

Cooperative Science Services, LLC Dolphinfish Research Program

January 2015 *Happy New Year!*

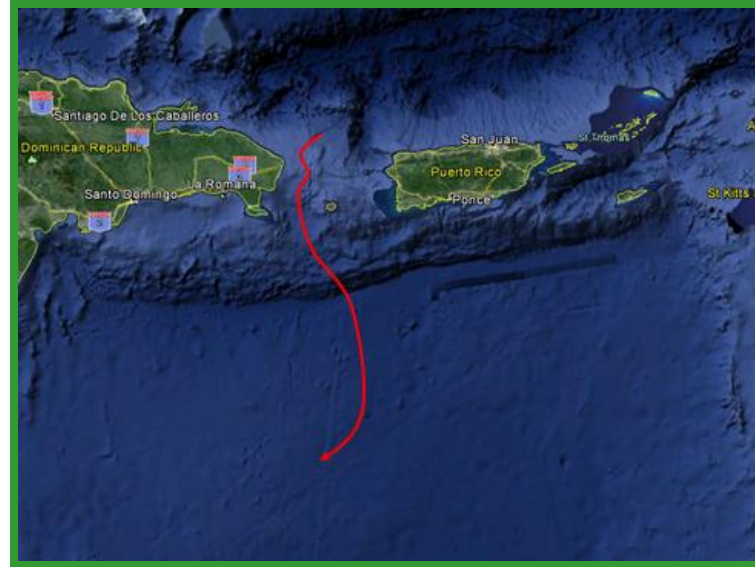


The satellite tag has been uploading the data that it collected during the 180 days that it stayed with the dolphinfish. The information is uploaded to the ARGOS satellite and transmitted in a binary code format. The instrument may transmit data for as long as 30 days. The biggest threat to the transmission of the information is for the instrument to lie over on its side by washing ashore or being caught up in flotsam or Sargassum. It is unable to transmit in this position. After one week of no contact, following the 30 days transmission allowance, the tag manufacturer will be requested to decompress the data and provide an initial analysis.

The information contained in the data from this tag will provide the first look at the movement route of a dolphinfish's travel up the U.S. East Coast and the route it took to reach the Caribbean islands. No prior research program has attempted to document this amazing travel. We have speculated about the southerly oceanic route used; now we will get our first look at one. I, for one, can hardly wait to see the results.

Hitting a Home Run

The Dolphinfish Research Program (DRP) has hit a home run in its first effort to document the long-term travels of dolphinfish found off the U.S. east coast thanks to a grant from the *Guy Harvey Ocean Foundation*. On June 3, 2014, two satellite tags programmed for six-month monitoring periods were deployed on two bull dolphin. They were released 63 miles southeast of Charleston, South Carolina, during a fishing trip aboard the sports fishing vessel *My Three Sons*, owned by Hunter Edwards of Charlotte, North Carolina. One of these tags has surfaced after 180 days, 44 miles northeast of Punta Cana, Dominican Republic.

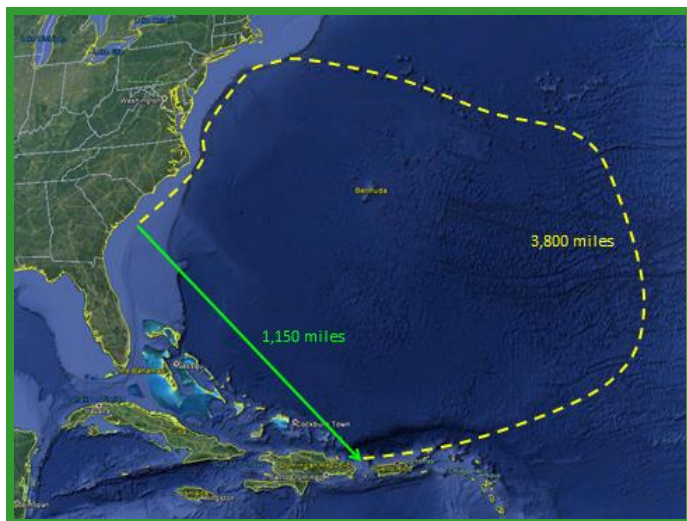


From December 3 to December 22 the PSAT 136760 has drifted 163 miles southward into the Caribbean from its first contact location in the North Atlantic.

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How did the dolphin return to the Caribbean islands? The odds are that it used a route somewhere in between the two routes indicated.

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While this instrument is uploading its data, it is serving as an ocean surface current drifter buoy, monitoring the surface currents. With less than a quarter inch of the top of the body of the tag and the thin antennae wire above the water's surface, there is minimal sail available to allow the wind to affect the unit's drift. As of December 22, 2014, the tag had drifted at rates of 5 to 33 miles per day and was located 163 miles south of Isla Mona, in the open Caribbean Sea. Its direction of travel has ranged from southeast to southwest and is currently traveling in a southwesterly direction.

This drift pattern shows how ocean currents in some regions can have significant changes in their direction and flow speed from season to season and year to year. Previous PSATs used on dolphin in this region of the Caribbean showed a southwest drift in May 2011 and a westerly drift in March 2014. Such changes in the current flow can affect the distribution of dolphin and other oceanic pelagic species among the Caribbean islands.

A grant from the **Guy Harvey Ocean Foundation** provided funding for the purchase of five satellite tags to begin the second phase in the tracking of dolphinfish: long-term tracking of East Coast fish. As part of this study, three more satellite tags will be deployed in the spring of 2015. With luck we could have another satellite tag from the east coast surface off a Caribbean island.

It Takes a Special Angler to Tag Fish



Fish should be lifted from the water with a net and handled gently to maximize their chances of survival.

Not everyone is cut out to tag fish for science. Many of the program's ardent supporters believe that every angler should be happy to tag small or unwanted fish. The fact is that very few people are really cut out to tag fish. Most fishermen do not get to fish as often as they like. For most anglers, fishing is an escape from their everyday demands and the last thing they want to do is paperwork. They really don't mind putting tags in their small and unwanted fish, but they do not want to fill out the information requested on the tag cards.

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

Dolphin Tagging Progress, December 1, 2014.

Zone	Area	Southern Limit	Northern Limit	Number Tagged
1	Bahamas	22° N	28° N	68
2	FL Straits	23° N	25° N	797
3	South Florida	25° N	27° N	684
4	Central Florida	27° N	30° N	26
5	North FL & GA	30° N	32° N	29
6	Southern SC	32° N	33° N	55
7	N. SC - S. NC	33° N	35° N	89
8	Northern NC	35° N	36.5° N	0
9	Virginia	36.5° N	38° N	12
10	N. Mid-Atlantic	38° N		11
11	Gulf of Mexico			92
12	W Central Atlantic			88
13	Caribbean Sea			109
	Total			2,060

Accurate information describing the tagging of each fish is essential to this scientific study. Tagged fish are not just valuable if they are recovered but are valuable in describing the occurrence of the species in time and space. More scientific analysis is done with the tagged fish data than with the recaptured fish data. However, the more accurate the information is about the release, the more valuable the information is if that fish is recovered. So fishermen must be willing to do the paperwork.



To be a good tagger you must have a sense of curiosity about dolphinfish, wondering where the fish go after leaving where you fish. Good taggers also must have matured in their fishing to where they no longer feel the need to prove their fishing skills by killing every fish to show off at the dock. They are willing to take the time to handle the fish carefully, tag them properly and record accurate information. These anglers keep their tag kits with them on every trip, in case the opportunity arises to tag a fish. They want to give back.

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HH Reef Foundation/Dolphin Study

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Anglers can take certain actions to maximize the survival of tagged fish. The first is to use circle hooks to reduce the chance of deep hooking the fish. Do not tag fish that are deeply hooked. Keep the tagging kit readily available to the fishing action with the next tag in the applicator. Use a dip net to lift the fish from the water. Lifting fish out of the water by the hook causes additional injury to the hook site and to the base of the gills, causing respiratory damage from the weight of the fish. Fish for tagging should never be kept out of the water for over one minute. (How long can you hold your breath?) A smooth slick surface should be used to place the fish on for tagging. This reduces slime loss. A thin measuring device placed on the tagging surface under the fish makes for a quick way to get the length of each fish tagged. The tag should be inserted into the back muscle 1/3 of the way back at a 45° angle toward the head. It must be implanted deeply, more than half way through the thickness of the fish. Tags placed just under the skin fall out quickly. The next step after releasing the fish should be to record the GPS position on the card.

Financial Support Needed

The Dolphinfish Research Program is a research effort by fishermen for fishermen. The 2014 program has proven amazingly successful in tagging dolphin and in long-term satellite tag tracking of dolphinfish. Fishermen as well as fishery management personnel who have heard talks on the results of the study are impressed by the success of the program in revealing important facets of dolphin life history.

This program needs your help to continue. It does not receive any government funding, relying on private donations for its financial support. It is private fishermen, fishing organizations, and businesses that have provided the funding to allow this research to continue. The DRP works in concert with the Hilton Head Reef Foundation, a 501 (c) (3) organization, which allows all donations to be fully tax deductible.

Send in your 2014 tag cards before January 9 to count for year-end awards.



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