Shark Sanctuary Declared in Costa Rica Thanks to Years of Efforts by MCAF Fellow and His Team

In 2018, Costa Rica declared its first shark sanctuary in Golfo Dulce on the country’s west coast. This huge conservation victory is a dream realized for MCAF Fellow Andrés López and Ilena Zanella, co-founders of Misión Tiburón. López, Zanella, and their team have worked tirelessly toward this goal for a decade. They have gathered tagging and survey data showing Golfo Dulce is a critical habitat for newborn and juvenile scalloped hammerhead sharks, a species that is endangered due to overfishing, bycatch, and shark finning.

In addition to spearheading this research, Andrés, Ilena, and colleagues, including social entrepreneur Enrique Uribe, have built collaborations and support for the sanctuary with fishermen, schools, and local communities. They have also become trusted scientific advisors to local and national governments and drawn global recognition for their efforts.

Early this year, Golfo Dulce was named a Hope Spot by Mission Blue, the organization led by famed oceanographer Dr. Sylvia Earle. The Hope Spot designation will bring more resources and attention to the efforts to further protect this vital ecosystem. The added recognition will also help it to serve as a successful model for other conservation efforts across the globe.

We have been honored to support the work of Misión Tiburón over the years with MCAF grants, as well a fellowship for Andrés López in 2017. We are thrilled to see this exciting and important conservation outcome brought about by the hard work and unwavering dedication of Andrés, Ilena, Enrique, and their team.

Read the full press release from Mission Blue: bit.ly/MissionBlueHope
Thresher Shark Tales

In the story below, Marine Conservation Action Fund Fellow Anna Oposa, Chief Mermaid and Executive Director of Save Philippine Seas, tells of her efforts to strengthen support for and the impact of a shark shelter in the Philippines, work that was supported in part by MCAF.

Scuba divers from all over the world travel to Malapascua Island, Cebu, Philippines, with the same objective: to see thresher sharks (Alopias pelagicus) in Monad Shoal.

Monad Shoal, a seamount off Malapascua, is the only place in the world so far where thresher sharks can be seen almost daily at recreational depths (30 meters) due to their symbiotic relationship with cleaner wrasses. This shark species, classed as vulnerable to extinction by the International Union for Conservation of Nature, is clearly the superstar of the island. The shark’s distinct shape, marked by its long tail, is on the logo of most dive operators and resorts. Its grace, doe-like eyes, and presence have attracted many tourists, researchers, and conservationists — including myself.

I began working in Malapascua in 2012 with big dreams: to protect thresher sharks and establish the country’s first shark and ray sanctuary. I was 24 years old with no community-based conservation experience, and the movement I co-founded, called Save Philippine Seas, was just a year old. For the next few years, I learned and failed quickly. However, with the help of the business sector, dive operators, advocates, local governments, national government agencies, and scientists, the big dreams came true. In 2015, an Executive Order declared Monad Shoal and another site called Gato Island as shark and ray sanctuaries, and all three species of thresher sharks became nationally protected. These milestones didn’t just “take a village,” as the expression goes, they required a national movement, riding on the global momentum and attention for shark and ray conservation, and entailed multiple heartbreaks and setbacks.

I wish I could tell you that that was the happy ending. But anyone in this line of work knows that issues evolve. Solve one, and another one — or two — will arise. In our case, we began to see the impact of focusing on Monad Shoal and Malapascua. By enhancing marine protected areas (MPAs) that are no-take zones, local fisherfolk had smaller fishing grounds, creating friction between the artisanal fishing and tourism industries. The neighboring coastal communities, Carnaza and Maya, needed resources for capacity-building and environmental education as well because they had MPAs near them that they could learn to manage. They too needed seats at the table for development to be truly inclusive and sustainable.

Another challenge we had to confront was political instability. In the Philippines, local government officials such as mayors and local legislators have three-year terms and can be elected up to three times. Since 2010, the municipality has had three different mayors, and will elect a fourth in the upcoming elections. Each new mayor was a reset button, inevitably slowing progress.

The support from the Marine Conservation Action Fund (MCAF) helped address these issues. The proposal had three objectives: diversify the participation of stakeholders, strengthen and enhance community organizing and participation, and collect relevant and realistic information for an enforceable, socially just, science-based MPA Network Ordinance.

To meet these objectives, we used the financial resources to draft a Management Plan, review existing local legislation, use data collected from previous projects and studies, and travel to Carnaza, Maya, and around Malapascua. The Management Plan and amendment to a local ordinance to create an MPA Network are meant to serve as blueprints for the site’s long-term conservation plans, regardless of the current administration.

In the coastal communities, our lean team of three, in partnership with the local government, organized stakeholder consultations. It was the first time that stakeholder consultations for marine conservation were held in Carnaza and Maya, and the turnout surprised us. In Maya, 24 participants attended. In Carnaza, 42 participants joined. For each consultation, there were representatives from fisherfolk, government employees, housewives, and fish wardens. They shared their ideas, asked questions, and opened up about their frustrations. They also repeatedly expressed gratitude for being included in the dialogue. “Finally,” several of them remarked.

The feedback from the participants brought us back to the drawing board. We made edits and applied changes to the Management Plan, ordinance, and communication materials. By mid-December, we were able to submit the materials to the local government officials for review and approval. Through a series of follow-up messages and informal meetings, we’ve been informed that there is no major opposition to any of the proposals.

Four months into 2019 and the Management Plan has not yet been endorsed, and the ordinance has not yet been passed due to the upcoming elections. This is not necessarily bad news. Our local elections are coming up in May 2019, which means our government officials have their hands full with campaigning. Only after the oath-taking of the new officials in June will momentum pick up again.

Then we begin a new chapter of the thresher shark tales.
Field Season Brings Exciting Encounters with Blue Whales in Sri Lanka for MCAF Fellow Dr. Asha de Vos

By Asha de Vos, Ph.D., New England Aquarium MCAF Fellow, National Geographic Explorer, Pew Marine Fellow, and Founder of Oceanswell

This story is one of a series on projects supported by the Anderson Cabot Center’s Marine Conservation Action Fund (MCAF). Through MCAF, we support researchers, conservationists, and grassroots organizations around the world as they work to address the most challenging problems facing the oceans.

The beauty of the MCAF grant is that it can act as an emergency fund should you have a financial shortfall to complete an important project. This is exactly why I applied (this is my second grant) and why I am grateful this grant program exists. While we had hoped to photo-ID Bryde’s whales and Omura’s whales, the latter was more elusive than we had hoped, with no sightings through our month-long field season. However, we did have some incredible encounters with blue whales, Bryde’s whales, and even a pod of very relaxed pilot whales!

During our time on the water, we were able to kick-start the pilot whale photo ID database for Sri Lanka, with great photos of 12 of the individuals we encountered. We were unable to photograph the entire pod or did not get photo-ID quality photos of all of them. When we first encountered this pod, the whales were in a mixed group with bottlenose dolphins. But shortly after, the two species split, going their separate ways.

Our time on the water also gave us good photo-ID opportunities with blue whales, and we were able to add 66 blue whales to our existing blue whale catalog. It is important to note that we do not have both dorsal sides and tail fluke photos for every individual in our catalog, which is obviously tricky. But this is the nature of photo-identification work. This is why population estimation is not as straightforward as people think it is.

Most excitingly, we had three encounters with two mother-calf pairs of blue whales. On the first occasion, we were the only boat, so we switched off our engines and observed. This is how we have our best encounters, and we were very careful not to scare off the pair or hassle them. The calf spy-hopped, head-breached, swam right under our boat, and exhibited some behaviors akin to feeding. This is really exciting for us because adult blue whales are less demonstrative and do not show this diversity of behaviors (unlike their more showy cousins, the humpbacks). The pair were calm, and we were able to record some interesting data about their behaviors. On the second and third occasions, however, the pairs were surrounded by whale watch boats and we observed significant changes in behavior as they were being charged at from all sides. We also encountered a mother-calf pair of Bryde’s whales, who were, once again, very calm as we did not try to approach or interact with them. During our time on the water, we got some good photographs of Bryde’s whales that will provide another great and rare opportunity to observe, collect data, and truly try to understand a slightly more elusive species in our waters.

MCAF Fellow Dr. Asha de Vos leads the effort to photo-ID whale species such as Bryde’s, Omura’s, and pilot whales off the coast of Sri Lanka.

Asha de Vos has pioneered the study of North Indian Ocean blue whales off the coast of Sri Lanka, dubbing them the “unorthodox” whales when she discovered that they did not undertake the long migrations common to other blue whales.
Right Whales that Cross Hemispheres

By MCAF Fellow Florencia Vilches

Right whales can be individually identified thanks to natural patches of roughened skin on their heads called callosities. Photo-identification is a tool that allows researchers to know who is who within a population of animals and, if done continuously and periodically, detects changes in the population’s health and dynamic.

Just like the New England Aquarium curates the North Atlantic Right Whale (Eubalaena glacialis) photo-identification catalog, the Instituto de Conservacion de Ballenas (ICB) from Argentina and Ocean Alliance (OA) from the United States curate the Patagonian Southern Right Whale (Eubalaena australis) catalog, which is the cornerstone of ICB/OA’s work and is considered an invaluable data source for conservation and education.

Since 1971 we have identified more than 3,200 southern right whales. Unlike right whales from the Northern Hemisphere, most southern populations are now on the increase. Today, right whales are the focus of many whale watching ventures in the Southern Hemisphere, where they can be viewed from shore as well as from boats.

In 2016, with support from the Marine Conservation Action Fund (MCAF), we initiated a project to incorporate into our catalog more than 460,000 whale photos taken between 2004 and 2016 by whale watching photographers from Peninsula Valdés in Patagonia. As an MCAF Fellow, I was invited to the New England Aquarium to share my experience in the use of photo-identification as a tool for monitoring the health of the Patagonian right whale population and in the collaborative work with local photographers.


MCAF Fellow Florencia Vilches studies the health of Patagonian right whales using photo-identification of individual whales.

Bringing right whales from Valdés to the Boston community. During an intense and exciting week in July, I had the chance to interact with a multiplicity of audiences. The Brown Bag Lecture for the researchers, educators, and communicators of the Aquarium led an enriching exchange of experiences about the great challenge of raising environmental awareness worldwide.

The lecture at the Simons IMAX™ Theatre allowed me to bring the life histories of the whales from Valdés and the threats to their conservation to dozens of attendees from the Boston community and more than 3,000 viewers who streamed the lecture online. An interactive talk took place at the East Boston Public Library, where the audience actively participated with several questions about right whales. Also, I had the valuable opportunity to interact with local children and teens, the audience I was very excited about.

During a meet-and-greet session with Aquarium visitors, many children got to know the family tree of the famous Whale 71 from our catalog of identified right whales and learned about the five generations of whales we currently know thanks to 48 years of continuous scientific work. Other visitors were amazed by the tiny size of the callosities, invertebrates that cover the callosities on right whales.

I met the teens of the Aquarium’s youth programs during a fun pizza night, just before inviting them to be right whale photo-IDers for a day and build the trees of some of the whale families in our catalog. My mission was to inspire them as future conservationists, but there were these young persons, still in high school and investing their summer days in empowering themselves as future ocean stewards, who inspired me.

A different field season. Each summer since 1980, the New England Aquarium Right Whale Team conducts a field season at the Bay of Fundy to study the North Atlantic right whales. With only about 430 whales remaining, this population is severely threatened, mainly by vessel strikes and entanglements in fishing gear.

The famous house in Lubec, Maine, that works as a field station reminds me of the field seasons I spend in the Patagonian house where Dr. Roger Payne once lived with his family. The walls are covered with photos and quotes and reflect the decades of history hosted by that house.

The Bay of Fundy is a whale party. In addition to right whales, minke, fin, and humpback whales can be found there. Thus, when we finally find a blow on the horizon during the first day on the boat, we try to contain our excitement, since we still need to make sure it is a right whale. So, we come closer and, …yes!… there is the unmistakable V-shaped blow. The 5 a.m. wake-up, terrible for a nonmorning person like me, was so worth it. I finally met the cousins of “my whales.” My colleagues immediately tried to identify the individual and, with a joy that feels familiar to me, found out it is a known whale. Hours later, we found the second and last whale I was going to see during my two weeks on the water. Although that was a low number for me, as I used to the crowds of whales of Valdés, it is good news for my colleagues, who found no right whales for months on end during 2017. Simultaneously, part of the team is sailing the waters off the Gulf of St. Lawrence, where an increasing number of right whales has been recorded during recent years. It is good news, but it is clear that the whales are changing their distribution and that is a big challenge for monitoring their health.

When the weather was not suitable for sailing, we analyzed data at the field station. I was introduced to the Aquarium’s custom-made photo-identification software DIGITS and was able to explore options for managing our southern right whale database. The bright side of searching for whales in a catalog of 732 individuals, instead of 3,200 as I am used to, are the better chances of finding a match, which is always a great satisfaction. Less happy was realizing that many of the searches are based on scars from vessel collisions or entanglements.

The challenge faced by the Right Whale Team is intimidating: prevent the extinction of the North Atlantic right whales. After long after-dinner talks, I got to know that no calves were seen during the last calving season. Not one. Last year, of the 17 whales that were found dead, 13 were known individuals. For a moment, I placed myself in their shoes and thought about finding a dead right whale in Valdés and realizing it was Antonia, Mochita, or any of “our” whales. It was heartbreaking.

Lessons learned. The conservation and well being of southern right whales are not severely threatened by vessel strikes and entanglements, but they are threatened by other causes, such as kelp gull harassment in Valdés and the decline of the abundance of krill. There is a common denominator in the threats that both species face: poorly managed human activities. In this world that devours resources in growing leaps and bounds, it is our duty as global citizens to protect such resources for future generations. And that requires more than turning off unused lights and taps, or throwing trash in the proper bin. It requires community-scale actions. Initiatives proposed and executed in the neighborhood where you live, the school where you study, or the office where you work are the ones that will inspire others and create the social pressure necessary for resources to be used with as little impact as possible and be available for this and many more generations. It is necessary for the whales in the north not to become extinct before ours eyes and the whales in the south to continue being crowds in our Patagonian coasts.

Thank you to all the New England Aquarium staff, who instantly made me feel at home, and especially to the MCAF and Right Whale teams for your kindness, generosity, and inspiration.

Florencia Vilches and Aquarium right whale scientist Kelsey Howe photograph a humpback whale off the coast of Lubec, Maine.