CHAPTER 2: PEACE RIVER

Section 1: Banana Creek Marsh

A mother alligator pushes leaves, sticks and mud together. Dark clouds block the sun as lightning flashes and thunder booms. The alligator shapes the pile into a mound for her nest.

When the moon rises, the mother climbs on top of the nest. She digs into it with her back legs and lays her eggs, burying them. The eggs are kept warm by the heat produced from the rotting plants.

In July and August, the mother guards her nest. In September, she hears a chirping sound. Her babies are hatching and call her to dig them out. She claws the nest. As the babies crawl out of the eggs, she gathers them in her mouth and carries them to the lake. She makes many trips.

One baby alligator is late. It breaks out of its egg and chirps, but its mother is too far away to hear.

Then the hatchling is lifted into the air. A young woman holds the alligator closely behind its head so it cannot turn and bite.

"Well, little one, what are you doing here?"

The woman holds a clipboard under her left arm.

"I can see your nest. That's a lot of eggs! This marsh must be working. In the 1940s, a canal was dug to drain the land. A few years ago, it was filled in. Now water covers the pasture where cattle once grazed. You were born in a Polk County park named after the old ranch, the Circle B Bar Reserve."

The baby alligator stops wiggling.

"I can see your mother's tracks. I guess she forgot you, so I'll carry you."

The woman starts walking. Her boots slurp in the wet ooze.

"I'll bet you're wondering about me, aren't you? My job is to count whatever wildlife I see. Around the lake are other cattle ranches and orange groves — even some houses. More houses are being built every day. Lake Hancock is one of the most polluted lakes in Florida, but it's getting better."

Near the lakeshore, the woman stops. She stretches out her arm. "There's your mother — see?" Then she pulls the baby alligator near again. "I don't want to get close enough to meet your mother! But I'm happy we met. Your scientific name is *Alligator mississippiensis*, but I'll call you Missy for short. Bye, Missy."

On the ground, Missy scoots toward her mother.

ALLIGATORS

by Kayton Nedza, Hardee County Outdoor Classroom

Alligators are reptiles. They are cold-blooded, so the sun and air temperatures adjust their bodies' heat. They lay eggs in a nest. If the temperature is hot, the eggs will be males; if the temperature is cool, they will be females. Little alligators are black with yellow stripes, which helps them blend into the shade and murky water. Many animals eat baby alligators, including raccoons, otters, herons, snakes, fish and other alligators. Babies stay with their mother for the first year or two so she can protect them. On land, an alligator can run very fast for a short distance, so you should stay away!

Section 2: Lake Hancock

In the lake, the baby alligators crowd around their mother. Two other mothers with their babies join the pod. The pod may stay together for as long as two years. The babies eat tadpoles and minnows. They learn to catch snails, dragonflies and frogs.

Near shore, Missy floats. Only her snout and the top of her back show. She feels the water moving as a fish swims by. It shimmers. She lunges with open jaws, but the fish darts away.

As Missy chases it, she swims into the lake. Watching the fish, Missy doesn't see the osprey's shadow. The bird dives and seizes her in its talons.

They soar into the sky. Suddenly, Missy can see the tops of oaks and cypresses. The lake shrinks into a shape, as round as a possum curled up. Peace River is its tail. But between the body and the tail is a dam. The osprey tightens its grip, yet none of the talons pierce Missy. Shrill cries ring in the air. As the osprey dips toward the lake, an eagle swoops toward them with talons outstretched.

The osprey turns and dives lower, over the dam. Its cries are harsh and shrill. The eagle calls out. It circles and flies toward them to attack. Above the river, the osprey releases Missy. It turns with talons up and open to meet the attacker. The sound of their screeches echo in the rushing wind as Missy falls.

Splash! She slowly sinks to the bottom of the river and stays under until the osprey and eagle have flown away. Then she glides along the sandy river bottom.

DAMS

by Diane Herron, Polk Environmental Education Resource Center

If trees fall where a creek is narrow, the water will puddle up. The fallen tree stops the flow until the water can find its way around or over the tree as it tries to move downward. Water in a higher place always tries to find its way into a lower place. That's why creeks and rivers flow! They are moving downward, even if the land doesn't seem to slope. If the flow of water is stopped or reduced, then everything that depended on it downstream has to either adapt to less water, move away or die. Behind the dam, everything has to survive in more water. Water is so important that sometimes people build dams to store water.

LAKE HANCOCK DAM

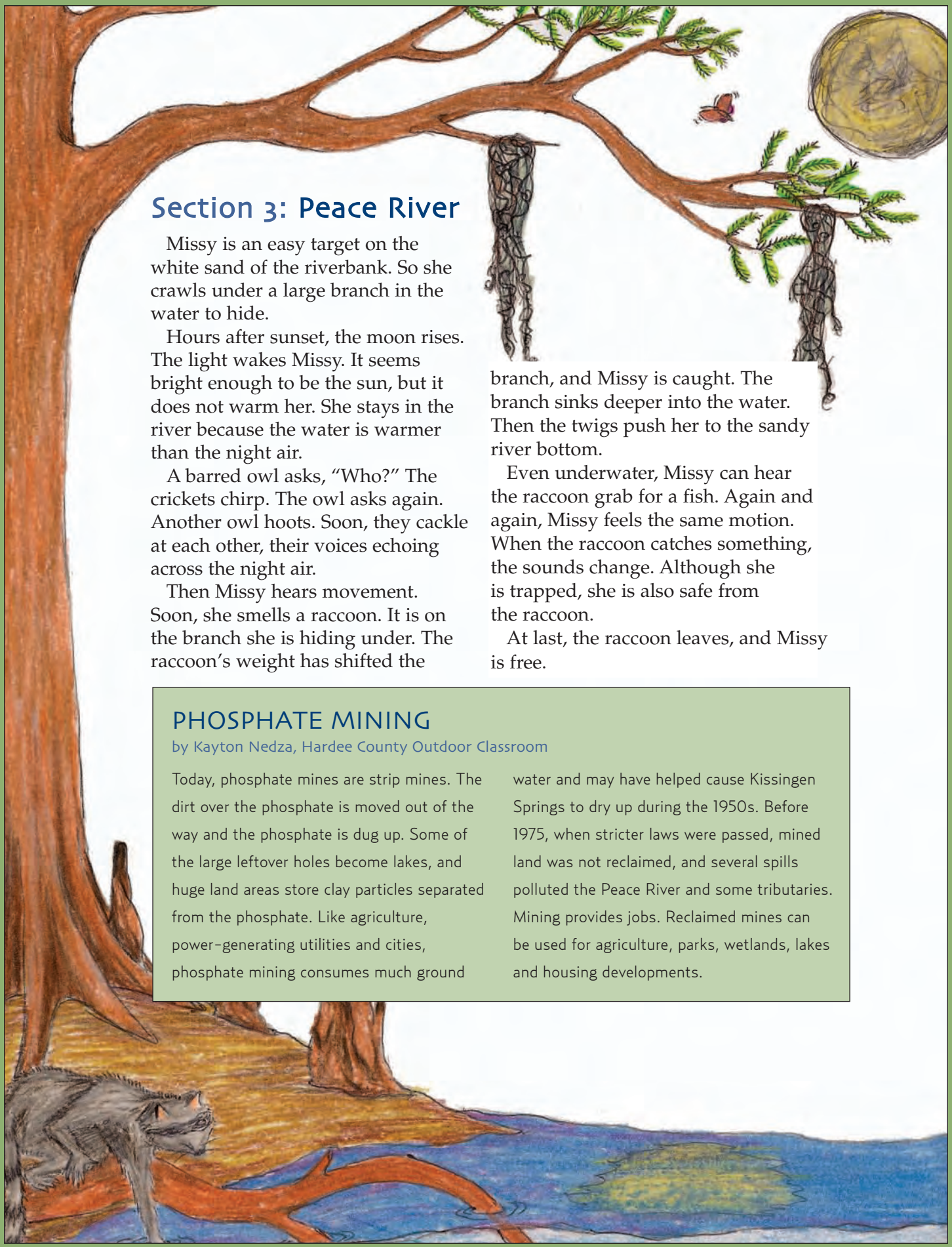
by Curtis Porterfield, Polk County Natural Resources Division

Lake Hancock is a 4,500-acre lake north of Bartow. A dam called the P-11 controls the water level in the lake. Water released from the lake begins the Peace River. The dam does not allow animals traveling up the river to go any farther by water. When the gates of the dam are open, some small animals in the lake may go into the river. Over the years, the lake has collected a lot of pollutants from wastewater treatment plants. Some say that the lake water released into the river may be polluting the river itself.

PHOSPHATE

by Kayton Nedza, Hardee County Outdoor Classroom

Phosphate is the chemical element phosphorus. Essential to life, it is in all living things. Millions of years ago, this part of Florida was ocean bottom. Currents caused the growth of many plants and animals, such as sharks, stingrays, whales and dugongs (an animal like the manatee). As these plants and animals died, their remains drifted to the bottom and the phosphorus in their bodies turned into phosphate. In the late 1800s, people started mining phosphate to make fertilizer. Today, this area produces 75 percent of the phosphate used in the United States and 25 percent of the phosphate used in the world to grow food.



Section 3: Peace River

Missy is an easy target on the white sand of the riverbank. So she crawls under a large branch in the water to hide.

Hours after sunset, the moon rises. The light wakes Missy. It seems bright enough to be the sun, but it does not warm her. She stays in the river because the water is warmer than the night air.

A barred owl asks, "Who?" The crickets chirp. The owl asks again. Another owl hoots. Soon, they cackle at each other, their voices echoing across the night air.

Then Missy hears movement. Soon, she smells a raccoon. It is on the branch she is hiding under. The raccoon's weight has shifted the branch, and Missy is caught. The branch sinks deeper into the water. Then the twigs push her to the sandy river bottom.

Even underwater, Missy can hear the raccoon grab for a fish. Again and again, Missy feels the same motion. When the raccoon catches something, the sounds change. Although she is trapped, she is also safe from the raccoon.

At last, the raccoon leaves, and Missy is free.

PHOSPHATE MINING

by Kayton Nedza, Hardee County Outdoor Classroom

Today, phosphate mines are strip mines. The dirt over the phosphate is moved out of the way and the phosphate is dug up. Some of the large leftover holes become lakes, and huge land areas store clay particles separated from the phosphate. Like agriculture, power-generating utilities and cities, phosphate mining consumes much ground water and may have helped cause Kissingen Springs to dry up during the 1950s. Before 1975, when stricter laws were passed, mined land was not reclaimed, and several spills polluted the Peace River and some tributaries. Mining provides jobs. Reclaimed mines can be used for agriculture, parks, wetlands, lakes and housing developments.

Section 4: Peace River Park

Swimming downstream, Missy enters a swamp. Bald cypress trees stand tall above the water. Streamers of Spanish moss hang from their branches.

An egret perches on a cypress knee. It dips into the water and catches a mosquito fish. Missy eats one too. The fish, as small as a guppy, eats the larvae of mosquitoes.

A hurricane in 2004 blew down branches and trees. Missy hides beneath one and another as the ground becomes more mud than water. She follows the rise of the land toward the scent of sun-baked sand and plants.

Missy wiggles through Virginia creeper and swamp fern. She sees a sidewalk. Across the road is a tall hill. It is taller than the riverbank or a cypress tree.

Missy hears footsteps and dogs panting. She hides in the ferns.

A woman holds her son's hand. She tells him, "That big hill where we parked used to be a clay settling pond from a phosphate mine. It's dried up now, but when it was first made, the watery stuff inside it was really yucky. My friend told me that one time some of it leaked into the river. It killed all the fish."

A man holding the leashes of two dogs says, "Pardon me, ma'am. It's what they now call reclaimed." The dogs pull toward the boy. "Don't worry. These dogs won't hurt you."

Then he turns to the mother. "The hill's planted in grass, and it makes a big, open field. The dogs love it."

The dogs sniff the ground, pulling against their leashes. They whine toward Missy. She holds still.

The man says, "You should walk the boardwalk. It winds through the swamp to the river."

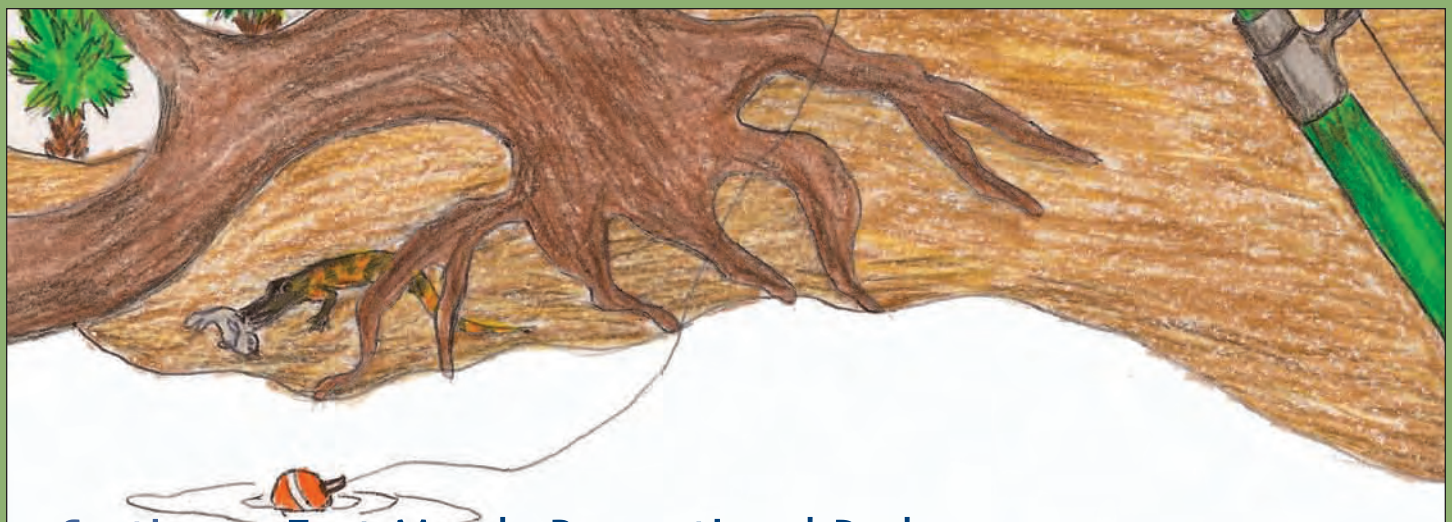
She says, "There's only about an hour of daylight left."

"You have time to walk to the river. You'll want to stop and look at everything. You can even see the high water mark on the tree trunks." The man pulls on the leashes. The dogs bark and whine and tug harder.

"I will — thanks." She smiles at him.

He yanks the leashes. "C'mon, boys," he says to the dogs.

Before she turns to the river, Missy waits until the footsteps fade away.



Section 5: Fort Meade Recreational Park

For centuries, people have crossed Peace River at Fort Meade. Today, U.S. Highway 98 bridges the river, and hickory trees grow on the banks. As Missy passes under the bridge, a nut falls near her. When it rises to the surface, she bats it down. It pops up again as they float together.

At the boat ramp, three men are fishing. One rests the end of his fishing pole on the ground. A bream dangles at the end of his line. "So far, only stumpknockers — and too small to keep," he says.

He works the hook free and tosses the fish. It lands in the water not far from Missy. The fish is the right size for her. She dives and catches it in her teeth. She drags it up on the bank beneath a tangle of twigs. She tears it into chunks as she eats it.

Another man catches a fish and the pole bends. He reels it in. The fish sways at the end of his line. "Look here — a walking catfish."

A third man says, "You're kidding. I didn't think they'd gotten this far north." He sips coffee from a Styrofoam cup with a plastic cover.

The man with the catfish says, "I've been catching them for years. I remember back in the 1960s when they first got loose. It was from a fish farm or truck north of Miami."

"I hear they'll eat anything." The third man sips his coffee again.

"Sure enough. And they can live in the muddiest water. And they'll eat everything in a puddle and then walk to the next one," the first man explains.

The man slips off the plastic cover, drains the last of the coffee and then fits the top on again. He walks up the ramp, tosses it into a trash can and then returns. "You gonna let him go?"

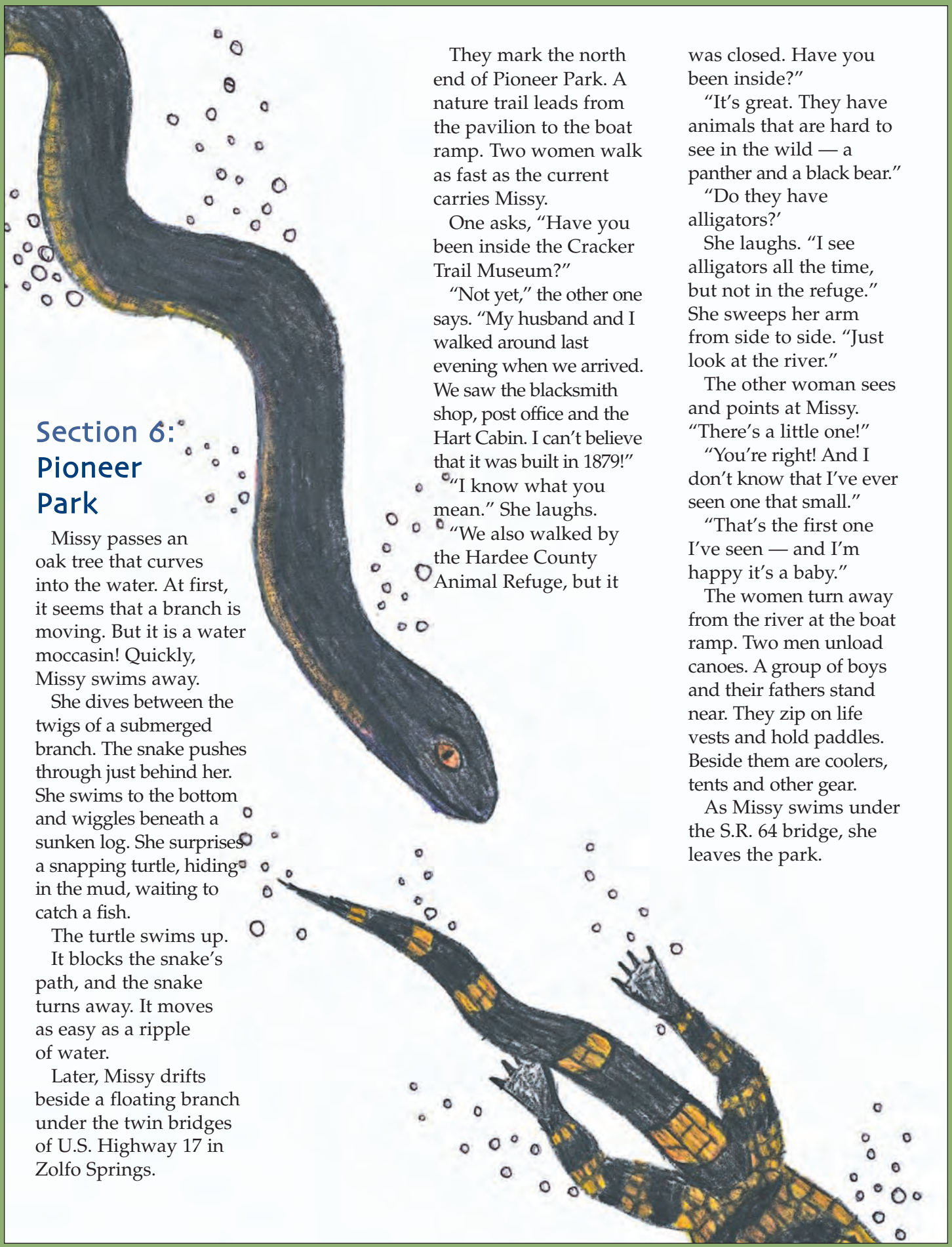
"No way — tastes just like a regular old Florida catfish — maybe better." Wearing a glove, he holds the fish. He slips the hook from its mouth. He tosses it into a bucket half full of water. Drops splash all around.

Missy swallows the last bit of fish. She dives into the river and moves south with the current.

EXOTICS AND INVASIVE EXOTICS

by Melissa Cain Nell, Conservation Lands Management Department, Manatee County

If you were born in Florida, you are a "Florida native." Plants and animals can be natives, too, if they live here naturally. Plants and animals that grow naturally elsewhere but have been brought to Florida are called exotics. Often, these species have no predators or other environmental controls and they quickly multiply and take over. When an exotic competes with native plants and animals for food, water, shelter and space, it is called an invasive species. Because of its tropical climate, Florida is a paradise for exotic species, such as the Brazilian pepper tree, melaleuca tree, air potato vine, pasture grass, hydrilla, water hyacinth, wild hog, iguana, European starling, house sparrow, walking catfish and fire ants.



Section 6: Pioneer Park

Missy passes an oak tree that curves into the water. At first, it seems that a branch is moving. But it is a water moccasin! Quickly, Missy swims away.

She dives between the twigs of a submerged branch. The snake pushes through just behind her. She swims to the bottom and wiggles beneath a sunken log. She surprises a snapping turtle, hiding in the mud, waiting to catch a fish.

The turtle swims up.

It blocks the snake's path, and the snake turns away. It moves as easy as a ripple of water.

Later, Missy drifts beside a floating branch under the twin bridges of U.S. Highway 17 in Zolfo Springs.

They mark the north end of Pioneer Park. A nature trail leads from the pavilion to the boat ramp. Two women walk as fast as the current carries Missy.

One asks, "Have you been inside the Cracker Trail Museum?"

"Not yet," the other one says. "My husband and I walked around last evening when we arrived. We saw the blacksmith shop, post office and the Hart Cabin. I can't believe that it was built in 1879!"

"I know what you mean." She laughs. "We also walked by the Hardee County Animal Refuge, but it was closed. Have you been inside?"

"It's great. They have animals that are hard to see in the wild — a panther and a black bear."

"Do they have alligators?'

She laughs. "I see alligators all the time, but not in the refuge." She sweeps her arm from side to side. "Just look at the river."

The other woman sees and points at Missy. "There's a little one!"

"You're right! And I don't know that I've ever seen one that small."

"That's the first one I've seen — and I'm happy it's a baby."

The women turn away from the river at the boat ramp. Two men unload canoes. A group of boys and their fathers stand near. They zip on life vests and hold paddles. Beside them are coolers, tents and other gear.

As Missy swims under the S.R. 64 bridge, she leaves the park.

Section 7:
Peace River Canoe Trail

The canoes catch up with Missy. First, she hears talking and laughing and the dip of paddles. Then, one paddle thunks the side of the canoe.

She floats beside a branch in the grassy water. The canoes close in.

"Hey — look over there," a man says, pointing to her. "It's a baby alligator."

"Cool, man," another says. "It's so small."

"Look, Daddy," a boy holds up a plastic alligator. "It looks just like my toy."

The boy's father scoops Missy in a net. "Let's have some fun."

Missy struggles. He holds the netting with one hand and the handle with the other, trying to dump her into the canoe. He shakes harder. The claws of one foot tangle in the net. She dangles there. He swings her lightly against the side of the canoe. Her foot twists free, and she thumps into the bottom of the canoe.

The boy pulls his feet up onto the seat. "Wow! Will it bite?"

"Yes, it will bite! Stay back!"

The boy's father watches the other canoes crowd around to watch. "Throw that toy gator down. Let's see what the alligator does with it."

On the bottom of the canoe, Missy doesn't move. She stands on her three good legs. Her hurt leg throbs.

One man calls, "Heads up! We're drifting into that log jam over there."

They paddle the canoes away from the danger. One of the boys asks, "What's that gator doing?"

"Nothing," the father says. He paddles the canoe.

The warmth of sun and the movement of the canoe lull Missy. Mile after mile, the canoes push south.

Missy doesn't move, so the boy watches the birds. Kingfishers zigzag from shore to shore. Egrets and herons skim above the river. The boy turns to his father, "Don't they get tired of getting surprised by us?"

"Huh? Are you tired?" the father asks.

"No. I'm watching the birds. That same white one flies away when we come close. It only goes a little way down the river. We surprise it again and again. How come it doesn't get tired of doing that?"

"I don't know, son, but I'm tired of this gator. It might as well have been a toy too." Reaching down, he grabs Missy by the tail and flips her overboard.

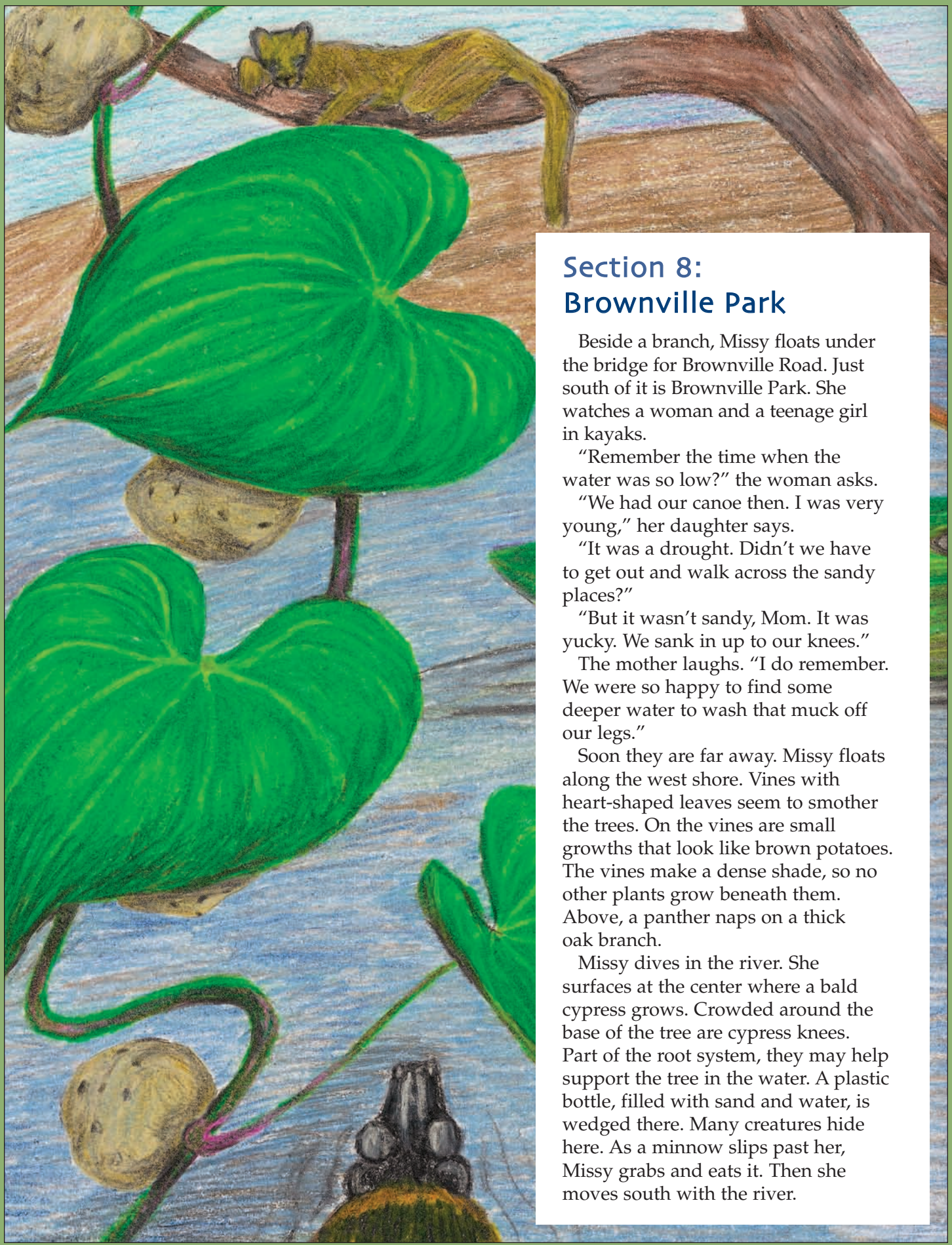
She swims as fast as she can away from the canoes.

ALLIGATOR BEHAVIOR

by Kayton Nedza, Hardee County Outdoor Classroom

In addition to a regular eyelid, alligators have a transparent eyelid. Like swim goggles, it protects the eye and lets the alligator see. Alligators close their ears, which are located behind their eyes, to keep water out of them. They can also close their throats, so they can bite and chew underwater. They raise their heads above water to swallow. Small alligators eat minnows, insects, tadpoles and frogs. Large alligators eat raccoons, turtles, snakes and animals as large as a deer or Florida panther. Strong acid in their stomachs digests bones and teeth. They swallow small prey whole and will rip large prey into chunks before swallowing it.

Florida law prohibits feeding, disturbing or capturing alligators.



Section 8:
Brownville Park

Beside a branch, Missy floats under the bridge for Brownville Road. Just south of it is Brownville Park. She watches a woman and a teenage girl in kayaks.

"Remember the time when the water was so low?" the woman asks.

"We had our canoe then. I was very young," her daughter says.

"It was a drought. Didn't we have to get out and walk across the sandy places?"

"But it wasn't sandy, Mom. It was yucky. We sank in up to our knees."

The mother laughs. "I do remember. We were so happy to find some deeper water to wash that muck off our legs."

Soon they are far away. Missy floats along the west shore. Vines with heart-shaped leaves seem to smother the trees. On the vines are small growths that look like brown potatoes. The vines make a dense shade, so no other plants grow beneath them. Above, a panther naps on a thick oak branch.

Missy dives in the river. She surfaces at the center where a bald cypress grows. Crowded around the base of the tree are cypress knees. Part of the root system, they may help support the tree in the water. A plastic bottle, filled with sand and water, is wedged there. Many creatures hide here. As a minnow slips past her, Missy grabs and eats it. Then she moves south with the river.

Section 9: DeSoto Park and Morgan Park

Missy swims into a hollow log. It is full of water and open on one side. A sound louder than a hundred cicadas startles a mottled duck. As it starts to fly, it seems to run across the water on its webbed feet. The humming echoes from either side of the river. Missy watches a flat-bottomed green boat skim by. Its wake rocks the log. The water sloshes inside. Missy can smell the exhaust fumes and the drips of oil from the boat engine.

Before the waves calm, the noise stops. Then Missy hears another throbbing. A truck with a trailer backs down the DeSoto Park boat ramp. Someone pushes and pulls the boat and winches it onto the trailer. As the truck drives up the ramp, water pours from the engine and boat.

Missy leaves her hiding place. She swims along the east shore. She can hear the thumping of feet. People and dogs jog and walk the trail in Morgan Park. Then she passes under the wide concrete piers for the old bridge and new bridges of S.R. 70. Cars and trucks drive to and from Arcadia.

Thick pine forests once grew on the banks. They were cut for lumber. Many trees in the Peace River Valley have been harvested or cleared away for development. In the warm shallows, Missy hunts for food. She swallows some frog eggs floating in the grasses. Then she feels movement. Cows amble into the river. As one grazes near Missy, a grasshopper flies up. Missy lunges to catch it. The cow looks at Missy and keeps eating.

Missy hears a noise like a trumpet. A sandhill crane calls. Another glides with it, and they land in the grass. Their long bills find insects to eat in the ground.

Cattle egrets also feed with the cows. They snap up bugs that the cows frighten. An egret perches on the back of a cow to eat bugs. Cow manure falls on the sand and in the water, and Missy swims away.

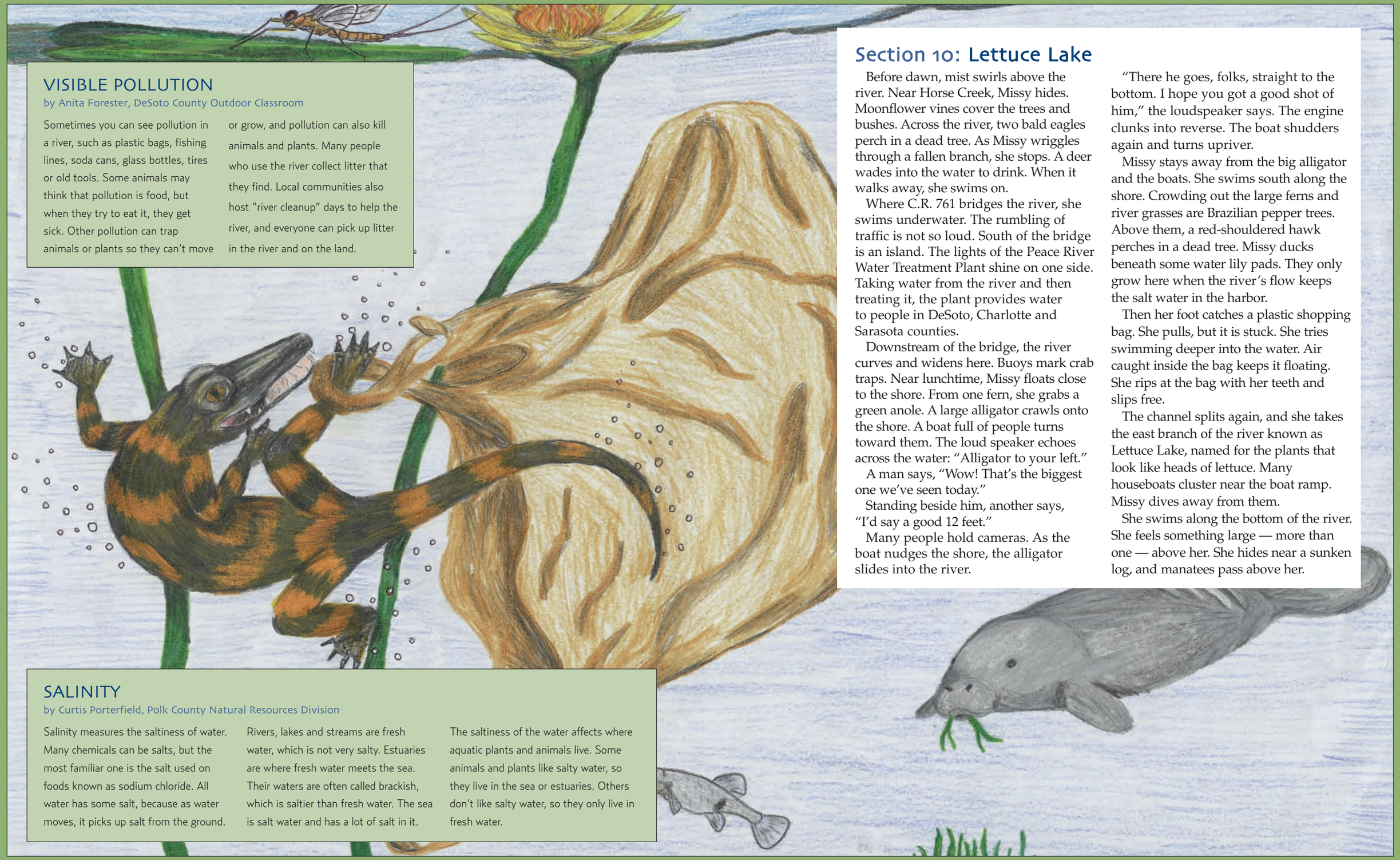
In places, the riverbank is steep and high. In others, the ground slopes to the water. In the early twentieth century, phosphate rock was dug from the riverbed. The sand leftover from the mining changed the shape of the banks.

Missy rests on the slope of a sandbar under a willow tree. Ridges in the sand mark the waves of water. She feels a humming, and then she hears it. An airboat skims by. It throws a spray of wind and water. It feels like rain. It chases a school of minnows toward her. Missy snaps up one, two, three!

BEEF CATTLE

by Kayton Nedza, Hardee County Outdoor Classroom

In the 1500s, Spaniards brought beef cattle to Florida. By the late 1700s, the Seminole Indians had the largest herds. During the Civil War, in the 1860s, the Peace River Valley supplied beef cattle to the Confederate Army. During the 1890s, cowmen fought "range wars" for cattle ownership and those times were wilder than the "wild west." Today, Florida is one of the top 12 states that supply cattle for beef. Many ranches fence cows from swamps and riverbanks, and they burn the grasslands as part of a natural cycle of fire. Many acres of ranches are native Florida lands, which serve as wildlife habitat.



VISIBLE POLLUTION

by Anita Forester, DeSoto County Outdoor Classroom

Sometimes you can see pollution in a river, such as plastic bags, fishing lines, soda cans, glass bottles, tires or old tools. Some animals may think that pollution is food, but when they try to eat it, they get sick. Other pollution can trap animals or plants so they can't move or grow, and pollution can also kill animals and plants. Many people who use the river collect litter that they find. Local communities also host "river cleanup" days to help the river, and everyone can pick up litter in the river and on the land.

SALINITY

by Curtis Porterfield, Polk County Natural Resources Division

Salinity measures the saltiness of water. Many chemicals can be salts, but the most familiar one is the salt used on foods known as sodium chloride. All water has some salt, because as water moves, it picks up salt from the ground. Rivers, lakes and streams are fresh water, which is not very salty. Estuaries are where fresh water meets the sea. Their waters are often called brackish, which is saltier than fresh water. The sea is salt water and has a lot of salt in it. The saltiness of the water affects where aquatic plants and animals live. Some animals and plants like salty water, so they live in the sea or estuaries. Others don't like salty water, so they only live in fresh water.

Section 10: Lettuce Lake

Before dawn, mist swirls above the river. Near Horse Creek, Missy hides. Moonflower vines cover the trees and bushes. Across the river, two bald eagles perch in a dead tree. As Missy wriggles through a fallen branch, she stops. A deer wades into the water to drink. When it walks away, she swims on.

Where C.R. 761 bridges the river, she swims underwater. The rumbling of traffic is not so loud. South of the bridge is an island. The lights of the Peace River Water Treatment Plant shine on one side. Taking water from the river and then treating it, the plant provides water to people in DeSoto, Charlotte and Sarasota counties.

Downstream of the bridge, the river curves and widens here. Buoys mark crab traps. Near lunchtime, Missy floats close to the shore. From one fern, she grabs a green anole. A large alligator crawls onto the shore. A boat full of people turns toward them. The loud speaker echoes across the water: "Alligator to your left."

A man says, "Wow! That's the biggest one we've seen today."

Standing beside him, another says, "I'd say a good 12 feet."

Many people hold cameras. As the boat nudges the shore, the alligator slides into the river.

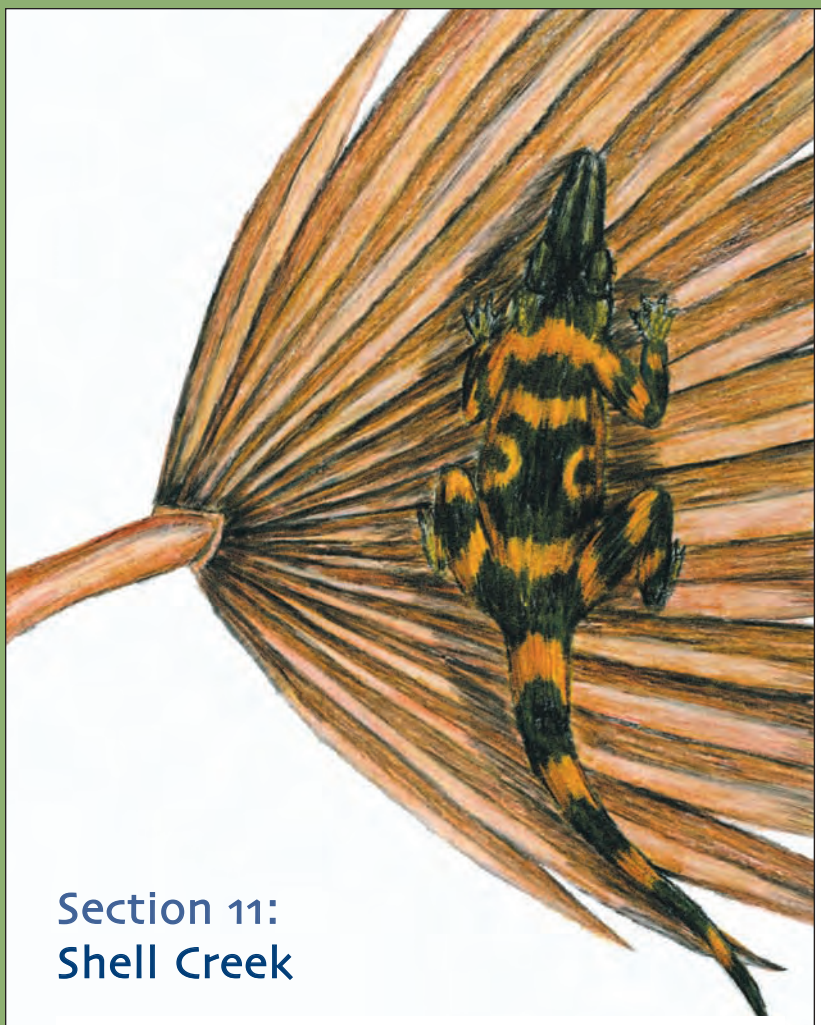
"There he goes, folks, straight to the bottom. I hope you got a good shot of him," the loudspeaker says. The engine clunks into reverse. The boat shudders again and turns upriver.

Missy stays away from the big alligator and the boats. She swims south along the shore. Crowding out the large ferns and river grasses are Brazilian pepper trees. Above them, a red-shouldered hawk perches in a dead tree. Missy ducks beneath some water lily pads. They only grow here when the river's flow keeps the salt water in the harbor.

Then her foot catches a plastic shopping bag. She pulls, but it is stuck. She tries swimming deeper into the water. Air caught inside the bag keeps it floating. She rips at the bag with her teeth and slips free.

The channel splits again, and she takes the east branch of the river known as Lettuce Lake, named for the plants that look like heads of lettuce. Many houseboats cluster near the boat ramp. Missy dives away from them.

She swims along the bottom of the river. She feels something large — more than one — above her. She hides near a sunken log, and manatees pass above her.



Section 11: Shell Creek

Peace River turns west where it meets Shell Creek. Upstream, the creek is dammed. It creates a reservoir for the City of Punta Gorda Water Treatment Plant. Downriver, Missy floats under the bridge of Interstate 75, where six lanes of traffic zoom across.

Homes and docks line the southern shore. Soon she passes some cement picnic tables near a historic hunting and fishing lodge. It was named Eagle's Nest Lodge because a pair of eagles nested in a nearby pine tree. A woman and a man sit at a table. Missy hears the woman say, "Many famous people used to fish here."

"What did they catch?" the man asks.

She says, "The harbor was full of fish — snook, redfish, mullet."

"Has sportfishing cleaned them out?" he asks.

"Maybe. Maybe commercial fishing. I don't know," she says.

"I heard that more than 1,000 people a day move to Florida. Maybe the harbor only has room for so many living things. There used to be more fish. Now, there are more people," he says.

Missy paddles away.

Section 12: Alligator Bay

Missy wiggles through the roots of the mangroves. She follows the shore, past condominiums and houses. She swims by Laishley Park, beneath the fishing pier and past the marina. She sees anhingas perched on the power lines that span the river, as evenly spaced as beads on a string.

On the south shore is Punta Gorda. The man who founded the town gave the waterfront as a gift to the people living there. Along the river is Gilchrist Park, named for a local resident who was governor of Florida from 1911 to 1913.

Missy crosses the harbor in the shadow of the U.S. Highway 41 bridges. She moves from one piling to another. Where the water is deep, she dives. She scoots away from a huge grouper.

When she is halfway across, she hears a spray of water. A dolphin comes out of the water to breathe. Another two follow. Then a brown pelican crashes beak-first into the water to catch a fish.

Finally she reaches the north shore. Charlotte Harbor is the oldest community in Charlotte County. Cattlemen and commercial fishermen lived there. Missy swims through pilings for docks, along the shore of Bayshore Live Oak Park and past the Charlotte County Historical Center.

Here, seawalls edge the bank. A brown palm frond shakes loose in the wind and falls on Missy. She swims beneath it for a while. Then she squirms between the fronds. Now it is her raft. In the distance, she can see the Port Charlotte Beach Complex and fishing pier. Canals and houses crowd around it. The current pushes Missy west where the shore is green. Maybe Missy has found a home in Alligator Bay.