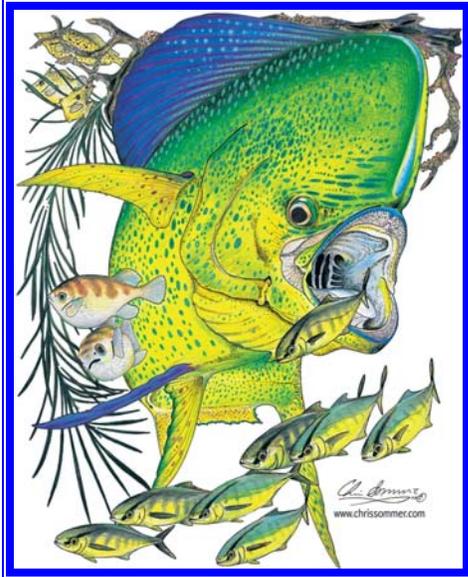


# Cooperative Science Services, LLC Dolphinfish Research Program

Made possible by a grant from Costa Del Mar

May 2011



A 43-inch bull dolphin swims off towing a satellite tag that will monitor its every move through the vertical water column for 30 days. Photo by Wess Merten.

## Satellite Tag Deployed off Puerto Rico

A satellite tag provided by Grady-White Boats Inc. was successfully deployed on April 2, 2011 off the southwest coast of Puerto Rico. The tagged fish becomes the first dolphin in the eastern Caribbean Sea to have a pop-off satellite archival tag attached to it. The PSAT was deployed off La Parguera by the team of Manuel Botello, Wess Merten, Irvin Baez, Alexis Alfala, and Chris Whitley during a fishing trip aboard the *Missing Angel*.

Deploying a satellite tag on a dolphin is not as easy as it may sound. According to Wess Merten, a graduate student at the University of Puerto Rico who is engaged in a study of dolphinfish off the Caribbean Island in cooperation with the DRP, it has required eight boat trips totaling more than 55 hours of fishing to catch the fish for tagging. The 43-inch fork length fish was released in roughly 6,000 feet of water on the edge of a deep sea trench that reaches depths of 16,000 feet.

The tag was deployed on a fish in the deepest water of any dolphin monitored using a PSAT. Last year a satellite tag was placed on a fish in 2,000 feet of water that resulted in a new depth-record for the species of 838 feet. If the depth of dives made by dolphin relate to the depth of the water they are in, we could see dives of 1,000 feet deep by this fish. How much wire do you have on your downrigger?

This instrument is programmed to remain with the fish for up to 30 days. It will make time-specific recordings every two minutes of the water temperature, pressure and light intensity. At completion of its programmed period, it will release from the fish, float to the surface and begin downloading its archived data via the Argos satellite system. During its data-transfer period, it will also serve

as an ocean current drift buoy, monitoring the speed and direction of the surface currents.

To learn more about Wess Merten's collaborative study of dolphin with the Dolphinfish Research Program, you can visit his Web site at <http://dolphinsresearchpr.blogspot.com/2011/04/field-log-april-2nd-2011-mission.html>. You can view a short video filmed underwater by Merten of the release of the fish with the satellite tag at <http://www.youtube.com/watch?v=iUBJOPm0x-Y>.

## Dolphin Adopt Bahamian Life Style

I know firsthand that humans visiting the tropical paradise known as the Bahamas Islands cannot resist the allure of the laidback lifestyle that pervades the Bahamian culture. Three recent tag recoveries from the

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Tongue of the Ocean suggest that dolphinfish at least in this area cannot resist the leisurely pace either.

Three of nine fish tagged by Dave Wilson at the north Autec buoy in the Tongue of the Ocean off Andros Island were not in a hurry to go anywhere. The first recovery was made by David Jenkins, of Nassau, Bahamas, on April 13, 2011, during a fishing trip southeast of Nicholls Town, Andros. It was recovered 14 miles northwest of the original release site following a 35-day liberty. The second fish was recaptured on April 14, 2011, by Kyle Sawyer, of Nassau, Bahamas, on a fishing trip to the north Autec buoy. His fish was at liberty for 36 days and was caught under the same buoy where it had been released. The third tag recovery was made by Darren McCartney, of Nassau, Bahamas, on April 16, 2011 while fishing at the north Autec buoy. This fish had enjoyed just one day of freedom before biting another baited hook at the same buoy where it was released.

The low speed of the water currents found in the Tongue does not support fast transport of dolphin from one area to another. However, this, does not mean that dolphin in this large canyon are not capable of rapid travel. One dolphin tagged off north Andros was recovered two days later more than 50 miles away toward the southern end of the Tongue indicating a daily travel rate of 25 miles per day.

There have been 21 recaptures of fish tagged in the Tongue. Only two recaptures have occurred outside the Tongue's waters, and both of these recoveries were off the U.S. East Coast following liberties of more than 50 days. Eleven of the recoveries occurred at the original release site. These fish were recaptured as quickly as the same day as released, to 77 days after tagging. While ten



*Dave Wilson, owner of the boat Knot Yet, displays one of the larger dolphin he has tagged in the Tongue of the Ocean. Dave has tagged more than 120 dolphin in this unique body of water, with 11 of his tagged fish reported recaptured.*

*Dolphin Tagging Progress by Zones, April 30, 2011.*

Zone	Area	Southern Limit	Northern Limit	Number Tagged
1	Bahamas	22° N	28° N	9
2	FL Straits	23° N	25° N	20
3	South Florida	25° N	27° N	62
4	Central Florida	27° N	30° N	14
5	North FL & GA	30° N	32° N	0
6	Southern SC	32° N	33° N	0
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			20
13	Caribbean Sea			22
	Total			147

of the fish recovered in the Tongue were at liberty for seven days or less, eight fish had liberties of two weeks or more.

More than 90 percent of the recoveries of fish tagged in the Tongue of the Ocean occur within the same water body. This is the highest in-area recovery rate observed by this study. Florida's east coast with possibly the heaviest fishing pressure on dolphin of any place, accounts for 70 percent of the recoveries of fish tagged off its shores.

The Tongue is unique in that it is a large deep water system formed by the Great Bahamas Canyon that extends from the Atlantic Ocean southwesterly for 194 miles. It is surrounded by land or shallow water and lacks a deep-water connection to other deep-water bodies at its southern end. The only other bay system in the western North Atlantic somewhat similar is Exuma Sound, east of the Tongue. This bay is 123 miles long but does have a moderately deep (60 feet) channel between Eleuthera and Little San Salvador islands that connects with the Atlantic Ocean. Exuma Sound experiences far less fishing pressure and has had fewer dolphin tagged. Unfortunately, the low level of tagging in Exuma and resulting recoveries does not allow comparison.

**Do You Want to Slow Up Fishery Closures?**

Nobody wants to hear of another fishery being restricted or shut down. It seems that we get this kind of news every month. The fact is that everyone who removes fish from the water is part of the problem. But everyone who removes fish can also be part of the solution.

You can help slow up the strangulation of recreational fishing simply by being proactive in how you release your undersize or unwanted fish. I have fished with many prominent captains who are very vocal defenders the rights of the recreational anglers to catch fish. Yet

**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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these individuals and the people on their boats give no thought to how roughly they handled the fish being thrown back. These throw-backs were commonly dropped on the deck, had the hooks ripped out of them, and were held by placing fingers in the eye sockets or in the gills. The irony is found in one captain's statement following such a day of fishing, when he pointed out how many fish they had thrown back and how he was doing his part for conservation. I suspect the majority of his releases died.

Every fisherman, regardless of species sought, can help slow the increase of restrictions being placed on your favorite species by making the effort to release as healthy a fish as possible. If anglers would utilize the following guidelines in releasing fish, the survival rate would improve dramatically.

1. Use circle hooks when fishing with natural baits.
2. Do not remove the fish from the water when possible.
3. Use a rubberized dipnet to lift fish out of the water.
4. If the hook is embedded in a highly vascular area around the gills or in the gut, the leader should be cut as closely as possible without pulling on the hook.
5. If the fish has to be placed on a work surface, make sure it is smooth and wet or is covered by a wet towel.
6. Never place a finger in the eye sockets, or in the gills. Never squeeze the gut cavity of the fish or lift it by its lower jaw.

You can radically improve the survival chances of the fish you release by following these guidelines. Consider this: it will take thousands of newly hatched fry to replace the fish in your hand. The health of a fishery is better maintained by ensuring the survival of fish that have already survived these early life perils than waiting for future spawning to replace them.

## Help Requested from Tournaments

Sports fishing clubs and other sponsors of offshore big game tournaments in the Western North Atlantic Ocean and Caribbean Sea are being asked to assist the Dolphinfish Research Program. Sponsors of these events can provide a very valuable service to science by simply recording specific data on each dolphinfish entered into their events.

## New 2011 Financial Contributors

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Tournaments are being asked to measure the fork length for each dolphinfish that is weighed in for their event and to record the length, weight and sex for the fish. Length-weight information such as this is extremely useful in learning about the life history of the animal and monitoring changes in their body condition between areas and from year to year. A drop in weight per given length between two areas could indicate that a major spawning activity had occurred between the two areas. A drop in the average body weight per length in one area from one year to the next could suggest a lower abundance of food in that year.

If you, your club or tournament would be willing to assist in collecting length-weight data on dolphinfish, please contact Don Hammond by e-mail or telephone using the contact information at the end of this newsletter.

**Your donations to the Dolphin Study are Fully Tax-Deductible**

**Make checks out to:**

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Mail checks to the address below.

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