

Tides of time

The Malpelo Fauna and Flora Sanctuary, 270 nautical miles off the Colombian coast, is the largest no-fishing zone in the eastern tropical Pacific and one of the world's top diving sites. It is one of 43 exceptionally valuable marine sites around the world recognized by the World Heritage Committee



Large predators — like the hammerhead sharks pictured here — and other deepwater fish as well as whales are found in the waters of the Malpelo Sanctuary.



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YVES LEFÈVRE

PEOPLE | Germán Soler, scientist and diver

Swimming with sharks is ‘heaven,’ but there is also desk work to be done

Swimming with hundreds — or thousands — of sharks may sound like a nightmare to some people. But it is heaven for Germán Soler, who looks forward to swimming with sharks several times a year.

A Colombian marine biologist and director of the Malpelo Foundation, Soler is responsible for supporting and supplementing the work of the Colombian government in overseeing the Malpelo Fauna and Flora Sanctuary off the country's southwestern coast. The sanctuary has been a Unesco Marine World Heritage site since 2006.

Soler joined the foundation in 2003, when it was first preparing its proposal to be listed as a World Heritage site. He recalls the first time he went to the sanctuary, that year: "It was something unbelievable. Visibility is up to 30 meters [almost 100 feet] and I remember seeing over 200 sharks just below my feet. And I was, like, this cannot be happening. It was heaven."

Three years later, Soler entered the waters of Malpelo and found himself in the company of more than 1,000 silky sharks. He had long wanted to see a large aggregation of *Carcharhinus falciformis*, and suddenly his wish had come true.

"They were swimming around me, just minding their own business," he says, "and they were very close to me, but not being aggressive. It was something. I have it recorded in my brain for the rest of my life."

The sanctuary is also home to what the locals call the Malpelo Monster, a four-meter short-nosed, ragged-tooth shark (*Odontaspis ferox*) related to the great white. It favors deepwater reefs, so it is rarely seen by humans. "Divers can see it only in a few places in the world, and Malpelo is one of them. It is an incredible animal found in our sanctuary," exults Soler.

Soler has loved the sea since childhood, when his parents — based in Colombia's



Germán Soler, director of the Malpelo Foundation.

mountainous capital, Bogotá — would take him to the seaside for vacations. He earned a Master of Marine Science from the University of New South Wales in Australia, then worked with pink river dolphins in Brazil and humpbacked whales in Bahía Málaga, Colombia, and specialized in satellite and acoustic telemetry techniques. He continued whale research near the island of Gorgona, off the Pacific coast of Colombia, and began hearing about the Malpelo Sanctuary.

"Everybody was raving about it as a great place to go," he recalls. Soler contacted Sandra Bessudo, who was then the director of the Malpelo Foundation, and he had the opportunity to visit Malpelo for the first time. He credits Bessudo (who is slated to lead a new Ministry of the Environment and Sustainable Growth in Colombia) with being a driving force for the establishment of the

sanctuary. If not for her, he says, "Malpelo would not be what it is today."

When Soler joined the Malpelo Foundation in 2003, his first project was to prepare documentation for the site's proposal to be listed as a World Heritage site.

One of Unesco's requests was that the site be enlarged, which required governmental assent. That took about a year, working with the Colombian National Parks Department and with the Colombian Navy. Eventually the site area expanded from 651 square kilometers to 9,584 square kilometers (251 to 3,700 square miles).

The success of this interinstitutional cooperation is one of the Malpelo Foundation's proudest achievements, says Soler. Bringing the government, the military and international nongovernmental organizations together for a common cause, he explains, resulted in the expansion of knowledge of the sanctuary both in the water and on terra firma.

The land part of his job is essential: he and his staff write financial proposals for

conservation and scientific work to be conducted in Malpelo. They marshal the funds for surveillance and patrolling of the site.

"You have to mix both the desk and the field," he insists. "If you want to get resources and have real conservation impact, you cannot do it only from the field. You have to work from your desk, getting donors to know what Malpelo is and where the difficulties and threats are. You have to be with people all the time. You cannot disconnect from the world."

Nevertheless, field work is what Soler enjoys most. He goes to the sanctuary about six times a year for two weeks each trip.

At present, he and his colleagues are studying the movements of hammerhead and other sharks in the region.

"I started studying biology because I loved nature. I knew I wasn't going to become rich," says Soler with a laugh. "You need to be very passionate about what you are doing and be convinced that your work is for the betterment of the environment and humanity." ■

About World Heritage

The aim of the World Heritage Convention, adopted by Unesco members in 1972, is "to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding universal value to humanity."

"Tides of Time" is a partnership among Jaeger-LeCoultre, Unesco's World Heritage Centre and the International Herald Tribune. The series presents some of the people who are helping preserve marine sites on the World Heritage List.

To see videos about World Heritage marine sites, visit the "Tides of Time" archive at whc.unesco.org/tidesoftime

Watch auction proceeds go to help fight poaching

Three days are an insignificant time span in the life of oceans, but the three-day period April 18-21 may have made a big difference in a big area of the ocean — Colombia's Malpelo Fauna and Flora Sanctuary. This World Heritage marine site — located 270 nautical miles (500 kilometers) off the coast of Colombia and covering 9,584 square kilometers, or 3,700 square miles — will be receiving all proceeds from an online auction by the Swiss watchmaker Jaeger-LeCoultre that was held during those three days. The winning bid was £16,208 (\$26,773).

The auction was the latest of three created by Jaeger-LeCoultre specifically to benefit World Heritage marine sites, both in economic terms and in attracting public attention.

The watch chosen, Memovox Tribute to Deep Sea, was a commemorative edition in homage

to a legend of diver's watches and an icon among collectors: the Memovox Deep Sea "LeCoultre Spécial Amérique 1959."

The proceeds will be used for the purchase of inflatable boats to aid in surveillance of the sanctuary's marine surface.

The sanctuary works with the Colombian Navy and the Colombian National Parks for surveillance of the site, the largest no-fishing zone in the eastern tropical Pacific, but more boats are needed to patrol the site. Illegal fishing is a major threat to species found in Malpelo, especially sharks.

The auction is part of Jaeger-LeCoultre's long-term commitment to World Heritage sites. It is a partner with the Unesco World Heritage Centre and the International Herald Tribune to defend and protect outstanding marine sites that require immediate intervention.

MALPELO FLORA AND FAUNA SANCTUARY | Protecting an exceptional habitat

The stakes: Valuable species and the threat of man

The Malpelo Fauna and Flora Sanctuary takes its name from the island of Malpelo, a volcanic formation 270 nautical miles (500 kilometers) west of the Colombian Pacific coast. The sanctuary is the largest no-fishing zone in the eastern tropical Pacific — the marine surface covers 9,584 square kilometers, or 3,700 square miles — but the island itself is small, about 120



Malpelo Island is home to the largest nesting colony in the world of the nazca booby.

hectares, just less than half a square mile. Yet four species call it home and are found only there: a land crab, a gecko and two other kinds of lizards. The island also serves as the largest nesting colony in the world for the nazca booby, *Sula granti*. Malpelo is home to about one-third to one-fourth of the global reproductive population of this species.

One booby by-product is abundant guano, which flows to the sea and nourishes planktonic algae, on which feed vast populations of tuna and jackfish as well as humpback whales in the waters of the sanctuary.

The fish in turn draw sharks, and the aggregations here of silky sharks and hammerheads are "incredible," notes Germán Soler, director of the Malpelo Foundation and a marine biologist and diver. Their presence in turn attracts the most deadly predator of the ocean and the biggest threat to this World Heritage site — man.

Illegal fishing, mainly for tuna, is certainly a threat to the sanctuary. Silky sharks are often caught in nets with the tuna because they tend to swim together.

The greatest danger to the marine life of the area, however, is shark finning. The

Shark Specialist Group of the International Union for the Conservation of Nature cites estimates of 26 million to 73 million sharks killed each year for the fin trade.

The Malpelo Foundation works with the Colombian Navy and the Colombian National Parks for surveillance, but more boats are needed to patrol the vast area.

A lesser challenge comes from the tourists who come to dive in Malpelo's clear waters and experience the thrill of seeing sharks and exploring deepwater caves and coral reefs. Currently about 20 cruise ships are licensed to visit the sanctuary each year, bringing 600 divers. Aside from direct damage to the coral reefs, divers bring with them the problems of garbage disposal in the ocean and the accidental introduction of ex-traneous animal or plant species from the diving ships to the island.

Achieving a balance between conservation

and accessibility is delicate at best. Mechthild Rössler, chief of the policy and statutory section of the World Heritage Centre, points out that marine sites have multiple functions that may include being sources of revenue, tourist destinations and places of recreation. In her view, the public must be educated to enjoy the beauty of a site without disturbing its natural balance.

Malpelo has financial support from Unesco, Conservation International and an endowment funded by the Global Conservation Fund and the Fondo Para la Acción Ambiental (Fund for Environmental Action), and from other private donors and foundations. It participates in Migramar, a network of marine research and conservation institutions in Colombia, Costa Rica, Ecuador, Panama and the United States that studies shark, turtle and other pelagic populations of the eastern tropical Pacific. ■

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