

Cooperative Science Services, LLC Dolphinfish Research Program

Made possible by a grant from the Guy Harvey Ocean Foundation
December 2017



Contributions to Our Knowledge of Dolphinfish

As the Dolphinfish Research Program is set to operate as its own non-profit organization in January 2018, I thought that it would be appropriate to review some information that the Cooperative Science Services acquired working with you, the fisherman, for this study. Your dedication to advancing the knowledge and conservation of dolphin has resulted in a wealth of new insights about the species.

General Facts about Dolphinfish

1. They can grow as much as 2.5" fork-length per week.
2. A dolphin can eat up to 20% of its body weight in a day.
3. They can grow to weights of 40 pounds within the first 12 months of life.
4. This species generally reaches sexual maturity at three to five months of age.
5. Very few live past two years of age.
6. The oldest documented dolphin was four years old.
7. Dolphin do not have eyelids and are not known to sleep.
8. Lacking an air bladder, they will sink if they stop swimming.
9. Spawning likely occurs every month of the year in the western North Atlantic Ocean.
10. More dolphin are caught by recreational anglers in the Gulf of Mexico, Caribbean Sea and South Atlantic Bight than all of the yellowfin tuna, blackfin tuna, wahoo and king mackerel combined in those regions.

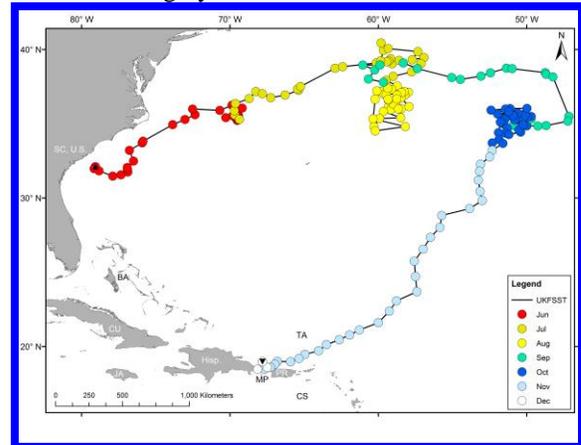
Facts from DRP Research

1. More than 4,598 anglers fishing from more than 1,332 boats have tagged more than 23,000 dolphin.
2. A total of 597 tagged dolphin recoveries have been reported involving more than 550 boats.

3. The overall rate for tag recoveries is 2.55%.
4. More than two-thirds of the fish marked and released in our 16-year study were tagged off the east coast of Florida by recreational anglers.

Discoveries from Satellite Tags

1. These fish can travel as far as 152 miles in a straight line during a 24-hour period as shown by a satellite tag track.
2. Dolphin were observed to dive to depths >800 feet deep. It is most likely a behavior associated with feeding.
3. Dolphin engage in deep diving more at night than during the day.
4. Deep diving appears to be associated with feeding on animals that live in the great depths of the ocean during the day that migrate up the water column at night.
5. There may be regional differences in the frequency of diving between the U.S. East Coast and the Caribbean Sea.
6. One satellite track showed that a fish released off Charleston, South Carolina, had circumnavigated the Sargasso Sea winding up at the Mona Passage between Puerto Rico and the Dominican Republic six months and ~8,100 miles later, suggesting a migration route that circumnavigates the Sargasso Sea.
7. Dolphin were shown to spend as much as six weeks in large semi-permanent gyres that occur in the North Atlantic at roughly 35° north and 60° and 50° west.



A dolphin tracked for six months using a satellite tag circumnavigated the Sargasso Sea, traveling more than 8,000 miles.

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Facts from Public Tagging

1. Dolphin migrate predominately to the north along the U.S. East Coast.
2. Dolphin appear to travel in a clockwise migration in the western central North Atlantic throughout the year.
3. Fish released off eastern Florida have been recovered off all U.S. Atlantic coast states except NH and ME.
4. Fish released off the U.S. East Coast have been recovered off the Azores, Cuba, Dominican Republic, Puerto Rico, Virgin Islands, St. Barthelemy, St. Kitts, Antigua, Venezuela, and Mexico.
4. Two crews of vessels have tagged > 2,500 dolphin.
5. Fish tagged off U.S. East Coast and recovered in the Caribbean Sea or western North Atlantic tropical waters were at liberty for an average of 273 days.
6. Fish tagged in the Gulf of Mexico have been recovered in the western North Atlantic off the western Bahamas.
7. The average travel speed of fish tagged off the east coast of Florida varies annually, ranging from 10.4 - 44.9 miles per day (mpd) with an annual average of 24.8 mpd.
8. Migration speeds vary by region. Dolphin move slower off the Carolinas than off eastern Florida.



Tag recoveries in the Caribbean Sea and western North Atlantic indicated a consistent movement to the west.

9. Dolphin are capable of sustained high-speed travels. An example is a fish that went from the Florida Keys to Oregon Inlet in nine days, covering 893 miles.
10. Multiple fish traveled from the Florida Keys to off New York and New Jersey in less than two months.
11. Fish tagged and later recaptured in the Caribbean Sea and off the north coast of the northern Caribbean Islands always moved in a general westerly direction.
12. Dolphin released north of the Greater Antilles were found to have the slowest average rate of travel, 3.0 miles per day in their migration, while fish in the Caribbean Sea traveled at an average rate of 12.4 miles per day.
13. More than 20 fish have been recovered more than 1,000 miles from where they were released.
14. The longest distance traveled by a tagged fish from its release site belong to a fish released off Charleston, South

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- Carolina, that traveled 2,500 miles in a straight line from its release site moving into the eastern North Atlantic.
15. Dolphin have been found to linger in the Tongue of the Ocean, Bahamas, and off Cape Hatteras/Oregon Inlet, North Carolina, for periods in excess of 30 days.
 16. Small fish tagged off the U.S. East Coast return the next year as large adult fish, shown by 26 such recoveries.
 17. Using the number of tagged fish reported recovered by private recreational boats versus charter boats to indicate

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general levels of harvest, private recreational boats harvest more dolphin off Florida's east coast than charter vessels.

18. The larger the fish is when tagged, the better the chance that it will be recovered.

19. Of the fish tagged off eastern Florida, three times as many were recaptured before they left the state than were recovered outside of the state.

20. Recoveries of fish tagged off south Florida and the Keys and recovered off south Florida three months or more later, coupled with the recapture of south Florida fish off the eastern islands of the Bahamas, suggest an alternate, mini-migration route around the Bahamas Bank.

21. A small percentage of the fish tagged in the area of Cape Canaveral, Florida, down to Miami that were later recaptured, exhibited a southerly inshore movement traveling as far south as Key West.

22. Dolphinfish can spend as much as two months riding the circular motion of ocean gyres.

23. Information gathered from where fish were tagged can be used to clearly define the geographical area used by recreational fishermen to catch dolphin.

The information presented here is just a fraction of the new information that this study has revealed about this amazing game fish. Throughout my research, one key thing that I have observed is the resilience of the species. In spite of an extremely low abundance of young-of-the-year fish in 2016 and the resulting poor large-fish season experienced in the spring of 2017, a very strong run of young-of-the-year fish has been enjoyed during the summer of 2017. This abundance extended into the Caribbean Sea, where dolphinfish are usually found in lower numbers during the summer months. The variation, however, between good and bad years in terms of abundance is something that needs to be better documented, and going forward, the DRP is poised to collect such data. In addition, we lack a basic understanding of dolphin movements in many of our zones including the Gulf of Mexico, Mid-Atlantic Bight, and across the board throughout the Caribbean Sea. This brings me to another key thing that I have learned throughout my research, and that is that it takes decades of research to begin to document meaningful trends in abundance and movement/migration patterns. This is why your continued support of the Dolphinfish Research Program is critically important as it enters a new chapter in 2018. As a board member, I will continue to provide guidance and advice on research being conducted on dolphinfish. This will include advice on the ongoing expansion of the program including feedback on grants that the DRP is working on. I encourage you to stay involved in the program.

Dolphin Tagging Progress by Zones, December 6, 2017.

Zone	Area	Southern Limit	Northern Limit	Number Tagged
1	Bahamas	22° N	28° N	6
2	FL Straits	23° N	25° N	834
3	South Florida	25° N	27° N	512
4	Central Florida	27° N	30° N	42
5	North FL & GA	30° N	32° N	3
6	Southern SC	32° N	33° N	17
7	N. SC - S. NC	33° N	35° N	33
8	Northern NC	35° N	36.5° N	1
9	Virginia	36.5° N	38° N	23
10	N. Mid-Atlantic	38° N		0
11	Gulf of Mexico			9
12	W Central Atlantic			67
13	Caribbean Sea			33
	Total			1580

Florence Blue Water Fishing Club and Central Florida Offshore Anglers Keep DRP Program Funded



We would like to thank the Florence Blue Water Fishing Club and the Central Florida Offshore Anglers for their generous donation to support the program's operating budget in 2018. Beyond that the program does not have enough funds to operate. The bottom line is that without the money to pay the bills, there is no Dolphinfish Research Program. This program runs on private donations and is working on acquiring grants. It is a scientific research program by the fishermen for the fishermen. You should be contributing to this research program if:

- * You like catching fish as opposed to just riding a boat and watching baits skip along the surface
- * You enjoy carrying fish home to eat
- * You have children or grandchildren that you want to enjoy catching dolphin
- * If you want to learn about dolphin habitat use and movements

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- * You are a charter that targets dolphin
- * Your restaurant serves dolphin
- * You wonder where the fish go when they leave your area and wonder when they will be back
- * You like participating in fisheries research
- * You believe that you have a responsibility as a steward of our natural resources and want to ensure the health of the dolphin stock for future generations.

Donations to this program are fully tax deductible. Contributions to this study are received by the Beyond Our Shores Foundation, a registered 501 (c)(3) organization. Checks should be made out to Beyond Our Shores/Dolphin Study, and mailed to: Beyond Our Shores, PO BOX 662, Rockville, MD, 20848.

Tagging Kits Now Distributed by the Beyond Our Shores Foundation

We have a new supply of tags ready for distribution.

Over the past few months tagging kits have been distributed to anglers along the U.S. East Coast,



throughout the Caribbean Sea, Hawaii, South Africa, and France (for use in the Mediterranean Sea). Supplies have also been sent to Brazil. If you need to replenish your tag supply, or if you are interested in participating in the Dolphinfish Research Program, please email me at wess@beyondourshores.org for a kit.

New T-Shirts Are Available for Purchase



Help support the DRP and research associated with dolphin by purchasing program tees. The DRP's fantastic logo featured on the shirts was done by Guy Harvey, the amazing marine artist and scientist. The t-shirts were printed by [Casta Design](#) in San Diego, CA, owned and operated by Dom Castagnola. Dom also designed the Collab FAD tee and we love the design. Please [click here](#) to order a tee shirt.

Dolphinfish Research Program Now Supported by the Beyond Our Shores Foundation



BEYOND OUR SHORES

With Don Hammond heading into retirement, we founded Beyond Our Shores, a corporation that is in process of receiving 501(c)(3) tax-exempt status. Beyond Our Shores, Inc., was founded to provide financial, accounting, marketing, and scientific support to the Dolphinfish Research Program. With the Foundation setup, I now need your help to keep this research program going. When this program began at SC DNR, the first budget was \$38,000. We need to acquire funding to cover operating costs for 2018 at or above the original budget when this program began 16 years ago. We are behind this amount but you can help change that. To help the DRP continue to thrive and expand, we ask that you kindly offer your financial support. Fishing clubs, fishing industry representatives or individuals who are interested in supporting the Dolphinfish Research Program should contact wess@beyondourshores.org or mail checks to Beyond Our Shores PO Box 662, Rockville, MD, 20848. You can contact me directly at (787) 436-8300.

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Thank you for your support.

Don Hammond

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