

Cooperative Science Services, LLC Dolphinfish Research Program

Made possible by a grant from Marine Ventures Foundation

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Dolphin Travel Speeds

When East Coast fishermen hear about big runs of dolphin in areas south of where they fish, they immediately start planning how to intercept those schools. The problem is that one of the most important pieces of information needed to plan the trip is missing: the speed at which dolphin travel northward.

This Dolphin Study has produced the first information available on the movements of dolphinfish along the U.S. Atlantic seaboard. With more than 230 tagged fish recovered during their migration along the East Coast, information is finally being collected to answer this question. Over the entire study, daily travel rates have ranged from 0.5 to 130 miles per day. Such wide variations in speed indicate that external factors present in each region could be influencing their movements. Only movements of fish tagged off Florida and South Carolina could be evaluated because of lack of data for fish present off other areas of the East Coast.

Dolphin tagged off the Florida Keys exhibited the fastest overall rate of travel among fish tagged anywhere along the East Coast. This group of fish averaged traveling 29 miles per day (mpd) of liberty for fish recovered off Florida and 33 mpd for fish recovered north of the state. Overall, fish tagged off Florida and recovered before leaving the state averaged moving 27 mpd while those fish recovered north of Florida had an average speed of 29 mpd.

Dolphin tagged off South Carolina moved northward at a significantly slower pace than the fish off Florida. Tagged fish recaptured before they moved out of state traveled at an average rate of 5 mpd while those fish recovered from North Carolina northward into the Mid-

Atlantic Bight moved at an average rate of 12 mpd. This is roughly 1/3 the speed that the Florida fish exhibited. One possible explanation is the Gulf Stream gyre that commonly develops off the Palmetto State each year. The gyre could cause the fish to travel in circles for extended periods, which could explain the recoveries of dolphin that had been at liberty for 36 and 70 days off South Carolina when they were recovered only 20 miles from their release site.

Another interesting piece of information to this puzzle is that only one dolphin tag deployed off Florida has ever been recovered off South Carolina, and that came from the stomach of large dolphin. The apparent absence of Florida-tagged dolphin being caught by Palmetto State anglers could be explained by the Florida fish moving to the eastern side of the Gulf Stream during their northward travels, placing them outside the range of South Carolina boats. However, this area (the 1,000-fathom curve) comes within range of North Carolina fishermen who regularly recover Florida tags.

International travel by dolphin tagged on the East Coast of the U.S. has exhibited slower speeds ranging from 1.5 mpd for a fish that was recovered off the northeast corner of Cuba to 10.3 mpd for a fish that traveled to a point south of the Azores Islands. Other area travel rates were: southwestern Puerto Rico, 4.5 mpd; Antigua, 6.5 mpd; Mexico at Belize border, 3.7 mpd; and Venezuela, 7.8 mpd.

These movements give us basic information on the travels of dolphinfish but it will take many more recoveries to understand and begin to predict their movements.

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The new, smaller X model satellite tag will monitor the movements of this 30-pound bull dolphin for 30 days before sending its data back via satellite.

First 2008 Satellite Tags Deployed

The first two of six pop-off satellite archival tags scheduled for tracking dolphinfish in 2008 have been deployed. On April 12 tags programmed to monitor the fish for 30 and 180 days were attached to dolphinfish off Cape Canaveral, Florida, starting the 2008 satellite tag study.

This portion of a high-tech study of dolphinfish movements and behavior was made possible by a joint effort by the Central Florida Offshore Anglers in Orlando, Florida, and the Florida Sport Fishing Association in Cocoa Beach, Florida. These two sports fishing clubs joined in the purchase of one of the \$5,300 instruments and arranged for a fleet of six sports fishing vessels, three from each club, to assist in collecting the trophy-size fish needed to carry the monitoring device.

Participating boat owners and anglers exemplify the new conservation-minded recreational fisherman who is ready and willing to get involved in fisheries research, even to the point of committing his own time and money for the good of the fish stocks. They realize that they can no longer wait on the under-staffed and under-funded government fisheries management agencies to get around to doing the needed research.

The heroes of this phase of the Dolphinfish Satellite Tag Study include all of the members of the two clubs but especially the boats that were involved. Participating in the tagging were Walt Eismann with his boat the *Goin' Catching*, Dave Heil with his boat the *Caveat Pisces*, Don Henley with the *Deep Blue Sea*, Rich Ruggieri with his *Triple Threat*, Terry Winn and his boat

T's Me, and Dick Bostrom with his *Boss Cat*. The dolphin were present in large numbers with plenty of big fish. Every boat caught a fish of 25 pounds or more that would have qualified to carry the satellite tag.

The deployment of these tags is part of a study made possible by a grant from the South Carolina Sea Grant Consortium in conjunction with the South Carolina Department of Natural Resources. The study calls for satellite tags to be deployed off North Carolina, South Carolina, Florida and the Bahamas during 2008.

Dolphin Tagging Progress by Zones, March 31, 2008

Zone	Area	Southern Limit	Northern Limit	Number Tagged
1	Bahamas	22N	28N	22
2	FL Straits	23N	25N	3
3	South Florida	25N	27N	18
4	Central Florida	27N	30N	12
5	North FL & GA	30N	32N	0
6	Southern SC	32N	33N	0
7	N. SC - S. NC	33N	35N	0
8	Northern NC	35N	36.5N	0
9	Virginia	36.5N	38N	0
10	N. Mid-Atlantic	38N		0
11	Gulf of Mexico			0
	Total			55

Tagging Activity and Recaptures on Course

Needless to say, the high fuel prices are a concern for the Dolphin Tagging Study. The high cost of fuel will have a negative impact on the number of fish being tagged because it is likely to reduce the number of offshore trips made by each vessel. Fortunately, the rate of tagging and tag recovery reports are currently on par or slightly ahead of past years.

Tagging activity has been concentrated in the Bahamas and off central and south Florida, which is similar to previous years. Little tagging is done in the Florida Keys during this period, and it not clear whether the fish are not present or the fishermen who tag them.

Recaptures reported from January through March of 2008 are slightly ahead of previous years. The recovery off Venezuela of a fish tagged 263 days earlier off South Carolina highlighted the period's recoveries. Two tag recoveries of fish both tagged and recaptured in the Bahamas showed behavior typical of other recoveries of Bahamas fish during the winter period. One fish off south Florida showed a net southerly movement but would be termed a meandering movement rather than a specific southerly movement. The reason is that the fish only moved 53 miles, West Palm Beach to Miami, during its 23 days of liberty. This is a travel rate of only 2.3 miles per day, which is slow for the species.

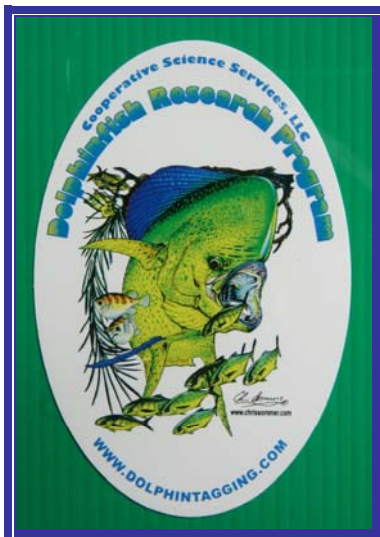
Donations to the Dolphin Study are Fully Tax-Deductible
Make checks out to:
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Show Your Support

Now fishermen, conservationists, and businesses can show their support for the Dolphinfish Research Program by displaying the study's official decal. The new decal is a 6-inch-high by 4-inch-wide oval that bears the program's signature artwork by Chris Sommer with the research program's name and Web page address.

By placing the decal on their boats, vehicles and in their businesses, participants and supporters announce their involvement in this scientific research program. These decals will identify the people as being conservationists who care enough about the dolphinfish resource to commit their time and money to help protect it from overfishing. Displaying the decal tells everyone who sees it that you believe the program is important and that every offshore angler should support it. The displayed decal also serves to encourage other anglers to get involved in this program as well as other scientific programs that benefit fisheries research. It will also serve a very important function of encouraging anglers who have recovered a tagged dolphin but have not reported it to report the recovery.

Decals are free and available to everyone who participates in the study. To receive your decal send a self-addressed, stamped envelope to the Dolphinfish Research Program Decal at 961 Anchor Rd., Charleston, SC 29412, and a decal will be sent to you.

Your Financial Support Is Needed

At this writing about 65% of the funds required for 2008 have been received. I hope that every avid offshore angler will consider donating to the CSS Dolphinfish Research Program to ensure this important work continues.

2008 will most likely be the last year funding will be received from the South Carolina Sea Grant Consortium

for the use of satellite tags to study dolphinfish behavior and movements. These grants have been the primary financial source making the use of these instruments possible. These high-tech marvels have already changed the way we think about dolphinfish, but if these high-tech tools are to continue being used to reveal more unknown facts about this magnificent fish, a large increase in private donations will be required this year.

Donations to the Dolphin Tagging Study are fully tax-deductible, thanks to the help of the Hilton Head Reef Foundation. This 501 (c) 3 non-profit organization has agreed to receive donations in support of the Dolphinfish Research Program and then pass them on to the project when needed. Contributions should be made out to the Hilton Head Reef Foundation (HHR Foundation/Dolphin Study) and sent to the address below.

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For More Information, Contact

Don Hammond

Cooperative Science Services, LLC
961 Anchor Rd., Charleston, SC 29412-4902
Telephone – FAX (843) 795-7524
Email CSSLLC@bellsouth.net
Web site www.dolphintagging.com

