

Kids' pages

Are you ready to learn about the bay?

News for the kids
of Tampa Bay!

Summer 2018



Got a Question? Ask a Scientist!

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Q I heard that the Tampa Bay Watch staff saw a manta ray. Is that rare?

A Yes, Tampa Bay Watch staff were delighted to spot a juvenile manta ray (*Manta birostris*), estimated to be around 8-9 feet wide, off Shell Key Preserve. It is indeed a rare sight to see in our area!

Giant manta rays are the world's largest ray and reach wingspans of up to around 29 feet wide (averaging around 22 feet)! Manta rays are usually white, or black on top with a white tummy. They can also appear almost completely black. They have **special spot patterns** on their bellies, which are different for every manta ray, and which can be used to identify them. Manta rays have a diamond-shaped body with two long fins extending on each side.

Manta rays are known for their very wide mouths with two large, extended structures attached called **cephalic lobes**. These cephalic lobes help to push water into their mouths for feeding. Mantas feed by filter-feeding—sifting **small organisms** and **plankton** (which drift in our ocean) using their specialized mouths. This is why manta rays are often seen slowly skimming on the surface of the water.

The giant manta ray can be found worldwide in subtropical, tropical, and temperate bodies of water. They are more commonly found in the **open ocean**. Mantas have also been observed in



Tampa Bay Manta Ray.
Source: Jordan Findley

estuaries, where salt water and freshwater meet and mix. These are areas where scientists think their **nursery grounds** (a safe and protected place where animals go to have their young) may be located.

So we can only venture a guess as to why Tampa Bay Watch staff got to see a juvenile manta ray, because Tampa Bay is a large estuary! And even though we *are* an estuary, it is still very rare to see a manta ray in the shallow waters of the Gulf of Mexico. Maybe we were just in the right place at the right time to enjoy this magical sight! 🐡

To view the video of the giant manta ray spotted by our staff, visit <https://www.youtube.com/watch?v=T5SUCHpARIY>.

Sources: nationalgeographic.com; fisheries.noaa.gov; floridamuseum.ufl.edu; mantatrust.org.



Filter Feeders' Favorite Food

Filter feeders feed mainly on plankton! Plankton are any organism that drifts in our oceans. There are two **types of plankton**: plant and animal. Plant plankton are called phytoplankton; they get their energy from the sun, just like our land plants! Animal plankton are called zooplankton. Zooplankton come in all shapes and sizes, from microscopic to extremely large, like our 7-foot wide lion's mane jellyfish (at right)!



Sources: NOAA; AL.com; Imgur.com

Expand Your Mind!

Meet & Greet: Rare Animals of the Gulf of Mexico (...that you could see if you are lucky!)



KEMPS RIDLEY

Lepidochelys kempii

Kemp's ridley sea turtles are the smallest sea turtles in the world. Adults reach about two feet in length and weigh up to around 100 pounds. The adult Kemp's ridley's shells are oval-shaped and usually an olive-gray on top and a yellow-cream color on the bottom. The turtles are known for nesting on the beaches near Rancho Nuevo, Mexico and are usually found in nearshore waters of northern Gulf of Mexico.

The reason seeing a Kemp's ridley is so special is that they are an endangered species, meaning that there are not a lot of Kemp's ridley turtles left, compared to their numbers in the past. In certain areas, the endangered Kemp's ridley is under strict protection, which will hopefully help their populations gradually recover!

Sources: [nmfs.noaa.gov](https://www.nmfs.noaa.gov), www.fws.gov, www.nwf.org; Photo: Kim Bassos-Hull, Mote Marine Laboratory



WHITE SHARK

Carcharodon carcharias

Great white sharks can be found throughout the world's oceans, mostly in cooler waters near the coastline. Great white sharks are highly migratory, moving constantly from one place to the other, many making long migrations every year. On occasion, white sharks will make their way into the Gulf of Mexico. More recently, Yeti and Hilton, two large white sharks over 11 feet long, tagged by the conservation group Ocearch, were spotted in the Gulf in late April and early May.

White sharks grow, on average, to about 15 feet in length, and they can weigh up to 5,000 pounds! They are the world's largest predatory fish. Sadly, however, they are under serious threat by human activity. Illegal hunting and overfishing have made the great white sharks a vulnerable species.

Sources: oceana.org, foxnews.com, ocearch.org, nationalgeographic.com, iucnredlist.org; Photo: australiantraveller.com



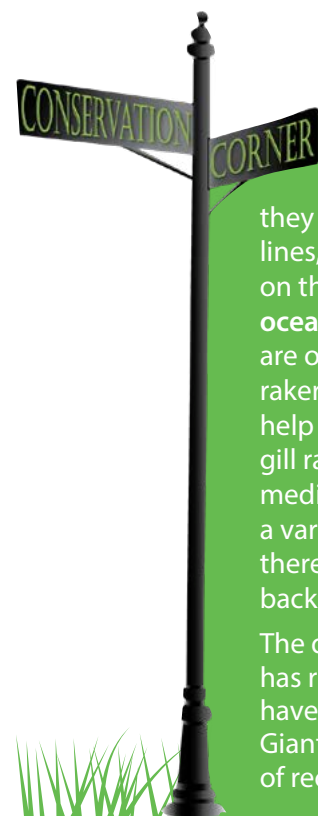
WHALE SHARK

Rhincodon typus

Though a rare site, whale sharks are usually spotted at least a couple times a year in southern Florida. Since 2002, about 85% of whale shark sightings in the Gulf of Mexico have occurred between June and October. Recently, there was a sighting of five whale sharks in early June, about 40 miles off the coast of Anna Maria Island.

The whale shark is the largest fish in the ocean, reaching up to around 40 feet! These gentle giants can be found meandering the oceans in search of plankton. They filter-feed, similarly to the manta ray! If you plan to be in the Gulf over the next few months, keep on the lookout for these gentle giants!

Sources: bradenton.com, floridamuseum.ufl.edu, oceanconservancy.org, worldwildlife.org; Photo: thebeach-tulum.com



The Threat to Manta Rays

The largest threat to manta rays is **humans**. Mantas are either purposefully hunted, or they die from being accidentally hooked on fishing lines, caught in fishing nets, struck by ships while on the surface of the water, or even from eating **ocean plastic**! Giant manta rays are often hunted for their large gill rakers, large pieces of cartilage that help them filter-feed. Manta ray gill rakers are popular in Chinese medicine. They are thought to have a variety of medicinal qualities, but there is **no actual medical science** backing these claims up.

The demand for ray meat and gills in some countries has risen. In these same areas, manta ray sightings have decreased up to 95 percent! This is very scary. Giant manta ray populations have a low chance of recovery because they reproduce very slowly.



Mature females produce only one baby every two years!

More people are becoming aware of these problems. Though there are many areas lacking regulations, new protections worldwide are being put in place for these graceful giants. Manta rays are protected in Florida waters and have been recently listed as a federally protected species.

There are some simple ways that you can join the efforts to protect Manta rays. If you are ever lucky enough to encounter a manta ray, you should report it! Reporting your encounter can help scientists gain important information about these animals. Even simple efforts like **recycling and keeping plastics out of our ocean** can help these majestic creatures!

Sources: fisheries.noaa.gov; oceana.org; floridamuseum.ufl.edu; iucnredlist.org; mantawatch.com; Photo source: projectaware.org

Fun Facts about Giant Ocean Creatures!

- The famous "Great White Shark" is really a **White Shark**; we just like to add the "Great" in the front!
- Whale sharks can weigh around **20.6 tons**!
- Mantas give birth **every other year** to a single ray, called a pup!
- The exact age to which giant mantas can live is not known, but scientists estimate around 40 years!

Sources: nationalgeographic.com; sportdiver.com; arkive.org



Did You Know...

Giant manta rays have the largest brain of any fish! They have well-developed areas for communicating, learning, and problem-solving.

Source: oceana.org

Our education programs get kids into the bay!



Fun Activity:

Catch some sun rays—not manta rays—with this cute marine-themed sun catcher craft!!

Things you'll need:

- Coffee filters
- Watercolor paints
- Cup of water
- Paint brush
- Safety scissors
- Glue
- Dark blue or black paper
- Ocean Animals pattern
(available for download at website below)

Instructions:

With an adult or parent's assistance:

1. Using the watercolor paints, paint your coffee filter and set it out to dry. The darker the watercolors on the coffee filter, the better. (Paint tends to lighten as it dries.)
2. Print out the animal pattern on dark blue or black paper and cut them out with safety scissors.
3. Once the coffee filter is dry, glue the animal cutout to the coffee filter.
4. Hang in the window and enjoy!

Original instructions and animal downloads found at:

<http://alittlepinchofperfect.com/ocean-animal-coffee-filter-craft/>



Kids' pages Investigations

Topic: Manta Rays



Summer 2018 edition

Instructions: Read through the appropriate Kids' Pages edition and answer the questions below. Once all the questions have been completed, refer to the Answer Key to check your work.

Multiple Choice (choose one):

- Giant manta rays reach an average wingspan of how many feet?
 - 29
 - 40
 - 15
 - 22
- What is the name for the specialized structures that help manta rays feed?
 - Cephalic lobes
 - Manta birostris
 - Mandibles
 - Pectoral fins
- What are the names for the two types of plankton?
 - Zooplankton and holoplankton
 - Animal plankton and meroplankton
 - Phytoplankton and plant plankton
 - Zooplankton and phytoplankton
- How often do manta rays give birth?
 - Once every year, to a single pup
 - Once every two years, to twin pups
 - Once every year, to twin pups
 - Once every two years, to a single pup
- Which animal below has the largest brain of any fish?
 - White shark
 - Manta ray
 - Whale shark
 - Devil ray

Fill in the Blank:

- It's possible to identify manta ray individuals by looking at their special _____ on their bellies. (2 words)
- Manta rays eat by _____, or sifting plankton from the water using their specialized mouths. (2 words)
- Scientists think that estuaries may act as _____ for manta rays. (2 words)
- Yeti and Hilton are the names of two tagged _____ that were spotted in the Gulf of Mexico. (2 words)

Short Response:

- In 3-5 sentences, write a mock petition for the global protection of manta rays. Using the information provided in the Conservation Corner, create a valid argument discussing how manta rays ought to be protected and what their loss from the ocean would mean for the environments they visit.

Kids'pages Investigations

Topic: Manta Rays



Summer 2018 edition

ANSWER KEY

1. D. At a maximum, they can reach a 29-foot wingspan.
2. A. These act as an appendage to push plankton towards their open mouths.
3. D. "Zoo-" means animal, "phyto-" means plant.
4. D. They only give birth every other year!
5. B. They are able to learn and solve problems.
6. It is possible to identify manta ray individuals by looking at the special **spot patterns** on their bellies. (2 words)
7. Manta rays eat by **filter feeding**, or sifting plankton from the water using their specialized mouths. (2 words)
8. Scientists think that estuaries may act as **nursery grounds** for manta rays. (2 words)
9. Yeti and Hilton are the names of two tagged **white sharks** that were spotted in the Gulf of Mexico. (2 words)
10. Answers will vary. *Example answer: It is critical that manta rays be protected on a global scale because their loss would be devastating to the environments in which they live. Currently, they play a role in the delicately-balanced marine ecosystem and their removal would upset that balance. They control plankton populations and if they are removed, the consequences are unknown. With their low reproduction rate and high fatality rate (largely due to humans), their continuation on this planet is unlikely into the future unless measures are put in place. It is important to ban all traditional medicines including manta ray products, establish "no-take" zones where mantas frequent, and maintain proper distancing from sighted rays.*