





The Cooperative Shark Tagging Program (CSTP) is a collaborative effort between recreational anglers, the commercial fishing industry, and NOAA Fisheries to learn more about the life history of Atlantic Sharks.

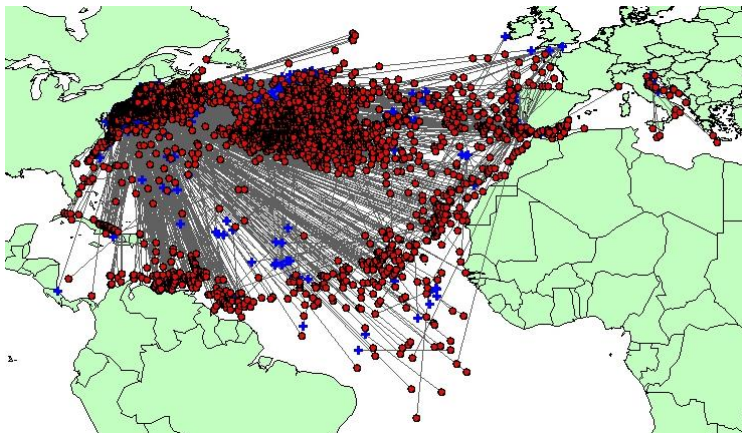
Since launching in 1962 with fewer than 100 taggers, CSTP participants have tagged more than 295,000 sharks representing 52 species. More than 17,500 sharks have been recaptured, giving us data from 33 species. This information helps us better understand:

- Stock structure
- Distribution, movements, and migration patterns
- Population abundance
- Age and growth rates
- Behavior
- Mortality



Today, thousands of people along the Atlantic and Gulf coasts participate in this program. We also have volunteers in Europe. That geographic range is key for understanding sharks, which travel long distances and are fished in multinational fisheries. This is also why our tags include return instructions printed in English, Spanish, French, Japanese and Norwegian.

Most CSTP participants tag the sharks they catch with a rod and reel while fishing recreationally. Other participants include commercial fishermen using longline and net gear, biologists, and NOAA fisheries observers.



Tag (blue) and recapture (red) locations of blue sharks from the Cooperative Shark Tagging Program

**** Review before tagging****

How to Use the Tags

Only use these dart tags on sharks **greater than 3 feet in length** and robust enough to handle the tag. When filling out the tag cards, provide the most detailed location information possible.

Always use safe release practices for you and the fish. The goal is to **minimize physical handling**.

- Leave the shark in the water while tagging
- Release prohibited species immediately.
- Do not gaff a shark you plan to release. Never drag the fish on dry sand or on a hot boat deck.
- Do not sit on the shark, hold their mouth open for pictures, grip them over the gills, or lift them by the tail. Sharks do not have bones to protect their internal organs. The larger the fish, the more prone they are to internal injury.
- Use the proper gear, such as heavy tackle and a fighting harness to reduce fight times. Long fight times stress the fish.
- Do not take the extra time to tag a shark that appears stressed or overly fatigued.
- Use a dehooker to retrieve the hook or cut the leader as close to the hook as safe.

How to Request More Tags

You can request more tags once you have used your tag supply and returned all the tag cards. The easiest way to request more tags is to write "need more tags" in the remarks section of one of the tag cards; you may also call toll free (877-826-2612) or email (sharkrecap@noaa.gov).

Please keep copies or a log of the information on the tag cards you send back to us (tag number, date, species, sex, location, size) or you can take photos of the tag cards. Tag cards can get lost in the mail. If that happens, we won't know you've tagged an animal until it is recaptured. If a shark you tag is recaptured, we will notify you by regular mail, so **let us know if your contact information changes**.

Due to the cost of tag production, **we may not issue you more tags** if these first 3 are not used or get lost or stolen.

Follow Applicable Regulations

The issuance of tags does not authorize any activity. It is your responsibility to follow all local, state, and federal fishing regulations that apply to your fishing area.

Fishermen who participate in this tagging program are not employed by NOAA. We encourage you to identify yourself as a volunteer participant if ever asked

Thank You For Your Participation



TAGGING BEST PRACTICES

No set of tagging instructions can be rigidly applied to all sharks under all conditions. We recognize that the experienced angler is often in the best position to judge the safest and most effective means for tagging sharks. Nevertheless, some fundamental procedures are essential to the survival of tagged sharks and for obtaining accurate information.

- **Plan ahead** – Tagging a shark is often a team effort that requires practice. Know who is going to do what in the process of catching, tagging and releasing the shark, and who will concentrate on obtaining biological information.
- **Put safety first** – Never attempt to handle even a small shark by yourself. The basic points to keep in mind are: leave the shark in the water whenever possible, avoid handling any part of the shark, and use a dehooker to retrieve the hook or cut the leader if needed (see page 5 for shark survival tips). Even under the best conditions, every new activity at sea adds some hazard.
- **Follow all local and federal laws** – All recreational shark anglers fishing in federal waters are required to have a federal permit for shark fishing and use non-offset, corrosive (non-stainless) circle hooks except when fishing with flies or artificial lures. Check with state and local officials to make sure you follow all laws. **Participating in this volunteer program does not exempt you from the regulations. You are the responsible party**
- **Look for tags already in place** – Measure or estimate the fork length of the fish, record the tag number and all the recapture details including species, sex, date, latitude and longitude, and method of capture. Tags have been lost in the mail so keep a copy of the recapture information. If keeping the shark, remove a piece of the backbone over the gill area and freeze it for our age studies (see page 10 for diagram).

- **Only tag sharks you can identify** – Some species are difficult to tell apart, but it is important that your records are as accurate as you can make them. We will do whatever we can to assist you. If you are not sure if the shark was, for example, a blacktip or spinner, then note this on the card and send us a photo/video if possible (see page 11 for field guides).
- **Take time to insert tags properly** –The major reason for poor placement of tags is over-anxiousness. Once a shark is restrained on a short leader, it tends to twist and thrash making tagging difficult. Wait until the shark settles down before trying to tag it.
- **Avoid snap judgments when estimating sizes** – The demand for physical action in the final moments when a shark is being tagged can distract one’s attention from pertinent details. Several people may assist in a release only to learn later that no one truly focused on the size or sex of the shark. Discuss size estimates and determine its sex before the shark is released.
- **Record tagging information promptly and completely** – Fill in the tag card immediately after tagging the fish and mail cards in promptly. Keep a copy for your records in case the cards are lost in the mail.
- **Do not transfer tags** – Tags are assigned to individuals who we can contact should we need follow-up information. We will gladly send tags to anglers who request them, but the indiscriminate transfer of tags can only lead to confusion. Please report the loss or damage of any of your tags.



BEST PRACTICES FOR SHARK SURVIVABILITY

**Remember that prohibited species must be left in the water and released immediately

- **Use non-offset circle hooks.** These are more likely to lodge in the corner of the jaw, making removal of the hook easier. Circle hooks reduce the chances of gut/foul hooking the fish and increase chances of survival for the fish. All recreational shark anglers fishing in federal waters are required to use non-offset, corrosive (non-stainless) circle hooks when fishing for sharks, except when fishing with flies or artificial lures. Some states also require anglers to use circle hooks when fishing for sharks. If fishing from shore, be sure to check with state officials to make sure you follow all local laws.
- **Reduce fight times.** Use heavy tackle and a fighting harness. These will help prevent long fight times that put stress on the fish.
- **Be attentive** and set the hook immediately in order to lip/jaw hook the fish (non-circle hooks); this will prevent the fish from swallowing the hook. We have had few recaptures from gut hooked sharks.
- **Plan release procedures.** Be prepared by having the proper release tools handy. If you are fishing with others, avoid injury by making sure everyone knows what to do and what not to do.

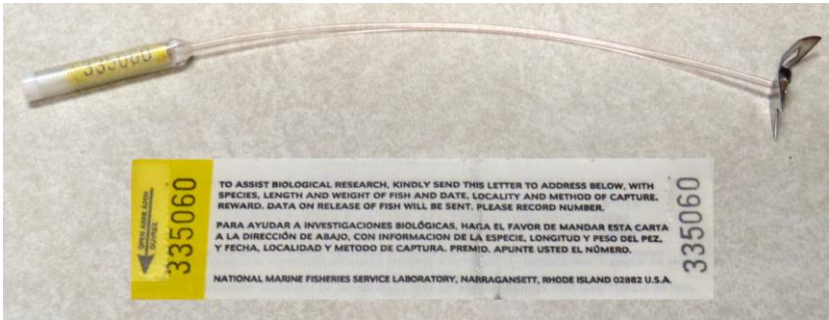


- **Minimize physical handling.** Sharks do not have bones to protect their internal organs, so minimal handling is key. **Leave the shark in the water**; never drag the fish on dry sand or on a boat deck. Do not grip the shark over the gills as they are easily damaged. Placing a towel soaked in seawater over the eyes may help pacify the shark. **Never gaff a shark you plan on releasing!**
- **Try reviving fatigued or near death sharks.** Support it gently in the water allowing it to breathe. If possible carefully move the fish forward through the water to push water across the gills.
- **Do not tag a stressed or overly fatigued shark.** We would prefer that the shark is safely released as quickly as possible.
- **Place the tag correctly.** It should go in the muscle at the base of the first dorsal fin. Take care to avoid injuring the spine.
- **Use a dehooker to retrieve the hook.** If the hook is swallowed and is deep or if the fish is likely gut hooked, cut the line as close to the mouth as possible and release the fish.



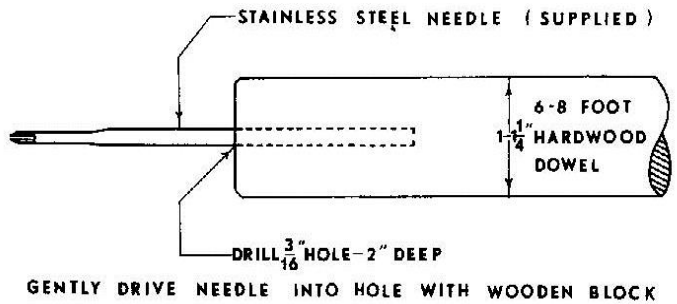
TAGGING EQUIPMENT AND METHODS

M tag - Do not open the capsule. Capsules contain the following message in English, Spanish, French, Norwegian, and Japanese:



Tag pole -

Commercial tag poles are available for purchase, or you may construct your own (use a smaller dowel for shore based tagging or smaller fish)



Tag placement on pole - Firmly mount tagging needle in 1"-1 $\frac{1}{4}$ " diameter hardwood. Ensure the tag sticks out 2 $\frac{1}{2}$ " from the pole. Fit the dart head loosely into the slotted point in the needle. It should be curved so that the two rear points will face downwards into the muscle when the tag is inserted. Place the rubber bands 2"-3" up on the pole to hold the tag in place

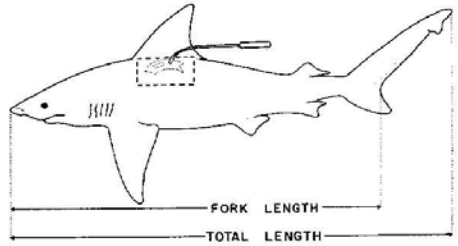


Inserting a tag - Tags should be inserted into the back near the first dorsal fin. This area lies to the side of the backbone and above the body cavity. The ideal location on large sharks is in the muscle at the very base of the first dorsal fin.



It is most important that the capsule assumes a **trailing position** on the shark. Insert the dart at an angle toward the head of the fish. Shark skin is tough, but by holding the pole 2"-3" above the shark and making a strong quick thrust, the dart should penetrate even large fish.

Tag placement on shark - The dart head should come to rest approximately 1"-1½" beneath the shark's skin with the capsule trailing away from the head of the shark. In tagging small sharks, care must be taken to avoid injury to the backbone. To control the depth of penetration of the dart head, make an incision with the point of a knife and carefully push the dart head into the muscle. **Do not tag sharks less than 3' length with dart tags.**



EXAMPLE OF PROPERLY FILLED OUT TAG CARDS

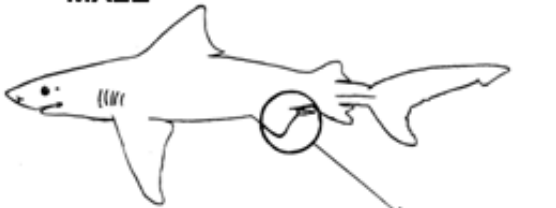
When you need more tags, request them in the remarks section of your tag card. Be sure to note any address change.

PLEASE FILL IN DETAILS AND MAIL TODAY TAG TYPE M (3)
303681
 SPECIES Sandbar (Brown) DATE July 27, 2010
 LOCATION 39.09249 75.30442
 TOT. LENGTH 3'7" OFF SHORE SHORE
 FORK LENGTH 3' EST. -5 MI. BEACH
 WEIGHT 25 lbs. MEAS. +5 MI. OTHER
 MALE FEMALE SEX UNKNOWN
 TACKLE Rod + Reel FISH CONDITION Excellent
 ANGLER Ed Brown ADD. _____
 CAPT. Gary Victor ADD. Bay St., Cape May, NJ
 CLUB _____ 02000 J
 REMARKS
Please send tags

PLEASE FILL IN DETAILS AND MAIL TODAY TAG TYPE M (3)
Nº 330504
 SPECIES BULL SHARK () DATE 5/21/10
 LOCATION 25°47'13"N 081°24'05"W ()
 TOT. LENGTH _____ OFF SHORE SHORE
 FORK LENGTH 54" EST. -5 MI. BEACH
 WEIGHT 90-100 lbs MEAS. +5 MI. OTHER
 MALE FEMALE SEX UNKNOWN
 TACKLE ROD + REEL () FISH CONDITION GOOD ()
 ANGLER JIM BOB ADD. 10 SURF ST.
 CAPT. _____ ADD. TAMPA, FL
 CLUB _____ TAGGER () ()
 REMARKS
HOOK REMOVED
SHARK HAD BITE MARKS ON BODY

DETERMINE THE SEX OF A SHARK

MALE



JUVENILE CLASPERS

ADULT CLASPERS



FEMALE



CLASPERS ABSENT



Have You Caught a Tagged Spiny Dogfish?



\$20

\$100

\$100

keep whole fish*

*To claim reward, please store fish on ice or freeze if necessary. Contact us toll free at 877-826-2612 for shipping instructions.

**NOAA Fisheries Cooperative Research
Spiny Dogfish Tagging Study**

457435

What To Do If You Catch a Tagged Shark

Record the following information as accurately and completely as possible:

- Tag number.
- Species and sex.
- Date of capture.
- Location caught (latitude and longitude preferred).
- Length and/or weight and whether it was estimated or measured.
- Type of length (fork/total) and/or type of weight (whole/dressed).
- Fishing method (rod and reel, longline, etc.).
- Condition at release (kept the shark or released it alive - if released alive, indicate whether released with the same tag, a different tag, or no tag).

Be sure to include your name, mailing address, daytime phone number, and email address

There are several ways you can report this information:

- Call 877-826-2612 toll-free
- Email us at sharkrecap@noaa.gov
- Use our online reporting form: www.nefsc.noaa.gov/sharktagreport
- Mail in the information to: NOAA Fisheries, Cooperative Shark Tagging Program, 28 Tarzwell Drive, Narragansett, RI 02882

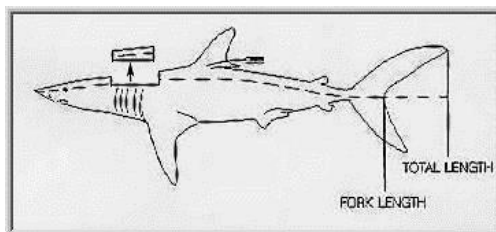
We will send you a report with information on the shark you caught and a hat to thank you for your participation.

Request for Backbones of Recaptured Sharks

The large number of sharks currently being recaptured offers a unique opportunity for fishermen to assist biologists in age and growth studies.

IF YOU ARE KEEPING A TAGGED SHARK

1. Measure fork length
2. Record tag number and recapture details (date, location, latitude and longitude, species, measured fork length, sex, and method of capture).
3. Remove a 6 to 10 inch piece of backbone from over the gills.
4. Freeze backbone
5. Call 877-826-2612 (toll free) or 401-782-3320 weekdays for information on mailing.



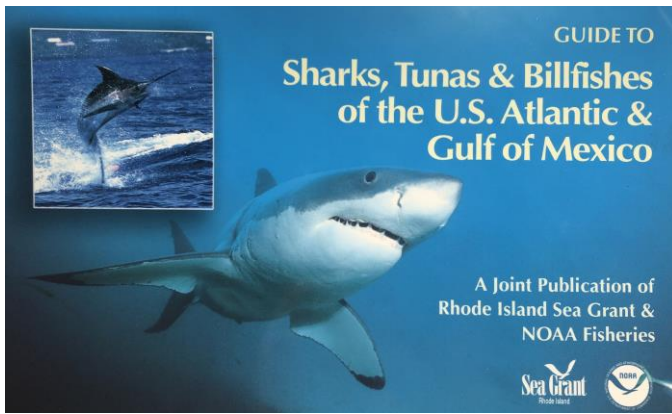
KNOW WHAT YOU ARE TAGGING!

Accurate species identification is critical. **Tag only species you can identify!**

To help with this, we have developed a useful guide: *Guide to Sharks, Tunas & Billfishes of the U.S. Atlantic & Gulf of Mexico*,

- Contains species descriptions for 44 sharks, tunas, and billfishes found in the U.S. Atlantic, Gulf of Mexico, and Caribbean Sea.
- Easy to use field reference printed on waterproof paper.
 - physical descriptions
 - habitat and distribution information
 - full-color diagnostic and field photographs of each species

This guide can be purchased through the RI Sea Grant Communications Office, URI Bay Campus, Narragansett, RI 02882-1197, 401-874-6805.



Additional materials provided by NOAA Fisheries to help with shark identification include:

Shark Identification Placard, which can be found at:

www.fisheries.noaa.gov/resource/outreach-and-education/shark-identification-placard

Prohibited Shark Identification Placard, which can be found at:

www.fisheries.noaa.gov/resource/outreach-and-education/prohibited-shark-identification-placard

HMS ANGLING PERMITS AND TOURNAMENTS

Permits: Vessel owners must obtain an HMS Angling Permit with a Shark Endorsement **to recreationally fish for sharks**. Permits can be purchased online at hmspermits.noaa.gov or by calling 888-872-8862.

Tournaments: Tournament Operators are **required to register** their tournament with NOAA Fisheries at least four weeks prior to the start of the tournament. This applies to any fishing competition where participants register or enter and a prize or award is offered for catching or landing highly migratory species, regardless of the target species. Register at: www.fisheries.noaa.gov/atlantic-highly-migratory-species/atlantic-highly-migratory-species-tournaments or call 727-824-5399 for more information.

HMS Compliance Guides for recreational fishing are available for download at: www.fisheries.noaa.gov/resource/outreach-and-education/atlantic-hms-recreational-compliance-guide. Fishery rules change frequently. It is **your responsibility** to be familiar with the latest regulatory updates.

NEED MORE INFORMATION?

FOR REGULATIONS:

Tunas: HMS Gloucester 978-281-9260

Sharks, Swordfish: HMS Headquarters 301-427-8503

Recreational Swordfish & Billfishes: HMS St. Petersburg 727-824-5399

FOR TUNA AND BILLFISH TAGS:

Cooperative Tagging Center

Southeast Fisheries Science Center

75 Virginia Beach Drive

Miami, FL 33149

www.sefsc.noaa.gov/species/fish/tagging.htm

Toll Free Number: 800-437-3936

OTHER SPECIES

(Striped Bass, Bluefish, Fluke, Winter Flounder):

American Littoral Society

18 Hartshorne Dr., Suite 1

Highlands, NJ 07732

www.littoralsociety.org/fish-tagging.html

732-291-0055

CURVED FORK LENGTH	Blue	Mako	Porbeagle	Bigeye Thresher	Common Thresher	White
16						3275
15.5						2969
15						2683
14.5						2417
14						2169
13.5						1939
13						1726
12.5						1529
12						1348
11.5						1182
11		987				1031
10.5		853				893
10		732				768
9.5		623				656
9	303	526			622	555
8.5	253	439			530	465
8	209	363			444	386
7.5	171	297			373	316
7	138	239	262	300	307	256
6.5	109	189	210	239	249	203
6	85	147	166	186	198	159
5.5	65	112	128	143	155	121
5	48	83	97	106	119	91
4.5	35	60	71	77		65
4	24	41	50	53		45
3.5	16	27	34	35		
3	10	17				
2.5	5	9				
2	3					
1.5						
CURVED FORK LENGTH FEET	Blue	Mako	Porbeagle	Bigeye Thresher	Common Thresher	White

WEIGHT IN POUNDS



CURVED FORK LENGTH	Bignose	Dusky	Night	Sandbar	Scalloped Hammer	Silky	Tiger
16							
15.5							
15							
14.5							
14							
13.5							
13							
12.5							
12							
11.5							
11							954
10.5							820
10							699
9.5							592
9		444					496
8.5		379					412
8		320					338
7.5		267			294		274
7		221			238		219
6.5	200	179	185	199	190	175	172
6	151	144	143	157	149	138	132
5.5	112	113	108	120	114	107	100
5	81	86	79	90	85	81	73
4.5	56	64	56	66	61	60	52
4	37	46	38	46	43	42	35
3.5	23	32	25	31	28	29	23
3		21	15	19	18	18	
2.5			8	11		11	
2			4	6			
1.5				2			
CURVED FORK LENGTH FEET	Bignose	Dusky	Night	Sandbar	Scalloped Hammer	Silky	Tiger

WEIGHT IN POUNDS





To Report a Recapture:

Call Toll Free 877-826-2612
Email: sharkrecap@noaa.gov

Use our online reporting form:
www.nefsc.noaa.gov/sharktagreport

**Cooperative Shark Tagging Program
NOAA's National Marine Fisheries Service
28 Tarzwell Drive
Narragansett, RI 02882-1199**