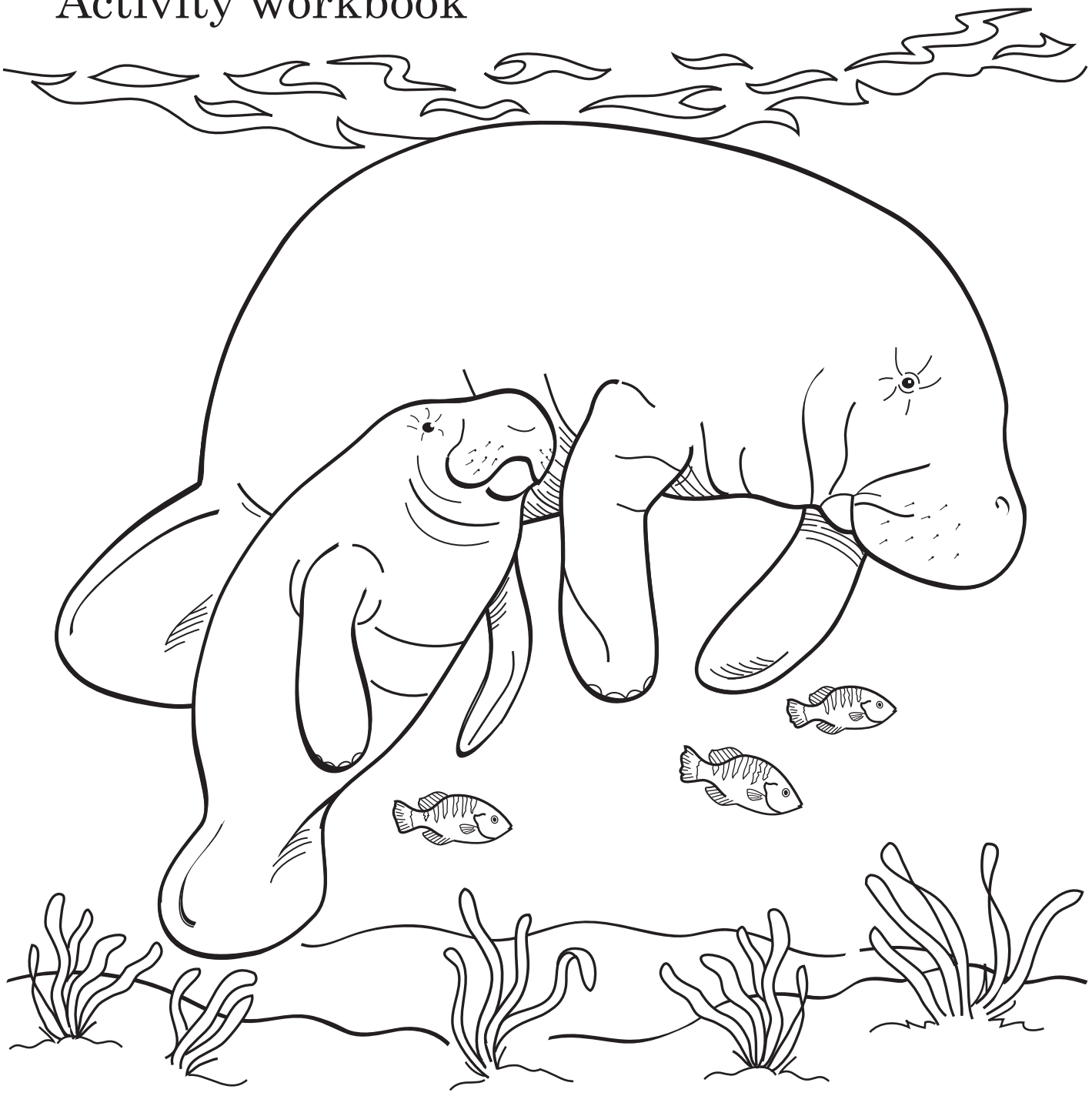
Manatees

Activity workbook



Florida's gentle giants

Florida Fish and Wildlife
Conservation Commission
MyFWC.com

The Florida Fish and Wildlife Conservation Commission (FWC) is a state government agency in Florida. Its mission is to *manage fish and wildlife resources for their long-term well-being and the benefit of people.*

This mission statement means that the FWC is responsible for conserving and managing fish, wildlife and their habitats, which include the state's many imperiled species. The FWC meets this challenge with a combination of law enforcement, research, management and outreach services. The FWC issues hunting and fishing licenses and makes sure the public has the information it needs to be responsible hunters, anglers, boaters and wildlife watchers. In addition to enforcing rules and regulations, FWC provides many programs that ensure healthy resources for both wildlife and people. When you participate in any of FWC's programs to learn outdoor skills, or learn about Florida's fish, wildlife and the environment, you are helping to preserve Florida's natural resources, too.

What do you want to be when you grow up?

Here are a few of FWC's job categories to consider. You can see that it takes a team of people with a variety of skills to make a difference and to run an agency:

Accountant
Administrative Secretary/Assistant
Aircraft Mechanic/Inspector/Pilot
Art Editor/Graphic Consultant
Attorney
Biologist (Management/Research)
Community Relations
Computer Programmer
Crime Intelligence
Directors (Various Levels)
Education And Training
Engineer
Environmental Specialist
Equipment/Construction
Finance
Fish/Wildlife Technician
Fisheries & Wildlife Scientist
Geographic Information System
Government Consultant
Grants Specialist
Information Specialist
Internal Auditor
Land Acquisition & Planning
Law Enforcement (Various Positions)
Library Services
Licensing/Permitting
Mail Services
Marine Equipment Maintenance/Mechanic
Marine Science
Park Manager
Personnel Services
Planner (Variety of Positions)
Property Administration
Public Awareness/Information Services
Researcher/Scientist (Variety of Positions)
Section Leader (Various Sections)
Telecommunications
Training And Research
Utilities System/Engineering
Veterinarian

The Florida manatee before and after work sheet

Before you start your lessons about manatees, take a few minutes to write down what you know about these animals. Think about what you want to know about manatees and enter the information below. At the end of your session, write down what you learned and see how your lists compare.

Name: _____ Date: _____

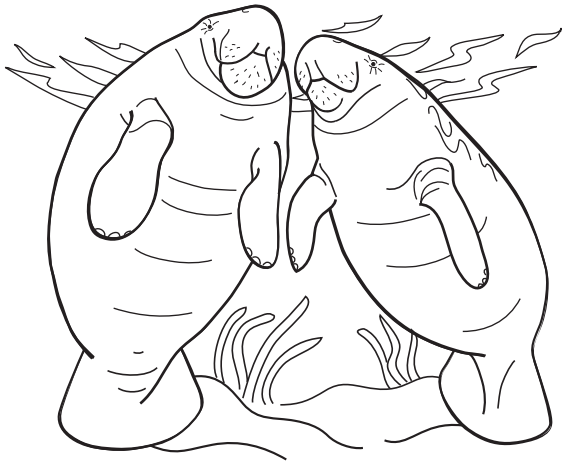
What I know about manatees now	What I learned about manatees
What do I want to know about manatees?	

Based on what you learned about manatees, write a short story about the manatees that may live in the waterways near you. Include area landmarks, waterways and marinas in your story. How can manatees be better protected in these areas?

Remember, you can make a difference.

Note to teacher: Use the underlined words throughout this booklet as vocabulary words for your students.

What is a manatee?

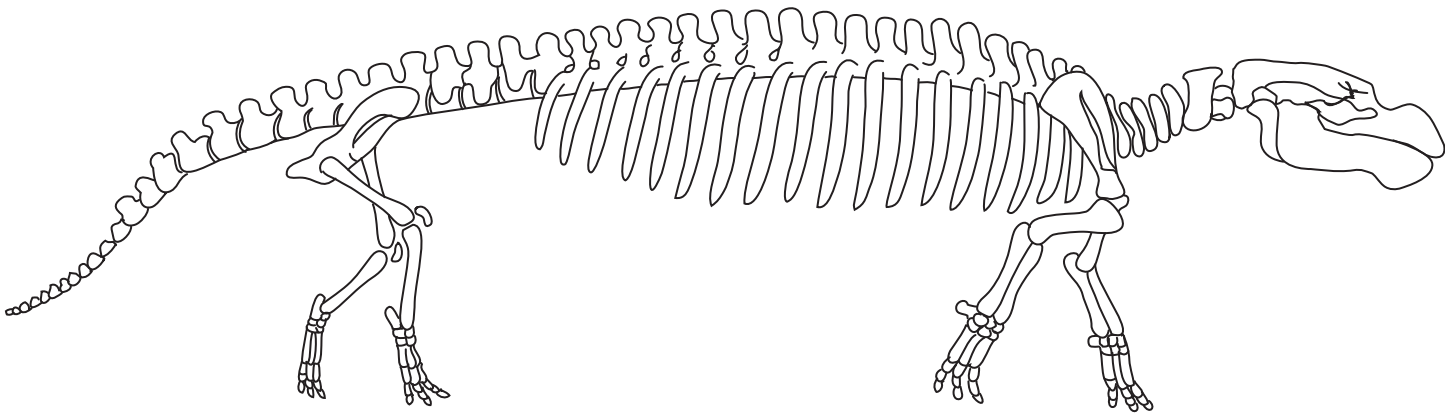


The Florida manatee (*Trichechus manatus latirostris*), a sub-species of the West Indian manatee, is an imperiled aquatic mammal found in Florida's waterways. While manatees in general are sometimes called sea cows, because they consume aquatic plants, the female manatee is better known as the cow. A newborn or young manatee is called a calf, and a mature male manatee is called a bull.

Prehistoric Sirenians

For millions of years, long before Christopher Columbus and other early explorers recorded their sightings of the New World and La Florida in ships' logs, both dugong and manatee (Sirenians) species lived in the coastal waterways, rivers and springs of what we now know as Florida. Other Sirenian species were found in various locations around the world. The following information will help you research these unique mammals.

- Ancestral forms of Sirenians date back about 55 million years.
- Forty-five million-year-old Sirenian fossils have been found in Florida.
- The elephant (*Proboscidian*) and a hippopotamus-like prehistoric animal (*Desmostylian*) most resemble Sirenians.
- Manatee fossils have been found in Florida that date back to 1 million years ago.
- Elephants, hyraxes, aardvarks and manatees share similar characteristics.
- Research shows that the earliest known human inhabitants of Florida (Paleo-Indians) hunted the manatee for its meat, bones, hide and fat.
- Recent Sirenian fossil discoveries in Jamaica show that manatees evolved from four-footed, aquatic plant-eating land animals.



Pezosiren portelli

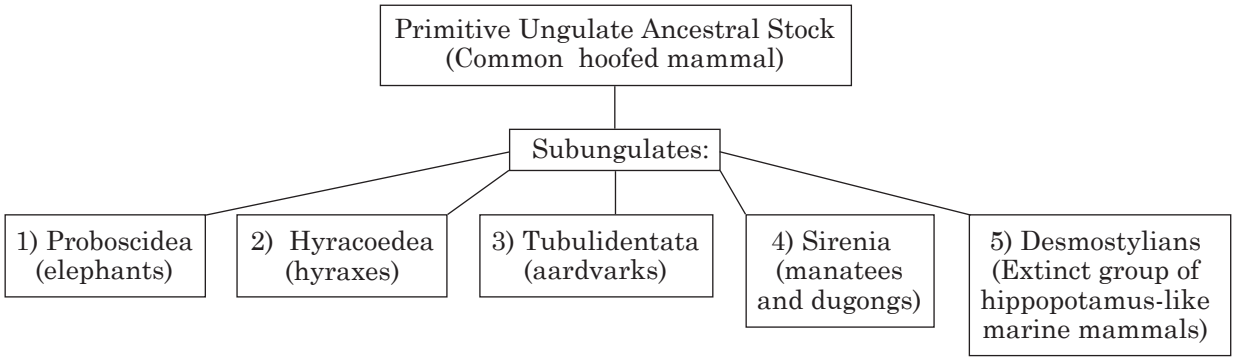
Activity: Research the prehistoric Proboscidian and Desmostylian species to see what these animals looked like and then compare them to Sirenians.

Phylogenetic order

Phylogeny: Evolutionary development of a plant or animal species

One always hears that manatees are related to elephants. The following will help you understand the relationship.

Manatees are of the order Sirenia. Sirenians along with three other extant (still existing) orders of mammals and one extinct order are sometimes lumped together as "subungulates," a series of orders that may be regarded as unusual evolutionary offshoots of a primitive ungulate ancestral stock.
Ungulate *- hoofed mammals (horses, cattle, swine, deer), with teeth adapted for chewing plants.*



What determines the relationship between the subungulates?

1. Studies using biochemical analysis of proteins support a common ancestry.
2. Shared anatomical features:
   - Dental characteristics
   - Lack of a collar bone
   - Presence of nails or hooves (rather than primitive claws)
   - All are plant eaters (herbivores) except the aardvark, which eats ants and termites.

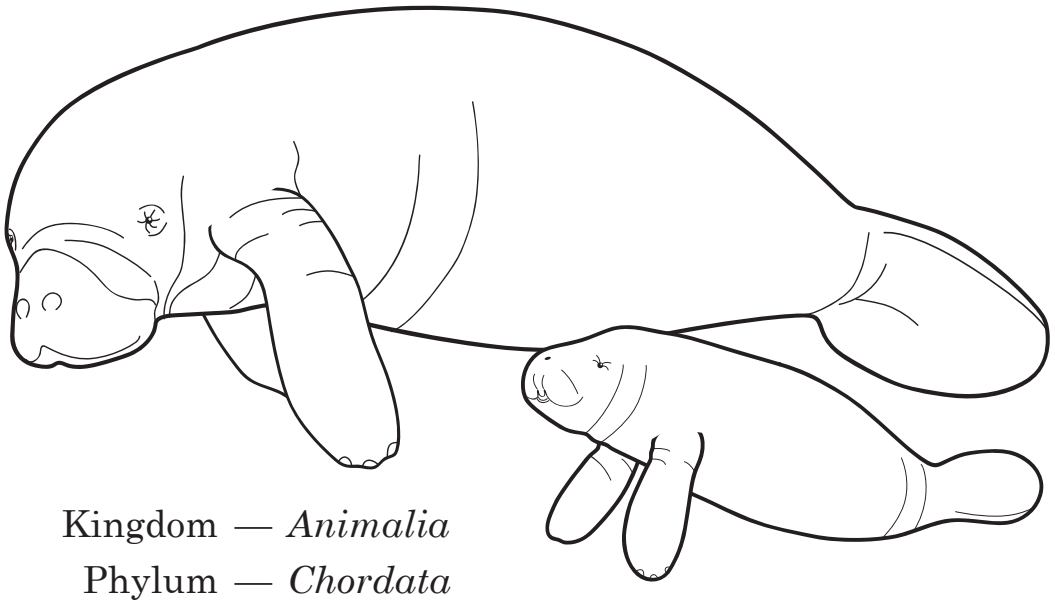
What are the similarities between manatees and elephants?

- Specialized dentition (teeth)
- Lack of collar bones
- Sparse hair on bodies
- Skin type/color
- Prehensile (capable of grasping) nature of manatee's upper lip and tip of elephant's trunk (used to grasp food items)
- Large body size
- Long gestation period (pregnancy)
- Presence of nails on ends of appendages
- Location of mammary glands under the forelimbs

Activity: Find pictures of the subungulates noted above. Draw what you think the Primitive Ungulate Ancestral Mammal might have looked like.

Sirenian taxonomy

(Taxonomy: The theory, principles and process of classifying an organism in categories.)



Kingdom — *Animalia*
Phylum — *Chordata*
Class — *Mammalia*
Order — *Sirenia*

Family — *Trichechidae*
Family — *Dugongidae*

Genus — *Trichechus*
Genus — *Dugong*
Genus — *Hydrodamalis*

Species — *Trichechus inunguis* (Amazonian manatee)
Species — *Trichechus senegalensis* (West African manatee)
Species — *Trichechus manatus* (West Indian manatee)
Species — *Dugong dugon* (Dugong)
Species — *Hydrodamalis gigas* (Steller's sea cow) Extinct

Subspecies — *Trichechus manatus latirostris* (Florida manatee)
Subspecies — *Trichechus manatus manatus* (Antillean manatee)

1. Name the Order that all manatees are in: _____

2. Is the West Indian manatee more closely related to the dugong or the Amazonian manatee? _____

3. Is the extinct Steller's sea cow more closely related to the dugong or to the West Indian manatee? Why? _____

4. Name two species that are in the same Genus. 1. _____
   2. _____

4. Name two genera that are in the same Family. 1. _____
   2. _____

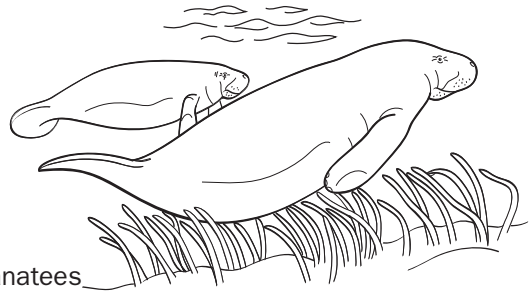
Manatee trivia word match

Activity: Fill in the blank with the word that best fits the sentence.

Words: **breathe, eyelids, heart, barrier, warm, relatives, submerged, squeaking, sideways, female, dependent, gestation**

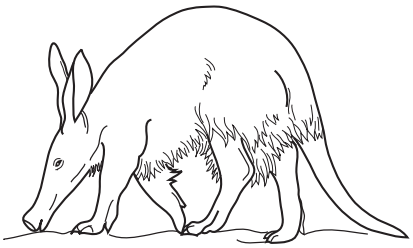
- Manatees do not have _ _ _ _ _ _ _, eyelashes or eyebrows. A clear nictitating membrane protects the manatees' eyes when underwater. The muscles around the eye expand and contract in a circular motion to open and close around the eye.
- A manatee's _ _ _ _ _ beats at a rate of 50 to 60 times per minute.
- Manatees _ _ _ _ _ _ _ air and must surface to breathe approximately every three to five minutes when active (traveling, socializing or eating).
- When resting, manatees stay _ _ _ _ _ _ _ _ _ for long periods of time between breaths (20 minutes). A manatee can rest for many hours at a time.
- A manatee cannot turn its head _ _ _ _ _ _ _ _ – it must turn its whole body around.
- A manatee communicates by making _ _ _ _ _ _ _ _ _, chirping or whistling sounds.
- The manatee's closest modern _ _ _ _ _ _ _ _ _ are elephants, aardvarks and hyraxes.
- The _ _ _ _ _ _ _ _ _ (pregnancy) period of the manatee is at least 12, and possibly 13, months long.
- Calves may remain _ _ _ _ _ _ _ _ _ on their mothers for up to two years.
- A mating herd consists of one _ _ _ _ _ _ and several males that travel together for a week to a month until the female is ready to mate.
- Manatees learn about _ _ _ _ water sites from their mothers.

Bonus: Study pictures of manatees and on a separate piece of paper draw a manatee's eye. How is it different from your eye? (Hint: see the first manatee trivia item above.)



manatees
(Sirenia)

hyrax
(Hyracoidea)

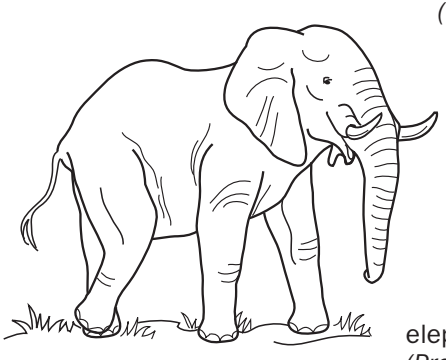


aardvark
(Tubulidentata)

Closest modern relatives:
Elephant (order *Proboscidea*) –Very large mammal with toenails, dense bones, special dentition, long gestation period, with skin and sparse hair similar to a manatee.

Hyrax (order *Hyracoidea*) –Size of a rabbit with toenails, dense bones, special dentition, long gestation period, and a skull that resembles that of an elephant skull.

Activity: Research the characteristics of the aardvark and compare the species to manatees, hyraxes or elephants.



elephant
(Proboscidea)

What do manatees look like?

Manatees are large, gray aquatic animals with thick, finely-wrinkled skin. From the blunt whiskered snout, a manatee's body is torpedo-shaped and then tapers to a flat, paddle-shaped tail. Two forelimb flippers, with up to four finger-like nails, are located near the head. Like all mammals, manatees have hair on their bodies. Although the hair is very sparse, it exists in short strands from a manatee's head all the way down to its tail. Manatees do not have external ear lobes, eyelids or eyelashes. A thin membrane protects the manatees' eyes when underwater. Stiff bristles around its mouth help manatees hold food while eating.

Characteristics:

- Small eyes
- Finger-like nails on flippers
- Fluke (paddle-shaped tail)
- Peduncle (narrow part of the tail)
- Nostrils (open and close like valves)
- Ears (small opening)
- Vibrissae (stiff whiskers)

Introduction to Manatees – FWC YouTube video: http://bit.ly/2wtQQB7

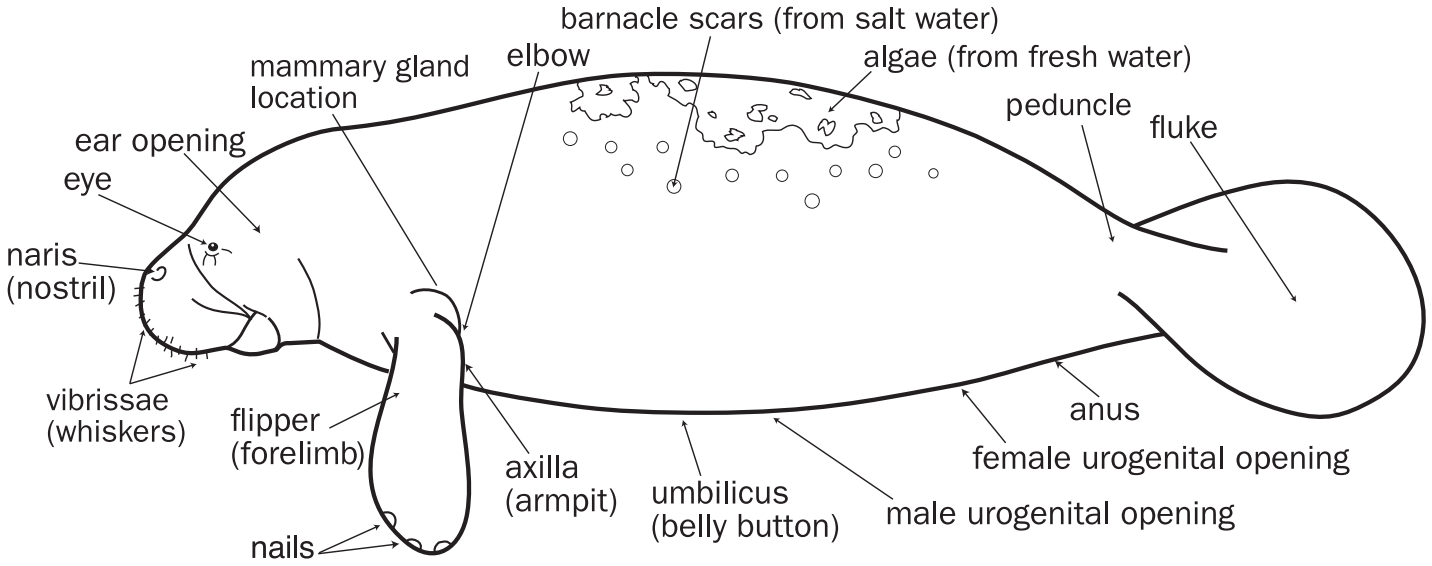
Marvelous Manatees – FWC video for kids: https://vimeo.com/110496423

More about Manatees – FWC video: https://vimeo.com/191968006

Marching molars

Tooth replacement is an adaptation to the manatees' diet of aquatic plants that are mixed with abrasive sand. Over time, sand wears down the molars, which can make chewing plants difficult. The adaptation allows for new teeth to erupt at the back of the jaw and move forward until the worn-down teeth eventually fall out. Tooth replacement (*polyphyodont*) occurs throughout the life of a manatee.

Activity: Color the manatee gray. Green or brown algae and white barnacles sometimes grow on the backs of manatees.



Manatee anatomy facts and trivia

■ The digestive system of the manatee is adapted to process large amounts of high-fiber, low-protein food (aquatic plants).

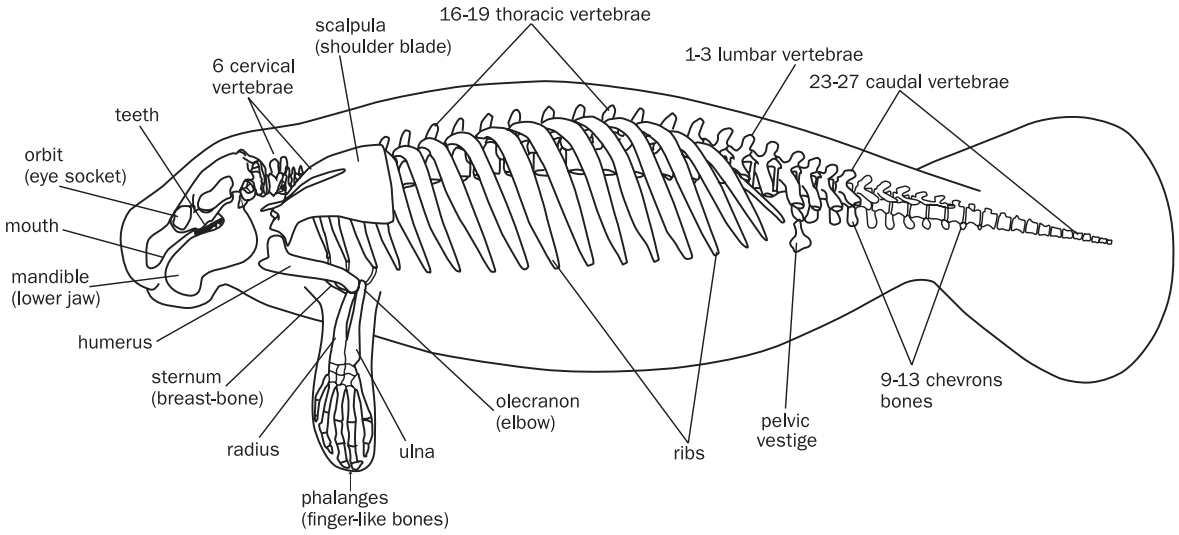
■ Manatees can eat between 4 to 9 percent of their body weight in aquatic vegetation each day.

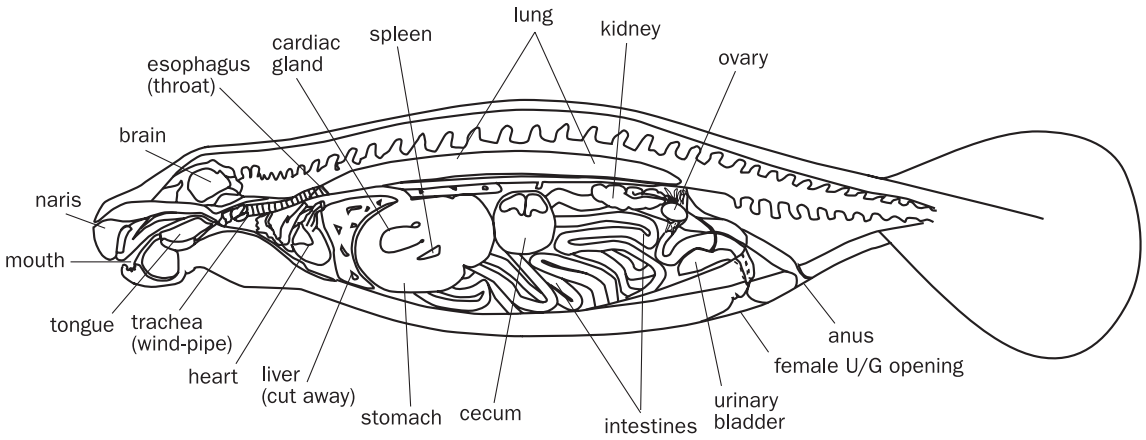
■ The intestines of adult manatees can measure up to 130 feet in length! It takes up to seven days for food to pass through this long digestive system.

■ Manatees produce a large amount of gas from the food they eat.

■ The lungs of an adult manatee may exceed three feet in length and extend along the backbone under the protection of the ribs. The length of the lungs helps manatees with buoyancy control and allows the animal to float horizontally and stay underwater for up to 20 minutes at a time.

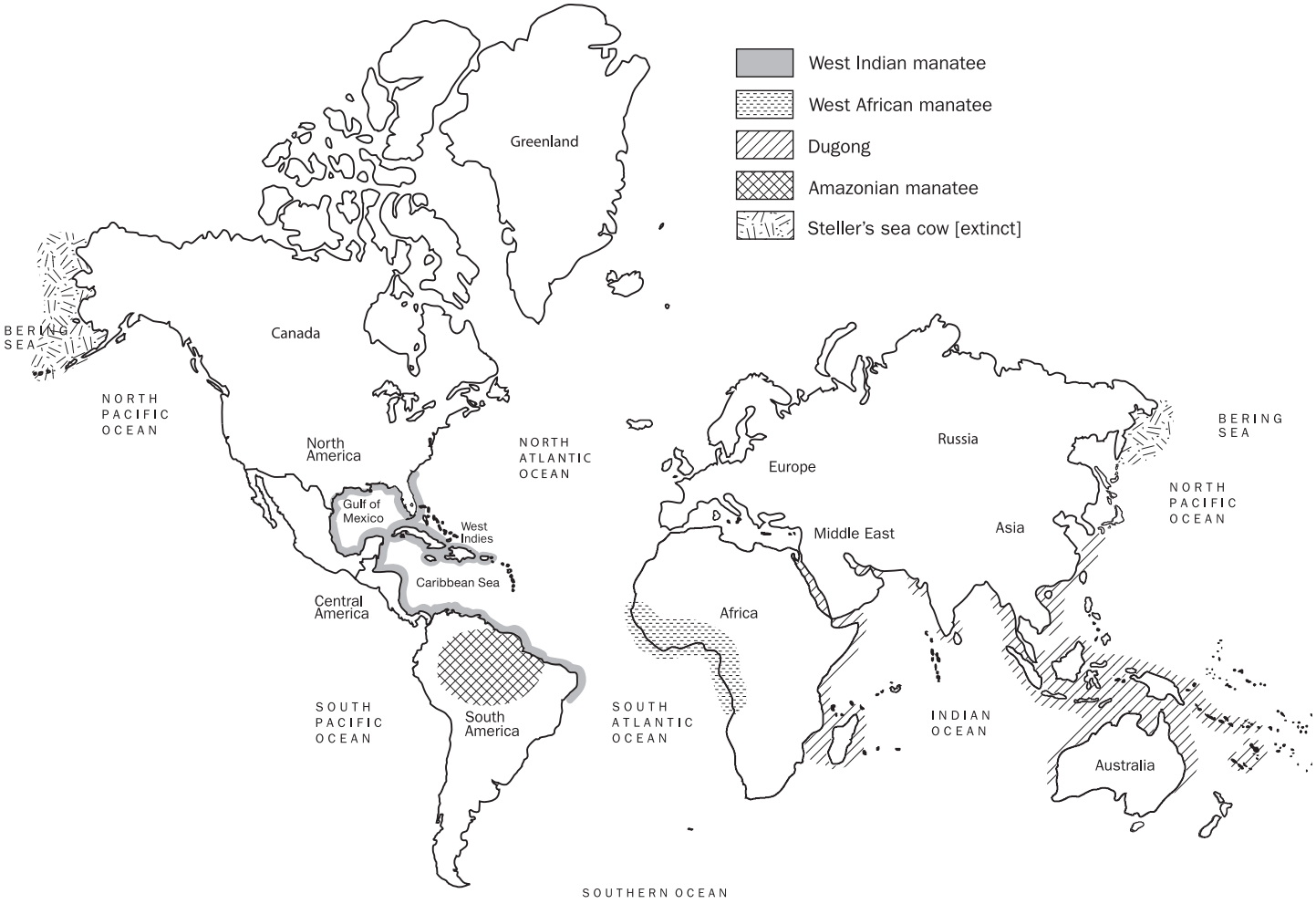
■ Manatee bones are massive and heavy and lack marrow cavities in the ribs and long bones of the flippers. Heavy bones allow the manatee to easily submerge in order to graze on aquatic plants.





Activity: Use colored pencils to color the internal organs of the manatee.

Sirenians of the world



Present day Sirenians are found around the world and include three species of manatees and one species of dugong.

West Indian manatee (*Trichechus manatus*) – West Indian manatees are found from the southern United States to the northeast coast of Brazil and around islands near these shores. The Florida manatee (*Trichechus manatus latirostris*) is a sub-species of the West Indian manatee and is found in and around Florida's waterways. The Antillean manatee (T*richechus manatus manatus*) is another sub-species that is found throughout the Caribbean and northeastern South America.

Amazonian manatee (*Trichechus inunguis*) – This species is restricted to the fresh waters of the Amazon Basin.

West African manatee (*Trichechus senegalensis*) – This species is found in the coastal waters and rivers of western Africa.

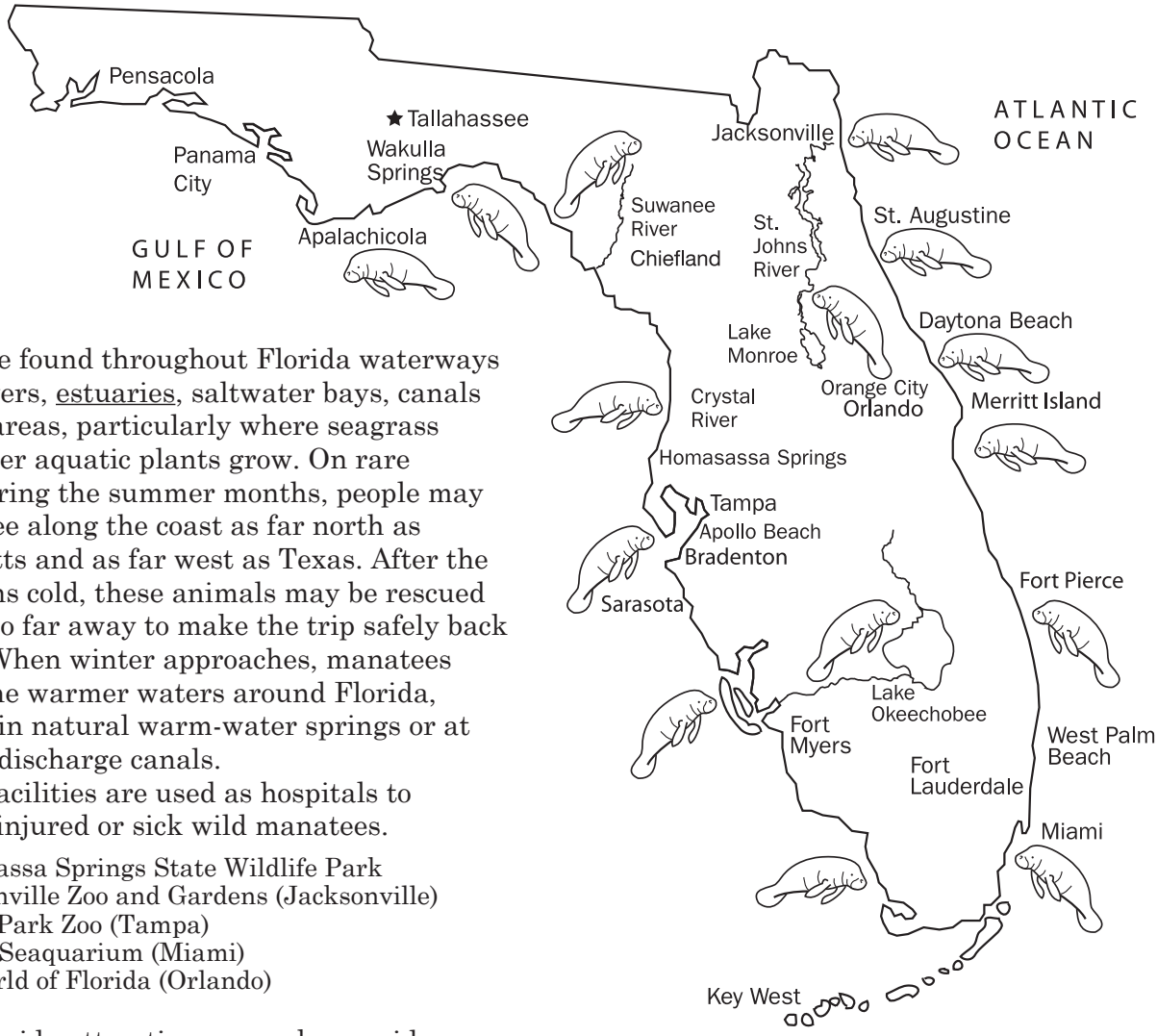
Dugong (*Dugong dugon*) – the dugong population is restricted to certain regions of the coastal waters of 43 countries within the Indian and Pacific oceans. The largest surviving populations are found in northern Australian waters.

Extinct species: **Steller's sea cow** (*Hydrodamalis gigas*) – This species was once found in the Bering Sea and was hunted to extinction within 27 years of discovery (1741-1768).

Activity: Research one of these species and draw or copy a picture of the animal.

Where can you find manatees in Florida?

Activity: On the map, circle the places where you have seen wild manatees. Put a check mark (✔) on the places where you have seen rehabilitated manatees or manatees awaiting release.



Manatees are found throughout Florida waterways including rivers, estuaries, saltwater bays, canals and coastal areas, particularly where seagrass beds and other aquatic plants grow. On rare occasions during the summer months, people may see a manatee along the coast as far north as Massachusetts and as far west as Texas. After the weather turns cold, these animals may be rescued if they are too far away to make the trip safely back to Florida. When winter approaches, manatees migrate to the warmer waters around Florida, aggregating in natural warm-water springs or at power plant discharge canals.

Several facilities are used as hospitals to rehabilitate injured or sick wild manatees.

- Homosassa Springs State Wildlife Park
- Jacksonville Zoo and Gardens (Jacksonville)
- Lowry Park Zoo (Tampa)
- Miami Seaquarium (Miami)
- SeaWorld of Florida (Orlando)

Other Florida attractions or parks provide manatee education programs and some (*) provide minimal rehabilitation services.

- Blue Spring State Park (Orange City)
- Crystal River National Wildlife Refuge (Crystal River)
- Disney's Epcot Center – Living Seas exhibit (Orlando)*
- Edward Ball Wakulla Springs State Park (Wakulla Springs)
- Lee County Manatee Park at the Orange River and Florida Power & Light discharge canal (Fort Myers)
- Manatee Lagoon FPL Eco-Discovery Center (West Palm Beach)
- Manatee Observation and education Center – Fort Pierce Utilities Authority (Moore's Creek – Fort Pierce)
- Manatee Springs State Park (Chiefland)
- Merritt Island National Wildlife Refuge (Merritt Island)
- Mote Marine Laboratory and Aquarium (Sarasota)*
- South Florida Museum/Parker Manatee Aquarium (Bradenton)*
- Tampa Electric Company's Manatee Viewing Center (Apollo Beach)

Manatees in Florida: ***MyFWC.com/education/wildlife/manatee/where-to-see/***

What are the four elements of habitat that manatees need to survive?

Activity: Fill in the letter blanks to find out the basic elements of habitat. Write the words in the spaces below.

1. Manatees eat plants that grow in the water. These plants are called aquatic vegetation. Aquatic vegetation is the best type of f__o__ for manatees to eat.

2. Manatees seek out and drink fresh w__t__ __ found in their environment. Manatees do not need to rely on people to provide this for them.

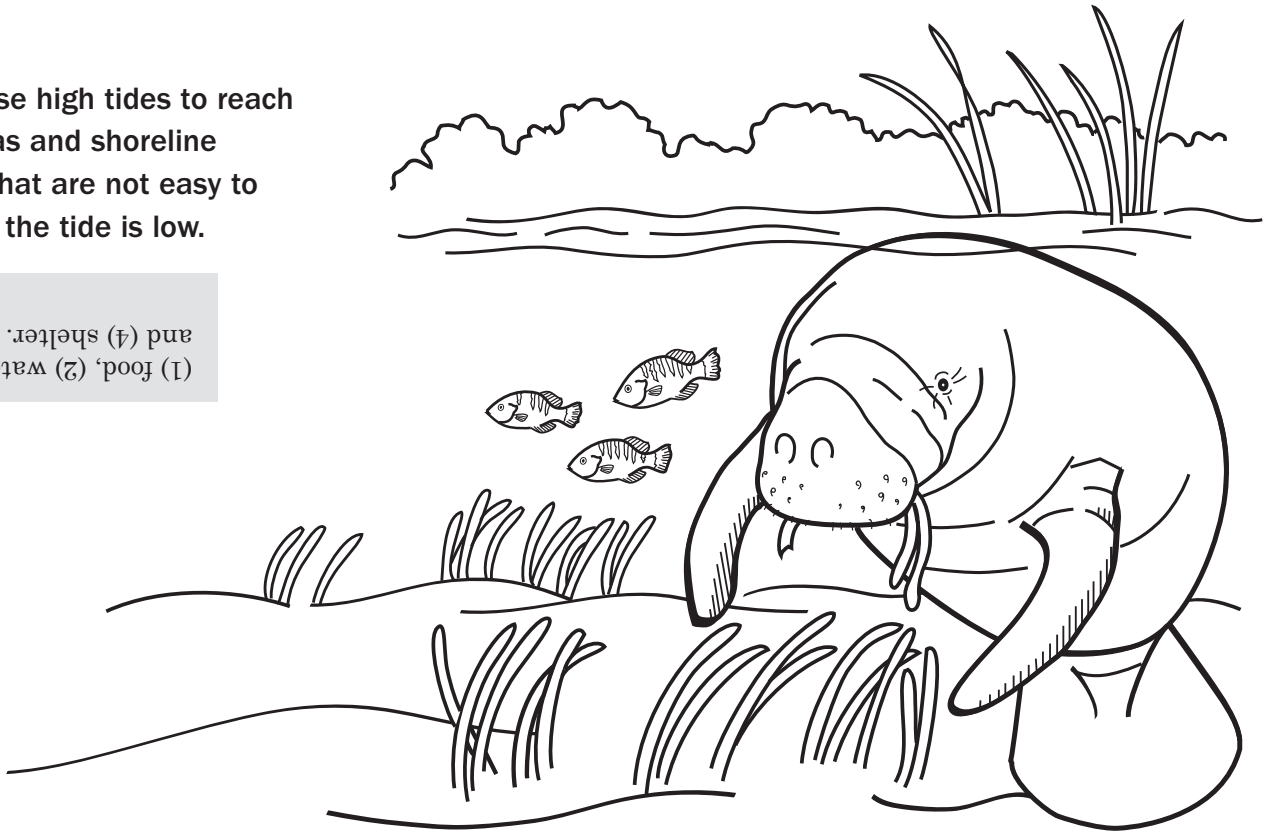
3. Manatees are migratory animals. Their travel is influenced by seasonal changes. Travel corridors are necessary for manatees to move back and forth between summer and winter habitats. People who use these same waterway corridors must respect the manatees' need for safe passage and provide adequate sp__c__ for manatees to travel.

4. Manatees seek safe, protected areas, or sh__l__ __r where they can feed, rest, play, mate, give birth or raise their young. In Florida, with the growing number of people and boats, safe protected areas are more difficult for manatees to find.

Loss of habitat is one of the most serious threats to the manatee. Human activities are a significant cause for manatee habitat loss through pollution, dredge and fill activity, water use and development.

If any of the four elements of habitat – (1)_____, (2)_____, (3)_____ and (4)_____ – are missing, manatees cannot survive. It is up to all of us to help Florida's manatees survive.

Manatees use high tides to reach feeding areas and shoreline vegetation that are not easy to get to when the tide is low.



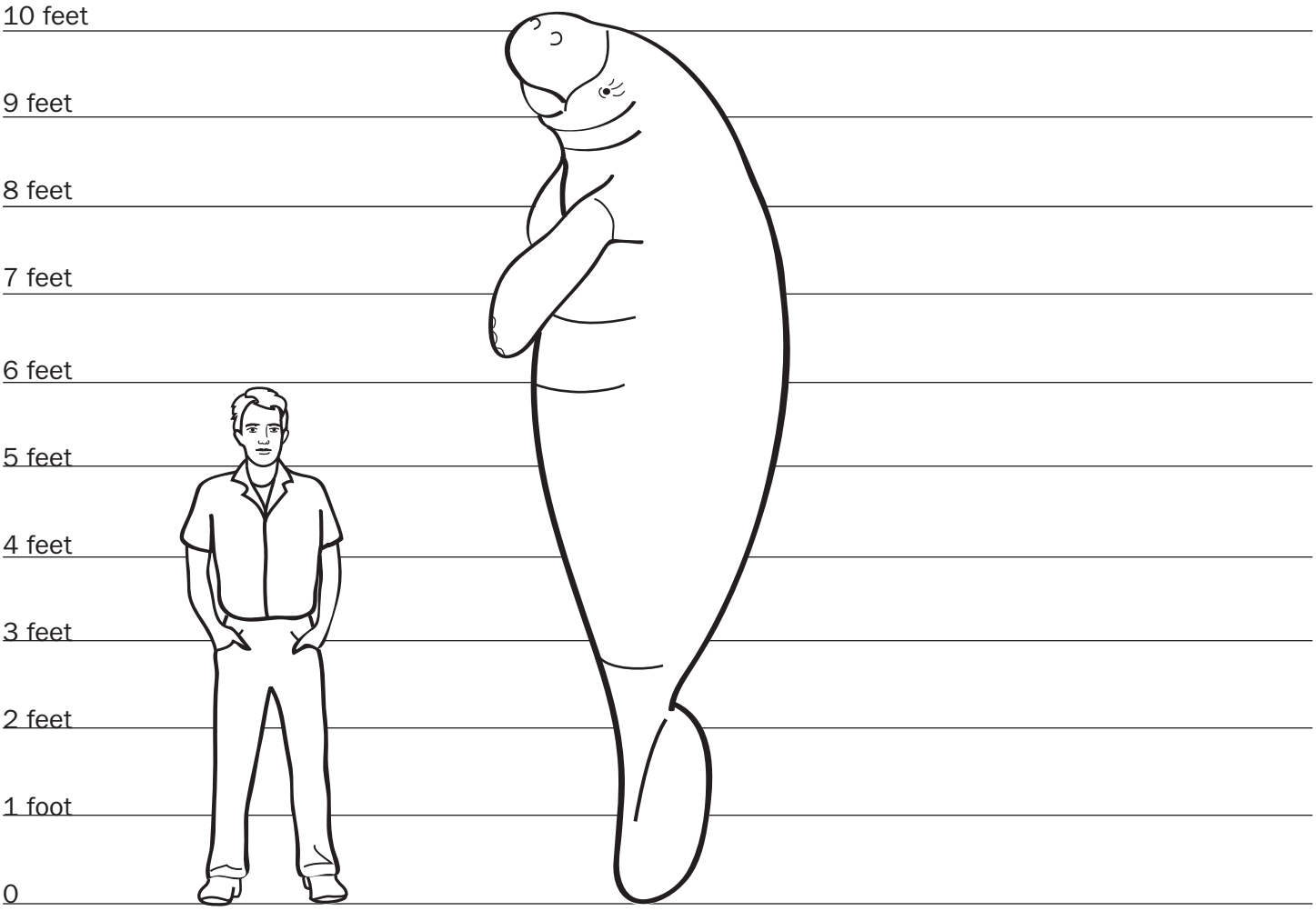
Answers:
(1) food, (2) water, (3) space and (4) shelter.

How big do manatees grow?

A calf weighs 60-80 pounds and is 4 to 4 1/2 feet in length at birth and grows quickly during its first two years. During this time, the female sea cow nurses its young from teats found just behind the base of the flippers. This occurs until the calf is weaned from nursing. Although the average adult manatee is 10 feet long and weighs about 1,200 pounds, manatees can grow much larger. The heaviest manatee weighed was 3,600 pounds and measured 13 feet long. Female manatees (cows) tend to be larger than male manatees (bulls).

Activity: Find an object (small car, golf cart, etc.) that weighs as much as a manatee weighs.

Class project: Use roll paper to make a 3-D actual size manatee to hang in your classroom.



Average size person:
6 feet tall
150 pounds

Average size manatee:
10 feet long
1,200 pounds

Draw another
animal: _____
height:_____
weight:_____

Manatee word puzzle

Find these words hidden in the puzzle. Words can be read frontward, backward, up, down and diagonally.

protect, sea cow, manatee, mammal, aquatic plants, sea grass, habitat, eat, play, rest, travel, air, water, Florida, conservation

Activity: Put the word list in alphabetic order before doing the puzzle. _____

_____

_____

_____

_____

_____

_____

_____

_____

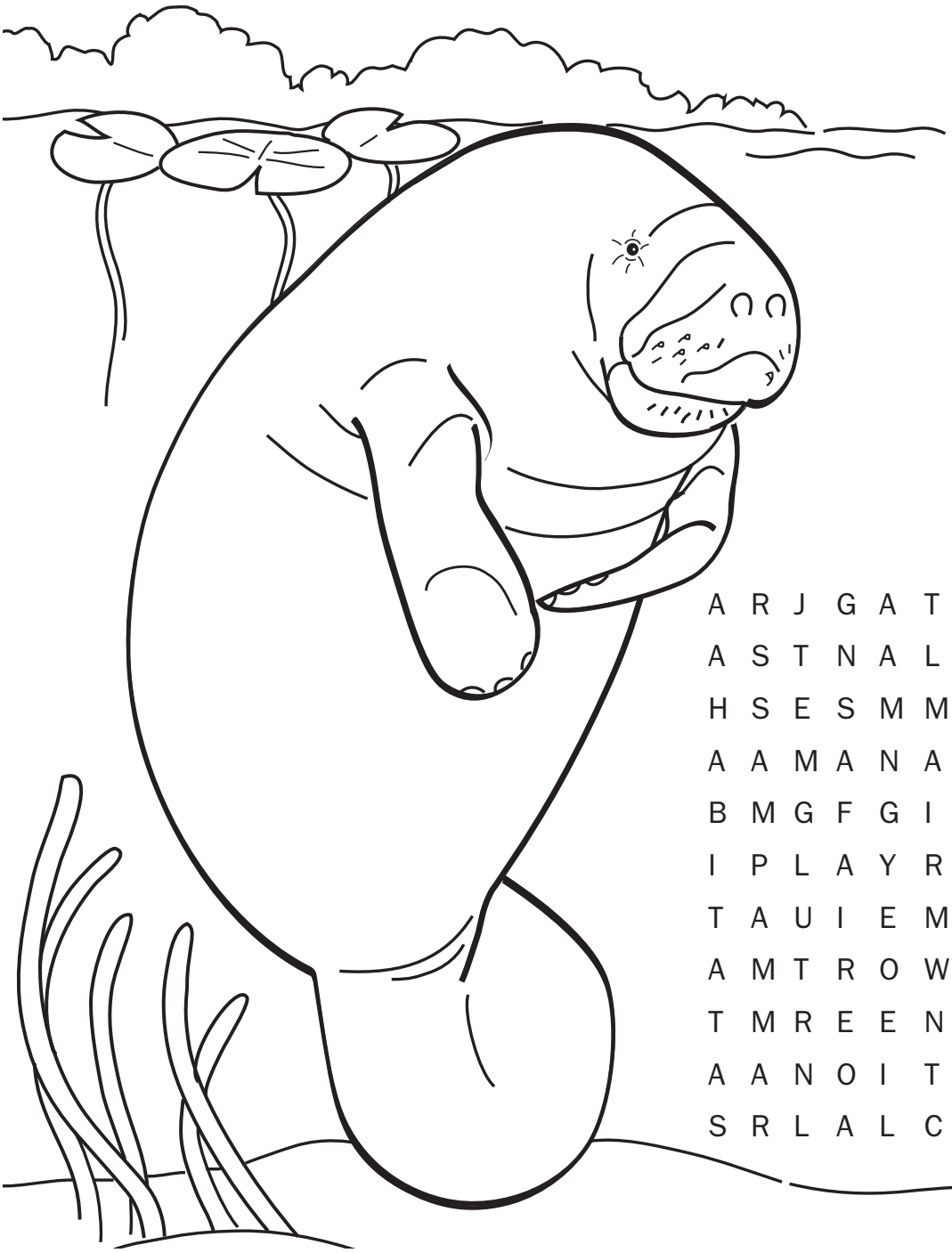
_____

_____

_____

_____

_____

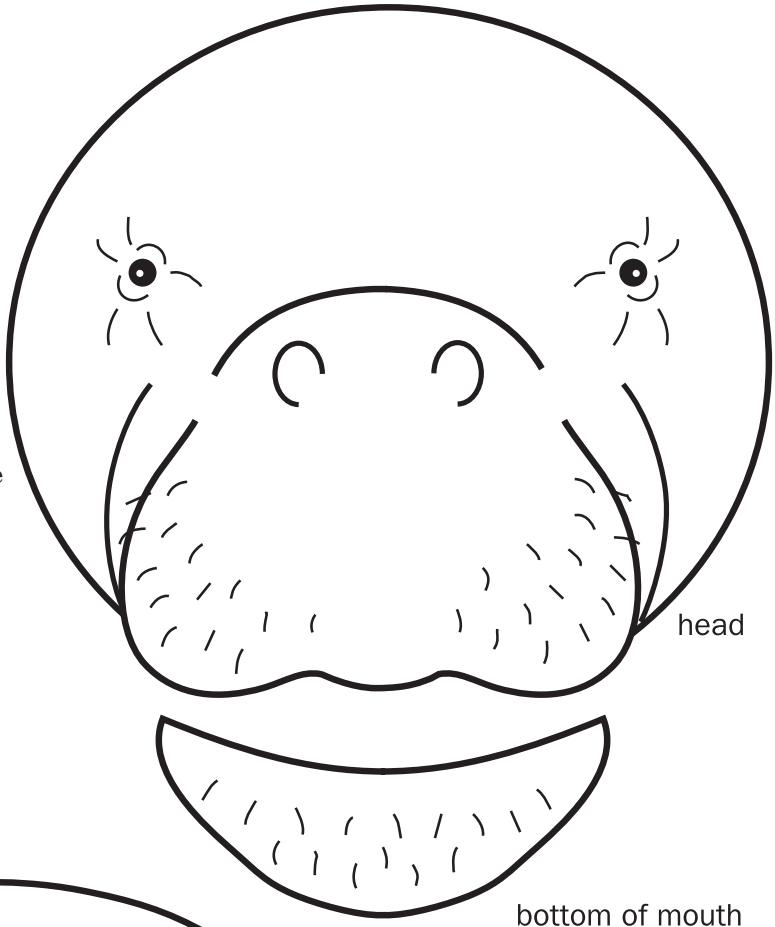


A R J G A T C E T O R P A B
A S T N A L P C I T A U Q A
H S E S M M O A T T E O R A
A A M A N A T E E R I L E D
B M G F G I O A E E A R S I
I P L A Y R N T N E E V T R
T A U I E M A M M A L S E O
A M T R O W U S U N M L M L
T M R E E N A M S N F L I F
A A N O I T A V R E S N O C
S R L A L C A W O C A E S T

Manatee puppet

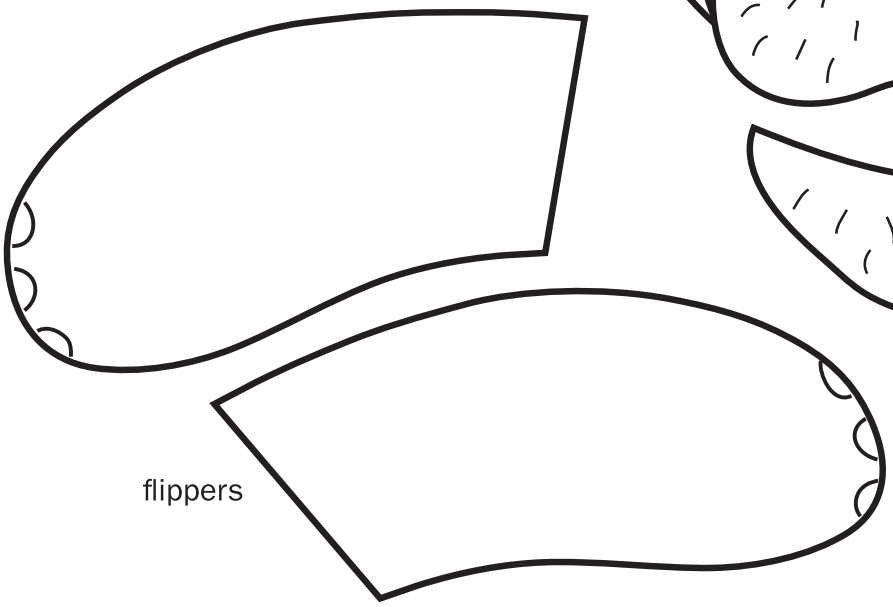
Color each of the pieces gray, blue, brown or a combination of these colors. Cut the pieces out and glue them to a paper lunch bag as shown below. Make sure that you attach the head to the bottom of the bag so that you can open the manatee's mouth. Give your manatee a name and herd together with your other manatee friends.

Classroom idea: Use the information in this book to write a play about manatees. You can make a different lunch bag character for each character in your play.

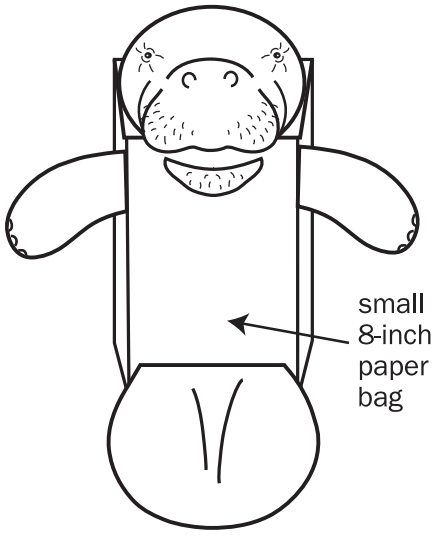


head

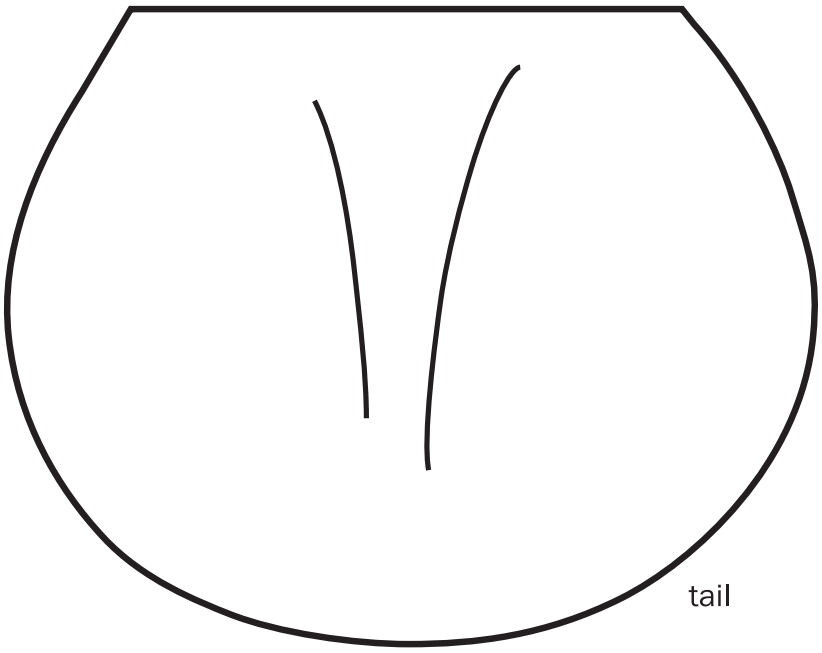
bottom of mouth (*glue just under the flap of the paper bag*)



flippers



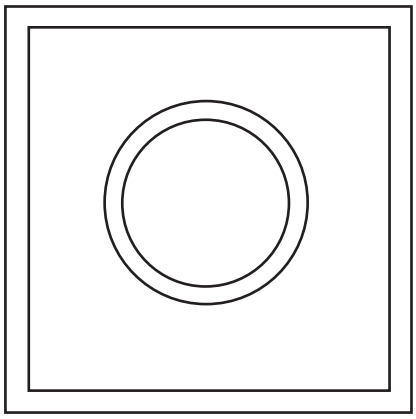
assembled



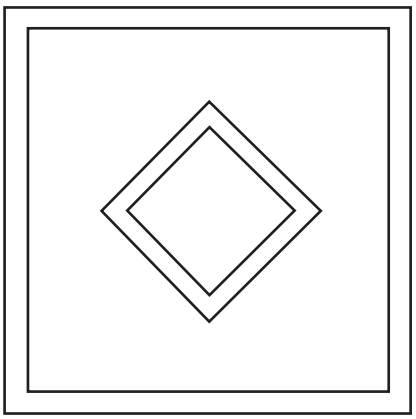
tail

What do waterway signs mean?

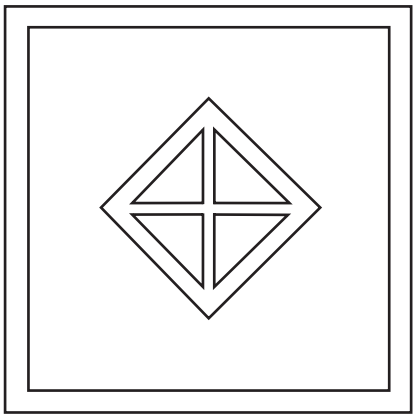
Color the sign border and shapes, below, ORANGE. The sign background is WHITE.



A. A circle shape means – follow the posted rule on the sign.



B. A diamond shape means – DANGER! Look out for something in the water.



C. A diamond shape with a cross inside means – DO NOT ENTER! (all vessels)

Activity:
Match the following messages to the correct sign. Write A, B or C next to the sign messages. Check your answers to see if you are right.

____ Idle Speed – No Wake
____ Rocks
____ Slow Speed – Minimum Wake
____ Manatee Refuge
____ Stump(s)
____ Swim Area

Answers:
A, B, A, C, B, C

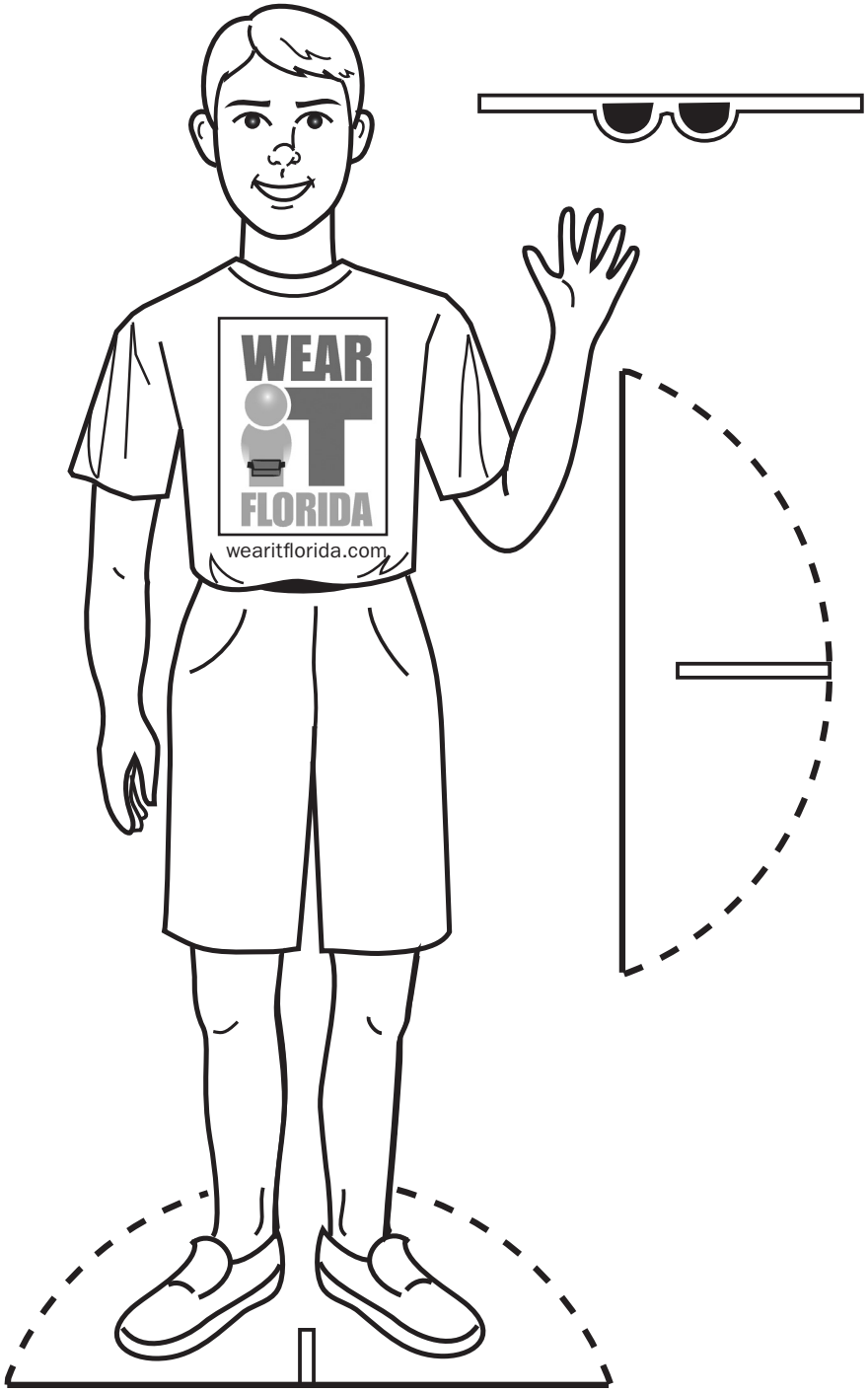
To report damaged waterway signs, dial 1-866-405-BUOY (2869). Give the following information:

- Location of sign
- Damage to sign
- Name
- Contact information

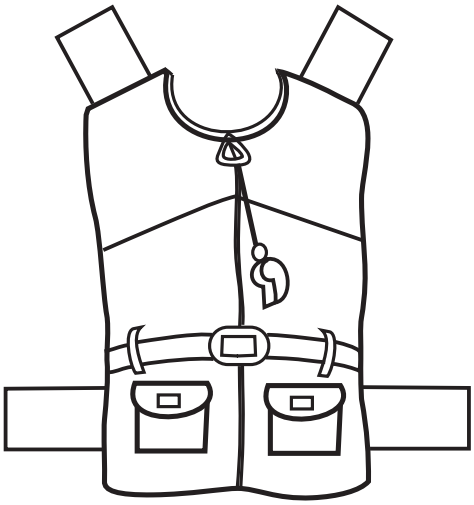
Remember to sign up for boating safety classes at MyFWC.com.

Life jackets help save lives

Always be prepared when you plan a trip on a waterway. Practice preparing for your trip by dressing the boating safety buddy. Lightly GLUE the page to another piece of paper. CUT out the life jacket, sunglasses and other items and the boating buddy and place the items on your buddy by folding the tabs. Help your buddy be better prepared for a trip on the water.



Wear polarized sunglasses so you can see and avoid objects just below the surface of the water (such as seagrass beds, manatees and sea turtles). Polarized lenses help cut the glare from the sun on the water and also protect your eyes.



Wear your life jacket when near shore or on a boat.

Attach a whistle to your life vest that has a plastic ball inside since cork balls do not work well when wet. The whistle is used to attract a rescuer's attention and help direct them to your location.

Put a small mirror in a pocket to use to flash sunlight signals in an emergency.

Practice water safety rescues with your parents before an emergency happens.

A life jacket is also called a Personal Flotation Device or a PFD. Make sure your life jacket is Coast Guard approved and fits well. Most important…remember to **WEAR YOUR LIFE JACKET!**

Wear the proper life jacket for your activity

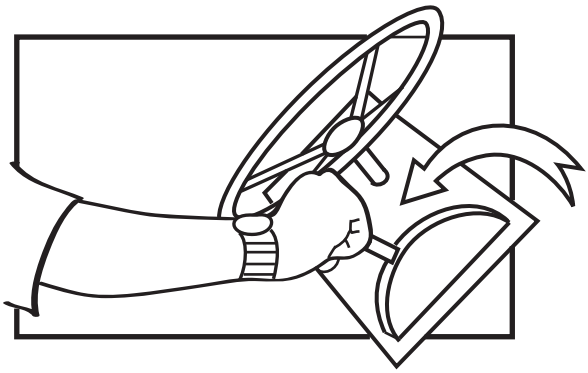
Type 1 – Off-shore life jacket – designed for rough weather – these will keep you afloat for a long time.
Type 2 – Near-shore life jacket – designed for near-shore, calmer waters where rescue time may be shorter.
Type 3 – Sport life jacket – commonly used for watersport activities – not designed for use in rough waters.
Type 4 – Throwable flotation – seat cushion, life ring – this device is not worn and is designed to be thrown to a person who needs help

Manatee conservation

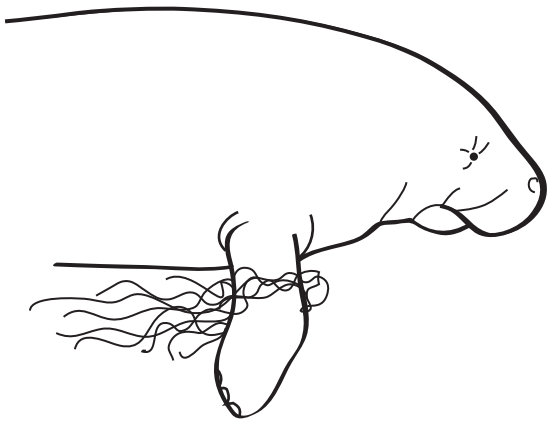
Fill in the blank space in the sentences below. Think about what the picture is suggesting you do for manatee conservation.

(Color the circle/slash red)

1. Manatees are wild marine mammals found mostly in Florida's coastal areas. When you see manatees in the wild, please _____ _____ as this could change the manatee's behavior. If you see a small group of large manatees in shallow water or thrashing around, it is probably a mating herd. Please keep your distance.



2. Collisions with boats are the single highest human-related contributor to manatee deaths each year. One of the ways that boaters could help manatees is by _____ the speed of their boats when manatees are present. When boaters follow the speed limits posted on waterway signs, they are helping to protect Florida's manatees.



3. Litter, fishing line and storm debris are found in Florida's coastal waters. Do your part by _____ and by helping with beach clean-ups or recycling efforts in your area.

Answers:

1. Do not pursue, disturb or harass manatees
2. Reducing or slowing
3. Keeping litter, fishing line, garbage, etc. out of the waterways.

Manatee protection

Manatees are classified as a threatened species and are protected under the federal Endangered Species Act of 1973 and the Marine Mammal Protection Act of 1972. The Florida Manatee Sanctuary Act of 1978 designates the entire state of Florida as a manatee sanctuary.

To avoid breaking the law by harassing a manatee, DO NOT do the following activities:

- Give food to manatees
- Use water to attract manatees to your family's boat or dock where manatees may be harmed
- Separate a cow and her calf
- Disturb manatee mating herds
- Pursue manatees or chase them from warm water sites
- Disturb resting manatees
- Hit, injure or harm manatees
- Jump on, stand on, hold on to or ride manatees
- Grab or kick manatees
- Block a manatee's path if one or more moves toward you
- Hunt or kill manatees
- Use your vessel to pursue or harass manatees
- "Fish" for or attempt to hook or catch manatees

Remember to watch wildlife without getting too close.

Activity: What are three ways that you can help protect manatees? (Use list above for ideas)

_____

_____

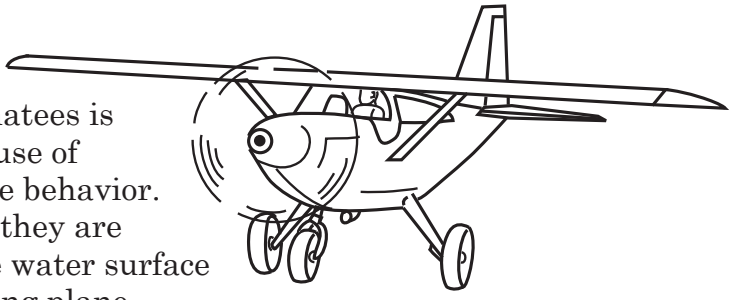
_____

Class challenge:

1. Participate in a coastal or waterway cleanup event.
2. Recycle fishing line: www.fishinglinerecycling.org.
3. Make posters to increase manatee awareness at your school.

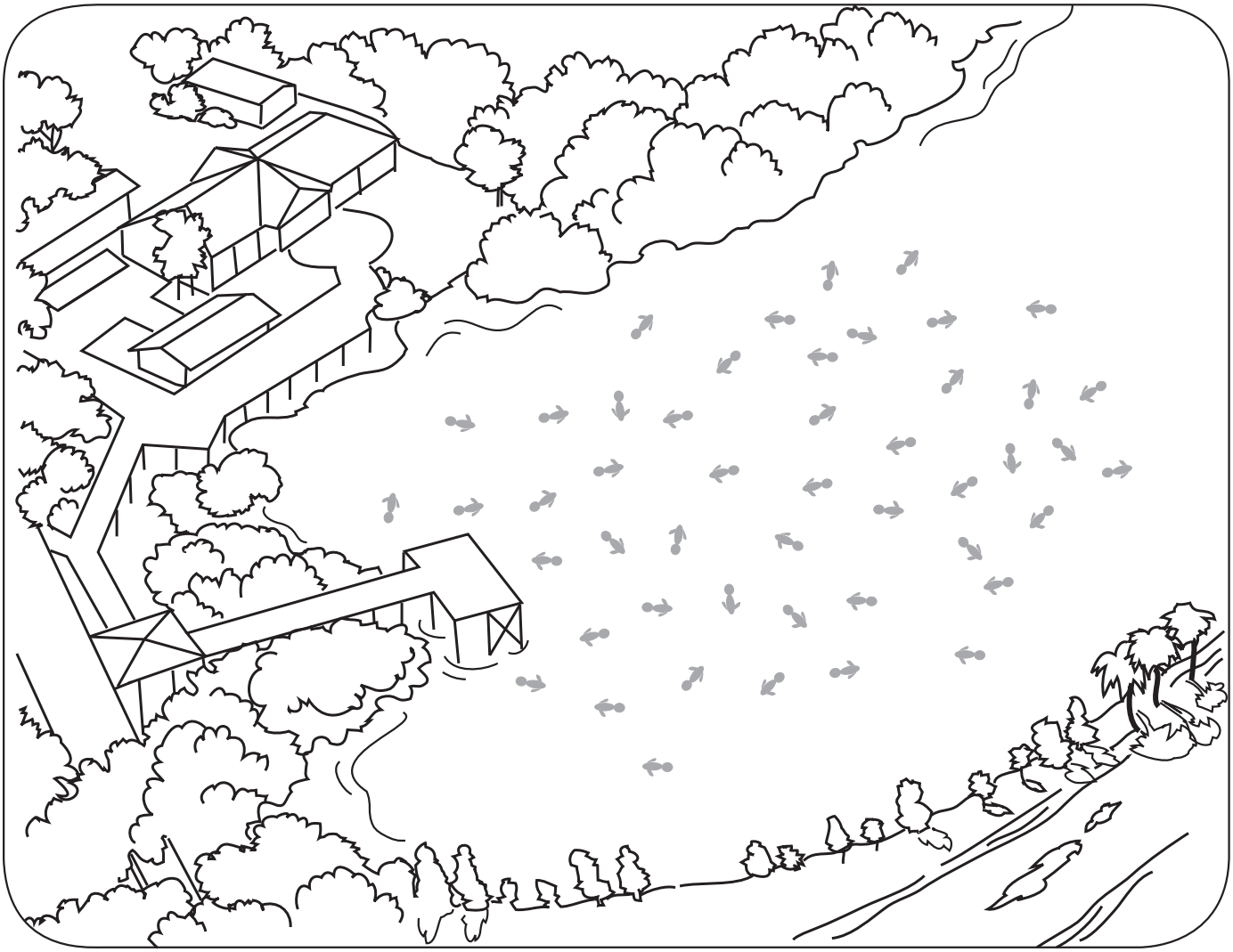
Population status and aerial survey

Activity: Look up the **underlined words** in the text below and write the definition on a separate piece of paper.



The Florida manatee population is estimated to be over 6,600 animals. The exact number of manatees is hard to determine during an aerial survey, because of weather and water conditions as well as manatee behavior. For example, manatees may be difficult to see if they are swimming in turbid water or resting beneath the water surface when scientists try to count them from a low-flying plane.

To help address these challenges, scientists working with the FWC's Fish and Wildlife Research Institute developed survey methods specifically designed for counting a species that inhabits large areas of coastal waters, estuaries and rivers and is only sometimes visible from the air. The survey design includes two observers per plane, repeated flyovers, and a random sampling method. The sampling method refers to how scientists select representative areas to count manatees in order to estimate the overall population size.



Aerial view of a warm water site.

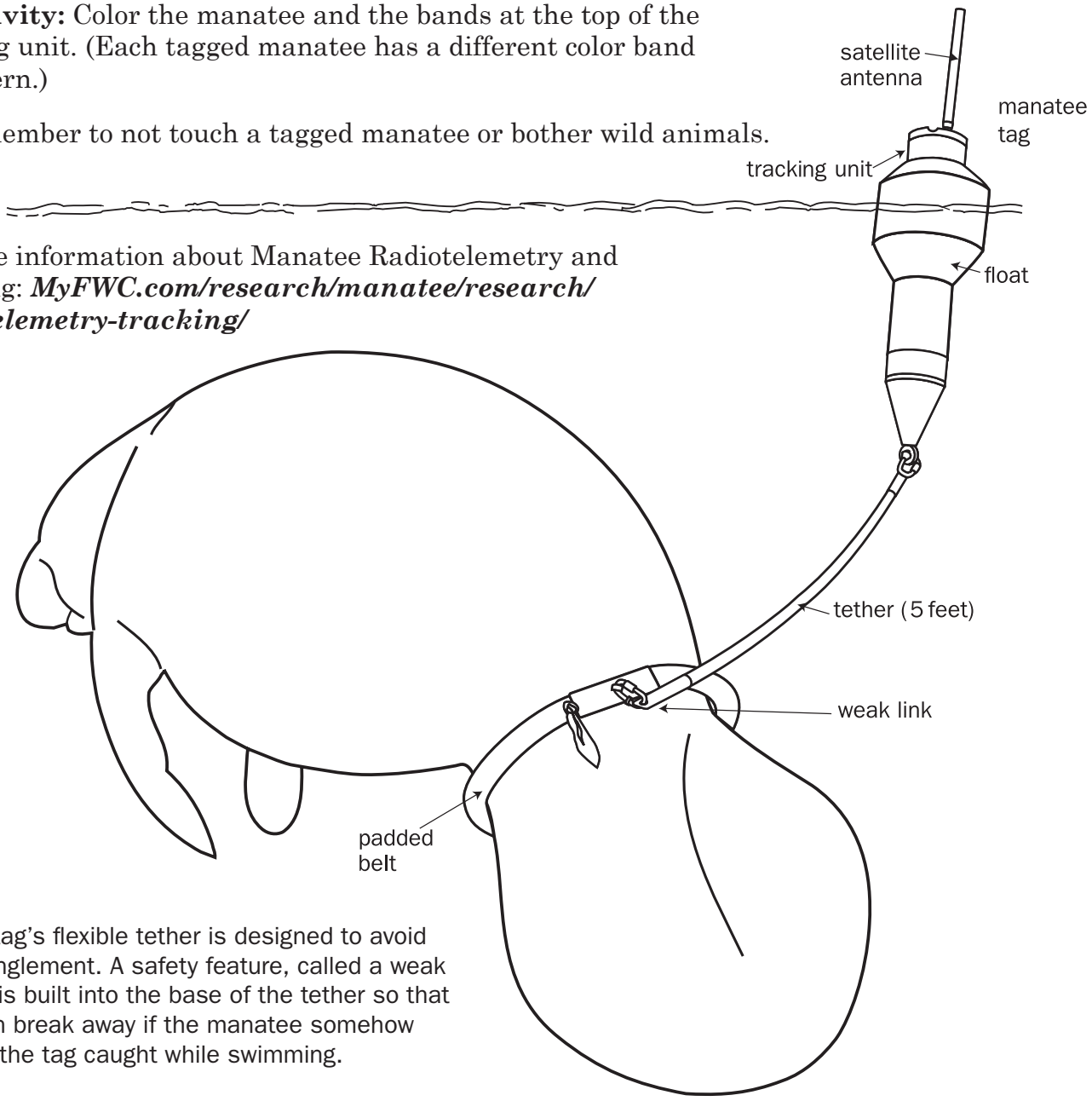
What should you do if you see a tagged manatee?

If you see a manatee with a tag (a floating buoy with an antenna) attached to its tail, please leave the tag and the manatee alone. The device, which is not harmful to the animal, allows researchers to gain valuable information on manatee behavior, travel patterns and habitat use. The manatee tag is a tracking device that contains a satellite-linked GPS unit and VHF transmitter. The GPS unit can be programmed to acquire a location at any time interval and stores that information in its memory. This information is transferred by satellite to a data collection service that researchers can access through the internet, allowing them to monitor individual manatee movements in close to real time! The VHF beacon allows researchers to locate the manatee in the wild for direct observations. When you see a tagged manatee, write down your observations of the animal's behavior along with the tag's condition, color or markings, the manatee's location, and date and time of sighting. Then report your sighting to the Wildlife Alert number, 1-888-404-FWCC.

Activity: Color the manatee and the bands at the top of the tracking unit. (Each tagged manatee has a different color band or pattern.)

Remember to not touch a tagged manatee or bother wild animals.

More information about Manatee Radiotelemetry and Tracking: ***MyFWC.com/research/manatee/research/radiotelemetry-tracking/***



The tag's flexible tether is designed to avoid entanglement. A safety feature, called a weak link, is built into the base of the tether so that it can break away if the manatee somehow gets the tag caught while swimming.

Help manatees stay on the road to recovery

Floridians support the Florida Fish and Wildlife Conservation Commission's manatee conservation, research and educational efforts by purchasing a special license plate for their cars and trucks. The example below is a thank you to them.

If your family has a Save the Manatee license plate, "Thank you for your support!"

To find out more information about the Save the Manatee license plate, visit our Web site at: ***MyFWC.com/manatee***. License plates may be purchased at Florida tax collectors' offices.

Wildlife Alert Hotline

If you see an injured, orphaned, distressed or dead manatee or someone harassing a manatee, please call the FWC Wildlife Alert hotline, 888-404-FWCC (3922). On your cell phone, call *FWC or #FWC or text to *Tip@MyFWC.com*.

Questions like these may be asked when you call the Wildlife Alert number:

- What is the address, buoy number, marina or other site closest to the manatee's location?
- Do you know if the manatee is alive or dead?
- Has the animal come up to breathe?
- Is the manatee a calf or an adult size manatee?
- Is there a public boat ramp near the manatee's location?
- Can you provide a contact number of an adult if staff needs more information from you?
- Can you take a picture of the manatee and its location to share with staff?

Call as soon as you realize that a manatee/calf may need help as it will take a little time for staff to get things organized and get to the location to rescue or recover the animal.

FWC Rescues Manatees

Biologists Help Sick and Injured Manatees

The FWC's Fish and Wildlife Research Institute receives calls from the public who report manatees in distress. Field staff respond to these calls, coordinate rescues and, when necessary, transport manatees to rehabilitation facilities. FWC staff use customized boats and gear to safely capture and transport manatees and other marine mammals including dolphins. Some of the reasons why manatees are rescued include: watercraft-related injuries, entanglements, entrapment in drainage pipes, impacts from red tide, cold stress or an orphaned calf.

Rescue statistics: *MyFWC.com/research/manatee/rescue-mortality-response/rescue/stats/*.

FWC staff use a net to rescue an injured wild manatee.

Check out our manatee decal collection!

Visit our Web pages to see the different decal designs available. Your donation to the Save the Manatee Trust Fund helps with research, recovery, protection plans, habitat protection, sign posting and educational materials for the benefit of Florida's manatees. ***MyFWC.com/Manatee***.

It matters to us which plate you buy

Help preserve the future of Florida's gentle giants by purchasing a manatee license plate. Proceeds directly benefit manatee research and conservation. **Available at Florida tax collectors' offices.**

About this workbook

Manatees, Florida's Gentle Giants activity workbook was originally created by the Northeast Florida Regional Planning Council with input from the Save the Manatee Club and the Florida Department of Natural Resources. Several updates, additions and agency changes have occured over the years. Page layout and updated graphics are by Lizabeth West. Page four graphic is by Mike Hunter. Page seven graphics are by Ann Marie Tavares. Page 19 graphic is by Llyn French. Please credit the Florida Fish and Wildlife Conservation Commission if you use any of the text or graphics from the booklet.

Use Project WILD in your classroom

Project WILD is an interdisciplinary conservation and environmental education program emphasizing wildlife. The program is designed for educators of kindergarten through 12th grade students. Project WILD capitalizes on the natural interest that children and adults have in wildlife by providing hands-on activities that enhance student learning in all subject and skill areas. ***MyFWC.com/education/educators/project-wild/***.

More About Manatees

Manatee research information:
MyFWC.com/research/manatee/

Manatee management information:
MyFWC.com/manatee/

Manatee Links to other organizations:
MyFWC.com/wildlifehabitats/managed/manatee/links/

Manatee photos and videos available in FWC social media posts:
MyFWC.com/news/social/

fyccn! | Florida Youth Conservation Centers Network

fyccn.org

Creating the Next Generation that Cares! ™

Mission: To provide a statewide network of sustainable places where youth and their families can participate in outdoor activities and safely share experiences that inspire lifelong support of fish and wildlife conservation.

Florida Fish and Wildlife Conservation Commission
MyFWC.com

Florida Fish and Wildlife Conservation Commission
Imperiled Species Management Section
620 S. Meridian St., 6A
Tallahasseee, FL 32399-1600
850-922-4330

revised 10/17