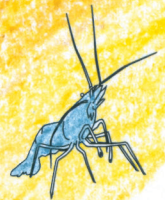
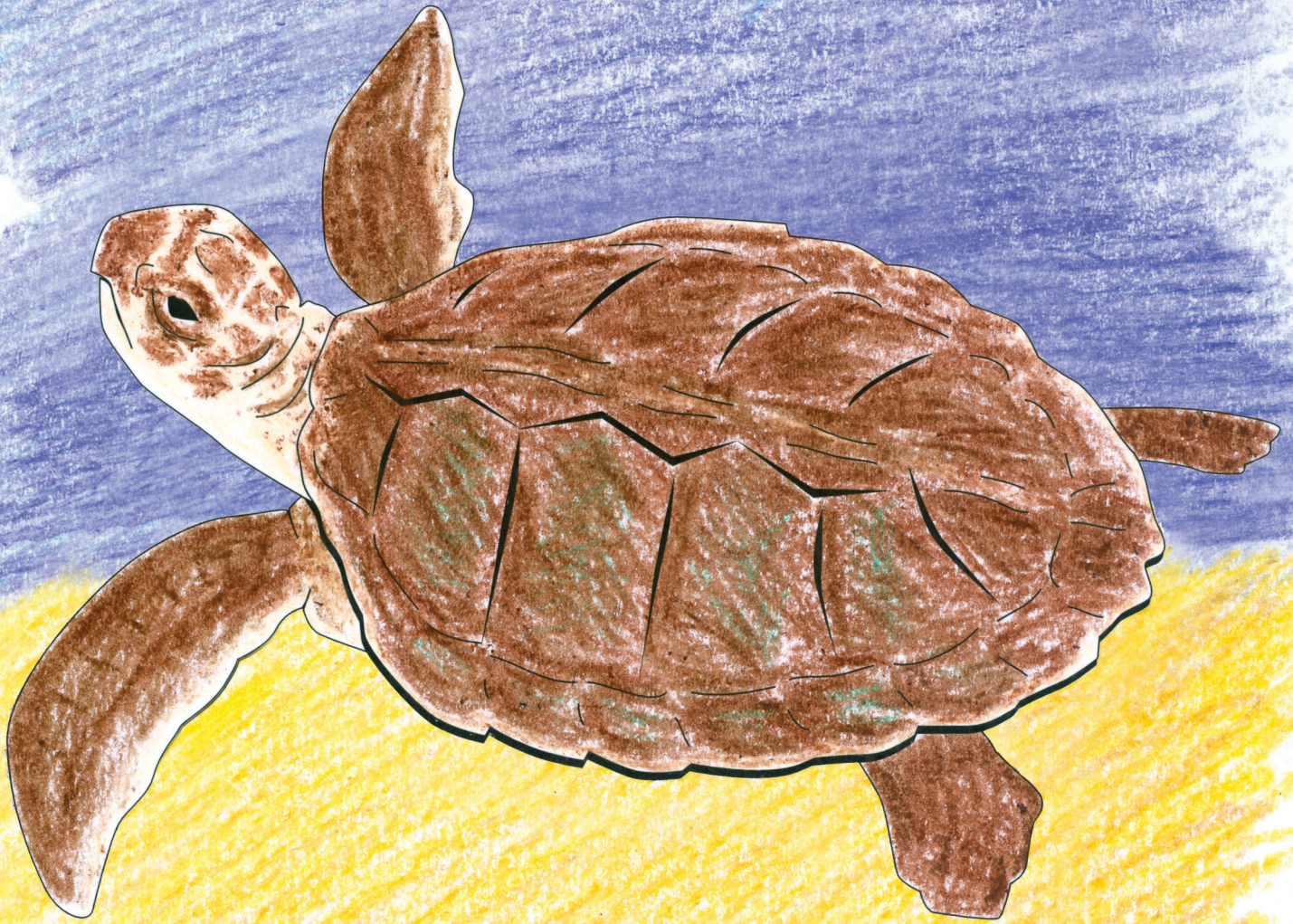
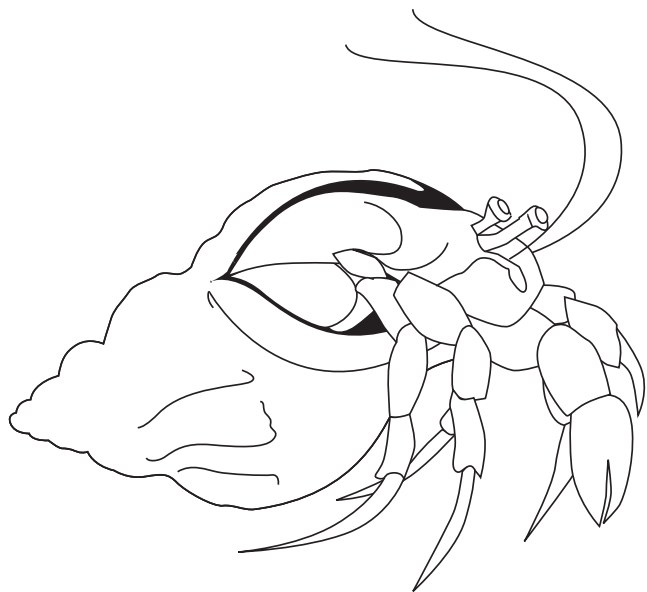
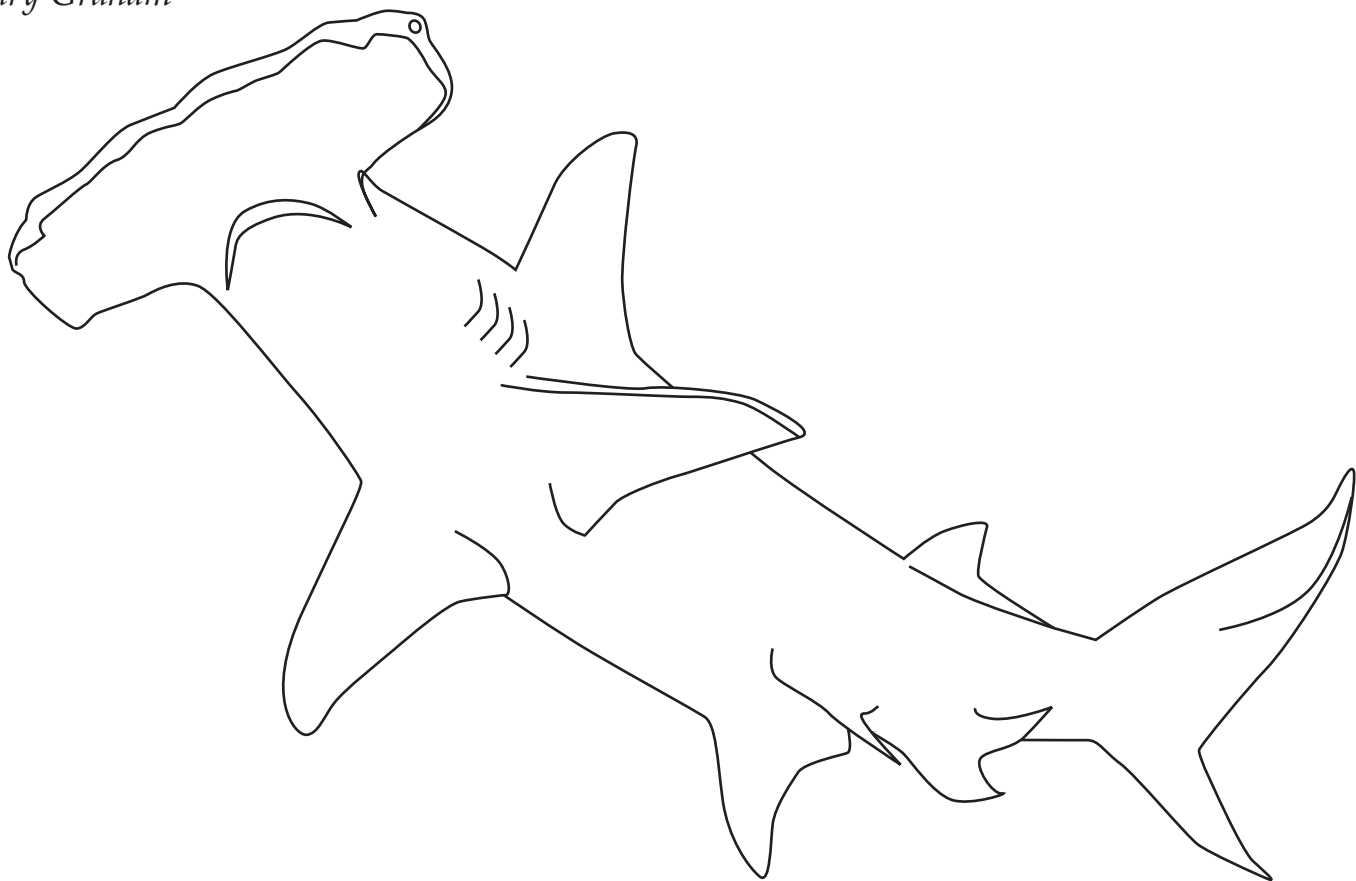


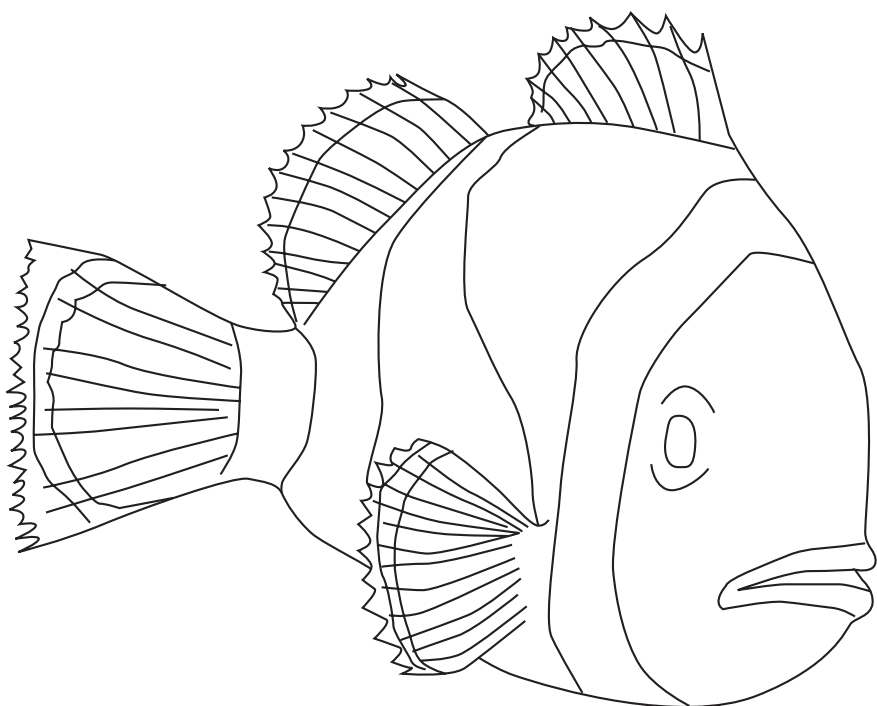
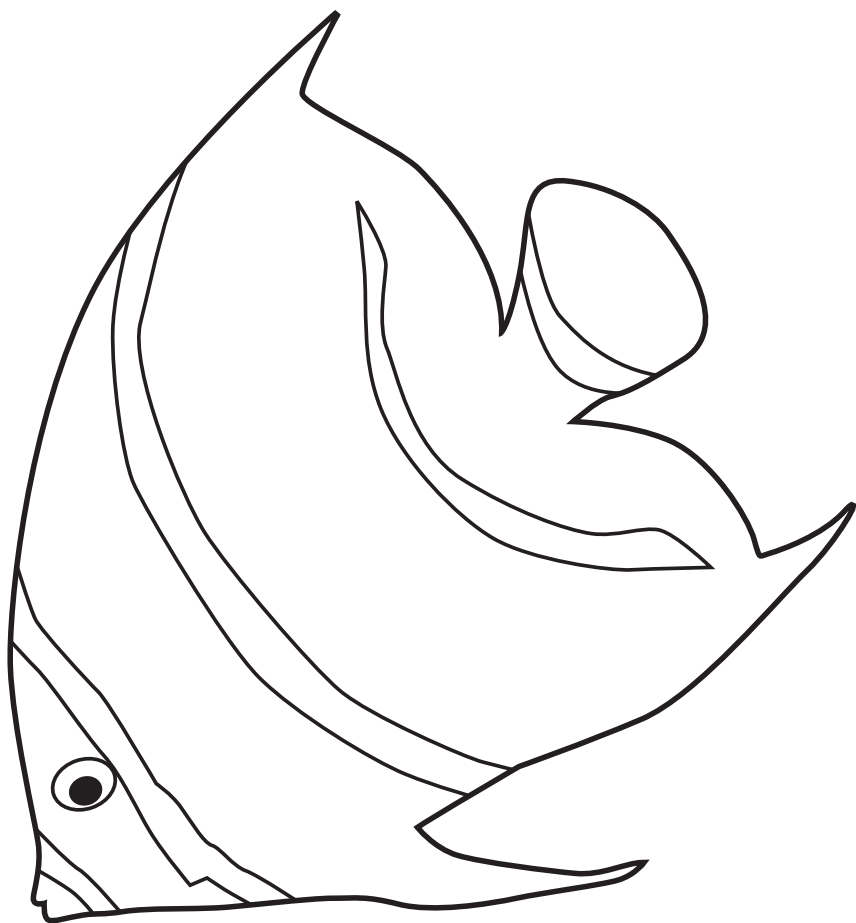
Barney and the TED

*Written by Robert R. Stickney
with Marolan Tilcock
Illustrated by Tanya Baker*

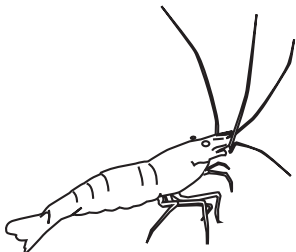
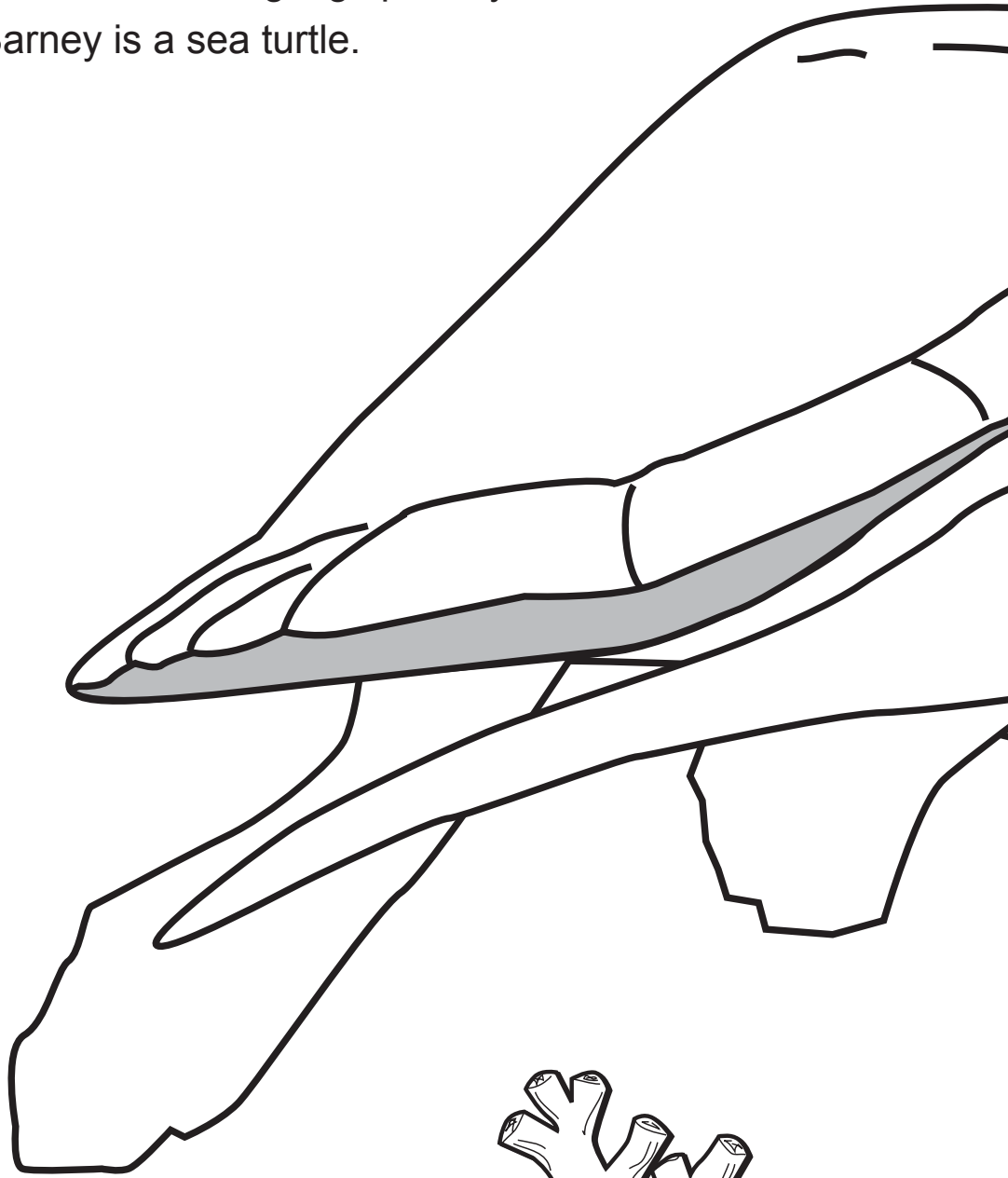
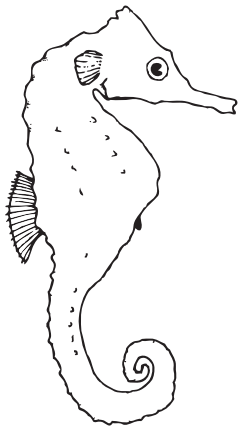


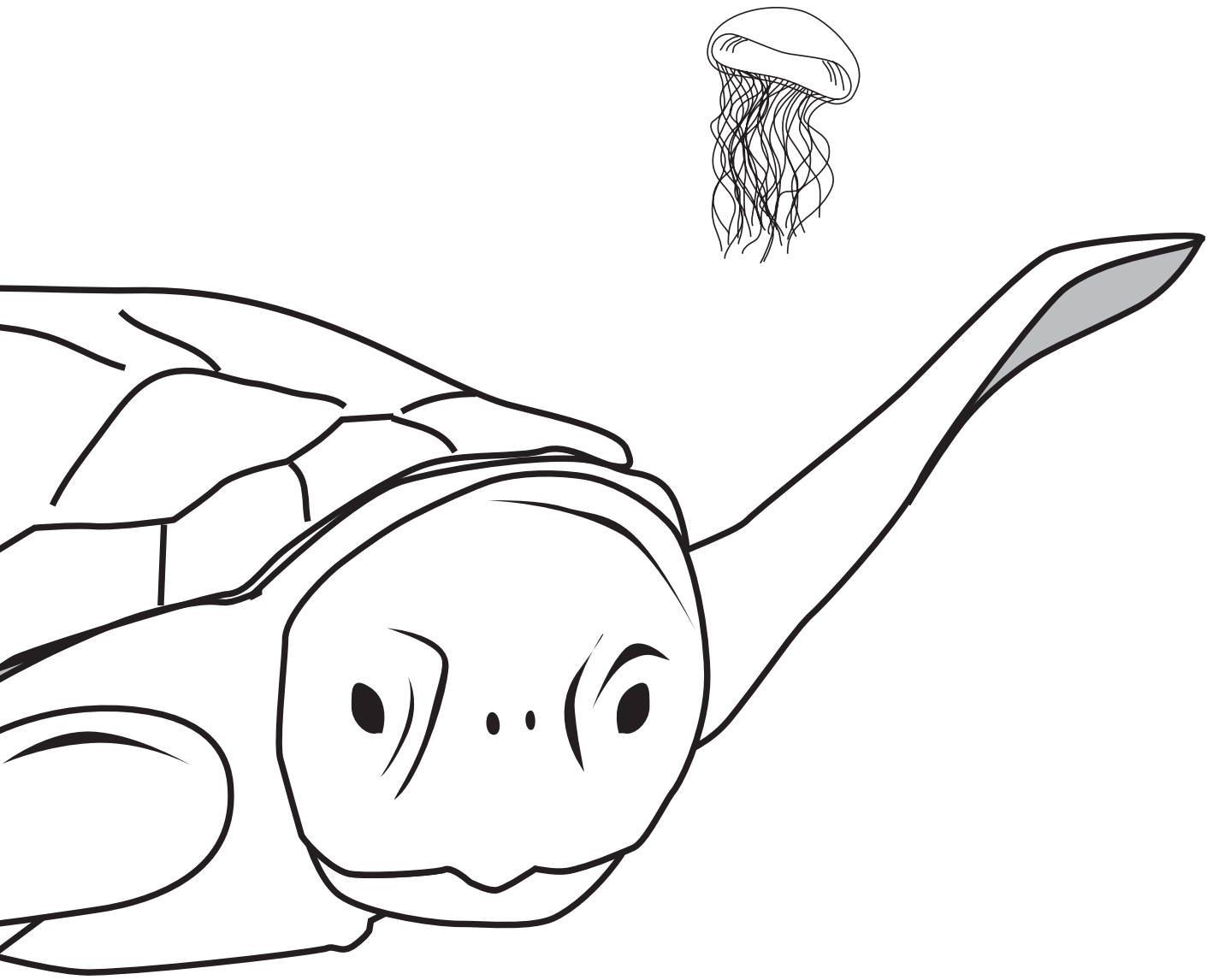
*Special thanks to our
technical advisor
Gary Graham*





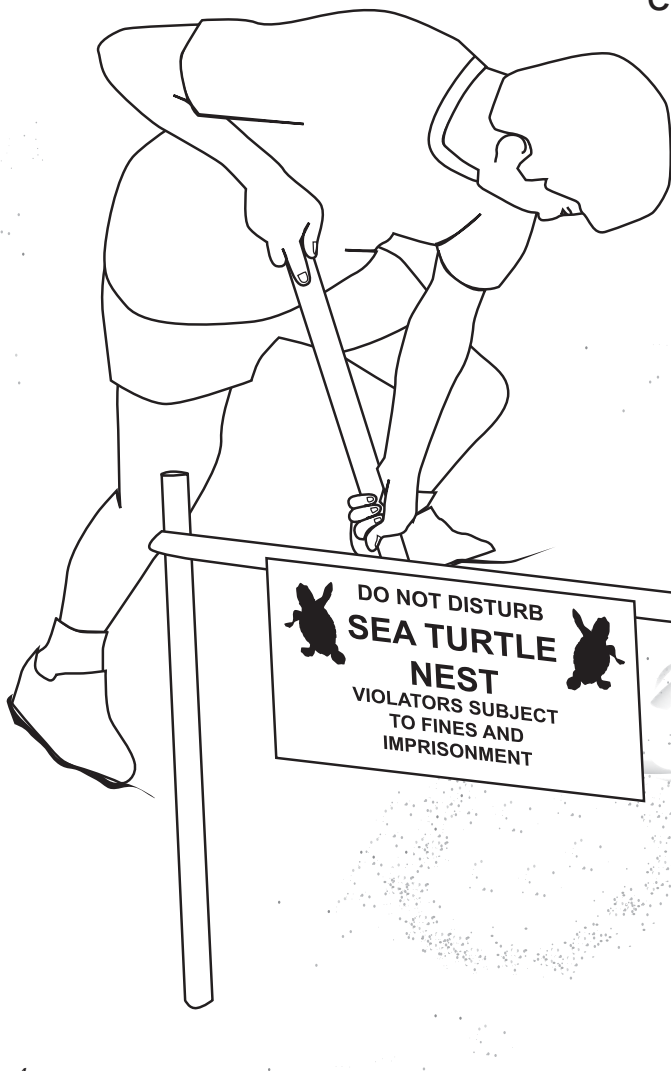
Barney swam lazily through the warm water. He noticed something move below him and off to his right, and moved in to take a closer look. Though he could have used a visit to the eye doctor, he was able to see well enough to snatch the crab and swallow it down in a single gulp! Oh yes, I should mention that Barney is a sea turtle.

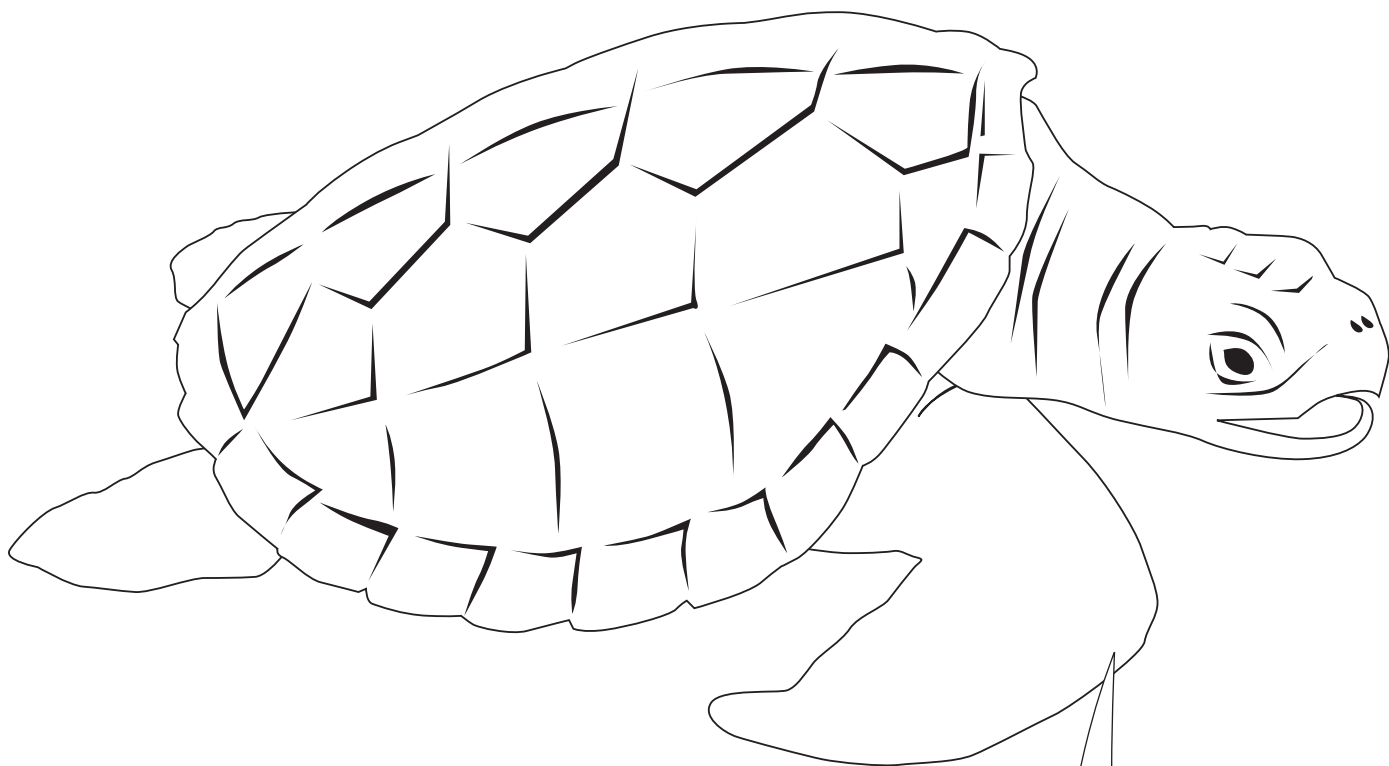




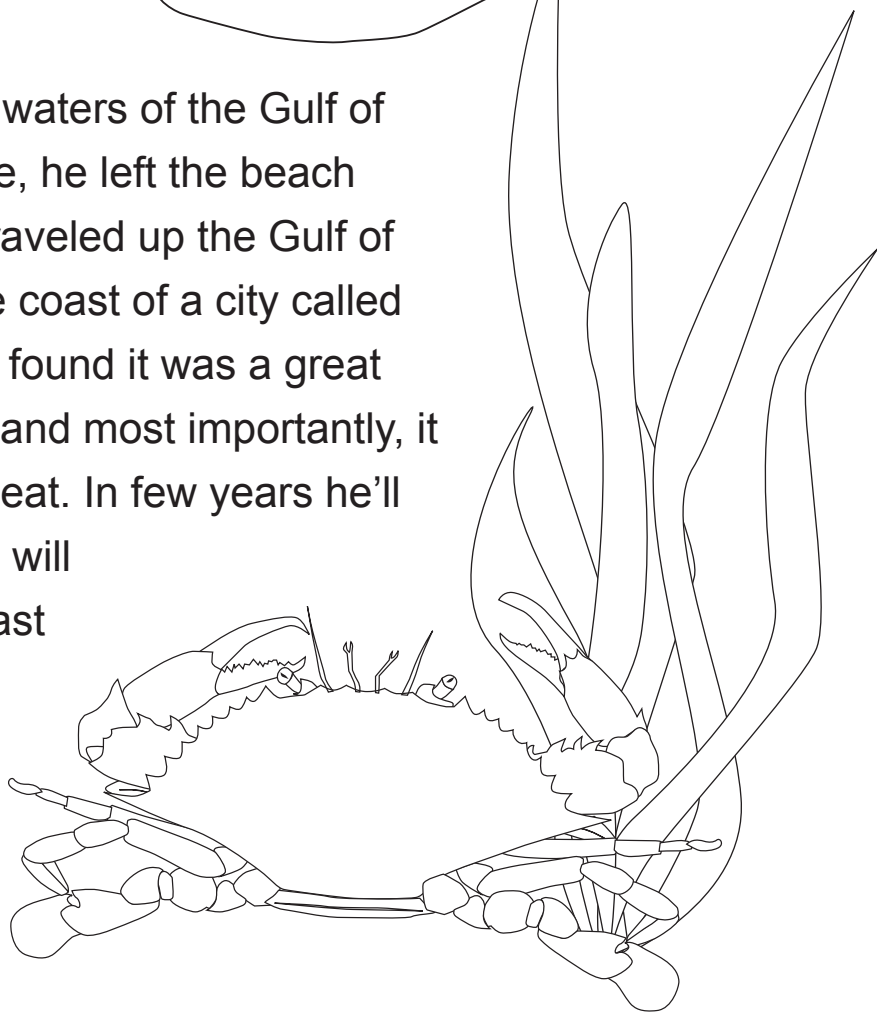
Barney, like all the other sea turtles living in the ocean, never met his parents. Three years ago Barney's mother swam to a Mexican beach in the Gulf of Mexico where she laid her eggs, covered them with sand, and then returned to the sea. Since then, Barney has grown quite a bit. He now weighs 20 pounds, which makes him about the same size as the hole in your mom's washing machine. Barney is not just a regular kind of sea turtle. He is very special.

You see, Barney is a Kemp's ridley sea turtle. What makes him special is that his species has been called endangered by the United States government. Endangered means there are not many sea turtles like Barney left in the world. Today there are lots of people trying to protect Barney and his relatives from harm so that they have a chance to grow in numbers. Hopefully, by protecting Kemp's ridley turtles, they will someday be removed from the endangered species list. In the meantime, people are not allowed to do anything that might harm Barney or other Kemp's ridley turtles or the people could be fined or even go to jail!

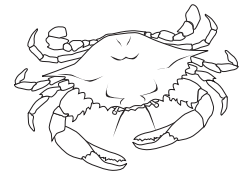




Barney likes the coastal waters of the Gulf of Mexico. As a young turtle, he left the beach where he hatched and traveled up the Gulf of Mexico to live just off the coast of a city called Port Aransas, Texas. He found it was a great place to play and sleep, and most importantly, it had lots of great food to eat. In few years he'll be an adult, and then he will move back down the coast to Mexico in search of a mate.



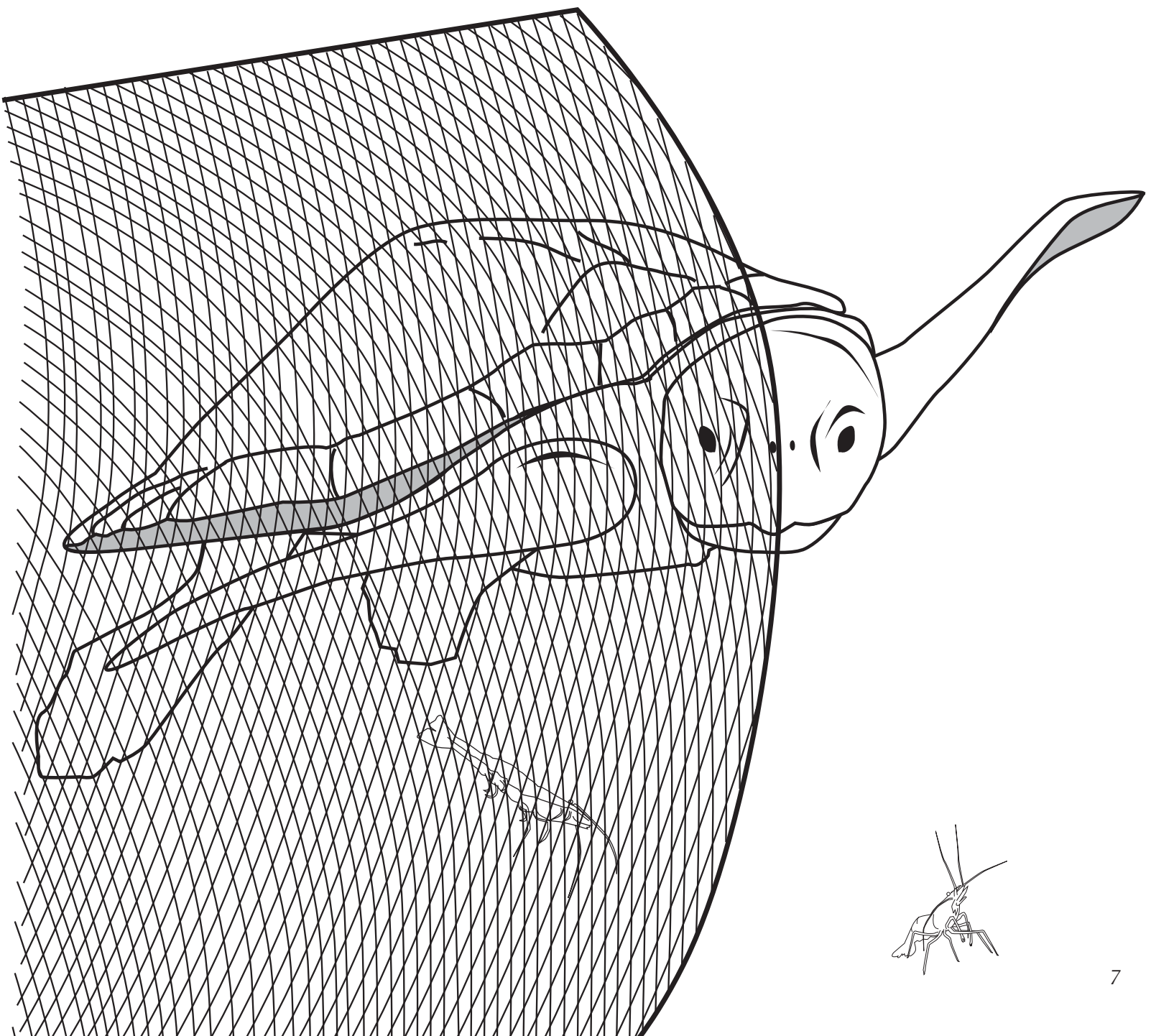
Spotting another fine-looking crab, Barney quickly pulled his body forward with his front flippers and used his rear flippers like a ship's rudder to turn his body in the direction of the yummy crab. Barney loves the taste of fresh crab!



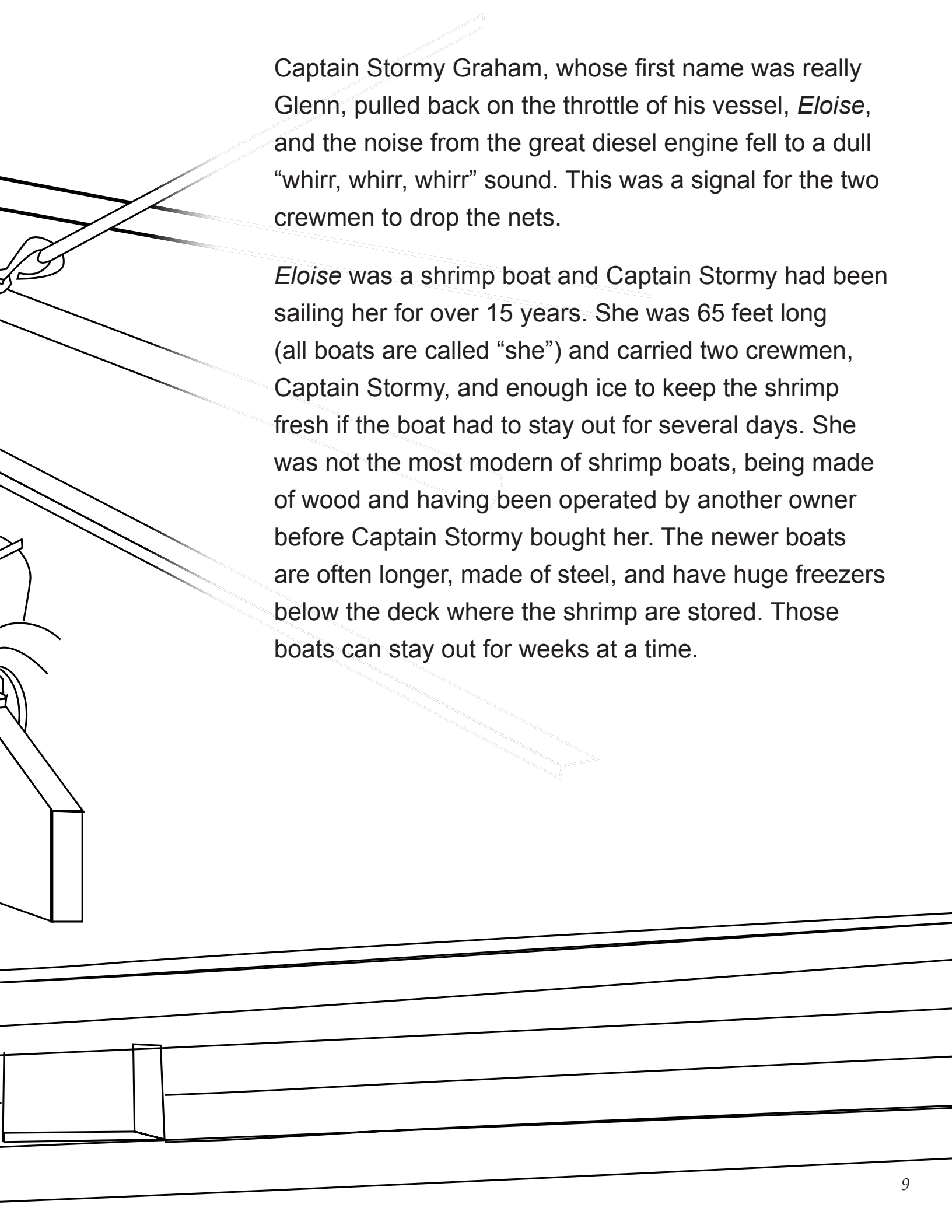
“Here crab, crab . . .” he mumbled as he gobbled up another mouthful.



At that very moment a shadow passed over Barney, just like a cloud passing over the sun. But this cloud was different. Barney could actually feel the shadow fall upon his back and bump against his shell. Not only that, the shadow began to carry him away! Barney tried to swim away with all his might, but the shadow pulled him backward. He was getting so tired, but the shadow didn't let up its fast pace. He was trapped! Poor Barney could not swim fast enough to get away.





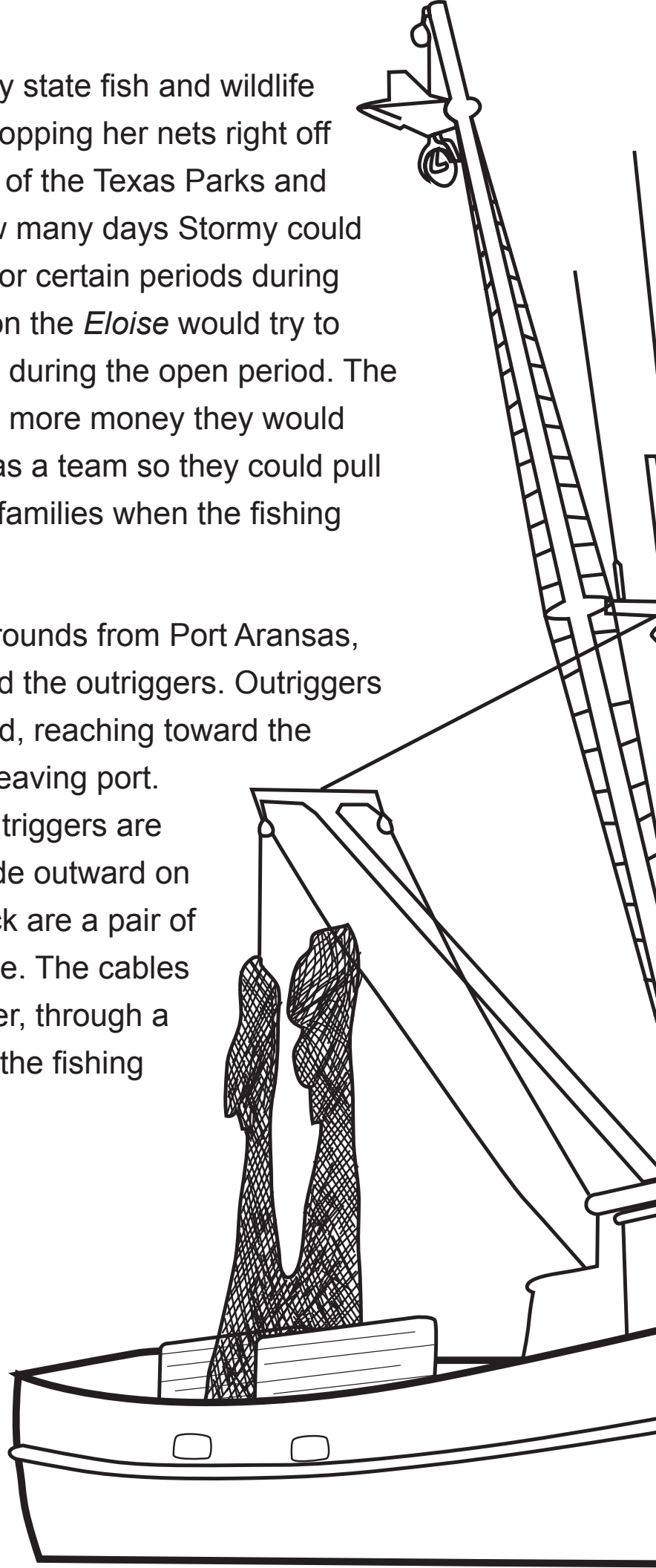


Captain Stormy Graham, whose first name was really Glenn, pulled back on the throttle of his vessel, *Eloise*, and the noise from the great diesel engine fell to a dull “whirr, whirr, whirr” sound. This was a signal for the two crewmen to drop the nets.

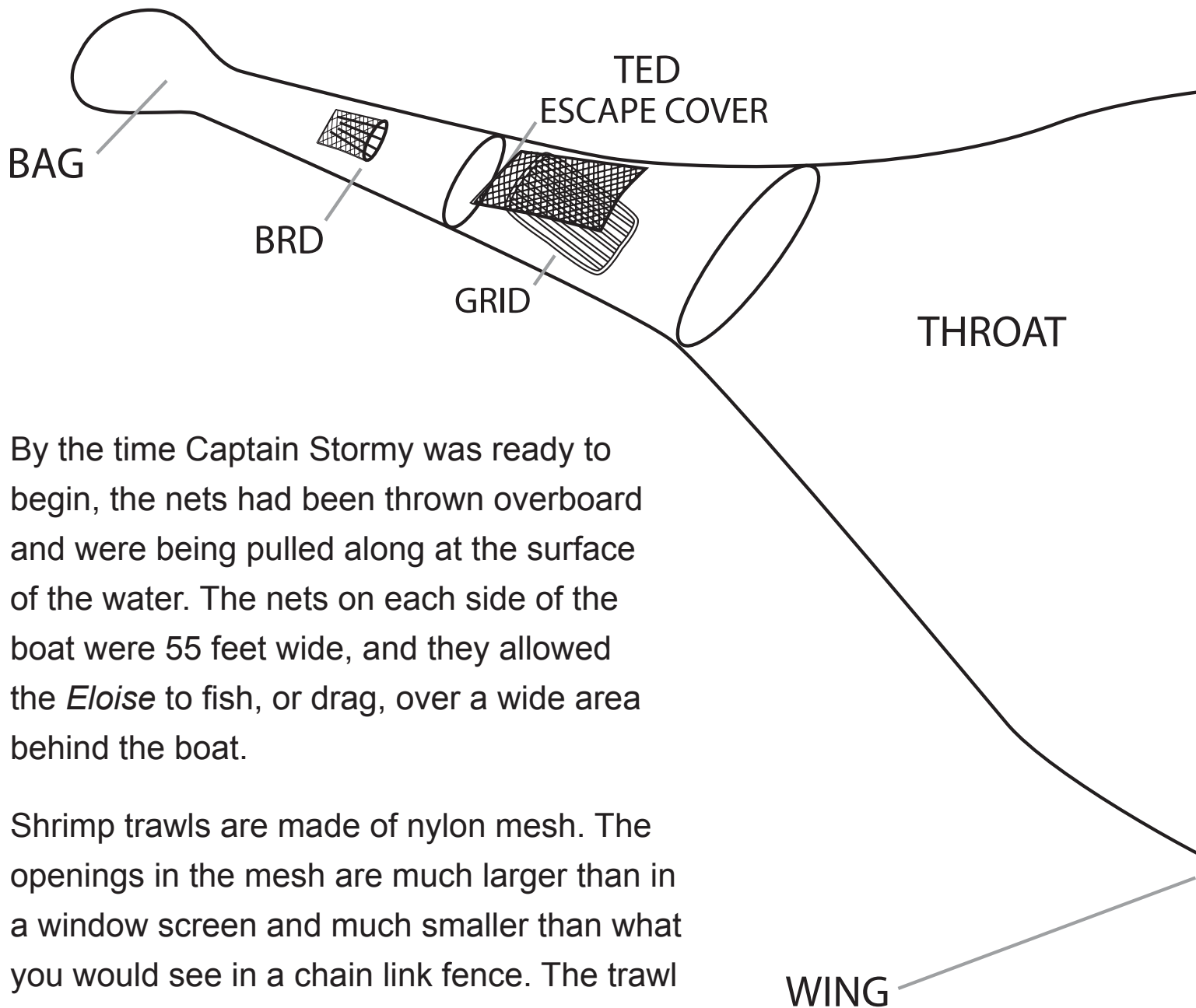
Eloise was a shrimp boat and Captain Stormy had been sailing her for over 15 years. She was 65 feet long (all boats are called “she”) and carried two crewmen, Captain Stormy, and enough ice to keep the shrimp fresh if the boat had to stay out for several days. She was not the most modern of shrimp boats, being made of wood and having been operated by another owner before Captain Stormy bought her. The newer boats are often longer, made of steel, and have huge freezers below the deck where the shrimp are stored. Those boats can stay out for weeks at a time.

The shrimp season is controlled by state fish and wildlife agencies. Since the *Eloise* was dropping her nets right off South Padre Island, it was the job of the Texas Parks and Wildlife Department to control how many days Stormy could fish. Shrimp season is only open for certain periods during the summer and fall, so the men on the *Eloise* would try to catch as many shrimp as possible during the open period. The more shrimp they could catch, the more money they would earn. The crew had to work hard as a team so they could pull in enough shrimp to support their families when the fishing season was closed.

During the trip out to the fishing grounds from Port Aransas, the crew of the *Eloise* had dropped the outriggers. Outriggers are long metal arms that are raised, reaching toward the sky, when the boat is entering or leaving port. When it comes time to fish, the outriggers are lowered so that the arms open wide outward on either side of the boat. On the deck are a pair of large winches filled with steel cable. The cables run out to the end of each outrigger, through a pulley, called a block, and then to the fishing nets, which are called trawls.





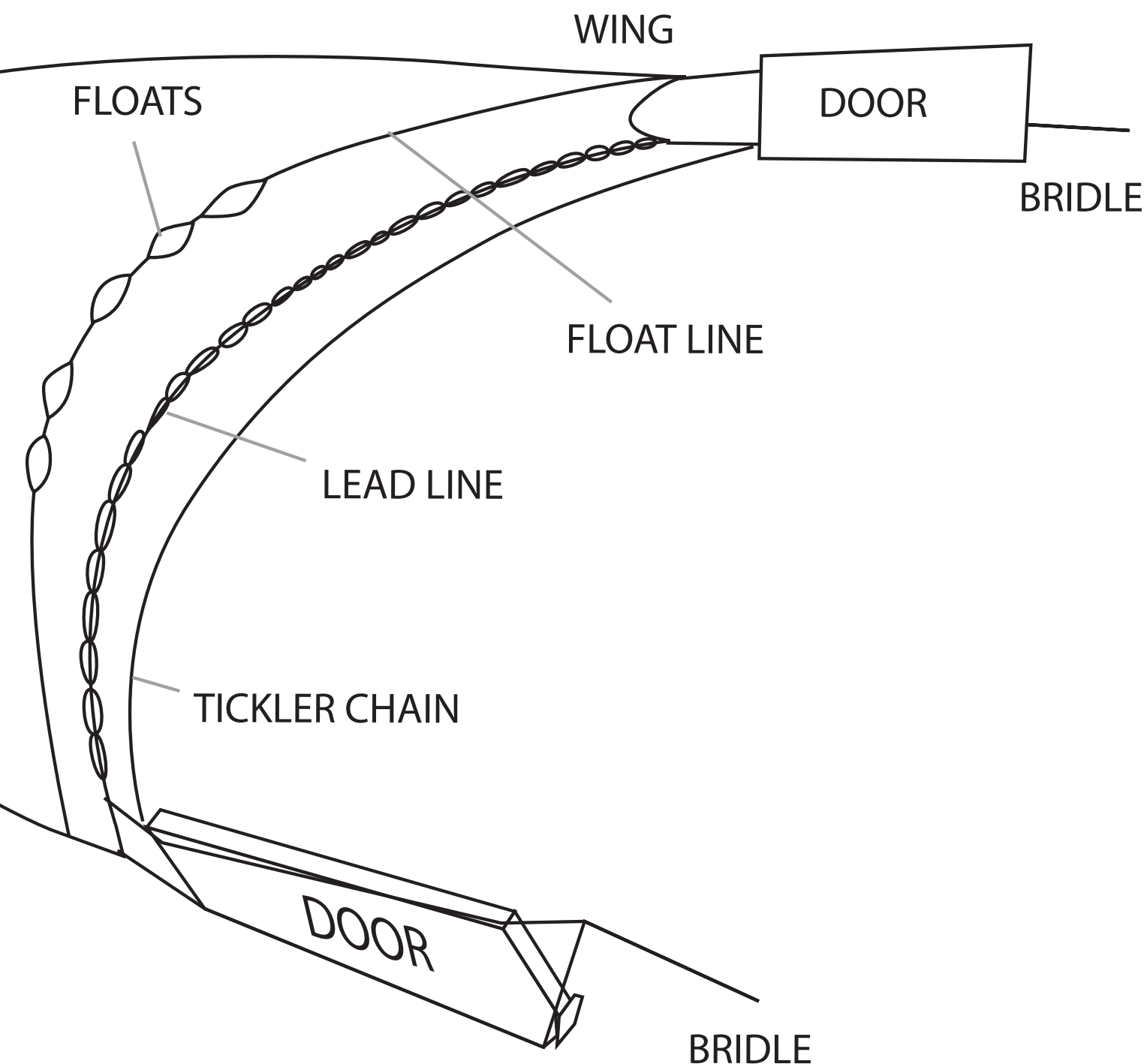


By the time Captain Stormy was ready to begin, the nets had been thrown overboard and were being pulled along at the surface of the water. The nets on each side of the boat were 55 feet wide, and they allowed the *Eloise* to fish, or drag, over a wide area behind the boat.

Shrimp trawls are made of nylon mesh. The openings in the mesh are much larger than in a window screen and much smaller than what you would see in a chain link fence. The trawl netting is designed to allow the water to flow through the net easily while making it hard for the shrimp to escape.

The opening at the front of the trawl is like a huge mouth. Behind the mouth the netting, called webbing, is shaped like a funnel.

The big end of the funnel starts at the mouth, and it gets smaller and smaller until it gets to an area called the bag, and that's where the shrimp and other marine creatures become trapped.

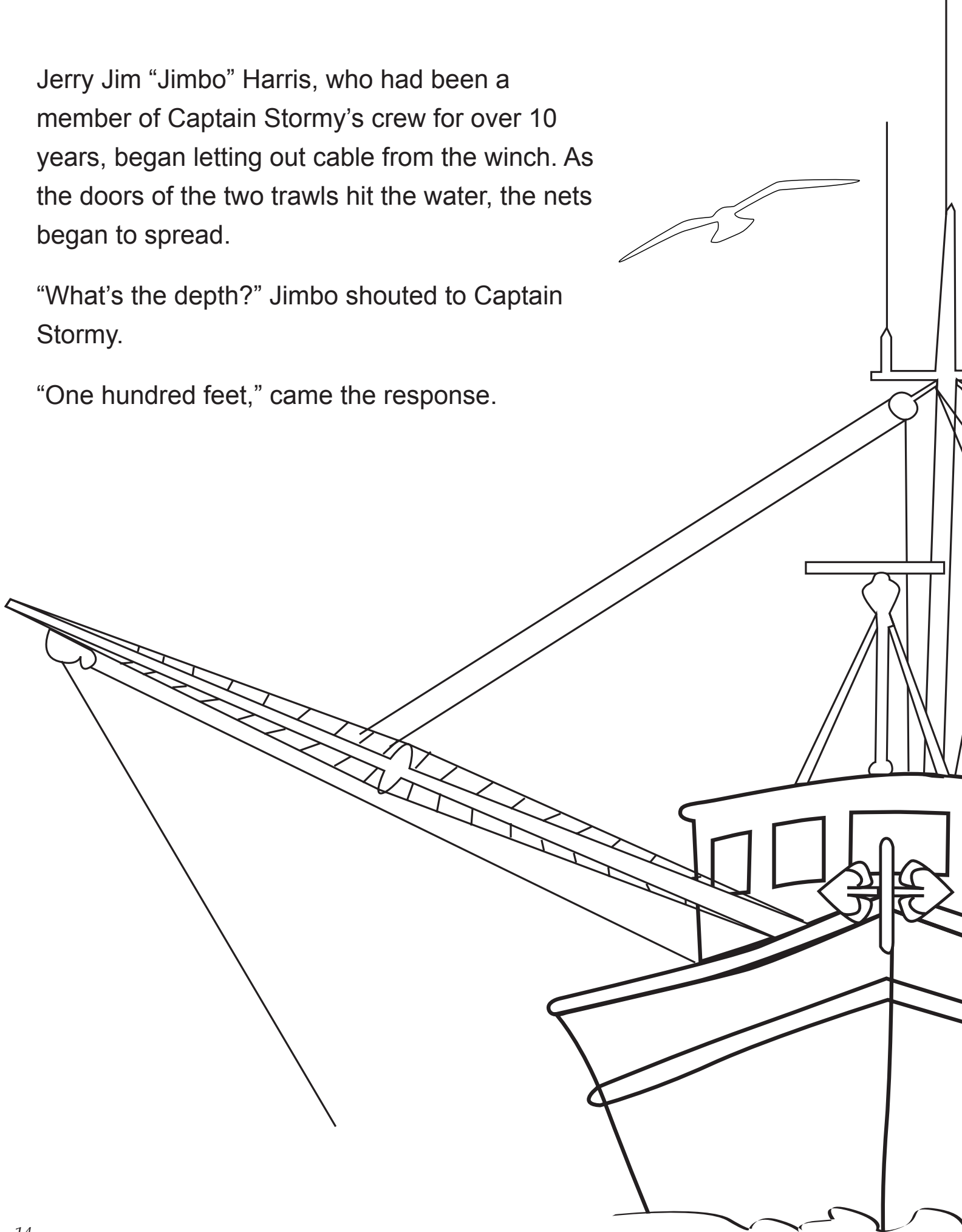


The bottom of the mouth has a row of lead weights attached to it to pull the net down to the bottom of the ocean. The shrimp live on the bottom, and the purpose of the trawl is to catch shrimp.

Jerry Jim “Jimbo” Harris, who had been a member of Captain Stormy’s crew for over 10 years, began letting out cable from the winch. As the doors of the two trawls hit the water, the nets began to spread.

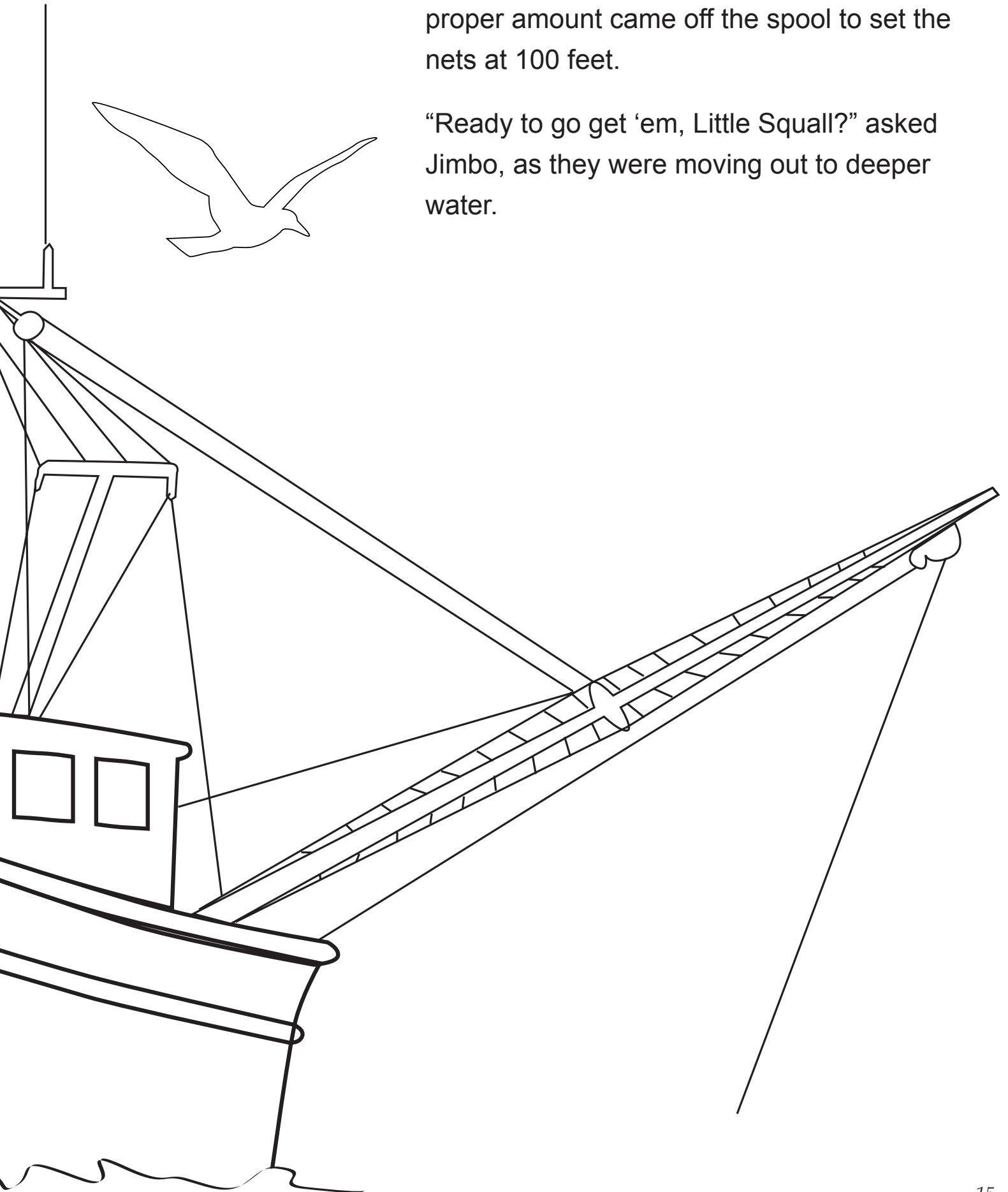
“What’s the depth?” Jimbo shouted to Captain Stormy.

“One hundred feet,” came the response.



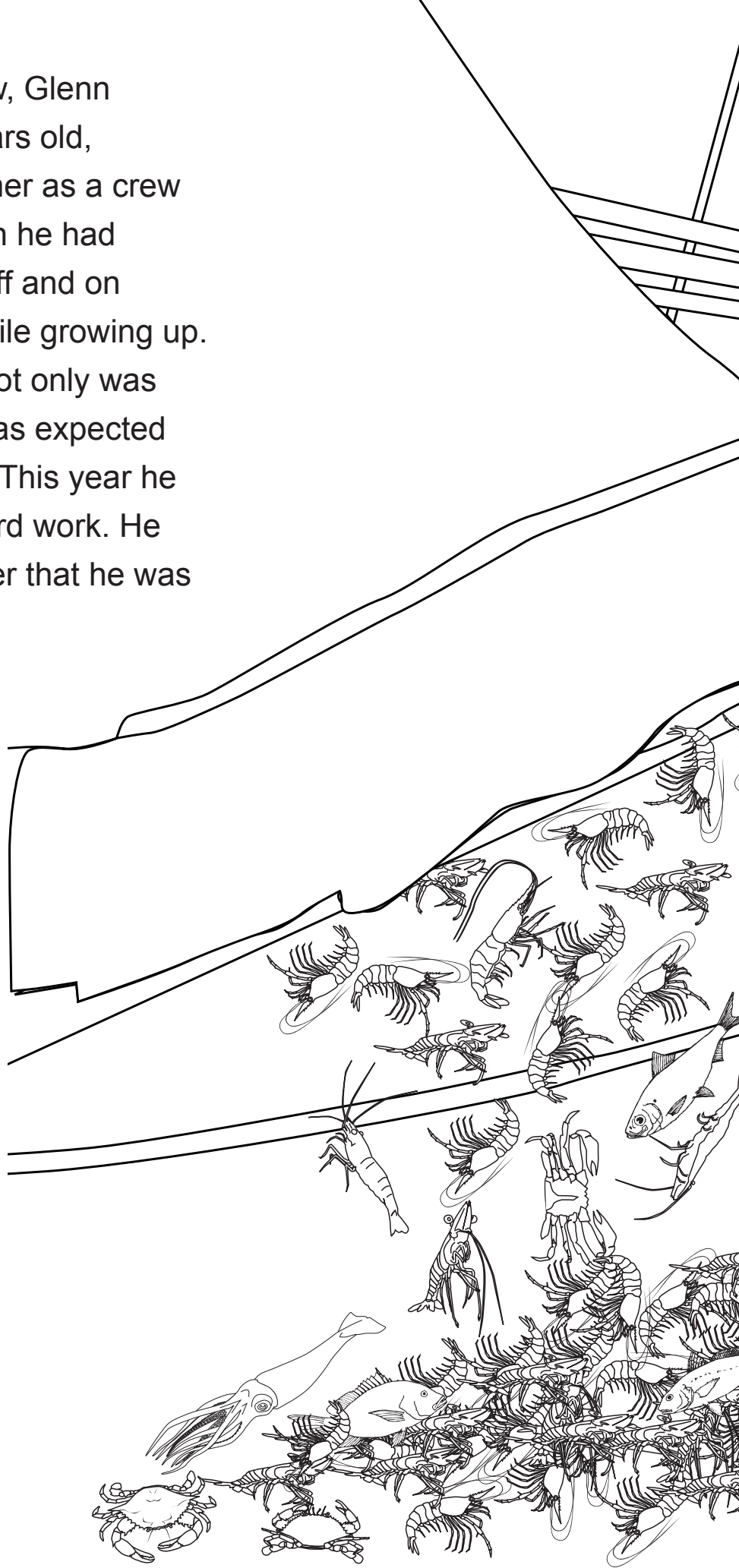
Jimbo continued to let out cable until the proper amount came off the spool to set the nets at 100 feet.

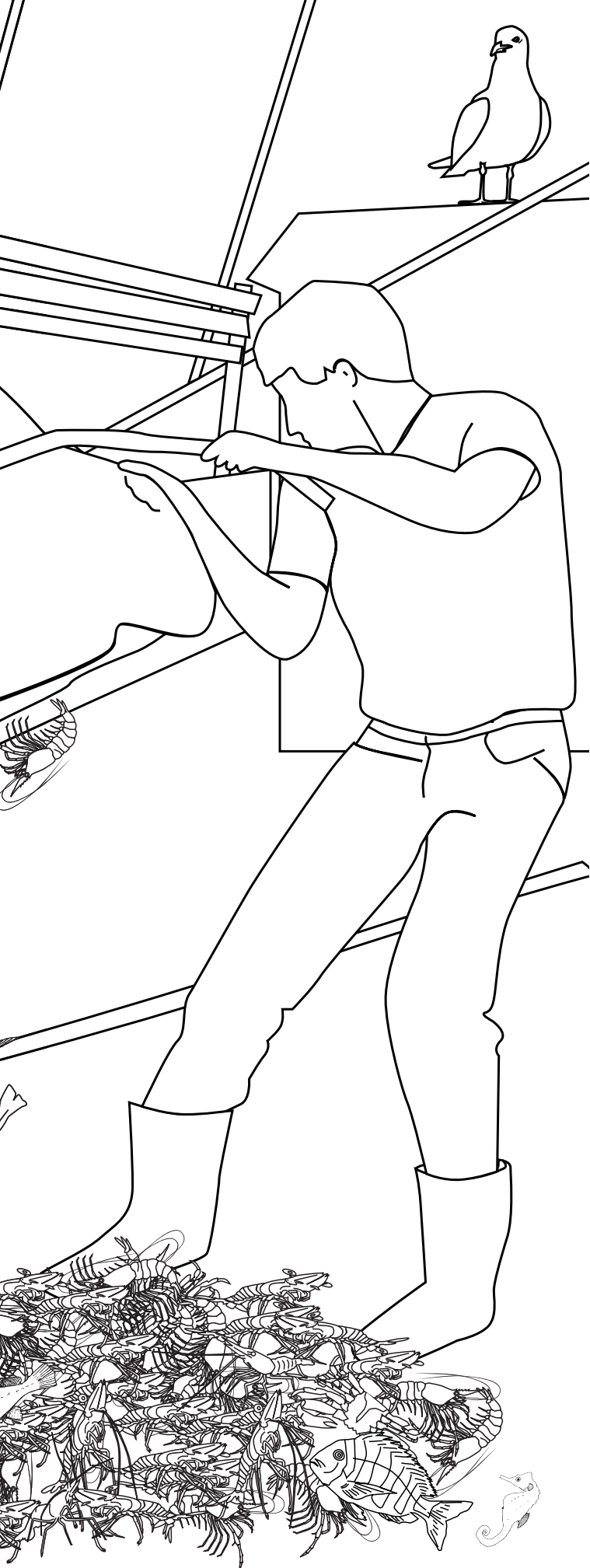
“Ready to go get ‘em, Little Squall?” asked Jimbo, as they were moving out to deeper water.



The third member of the crew, Glenn Graham, Jr., who was 16 years old, nodded. It was his first summer as a crew member for his father, though he had helped with smaller chores off and on during the shrimp season while growing up. Things were different now. Not only was he a crew member, but he was expected to help the boat turn a profit. This year he would also be paid for his hard work. He was excited to show his father that he was up for the task.

Glen, Jr., had been called Little Squall or Squall ever since he was a baby. A squall is a small storm, so the nickname was well suited to his father's nickname, Stormy.





It was a great day for opening the shrimp season. The seas were fairly calm, and the harsh afternoon sun had burned off, leaving the early evening heat more bearable.

Shrimping outside the bays had been closed for over a month, but now it was mid-July and the season was open once again. The crew of the *Eloise* had no way of telling whether the season would be good or bad until the nets were hauled in.

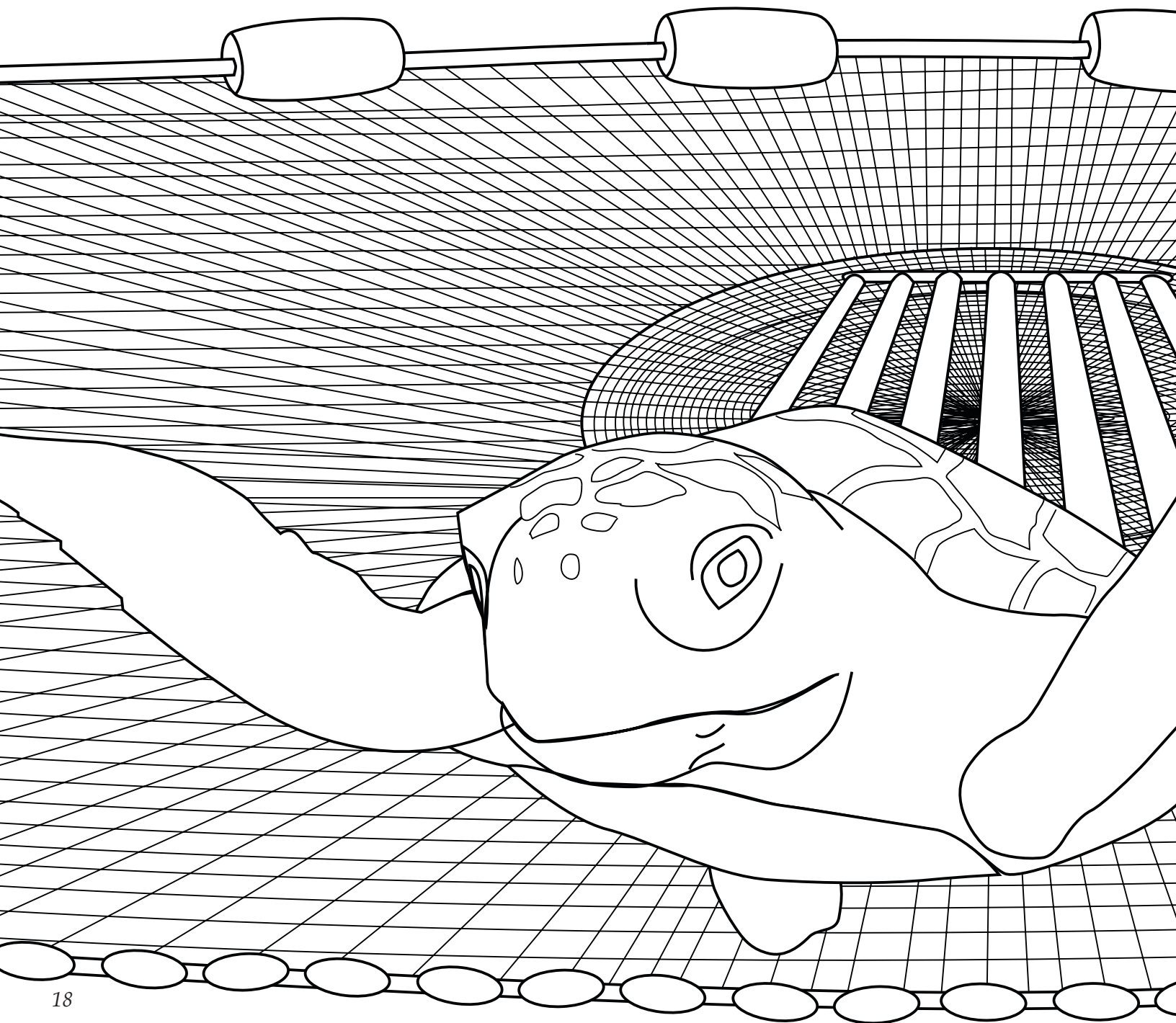
During this part of the year, brown shrimp would make up most of the catch, and the best time to catch them was at night when they came out of the mud in search of food. It was well before dark when the nets

of the *Eloise* first went over the side, but Captain Stormy planned to drag his nets for three hours.

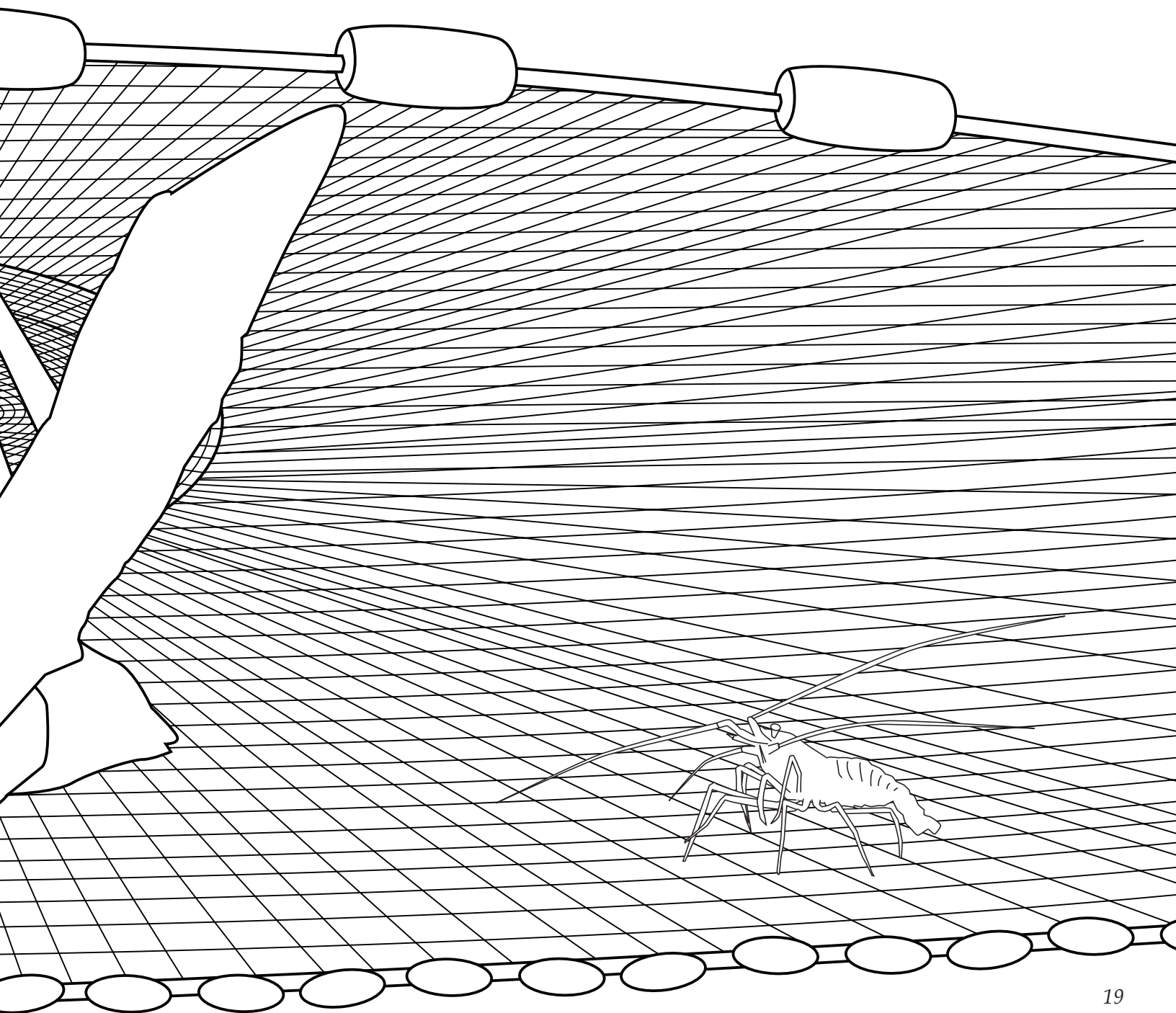
By then the shrimp would be out searching for food, and they'd be much easier to catch.

Barney tried to swim to the surface, but his path was blocked by the shadow. He tried to dive to the bottom but found that he couldn't go that way either. He knew he could stay under water for several more minutes before having to go to the surface for air, but he was beginning to get tired, and that made him uneasy.

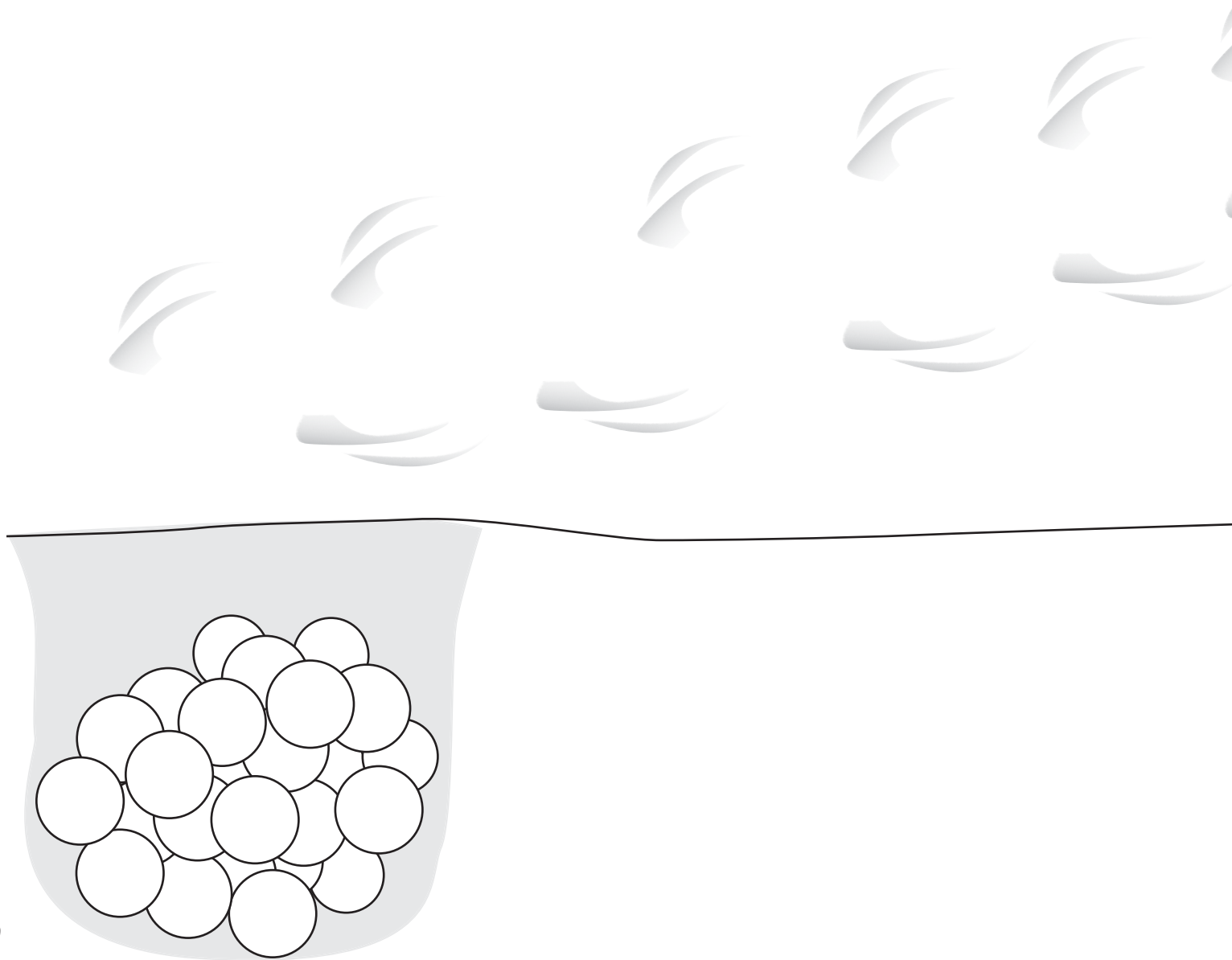
Sea turtles can lie on the bottom of the ocean for very long periods of time, especially during the winter when they essentially hibernate.

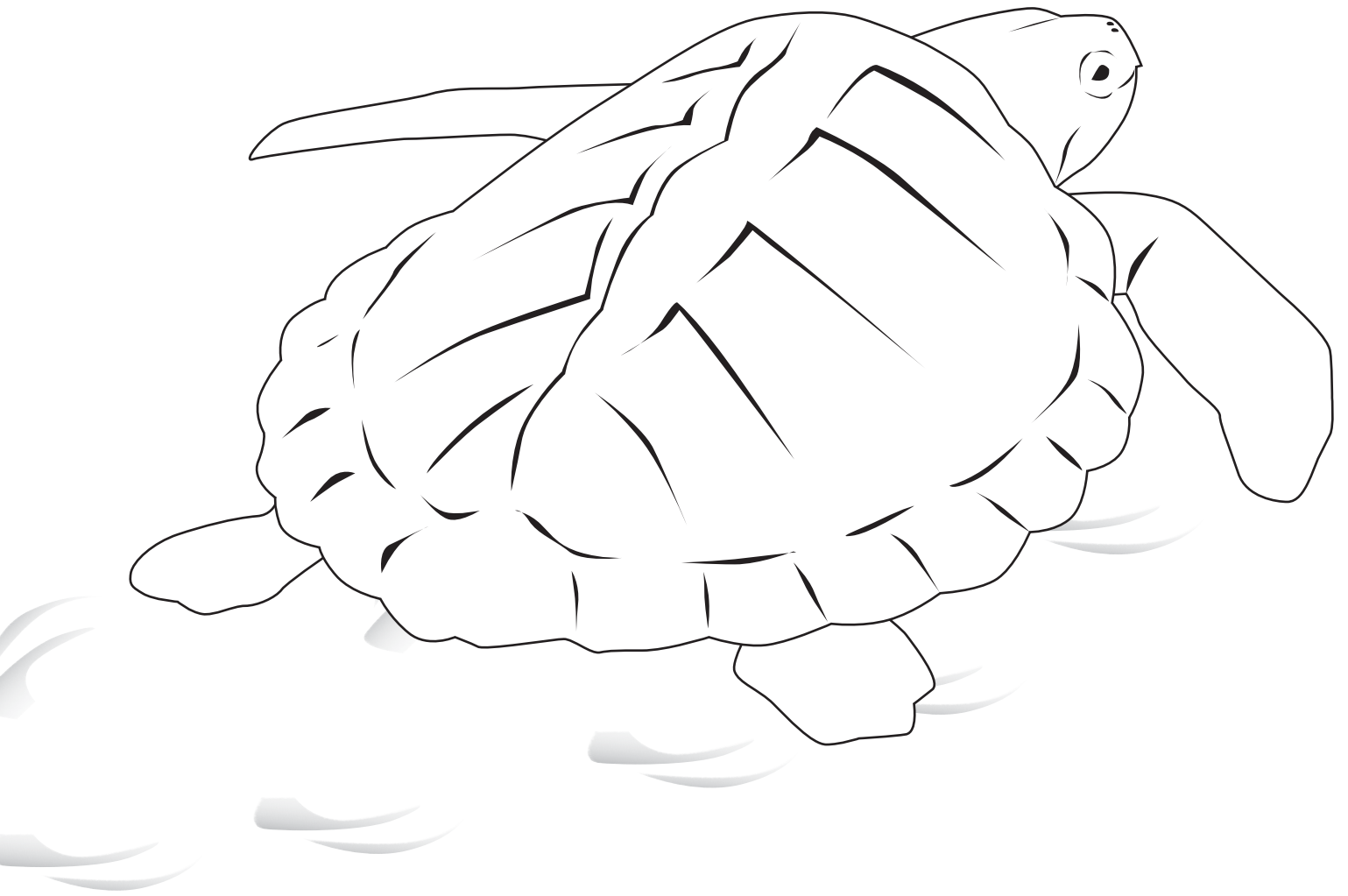


For the rest of the year they're active, swimming and feeding, and that means they need to surface every several minutes to breathe. When they are scared, and Barney certainly was scared, their bodies use up oxygen more quickly, so the time a turtle can remain under water before getting into serious trouble may be only a few minutes. Barney was in trouble, but he was used to facing danger, so he kept up his search for a way to escape.



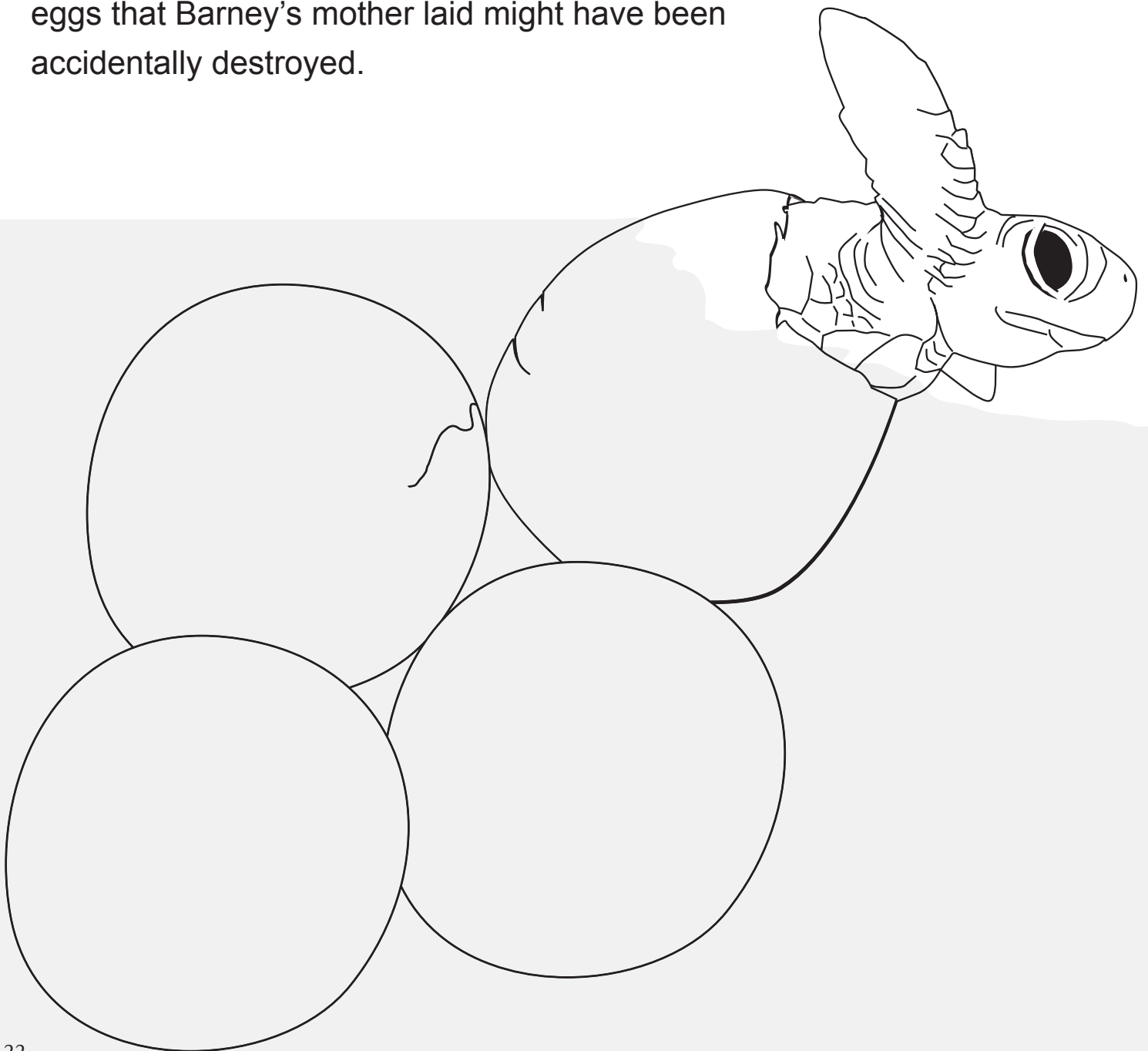
Barney and his brothers and sisters never knew it, but they faced incredible odds for survival before they even hatched on the beach in Mexico. Their mother had come ashore one night during the late spring. She dragged herself slowly across the beach until she found the perfect spot, and she slowly dug a nest in the warm, white sand with her rear flippers.





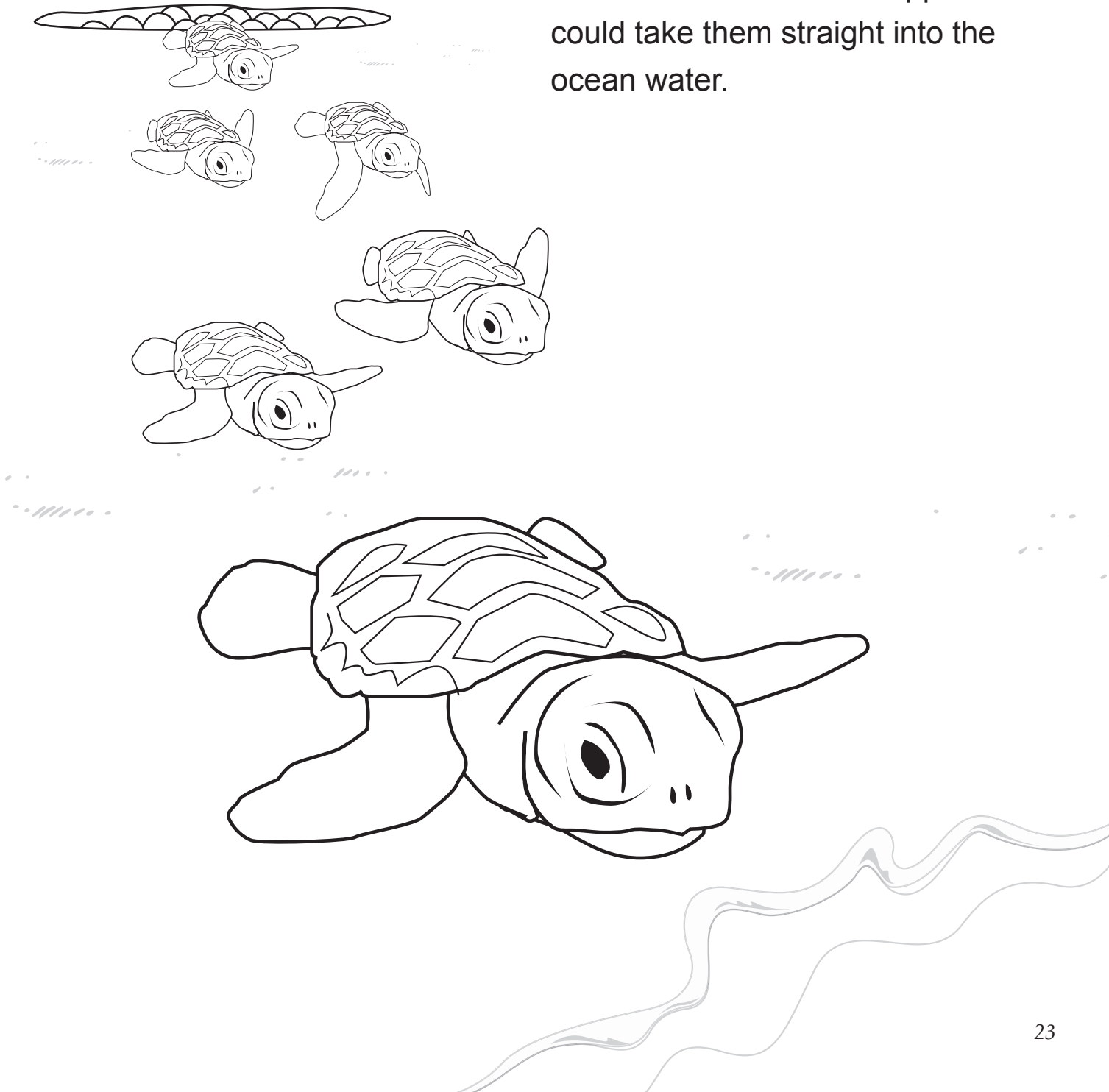
Once the nest was finished, she laid more than 100 eggs, wished them well, and then she gently covered them up with sand. Knowing her job was done, she pulled her large body back to the water and eagerly swam back out into the sea.

The nesting beach where Barney's mother laid her eggs was at a place called Rancho Nuevo, Mexico. She didn't know it, but scientists from the governments of both Mexico and the United States were watching her. Once Barney's mother had returned to the Gulf of Mexico, the scientists dug up the eggs and put them in a protected location. Many kinds of wild animals enjoy eating turtle eggs, so protecting them is important. Also, sometimes one turtle may try to dig in the same place where another one has dug her nest. If that had happened, the eggs that Barney's mother laid might have been accidentally destroyed.



After a few weeks, the eggs laid by Barney's mother began to hatch. To get themselves out of the sand, the baby turtles had to climb up and over one another like a moving ball. Finally, one of Barney's sisters broke through the sand to reach the surface. She was followed by another and another of his brothers and sisters and by Barney himself until they were all out of the nest.

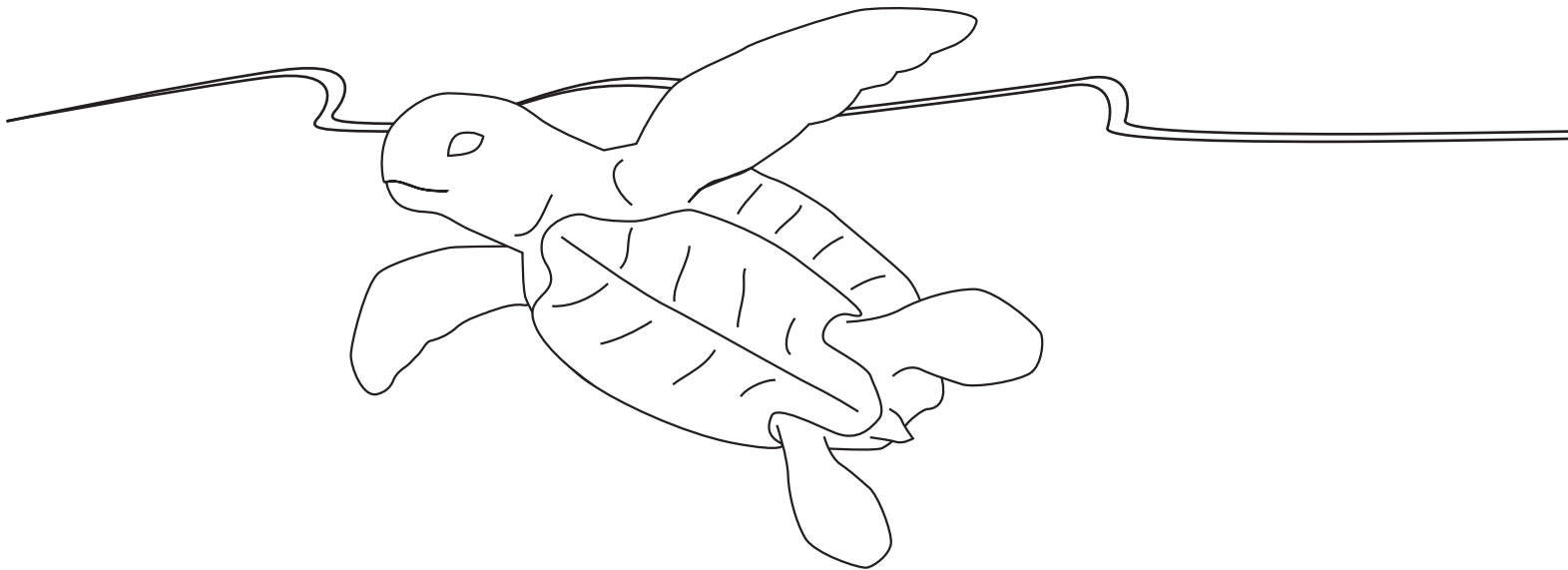
Then it was a mad dash as they ran as fast as their little flippers could take them straight into the ocean water.



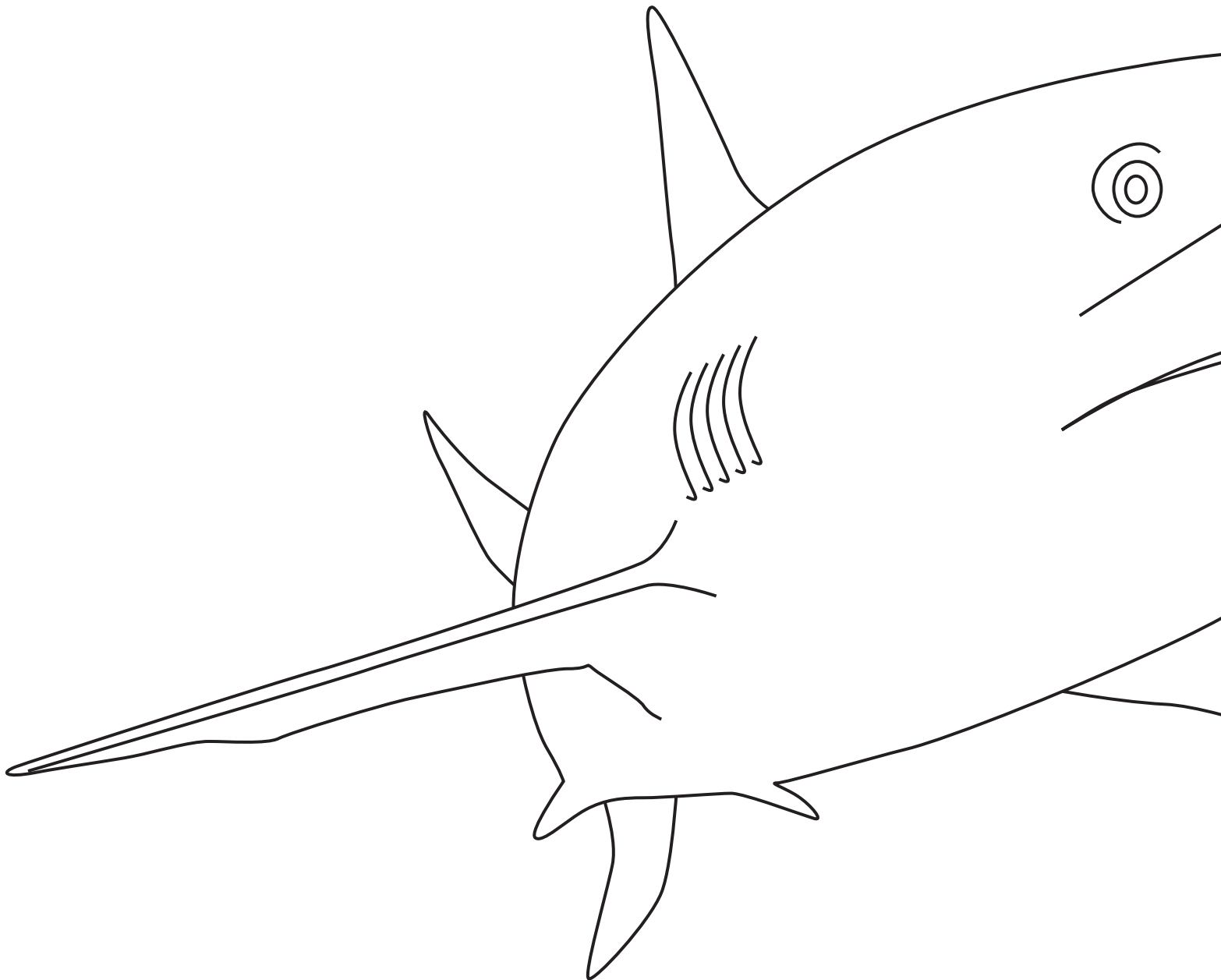
If they had not been protected by the scientists, many would have been eaten by birds or other animals on their journey to the ocean, even though the trip was only a few yards. People kept the wildlife away, so all the baby turtles were able to reach the water safely.

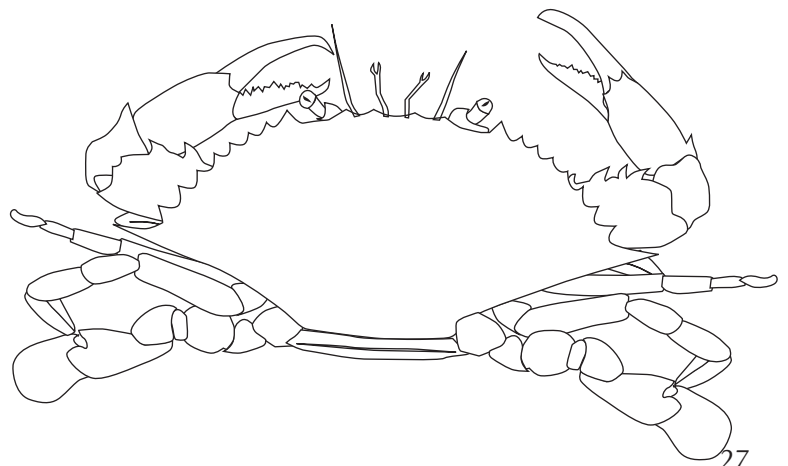
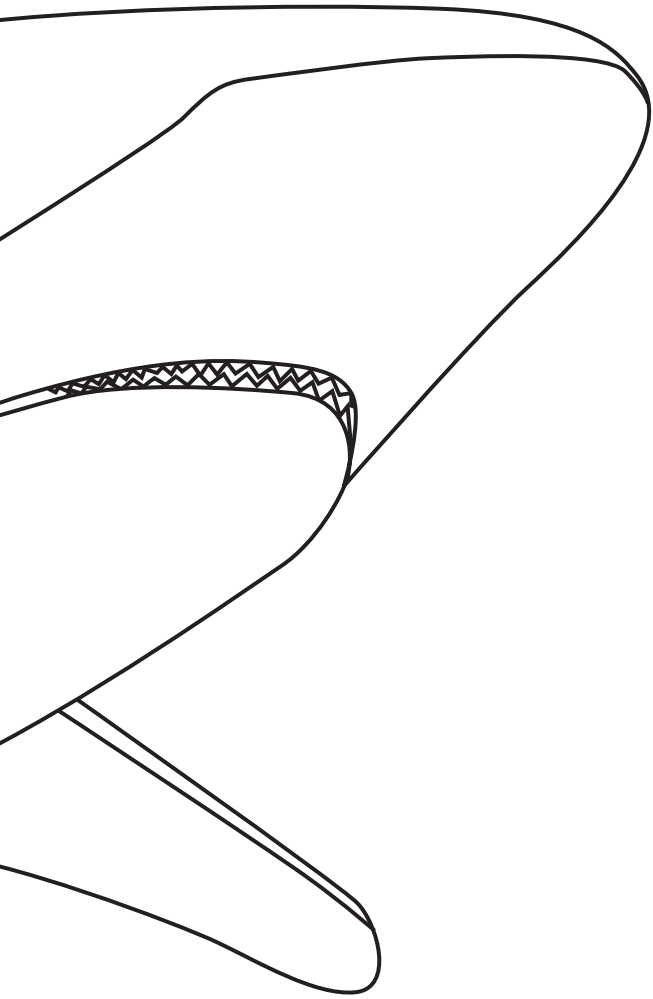
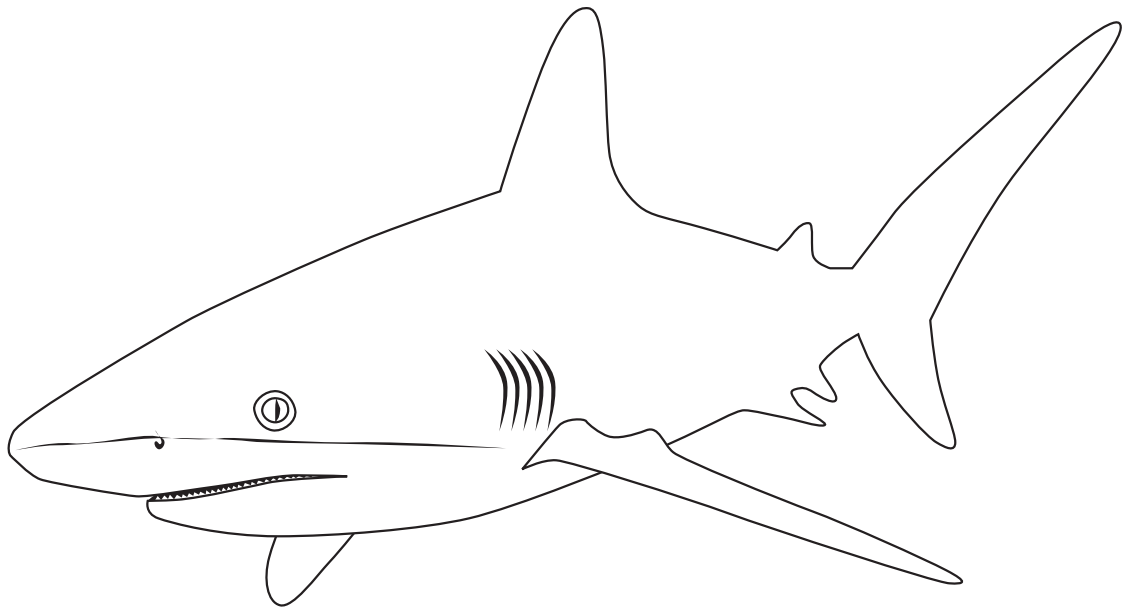


Even though they reached the ocean, the dangers they faced were far from over. Sea turtles are not able to dive until they are several weeks old. Instead, they float at the surface of the water where they make easy targets for birds and fish. They are born with some advantages to help them on their rough journey. Their white bellies make them less visible against the sky and harder for the fish below them to see. Also, they are born with a small sack of food attached to their bellies that feeds them until they are able to swim faster, but before they are able to dive.



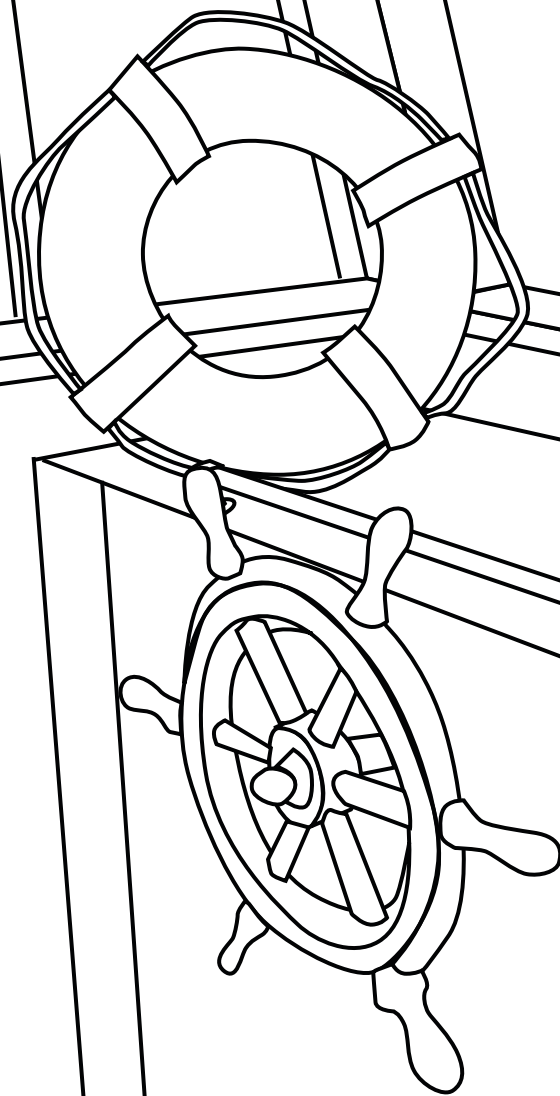
Barney was one of the lucky ones. He escaped the birds, sharks, and other marine predators and not only learned to dive but migrated along the Gulf of Mexico coast until he arrived in the waters of Texas. He had enjoyed a good life until now. But things were becoming very bad. His air supply was beginning to run out. Maybe he could surface if he swam hard enough....

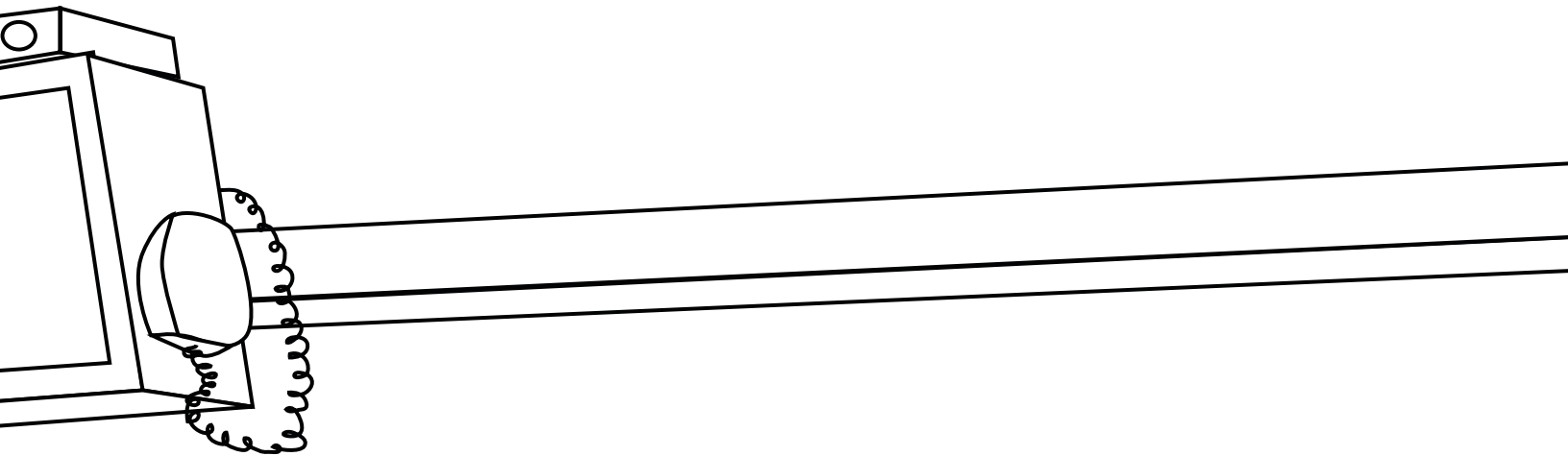




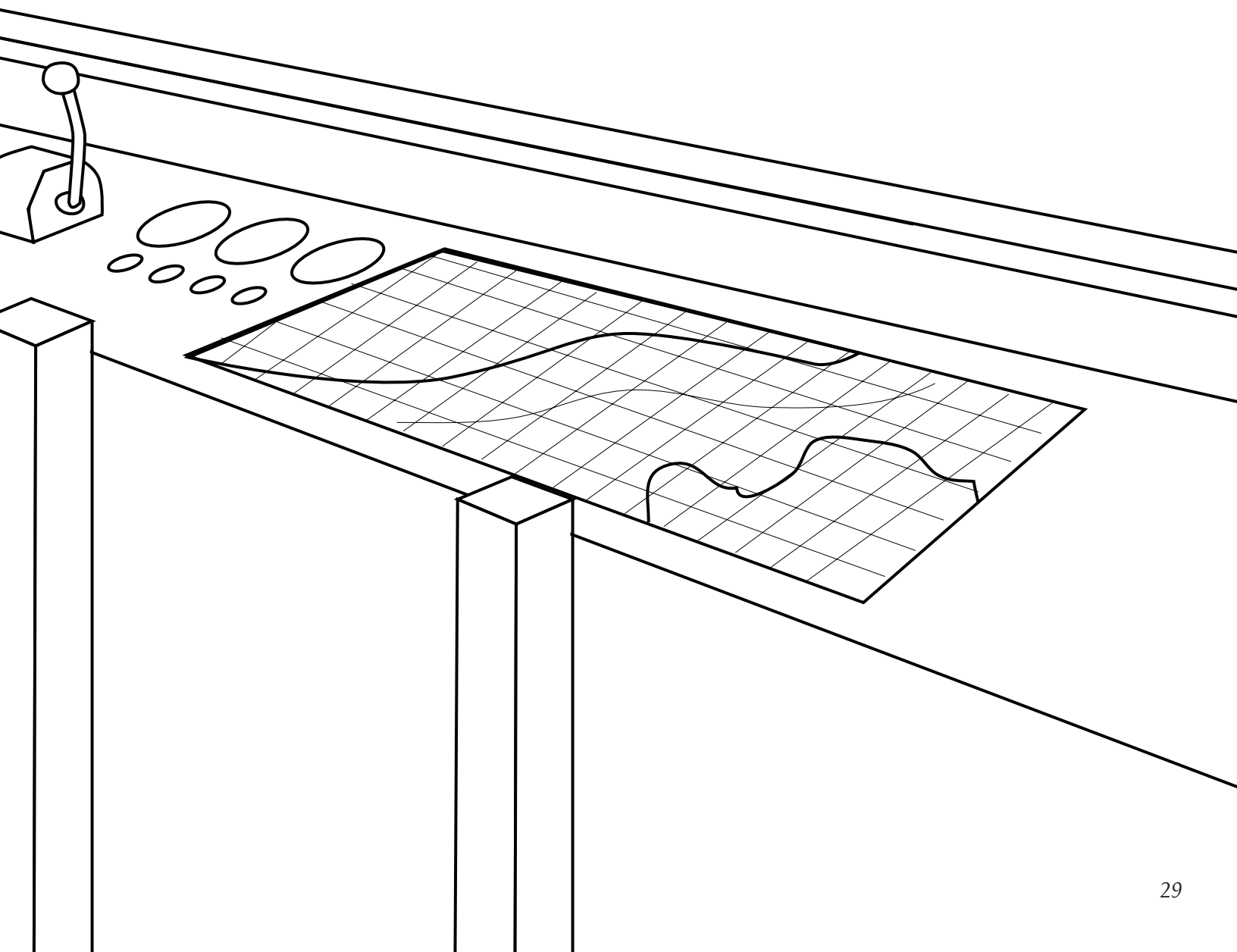
Little Squall went to the wheelhouse after the nets were set. He reached into a cooler and grabbed a soft drink, then stood beside his father, who was looking at a chart that showed the depth of the ocean along the lower Texas coast.

“From the chart and our books, it doesn’t look like we’ll drag up any car bodies or sunken ships,” said Captain Stormy.





It was important for the Captain to know what areas to avoid. Getting a net tangled on a sunken object, like a shipwreck, could cause the men to lose time fishing and also risk losing one or both pairs of their expensive nets.

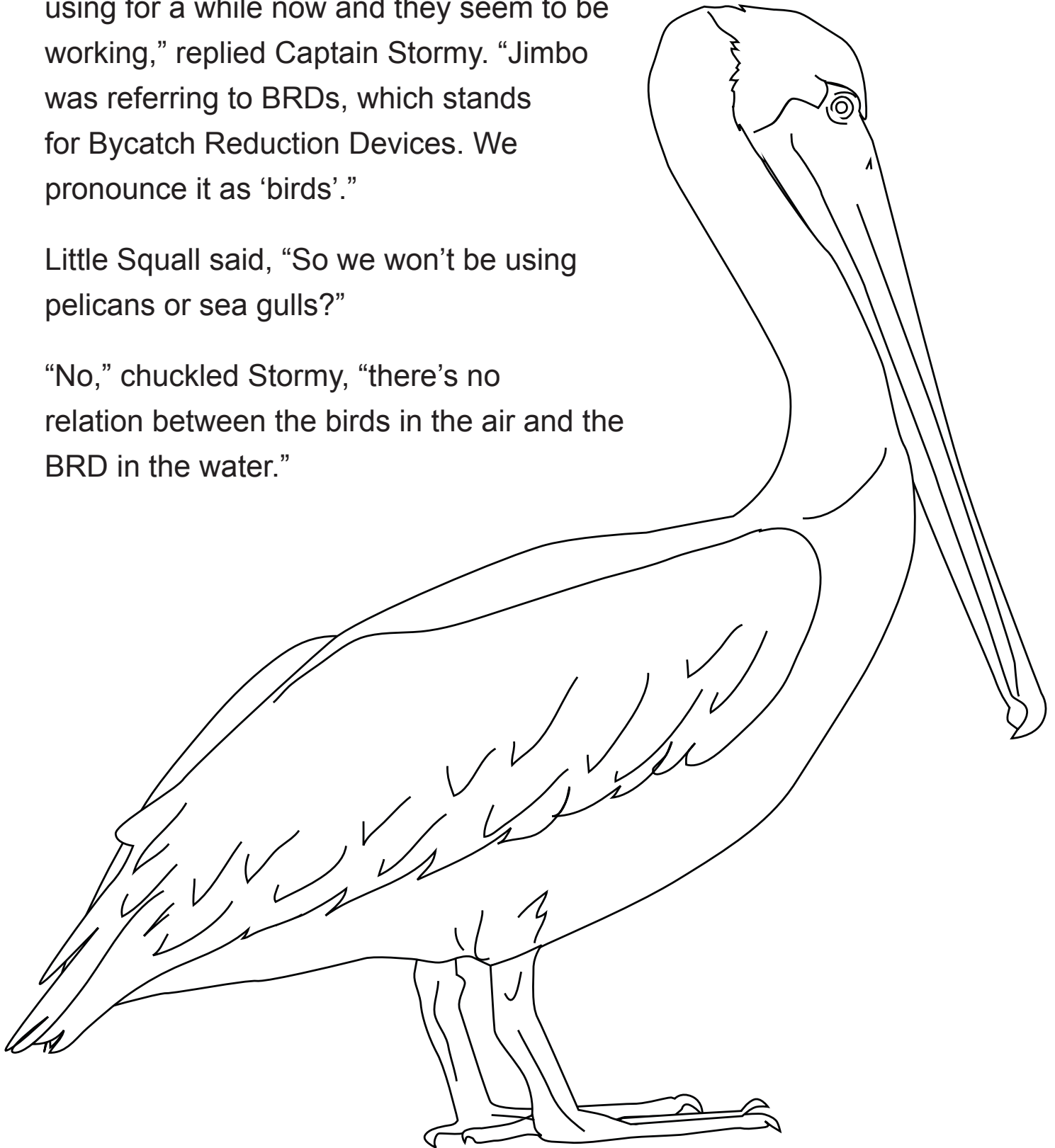


“This morning Jimbo mentioned that we’re using birds to help us trawl now. How can birds help us catch more shrimp?” asked Little Squall.

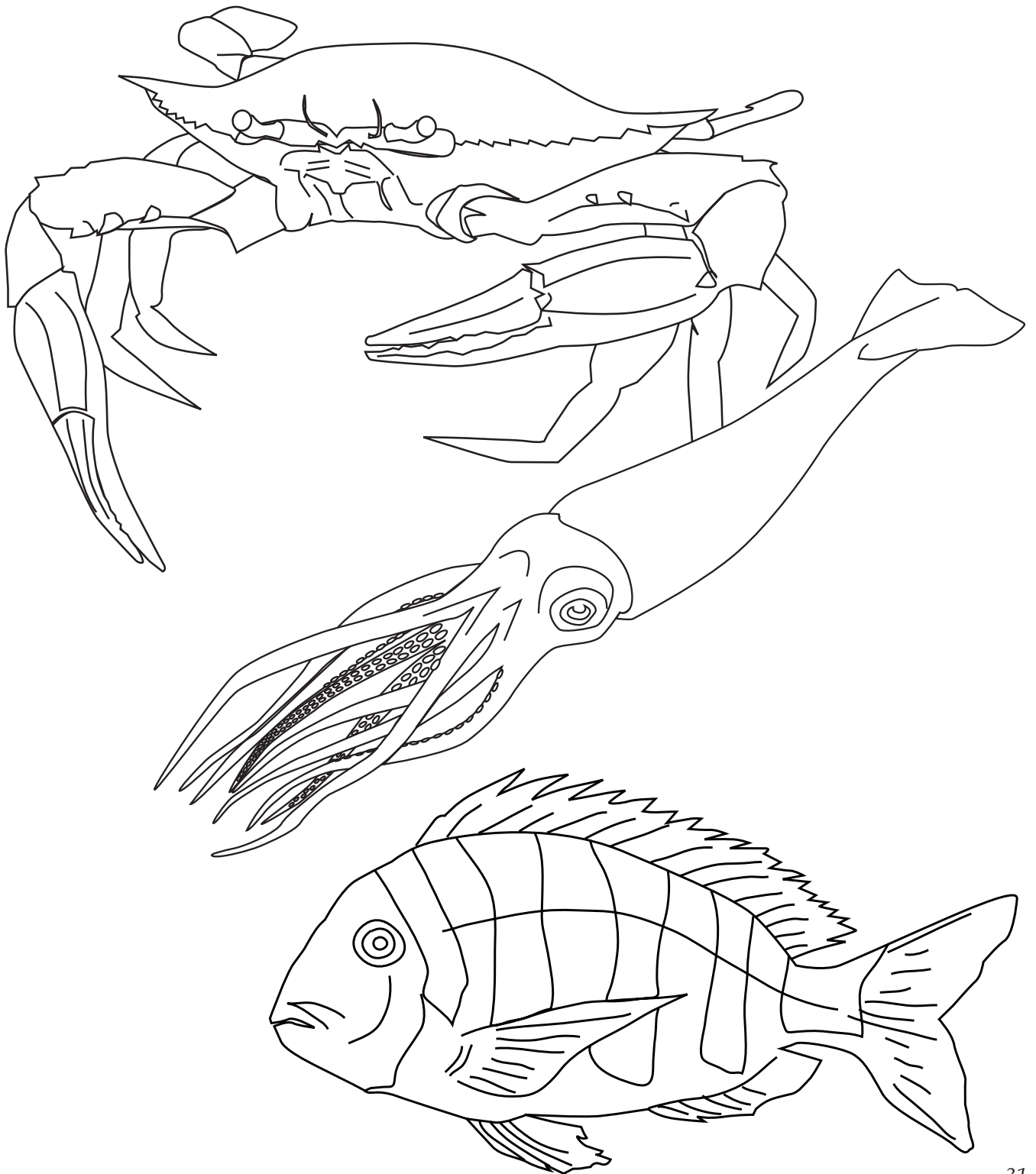
“They are something that we have been using for a while now and they seem to be working,” replied Captain Stormy. “Jimbo was referring to BRDs, which stands for Bycatch Reduction Devices. We pronounce it as ‘birds’.”

Little Squall said, “So we won’t be using pelicans or sea gulls?”

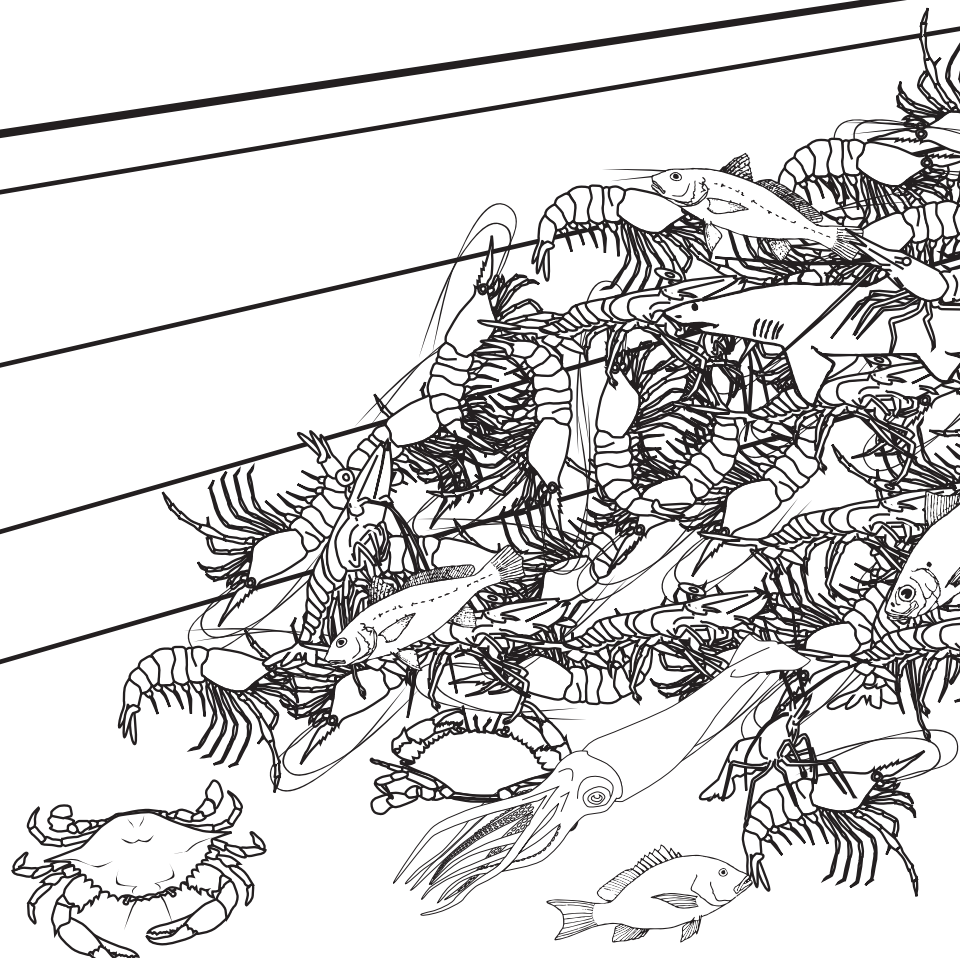
“No,” chuckled Stormy, “there’s no relation between the birds in the air and the BRD in the water.”



Stormy explained to Little Squall that every time shrimp nets are pulled aboard a ship, the entire catch is dumped on the deck. Each time the men go through the nets, some portion of the catch will be animals other than shrimp; things such as fish, crabs, squid and sometimes a turtle. Everything other than shrimp is known as “bycatch.”

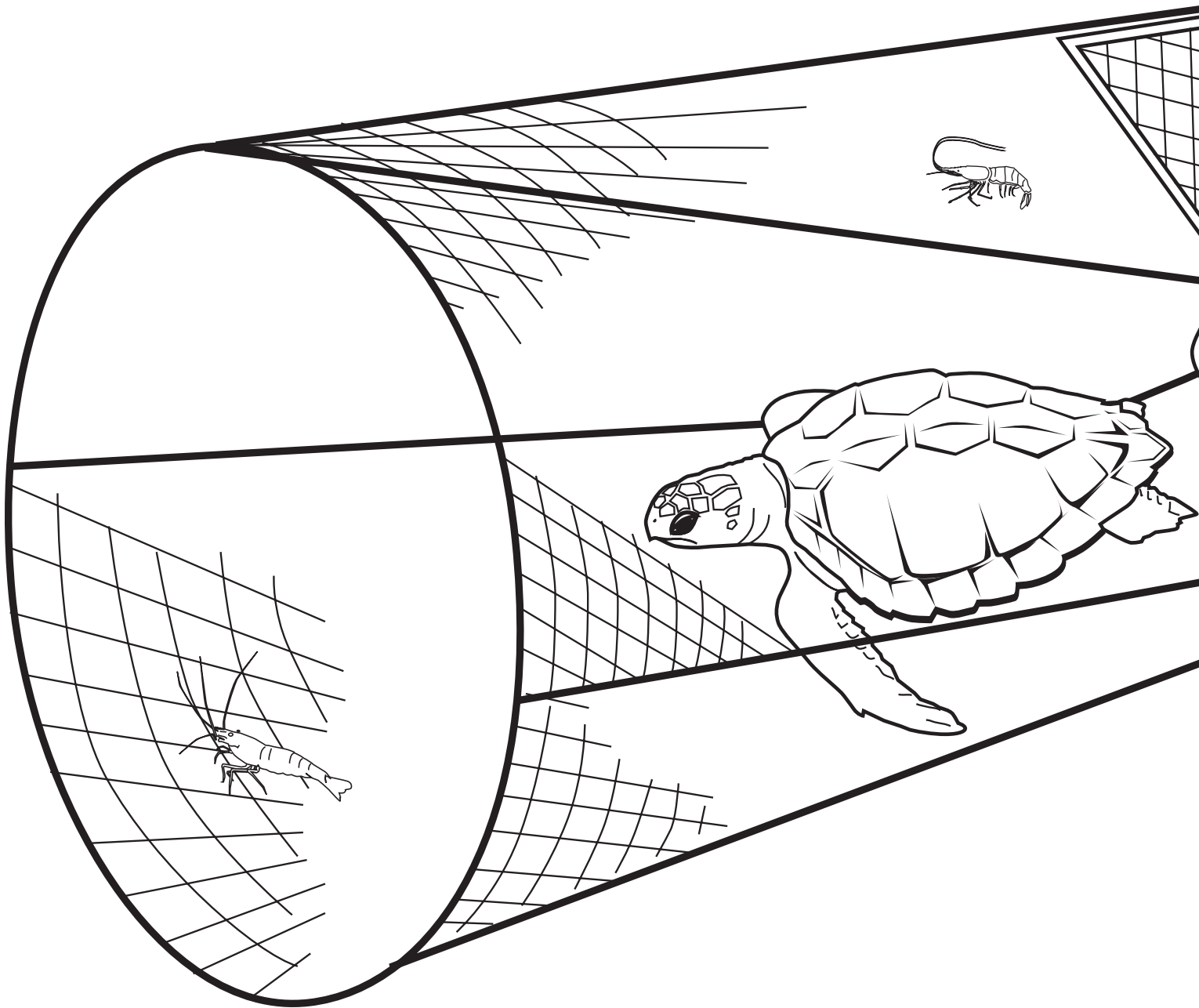


Once the catch is dumped on deck, the men quickly separate the shrimp from the bycatch. Since the shrimp are most important to the crew, they are given special treatment by being stored on ice or in a freezer before the bycatch is thrown back into the ocean. In the past, most of the fish and other animals in the bycatch died on the deck of the boat waiting to be set free.

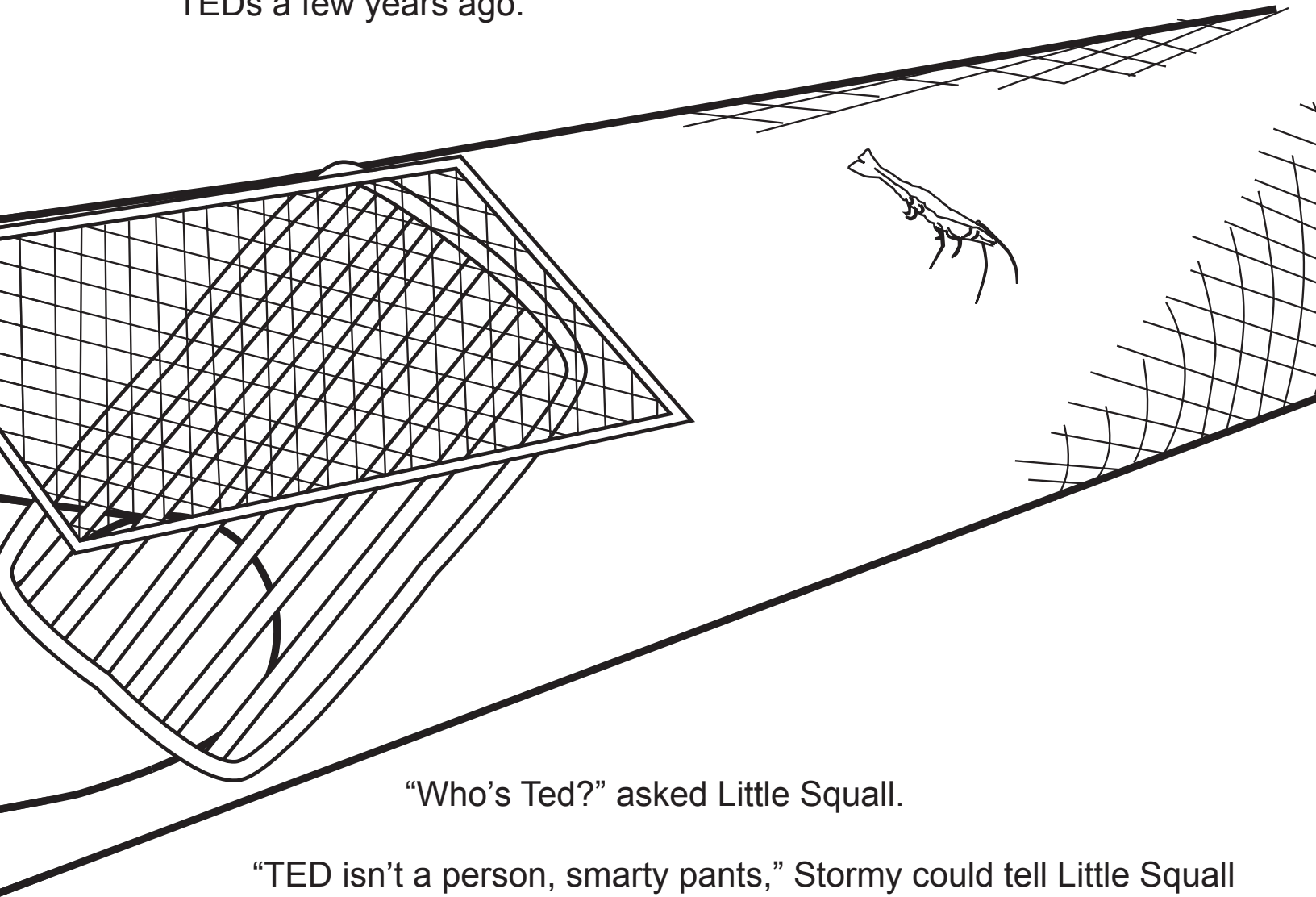




The BRDs create a way for the bycatch to escape from the trawl nets. A BRD is a hole in the net held open by a metal frame or heavy netting located in front of the bag of the trawl. Since fish are stronger swimmers than shrimp, they find the opening and most escape from the net while the shrimp are swept into the bag.



“If we don’t handle the nets properly when we bring them in, we can lose much of the shrimp catch through the BRD,” explained Captain Stormy. “I first thought BRDs were going to be a real problem, but they’ve been working well and we don’t lose too many shrimp. We have added BRDs to our nets, like we added TEDs a few years ago.”

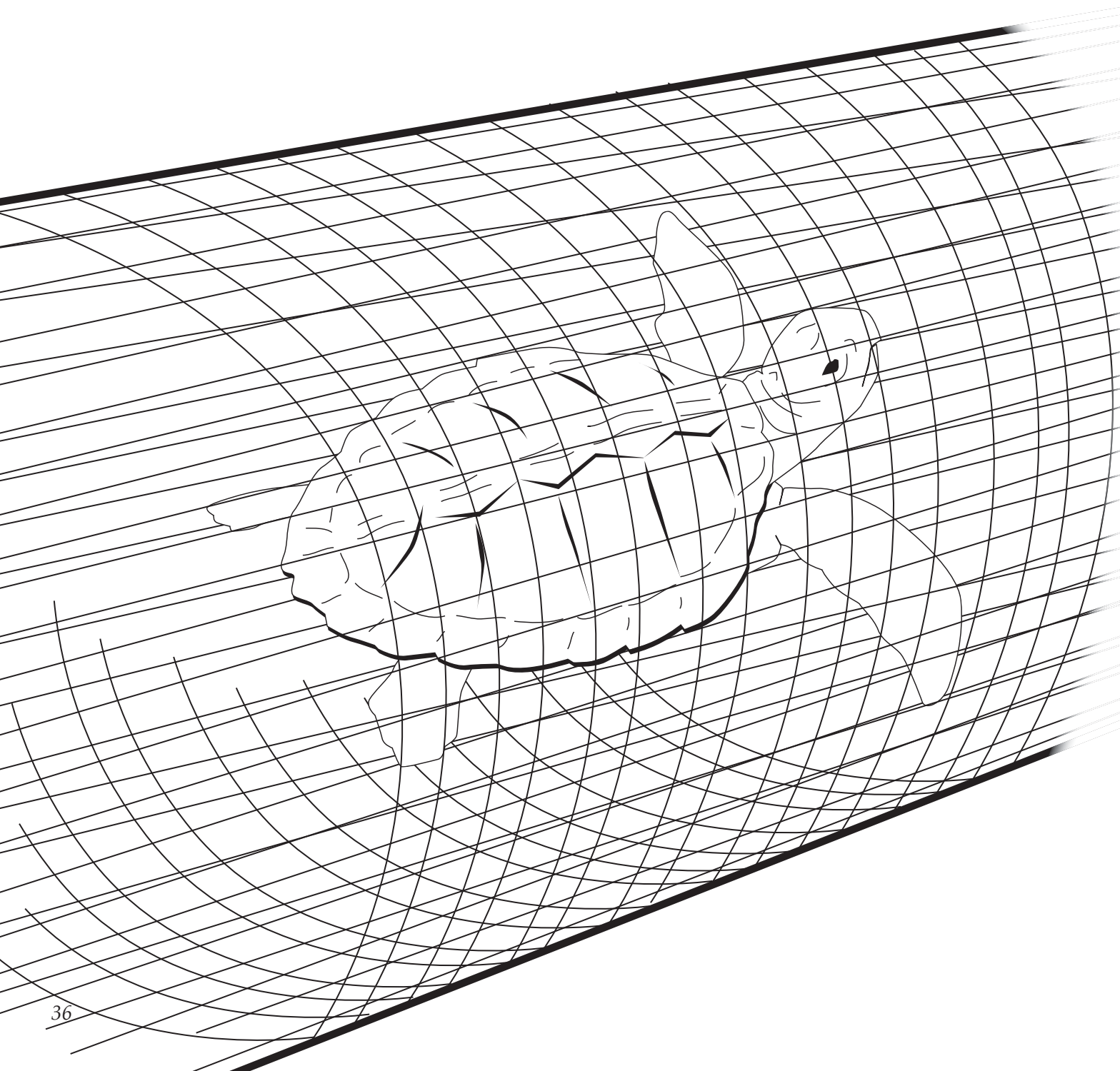


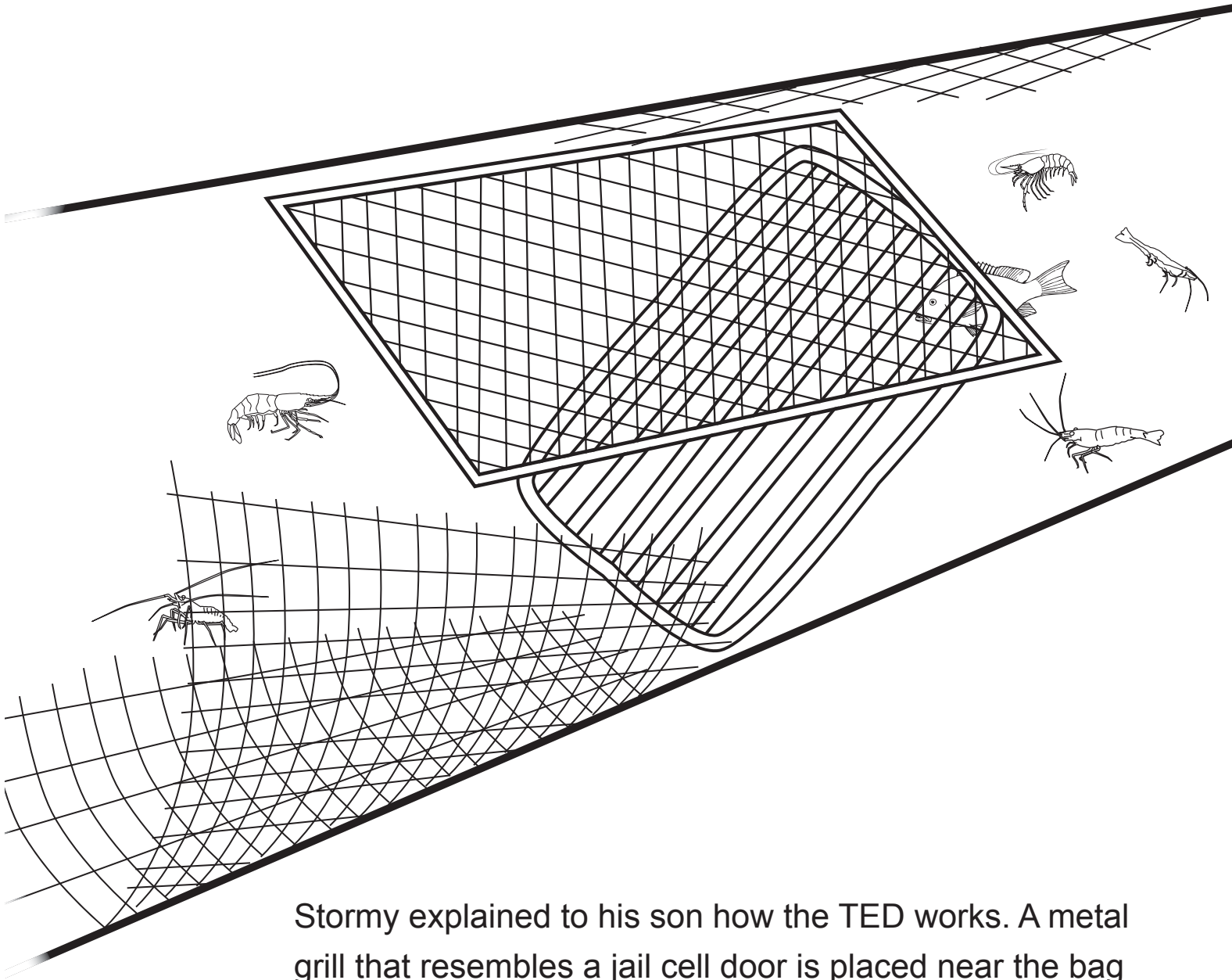
“Who’s Ted?” asked Little Squall.

“TED isn’t a person, smarty pants,” Stormy could tell Little Squall was teasing him, and he laughed. “TED stands for Turtle Excluder Device.”

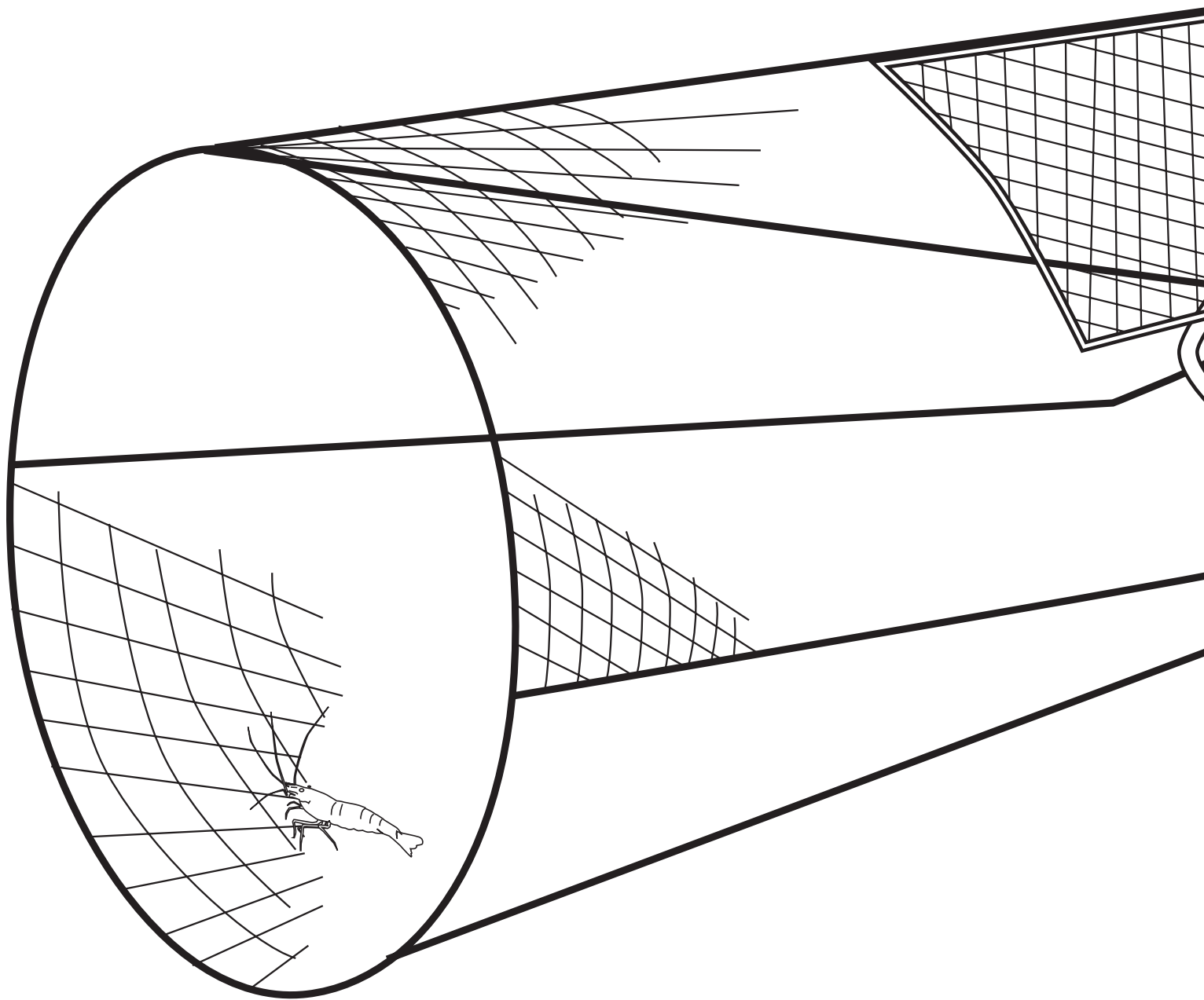
Stormy’s tone grew more serious. “They’re important for you to learn about, Little Squall. They help save turtles, which is a very good thing, because turtles are great creatures and they’re also on the endangered species list.”

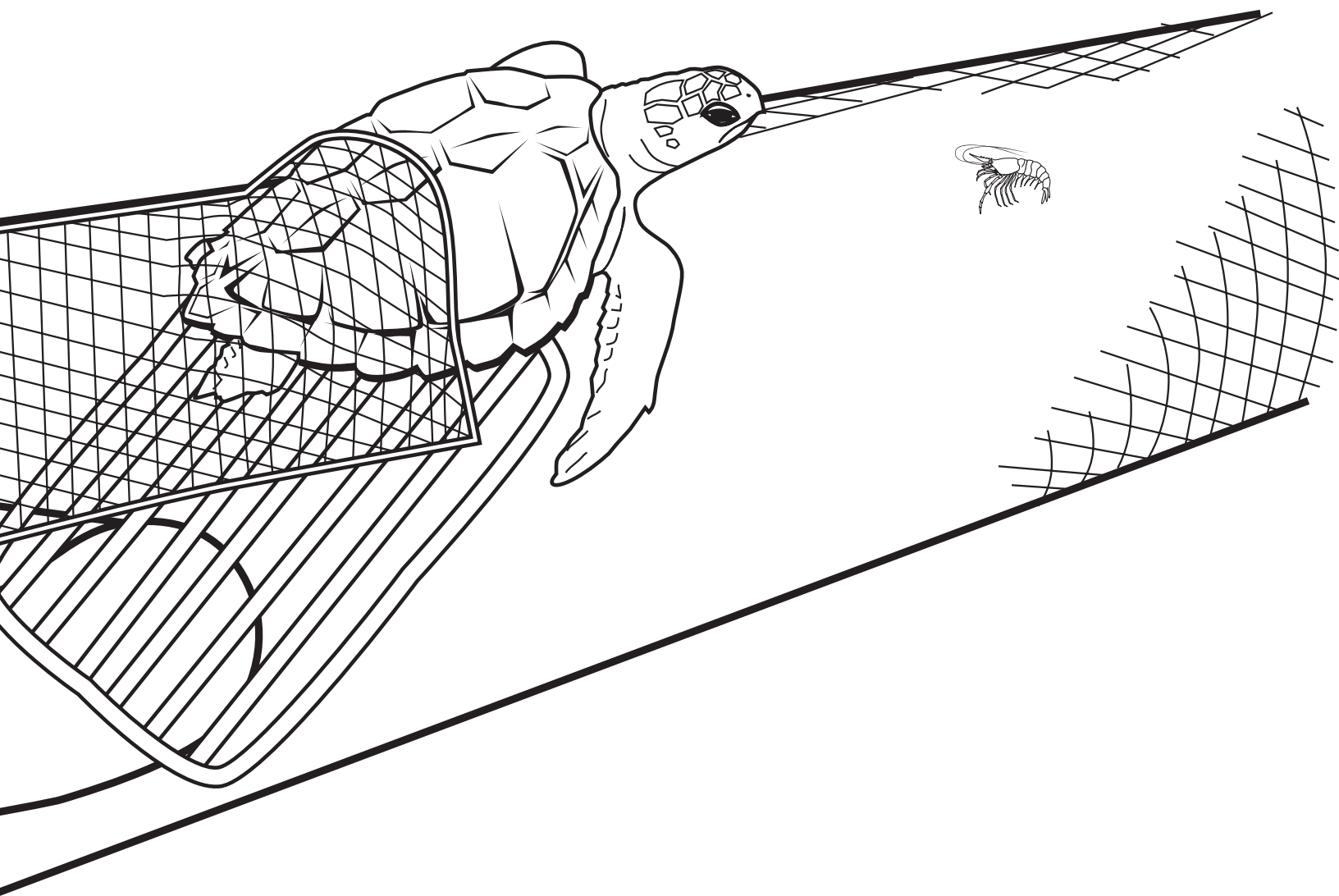
A turtle caught in a shrimp net, as Barney was now, often drowns before the net is brought to the surface. To deal with that problem, the government required that all shrimp nets be fitted with a TED.



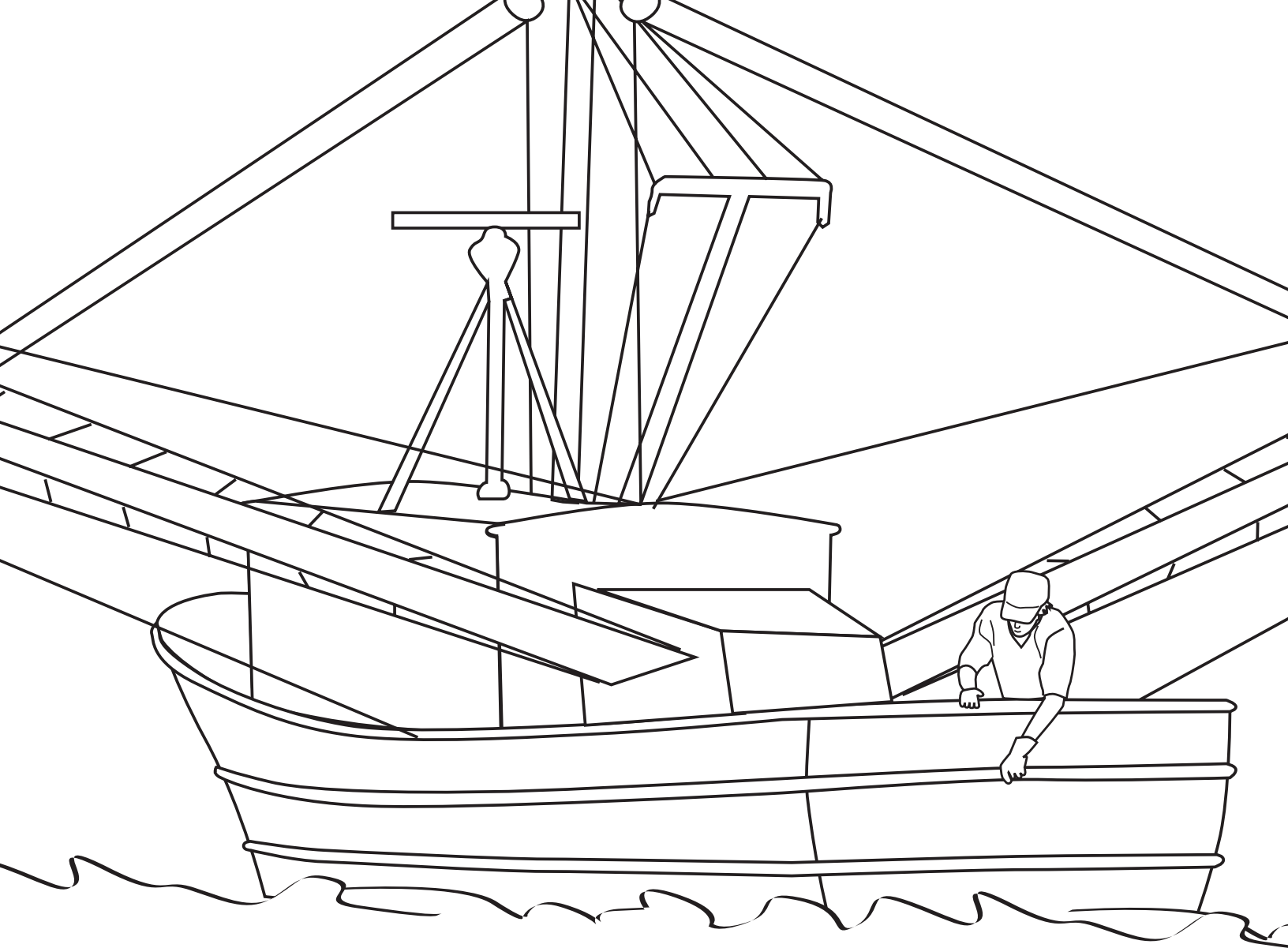


Stormy explained to his son how the TED works. A metal grill that resembles a jail cell door is placed near the bag end of the net, and it stops the turtle in the passageway toward the bag. The grill has an opening above or below covered by a flap of netting that opens when the turtle pushes against it and allows the turtle and large fish to escape.



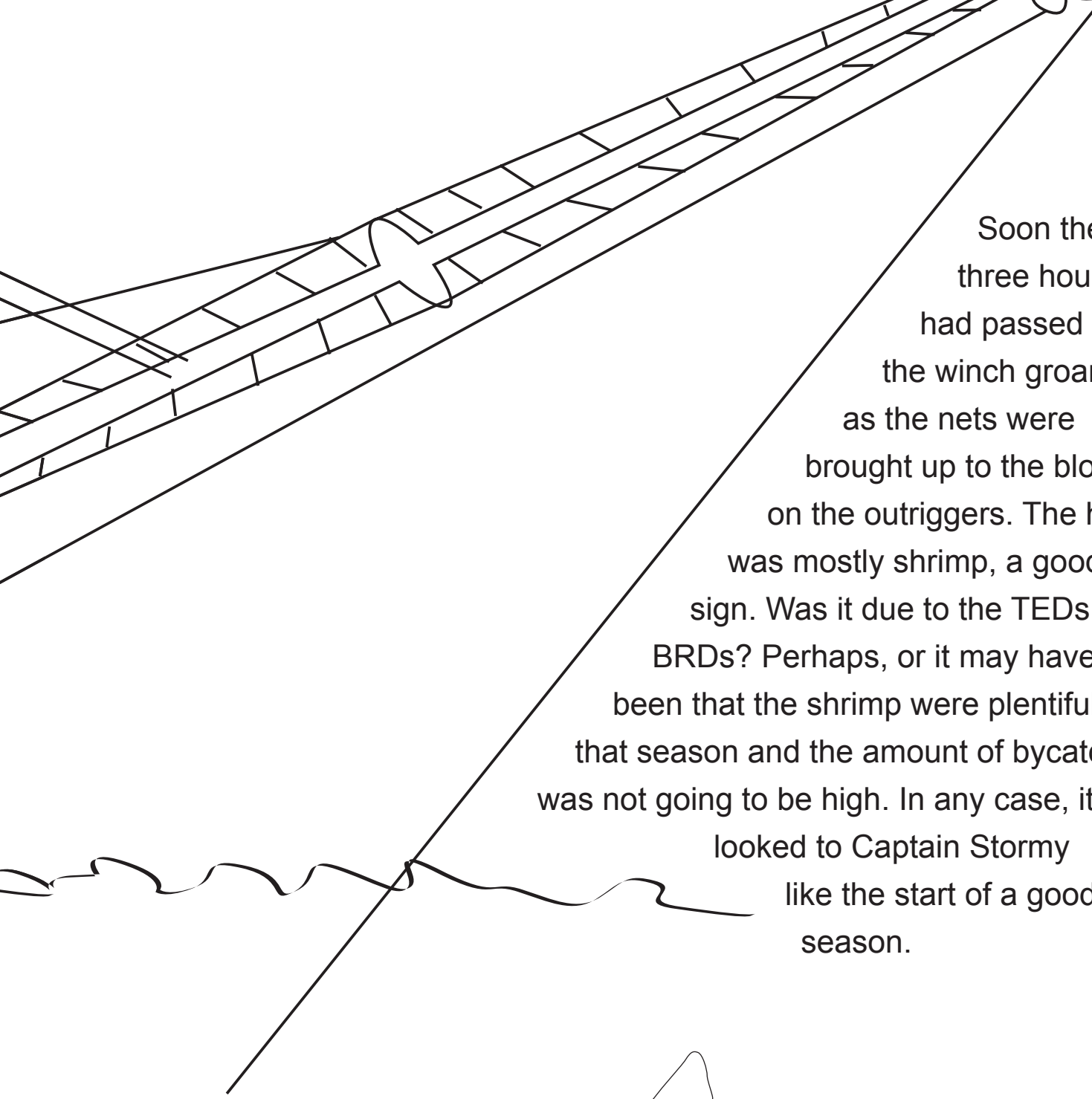


Barney did not know it, of course, but he had been caught in one of Captain Stormy's trawls. As Barney was losing his battle to escape from the mouth of the trawl, he was drawn closer and closer to the TED. Finally, he came up against the grill and was pulled along as the net followed behind the boat. After resting for a moment, Barney tried swimming toward the surface once again. This time, his efforts paid off. His movements opened the flap at the top of the net and he was finally free! He swam quickly through the 100 feet of water that separated him from the surface and took a breath of the sweet air.

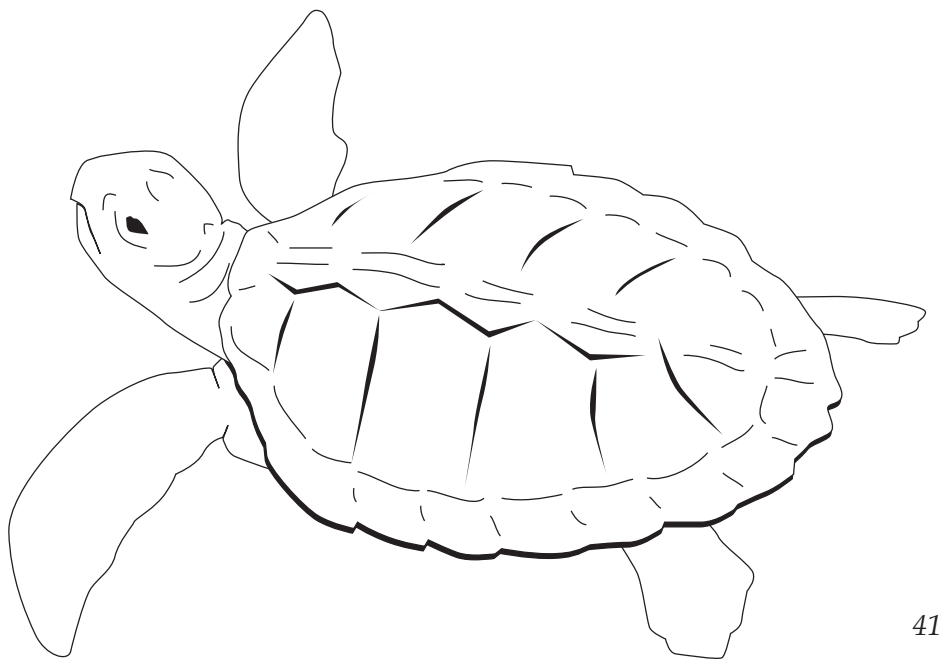


Little Squall stood at the rear deck of the *Eloise*. The sun was setting now as he stared into the boat's wake. Off to one side he spotted something. Was that a sea turtle surfacing? Or was it just his imagination? Little Squall was convinced it was a turtle.

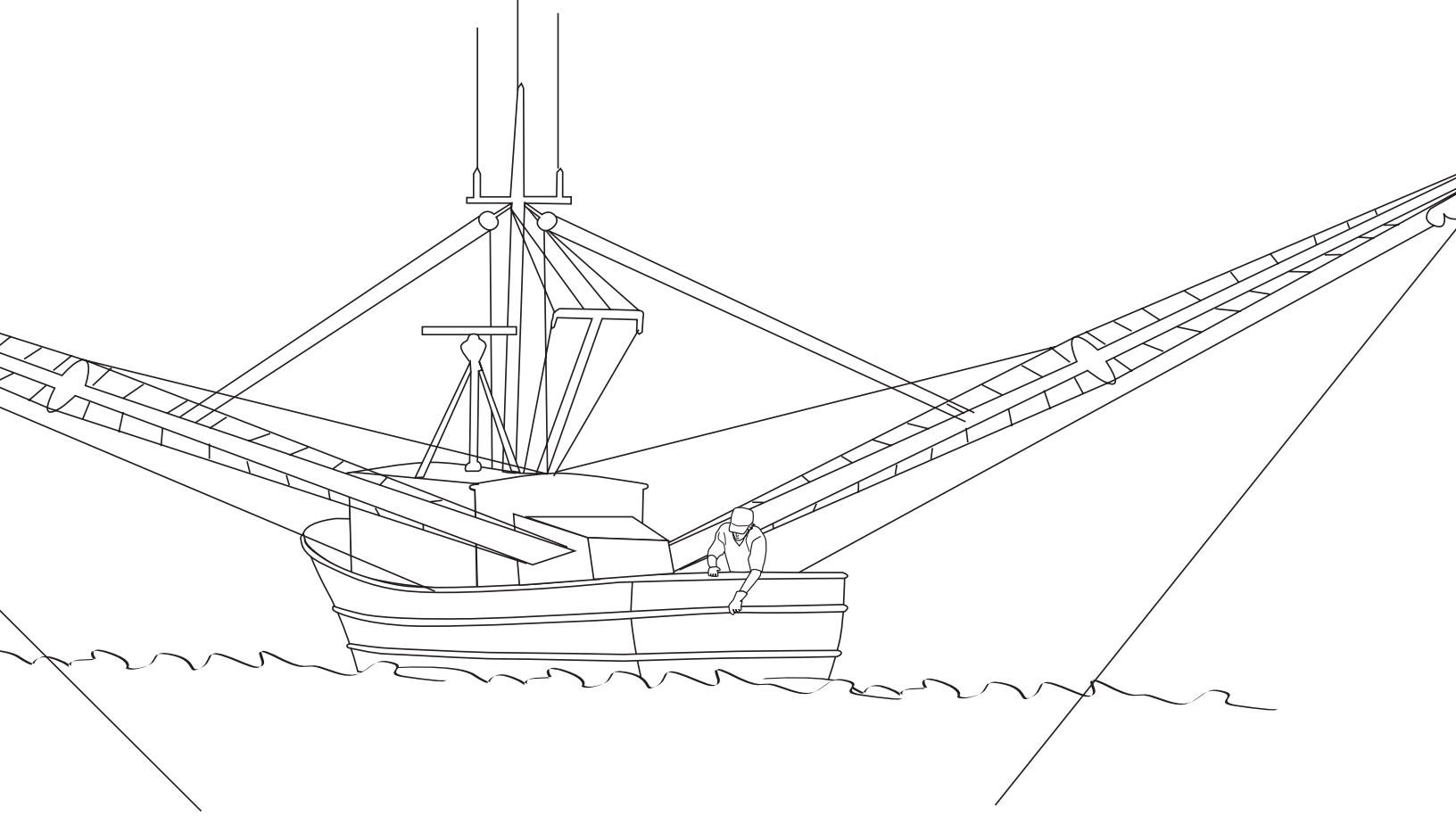
"Hey, little guy. Next time, stay away from our nets, okay? And if you accidentally get caught, don't panic, it's got a TED so it will be easy for you to get away!"



Soon the three hours had passed and the winch groaned as the nets were brought up to the blocks on the outriggers. The haul was mostly shrimp, a good sign. Was it due to the TEDs and BRDs? Perhaps, or it may have been that the shrimp were plentiful that season and the amount of bycatch was not going to be high. In any case, it looked to Captain Stormy like the start of a good season.







As the *Eloise* sailed away, Barney floated on the surface for a few minutes to catch his breath. He thought about returning to his search for crabs, but he was tired and it was getting dark, so the crabs were not as easy to see. Tomorrow was another day, and there would be plenty of crabs then, he thought to himself. Now it was time for a well-deserved nap.



