

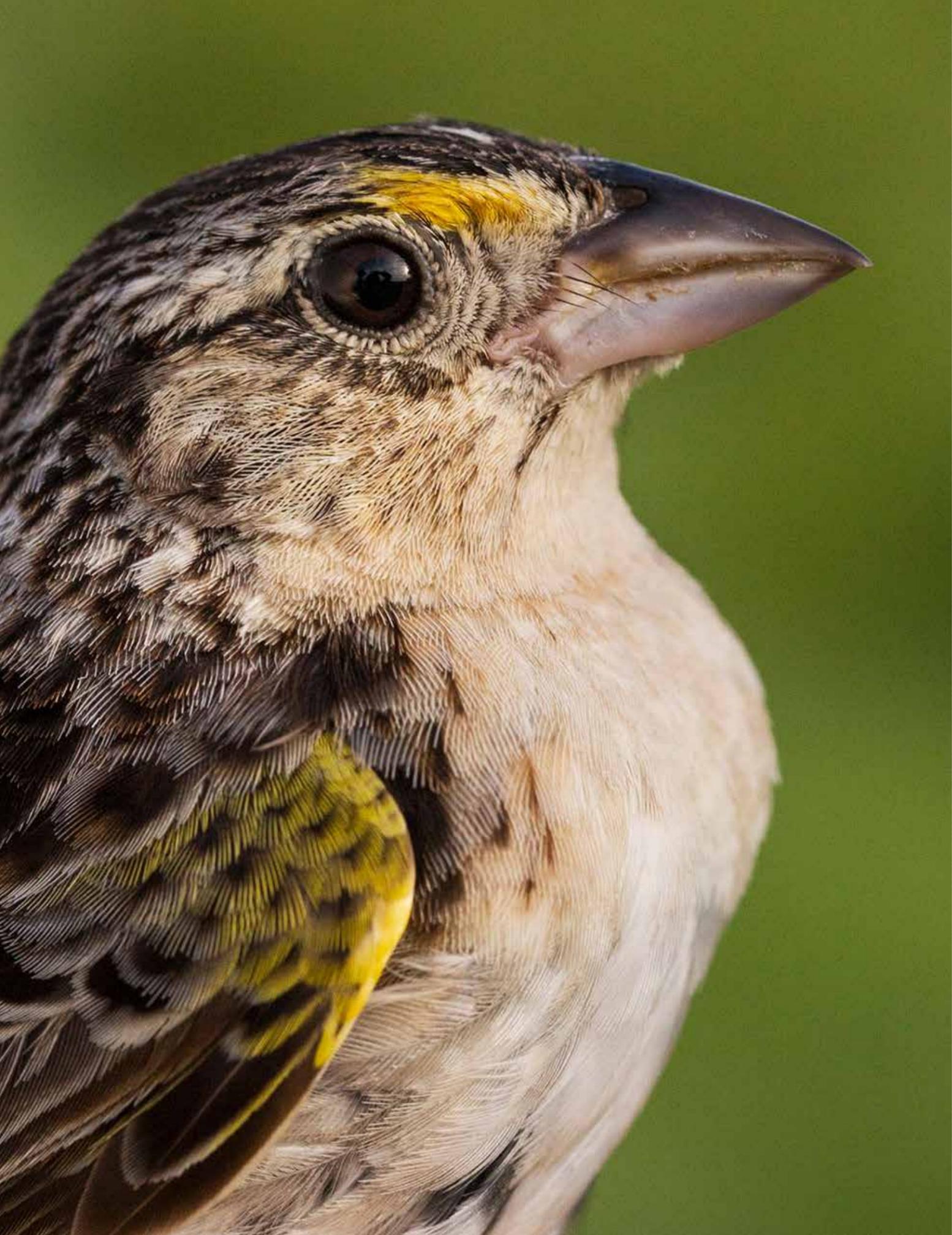
# TEN STORIES OF HOPE

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THE ENDANGERED SPECIES ACT AT 50



2023 TOP 10



This year marks an extraordinary milestone for the Endangered Species Act: 50 years of saving species. One of the most powerful pieces of environmental legislation in the world, and one of the most effective conservation tools we have, the Act has an astonishing track record: Fully 99 percent of all species listed for protections have been saved from extinction. Hundreds of species are on the path to recovery, thanks to actions we're able to take and enforce under the Act—and thanks to extraordinary efforts of dedicated researchers, field workers, citizen scientists, and volunteers working to save species throughout the country.

This report features ten stories about programs that are making a difference. These stories showcase methods that save species, from seed banking and outplanting, to protecting nests and providing shelter; from removing dams and restoring habitat, to rebuilding populations—and more. Stories about school children tending tiny turtles in Massachusetts and scientists engineering innovative bat houses in Miami. Researchers tracking secretive rodents at night in a California grassland, botanists rappelling cliffs as they hunt for rare plants in Hawai'i. Stories from the East Coast to the West Coast and beyond.

And while these stories are very much about saving species, they are also stories about hope. Stories that give us reason to believe we can slow and prevent extinction, that we can restore habitat and safeguard species in the wild. Every species saved by our efforts under the Endangered Species Act shows us that we can protect biodiversity, the extraordinary, vital spectrum of species that are key to healthy life—*for all*—on this beautiful blue planet. And we hope this report inspires you to join us in protecting at-risk wildlife and the wild places they call home, too.



*Susan Holmes*

**Susan Holmes**  
Executive Director, Endangered Species Coalition

**CREATING SHELTER**

*Florida Bonneted Bat*

5



**TRANSLOCATION**

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**PROTECTING WHOLE ECOSYSTEMS**

*Gray Wolf*

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# Creating Shelter

## FLORIDA BONNETED BAT

*(Eumops floridanus)*

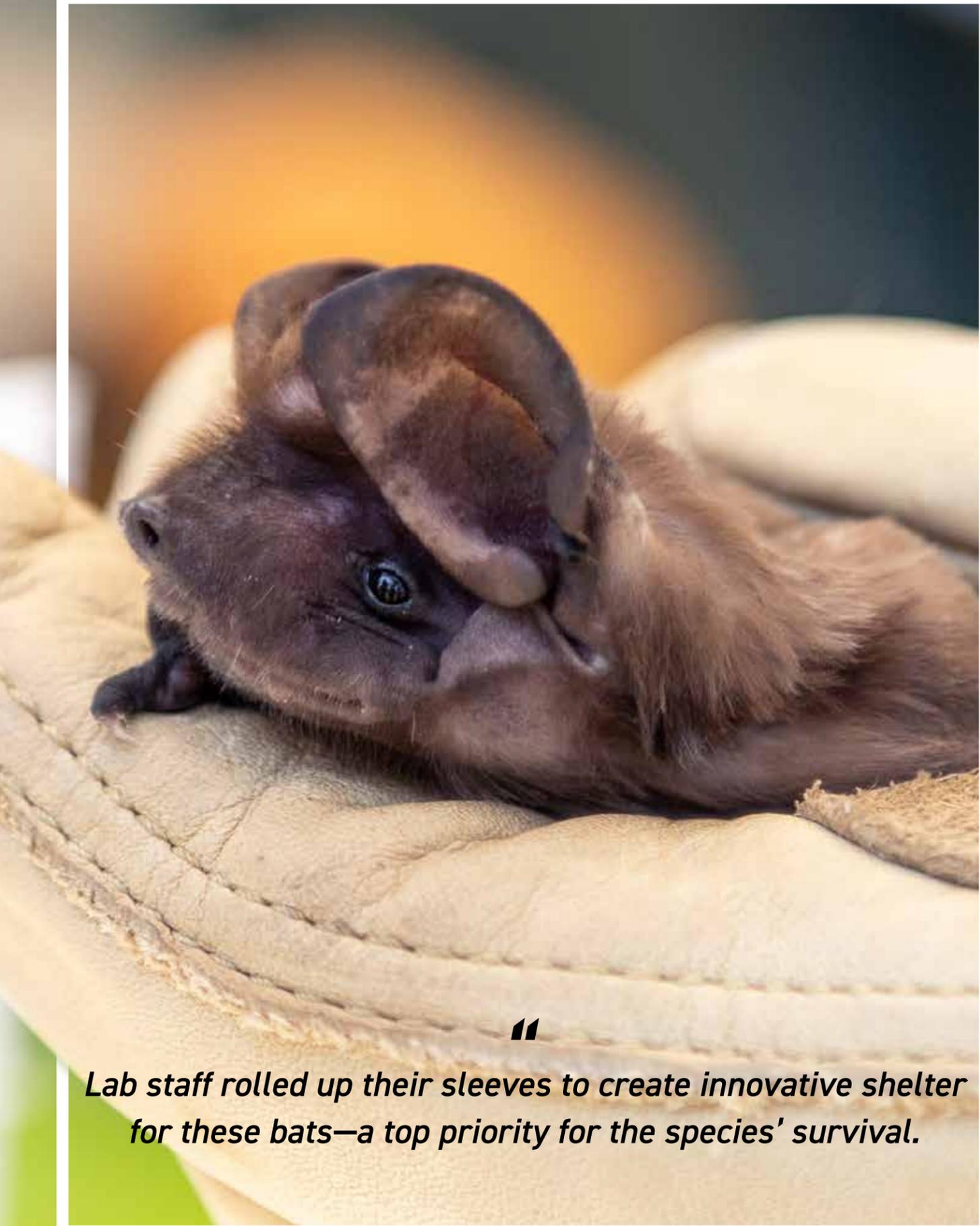
Bats can flit through the night sky like tiny stunt planes turning acrobatics in the dark. But a Florida bonneted bat is more like an airliner cruising at altitude on long, narrow wings—no tight turns for them. Weighing in at under two ounces but with a 20-inch wingspan, this is the state's largest bat. It's also the rarest bat in the country and one of the rarest in the world—fewer than 3,000 remain. As development and the impacts of climate change deplete their natural habitat, these bats face a housing shortage in southern Florida, the only place in the world they call home.

Cue the Miami Bat Lab. Bat Conservation International partnered with Zoo Miami to establish the lab, with funding from the NextEra Energy Foundation. More than a dozen organizations, including federal and state agencies, and research and conservation groups, collaborate with the lab to study and safeguard the Florida bonneted bat. And lab staff rolled up their sleeves to create innovative shelter for these bats—a top priority.

Bat Conservation International popularized bat boxes some 50 years ago, but the the lab's reengineered design takes bat life in Miami to new heights. These boxes can withstand extreme weather, including hurricane-force winds and rain, and they're large enough to let this bat's long wings easily slip in and back out again. Bat boxes typically have just one room, but these have two, so resident bats have more comfort. The design also provides a stable microclimate,

which is crucial as the planet warms; unlike most other bats in North America, Florida bonneted bats don't hibernate or migrate. Just three weeks after the zoo's first bat box went up, it was owner-occupied.

Three years later, the 11 custom-made boxes at Zoo Miami shelter more than 99 Florida bonneted bats—the largest population in Miami-Dade County, and the second largest in their entire range. The bats are adapting well; as many as 15 have been recorded in a single box at the same time. Bats are using boxes in areas beyond zoo grounds, too; in 2021 alone, 77 bats were recorded in 13 additional bat boxes installed by the lab. And the Miami Bat Lab's Bat Ambassadors are spreading the word about the boxes—and the bats—through broad community engagement that offers residents opportunities to help save this species, too.



“

*Lab staff rolled up their sleeves to create innovative shelter for these bats—a top priority for the species' survival.*



**STATUS:**  
Endangered



**POPULATION:**  
Est. fewer than 3,000



**RANGE:**  
Portions of southern Florida



**HABITAT:**  
Pine and hardwood forests and urban areas with high tree coverage and open foraging sites



# Removing Dams

## CHINOOK SALMON

*(Oncorhynchus tshawytscha)*



In the Pacific Northwest, salmon play an outsized role as they migrate through their freshwater and ocean habitats: A bear in the woods can eat as many as 15 coho salmon a day, and orcas rely on the Chinook's fatty tissue for survival. Their carcasses feed more than 130 other species and deposit rich marine nutrients in the forest. It's said that even the trees are made of salmon.

And for thousands of years, salmon have sustained people in the region. According to the Yurok Tribe's website, "Every fish species in the Klamath Basin is important to Yurok People from cultural, sustenance, and ecological perspectives, particularly those that spend part of their life in the ocean and migrate through the Yurok reservation, such as Chinook and Coho [salmon]."

Throughout their range, salmon are imperiled by overlapping issues—the impacts of climate change, poor water quality, overfishing—but in the Pacific Northwest, dams are the biggest threat to their survival. For the past century, four hydropower dams have blocked the Klamath River, causing populations to plummet. Salmon that can't swim upstream die before breeding.

And now, in the largest dam removal project in history, the Klamath dams are coming down.

Tribes along the river, led by the Yurok and Karuk, campaigned for almost 20 years to remove the dams, and tribal experts—hydrologists, ecologists, engineers—are integral to the removal effort now underway. The dams impound about 44 billion gallons of water and as much as seven million cubic yards of sediment; releasing the sediment, alone, could take four months.

Restoring habitat will take much longer—years—but the work has begun. As part of this effort, members of the Yurok and Karuk tribes have collected some 17 billion native seeds along the river, seeds now ready for planting in the drained reservoirs and along newly formed riverbanks. By the end of 2024, some 400 miles of the Klamath River and its tributaries will see salmon swimming upstream again, for the first time in 100 years.



**STATUS:**  
Threatened/Endangered depending on population



**POPULATION:**  
Fewer than 500,000



**RANGE:**  
Western Canada, Alaska, Oregon, Idaho, Washington State, northern California



**HABITAT:**  
Freshwater streams and rivers, Pacific Ocean



*“In the largest dam removal project in history, the Klamath dams are coming down.”*

# Headstarting Tiny Turtles

## NORTHERN RED-BELLIED COOTER

*(Pseudemys rubriventris)*



Two hundred, maybe 300 of these turtles were alive in southeastern Massachusetts just 50 years ago—a population so small and so isolated that they were thought to be a subspecies. Turtles on the move may be slow, but the state knew they had to act fast to save the Plymouth red-bellied cooters. MassWildlife, the state's conservation agency, launched their headstart program in 1984.

Turtle headstarting is all about basic resources: give hatchlings safety, lots of food, and enough time to grow that they'll have a better chance of surviving in the wild. Buying them time buys us time, too, to address critical global issues—predation, habitat loss, climate change, the illegal pet trade—issues that imperil turtles and tortoises around the world.

But it takes a community to raise a cooter, and MassWildlife has created a network of individuals and organizations ready to help. Field workers protect cooter nests in the wild, and homeowners work with the state to protect clutches of eggs on private property. Some two dozen organizations—schools, nature centers and museums, numerous environmental nonprofits—host young cooters in aquariums, with the warmth of UV lights boosting their activity and appetites. The salad bar's open 24/7, with unlimited lettuce on the house.

MassWildlife headstarts as many as 150 young cooters every year now. The size of a quarter when they hatch out, these hungry youngsters are about as big as 3-year-olds in the wild when they graduate after nine months or so, with sturdy shells spanning about four inches—larger than the palm of

your hand. Headstarting these turtles can headstart citizen scientists, too; at one host museum, kindergarteners crowd around an aquarium, learning how to measure cooters' shells and chart their growth. And their growth isn't the only thing MassWildlife charts; each headstarted cooter is microchipped so their movements can be tracked over time.

Only one in 1,000 turtle eggs ends up in a long turtle life; some estimates put that at more like one in 10,000. But these headstarters are beating those odds. Once so rare that they were the first freshwater turtles ever listed as endangered, the Plymouth red-bellied cooters are making an impressive comeback in the wild, with an annual survival rate of 95 percent. High achievers, indeed!



**STATUS:**  
Endangered (Massachusetts population)



**POPULATION:**  
Est. 930 (Massachusetts population)



**RANGE:**  
Plymouth and Bristol counties, MA



**HABITAT:**  
Freshwater ponds and rivers with logs and rocks for basking and soft, muddy bottoms for overwintering



*It takes a community to raise a cooter, and MassWildlife has created a network ready to help.*



# Creating Corridors

## FLORIDA GRASSHOPPER SPARROW

*(Ammodramus savannarum floridanus)*

Two or three short chirps and a buzz—maybe an insect? If you're in south-central Florida's prairie, early on a spring morning, that might turn out to be a bird nearby—a Florida grasshopper sparrow. But don't bet on seeing it. This small, secretive bird weighs about an ounce—an easy fit in the palm of your hand—and can disappear in the prairie's grass in a flash. One of the rarest birds in the country, this sparrow almost disappeared from the planet, too. When they were listed as endangered, in 1986, maybe 1,000 remained. Just 15 years later, that fragile population was in freefall; about 300 birds were left, and more than 85 percent of their habitat had been destroyed. In a last-ditch effort to save the species, federal and state officials teamed with researchers and conservation biologists and, in 2015, launched a conservation breeding program.

But headcount was just half the battle; this sparrow needed habitat, too. Archbold Biological Station, a conservation research and education nonprofit in central Florida, partnered with federal land managers to ensure that acres of prairie at Avon Park Air Force Range would be ideal for these sparrows. Archbold began re-introducing them at the range, where they hadn't been seen for a decade, in 2021. A year later, the birds released at Avon started breeding—an astonishing show of success. And scientists are seeing movement among populations, which promotes gene pool diversity. Connection is key to survival.



Fortunately for the grasshopper sparrow, something else is afoot in Florida, too. In an extraordinary show of imagination, perseverance, and environmental responsibility—and after decades of planning and hard work—the state is establishing a wildlife corridor, a model for the nation, and Archbold is leading the scientific effort to monitor and conserve at-risk species on these protected lands. The corridor's nearly 18 million acres of state and national parks and forest, private and conservation lands, and even working ranches stretch from the Alabama border to the Florida Keys. And with 146,000 acres of Florida's dry prairie now protected, it is the one place on Earth you might hear a Florida grasshopper sparrow, safely out of sight in the grass on a sunny, spring day.



**STATUS:**  
Endangered



**POPULATION:**  
200-300



**RANGE:**  
South-central Florida



**HABITAT:**  
Dry prairie with no trees

“

*Florida is establishing a wildlife corridor—nearly 18 million acres of protected land—a model for the nation.*



“  
**Banking seeds from Hawaiian plants is key to saving plants found nowhere else on Earth.**”

# Seed Banking

## HAWAII'S ENDANGERED PLANTS

**B**otanists with the University of Hawai'i's Plant Extinction Prevention Program (PEPP) have a steep hill to climb—or a high cliff to dangle from, depending on the day. Nearly 90 percent of Hawai'i's native plants are found nowhere else on Earth, and hundreds of them are now listed as threatened or endangered. PEPP staff and volunteers are racing to save these imperiled plants, first focusing on protecting species with fewer than 50 individuals left in the wild. In 2022, a PEPP botanist (indeed, dangling from the end of a rope) spotted a single plant growing on a small, rocky ledge high above Kaua'i's Waimea Canyon—a plant so rare it hadn't been seen on the island since 1840.

Hawai'i's 137 islands stretch for 1,500 miles, like pearls strung across the ocean. To say they're remote is an understatement: California, the nearest landmass, is more than 2,400 miles away. Plant life emerged here millions of years ago as seeds washed ashore and windborne spores took hold in lava fields. The islands held few threats—no heavy hoofs, no large, hungry mouths—and plants evolved without thorns or toxins. (Hawai'i has just one native mammal, a small bat.) Over the past 1,500 years or so, we've introduced many species—cattle and goats, cats and rats—and invasive plants and insects. Deforestation, development, and agriculture, along with impacts of climate change, have destroyed nature's natural balance here.

5



PEPP and their partners at the Hawai'i Department of Land and Natural Resources are taking extraordinary steps to protect the islands' endangered species. That botanist on the lookout from the end of a rope? Check. Expert drone pilots surveying cliffs too treacherous to get to? Check, and check again. A botanist germinating native seeds in his own greenhouses? Yes—and volunteers are outplanting those seedlings to reestablish populations in the wild. Other volunteers are clearing invasive plants and collecting seeds to bank. More than 20 years ago, a single native gardenia tree was discovered on O'ahu, and botanists gathered hundreds of its seeds. That tree is gone now, but thanks to those banked seeds, PEPP staff have a test garden of young trees that may soon flourish in the Hawai'i wild.

*Hawai'i is home to 44 percent of the country's threatened and endangered plant species, and some 200 Hawaiian plant species have 50 or fewer individuals still alive.*



# Translocation

## STEPHENS' KANGAROO RAT

*(Dipodomys stephensi)*

With huge hind legs, a Stephens' kangaroo rat can leap a foot or two, straight up, without breaking a sweat; good thing, too, since sweating isn't an option (no glands for it). Small enough to fit in the palm of your hand and built for the desert, these nocturnal rodents get most of their moisture from seeds and can go an entire lifetime—10 years, even—without a single sip of water. Hearing is their super power, too; scientists think they can detect the *sound of a change in air pressure* when a snake moves to strike or an owl silently swoops. This species is found in small, isolated populations in only a couple of counties near San Diego.

In an effort to save this species, scientists are turning to conservation translocation, a process that introduces a species into new habitat, reintroduces them to areas they once called home, integrates individuals with an existing community, or establishes a separate population as insurance against extinction. But translocating a species is complex and tricky, with no guarantees—and a lot of moving parts.

Led by Dr. Debra Shier, the San Diego Zoo Wildlife Alliance's translocation team has been mastering these moving parts for 15 years in an effort to save Stephens' kangaroo rats. The team builds transition homes, one per rat, that they place in open grasslands. Each home has a protected above-ground area for sandbathing and foraging that's connected to a burrow for seed caching and sleeping; the burrows also protect the rats from the sun, which helps



them regulate body temperature in this hot, dry habitat. Tagged with tracking devices, the kangaroo rats acclimate in their homes for about a week before the team releases them to learn their new neighborhood. And they do better with their friends: Translocating kangaroo rats who already share relationships is more successful than grouping and moving total strangers. Shier and her team track their survival and reproduction for years.

More than 30 agencies and organization have collaborated for more than 30 years to save this species, and their hard work is paying off. Listed as endangered in 1988, the Stephens' kangaroo rat was downlisted to threatened in 2022.



**STATUS:**  
Threatened



**POPULATION:**  
Unknown



**RANGE:**  
Portions of western Riverside County to northern San Diego County, CA



**HABITAT:**  
Arid and semi-arid grassland with sandy/gravelly soil and sparse, low brush cover



“

*Moving friends with friends is key to successful translocation of these desert-ready rodents.*



## Conservation Breeding and Restoration

### SPECTACLECASE MUSSEL

*(Cumberlandia monodonta)*



Alabama heelsplitter, the fuzzy pigtoe and sugarspoon, a threehorn wartyback, the fat pocketbook—just a few of the more than 300 species of freshwater mussels found in North America (about a third of the nearly 1,000 species worldwide). At least 70 percent of species in the United States are considered to be of concern, and some populations are down by as much as 90 percent. As of 2023, though, only 30 percent have been federally listed. Thanks to scientists, we now have a way to bring these fragile populations back through conservation breeding.

At about nine inches long, the spectaclecase is a fairly large mussel and is shaped just like its name—two identical, slightly rounded shells with a hinge—but finding one could be harder than finding a misplaced pair of glasses. Spectaclecases have vanished from more than half their historic range and were listed as endangered in 2012. In 2021, biologists discovered an isolated bed of them in a river in Wisconsin, likely the same population that had been recorded there 34 years earlier. (Some mussel species can live for 100, even 200 years; the oldest empty shells in that Wisconsin bed date to about 1907.) Finding the bed gave scientists more data about this rare and largely unstudied species' habitat—critical information, as replicating habitat in the lab is key to conservation breeding.

Mussels reproduce with the help of host fish that carry mussel larvae in their gills upstream for up to a few weeks before the growing young drop to the river bottom and form new beds. Researchers have identified the fish species the spectaclecase depends on—a second critical piece in saving these mussels.

Through a broad partnership undertaken by a number of organizations and agencies, including the Minnesota Department of Natural Resources, the University of Minnesota, and the U.S. Fish and Wildlife Service, scientists are now collecting adult spectaclecases in the wild and successfully propagating young mussels in laboratories with the help of these host fish.

Conservation breeding offers us opportunities to gain knowledge and the tools to produce healthy new populations and can give us the time to identify and improve wild habitat for them. Scientists, researchers, and volunteers are now releasing thousands of young spectaclecases into healthy rivers and streams, young mussels that could endure for generations, in partnership with fish, in waters that flow free.



**STATUS:**  
Endangered



**POPULATION:**  
Unknown



**RANGE:**  
Limited, fragmented distribution from Wisconsin to Alabama



**HABITAT:**  
Large rivers with moderate to swift currents and ample sheltered areas for colonizing

“

Conservation breeding allows us to establish healthy new populations in the wild.



# Protecting Nests

## PIPING PLOVER

*(Charadrius melodus)*



**P**ick up a nickel: It weighs less than a quarter ounce—about the same as a just-hatched piping plover. That tiny chick, not much more than a cotton puff on sticks, is in for a month of beach life before it can fly—but beach life with predators: gulls, foxes, feral cats, and coyotes. Even ghost crabs feast on plover chicks. And our feet, our flying frisbees, can destroy a nest; a friendly dog can do easy damage. Few chicks make it, a month on the beach.

Early on in the pandemic, Chris Allieri wasn't looking to change his life; he was simply at the beach, peacefully taking photos. A piping plover skittering up the sand nearby caught his eye—it caught a worm, too—and then a dog bounded by. Exactly one year later, he saw exactly the same thing on that same beach: a tiny, endangered bird and a dog off leash that came perilously close to grabbing the chick. Allieri registered an Instagram account for the NYC Plover Project the next day, and his life hasn't been the same since.

This year, the NYC Plover Project, in partnership with the National Park Service and the New York City Department of Parks & Recreation, will have volunteers patrolling beaches every day during breeding season, looking out for the plovers, their nests, and chicks—and connecting with thousands of beachgoers. Protecting this bird's habitat protects other at-risk species, too, including American oystercatchers, and both least and common terns.

When all three plover populations in the country were listed under the Endangered Species Act, in 1985, there were fewer than 8,000 birds left—and only 476 breeding pairs in the Atlantic Coast population. By 2004, the coastal population boasted 519 pairs, and 1,818 pairs in 2019—but piping plovers on these beaches still have a long road ahead. The NYC Plover Project will continue to rely on strategies used in the U.S. and Canada to help these birds, and Plover Project volunteers will keep going, just like the plovers do.



*NYC Plover Project volunteers are on the beaches every day during breeding season, protecting these at-risk birds and their nests from predators, Frisbees, and feet.*



**STATUS:**  
Threatened (Atlantic Coast population);  
Endangered (Northern Plains and Great Lakes populations)



**POPULATION:**  
Est. 6,000 to 8,000 total, with about 2,200 in Atlantic population



**RANGE:**  
Atlantic populations from Maritime Canada to Carolinas; inland populations in the Northern Great Plains and Great Lakes regions; wintering along the Gulf Coast throughout the Caribbean



**HABITAT:**  
Sandy and gravelly beaches with nesting sites near water



“  
**Preventing illegal wildlife trade and restoring habitat are powerful tools to stop direct exploitation.**”

# Preventing Direct Exploitation

## SOUTHERN SEA OTTER

*(Enhydra lutris nereis)*

Sea otters—irresistibly charming, with those rakish whiskers, and the way they float on their backs, cracking open crabs on their bellies. Holding onto each other in a big group, a raft. And when they frisk and tumble together? A romp of otters—a *romp!* Their fur: at a million hairs per square inch, the densest coat of any mammal on the planet. Soft gold, the fur traders called it.

Hungry for that soft gold, humans hunted otters to the edge of extinction; by the late 1800s, fewer than 2,000 were left. By 1920, the California population was gone entirely—or so we thought. Then, in 1937, a raft appeared off the rocky cliffs at Big Sur. *A raft of otters.* A small population of about 50, some 2,000 miles from their nearest relatives.

Sometimes our conservation actions are less about what we do and more about what we don't do: To save sea otters, we stopped our direct exploitation of them. Direct exploitation, one of the top five causes of extinction, is hunting, harvesting, and fishing species faster than they can reproduce: hunting otters for their fur, elephants for their ivory, polar bears as trophies. And over-harvesting plants—think cacti, orchids, carnivorous species like Venus flytraps. When we exploit species in these ways, we upset critical balances that have evolved over hundreds of thousands of years. As a keystone species, sea otters are essential to the health of their kelp-forest habitat. Remove them, and every other species in the ecosystem—thousands of invertebrates, fish, birds, and mammals—are impacted.



Thankfully, we have powerful tools to stop exploitation. We work to prevent illegal wildlife trafficking and strive to restore habitat—two critical steps in saving species—and we have enforceable laws. Sea otters gained protections in 1911, when four countries ratified the first international wildlife protection treaty. They gained even more protections in the 1970s when the Endangered Species Act and Marine Mammal Protection Act were passed. And conservation organizations take bold steps on their own: Earthjustice, acting on behalf of the Center for Biological Diversity, Defenders of Wildlife, and others, has been defending sea otters in court for a decade.



**STATUS:**  
Threatened



**POPULATION:**  
Est. 3,000



**RANGE:**  
Central California coast



**HABITAT:**  
Nearshore kelp forests



# Protecting Whole Ecosystems

## GRAY WOLF (*Canis lupus*)

**P**ull the keystone from the top of an arch, and the arch collapses. The same holds true in nature: If a keystone species disappears, the ecosystem it supported could suffer countless negative impacts. When the United States began losing its gray wolves, starting in the late 1800s, it lost its balance, too. Now, thanks to the efforts of scientists, tribal members, conservationists, and government officials, new packs have been bringing balance back to Yellowstone National Park and central Idaho.

Some two million gray wolves roamed North America in the early 1800s, but federal officials led efforts to eradicate them, largely to protect livestock as we pushed west. Few were left in the country by the 1920s, and virtually none remained in a huge ecosystem spanning Montana, Wyoming, and Idaho, more than 20 million acres of nearly intact wilderness, with Yellowstone National Park as the centerpiece.

The Endangered Species Act cleared a path for us to restore wolves to western ecosystems with reintroductions in Yellowstone National Park and central Idaho. In 1995, Department of Interior and U.S. Fish and Wildlife Service (FWS) officials implemented a plan to deliver a truckload of wolves from Canada. Over the course of two years, 66 wolves were reintroduced to Yellowstone National Park and central Idaho. The move was so contentious, though, that Idaho's legislature forbade state wildlife officials from helping the wolves recover within the state's borders.

Thankfully, the Nez Perce tribe contracted with FWS to undertake the field work and monitoring of wolves in Idaho, the first time in U.S. history that FWS contracted with a tribe instead of a state agency to manage the recovery of an endangered species. As some of those early wolves were being released, elders of the Nez Perce tribe blessed them before they ran free.

Thanks to government officials' willingness to right historic wrongs, gray wolves are restoring the vital balance in Yellowstone and beyond. This reintroduction is not only saving wolves, it is providing scientists with a unique opportunity to study the impacts of bringing a species back. Scientists will be able to use their new-found knowledge to reintroduce other species to help secure healthy habitats, too.

-  **STATUS:**  
Endangered, Threatened, Delisted depending on population
-  **POPULATION:**  
Estimated 7,500 in lower 48 states
-  **RANGE:**  
Populations in Alaska, northern Michigan, Wisconsin, and Idaho; western Montana, northeast Oregon, and Wyoming's Yellowstone region
-  **HABITAT:**  
Woodlands, forests, grasslands and deserts, tundra



“  
*Securing an entire ecosystem also secures the interdependence of species within that ecosystem.*”



# ACKNOWLEDGMENTS

Our thanks go to all of our member groups who nominated species for this year's Top 10 report. We would especially like to acknowledge our finalists, who helped shape and share the stories in these pages; we're honored to showcase the work you're doing to save species across the country.

Archbold Biological Station: Joshua Daskin, Angela Tringali, Zach Forsburg, and Tahlia Warrick

Bat Conservation International: Jon Flanders, Melquisedec Gamba-Rios, and Javier Folgar

Center for Biological Diversity: Tierra Curry

Hawaii Department of Land and Natural Resources: Matthew Kier, Dan Dennison (and team), in partnership with Kobey Togikawa, of the Oahu Plant Extinction Prevention Program

MassWildlife: Michael Jones and Jennifer Longsdorf

NYC Plover Project: Chris Allieri and Benjamin Forbes

San Diego Zoo Wildlife Alliance: Debra Shier and Emily Senninger

Sierra Club: Bradley Williams and Ian Brickey

Dr. Jan Randall, chair of our Scientific Advisory Committee, guided the committee's work as they selected species and conservation methods for the report, and we are once again indebted to her for her leadership. Our thanks to our SAC members, too: Richard Buchholz, Ph.D., Gregory Butcher, Ph.D., Sylvia Fallon, Ph.D., Adrienne Hollis, Ph.D. J.D., Malcolm Hunter, Ph.D., David Inouye, Ph.D., Gary Krupnick, Ph.D., and Brian Silliman, Ph.D. We value your knowledge, time, and expertise.

We are grateful to the Endangered Species Coalition staff, as always, and to Nancy Welch, our project lead. And we thank Jonathan Herman, once again, for his stellar graphic design.

# PHOTO CREDITS

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**2023 TOP 10**