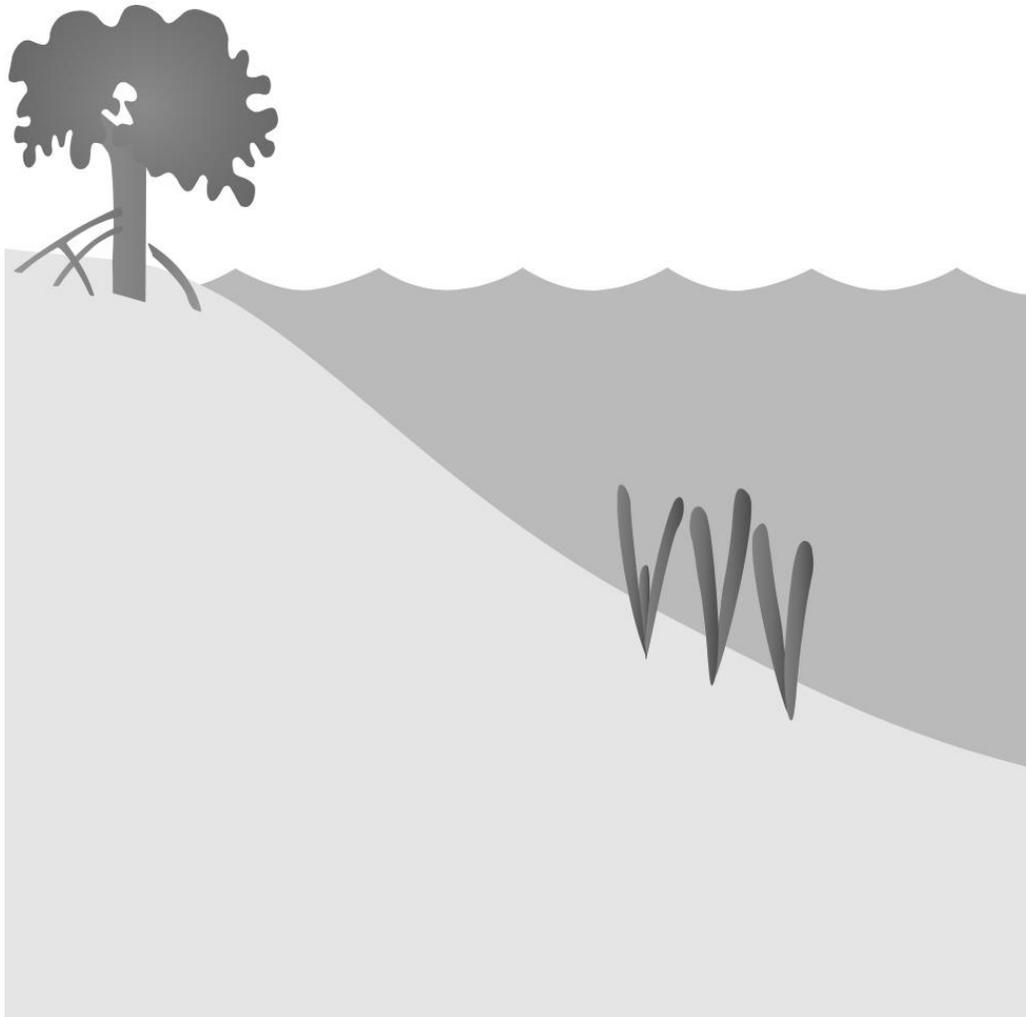


Name: _____

Diving into Seagrass Ecosystems



An educational activity book
by Jamila Roth and Dr. Laura K. Reynolds

Who benefits from seagrass? Everyone!

Ecosystem services are benefits that humans get from an ecosystem.

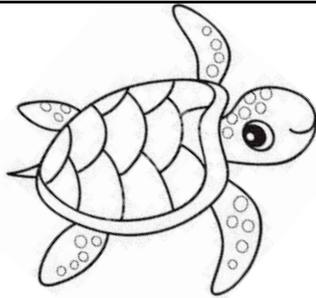
Seagrasses provide many benefits or ecosystem services to humans, animals, and the environment. These ecosystem services include:

Habitat: Seagrasses provide habitat (a place for an animal to live) to many endangered species as well as fish and shellfish that humans like to eat. These animals use the seagrass to hide from predators, and they also eat other creatures in the seagrass. This provides people with income and food security.

Water clarity: Seagrasses reduce the cloudiness of ocean water by trapping soil and taking up nutrients (which reduces the amount of algae), making the water better for people to swim in.

Storm protection: Seagrasses hold the soil in place and reduce wave energy, protecting the coast from extreme weather.

Carbon sequestration: Seagrasses store carbon. While seagrasses cover less than 0.1% of the ocean floor, they are responsible for 11% of the carbon stored in the ocean. Carbon storage reduces the amount of carbon dioxide in the atmosphere and ocean, which is important because carbon dioxide is a driver of climate change and ocean acidification.



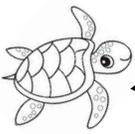
How are humans harming seagrass?

The amount of seagrass worldwide is quickly declining. Here are some of the reasons why:

Boating: Boat propellers and anchors can kill seagrass in shallow water leaving scars with no seagrass that are called 'propeller scars.'

Nutrients: Increases in nutrients from fertilizer and pollution can increase algal growth resulting in an 'algal bloom.' These blooms make the water cloudy and reduce the light available for seagrass photosynthesis. Some algal blooms can even cause health issues for humans and other animals.

Warming temperatures: Increasing temperatures can directly reduce seagrass health and growth when temperatures pass thermal limits. In addition, many tropical herbivores are migrating away from the equator into subtropical and temperate regions, which is a phenomenon called **tropicalization**. Tropicalization is occurring in the Gulf of Mexico, with increases in the numbers of manatees, green turtles, and parrotfish, which all eat seagrass.



Did you know? Seagrasses are flowering plants (also known as **angiosperms**) that live underwater and have stems, leaves, and flowers aboveground as well as roots and rhizomes (underground stems) belowground. **Seaweed** is a type of algae. **Algae** are different from plants because they are much simpler and lack all specialized tissue including roots. Cool, right?!

Match the picture with its description!

1. Turtle grass _____

The most common type of seagrass in the Gulf of Mexico. It has wider leaves than shoal grass.

2. Spotted seatrout _____

This fish has spots on its back. People often eat this fish.

3. Scallop _____

People eat this animal. It has 2 shells and lives in seagrass.

4. Green turtle _____

A type of sea turtle that eats seagrass.

5. Shoal grass _____

A smaller type of seagrass with thinner leaves that grows by the shore.

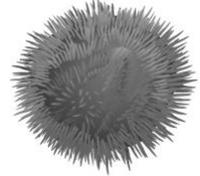
6. Sea urchin _____

A spiky round animal that eats seagrass

7. Ulva _____

A type of algae known as sea lettuce

A.



B.



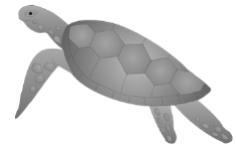
C.



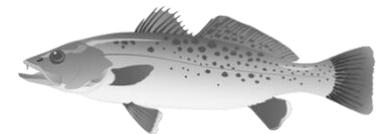
D.



E.



F.



G.



Seagrass Word Search

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

BOAT

BUBBLES

COAST

CONSUMER

ECOSYSTEM

FISH

FOOD WEB

HABITAT

MANATEE

PRODUCER

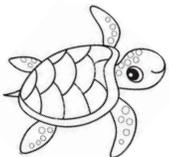
SEAGRASS

SUN

SURF

TURTLE

URCHIN



Fun Fact! Seagrass can create clones of itself.

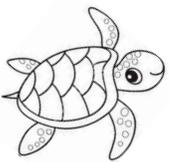


My Pledge

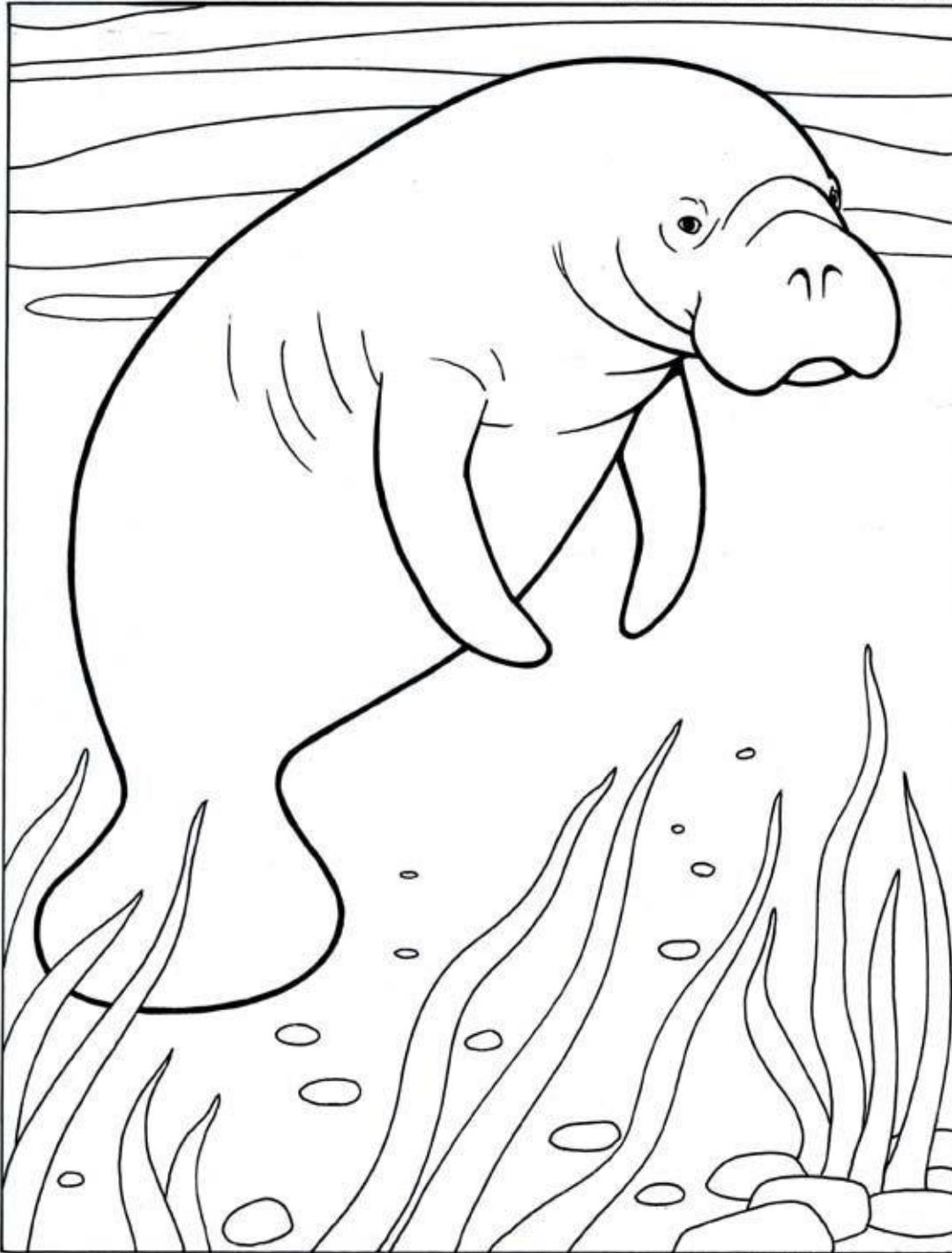


Circle what you will do to help marine ecosystems:

1. Use a reusable water bottle.
2. Tell my friends and family about the importance of seagrass.
3. Watch out for seagrass and sea animals when boating.
4. Be careful when applying fertilizer or herbicides to my lawn.
5. Use less plastic.
6. Recycle!

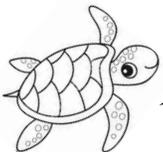


Did you know? Green sea turtles get their name from a layer of green fat under their shell. Their fat is believed to be green due to their diet of seagrass and seaweed. They can be up to 5' long and live for around 80 years.

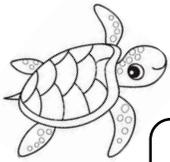


Manatee

© Guy Colwell 2012



Fun fact! Manatees weigh 1,000-3,000 pounds and will often eat over 150 pounds of seagrass every day! Yum!



Look for our exhibit at:

Nature Coast Biological Station (Cedar Key, FL) in the Discovery Center

Contact us:

Jamila Roth (jroth2@ufl.edu) and Dr. Laura K. Reynolds (lkreynolds@ufl.edu)
Coastal and Marine Ecology Lab, University of Florida

To learn more:

Visit: <https://www.floridamuseum.ufl.edu/southflorida/habitats/seagrasses/>
Read: Seagrass Dreams: A Counting Book by Kathleen Hanes
Watch: Blue Planet

Funding provided by: Thompson Earth Systems Institute

Images by:

Catherine Collier, Diana Kleine, and Tracey Saxby, IAN Image Library
(<http://ian.umces.edu/imagelibrary/>)

