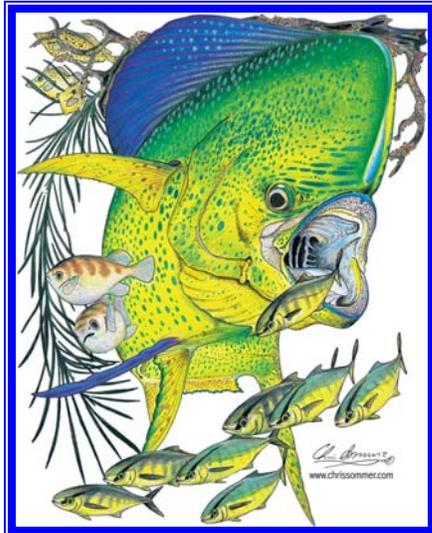


Cooperative Science Services, LLC Dolphinfish Research Program

Made possible by a grant from Marine Ventures Foundation

April 2009



Cuba? Did It Go North or South?

Readers who have followed the progress of this research program know the vast majority of dolphin tagged along the U.S. east coast and recovered exhibit a northward movement. Fewer than four percent of the recoveries exhibit movements in other directions, with few showing southerly movements. These southerly treks have typically been over short periods of time and short distances, nothing that would suggest a deliberate southerly movement.

A report has just been received of a tagged fish recovered off Cuba after a freedom period of 229 days. It was recovered only 130 miles south of its release site off Islamorada, Florida and is the second tagged fish reported from Cuba. The fish was originally tagged on August 1, 2008, by Mark Mitchell while fishing aboard his boat, *Sea Witch*. The fish was measured to be 21 inches in fork length at time of release.

Alan Forgoza Alfonso of Santa Cruz Del Norte, La Habana, recovered the fish on March 18, 2009, five miles off Puerto Escondido on Cuba's north coast, east of Havana. Alan's uncle, Dr. Milagros Alfonso Sanchez, a professor at a university in Matanzas, east of Havana, is the hero who made the effort to report the recapture via the Internet.

The fish measured 114.8cm (45.2 inches) in fork length and weighed 21.5 pounds when it was recaptured. This indicates that it grew 24.2 inches during the 229 day. This is a growth rate of 3.2 inches in length per month or 0.74 inches per week. For most species of fish this would be a phenomenal rate of growth but for dolphinfish, it is well within the range that other scientific researchers have reported.

The figure below gives possible routes that the fish may have used. Knowing that dolphin leave Florida traveling north, it is likely that the fish went north at least to Cape Hatteras, North Carolina, and possibly as far as



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Massachusetts (denoted by red line). If it turned east off Cape Hatteras (yellow route) traveling out into the Atlantic before turning south it likely would have traveled 3,000 miles or about 13 miles per day. If the fish traveled to Massachusetts (white route), then it likely traveled 5,000 miles or more, or roughly 22 miles per day. Both of these speeds are well within the capability of dolphinfish.

Past tag recoveries have provided good evidence that the fish did not travel south immediately after release. However, the southerly routes suggested here are largely speculative, based on the limited data the program has collected from other recoveries. There are an infinite number of routes the fish could have used.

Because Dr. Sanchez had enough curiosity and dedication to helping advance science, we were able to acquire this important tag recovery. This research program is deeply indebted to the Peace Corps workers, college professors and other people who make the effort to report these amazing tag recoveries from around the tropics.

Dolphin Linger in Tongue of the Ocean

Dolphin tagged in the major sounds of the Bahamas (primarily Tongue of the Ocean) and later recovered in the Bahamas have shown a different behavior from their cousins tagged and recovered along Florida's east coast. The portion of the fish tagged in each area and later recovered in the same area are fairly comparable, 76 percent in Florida and 61 percent in Bahamas. When you consider that possibly twice as much or more fishing effort is exerted off Florida's east coast than in the Bahamas, then such a high localized recovery rate for dolphin in the Bahamas stands out.

After comparing the movement statistics between fish in the two areas, two very different pictures evolve. Dolphin tagged and recovered off Florida travel an average of 93 miles before recovery at an average speed of 25 miles per day. Fish in the Bahamas moved an average of 13 miles from their release site traveling at 2.1 miles per day.

Two of the more exaggerated examples of dolphin remaining in one area were for fish tagged in the Tongue of the Ocean. In 2004 a dolphin tagged by Forrest Engle on his boat, *Tongue Tide*, was recovered 51 days later only 3.3 miles from its release sight. The other fish tagged by Dave Wilson aboard his boat, *Knot Yet*, in 2009 was recaptured only 115 feet from where he released it 33 days prior. One fish tagged in 2007 by Tom McMurray aboard his boat, *Makara*, did travel 57 miles in 22 days, crossing the sound from west to east.

These relatively long-term occupations of the Tongue of the Ocean increase the potential for the dolphin to be quickly fished down in this area if harvest went unrestricted.

Dolphin Tagging Progress by Zones, April 1, 2009.

Zone	Area	Southern Limit	Northern Limit	Number Tagged
1	Bahamas	22N	28N	31
2	FL Straits	23N	25N	
3	South Florida	25N	27N	34
4	Central Florida	27N	30N	2
5	North FL & GA	30N	32N	
6	Southern SC	32N	33N	1
7	N. SC - S. NC	33N	35N	
8	Northern NC	35N	36.5N	
9	Virginia	36.5N	38N	
10	N. Mid-Atlantic	38N		
11	Gulf of Mexico			
12	W Central Atlantic			12
13	Caribbean Sea			5
	Total			85

Background on US Commercial Landings

In the last issue the foreign import of dolphinfish was discussed and shown to account for 99 percent of the dolphin sold commercially in the U.S. in 2007. The same year the U.S. domestic commercial fishery landed roughly 834,000 pounds of dolphin fillets (2.6 million pounds gutted). This article will look at which states had commercial landings and their contribution to the harvest.

It was the Pacific states of California and Hawaii that accounted for more than half, 54 percent, of all dolphin landed commercially in 2007. Eight Atlantic coast states were responsible for 32 percent of the commercial harvest. The remaining 14 percent of the harvest was landed in three Gulf coast states.

Between the two Pacific states, Hawaii was responsible for 99.6 percent of the landings. In the Atlantic, North Carolina led the commercial harvest, accounting for 43.8 percent of the regional landings. The west coast of Florida dominated the commercial landings in the Gulf of Mexico, producing 70.5 percent of that area's catch.

A wide range in the price paid per pound of fillet was observed among the three areas. The highest average price paid for a pound of fillet were for those from the Pacific at \$7.83. Dolphin fillets from the Atlantic commanded the second-highest average price, getting \$6.11 per pound. Dolphin landed along the Gulf coast received the lowest average price, at \$5.07 per pound.

The overall average price of U.S. produced dolphin fillets was \$6.88 in 2007. The average price for imported fillets was just \$2.35 for that year. Capitalism is driven by price, so it is no wonder that imports dominate the market.

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Juvenile Dolphin Photos and Sightings

The Dolphinfish Research Program (DRP) is seeking information on the occurrence of juvenile dolphin, fish up to 12 inches fork length. Fishermen are asked to report their sightings of schools of small dolphinfish to the DRP. Anglers should report the size of the fish, GPS location of the fish, date, and whether Sargassum or other floating objects were present. (Small dolphin are suckers for sabiki rigs.) A high-resolution digital image of the fish of at least 1MB file size should be e-mailed to the program to confirm the species identification. The photo should show a full side profile of the fish.

Taggers Needed

Recreational anglers fishing the North Atlantic, Caribbean Sea and Gulf of Mexico for dolphinfish are always welcome to join in the tagging effort. This study learned early that fishermen are continuously entering and dropping out of the highly demanding sport of offshore big game fishing. For this reason new taggers are always needed, even in the South Atlantic Bight where most of the active taggers currently fish.

This study has a real shortage of recreational fishermen tagging dolphinfish in the **Mid-Atlantic Bight**, North Carolina to Massachusetts, **Gulf of Mexico** and throughout the **Caribbean Sea**. If you know of someone who fishes these waters and is genuinely interested in helping to further fisheries conservation, speak to them about participating in this study and learning how they can help provide valuable information on this great game fish. This study has already shown that dolphinfish behavior varies from region to region, and this is one way that fishermen can learn more about fish in their specific area.

Tagging fish for science is not for everyone. Not only does it require that you throw back some of your hard-earned fish but there is follow-up paperwork that is just as important as tagging and releasing the fish. Many anglers get very limited time on the water and do not want to give up any relaxation time to doing paperwork.



The use of large, 7/0 or larger, circle hooks significantly reduces dolphin being deep hooked or hooked in the eye, resulting in healthier fish for release.

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