

# Connect

MARCH 2021

A publication of the Association of Zoos and Aquariums



## Gender in Conservation A New Era

**LAND AND SEA**  
Habitat Protection a Top Priority

**SAFE TAKING ACTION**  
Three Programs Make  
Strides in Difficult Year

**BY THE NUMBERS**  
Conserving Canids

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We only have one earth, with a finite number of habitats that are home to millions of wildlife and plant species. The degradation of many of these habitats has reached a crisis point—and is something that demands attention from conservation professionals and concerned citizens around the globe.

BY MARY ELLEN COLLINS

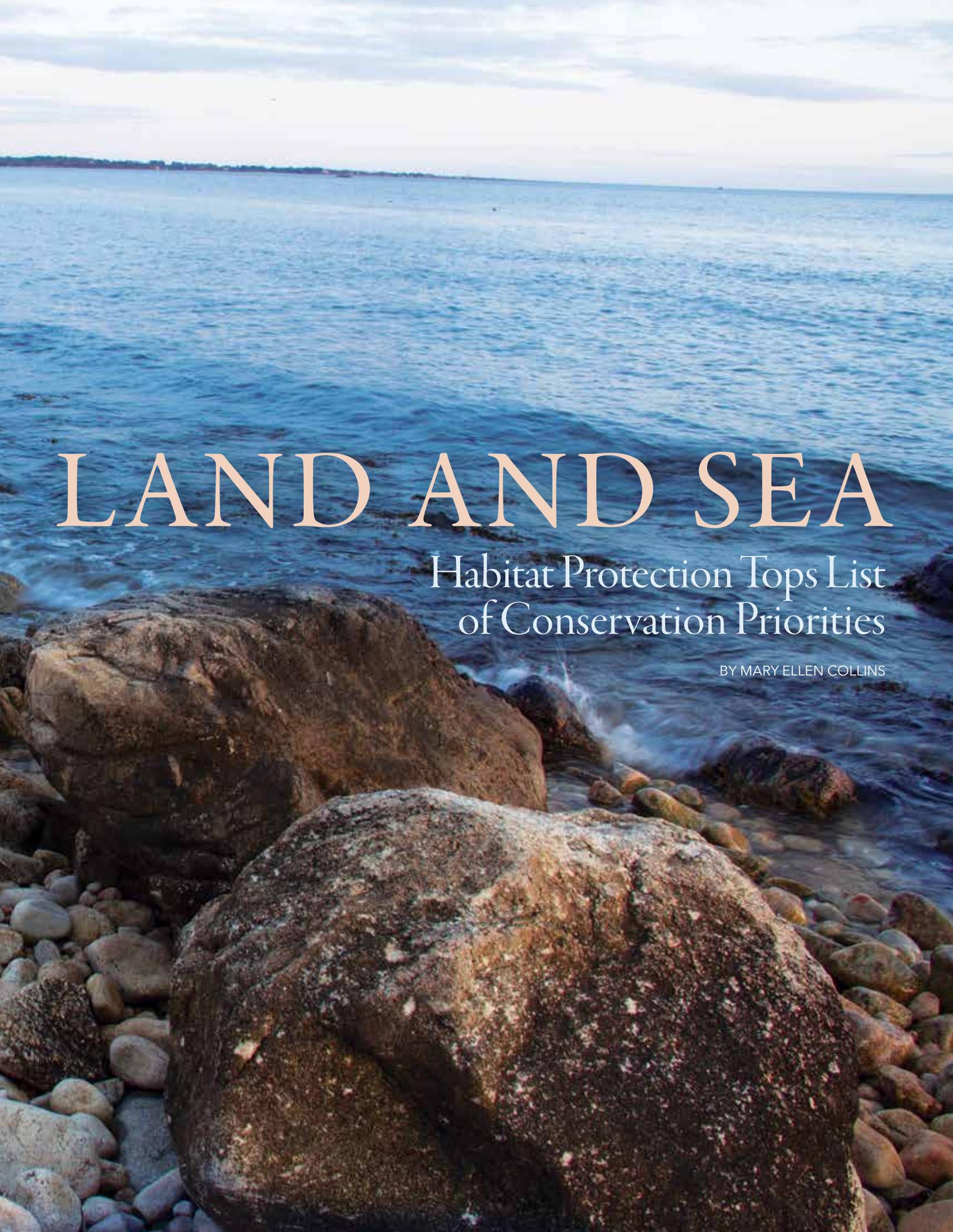
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#### **SAFE Taking Action**

SAFE North American Songbird, North American Monarch, and Chimpanzee have made great strides in the difficult year that was 2020, including the publication of their respective three-year program plans.

BY GILLIAN CANNATARO





# LAND AND SEA

Habitat Protection Tops List  
of Conservation Priorities

BY MARY ELLEN COLLINS



## We only have one earth,

with a finite number of habitats that are home to millions of wildlife and plant species. The degradation of many of these habitats has reached a crisis point—and is something that demands attention from conservation professionals and concerned citizens around the globe.

It's a frightening truth that if we don't take action to protect large areas of land and sea, we will witness the loss of species and ecosystems. This realization is the driving force behind initiatives including 30 x 30 and Half Earth. Members of the Association of Zoos and Aquariums community have made this a priority, and are taking steps to protect and restore the planet through SAFE program projects; state and federal advocacy; and community engagement.

### Restorative Planting

Very often there is a straightforward solution to habitat restoration that involves replacing the wrong plants with the right ones, as is happening at the North Carolina Aquarium on Roanoke Island.

"On property there is a small remnant area of maritime forest, which is rare globally. It only occurs close to a coast because it can withstand salt spray, wind, and sand," said Rachel Veal, horticulturist at the Aquarium. "This ecosystem is very important for wildlife. Deer, raccoons, and foxes live there, and a lot of migratory birds, which are the most threatened, use it for nesting or a stopover. The birds are very dependent on the native plants; and a lot of the insects the birds eat are dependent on relationships with those plants. These are very interdependent relationships."

Veal's team is in the process of removing invasive species and creating a 400-foot maritime forest interpretive trail next to their existing pollinator garden, with plans to get more people involved in workshops in the garden and the forest.

"We are currently on the North Carolina Butterfly Highway; we're a Monarch Waystation; and we are also planning to get a Certified Wildlife Habitat designation from the National Wildlife Federation this spring. Hopefully, that will provide us with a way to incorporate citizen science."

Oklahoma City Zoo and Botanical Garden in Oklahoma City, Okla., is also taking steps to involve the local community in addressing the habitat loss of the monarch butterfly, a relatively new SAFE species, said Rebecca Snyder, director of conservation and science at the Zoo.

"K-12 schools can apply for a Living Classroom Grant of up to \$1,500 to plant a monarch garden that will be used as an outdoor classroom. We've already funded 13 gardens and will do five more this year."

In addition to the funds for supplies, awardees receive the National Wildlife Federation's Monarch Heroes Curriculum; two workshops for teachers; and guidance from a member of the Oklahoma Monarch and Pollinator Collaborative."

"The Zoo's commitment to creating habitat for this important pollinator underscores the importance and power of shared responsibility," said Snyder. "Every single person can do something to save the monarch."

### Science and Policy

All habitat-related projects are based on science, and in Long Island Sound, research is underway to ensure the effectiveness of planned restoration efforts in the salt marshes, home to birds, fiddler crabs, mussels, oysters,

fishes, and northern diamondback terrapins, said David Hudson, research scientist at the Maritime Aquarium at Norwalk in Norwalk, Conn. He and his colleagues are studying whether the source of plants used for restoration impacts the resilience of restored ecosystems—information that will inform the success of the habitat restoration practitioners.

“We will measure different plant traits in both restored marshes and natural marshes that impact the marsh’s ability to withstand the effects of climate change,” said Hudson. “By better understanding these impacts, the long-term success of restoration efforts can be improved by choosing plants for restoration from the most appropriate sources.”

On a much larger scale, it was science that prompted President Barack Obama to designate the Northeast Canyons and Seamounts Marine National Monument (4,900 square miles) in 2016. Working with a coalition of environmental organizations and AZA members, Dr. Peter Auster from Mystic Aquarium in Mystic, Conn., and Dr. Scott Kraus from New England Aquarium in Boston, Mass., led the effort to synthesize the scientific information about the Monument that was used by proponents of designation, the Connecticut congressional delegation and the President’s Council on Environmental Quality.

“The Monument is an outstanding example of marine biodiversity in an area located along the Continental Margin that is relatively unadapted by humans,” said Auster. “I’d been doing research there since the eighties, and knew enough to know it was special because of that diversity.”

Inhabitants of the Monument range from single-celled organisms and deep sea corals and sponges to lobsters, tilefish, sharks, sea turtles, sea birds, dolphins, and whales.



Monarch chrysalis



Green sea turtle

The downside of having a president designate a protected area is that another president can remove some of the protections, as Donald Trump did last summer when he allowed commercial fishing to resume there. Both Mystic and New England Aquariums have been vocal in their support of re-instituting full protections, from issuing media releases to assisting their members and visitors in sending thousands of postcards and letters to their legislators.

Staff at each aquarium have also tackled the challenge of getting people excited about something they can't see or touch.

Mystic Aquarium's efforts include a new exhibit where people can see and learn about what lives in the Monument, said Katie Cubina, senior vice president, mission programs at Mystic Aquarium. "We expect the exhibit to create an immersive, tactile experience. You have to create the 'you are there' feeling because the area is 130 miles off the coast of Cape Cod"

New England Aquarium has a blog that documents impressive wildlife sightings from their aerial survey work in the Monument, said Dr. Kelly Kryc, director of conservation policy and leadership at the Aquarium. "And pre-pandemic, we did a couple of events with a live satellite connection to two ships in the Monument. We were able to take people to it virtually and say, 'This is the only U.S. Marine Monument in the Atlantic Ocean—and it just happens to be underwater. It is incumbent on us to protect all of the special places, whether you can get to them or not.'"

### Education and Collaboration

Working on habitat restoration in nations where you don't have jurisdiction presents a unique set of issues that require tact and diplomacy. For

example, Hudson's work through the Sea Turtle SAFE program depends on building positive relationships with the local people in areas where sea turtles eggs are cultural food items and bycatch has a negative effect on the turtle populations. Success requires being a partner who educates and proposes solutions.

"The primary challenge we faced as a program is protecting nesting areas that fall outside the protected parks and national refuges," said Hudson. "You have to build buy-in and trust with people. We provide them with the science, the resources, and the support. We initiated a pilot Adopt a Beach project to support egg protection on secondary beaches in Costa Rica, particularly since they are well-protected in the primary beaches in Las Baulas National Park. We also work closely with folks in Colombia through helping them to raise food for their rescued turtles. We have deep expertise in raising jellies, so that has been our primary mode of helping local efforts."

There are comparable issues on tribal land in North America, according to Shaun Grassel, wildlife biologist, Lower Brule Sioux Tribe Department of Wildlife, Fish and Recreation.

"There is a dichotomy on the reservation—ranchers and farmers who are making a living off the land verses folks who live in the community who aren't relying on the land for their livelihoods and are more supportive [of our work]. It's a microcosm of the United States."

On the reservation, the DWFR has developed a successful model in which they compete with farmers and ranchers to lease parcels of land when they come up for bid.

“If we win, we restore the land to native grasslands,” said Grassel. “We’ll choose a mix of grass seeds that are appropriate for the site, remove weeds, and plant trees and food crops for wildlife.”

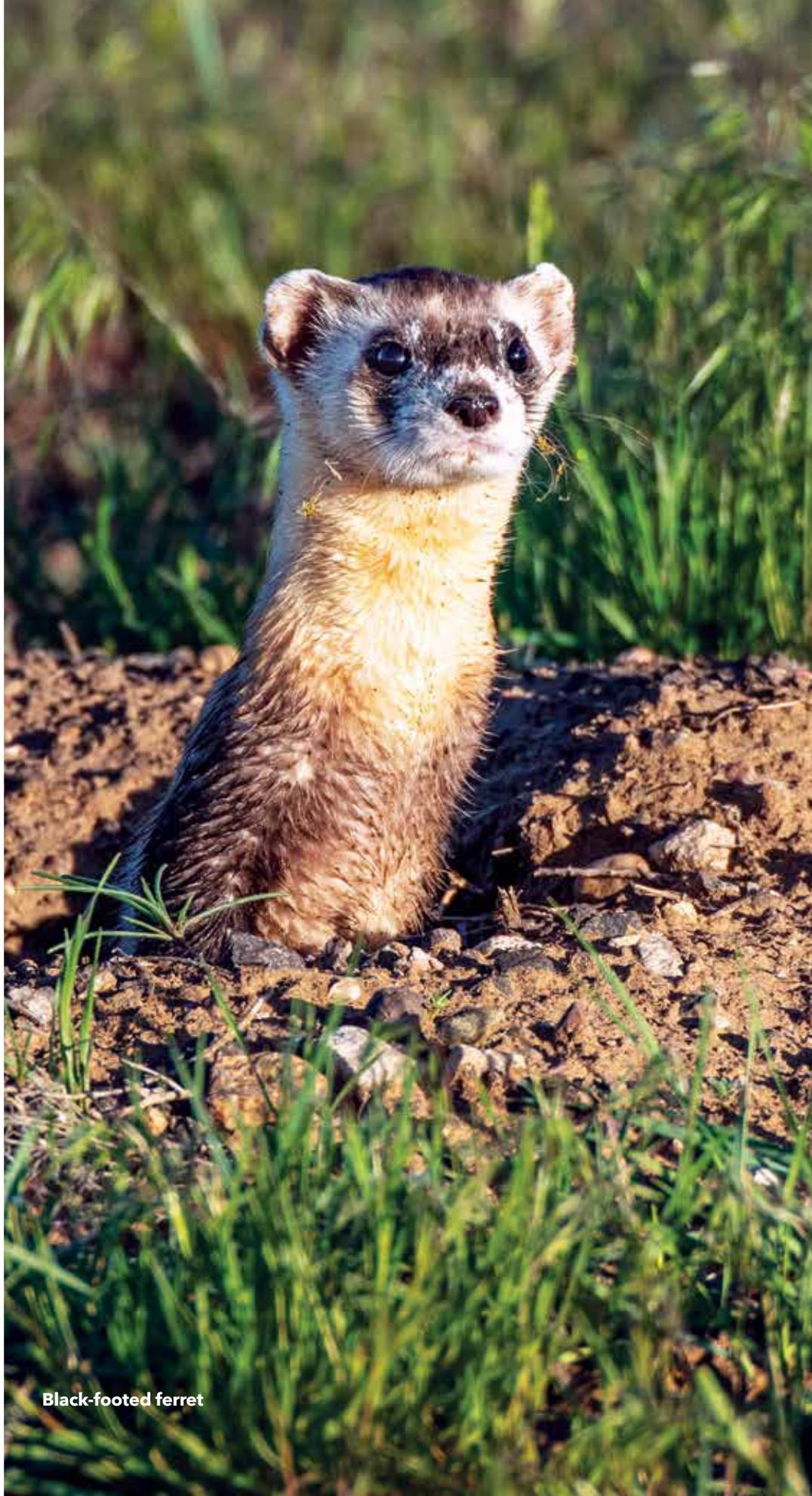
Grassel was also involved in a unique habitat restoration collaboration that involved reestablishing prairie dog colonies to support the release of endangered black footed ferrets.

“The ferrets are completely dependent on prairie dogs for food and shelter, and prairie dogs keep the vegetation short, which is the opposite of what the ranchers want. We offered a cash incentive and around a dozen ranchers agreed to work with us on ferret recovery. They agreed not to poison the prairie dogs and let us release and monitor ferrets on those colonies and manage plague on the colonies by applying insecticides to kill fleas. One rancher agreed to let us physically re-establish three colonies that had been wiped out by plague. We are managing about 20 prairie dog colonies for ferrets. Some are small and can only support one or two ferrets, some are larger and can support three or four. Having several colonies close together helps their survival verses colonies that are widely scattered.”

Creating, restoring, and protecting habits across the country and the world is a daunting task, but the overarching goal should motivate the change agent in all of us—the things we love in the natural world will disappear permanently if we don’t take action.

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Mary Ellen Collins is a writer based in St. Petersburg, Fla.



**Black-footed ferret**