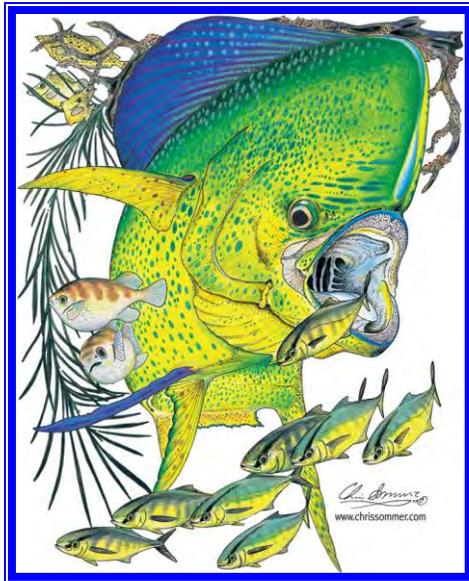


Cooperative Science Services, LLC Dolphinfish Research Program

September 2015



Comparison of the 2014 and 2015 Season

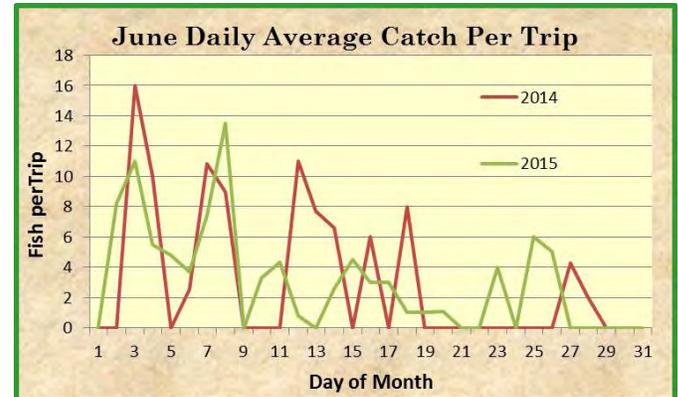
The July issue of this newsletter began a discussion comparing the 2014 to 2015 dolphin harvest observed during May in Charleston, South Carolina, in a study conducted by the Dolphinfish Research Program. The article was prompted by the near-uniform perception by participating anglers that the dolphin fishing was way off from last year. The article showed that the average trip in 2015 caught 5.8 percent more dolphin than in the previous year. However, there was a major difference between the years, in that the catches peaked in the last half of May in 2014 and in the first half of May 2015.

The peak in catches coming two weeks earlier in 2015 may have been the reason behind the angler perception. Unlike previous years, the 2015 survey collected the names of each boat surveyed, allowing for an actual count of the number of different boats intercepted each month. This showed that more than half of the May fishing fleet missed the best dolphin fishing. This could explain the perception of poor fishing among the anglers, even though overall catches in May 2015 were actually slightly better than 2014.

With the dolphin catches peaking two weeks earlier than in 2014 and showing a rapid decline by the end of May, we were left wondering what the June fishing was going to bring. June has come and gone, and the fishing did not improve. With 80 boat trips surveyed in June 2015, the overall catch per trip fell to 4.8 fish per trip (FPT) for the month. That is 46 percent less than in May 2015 and more than 30 percent less than the average catch in June 2014.

It is hard to compare the 2014 and 2015 June daily catch rates because of their high variability, but the following graph does show a few similarities. The highest catch rates in both years occurred in the first half of the month and

were followed by much lower catch rates during the last half of the month. Fishing during the first half of the month yielded catch rates of 8.6 FPT in 2014 and 5.9 FPT in 2015. The last half of the month yielded significantly fewer fish per trip in both years with 3.5 fish in 2014 and 2.2 fish during 2015.



This shows the catch rates for the first half of June to be 31.4 percent lower in 2015 than 2014. Fishing in the last half of the month exhibited a similar decline with the 2015 catch rate falling 38 percent below the rate observed in 2014. Fishing success fell sharply in the second half of June compared to the first half in both years, declining 58.9 percent in 2014 and even more in 2015, 63 percent. The fact that both years showed such rapid declines would suggest that this could be a normal event in the fishery with a variable timing year to year.

While more dolphin were documented caught May through July in 2015, 1,183 fish versus 1,000 in 2014, there was a 40.3 percent increase in the recorded fishing effort in 2015 which masks the decline in the catch rates. A comparison of the weekly catch per trip, shown in the following graph, provides a smoother flow to the changing catch rates over the season and makes the seasonal profile of the fishery easier to follow. It is the linear trend lines for the two years that clearly show the variance in the catch rates between the years.

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Off the coast of South Carolina commercial longline fishing normally takes place from 90 to 150 miles southeast of Charleston during the month of May. The Charleston Bump/Hoytt Hills area where the commercial fishing takes place is well beyond the normal area fished recreationally. Few recreational boats venture more than 75 miles offshore.

Basically, the recreational activity takes place in the western half of the Gulf Stream, while commercial fishing is carried out in the eastern half of the Gulf Stream. Subsequently, longliners are removing fish from waters that are seldom if ever fished by South Carolina recreational anglers. A small level of exchange has been documented between dolphin in the eastern and western sides of the Gulf Stream off South Carolina, but it is doubtful that the exchange rate would be sufficient to alter the quality of fishing in either area.

The fact that these commercial vessels had unusually good catches of dolphin this year indicates there was an increased abundance of dolphin on the eastern side of the stream. This could be the result of a migration shift by dolphin to the eastern side. Also supporting such a shift: many of the best catches of dolphin made by recreational boats in late May and June were made by the faster boats with long-range capabilities that ran much farther offshore than normal.

While the recreational catch rates observed in the 2015 DRP study in Charleston does show that fewer dolphin were caught in June and July than during the same period in 2014, that alone does not necessarily mean there was a decline in the population. Even the echoed disappointment by anglers all the way down to the Florida Keys does not mean there was a serious decline in 2015. Each year these fish may range over a migration route that covers as much as 5,000 miles. The territorial waters of the U.S. East Coast may represent only 20 percent of this route. The ocean's major currents are the dolphin's highways. Variations in their speed, behavior and temperature play a major role in the movement of dolphin. More information about the status of dolphin throughout the rest of their migratory paths is needed to accurately diagnose the condition of the stock.

At this time, I believe the 16 percent decline observed in the 2015 overall recreational fishery in South Carolina was likely caused by a shift in the migratory path to the eastern side of the Gulf Stream. If a further decline is noted in the 2016 dolphin fishery, then I would have greater concern about the health of the stocks.

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