

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When dolphin become hard to find, fishermen commonly turn to bottom fishing to put meat in the box.

South Carolina

Since 2014 the Dolphinfish Research Program has been intensely monitoring the harvest of dolphinfish caught recreationally at a major marina in Charleston, South Carolina. This study has recorded the number of dolphin caught by each boat trip surveyed daily. This information offers one of the few looks, if not the only one, at the fluctuations in the number of dolphin being caught recreationally in one location from week to week and month to month for the past three years.

In 2014 the DRP survey focused on collecting length, weight and sex data on the fish that were caught, resulting in fewer boat intercepts daily. But the total dolphin catch was documented for each boat intercepted each day. Each month was divided into four periods for comparison purposes. In months that contained 30 days, periods one and four contained eight days while periods two and three were made up of seven days. In months with 31 days, periods one, two and four contained eight days.

Adverse weather conditions vary in their timing year to year. However, every year there will be periods up to seven or eight days long where fishermen will not be able to get offshore because of high winds. This leaves large holes in the harvest data every year. Also the number of boats venturing offshore is highly variable in any given period among the years. As a way to better assess the quality of fishing, the number of fish caught in a period was divided by the number of boat trips made to catch those fish, resulting in an average number of dolphin caught per trip.

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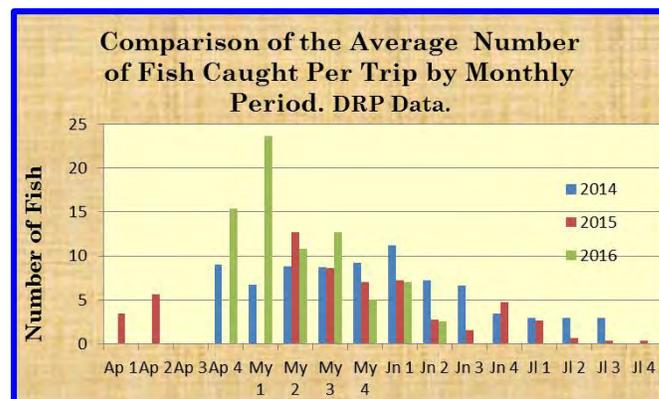
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The DRP was able to document 111 to 180 boat trips annually that targeted dolphin between April 1 and June 15 of each year. (See table below.) During this time frame anglers were shown to have harvested from 971 to 1,718 dolphinfish during the study years.

Fishing effort and dolphin harvest recorded in South Carolina during the DRP study.

Year	Boat Trips	No. of Fish
2014	111	971
2015	150	1,140
2016	180	1,718

The following graph depicts the average number of dolphin caught per boat trip during each period for the years of 2014, 2015 and 2016. The graph shows that dolphin fishing peaked the first period in June in 2014 (shown in blue) but peaked the second period in May during 2015 (shown in red). In 2016 the fishing peaked earlier, moving up to the fourth period in April and the first period of May. (Note: only three boats fished during the May period.) The biggest difference between 2015 and 2016 was that as soon as big catches of dolphin started showing up, the rest of the fleet reacted immediately, resulting in the catch of 331 fish by 21 boats on April 30, 2016.



The figure also shows that in 2014 the boat trips that averaged catching at least five dolphin lasted from the third period in April through the third period in June, but in 2015 boat-trip catches of five or more fish ended two weeks earlier with the first period in June. Catches had fallen to less than one fish per trip during the last three periods of July 2015.

Looking at the graph it is easy to see that 2016 fishing appears to be following the pattern seen in 2015. This would suggest that in the coming weeks South Carolina fishermen are going to be hard pressed to find any dolphinfish. The earlier period of peak fishing indicates that the fish are moving northward much earlier than they formerly did. The fact that both North and South Carolina had stellar dolphin fishing, when south Florida and the Keys did not experience the same massive numbers of fish, supports the theory that a major

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portion of dolphinfish found off the Carolinas comes from the eastern side of the Bahamas, bypassing south Florida.

The fact that fewer dolphin are moving out of the Gulf into the Florida Straits is of concern. However, I have recorded strong runs of small fish moving past the Keys in July in previous years. I have learned not to rush to conclusions on the quality of the year's dolphin fishing until the year is over. As far as the northward movement of fish traveling up the Eastern Seaboard, there is no doubt that it is taking place earlier than it ever has. This old fisherman can remember the dolphin fishing off South Carolina peaking the third week in June. Now it is almost two months earlier. The other facet of the new movement pattern is that it has greatly abbreviated the fishing season.

So where are these fish going? The waters of the Gulf Stream are warming up earlier, which is likely the result of global warming. This allows dolphin to continue their northward movement earlier than in past years. These fish may offer anglers in the Mid- and North Atlantic a new bonanza if the currents push them toward the coast. Otherwise they are headed into the international waters of the open North Atlantic to begin their long migration around the Sargasso Sea, ultimately heading for the Caribbean.

We may be seeing the start of the new normal for dolphin movements and fishing, where the fishing begins earlier and runs for a much shorter period. I can offer no explanation for the late arrival of school dolphin off the Florida Keys and subsequently off the Outer Banks, but it is sure to be linked to their changing environment. One thing is for sure: without little fish, you don't get any big fish.

Financial Support Needed

This research program relies on private donations for its funding. It does not receive any government financial support. If this research program is to continue it needs your support.

Your donations are fully tax deductible thanks to the Hilton Head Reef Foundation, a 501 (c) (3) organization that receives donations in support of the Dolphinfish Research Program. Make your check out to the Reef Foundation/Dolphin Study and send it to the address shown below.

Many of you think nothing of spending \$100 for a lure; how about investing \$100 in the future of dolphin fishing?

For More Information, Contact

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