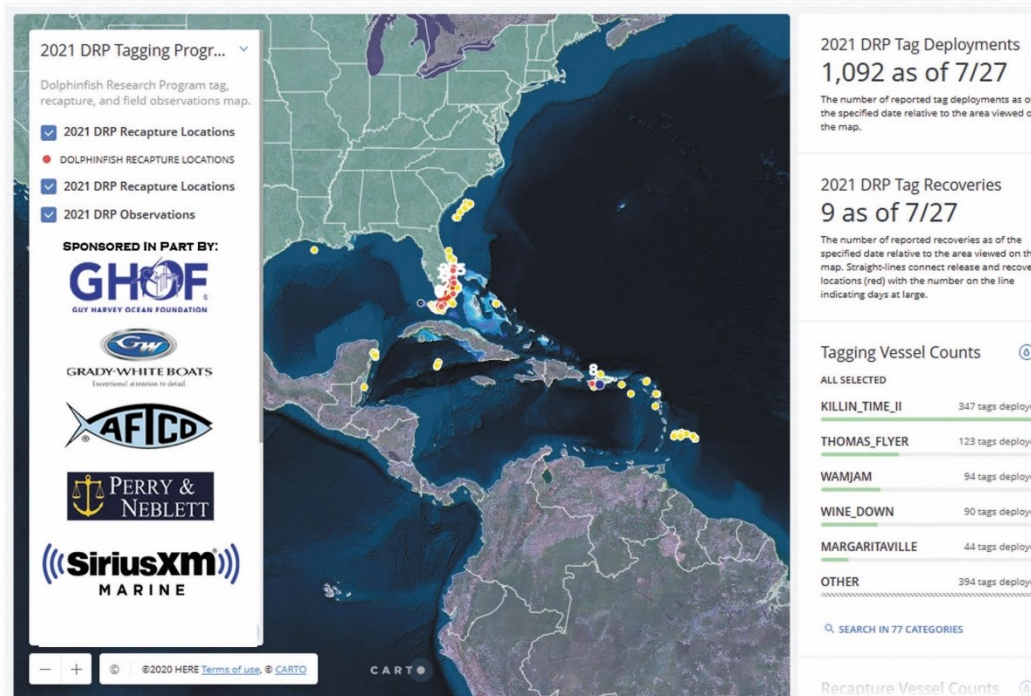


Dolphinfish Research Program™

Made possible by a grant from the Guy Harvey Ocean Foundation

July 2021



A total of 21.37% (25 individual fish) of the logged catch for the recent Tri-State Canyon Shootout, the Northeast's premier offshore fishing tournament, was dolphin. Yellowfin tuna represented 27% of the total tournament catch. Of the dolphin that were caught, 12 fish weighed 15 pounds or greater. The largest dolphin weighed 28.6 pounds. We received our first report of mahi in the MAB courtesy of the *Pair of Docs* fishing team from one of their friends fishing Spencer Canyon (off NJ) on 7/13. Then, Captain Don Dettlinger of *Grander* in Portsmouth, RI, caught one in West Atlantis (south of RI) on 7/16. Amazing that it took roughly 4.5 months from the start of the first reports in the Keys for fish to occupy habitat along the entire U.S. East Coast (minus the Gulf of Maine where the water is presumably too cold for mahi to stick around). We have had two fish tagged in the Keys and South Florida area in the spring (April) that were recaptured in the Mid-Atlantic Bight. The fish covered that distance in 91 and 119 days and were recaptured on July 26th, and August 7th, 2008. The average movement rate for fish tagged in the Keys and south Florida region and recaptured in the MAB is 60 days, with the majority of the releases logged in May and June. Elsewhere, reports off South Carolina have slowed but good catches (and tag reports) continue off Florida.

Reported and Received Tagging Progress from 6/27/2021-7/27/2021:

Don Gates (Killin' Time II) 94	David Neblett (Hit That!) 16
Jimbo Thomas (Thomas Flyer) 15	Dane Dellenbach (Knotty Seacrets) 14
Gary Marshall (Wine Down) 14	Mike Prendergast (Reel Therapy) 9
David Wamer (Wam-Jam) 9	Jim Ivey (Drs Orders) 5
Mario Emilio (Catch and Release) 3	Camille De Boben (Camille Ann) 3
Josh Pierson (The Machine) 3	Bo Gorham (Woody Too) 3
Jon Reynolds (Dropback) 2	Tim Heiser (Irish Wake) 2
Michael Hayward (Pices 2) 2	Matys LaPlace (Trois Coq)
Derek Biel (Obsession) 2	Jeremy Jackson (Miss Millie) 1
Robert Malloy (Reel Thunder) 1	Mario Cabrera (Triple Dog Dare) 1
Gary Sweataran (Hoss Power) 1	Brian Phelps (No Name) 1
Jeremias Luna (Sweet Marlin) 1	Sean Jackson (Shoeless) 1
Daniel Parobok (No Name) 1	

Year to 7/27/2021 for Reported Releases:
1092 tagged & released for conservation and science by
72 different vessels

10 Recaptures to date in 2021 8 verified
1 PSAT movements
3 PSAT Deployments 0 Acoustic Tag
383 Kits Distributed

Reported Recaptures Since 6/27/2021

47" Bull Tracked in Caribbean Sea

July 2021

When Captain Jesus Duran and mate Dagoberto Rodriguez of Boquerón, Puerto Rico, posed for a picture with a popup satellite archival transmitter (PSAT) on March 25th, 2019, we didn't think we would ever see the tag again. That day, while fishing 20 miles south of Cabo Rojo Lighthouse, they attached the PSAT to a beautiful 47" male dolphinfish. The fish was hooked on a ballyhoo that was left drifting behind *Yadimar*, a 25' Grady-White, by photographer Anthony Dooley of Rincón, while at the same time we fought, landed, and tagged a 38" female dolphinfish with another PSAT. Over the past decade, with funding from Puerto Rico's Department of Natural and Environmental Resources, our tagging program, known internationally as the Dolphinfish Research Program, has deployed more than 20 PSATs on adult dolphinfish around the island. Attaching the devices to these fish allows us to garner a glimpse into their daily behavior as well as short and long-term migration patterns, information that is useful for improving dolphinfish management and advancing species conservation. The process of deployment, however, is nerve-wracking. Generally, once the fish is revived and released, you can be certain that the costly tag you just attached to your fish will never be in your possession again. Well, that is, at least, what we thought. A few months after we tagged our 47" bull, we noticed that tag was transmitting from land. How could that be? Well, simply put, another fishermen caught it and they brought the tag home! For the first time in this

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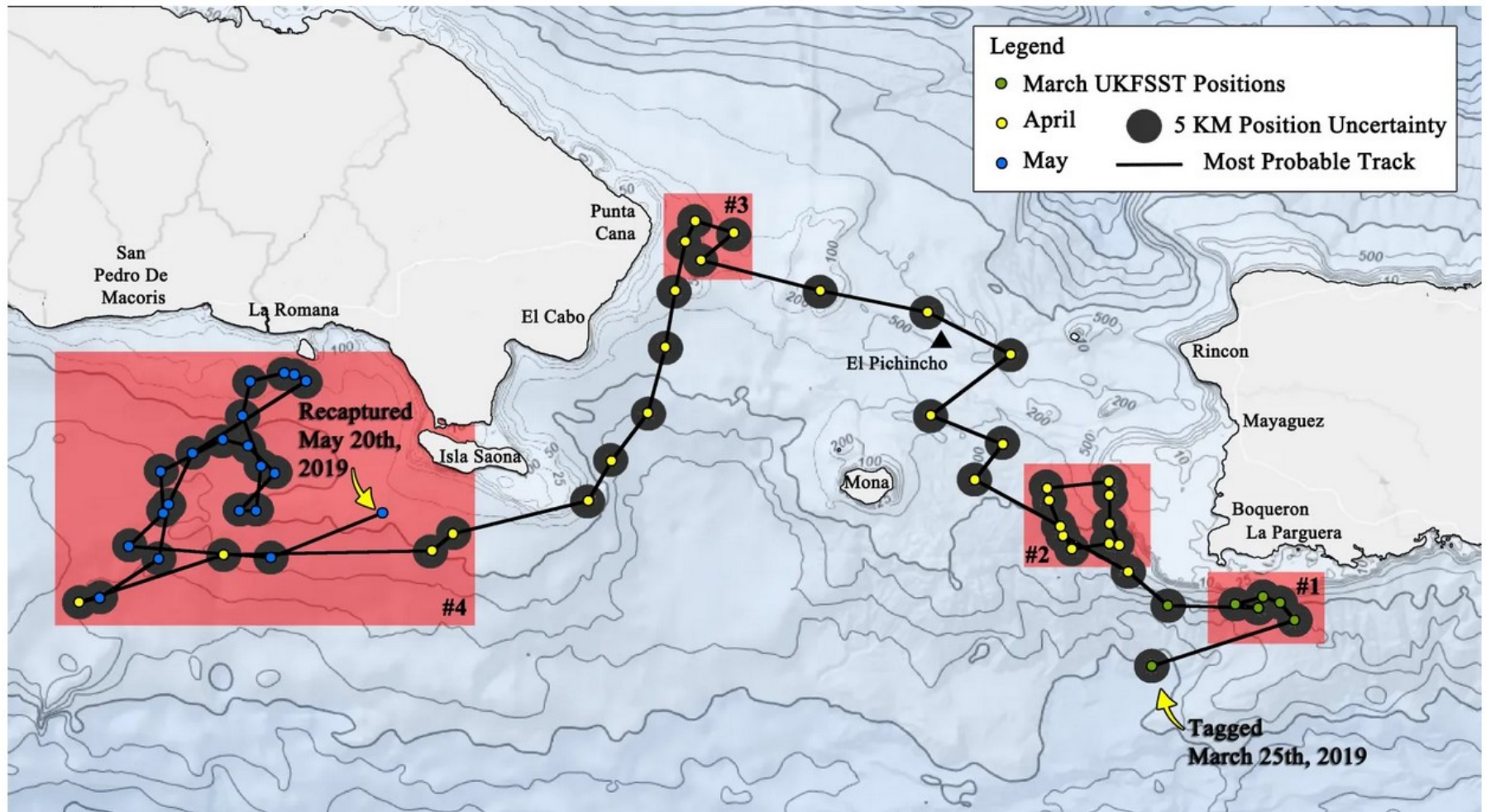
GRADY-WHITE BOATS
Exceptional attention to detail.



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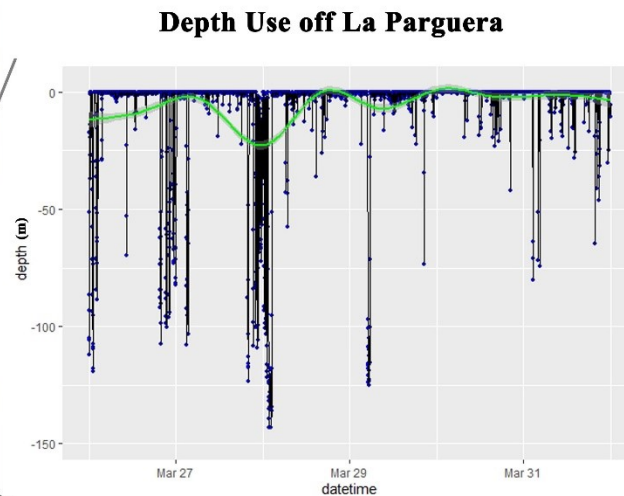
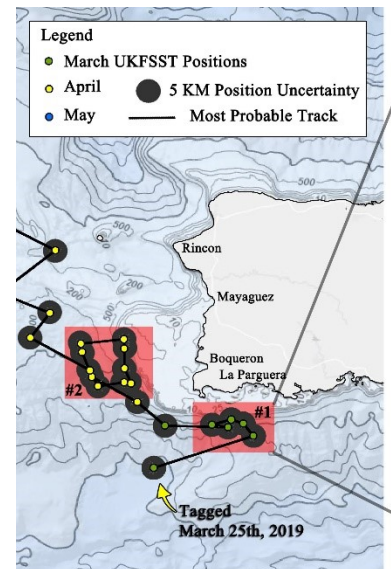
20-year study, we were able to successfully recover a PSAT. In most cases, having a fish captured that is carrying a PSAT is not advantageous to our research. However, in this case, the fish carried the tag for 57 days, and by retrieving the tag, we acquired a more detailed record of the behavior of the fish over that time period than if the tag had not been recovered. Typically, a tag detaches from a fish after a monitoring period that we set (e.g., 30, 90, or 180 days) and we retrieve a portion of data recorded on the device while attached to the fish



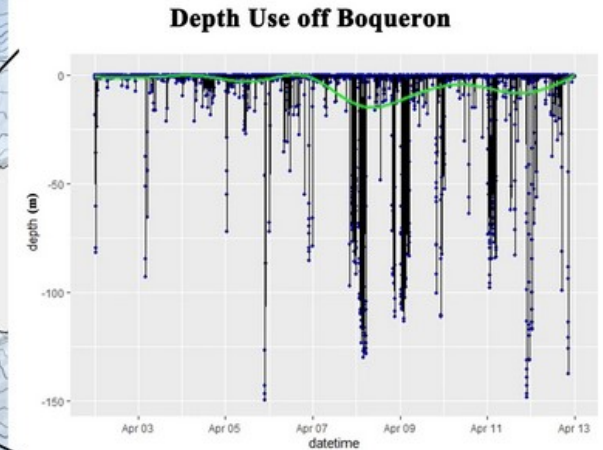
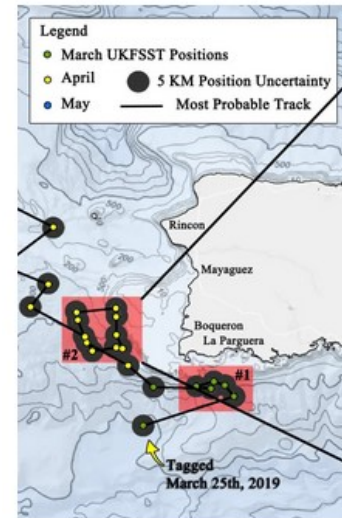
Most probable track for a 47' adult male dolphin fish fitted by unscented Kalman filtering with satellite-derived sea surface temperature (UKFSST; solid line). The fish was released off La Parguera, Puerto Rico and remained at liberty for 57 days until the fish was recaptured at a fish aggregating device (FAD) south of Isla Saona, Dominican Republic, on May 20th, 2019. The numbered red boxes correspond to 4 regions of interest: #1 La Parguera, #2 Boqueron, #3 Punta Cana, #4 La Romana. The animals depth use for these areas are depicted in the section below.

via satellite uplink. In the case of our recovered PSAT, we were able access the tag's hard-drive to download the entire dataset. This occurrence, to the best of our knowledge, is the first-time a PSAT has been recovered on a dolphinfish, and it represents one of the most detailed daily records of a bull dolphinfish in our world's oceans. This information is critical in order to better understand how large dolphin behave in the Caribbean Sea, a region that lacks this information, and to ultimately ensure the long-term sustainability of the dolphin fishery throughout the region. While not considered a broad-scale movement, the 445-mile long track showed us that this bull used a variety of habitats throughout the region at a varied pace. For the first six days, the fish lingered within a few miles of the shelf edge off La Parguera before moving northwest into the Mona Passage on March 31st. Once in the Mona Passage, the fish meandered for 12 more days off the western insular platform, due west of Boquerón Bay and within the vicinity of Abrir La Sierra, an important shelf-edge reef system off the west coast. After the fish utilized the shelf and open ocean coastal waters off southwestern Puerto Rico for 18 days, it began more direct and transitory movements toward the northwest bisecting the Mona Passage in seven days. The fish swam an average of 12 miles per day in the middle of the Mona Passage and then slowed to an average of six once the fish arrived off Punta Cana on April 17th. The fish then swam south along the eastern coast of the Dominican Republic before heading back into the Caribbean Sea southeast of Isla Saona on April 26th, four days shy of spending the entire month of April in the Mona Passage. For the remaining 24 days of the track, the fish occupied a 2000 square kilometer area south of La Romana, DR, which was half as much area covered during the first part of the track off PR and while in the Mona Passage. Within DR coastal waters, the fish revisited previously visited areas at 3 to 20 day intervals. The fish was captured at a fish aggregating device (FAD) south of Isla Saona on May 20th.

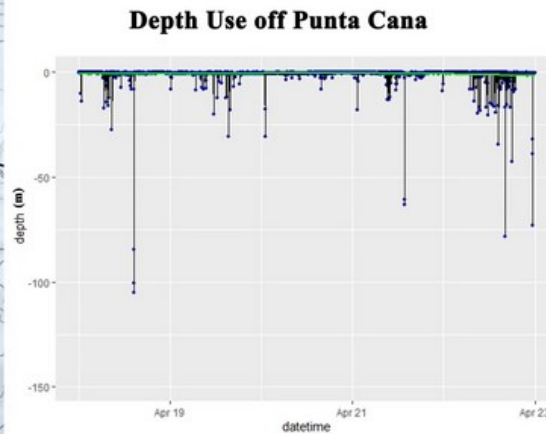
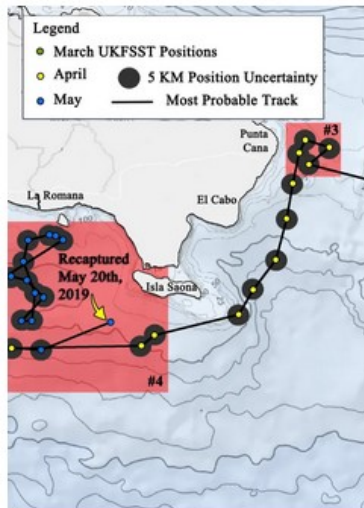
During the 18 days the fish was off southwestern Puerto Rico, it experiences its deepest and most complex diving behaviors. On March 28th, a day when the bull was estimated to be right along the shelf break off La Parguera, the bull's average daily depth was only 14 meters but during night average depth use extended to 51 meters with several dives taken between 100 and 142 meters. During sunrise and sunset the bull was also observed to dive to 57 and 116 meters with the brightest time of day spent in depths less than 36 meters.



While along the west coast of Puerto Rico on April 6th, the bull dove to its deepest depth, 149.3 meters, of the entire 57-day. Two days later, the fish displayed similar diving behavior as observed off La Parguera while the bull was estimated to be off the shelf edge west of Boquerón Bay. On that day, the deepest depths to 129 meters were registered around sunrise.



Geolocation, most probable track, and depth use for movements of a 47' bull monitored off Boqueron, Puerto Rico.

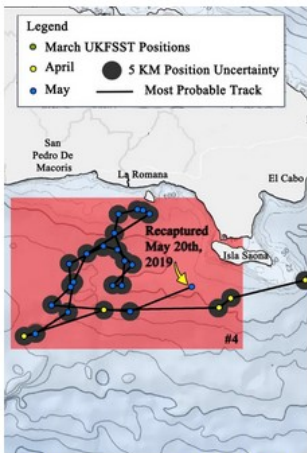


Geolocation, most probable track, and depth use for movements of a 47' bull monitored off Punta Cana, Dominican Republic.

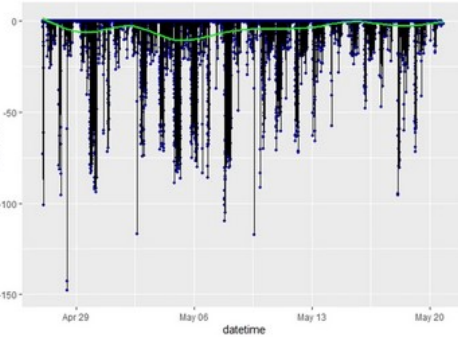
The bull's deep diving behaviors during sunrise, sunset, and night continued through the middle section of the Mona Passage near el Pinchincho, but when the fish arrived off Punta Caña and the eastern shores of the Dominican Republic (DR) on April 17th, depth use had decreased to a daily average of 2 meters and the fish only ventured to depths below 50 meters during 20 dives over a two-week period. The majority of those dives also occurred once the fish was estimated to be off the southeastern coast of DR, where the continental shelf habitat protrudes into the southern portion of the Mona Passage from Isla Saona.

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The majority of those dives also occurred once the fish was estimated to be off the southeastern coast of DR, where the continental shelf habitat protrudes into the southern portion of the Mona Passage from Isla Saona. For the remainder of the track while the fish was south of La Romana, crepuscular and night-time diving behaviors were extensive but rarely exceeded 100 meters like the dives observed off southwestern PR.



Depth Use off La Romana



Geolocation, most probable track, and depth use for movements of a 47" bull monitored off La Romana, Dominican Republic.

During the 57-day monitoring period, the bull experienced three full and two new moon phases. Depth use during these periods did not show a pattern or trend. Depth use during the full moon phases varied from deep during the first phase, shallow during the second, and back to deep during the third. During the new moon phases, diving behavior was shallow during the first phase but deep during the second phase. In terms of patterns or trends observed over the period, both night and the presence of extensive shelf habitat, which likely affect differences in foraging habits for prey, appeared to be drive changes in the vertical movements of this animal.

Another remarkable facet of this dolphinfish tracking event, as well as others that our program has logged around Puerto Rico, is the collaboration of the parties involved to help deploy tags as well as retrieve the tag that was the focus of this article. The tag was retrieved through the help and assistance of **Chris Whitley** and **Rick Alvarez**,

anglers who have extensive fishing experience in the Dominican Republic, as well as **Oscar Paredes**, Harbor Master at Marina Casa de Campo, who contacted fishermen in the local artisanal fishing co-op to locate the tag, and then helped ship it to our HQ. This event also would not have occurred without the assistance of Captain Duran, mate Rodriquez, and photographer Dooley. Over the past decade, six different captains and fishing teams have helped deploy satellite transmitters around the island, with the most recent being Captain Alexis and Sein Lopez of Aguadilla whom helped deploy a PSAT on a 34" bull on April 21st, 2021. A special thanks to everyone involved in the deployment of satellite tags on dolphinfish in Puerto Rico. It is simply amazing how this event and the study of this species have brought together so many people on the island for the vital purpose to better understand and manage the most landed pelagic species on the island.



Captain Jesus Duran and Dago Rodriquez posed for a picture with a PSAT that they helped deploy on a 47" bull that was recaptured in the Dominican Republic. Oscar Paredes of Casa de Campo helped acquire the tag from the local artisanal anglers in DR.

2021 Tagging Progress to Date



We are halfway through the year and already have record participation. We would like to thank the more than 72 vessels that have tagged and released at least one fish this year and submitted the data to our program. One of the main objectives of our tagging program is to get as many anglers involved by distributing tags. To date, we have distributed 3,957 tags in 388 tag kits to anglers throughout the Western Central Atlantic Ocean and Caribbean Sea! Despite 1,092 fish tagged, however, our current recapture rate (0.82%) is the lowest of our 20-year program history.

While we did have a tag reported from a beach (tag shedding) and another unverified recovery because we never received the release data, why such a low recovery rate this year? Possible explanations



include be unreported recaptures, more fish relative to the amount of fishing effort, or shifts in dolphinfish movements. The movements we have logged include a semi-annual Florida revisit produced by the **Thomas Flyer** fishing team; several short-term same day, next-day, week-long recoveries in the Keys and South Florida region produced by **Killin' Time II** and **Irish Wake**; and an 8-day satellite tag movement into the Mona Passage from off La Parguera produced by the **Yadimar** fishing team. As we shift into the second half of the year, our focus shifts to gathering late-summer and fall movements along the U.S. East Coast as well as increasing data collection in the Mid-Atlantic Bight, Panama, and Puerto Rico. If you need tags please request at kit at dolphintagging.com/tags.

Support Our Tagging Program.

Help our tagging program continue to grow and advance data collection on dolphin. There are two ways to support our effort. You can make a tax-deductible donation to the **Beyond Our Shores Foundation** ([click here](#) to donate) or purchase a kit, shirt/hat in our online shop ([click here](#) to shop).

To Donate by Check [click here](#), Make Checks out to:

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