

## ARE YOU IN THE TARPON DNA PROGRAM?

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The Florida Fish and Wildlife Conservation Commission's (FWC) encourages anglers from throughout the state to genetically sample a tarpon, regardless of size, prior to release for identification purposes. A small sample of skin cells collected from the outer jaw of the captured tarpon provides enough DNA to determine whether the fish was previously caught.

Tarpon can be identified using DNA fingerprinting, or "fin printing," techniques. Tarpon that are genetically sampled by the angling public can be used to determine survival rates, health, migration, and movement of individual fish within the fishery. By evaluating these factors on recaptured fish over time, biologists can assess the success of tarpon stocks and the connectivity of, or relationship between, tarpon and different bodies of Florida waters.

Recreational tarpon fishing lures people from all over the world. Few tarpon are harvested, but fishing pressure is high. Tarpon are targeted hard when the fish are present, so the fishery resource needs to stay healthy to support the demand of anglers and to continue to generate the revenue for the state. All current state-funded tarpon research programs focus on the questions surrounding whether or not tarpon can handle the fishing pressure.

To begin addressing the question of whether or not tarpon can handle the pressure, a study was started in 2002 to estimate short-term, post-release survival rates. Acoustic telemetry was used to tag and track 82 tarpon from 2002-2007 in Boca Grande Pass and Tampa Bay. 11 of the 82 tagged tarpon died, based on visual observations or tag signals that stopped moving,

This study found that the number one cause of tarpon mortality was shark attacks. The second most common cause of death was attributed to handling stress. This may have been caused by a wound from improper handling or simply from physiological stress on the fish from the fight and its inability to recover from it. Approximately 87% of the fish tracked in this study survived. Note: fish attacked by sharks during the fight were not included in the results of this study. This was a study to evaluate post-release survival rates.

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When data points associated with post release mortality due to shark attacks are removed (leaving only handling stress mortality), we have a 95% post-release survival rate. 95% survival is good news.

Enter DNA Analysis - DNA is the new way to tag and track tarpon. Unlike conventional tagging methods, DNA will not break and does not rely on technology to work. It will not fall out of the fish. It will not rub off the fish. It will not get covered in algae making it hard to see. It cannot be permanently removed from the fish by another angler, and it never needs to be repaired. All of the lab work is done in house at the FWC-FWRI lab in St. Petersburg so there is no extra expense to ship samples elsewhere for processing, making it a very cost effective program.

Our motto: Any tarpon, anywhere, any size. It does not matter if the tarpon is 5 inches, 15 inches or 55 inches. Small tarpon are targeted year-round in Florida. Information on recaptures of these small, immature fish can provide us with information on habitat preferences, residency, and site fidelity (being caught in the same area year after year). It is important that the young fish survive to become mature adults and learning about them and their habitats is critical for their conservation. Recapture information from older and larger fish can provide us some insight on the connectivity of the coastal and inshore waterways for tarpon movements, site fidelity and evidence of long-term survival of sexually mature tarpon.

In 2007, the FWC partnered with Mote Marine Laboratory (MML) in Sarasota, FL to help with the statewide program and to have them assist in outreach efforts and in 2010, FWC and MML

added Florida Sea Grant as a partner to continue to expand this program across the state.

Taking a DNA sample is a simple three step approach:

1. Scrape the jaw to remove some skin cells.
2. Be sure the sponge has silver tissue on it.
3. Place the sponge with silver skin cells into the labeled vial and record your data.

We ask anglers to make it a habit and carry a DNA sampling kit.

A phone number is in place (800-367-4461) to call toll free and request a kit or an email can be sent to [TarponGenetics@MyFWC.com](mailto:TarponGenetics@MyFWC.com) and a kit will be mailed to you. Each kit is in a small zip lock bag and has enough material in it to sample three tarpon.

There are also more than 165 statewide collection centers that can be visited to obtain a DNA sampling kit. These local bait and tackle shops and stores also serve as places where people can drop off their tarpon samples at no cost to the angler. Tarpon Team members contact the shops monthly to pick up samples and resupply the DNA sampling kits. Please take a new kit with you when you leave and you will always have supplies on hand to genetically tag your next tarpon. Visit [http://research.myfwc.com/features/view\\_article.asp?id=32093](http://research.myfwc.com/features/view_article.asp?id=32093) to find a collection center near you.

Source: Adapted from "Tracking Tarpon: DNA, science and you" FWC-FWRI Dec. 3, 2009



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