

A Tale of a Tern





Yellow: breeding
Blue: non-breeding

Adapted from BirdLife International (2020). Species factsheet: *Sternula antillarum*.
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story and
photographs
by



Mary Lundeberg

Refer to the Glossary (page 39) for
boldface terms found in the text.



A least tern offers a mating gift.



Black skimmers

Above the waters off a barrier island in the Gulf of Mexico, the shrill calls of **least terns** mix with the loud barks of **black skimmers** and the crash of waves, adding a touch of Mother Nature's music to the warm day. It is May, and the moist air is thick and salty. At the south end of the island is a large, sandy beach that borders the Gulf, its tide pools swimming with prey. As the tide goes in and out, so too do fish, dolphins, and sea turtles. Brown pelicans and terns dive for fish.

One diver, a male, is a least tern—at about 9 inches long, the smallest of all the terns. For a moment he hovers above the Gulf water.

Then, on his second dive, he captures a small fish in his bright yellow bill and carries it back to a nest he has made onshore. The nest is just a shallow depression scraped out of the loose sand and pebbles, about half a mile from where the black skimmers have chosen their own nesting site.

His mate awaits him at the nest with Marco, their newly hatched chick, and he holds the wiggling fish close to Marco's bill. Marco opens his little beak wide to receive his first big meal and struggles to gulp it down whole. Dee-licious!



Marco's mom eyes her first-born chick as he eats. Marco had recently cut his way out of his shell, and she had snapped up the top half and carried it some distance away from the nest. Now she needs to take the bottom half away, so that **predators** will not be attracted by the scent.

She tugs at the shell with her bright yellow beak and takes off, but Marco's bottom is still attached to it! Plop! He tumbles to the sand! But the sand is soft, and he is **downy**, so he isn't hurt. Mom frees Marco from the eggshell. Then she's off to drop the shell in the mangroves at water's edge, far from where she is **brooding** her young.





She returns quickly to tend to Marco gently. And now Dad goes out again in search of fish. Another egg, not yet hatched, is snuggled under Mom's warm body in the shallow scrape made in the sand. Marco stays near the nest for his first few days.



But now he shares the nest with his sister, Sandy, who hatched a day after him. Both parents tend to them, bringing them tiny fish and shading the chicks from the hot sun with their feathers. The terns swoop down over the Gulf, lower their belly feathers so they soak up water, then return to the nest to drip water onto the chicks to cool them off.



One day Marco and Sandy watch a **great blue heron** catch a fish too big to swallow in one gulp. The heron wets the fish with more seawater, making it easier to swallow. Tossing his head while wandering close to shore, the heron comes too close to least tern territory. He swallows the fish in a hurry. Several terns immediately dive bomb him, driving him away from their nests. Mom warns the chicks to lie flat in the nest to camouflage (hide) them from predators.



The skimmer chases the gull away from her nesting area.





The black skimmer colony is every bit as loud and vibrant as the least tern colony. About one hundred skimmers have settled on an open beach near a pathway leading to a large white house. The house serves as a winter home for human residents. The humans have not yet left for their summer home in Maine. It is late in May, and both colonies are alive with roving chicks and protective parents, willing to battle anyone—even members of their own species—if their chicks seem threatened.





The skimmers depart.

One such threat is in that white house, where a family of humans is hosting some guests and their two frisky dogs. Suddenly the door of the white house opens, and two teenage boys run down the path to the beach, with both dogs chasing them. On the beach the dogs stop to chase the skimmers, squashing several eggs as they race through the colony. The entire colony is **flushed** from their nests.



The boys play catch with a ball while the dogs—tails wagging furiously—seek to join in the game. Meanwhile, in the abandoned colony of skimmers, several gulls and **fish crows** attack the downy chicks left behind.

A week later, Marco's down has begun to be replaced by feathers, and he has begun to explore his world. He wanders down to the shoreline, where he sees other shorebirds



looking for worms and coquinas. A long-legged **snowy plover** chick chases a fly. The plover parents watch their young one race along the shoreline.



Most of Marco's colony has been flushed out by the noise from a fireworks display a short time ago and has settled on another sandbar in the Gulf, leaving behind only those terns that were tending chicks. Marco's family has stayed. Humans using the beach have left behind chicken bones, banana peels, watermelon rinds, and orange peelings, which attract the gulls and fish crows that had eaten the abandoned chicks in the black skimmer colony. This puts Marco's own colony at risk, with many more predators in the area and fewer terns to chase them away.

A laughing gull nabs a chicken bone



As a fish crow flies overhead, Marco's father and mother dart up to attack it and escort it out of the colony's airspace, calling "Zwreep," an alarm to the chicks to lie flat. But they have fewer terns to help them mob the crow, so it takes clever maneuvering on their part to pester the intruder out of their territory. A nearby gull sees the untended, helpless chicks in the nest. Lunch! The gull approaches, eyeing the chicks. But just as he closes in, Marco's father returns. He stands near the nest by Marco and Sandy and squawks loudly at the gull to leave. Reluctantly, it does.

Marco and Sandy like to **forage** in the **wrack line** in the early morning, before humans start walking the beach. They find all sorts of delectable food morsels entwined in the seaweed, sticks, and shells.

On another day, the humans make a lot of noise on the beach, singing and shouting such that the terns can hear them half a mile away. Then, the humans release dozens of helium-filled balloons into the air. Most are blown out over the water, and a few drop to the sand and burst, but eventually all lose their helium and drop to earth or water. The waves and nighttime onshore breezes carry the debris to the least tern colony.



As a feathered chick, Marco jumps for joy.



After three weeks of trying, Marco **fledges**, flying a short distance to test his wings. It will be several weeks before he learns to dive and capture his own fish. His parents listen for Marco's call and know where to find him, and they continue to bring him and Sandy dee-licious fish.



Marco and Sandy spend their mornings at the wrack line, **preening** and searching for tasty prey to add to the fish their parents provide. In the hot afternoons they like to splash their feathers in the shallow Gulf waters, which cools them off.



Sandy sees the brightly colored pieces of balloon **debris** in the wrack line. With her dainty beak, she plucks a piece and swallows hard. She shakes her head and eats more of the brightly colored pieces of plastic. Not long afterward, Sandy stops flying and flops down onto the sand.



She doesn't want to eat any more delicious fish from Dad or pick through the wrack line for yummy morsels. For some reason, Sandy can't poop, either. Marco and his parents watch as Sandy no longer can eat or move. Slowly she dies.

By late summer, Marco has improved both his flight skills and his fishing technique. Now, about 6 weeks old, he will join his parents as they leave this barrier island beach that served as their coastal nesting grounds. The terns will head for their winter home, a place with waters swimming with tiny fish perfect for their sleek, tiny bodies.





*A magnificent frigatebird
senses a storm.*

Marco and his colony mates follow the Florida shore of the Gulf of Mexico, stopping only to feed. When they encounter **magnificent frigatebirds** flying inland because **hurricane** winds threaten, the least terns, too, fly inland, abandoning a more direct path to South America. They stop to feed in shallow waters, where they can rest on sandbars or beaches or docks. At last they reach the northern coast of South America. Continuing to follow the coastline, they make their way to northern Brazil, where they will spend the winter.



Once there were plenty of fish in Brazil for the winter. Now the coast is lined with human fishermen, who net the small fish to use for bait. So Marco and his family must look long and hard to find fish. By mid-March the terns are ready to abandon this once food-rich winter home and migrate back to Florida. Most **juvenile** terns stay in their winter homes their first year, but Marco wants better fishing. He decides to **migrate** back to Florida when his parents leave.

The return trip is long but uneventful...until Marco and the other terns prepare to land at a favored rest stop along the coast. They are surprised to see a coating of black oil on most of the beach, and this terrible blackness stains the seawater as well. There is a strange smell in the air. The birds that have landed there earlier are covered in black. Their feathers are stuck together with this black oil, and though they struggle to fly, they cannot. Even though Marco is tired, he decides to fly on for several more miles along the coast to escape the deadly black oil and the unpleasant smell.



After resting overnight, Marco reaches the Florida coast the next day...only to discover that it, too, is covered. But not with black oil. The coast is covered with tons of dead fish and crabs. Marco lands on the dune and watches as the gulls and ruddy turnstones feast on the piles of dead fish. Marco wants live fish. The water has a strange, greenish-brown color, and no little fishes swim in the shallow waters. It stinks here even worse than the black shore he left behind. Marco has met up with an outbreak of **red tide**, and he wisely moves on.





Farther along the coast, the humans have been constructing new buildings near the shore. Marco flies on until he spots a dozen other terns on the gravel rooftop of one building. The colony is near inland lakes and ponds containing fish, so he decides to join them. Many of the other terns have scraped out shallow nests in the rooftop gravel. It looks like they will be staying for the season. Over the next few months, keeping his

distance from their nests on the roof, Marco watches these least terns mate and raise their young. The roof is hot, and there is almost no shade.

One day, after the chicks have hatched, a feathered tiny tern wanders too close to the edge of the roof and falls off. The next day, while practicing flying, another chick disappears off the roof too. But shortly after that, a human appears on the roof, carrying the young terns in a cardboard box. He sets the box near their nest, and the two chicks are safe again under the watchful eyes of their parents.



As the season progresses, the gravel on the hot roof gets hotter. Under the gravel is a black tar that sticks to Marco's feet, and he is no longer comfortable here. He decides to migrate with the first group of terns leaving the rooftop. Marco is on his way back to Brazil to stay for the winter. There he will again struggle to find enough fish to refuel him for his next migration back to Florida.



By the time winter ended in late March, Marco and about 50 of his fellow terns had arrived at Florida's Stump Pass Beach State Park after their long flight from Brazil. Now they need to find the right place for the colony to make their nests, and this spot seems right. A variety of small fish congregate where the Intracoastal Waterway meets the Gulf. A reddish egret, **Wilson's plovers**, snowy and great egrets, little blue herons, willets, gulls, and other terns seem to like the habitat, too, especially the tidal pools.



Humans have roped off a large area to keep other humans from disturbing the bird nests. They have also erected small, white-slatted shelters to provide shade. Because of the plentiful prey and the open beach, the colony of least terns will stay, and their colony should thrive and grow.

Marco is in search of food, and after three dives that miss their mark, he snares a small fish on the next one. Now a handsome two-year-old least tern in full **breeding plumage**, Marco is ready to find a female to share his nest. He takes this fish ashore and alights close to a possible mate, beginning a charming courtship ritual: He bobs his head from side to side, shaking the small fish in his bill as he puffs his chest and dances around her. Some females are already mated, but not this one. She soon crouches down and accepts the fish from him. That small fish is a mating gift and a promise to share parental duties with her in raising their family. The two terns mate quickly to seal the bond.



Fishing for love





Marco shades his newborn chick and one egg.

The fuzzy chicks eagerly await their next meal.



After bonding, Marco's mate lays two eggs on the beach in a shallow scrape of sand, twigs, and shells. Terns are masters of camouflage. Least tern eggs blend in with the sand, as do their chicks. Both parents **incubate** the eggs. In the hot afternoon sun, Marco opens his beak and flutters to cool himself off, stands over the eggs, and uses his wings to shade them.

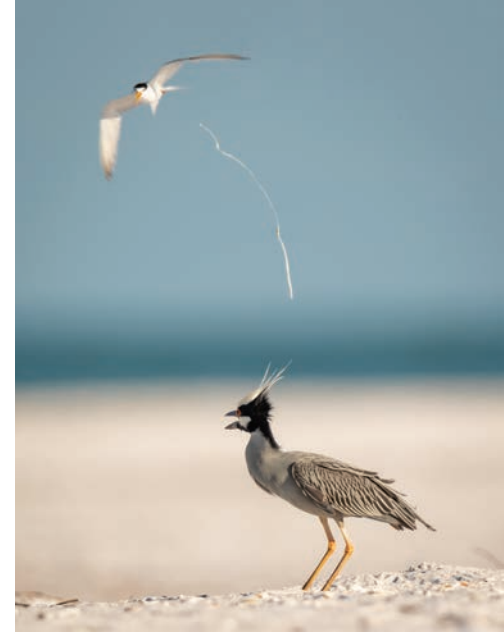
Over the next three weeks, the chicks develop and grow in the eggs until finally the camouflaged chicks hatch, one at a time. For their first few days the chicks stay near the nest, cuddled together under their mom's body in that tiny depression in the sand. Each day, Marco and his mate bring them fish for breakfast, lunch, and dinner.





Taking aim...

Early one morning, a flurry of shrill cries echo across the beachfront, waking the mother. She leaves the nest and flies off, calling as she joins a mob of terns attacking a big intruder in their territory. It is a **yellow-crowned night-heron**, searching for **ghost crab** holes in the sand. The heron prefers ghost crabs, but a tiny chick will do nicely, too.



...bombs away!

These loud, pesky terns act quickly and bomb him with poop to chase him away, out of their territory. Farther down the beach, he alights and catches a crab as it leaves its home.





Three days after his chicks hatch, Marco and his mate lead their family to an area above the dune that is safer than their nest on the open beach. Marco's mate kicks her feet back and rotates her body, scraping out a shallow cup in the sand where her chicks can hide. She chooses a place close to some railroad vine, whose lush green foliage provides a little cover and shade for the chicks. The sun is hot in Florida.



Seasonal change brings storms to the Florida coast. When clouds darken the sky, Marco sees frigatebirds soaring overhead, flying inland to find shelter. Before long a tropical storm hits, and hits hard, with strong winds and pelting rain. Fortunately for Marco, his family has already moved to higher, sheltered ground.

From his shelter he watches a human in a small boat accidentally strike a **loggerhead** sea turtle near the beach at Stump Pass, where she has been getting ready to lay her eggs. The boat's motor dies, and a huge wave lifts the boat, then crashes onto the shore at the very spot in the roped-off area where Marco's nest of chicks had been. Struggling ashore, the human shakes himself and limps off to get help. Rough surf and high tides flood Marco's original nesting area and destroy some of the stakes that the humans had put in the ground to protect the colony. All the eggs in the tern nests close to the Gulf are washed away.

Many sea turtle nests have also been washed over with seawater, killing their tiny contents. The stricken loggerhead sea turtle has washed up on shore. After a time, the boat man returns. With him are two humans from the Turtle Patrol, who mark the loggerhead with a yellow stake and report her death.



After the storm, ghost crabs race along the sand, rebuilding their tunnels and their homes that were destroyed by the surf. The crabs are hungry, and some are able to grab an egg or chick and drag it into a hole in the sand for supper. When one crab moves too close to Marco's nest, he and his mate, flapping their wings and looking fierce, chase the crab. Other terns from the colony join in to pester and threaten it until it goes away.





The storm has brought debris in its wake. Plastic bottles, cups, and straws litter the sand in the tern territory. They will pose a danger to sea turtles and other creatures that visit the shore.

Two Wilson's plovers wander along the water's edge with their chick. Marco and his fellow terns don't mind as long as the plover doesn't nest or wander too close to their nests. Plovers won't hurt the terns. The plover family nests inside an area with more plants and more insects than the tern colony's territory on the open beach. Least terns prefer an open, sandy spot for their nests that allows them to see predators coming, gather the group and prepare for a mob scene to chase them away. Plovers nest by themselves, unlike the terns who band together in colonies to raise their young. Because the terns chase away predators, plovers benefit by raising their young near the tern colony.

Least terns eat mostly small fish, **crustaceans**, insects, small **mollusks**, and marine worms. Plovers eat all of those, as well as other tiny critters they find in the wrack line, on plants, or in the sand. The Wilson's plover chicks have to forage for their own food, but their parents lead them to good feeding areas and guard them while they hunt. Marco brings food to his chicks, because young terns can't fly or dive. If Marco and his mate didn't feed their chicks, they wouldn't survive.





One night, a huge creature drags itself up from the water's edge and right through the colony. It's a 350-pound sea turtle! Although it is dark, the terns still try to chase the sea turtle away. But she is determined to lay her eggs and continues her crawl.



Marco quickly moves his family farther from the creature, scraping out a new nest for them to sleep in. Somehow, the loggerhead barely misses crushing several tern nests with eggs inside them.



As a parent, Marco chases away anyone who wanders too close to one of his chicks, even other terns carrying fish. After a few weeks, their chicks develop flight feathers and fledge, flying short spurts along the sand.

On a hot and windy summer's day, Marco and his mate delight in splashing in the surf with their offspring and in watching the newly fledged chicks test their wings in the strong winds.





Even after they fledge, least tern chicks still want to be fed and chase Dad when he has fish. Soon the family will head south, and their chicks will need to fly in all sorts of weather. Their winter home in South America is over 2,000 miles away. Humans aren't sure how these dainty birds fly that far, or the actual path their migration takes.



Marco has been a good tern father to his chicks, and their survival is his reward. After all, one good tern deserves another.



Afterword This book is dedicated to the bird stewards at Stump Pass Beach State Park and elsewhere who educate people about our threatened, beautiful shorebirds. The book grew out of my admiration and delight in least terns and my desire to conserve these amazing creatures. I continue to be surprised by their courage in protecting their nests and chicks. As a volunteer bird steward, I've had the privilege of spending time with a variety of beach-nesting birds and educating beachgoers about them. The generous support of CHNEP has made this book possible. I'm hopeful it will encourage people to conserve this tiny seabird and other birds who nest on our beaches and pebbled roofs. Maybe you can help.

A North American Breeding Bird Survey shows that between 1966 and 2015, least tern populations declined by about 88%. And according to a 2019 report in *Science*, other shorebirds have declined by almost 40%, due to many of the threats highlighted in this book: loss of habitat, coastal recreation, dogs, human disturbances, plastic pollution, water pollution, climate change, overfishing and predators—some of them, such as gulls, feral cats and crows, lured in by the food that humans discard. Most of the least terns in Florida now nest on gravel rooftops rather than beaches.

Beach-nesting birds can thrive if we take simple measures to help them rather than chase them away. Blow bubbles instead of balloons, walk without dogs, use a refillable bottle and reusable straw, pick up trash, and respect posted areas that are roped off to protect wildlife. Watch for eggs, as well as chicks in the wrack line outside the ropes. Become a bird steward. See the Florida Shorebird Alliance for information on sharing the beach with birds and becoming a bird steward.

Glossary

breeding plumage: A unique set of feathers found on birds during courtship and nesting, often more colorful and important in mate choice along with vocalizations and brighter bill and skin colors.

brood: To cuddle chicks under parents for protection from sun, rain and predators.

crustacean: A group of mainly aquatic animals with a hard exterior body support similar to that of insects and spiders; includes crabs, shrimp, lobsters, and barnacles in marine environments.

debris: Pieces left from something broken, discarded, or lost; often the trash left by humans, but also including such things as limbs of trees, shingles, or other materials broken or dislodged by storms.

down: Fluffy feathers that insulate baby birds when they are first born.

fledge: To fly using a bird's first flight feathers.

flush: To cause to leave a place.

forage: To search for food.

hurricane: A huge storm with strong winds spiraling at speeds of 75–200 m.p.h.

incubate: : To keep eggs warm until they hatch; birds typically develop bare areas on their lower breast with blood vessels enlarged and near the surface of the skin in order to keep eggs at a temperature of about 110 degrees F.

juvenile: A young bird that can fly but isn't an adult yet.

migration: Regular, periodic two-way movements—usually from nesting areas to wintering areas and back again.

mollusk: A soft-bodied animal usually found in fresh or salt water and often having an external shell (such as a snail or clam) or sometimes with a rigid interior support, such as a squid.

predator: An animal that kills and eats other animals.

preen: To smooth and clean feathers with a bill.

red tide: A cluster of algae in the ocean that releases a toxin harmful or even fatal to sea creatures.

wrack line: A line of debris (such as seaweed) left behind by wave action at the high tide level of the water. This debris provides food for beach critters such as insects and birds.

Species Information

An asterisk (*) indicates a Florida state-designated threatened species. A plus (+) indicates a federally-designated threatened species.



Black skimmer* (*Rynchops niger*): A relative of gulls and terns with a lower bill much longer than the upper bill; it uses that lower bill to skim placid waters of coastal and near-coastal areas, flying close to the surface on long black wings with the lower bill in the water to capture fish.



Fish crow (*Corvus ossifragus*): Slightly smaller than an American crow, these clever, social, black birds hop about the beach, often seen in small groups. They are quick to grab leftovers from humans.



Ghost crab (*Ocypode vadrata*): This pale, swift-footed crustacean lives in burrows in the sand and feasts on coquina clams and critters in the wrack line.



Great blue heron (*Ardea herodias*): America's largest heron, a 38-inch wading bird with a long neck and a thick pointed bill to help the bird snare and eat fish, snakes, and rodents.



Laughing gull (*Larus atricilla*): This slender, long-winged gull eats fish, wrack line treats, and food fed to them by beachgoers. Its call sounds like a laugh.



Least tern * (*Sternula antillarum*): At about 9 inches long, our smallest tern nests in colonies in open areas on beaches, sandbars, and even flat, gravel rooftops.



Loggerhead⁺ (*Caretta caretta*): A sea turtle that nests on beaches and weighs 350–1,000 pounds, although hatchlings (as shown in the photo) weigh less than an ounce.



Magnificent frigatebird (*Fregata magnificens*): These agile birds have massive wingspans, can fly for ten days straight, and nap on the wing. Frigatebirds ride weather fronts and often signal changing weather patterns.



Snowy plover * (*Charadrius nivosus*): This dainty waif of a shorebird (about six inches long) nests on coastal beaches. The bird blends into the sand and disappears from sight as it dashes along the wrack line, eating tiny invertebrates.



Wilson's plover (*Charadrius wilsonia*): Slightly larger than the snowy plover, this beach-nesting shorebird inhabits barrier island sand dunes, spoil islands, and salt barrens. This plover with a stout bill feeds on invertebrates, such as fiddler crabs.



Yellow-crowned night-heron (*Nyctanassa violacea*): This short-necked heron feeds mostly on crustaceans, especially in coastal areas. This bird has a stout bill that enables it to crunch hard-shelled crabs.



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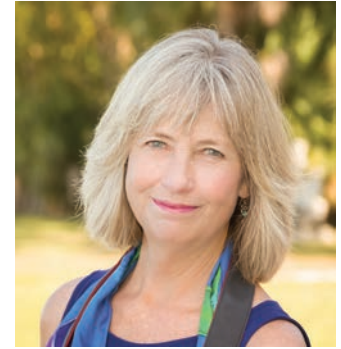
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PHOTOGRAPHY



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A Tale of a Tern is told in words and pictures by Dr. Mary Lundeberg, former Professor and Chair of the Education Department at Michigan State University, who holds degrees in K-12 teaching and educational psychology and has authored several books. Dr. Lundeberg is also an award-winning nature photographer who has traveled the globe to study and photograph wildlife, in particular the nurturing behavior of animals with their young.



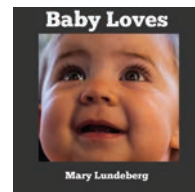
Other books by Dr. Lundeberg include:



Magical Monarch's
Journey



Spirit of the Swan



Baby Loves



Sadie,
Save the Spoonbill