

# Kids' pages

Summer 2023 issue

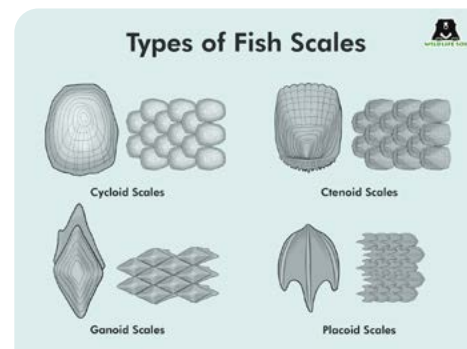
## Q Why do fish have scales?

A Fish come in a multitude of shapes and sizes, but one common feature among almost all fish is the presence of a scaly outer covering on their bodies. Scientists believe that scales were first developed in fish hundreds of millions of years ago, and since then have served multiple functions that aid in these animals' survival.

Scales are plate-like structures that originate from the outer layer of skin on a fish, and are made up of sturdy elements including enamel, collagen, dentin, and keratin. These tough materials are designed to withstand the aquatic environment and provide protection. Ancient fishes, such as gar

and sturgeon, possess thick, diamond-shaped scales known as ganoid that are designed to resist damage from predator tooth punctures and force.

Scales also lay flat against the outside of a fish's body to help the animal be streamlined and hydrodynamic, making it easier to move quickly through the water. Most bony fishes possess scales known as cycloid and ctenoid, which are more flexible and designed to allow for ease of movement. Additionally, many fish have adapted special coloration on their scales that allow them to camouflage with the surrounding environment, and sometimes even fool predators with bright colors and features like false eye spots. Some scales are highly specialized, such as the tooth-shaped scales called placoid



The four major different types of scales possessed by fish.

possessed by sharks and rays that make their outer layer the texture of sandpaper. Even though there are thousands of species of fish across the globe, almost every one exhibits the use of scales as a way that help these animals continue to survive in their ever-changing environment.

Sources: [wildlifesos.org](http://wildlifesos.org); The Australian Museum, Florida State University Microscopy Differential Interference Contrast Image Gallery, Advanced Engineering Materials- Structure and mechanical performance of a "modern" fish scale, Natural Materials- Materials design principles of ancient fish armor



MEET THE

## Atlantic Tarpon *Megalops atlanticus*

**SIZE:** Up to 8 feet; weighs up to 280 pounds

**DIET:** Juveniles eat mainly plankton, while adults feed on prey such as mullets, pinfish, marine catfishes, Atlantic needlefish, sardines, shrimp, and crabs

**DISTRIBUTION:** Both sides of the Atlantic Ocean, extending from Senegal to the Congo in the East and the warm waters around the Gulf of Mexico, Florida, and the West Indies in the West

Tarpon, also called the Silver King, are identified by their vertical, silvery sides made up of large overlapping scales. Historically, these scales were collected and turned into powders for medicinal purposes. However, since 1989, the Florida Fish and Wildlife Commission require anglers to purchase a 'tarpon tag' to possess these fish, which encourages safe fishing practices across the state. When water temperatures reach 75 degrees Fahrenheit, Tarpon migrations occur on both of Florida's coasts when the fish leave their winter habitats of coastal rivers and deep inlets and head towards offshore waters for spawning. Sometimes gathering in groups of 100 or more, the Tarpon run during April and June is a great chance to spot these impressive fish in our area. Every year, Tampa Bay Watch hosts the Tarpon Rodeo event that enables the community to participate in a large catch-and-release event for the species, while also raising funds to support the important restoration work done by our organization!

Sources: Florida Fish and Wildlife Conservation Commission, Florida Museum of Natural History, Tampa Bay Times, Saltwater-Sportsman.com



Top: School of Tarpon. Bottom: Participant in the 2022 Tarpon Rodeo successfully hooking an Atlantic Tarpon!

## Monofilament Recycling

Tampa Bay Watch works on many projects that encourage anglers to practice fishing techniques that help to protect wildlife and their habitats.

Have you ever visited a dock or a pier and noticed a large white tube filled with fishing line? These devices are actually there to help protect our waterways! Monofilament or "mono" refers to fishing line that can take over 600 years to break down in the environment if not discarded properly. When mono is left in aquatic habitats, it poses a serious threat to birds and other wildlife because it can lead to entanglement and ingestion. Tampa Bay Watch participates in a statewide initiative to recycle this old fishing line through


the Monofilament Recovery and Recycling Program. By managing over 200 monotubes, or fishing line recycling bins, our organization and volunteers are dedicated to reduce environmental impacts caused by fishing line. In addition, mono clean-a-thons are hosted a few times a year in order to send cleaned line to Berkley Fishing Company for recycling, where the plastic gets repurposed into items like new fishing line, tackle boxes, fishing gear, and toys. Visit our website to learn more about upcoming clean-a-





A Tampa Bay Watch monofilament tube used to collect old fishing line at the Bellair boat ramp.

thons, and even how you can adopt a monotube in your community to help your neighborhood to become monofilament-free!

### Fun Facts

 A tarpon "roll" refers to the behavior of this species jumping out of the water in order to gulp air, which they store in their modified swim bladder.

 It is possible to estimate the age of most bony fish by counting the number of bands (or rings) on the scale.

 The only mammal with scales is called a Pangolin, an anteater-like creature that uses its outer scales for protection by rolling into a ball.

 Tampa Bay Watch has collected and recycled over 630 miles of fishing line!

Sources: Florida Museum of Natural History, Wildlifesos.org

### Sustainability Tip

**How can you help an animal impacted by monofilament in the wild?**



If you spot entangled marine life, report all sightings to the FWC by calling 888-404-3922. This is the quickest and safest way to ensure injured animals get the help they need!

Try something new!



Scan this code for a fun at-home activity!

Source: Happy Tot Shelf

TAMPA BAY  
WATCH 

Restoring the Bay Every Day

Kids' Pages is a supplement to the Bay Watch Log. Please get your kids involved and sign them up to be a member today! Email [membership@tampabaywatch.org](mailto:membership@tampabaywatch.org) or visit [tampabaywatch.org](http://tampabaywatch.org).