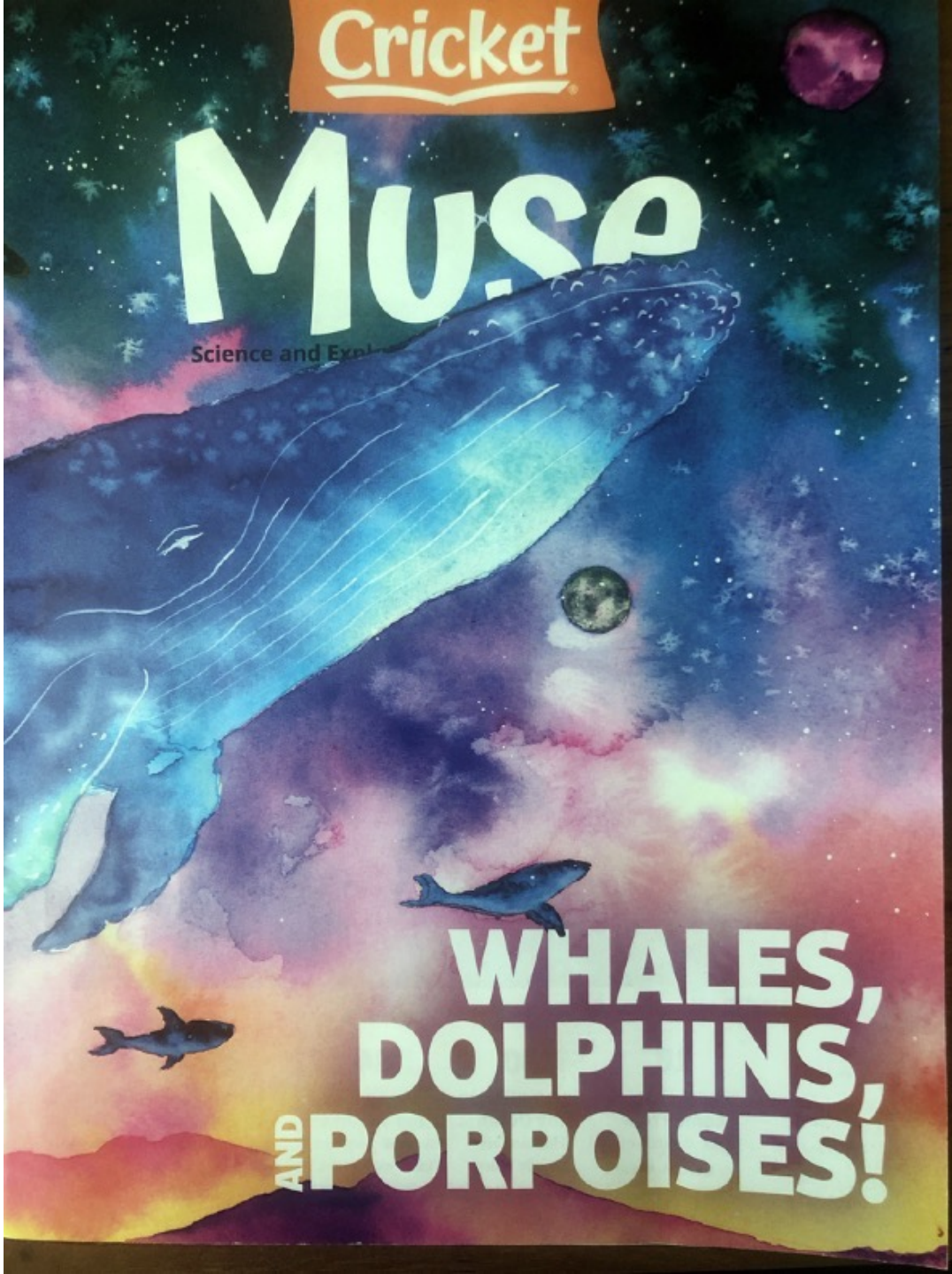


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AND WHALES, DOLPHINS, AND PORPOISES!

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The Last of the Vaquita

THE WORLD'S
SMALLEST
PORPOISE
FACES
EXTINCTION.

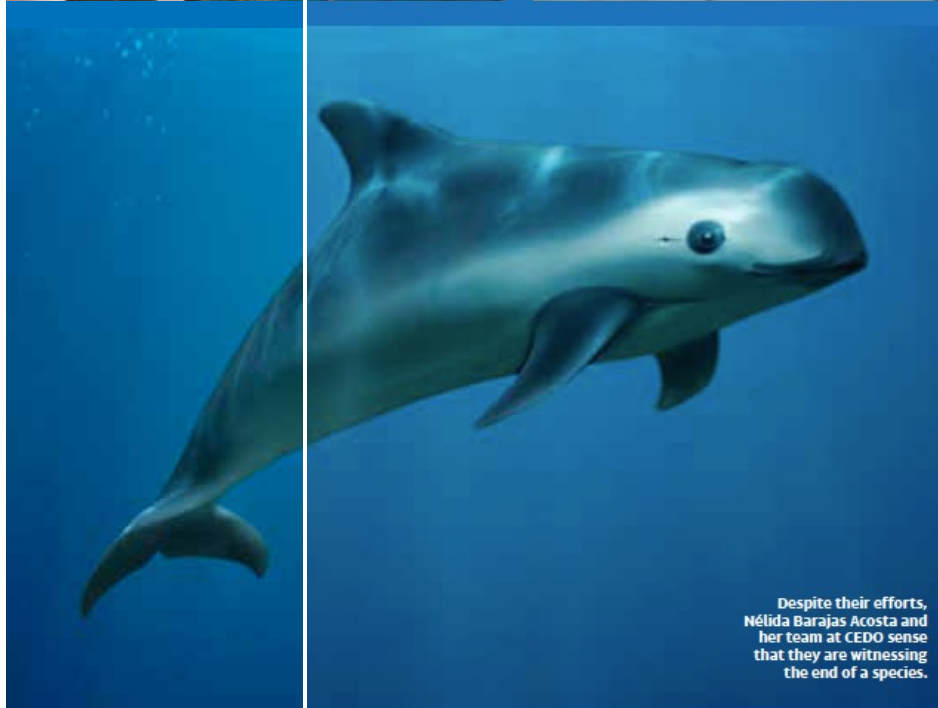
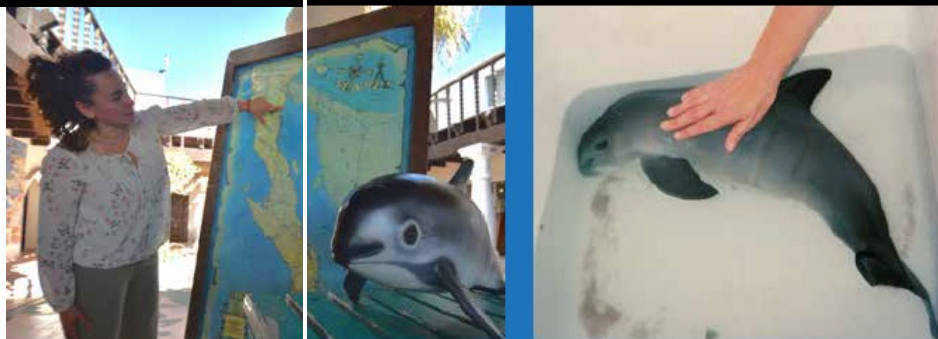
by Charles C. Hofer

Just south of the U.S.-Mexico border in the Mexican state of Sonora, sits a region of breathtaking natural beauty. It's a world where the desert meets the sea. Off any coastal highway lies the endless Sonoran Desert punctuated by giant saguaro cactus. On the other side of the road are the warm waters of the Gulf of California, home to a dizzying array of marine life. Legendary ocean explorer Jacques Cousteau dubbed these waters "The World's Aquarium."

But all is not well in this marine paradise. One of the Gulf's most beloved residents is teetering on the brink of extinction. The vaquita, which in Spanish

means "little cow," is the world's smallest cetacean. It's also the most endangered marine mammal on Earth.

Known to science only since 1958, the vaquita might vanish before we ever fully understood it. The species' population has dropped a staggering 99 percent in the last two decades. An estimated 600 vaquita roamed these waters in 1997. A decade later about 250. By 2015, just 60 vaquita remained. Today, scientists estimate that around 10 vaquita live in the wild. "Every time I see one, I wonder: Is this the last one I'm going to see?" Bob Pitman, an ecologist who studies cetaceans, has told journalists. "Is this the last one anyone's going to see?"



Despite their efforts, Nélida Barajas Acosta and her team at CEDO sense that they are witnessing the end of a species.



The Elusive Vaquita

The vaquita is one of seven porpoise species known worldwide—and it's by far the smallest. An adult male vaquita barely reaches five feet (1.5 m) long tip to tip. With a blunt nose, dark eye rings, and small stature, the vaquita strikes a charismatic image. This petite cetacean is found in only one small corner of our vast world — the shallow waters of the Upper Gulf of California. Here the vaquita feeds on the Gulf's rich variety of marine life such as small fish, shrimp, squid, and octopus.

Other than diet, little is known about the habits of the vaquita or its role it plays in the marine ecosystem. Unlike dolphins, they tend to be shy. Their elusive behavior, along with their low population numbers and small stature, make them difficult to study in the wild. To survey for this rarely seen species, scientists use subaquatic listening devices to detect the unique squeaks and squeals that vaquita use to communicate with one another.

Like many other critically-endangered animals, the vaquita's own life history may be contributing to its downward spiral. The vaquita has a low reproductive rate. Females don't reach reproductive age until at least three years old and then give birth to one pup every other year. This slow reproductive rate will do little to reverse population trends.

Illegal Fishing

Like so many stories about extinction, the tragic story of the vaquita is one of greed and mismanagement, where wildlife loses out to the livelihoods of humans. The decline of the vaquita is tied to another endangered species found in here in the Upper Gulf: the totoaba, a fish similar in size to the vaquita. Unlike the vaquita, however, totoaba is a rich prize in illegal markets. The swim bladder of the totoaba is a delicacy in the black markets of Asia. It's believed to possess fantastic medical cures for anyone who eats it (although no science supports this claim). Regardless, some people are willing to pay a high price for this dubious medicine. Just one totoaba swim bladder can fetch up to \$25,000 on the black market.

Totoaba are often caught using gillnets. These are huge nets that span

PORPOISES!

Porpoises resemble dolphins but are more closely related to beluga whales and narwhals than dolphins. The largest porpoise is the Dall's porpoise and the smallest is the vaquita. Here are a few porpoises (not drawn to scale).

How to Help Porpoises?

- » Educate yourself and others. Read about their stories and write letters of support to your political leaders.
- » Purchase with care. Learn about the fish you eat and their status before buying or ordering them.
- » Travel wisely. The places you and your family visit and the money you spend there can help support tourism-related jobs.
- » Don't pollute. Think about what you consume and what you do with waste material. Every small action can help.



Dall's porpoise



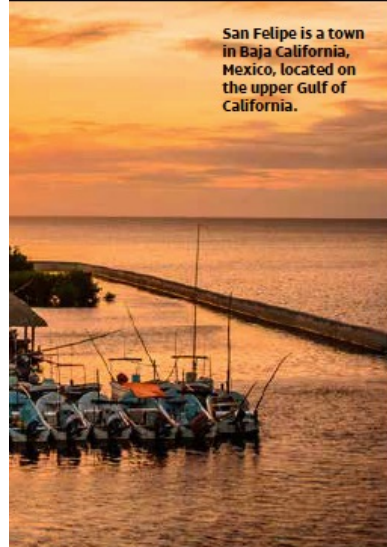
Finless porpoise



Harbour porpoise



Vaquita



San Felipe is a town in Baja California, Mexico, located on the upper Gulf of California.



Large fishing nets have snared many vaquitas and are considered the largest threat to their survival.

hundreds of meters when deployed behind a fishing vessel. Metal weights anchor the gillnet to the sea floor, creating a massive wall of netting. While these nets may target a specific species—like the totoaba—they will also catch everything else in their wake, such as sharks, rays—and the vaquita. The resulting haul is known as bycatch. The totoaba is removed and the other animals captured in the gillnet are thrown overboard, often dead or left to die. Unfortunately, bycatch is not unique to the vaquita's story. Bycatch is devastating marine environments the world over.

But gillnets are not the only threat to the vaquita. "Ghost nets" are abandoned nets left in the ocean. Some ghost nets can stretch for miles, entangling everything in their wake. For an air-breathing marine mammal like the vaquita, getting tangled in a ghost net is a death sentence.

"This illegal industry is driving many species around the world to extinction," says Ann Hall, a marine biologist with the University of British Columbia. "These are completely preventable deaths, but the unwillingness of people to change perceptions and actions will almost certainly result in the extinction of more than just the vaquita."

Downward Spiral

Efforts to save the last of vaquita have been mixed ever since conservationists sounded

the alarm in 1995 when the species was first declared endangered in Mexico. As the population spiraled downwards, the Mexican government created a vaquita refuge in the Upper Gulf in 2005. This sprawling area would be a protected zone, with limited fishing and increased law enforcement.

Then in 2015, Mexico enacted even stricter rules within the refuge. Gillnets were banned. Law enforcement patrols increased. And the Mexican government started paying fishermen not to fish in the areas within and surrounding the refuge. The local fishing communities were very much in favor of these strict regulations. The image of the vaquita has become an icon here in the Upper Gulf. Images of the vaquita adorn murals, schools, and government buildings in fishing towns like San Felipe and El Golfo de Santa Clara. Many of the local fishermen take pride in the vaquita and want to help protect the species.

But these efforts were undermined by the government's lack of enforcement. While the honest fishermen followed the rules by staying out of the protected areas, illegal fishing operators—called poachers—moved right in. With no competition, poachers were now free to scour the sea in search for the prized totoaba—and whatever species happened to get caught in their deadly

gillnets. "Realistically, it's the essence of San Felipe; there's nothing else to do but fishing," says San Felipe fisher Alan Valverde in the documentary *Souls of the Vermilion Sea*. "But the essence of respect for the sea has been lost." Overfishing ravaged the Upper Gulf and once again, the vaquita's spiral towards extinction picked up speed.

Strong Communities, Healthy Oceans

Along the shores of the Upper Gulf, at the edge of the vaquita's range, sits the Intercultural Center for the Study of Deserts and Oceans, a research and educational facility. A big part of CEDO's mission is to help grow strong communities that strike a balance between protecting natural resources, like a healthy fishery, while still supporting livelihoods (jobs) that depend on that fishery. It's this balance between community and the natural world that might prevent the next tragic story like the vaquita's. "It is a painful story, to witness an extinction," says Nelida Barajas Acosta, CEDO's executive director. "Let's learn from it so that it does not happen again."

In our busy, modern world we oftentimes forget where our food

comes from. We purchase seafood from the frozen food aisle at the grocery store, but these resources originate in places like the Upper Gulf of California. With the world's increasing appetites for fresh seafood, sustainable fishing practices are more important than ever.

Sadly, the vaquita's story isn't unique. Other cetaceans are also facing extinction. The Ganges River dolphin in India and the humpback dolphin in Africa are other marine mammals with rapidly declining worldwide populations. Although they come from vastly different parts of the world, all three of these cetaceans have one thing in common: They share their waters with communities that get their livelihood from the sea. Building resilient human communities with strong management practices is the best way to avoid over-fishing and destroying a fishery that so many lives—and wildlife—depend on.

Charles C. Hofer is a wildlife biologist and writer in Southern Arizona, not far from where the vaquita lives. He'd like to thank his good friends at CEDO (www.cedo.org) for their help with this feature article. Their tireless work will help ensure the tragic story of the vaquita is never repeated.