



South Carolina Marine Game Fish Tagging Program

Since 1974, the Marine Resources Division's Office of Fisheries Management has operated a tagging program that uses recreational anglers as a means for deploying external tags in marine game fish. Technically known as an angler-based tagging program, the South Carolina Marine Game Fish Tagging Program has proven to be a useful tool for promoting the conservation of marine game fish and increasing public resource awareness. In addition, the program has provided biologists with valuable data on movement and migration rates between stocks, growth rates, habitat utilization, and mortality associated with both fishing and natural events.

The key to success for the tagging program, in terms of tagging efficiency, is limiting participation to a manageable number of trained volunteers. Keeping the program small allows for a much easier means in which to communicate and provide feedback to program participants. Furthermore, training helps to alleviate many problems, such as inaccurate data reporting and improper tagging techniques, which often plague angler-based programs. Before being provided with tags and equipment, anglers are required to attend a two-hour training workshop. Workshops focus on the proper techniques for handling, tagging, venting,

and releasing marine game fish as well as data reporting expectations of tag and recapture events. To hone their tagging technique before placing a tag in a live fish, participants are given the opportunity to practice on dead specimens. For the program, the result is a corps of trained volunteer taggers that produce a useful tag and recapture database. As an incentive to "actively participate" in the program, conservation awards are given to anglers who tag and release thirty or more fish within a calendar year.

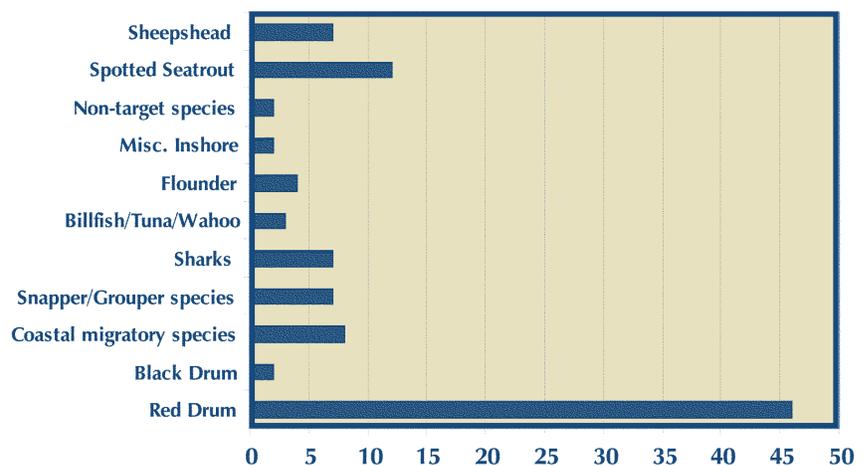
Select marine finfish species are targeted for tag and release based on their importance both recreationally and commercially to the State and South Atlantic region. The list of target species is further narrowed down based on the amount of historical data



An angler gently releases a tagged red drum.

on that species with regards to seasonal movements, habitat requirements, growth rates and release mortality. Although red drum constitute the majority of fish tagged and released by recreational anglers, program participants are encouraged to tag other eligible species where data gaps may exist.

Percentage of Species Tagged by Recreational Anglers (1974 - Present)



Tagging Equipment

Program participants are provided with nylon dart tags, each with a designated number that corresponds to postage paid information card for reporting required information about the tag event. Dart tags have proven to have good tag retention, are easy to apply, and are fairly inexpensive. Anglers wishing to tag sharks or billfish are given a larger, stainless steel harpoon-style tag designed to pierce

thick skin and embedded in the muscle of the fish. Applicators for the nylon dart tags are stainless canulas imbedded in a wooden dowel. A stainless slotted tip is provided to anglers for use with the harpoon tag along with instructions for building a tag stick. All tags used by recreational taggers are bright yellow and, along with the applicators, are supplied free of charge to program participants.

Program Results

Since the program's inception, close to 132,000 fish have been tagged and released. Approximately 12,000 of these fish have been recaptured. The resulting data serve as a useful tool that is used by both fisheries managers within the Marine Resources Division, as well as those in other agencies. In several instances, information from the program has directly affected management decisions.

One of the most significant events of the program occurred in 1992, when a blue marlin tagged off Georgetown, South Carolina, was subsequently recaptured early the following year 750 miles east of Brazil. This was the first documented transequatorial crossing of an Atlantic blue marlin and directly contributed to ICCAT (International Commission for the Conservation of Atlantic Tunas) dropping their five-degree (latitude) dividing line for Atlantic stock blue marlin.

In 1990, the South Atlantic Fishery Management Council used South Carolina public tagging data to examine greater amberjack stocks. The associated tag and recapture information, which identified spawning aggregations off southern Florida, was eventually used by the National Marine Fisheries Service in establishing a spawning season closure for amberjack in the South Atlantic. Other recoveries have provided scientists with information necessary for developing and enhancing fishery management plans. Some of the more significant recoveries include:

- Two cobia recaptures were reported off Galveston, Texas, and Gulfport, Mississippi. The initial

Recaptures of Tagged Fish

All tagging studies rely on the cooperation of the angling public for reporting the recapture of a tagged fish. Recaptures are the foundation for any tagging program and help to complete the circle of information necessary to gain insight about a given species.

Postage paid tag cards documenting the initial tag event are sent in by program participants where they are then entered into a database by program staff. When a recapture occurs, both the initial

tagger and angler reporting the recapture receive the history of the fish, from the time it was originally tagged to when it was recaptured. The recapture angler also receives a reward for taking the time to report the catch. Anglers who encounter tagged fish are encouraged to record the tag number and other pertinent information, and release the fish with the tag still intact. This allows for the possibility of the fish to be recaptured again, which ultimately helps in achieving a more accurate data set.

If you catch a tagged fish:

1. Follow all guidelines for proper handling of the fish
2. Record the tag number
3. Measure and record the total length of the fish
4. If possible, re-release the fish with the tag in place
5. Record the date, location, and type of fish
6. Report the recapture as soon as possible to the Marine Resources Division of the South Carolina Department of Natural Resources in Charleston or mail the information with your return address to:



SCDNR
Marine Game Fish Tagging Program
PO Box 12559
Charleston, SC 29422

Recaptures can also be reported via telephone to
1-888-TAGS-4-SC (1-888-824-7472).



List of Target Species for Tag and Release

All species in Snapper/
Grouper Complex
Billfish (all species)
Black drum
Bluefish
Cobia
Dolphin
Flounder (Southern &
summer)
Jack Crevalle
King mackerel
Red drum (select sizes)
Shark (all species)
Tarpon
Tuna (all species)
Wahoo
Weakfish (summer trout)

taggings, which occurred off South Carolina, provided proof that dismissed the previously accepted idea that there were non-integrating stocks of cobia in the South Atlantic and Gulf of Mexico.

- A smooth dogfish, initially tagged off South Carolina, was recaptured off Martha's Vineyard, Massachusetts. This has been the northernmost recovery of any species recaptured in this program.
- A 41-inch red drum caught in Raritan Bay, New Jersey was originally tagged in Charleston Harbor twelve years prior. This is the longest time-at-large for any species tagged in this program, and is the greatest distance

How to apply the "E" tag

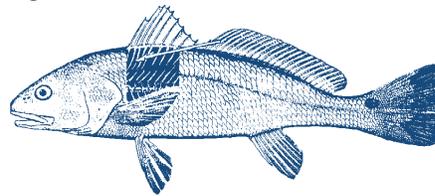


MAIL TO: S.C. MARINE RESOURCES

Bring the fish in the boat with as little handling as possible. Small fish should be supported by one or both hands but not squeezed. Fingers should not be placed in the gills. (They are the fish's breathing apparatus and can easily be damaged.) The tag should be inserted into the back muscle high on the back of the fish near the dorsal fin to avoid hitting the backbone.

Plastic tipped dart tag "E" series should be used on fish measuring less than 27 inches.

1. Position the tag applicator so that the tag barb is toward the dorsal fin spines of the fish. On a heavy scaled fish, use the tip of the metal applicator to go under a scale.
2. Begin by inserting the applicator tip at a shallow angle under the scales until you feel it pierce the skin, then raise the applicator to an angle of 45 degrees.
3. Continue inserting until the tag barb is embedded in the fish's muscle. A slight "click" should be felt as the tag barb slides over the fin ray bone base and locks behind it. Gently pull on tag to set the barb against the bone. Positive resistance should be felt.



Inside view of tag barb locked on to dorsal fin ray bone

4. Measure the fish's length and record on the card.
5. Gently move the fish forward through the water or until it resists and swims away.

As soon as the fish is released, record all information on the tag report card. Please be as precise as possible when measuring the fish and reporting release location. Place the card in the mail as soon as possible.

After use, the applicator should be rinsed in fresh water.

YOU WILL BE NOTIFIED IF YOUR FISH IS RECAPTURED

- traveled for a red drum tagged in South Carolina.
- Numerous black drum tagged in South Carolina have been recaptured in Florida, Georgia and North Carolina. Based on this documentation it can be reasoned that black drum exhibit more coastal movement as compared to that of other inshore species.
- Numerous recaptures of bonnethead sharks in South Carolina suggest significant spawning site fidelity. Bonnetheads tagged during the summer months are often recaptured in the same area the following year.

Tips on Handling and Releasing Fish

Always keep handling to a minimum. If possible, release fish without removing them from the water.

- Avoid touching the eyes or gills.
- A wet towel can be placed over the head of the fish to calm it and minimize slime loss. Wet rubber textured gloves are also useful if you must handle the fish and will make tagging and/or removing the hook easier.
- Lip grabbing devices can help minimize hand contact and are particularly useful in dealing with fish having sharp teeth. Avoid keeping the fish in a vertical position for too long, and make sure its weight is adequately supported.
- Gently aerate an exhausted fish by moving it forward and backward through the water until it is able to swim off on its own. If fish must be dropped back in the water (high boat gunnels), make sure the fish enters the water head first and not on its side or stomach.
- Never attempt to rip out a hook that a fish has swallowed. Instead, cut the line as close to the hook eye as possible and leave the hook intact.

To Participate

Anglers who wish to participate in the Marine Game Fish Tagging Program are required to attend a minimum of one training workshop before being provided with tags and tagging equipment. Workshops are usually held at the beginning of the year at various locations throughout the state. Upon completion of the workshop,

anglers will be certified DNR taggers, qualified to participate in the tagging program. Certified taggers are not required to attend another workshop, but must re-register each year with the program to continue receiving tags. A mailing list for those anglers interested in participating is managed throughout the year, and sign-up announcements, detailing dates and locations of upcoming workshops, are sent out thirty days prior to the first workshop. Space at workshops is limited and anglers are required to pre-register for the workshop they plan to attend. For more information or to be added to the mailing list please contact program staff at:

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Marine Game
Fish Tagging Program
PO Box 12559
Charleston, SC 29422
1-888-TAGS-4-SC
(1-888-824-7472)

DNR Mission Statement

Our mission is to serve as the principal advocate for and steward of South Carolina's natural resources.

DNR Vision Statement

Our vision for South Carolina is an enhanced quality of life for present and future generations through improved understanding, wise use, and safe enjoyment of healthy, diverse, sustainable and accessible natural resources.

Our vision for the DNR is to be a trusted and respected leader in natural resources protection and management, by consistently making wise and balanced decisions for the benefit of the state's natural resources and its people.

Saltwater Fishing and Conservation Ethics

Saltwater fishing regulations are aimed at protecting and maintaining healthy fish stocks. Scientists and fisheries managers work together sifting through mountains of data to develop management measures that ensure the protection of the resource and at the same time provide enjoyable angling experiences. Size and catch limits, seasons and gear restrictions should always be adhered to strictly. After that, it's up to the angler to take it a step further. The responsible approach to conservation is being conscientious about your natural resources and having a clear understanding of what it takes to protect these resources so that they may be enjoyed by future generations. Taking the time to ensure the survival of a released fish, or keeping only what you realistically may consume, regardless of whether regulations may permit you to keep more, are extra steps that may go a long way. In the end, we owe it to the resource.

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Office of Fisheries Management

The South Carolina Department of Natural Resources prohibits discrimination on the basis of race, color, gender, national origin, disability, religion, or age. Direct all inquiries to the Office of Human Resources, P.O. Box 167, Columbia, SC 29202.



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