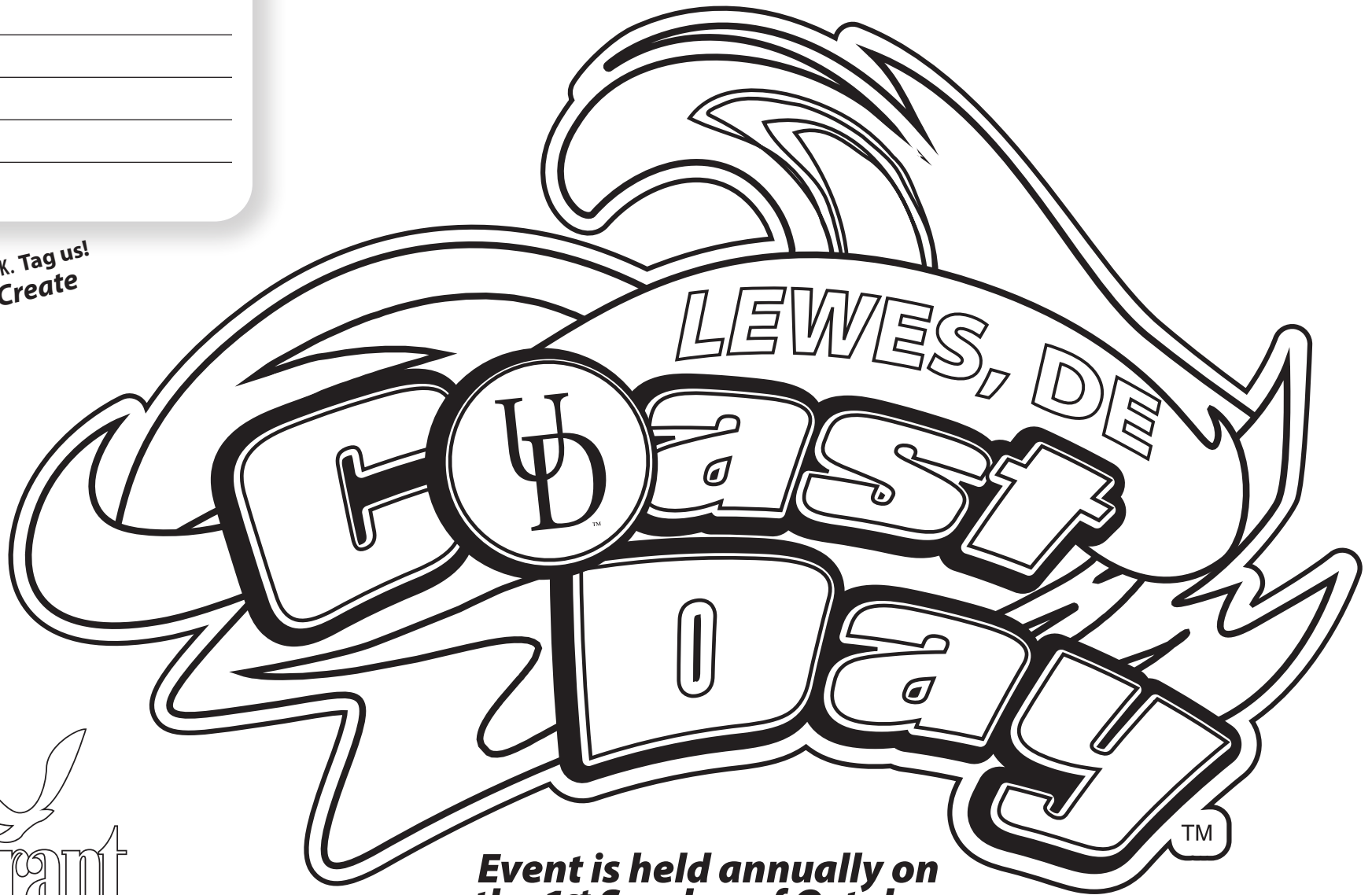


What do you like best about the coast or this year's event?

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**Event is held annually on
the 1st Sunday of October**

www.DECOASTDAY.org



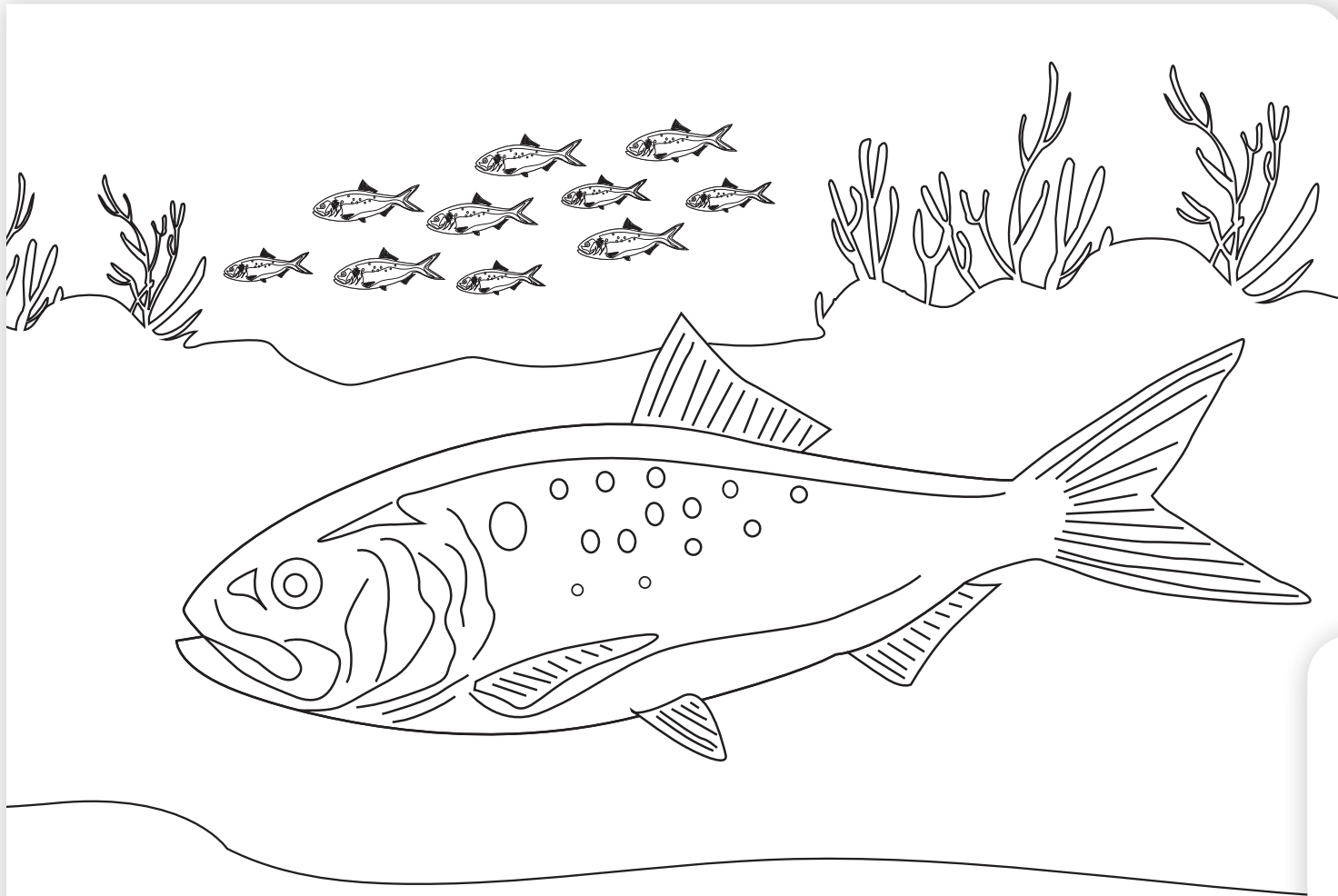
Atlantic Menhaden

SCIENTIFIC NAME:
Brevoortia tyrannus

Life Span: 10 to 12 years

Size: 14 to 18 inches in length. Fully grown, they weigh about a pound.

Range: Coastal and estuarine waters from Nova Scotia to northern Florida



Fun Facts:

The **Atlantic Menhaden** play many important roles. They are filter feeders, primarily consuming phytoplankton and zooplankton in the water column. Menhaden support an important commercial fishery. They constitute the largest landings, by volume, along the Atlantic Coast of the United States. **Menhaden** are harvested for use as fertilizers, animal feed, and bait for fisheries including blue crab and lobster. They are a major source of omega-3 fatty acids, so they are also used to develop human and animal supplements. In estuaries like the Chesapeake Bay, they are food for striped bass and other fish, as well as for predatory birds, including osprey and eagles.

Where is your favorite fishing spot?

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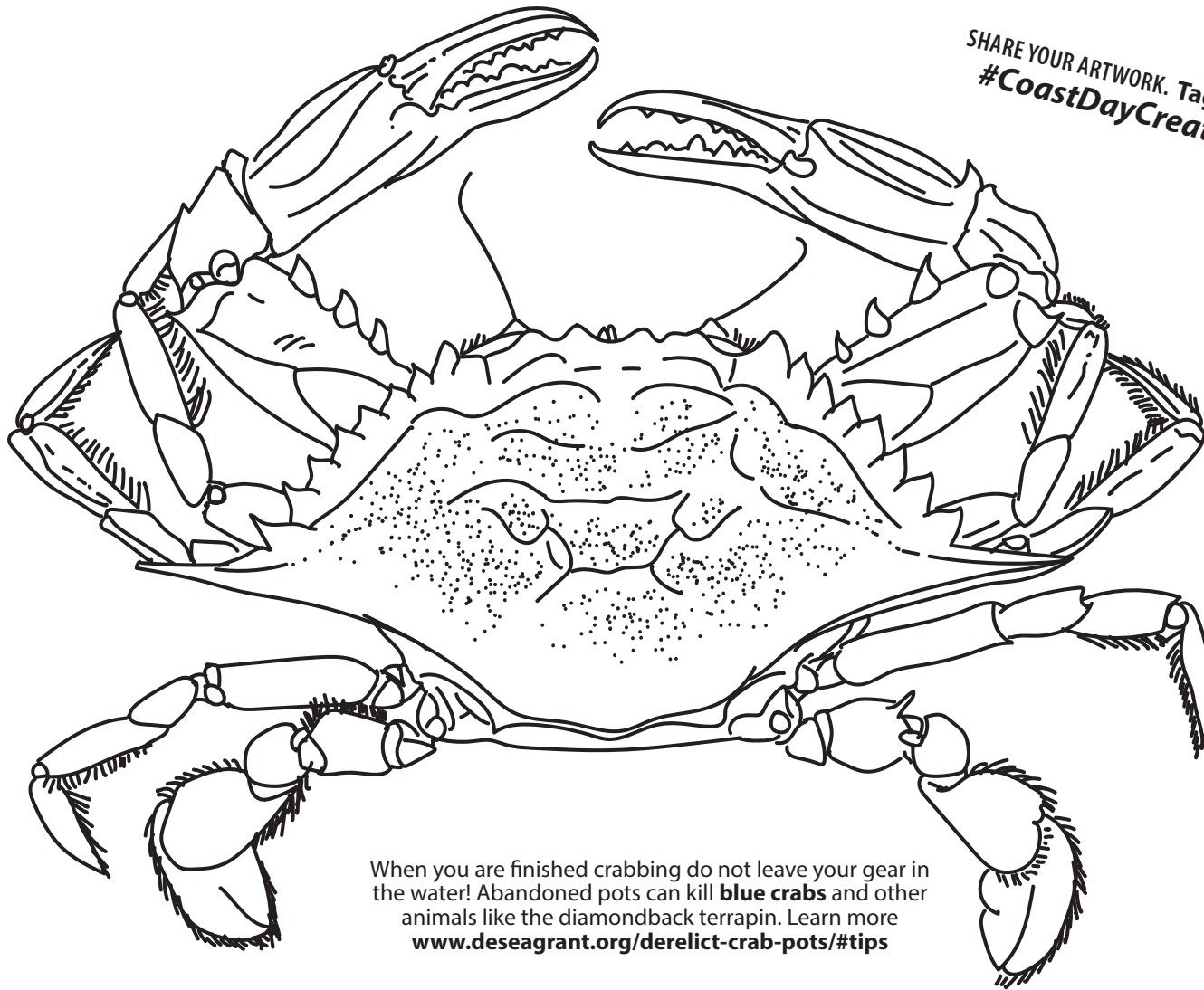
Blue Crab

SCIENTIFIC NAME:
Callinectes sapidus

Life Span: 3 to 4 years

Size: Up to 9 inches across the carapace (shell). Approximately $\frac{1}{3}$ pound (at maturity)

Range: New England/Mid-Atlantic, Southeast



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When you are finished crabbing do not leave your gear in the water! Abandoned pots can kill **blue crabs** and other animals like the diamondback terrapin. Learn more www.deseagrant.org/derelict-crab-pots/#tips

Fun Facts:

The **Blue Crab** uses its claws to catch and eat a variety of food, from sea lettuce to clams. While the tips of the male's claws are greenish blue, the female's claw tips are red—some people say she "paints her nails." Female blue crabs may produce up to 9 million eggs each year! When they hatch, the baby crabs look like tiny dots, and they move along at the mercy of ocean currents. When they have grown to about the size of a match tip, the larval crabs use flood tides to move from the ocean into bays and marshes to live. **Blue crabs** support one of the most valuable fisheries along the U.S. Atlantic coast. Crabbers typically use fresh, oily bait such as bluefish in their crab pots to catch blue crabs. Steamed **blue crabs** are a favorite summertime treat for many coastal residents.

What is the minimum size limit for keeping your catch?

Answer: Follow all state laws and regulations when fishing, visit <http://www.dnrec.delaware.gov/fw/fisheries>. The minimum size for adult hard crab - 5" from tip to tip on the dorsal shell and for soft crab or peeler 3 1/2" crab

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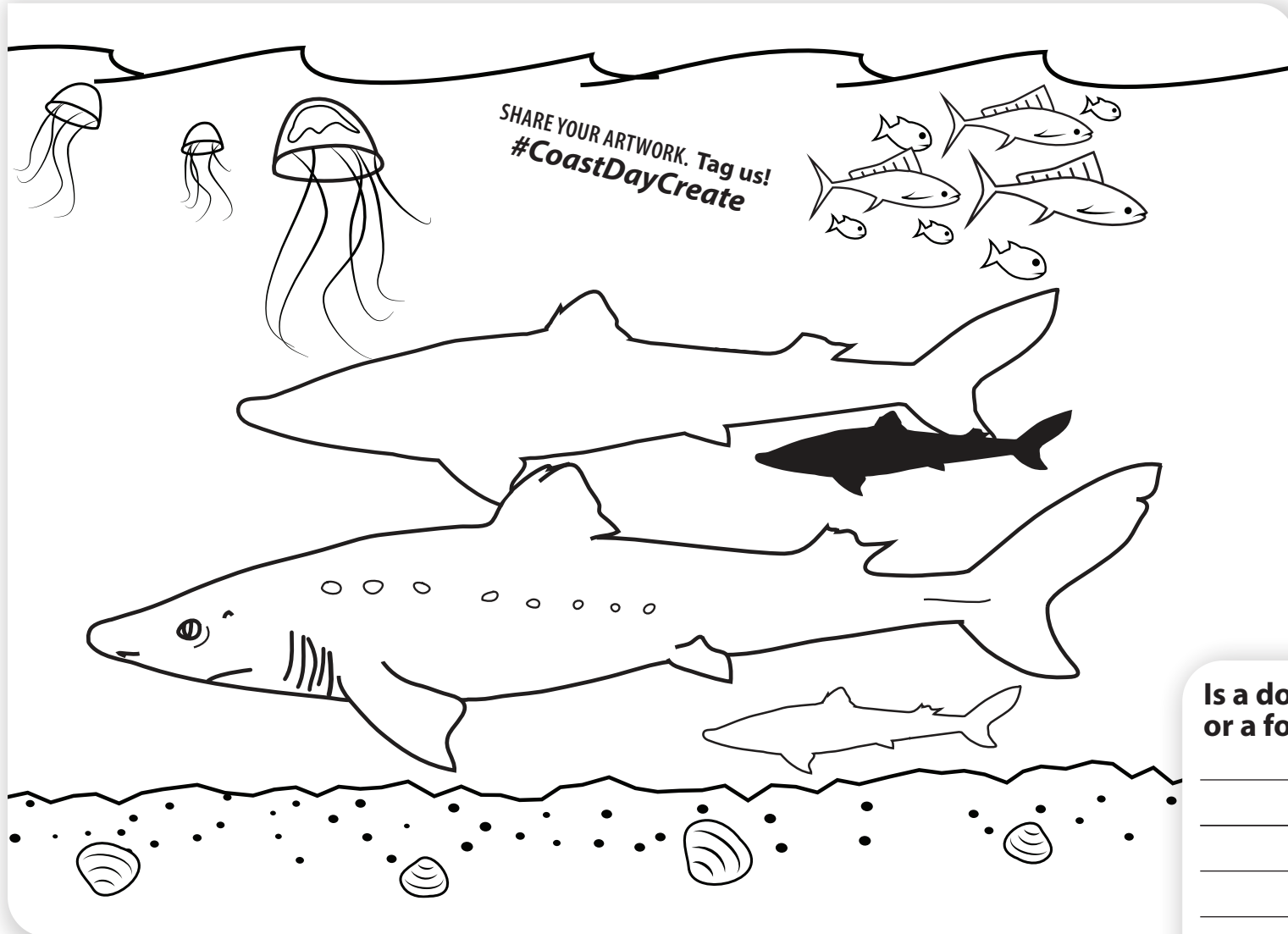
Atlantic Spiny Dogfish Shark

SCIENTIFIC NAME:
Squalus acanthias

Life Span: 25 to 100 years

Size: Males grow up to 3.3 feet, and females grow up to 4 feet

Range: North Atlantic and North Pacific Oceans



Fun Facts:

The **Atlantic Spiny Dogfish Shark** is thought to be the most well-researched shark species in the world. They are considered one of the most abundant living shark species in the ocean, but are harmless to humans. **Dogfish sharks** can be found anywhere from the surface to more than 3,000 feet (914 m) deep. **Dogfish** were named after their tendency to hunt in dog-like packs. Female spiny dogfish are pregnant for 18 to 24 months, giving them one of the longest gestation periods of any vertebrate. **Spiny dogfish** have sharp, venomous spines in front of both dorsal fins. **Dogfish** don't actually have any bones! Their skeleton is made from cartilage which is the same substance you have in your nose!

Is a dogfish shark your friend or a foe? And why?

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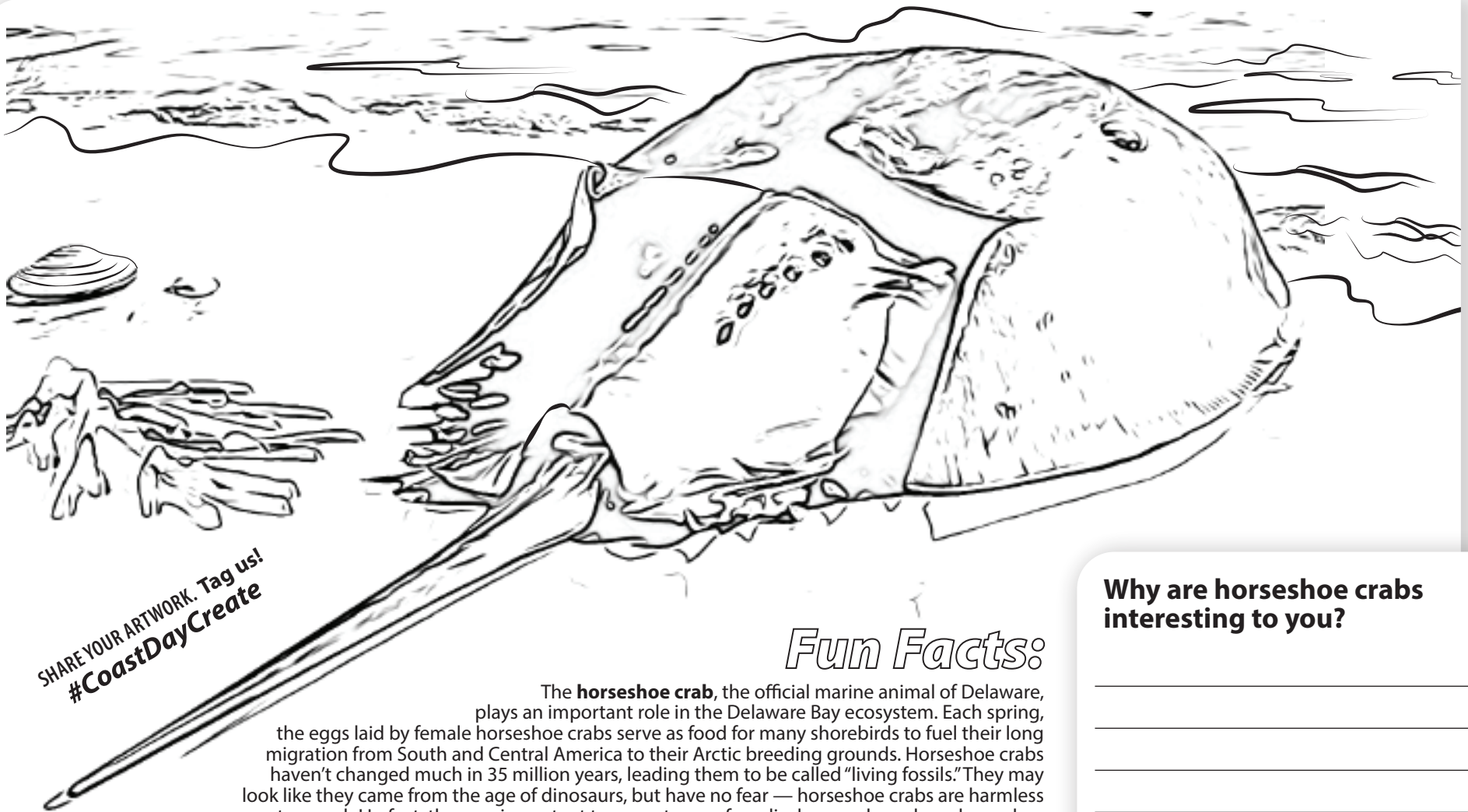
Horseshoe Crab

SCIENTIFIC NAME:

Limulus polyphemus

Size: Females up to 20 inches (51 centimeters), males up to 16 inches (41 centimeters) long (including tail).

Range: Atlantic coast from southern Maine to Mexico's Yucatan Peninsula.



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Fun Facts:

The **horseshoe crab**, the official marine animal of Delaware, plays an important role in the Delaware Bay ecosystem. Each spring, the eggs laid by female horseshoe crabs serve as food for many shorebirds to fuel their long migration from South and Central America to their Arctic breeding grounds. Horseshoe crabs haven't changed much in 35 million years, leading them to be called "living fossils." They may look like they came from the age of dinosaurs, but have no fear — horseshoe crabs are harmless to people! In fact, they are important to many types of medical research, and we depend on their unique blue, copper-based blood for important tests that ensure our medications are safe.

Why are horseshoe crabs interesting to you?

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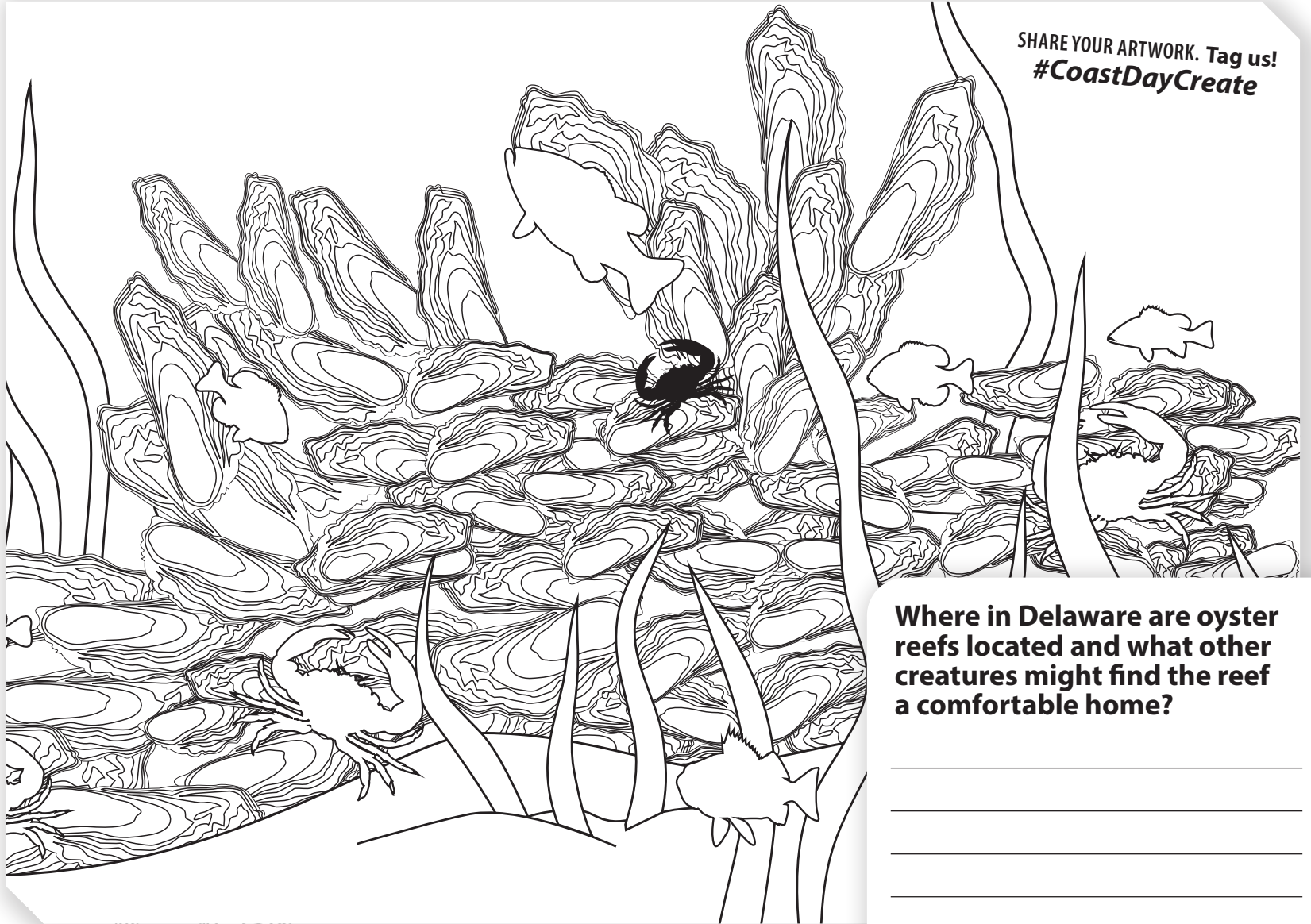


Oyster Reef Habitat

Oysters live in salty or brackish waters on all U.S. coasts, clustering on older shells, rocks, piers, or any hard, submerged surface. They fuse together as they grow, forming rock-like reefs that provide habitat and shelter for other marine animals and plants.

Fun Facts:

Oysters are a crucial component of global ocean health, providing food, jobs and habitat. Oyster reefs can serve as barriers to storms and tides, preventing erosion and protecting productive estuary waters. Oysters feed by filtering algae from the water, functioning as a natural filter and improve water that is overloaded with nutrients. A single oyster filters up to 50 gallons of water per day. The clean water can support underwater grasses, which—like the oyster reef—create a stable bay bottom and a safe, nurturing habitat for juvenile crabs, scallops and fish.



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Where in Delaware are oyster reefs located and what other creatures might find the reef a comfortable home?

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Red Knot

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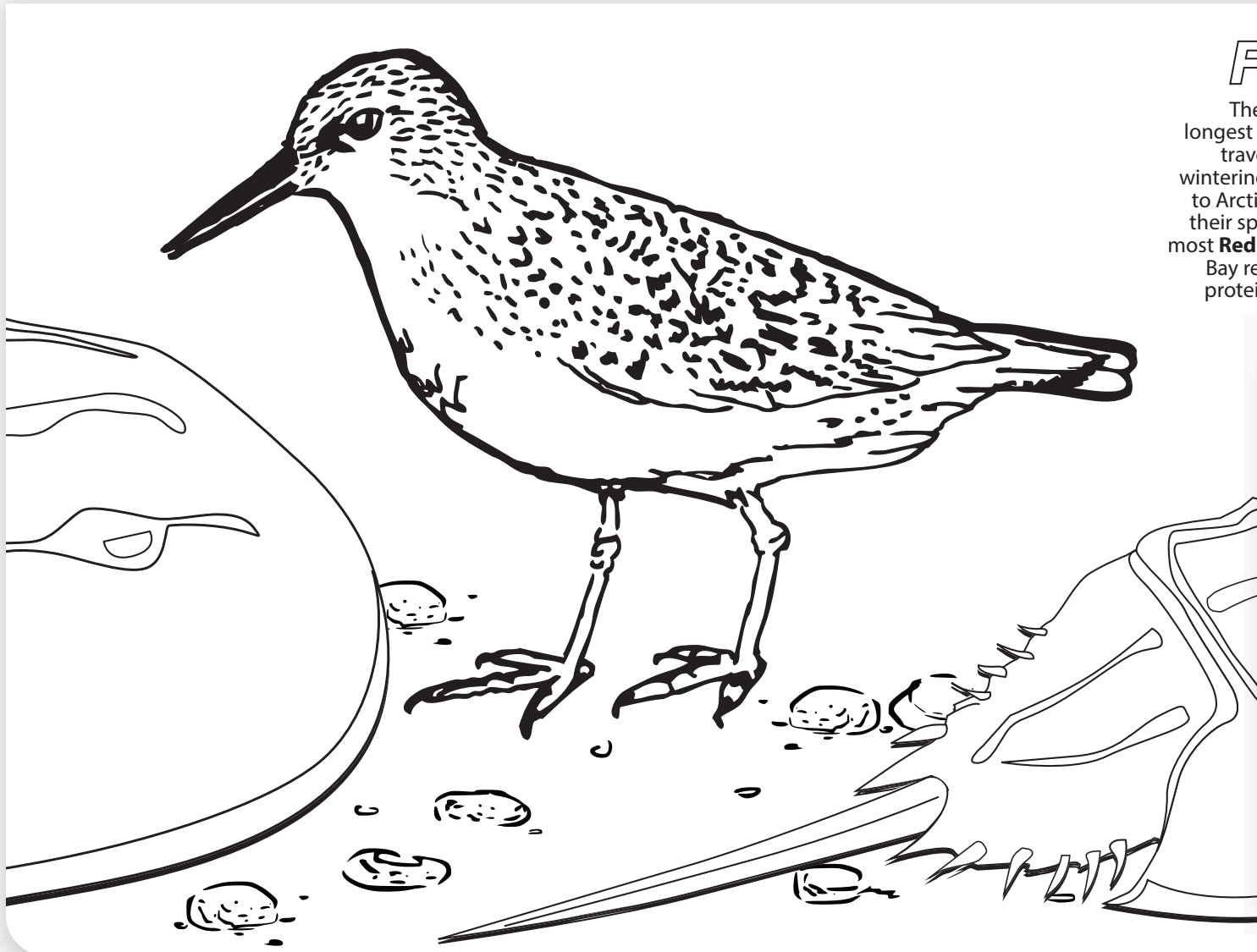
SCIENTIFIC NAME:

Calidris canutus

Size: Up to 10 inches (25 centimeters) long

Wingspan: 20-22 inches (56 centimeters)

Range: Breeds in extreme northern North America; Winters in Southeastern United States, Mexico and extreme southern South America



Fun Facts:

The **Red Knot** make one of the longest annual migrations on Earth, traveling up to 9,300 miles from wintering grounds in South America to Arctic breeding grounds. During their spring migration to the Arctic, most **Red Knots** stop in the Delaware Bay region to feed on freshly-laid, protein-rich horseshoe crab eggs.

Where is the furthest you have gone on vacation and what did you eat?



R/V Joanne Daiber

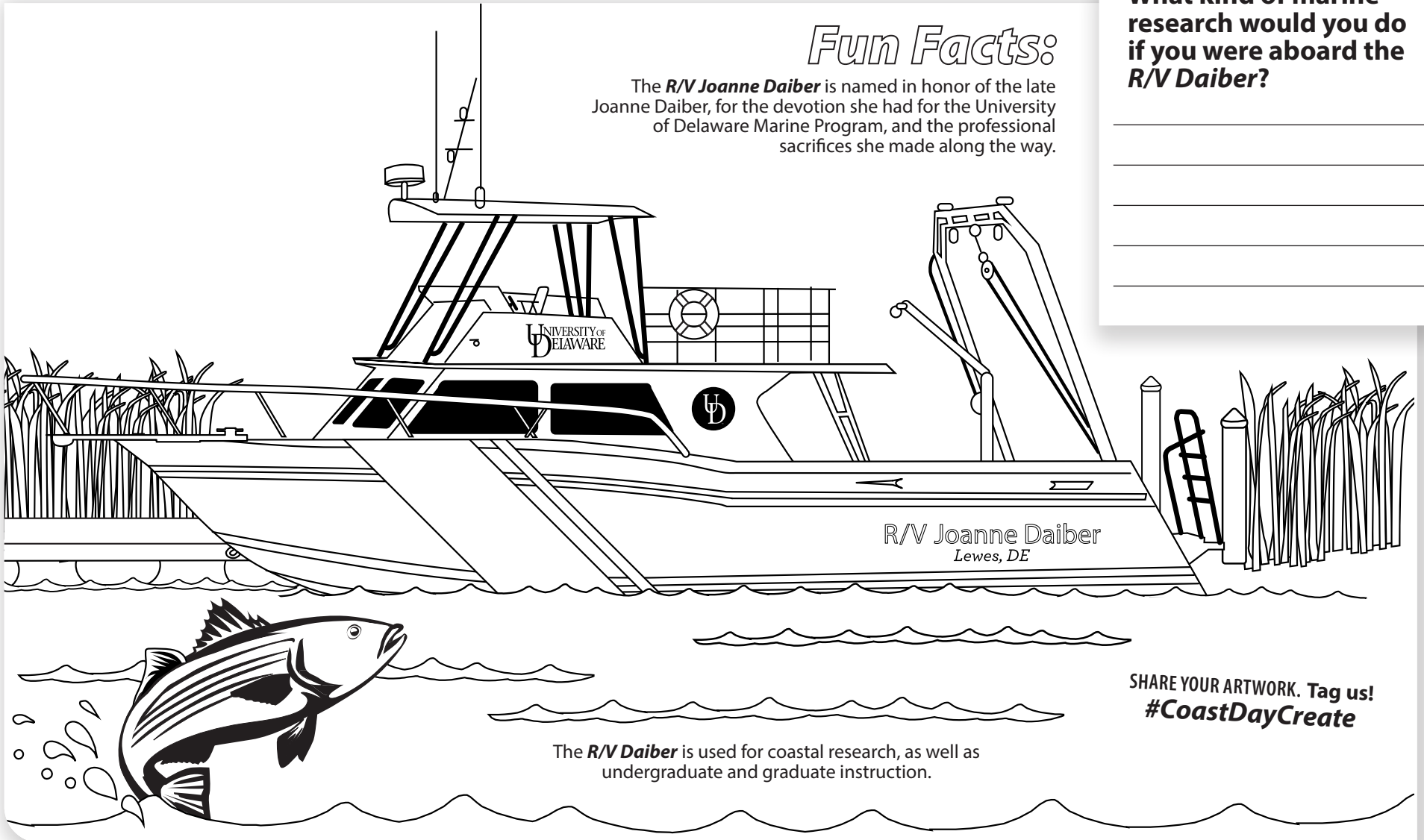
LOCATION:
*UD Hugh R. Sharp Campus
Lewes, Delaware*

Measures: 46 feet long and drafts only 36 inches below the surface of water, allowing researchers to take the vessel deep into the rivers and estuaries of Delaware and the Mid-Atlantic.

Fun Facts:

The *R/V Joanne Daiber* is named in honor of the late Joanne Daiber, for the devotion she had for the University of Delaware Marine Program, and the professional sacrifices she made along the way.

What kind of marine research would you do if you were aboard the *R/V Daiber*?



The *R/V Daiber* is used for coastal research, as well as undergraduate and graduate instruction.

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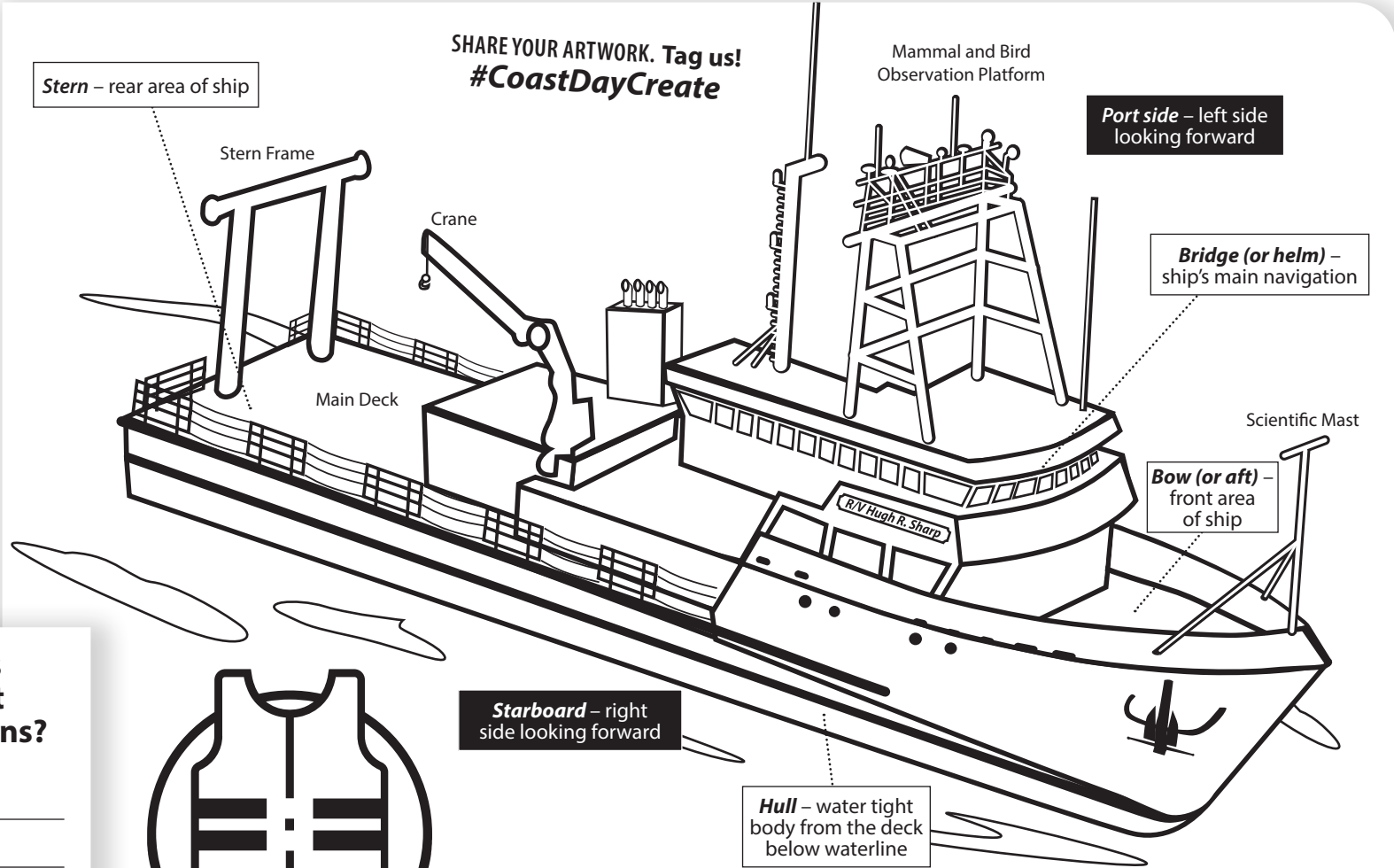
R/V Hugh R. Sharp

LOCATION:
UD Hugh R. Sharp Campus
Lewes, Delaware

Measures: 146 feet long and drafts only 9½ feet below the surface of water. **R/V Sharp** is highly maneuverable, allowing it to work in shallow or confined waters. Principal areas of operation are U.S. East Coast waters up to 200 nautical miles offshore.

Fun Facts:

The **R/V Hugh R. Sharp** serves marine scientists from many institutions throughout the Mid-Atlantic in their efforts to explore and sample the coastal ocean. The ship's unique capabilities include a computer driven dynamic positioning system, advanced sonar for mapping and modular lab vans for supporting a wide range of marine disciplines including chemical, geological, physical and biological sciences, as well as acoustics, fisheries, and marine mammal research. The **R/V Sharp** is operated by a crew of 8 and accommodates a scientific party of 14 for up to 21 days at sea.



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Why do you think it is important to you that we study Earth's oceans?



Personal Flotation Device (PFD)—is a personal buoyancy aid designed to provide an individual with additional floating ability while in the water. For your safety be sure to always wear a PDF anytime you are aboard a watercraft.

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UD's Wind Turbine

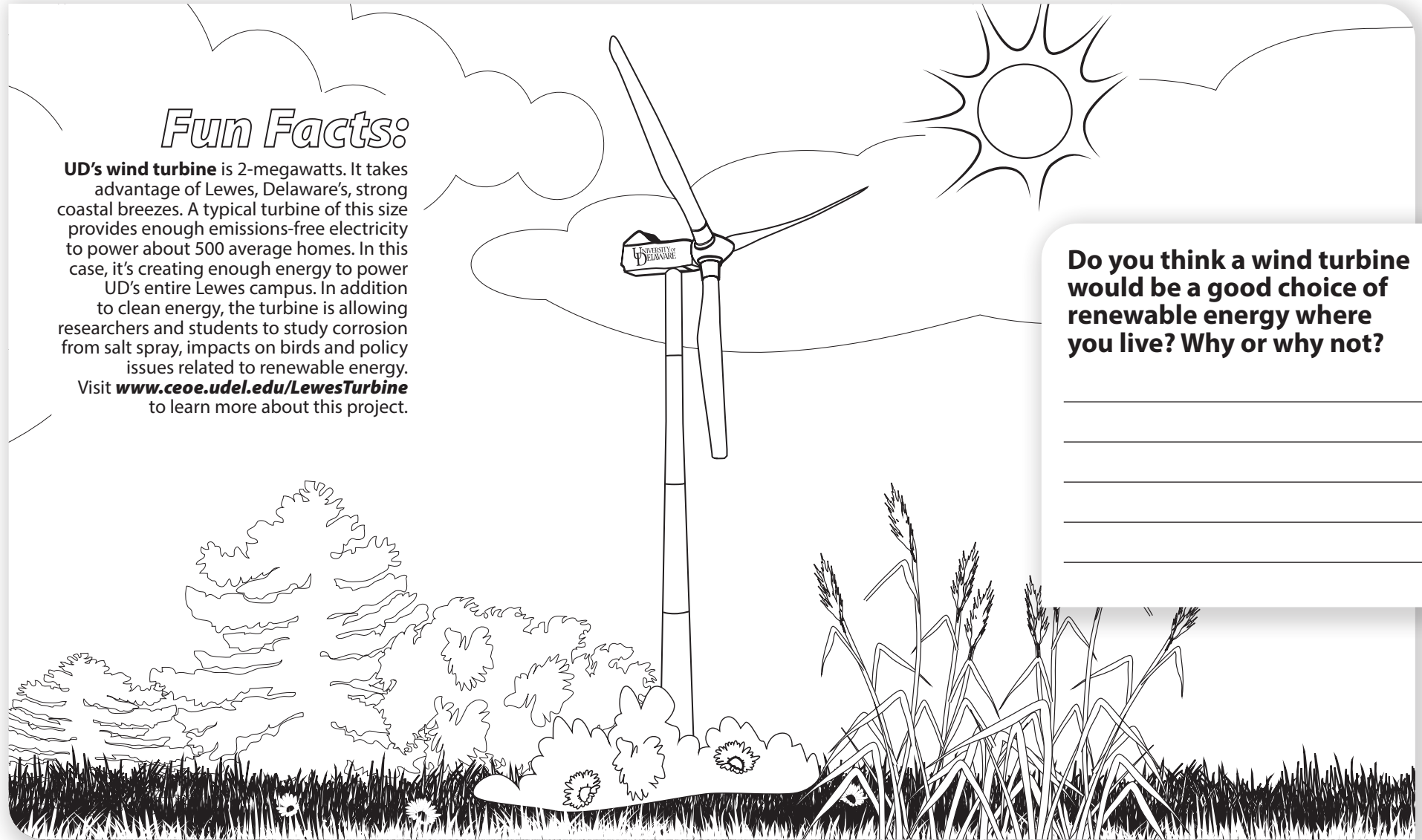
LOCATION:
University of Delaware
Hugh R. Sharp Campus

Tower Height: 256 feet (78 meters)
Blade Length: 144 feet (44 meters)
Weight: 310 tons

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Fun Facts:

UD's wind turbine is 2-megawatts. It takes advantage of Lewes, Delaware's, strong coastal breezes. A typical turbine of this size provides enough emissions-free electricity to power about 500 average homes. In this case, it's creating enough energy to power UD's entire Lewes campus. In addition to clean energy, the turbine is allowing researchers and students to study corrosion from salt spray, impacts on birds and policy issues related to renewable energy. Visit www.ceoe.udel.edu/LewesTurbine to learn more about this project.



Do you think a wind turbine would be a good choice of renewable energy where you live? Why or why not?

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Zooplankton

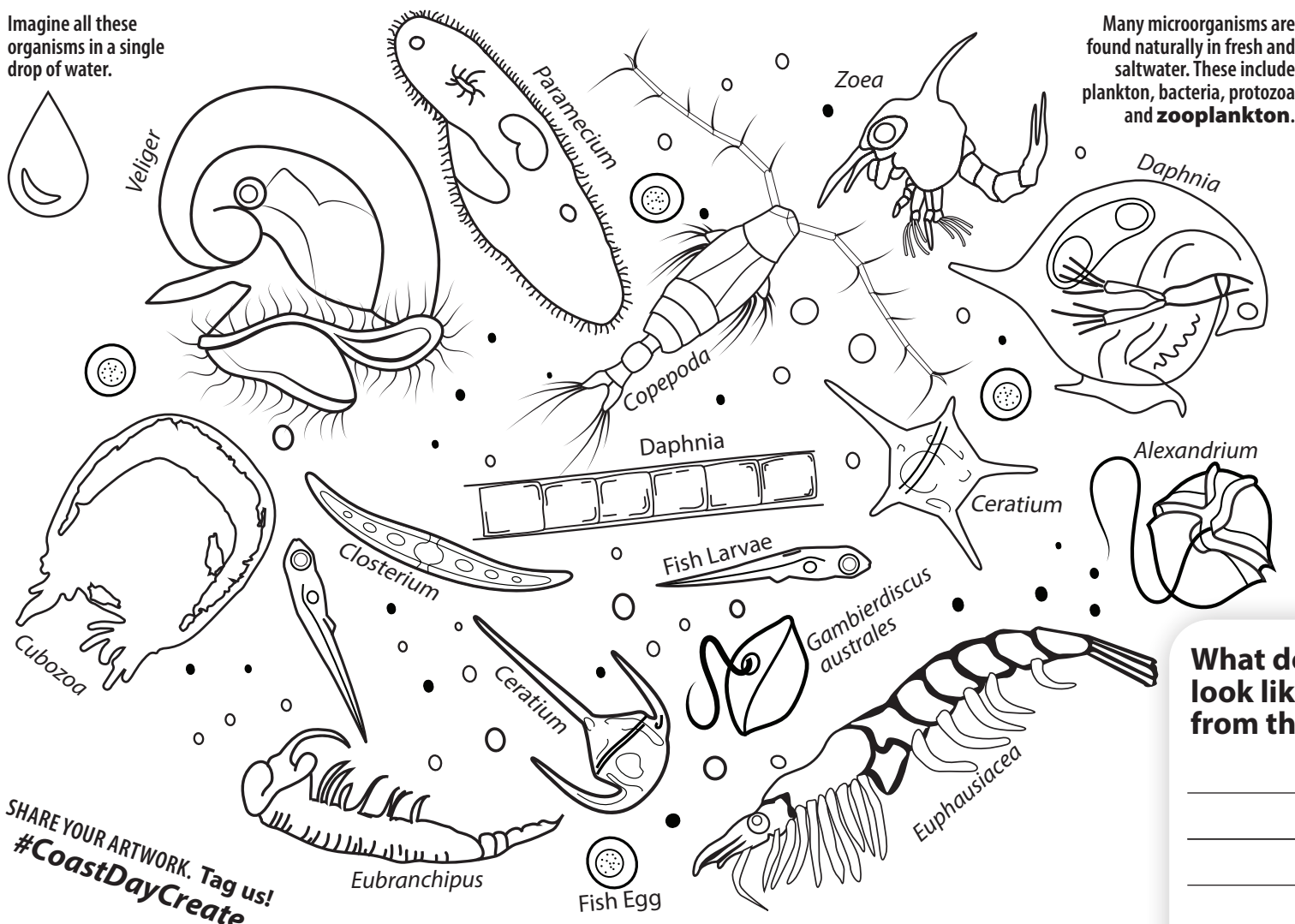
The word **zooplankton** is derived from the Greek zoon, meaning “animal,” and planktos, meaning “wanderer” or “drifter.”

Species: More than 10,000 described in this class

Size: Generally longer than 153 μm, up to about 5,000 μm (5 mm) or about 0.2 inches.

Range: Live in almost all water bodies, including oceans, lakes swamps and ponds, although they mostly cannot survive in rivers and streams.

Imagine all these organisms in a single drop of water.



Many microorganisms are found naturally in fresh and saltwater. These include plankton, bacteria, protozoa and **zooplankton**.

Fun Facts:

Zooplankton include microscopic animals (krill, sea snails, pelagic worms, etc.), the young of larger invertebrates and fish, and weak swimmers like jellyfish that just drift along with the tides and currents. Most **zooplankton** eat phytoplankton, and most are, in turn, eaten by larger animals (or by each other). So you could say they one step above phytoplankton in the food chain. The diverse collection of organisms can be important in the food chain that forms the basis of life in the water.

What do you think zooplankton look like and can you ID them from this sample?

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Answer: Veliger, Copepoda, Zoa, Daphnia, Paramecium, Alexandrium, Ceratium, Fish Larvae, Fish Egg, Eubbranchipus and Euphausiacea

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