FWC/Fish and Wildlife Research Institute

2006 Tarpon Genetic Recapture Review

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Introduction

For a fish that has been in existence since the Jurassic Period, the tarpon, *Megalops atlanticus,* has kept its biological secrets well hidden. Currently, the biological data for tarpon is insufficient and incomplete. In the past, scientists from the FWC-Fish and Wildlife Research Institute collected most of the tarpon data from the possession tag program and recreational angler interviews throughout the state. Because the fishery is predominantly hook and release, only minimal information is obtained. With help from the public, more recent information on tarpon survival and biology has been collected since 2003. This newsletter is a summary of our genetic samples from tarpon throughout the state. By evaluating these DNA samples to determine the recaptures of fish over time, we will be able to assess the success of tarpon stocks and determine if tarpon "mix freely" between different bodies of Florida waters. **THANK YOU** for helping us better understand tarpon in FL.

Why the need to identify an individual fish?

Fish tagging and marking is a common tool in fishery science that has been used to obtain much information regarding a fish species such as its movements, migrations, swimming speeds, homing tendencies, spawning habitats, reproductive biology, survival rates, growth rates, site fidelity, stock identification, abundance, etc. There are many methods used to mark individual fish; internal, external, chemical, physical, and biological. Recent advances in science allow biologists and the public to work together to track individual tarpon in an inexpensive way that does not require a tag. In our current Genetic Recapture Study, we use DNA fingerprinting techniques to determine migration, movement, and recapture rates of individual tarpon in the FL fishery.

Collecting Tarpon DNA

Tarpon anglers, your participation is valuable to the Tarpon Genetic Recapture Study. Please call the FWC's Tagged Fish Hotline number (**1-800-367-4461**) or email Tarpongenetics@myfwc.com to receive a free DNA sampling kit. Although most people in the U.S. do not consume tarpon, they are a long-lived, wide-ranging fish, and have an enormous economic value by attracting tourism to the region. Despite their popularity, little is known about the movements, long-term survival and recapture rates of tarpon populations. **You can help! Here's how…**

New in 2007:

THE JAW SCRAPE

Special kits are available for the collection and room-temperature storage of DNA samples from individual tarpon. It's quick, easy and is relatively harmless to the fish. The objective is to remove some skin cells from the bony, upper jaw of a captured tarpon before it is released. Take the abrasive sponge and rub it quickly back and forth several times on the outside of the jaw. Apply mild pressure when rubbing until you see silver or white on the sponge and not just clear slime. This indicates you have removed some skin cells and therefore DNA. Fin clip methods of DNA collection will still be accepted.

An example of an abrasive sponge containing a successful sample of skin cells from the upper jaw of a tarpon.

Funded in part by Saltwater Recreational Fishing Licenses

Above: Rubbing the jaw of a tarpon for a DNA sample.

Our Partner

MOTE MARINE LABORATORY

To participate in the FWC/MML Redfish Fin Clip Program contact (941) 388-4441 ext. 448 or redfishlab@mote.org.

ALL Tarpon: Anywhere, Any Size!

Big ones and little ones; all are perfect for this study as tarpon are a long-lived species and have many years for a chance at recapture. But there will be no known recaptures if we do not get samples. Encourage tarpon anglers everywhere to take DNA samples from every tarpon they catch. Call for your kit today (1-800-367-4461), it's easy. You are the scientists in this study.

DNA – The tag that lasts forever!

Conventional tags (dart tags and streamers) and methods of tagging present many challenges when applied to tarpon. Such tags may break, foul, or fall out of the fish. However, DNA lasts forever. A small sample of skin cells provides enough DNA to genetically or biologically tag and identify an individual tarpon with remarkable certainty.

Sample Drop-off location in Ft. Myers!

Do you fish for tarpon near Sanibel, Captiva, Ft. Myers Beach or nearby SW Florida locations? You can drop off your tarpon DNA samples with Mr. Matt Ponzio at the UPS Store in Ft. Myers located at 16970 San Carlos Blvd. at the corner of Summerlin and San Carlos in the Albertson shopping center. More drop locations will be coming soon.

Tournaments that participated in Tarpon Genetic Recapture Study:

- Golden Fly Invitational Tarpon Tournament
- Professional Tarpon Tournament Series
- Sarasota Sport Fishing Angler Club Tournament
- Silver King Classic Tarpon Tournament
- Suncoast Tarpon Roundup
- Tampa Bay Tarpon Rodeo
- University of Tampa Tournament

Quick Facts on DNA data 2006:

Number of Fin Clips Returned: 677

Number of Recaptures: 1

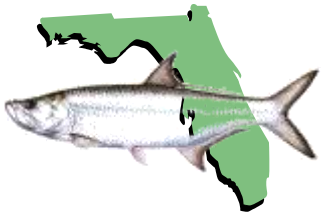
Location of Recapture:

- Sanibel Island vicinity
  -Caught and recaptured by Gary Clark

Anglers who submitted 5 or more samples:

** angler with most samples in 2006

- Jason Capra
- Gary Clark
- Bob Donzalski
- Jeffri Durrance
- Mike Fidelholtz
- John Fischbach
- Rick Grassett
- Bobby Hilbrunner
- Steve Jones
- Robert McCue**
- Troy Sapp
- Pat Share
- Bouncer Smith
- Geoff Smith
- Tom Stephens, Jr.
- Ed Walker
- Michael Wrenn



PLEASE DROP OFF YOUR SAMPLES AT:

FWC-FWRI
ATTN: Tarpon Genetics
100 8th Ave. SE
St. Petersburg, FL 33701
(727) 896-8626

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Contributors: Ande, FWC Fish and Wildlife Research Institute, G. Loomis, MirrOlure, Mote Marine Laboratory and Mote Aquarium, Slam Gear, Standard Maps, Suntamer, Tervis, and Woody Wax