

# Cooperative Science Services, LLC Dolphinfish Research Program

Made possible by a grant from Marine Ventures Foundation

May 2010



## It Only Gets Better

I am continually amazed at the steady flow of new information on dolphinfish movements received by the program each year. This year we have already begun defining the movements of dolphin around the Caribbean island of Puerto Rico, including the travel of a fish from the U.S. East Coast to the island's south side. More information has been collected confirming the repeat migration pattern off Florida's east coast by the return of two fish to this area after extended liberties.

A recapture report was received in April that establishes a closer link between fish on the southeast coast of the Bahamas Bank and those along the U.S. East Coast. It also supports a hypothetical route that has been depicted where dolphin might cross



Dolphin tagged in June off the Florida Keys have shown a consistent pattern of northward travel to the Carolinas and points further north making the short route around the Bahamas Bank less likely to have been used.

the Bahamas Bank.

This tag recovery story has its beginning on June 10, 2009 when Don Gates' boat *Killin Time* and its crew came across a large school of small dolphinfish off Marathon, Florida. They managed to place tags in 51 fish in the school. One of these fish, X11837, was captured by crew member Gene Lasater for tagging and is the fourth member of the school to be subsequently reported recaptured. It is also the 21<sup>st</sup> recovery of a fish tagged in 2009 by the crew of *Killin Time*.

The fish was recovered on April 24, 2010 by Lance Shaughnessy of Stuart, Florida while on an extended fishing trip off Clarence Town, Long Island, in the Bahamas. Lance works as the mate for Capt. Rusty Watters on the *Reel Excuse* which is owned by J.R. Bergeron and home-ported in Port Everglades, Florida. The bull measured 39 inches in fork length and was estimated to weigh 17 pounds at recapture.

Having been only 17 inches long at release, the fish had grown 22 inches during its 318 days of freedom. This would indicate that the fish averaged growing just under one-half inch per week during its liberty and had put on 14 to 15 pounds in weight.

The big question is what route the fish took to the Point off Clarence Town. There are an infinite number of ways the fish could have traveled. If the fish took a short cut through the Northwest Providence Channel to the eastern side of the Bahamas Bank, it would have turned southeast in the Western Central Atlantic Ocean traveling to San Salvador Island, Bahamas. There it would have turned south passing west of Rum Cay, Bahamas, before arriving at the Point off Clarence Town.

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This route would have entailed about 575 miles requiring the fish to cover about 1.8 miles of the distance each day.

The fish could also have ridden the Florida current northward until it reached the northern tip of the Bahamas Bank, where it would have turned eastward crossing the Antilles current before heading southeast to San Salvador Island, Bahamas and ultimately to Long Island, Bahamas. This route would have required the fish to swim 790 miles, meaning the fish would have had to average traveling 2.5 miles per day.

Because the fish was tagged in June, I seriously question that the fish would have selected either of these two routes. Typically fish tagged in south Florida during June and recovered within 60 days have traveled northward to at least North Carolina or into the Mid-Atlantic Bight. If the fish traveled to Cape Hatteras, North Carolina, before turning southeast to travel to San Salvador Island, it would have covered more than 1,700 miles and would have moved along at roughly 5.3 miles per day. But if it had traveled to Atlantis Canyon off Massachusetts, then it would have had to cover more than 2,400 miles or 7.6 miles per day to get to Long Island in the Bahamas. The rate of travel associated with these last two routes is still on the low side of the speed curve that dolphin have been shown to use. But in the end, it is still speculation on what route it traveled.

Another piece of information that this recovery provides relates to the passage that dolphin might use to cross the south-central segment of the Bahamas Bank.



Lance Shaughnessy (left) displays the first dolphin tagged on the U.S. East Coast to be recovered in the Bahamas. It was recaptured off Clarence Town, Long Island. (Photo by T. Knowles.)

*Dolphin Tagging Progress by Zones, April 30, 2010.*

Zone	Area	Southern Limit	Northern Limit	Number Tagged
1	Bahamas	22 ° N	28 ° N	18
2	FL Straits	23 ° N	25 ° N	32
3	South Florida	25 ° N	27 ° N	56
4	Central Florida	27 ° N	30 ° N	17
5	North FL & GA	30 ° N	32 ° N	4
6	Southern SC	32 ° N	33 ° N	3
7	N. SC - S. NC	33 ° N	35 ° N	0
8	Northern NC	35 ° N	36.5 ° N	0
9	Virginia	36.5 ° N	38 ° N	0
10	N. Mid-Atlantic	38 ° N		0
11	Gulf of Mexico			0
12	W Central Atlantic			45
13	Caribbean Sea			0
	Total			175

This passage would take them from San Salvador Island on the Atlantic side, past Rum Cay, southward between the southeast tip of Long Island and the northwest tip of Crooked Island, ultimately entering the deep trench between the Caribbean Islands and Bahamas just north of the eastern tip of Cuba. This fish's recapture at the Point off Clarence Town, Long Island, places it within the area hypothesized as a passage.

This recovery is the first documentation of a dolphin from the U.S. East Coast moving to the east coast of the Bahamas Bank.



*In a cooperative effort with the Central Florida Offshore Anglers, Sebastian Inlet Sportfishing Association, Florida Sport Fishing Association, and the Ft. Pierce Fishing Club, a pop-off satellite archival tag was deployed on a dolphinfish off Ft. Pierce, Florida in April. Two more satellite tags are scheduled for deployment on dolphin this year.*

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

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*Called llampuga by the Spanish fishermen who pursue them in the Mediterranean Sea, the dolphinfish looks the same as those in the western Atlantic and carries the same popularity among the region's sports fishermen. (Photo by R. Tamburini, Italy)*

## Spanish Tagging Program Takes Off

The new European Dolphin Tagging Study got off to a modest start in 2009. The project seeks to have dolphin tagged in the Eastern Atlantic Ocean and Mediterranean Sea to begin defining their movement patterns in these areas with hopes one may be recaptured in the Western Atlantic or Caribbean Sea. Unfortunately, the inaugural year saw a rather low abundance of dolphin.

Spanish and Italian anglers tagged and released a total of 106 dolphin in the Mediterranean Sea during 2009. The fish were tagged off the northeast coast of Spain and off the west side of Sardinia, Italy. The fish were tagged over a three-month period with 33 fish tagged in September, 58 fish in October and 15 in November.

This great opportunity came about through the efforts of Esteban Graupera and Oriol Ribalta, president and vice president of the Spanish Confederation of Responsible Recreational Anglers (see <http://www.pescaresponsable.es/>). They felt that the Dolphin Tagging Study was a program that fishermen in Spain would want to get involved with, since they catch large numbers of small dolphin. Dr. Gorka Sancho, a fisheries scientist originally from Spain who teaches at the College of Charleston, South Carolina, graciously offered to serve as liaison for the Dolphin Tagging Study, working directly with Esteban and Oriol.

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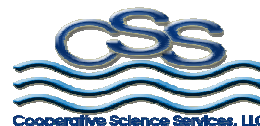
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