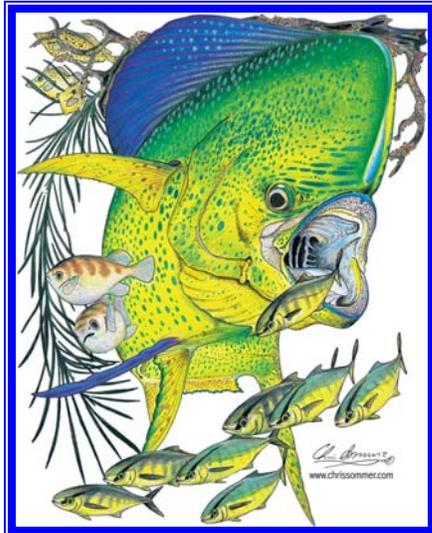


# Cooperative Science Services, LLC Dolphinfish Research Program

Made possible by a grant from Marine Ventures Foundation

September 2008



## Recaptures of 2008 Tagged Fish

A total of 25 tagged fish have been reported recovered during 2008 as of the end of August. Three recaptures involved fish tagged in 2007 with the remaining 22 fish marked and released during 2008. These fish were tagged by 16 different boats with 5 vessels enjoying multiple fish recovered. Don Gates' boat *Killin Time*, which tags in the Florida Keys, leads the field in numbers of recoveries with five. It should be noted that recovery of fish tagged by Capt. Gates' crew is more than three times the normal rate for recaptures. The charter boat, *Thomas Flyer*, run by Capt. Jimbo Thomas out of Miami, Florida, follows in second with 3 of his tagged fish recovered. Three other vessels had two of their tagged dolphin recovered. They were Dave Wilson's *Knot Yet* out of Andros, Bahamas, Capt. Bouncer Smith's *Bouncer's Dusky* out of Miami, Florida, and Don Brown's *Draggin Dreams* out of Pembroke Pines, Florida.

The distribution of the 2008 tag recoveries has been unusual compared to previous years (Table 1). While the proportion of recaptures made off east Florida was close to the long-term average of 53.0%, the proportion of the recoveries reported by boats off North Carolina fell more than 38% below the average of 27.2% to its lowest level of 16.7%. Note that in-zone recoveries are at their all-time high of 46%, almost 40% above their average of 32.9%, which would seem to indicate that the fish may have been slower to move north.

It is very interesting that in the same year we see the highest in-zone recapture rate, the third-highest recovery rate for the Mid-Atlantic Bight, 25%, is recorded. This recovery level for the northern end of the dolphin's

normal U.S. range is more than 37% above the study's average of 18.2%. A logical question to follow would then be whether the drop in North Carolina recoveries reflected an actual drop in dolphin harvest and, if so, did it allow for more fish to enter the Mid-Atlantic Bight?

Table 1. Comparison of annual recaptures occurring in select areas. (Shown as percent of annual recaptures.)

Year	In-zone	E FL	NC	MAB
2002	30.0	20.0	40.0	50.0
2003	35.7	57.1	25.0	7.1
2004	27.5	40.0	37.5	22.5
2005	32.6	58.1	18.6	14.0
2006	23.9	54.3	32.7	26.1
2007	35.6	57.7	26.8	5.4
2008	46.0	50.0	16.7	25.0
Ave.	32.9	53.0	27.2	18.2

In-zone = Recaptured in the zone in which fish was tagged

E FL = Recaptures off East Florida

NC = Recaptures off North Carolina

MAB = Recaptures from Cape Hatteras, North Carolina, northward to Nantucket Island, Massachusetts

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Table 1 shows that those previous years with the highest MAB recovery rates were the same years when the North Carolina recovery rates were the highest. This suggests that when North Carolina enjoys a high recovery rate, the MAB will also have a high rate. This challenges the previous escapement theory, if you accept that fishing effort remained constant in both areas during 2008 or changed at the same rate, increasing or decreasing. However, it is likely that economic pressures affecting offshore fishing along the entire U.S. east coast are not affected uniformly port-to-port or even state to state. This would result in some ports seeing fishing drop off more than other ports. The escapement hypothesis could be valid if fishing declined more off North Carolina than in the remainder of the MAB.

The majority of the tag recaptures, 75%, were from fish tagged off Florida. This also mirrors the proportion of the dolphin, 75%, that have been tagged off Florida in 2008. Three recoveries were from fish tagged in the Bahamas while the remaining three came from fish tagged by anglers off South Carolina.

Tag recoveries indicate that dolphin were not in as much of a hurry to travel north in 2008 as in many previous years. The fastest travel rate was only 49 miles per day with only three other fish breaking the 40-mile-per-day mark. The tendency to linger was best shown by a fish tagged in the Florida Keys and recovered 19 days later only 56 miles away from its release site. This is 5 times the length of the average in-zone liberty period of 3.6 days for fish tagged and recovered in this area. From 2002 through 2007 fish tagged in Florida and recaptured before leaving the state averaged traveling 26.9 miles per day, but in 2008 the in-state recoveries averaged moving only 8.7 miles per day. Fish tagged off Florida and recovered off North Carolina were at liberty for 29.3 days, during which they traveled 687 miles for an average speed of 23.4 miles per day. The three fish that traveled from Florida to the northern MAB were at liberty an average of 84 days during which they moved 969 miles north for an average speed of 11.5 miles/day.

Two tag recoveries offered little information because one party involved in each did not take time to provide proper information. One involved a fish marked off South Carolina that went to the Hudson Canyon off New York, where we were able to determine the distance, 660 miles but could only get a guess of 35 and 65 days for its time at liberty because only the month and year was reported for its tag date. The other recovery involved a fish tagged off the Florida Keys and reported recovered by an angler from Miami, Florida, who only provided the tag number and would not respond to repeated requests for additional information.

Little can be done to prevent the latter failure in collection of information on recovered fish. Anglers are not mandated to report the information. However, with

*Dolphin Tagging Progress by Zones, August 31, 2008*

Zone	Area	Southern Limit	Northern Limit	Number Tagged
1	Bahamas	22N	28N	148
2	FL Straits	23N	25N	374
3	South Florida	25N	27N	504
4	Central Florida	27N	30N	30
5	North FL & GA	30N	32N	48
6	Southern SC	32N	33N	82
7	N. SC - S. NC	33N	35N	12
8	Northern NC	35N	36.5N	3
9	Virginia	36.5N	38N	0
10	N. Mid-Atlantic	38N		2
11	Gulf of Mexico			8
12	W Central Atlantic			0
13	Caribbean Sea			3
	Total			1214

a little more effort on the part of the anglers who tag fish to record information that defines the release, one form of this information collapse would be prevented.

## The Value of Each Dolphin Tagged

Most fishermen think that the whole value of a study that tags fish is based on those marked fish that are recaptured. This is not the case with the Dolphin Tagging Study.

Little has been documented about the life of the dolphinfish and the offshore blue water recreational fishery of the U.S. East and Gulf coasts. For this reason each piece of information from the initial tagging event can help build new insight into their life and movements. Study objectives:

1. Geographic definition of the recreational fishing grounds over time
2. Geographic occurrence of dolphin over time
3. Changes in temperature selection over time and by latitude
4. Changes in size of available fish over time
5. Relationship of dolphin abundance with the presence of sargassum

Many other important studies can be carried out in the future by building a quality date and location data base for dolphin occurrence. One such study would compare dolphin capture locations with the locations of ocean current features such as upwellings, eddies, thermal boundaries, and chlorophyll fronts as determined by sea surface satellite imagery. This would provide a better understanding of why and where dolphin travel as they do and could lead to the ability to predict dolphin movements. Wouldn't you like to know in advance where and when dolphin would be in your area?

Another potential study would follow specific eddies that have had a large number of dolphin tagged within

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them during their travel along the eastern seaboard. It would examine the specific time and location of recaptures to see if they remained with the original eddy. This information would be extremely valuable in understanding temporary-localized depletion versus long-term depletion.

These are but a few potential ideas of what a quality temporal and spatial data base on dolphin occurrence could provide. This program is trying to maximize the scientific value of each dolphin tagged. Fishermen who “guess” at the date, location and other information or forget to send in their data cards are actually doing more damage than good. Such bad data can mask valuable trends that would otherwise be determined.

Good data in, quality information out.

## Dolphinfish Program Addresses SAFMC

At the invitation of the chairman and executive director of the South Atlantic Fisheries Management Council, Don Hammond, director of the Dolphinfish Research Program, appeared before the full council at their September 2008 meeting in Charleston, South Carolina. Council members were briefed on the study’s recent report about possible changes within the recreational dolphinfish fisheries off the U.S. Atlantic and Gulf coasts.

The big news from the meeting was that Council Chairman George Geiger announced that the Wahoo and Dolphin Committee would be convened to review the management plan and current status of the fisheries.

## 5<sup>th</sup> World Recreational Fishing Conference

Recreational fishermen and fisheries scientists from all over the world will gather in Dania Beach, Florida, in November 2008 to report on their issues and successes in developing and managing recreational fisheries. Held every four years, the conference is intended to bring scientists and sport fishermen together to address fisheries issues specific to the recreational fishing community.

The Dolphin Tagging Study has been invited to address the international gathering to report on the program’s success in monitoring the movements of dolphinfish found off the U.S. Atlantic coast using recreational fishermen to conduct the field work. This is an honor for the program and demonstrates the wide recognition which this study currently enjoys.

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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](mailto:CSSLLC@bellsouth.net)

Web site [www.dolphintagging.com](http://www.dolphintagging.com)



Cooperative Science Services, LLC