

Cooperative Science Services, LLC Dolphin Tagging Research Project

October 2006



Origin(s) of East Coast and Gulf of Mexico Dolphinfish to be Subject of Study

Information collected by the current Dolphin Study and from other research studies suggests that a major portion of the dolphin caught by US anglers in the Gulf and off the East Coast may pass through the Yucatan Strait. This narrow body of water, only 125 miles wide, bordered by Mexico's Yucatan Peninsula and the western tip of Cuba, is the channel funneling the remnants of the Caribbean Current into the Gulf of Mexico. This feeds water to the Loop Current, which supplies the Florida Current that moves up the east coast of Florida and ultimately becomes the Gulf Stream. Tag recoveries suggest that these ocean currents are the "interstate highways" for dolphinfish movements.

The Dolphin Tagging Research Project is exploring the possibility of a scientific cruise into the Yucatan Strait and western Caribbean Sea to tag dolphin in the spring of 2007. By tagging a large number of dolphin in these southern waters during the dolphin's northward migration, it is hoped that these tagged fish will be recovered both in the Gulf as well as along the East Coast. This information would be a major factor in re-defining the dolphin stock structure in the Western North Atlantic.

Dr. Thomas McMurray, who serves on the Board of the Marine Ventures Foundation, a sponsor of the current study, and owner a 74-foot Viking sports fisher, *Makara*,

has made his boat available for this important work. Details of the two-week cruise are currently being explored such as the peak time of the dolphin migration in the western Caribbean and specific areas where dolphin tend to concentrate.

The Dolphin Study will need to raise \$10,000 in addition to its regular budget to make this exploratory research a reality. This modest sum is needed to cover the operating and travel costs anticipated for this 14-day research cruise. This is cheap when compared to the daily price of \$2,700 that the South Carolina Marine Resources Division charges for use of its 74 foot research trawler.

Fishermen who have experience fishing off Ambergris Cay, Belize, Cozumel and Isla Mujeres, Mexico, are asked to share their knowledge with this program to help ensure a successful cruise. Anglers and captains can contact the program using the contact information at the end of this newsletter.

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CSS Dolphin Tagging Newsletter

October 2006

Page 2.

Fall Southerly Migration of Dolphin - Fact or Fiction?

A recent discussion with Jeff Weakley, editor of Florida Sportsman magazine, about fall migrations of dolphin made me stop to think about such a possibility. The discussion helped me understanding how many Southeastern offshore anglers believe in a fall southerly movement of dolphin.

As I explained to Jeff, data collected by the Dolphin Study provides no support for this theory. While there may certainly be a fall run of fish, I would suspect that they are still ultimately moving northward. It is doubtful that a fish would willingly migrate against a current as strong as the Gulf Stream or Florida Current. Such an endeavor would require a greater expenditure of energy than moving with the current. Jeff did point out that nearshore counter-currents do exist in South Florida, which could be utilized by the dolphin to move south.

Tagging a large number of dolphin off the Florida east coast between September 1 and December 1 of 2007 would go a long way toward answering this question. The locations of where the dolphin were being caught could also aid by indicating whether the fish were being found in the nearshore areas where the counter-currents exist. One problem with using release locations, as pointed out by Captain Jimbo Thomas, who bases his charter boat out of Miami, Florida, weather during this season is usually poor and a large majority of the fishing takes place near shore because boaters cannot make it further offshore because of rough seas. This skewed fishing effort could give a false impression of where the dolphin are concentrated. However, short-term recoveries of tagged fish could provide the answer to whether a southerly migration is fact or fiction.



Looks can be deceiving. Just because a dolphin is observed swimming into the Florida Current facing south does not mean that the fish is actually traveling south.

Photo courtesy of Dino Barone.

Few dolphin have been tagged during the fall off Florida with only two such tagged fish reported recaptured. One was at liberty for 161 days, the other 27 days, and both were recovered north of their release site. However, there have been incidences of fish tagged and recovered off Florida that were recaptures south of their release site.

Florida anglers, you can help answer the question of whether the fall southerly migration of dolphin in your area is real or just another fisherman's myth.

Record Number of Tag Recoveries

Two more tagged dolphin have been reported recovered since the last newsletter bringing the total recoveries reported in 2006 to 45. This is a record number of reports for a single year in the Dolphin Program. It also represents an overall recovery rate of 2.9%, one of the highest noted in the study.

As in last month's recoveries, both fish had been tagged off Florida. Both fish were also recaptured off Florida but with very different stories.

The first fish recovered was tagged in late June by Angelo Livolsi of Palm Bay, Florida, off Sebastian Inlet, Florida. Three months later it was recovered 46 miles south of its release site by Michael Barone of Stuart, Florida. During this same time frame dolphin tagged in the same region were traveling to North Carolina and even into the Mid-Atlantic Bight. Why was this fish different? Did it hang around to join a southerly migration?

The second recapture exhibited a more normal behavior. It was tagged in mid-September by Captain Jimbo Thomas while fishing off Miami, Florida. The fish was recovered 27 days later by John Caines of Lake Mary, Florida, having traveled 193 miles north to Cape Canaveral, Florida. This fish's movement would not support a fall southerly movement theory.

For a complete listing of recoveries of 2006 fish go to the "Study Results" page on www.dolphintagging.com.

2006 Tagging Slowing Down

Dolphin Study Tagging Progress, October 1, 2006.

Zone	Area	Southern Limit	Northern Limit	Number Tagged
1	Bahamas	22° N	28° N	71
2	FL Straits	23° N	25° N	718
3	South Florida	25° N	27° N	326
4	Central Florida	27° N	30° N	56
5	North FL & GA	30° N	32° N	9
6	South Carolina	32° N	33° N	173
7	N. SC - S. NC	33° N	35° N	34
8	Northern NC	35° N	36.5° N	7
9	Virginia	36.5° N	38° N	16
10	N. Mid-Atlantic	38° N		12
11	Gulf of Mexico	24° N	30.2° N	16

CSS Dolphin Tagging Newsletter

October 2006

Page 3.

Anglers fishing on 86 different boats have reported tagging 1,438 dolphin this year. The bulk of the 2006 tagging activity has been centered in the South Florida and the Florida Keys. Anglers fishing the Mid-Atlantic Bight tagged only 35 fish in 2006, which is still higher than Gulf of Mexico anglers who marked only 16 dolphin in 2006.

Mark and recapture studies such as this one are a function of numbers. The more fish marked, the more recaptures that are likely to occur. Because of the highly migratory nature of the species, recaptures of dolphinfish are very unlikely. A 1% recovery rate was anticipated but a better, 2.5%, rate has been realized. This means that 5 tagged fish may be reported recaptured for every 200 fish tagged.

This study has shown that dolphin movement patterns vary from one geographical region to the next. Learning about dolphin movements in the Mid-Atlantic Bight and the Gulf of Mexico will require more local offshore anglers getting involved in tagging dolphin in these regions.

Satellite Tag Data Status

Data from three hi-tech archival satellite tags deployed on dolphin in 2006 off the eastern seaboard should be received shortly from the tag manufacturer and the results will be reported this winter.



Crew of the *Rock Boat* out of Weston, Florida, implant one of two satellite pop-off tags they deployed in 2006.
Photo Courtesy of Richard DeLizza

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