



PEOPLE **SAVING**  
THE **SEAS**

PEOPLE **SAVING**  
THE **SEAS**

**"AS LONG AS THERE ARE PEOPLE  
WHO CARE AND TAKE ACTION,  
WE CAN AND WILL MAKE  
A DIFFERENCE."**

The Founder, Save Our Seas Foundation.





# CONTENTS

- 6 A word of introduction from the CEOs
- 8 A grim picture...
- 10 Good news!
- 12 Media
- 20 Save Our Seas Shark Centre USA
- 24 Save Our Seas Shark Centre South Africa

## **Projects In Focus:**

- 28 Shark bites and public policies
- 30 The Shark Riddle
- 34 Satellite tracking neonate green sea turtles in the Atlantic
- 40 Identifying site fidelity and important aggregation habitats of white sharks
- 42 Marine education in the Seychelles
- 46 Shark Spotters South Africa
- 50 Looking for Maniwata-West African manatees
- 54 The Manta project in Ecuador
- 58 The Palau grey reef sharks
- 66 Sharks for the future campaign
  
- 70 Past & present projects
- 76 Team, advisors, centres
- 78 The future is now!
- 80 Credits and contact







## A WORD OF INTRODUCTION FROM THE CEOs

### 2011, an exciting and wonderful year!

This whole year has been an extraordinary adventure for both of us.

We have the privilege of being the CEOs of a very special organization. When we started working for the Save Our Seas Foundation in January, we hardly knew what to expect. Of course we had read about the Foundation's conservation projects, but we only discovered its true power, the Save Our Seas dedicated project leaders, during the past year. Working all over the world, on high seas and dark jungle shores, in rain, snow and under the intense tropical sun, they never give up. They dedicate their lives to saving the creatures in the oceans of our world. Some of them tag sharks, others manta rays, and one of them even tags baby turtles! Others do laboratory research, examining samples to determine the genetic origin of species. Many project leaders educate the general

public and teach others about their love for the sea. At Save Our Seas, we realize that people only protect and care about what they know, understand and love.

This review will inform you about the Foundation and its many great projects in 2011. But we also have the privilege of presenting you with some of the project leaders' personal stories. Their stories tell us why and how they do this work. All have one thing in common: they work for mankind. For you and for me, for all the people living on our magnificent blue planet. And for the love of our oceans and all the creatures living in them.

To Save Our Seas.

*Peter Verhoog and Georgina Wiersma*





## A GRIM PICTURE...

**Our oceans are in danger. In the past decade the SOSF has provided financial and, equally important, practical assistance to over 180 marine research and conservation projects all over the world.**

An important focus has been on understanding and protecting the largest shark species. The conservation status of more than a thousand species of sharks and their relatives (skates, rays and chimaeras, collectively known as the cartilaginous fishes) has now been assessed against the IUCN Red List of Threatened Species™ Red List criteria (see [www.iucnredlist.org](http://www.iucnredlist.org)). The results show that an alarmingly large proportion of sharks - 17% of all assessed species - are under threat of extinction. This number climbs to a staggering 33% if the 47% of Data Deficient species are excluded. Possibly even more alarming is that a smaller proportion of cartilaginous fish species has been categorised as Least Concern (23%) than any other taxonomic group of vertebrates or marine species assessed to date.

Research proves that sharks are of vital importance to the health of our oceans, which cover 70% of the earth's surface. It also shows that ecosystems containing healthy shark populations have larger varieties of fish and other marine life and healthier reefs. Sharks are crucial to our waters, yet staggering numbers are

killed each year by widespread illegal, unreported and unregulated (IUU) fishing. Indeed, it is estimated that the fins of some 26–73 million sharks are traded internationally each and every year, simply to satisfy growing demands for shark fin soup on the Asian market. Immediate and deliberate action is needed if sharks and their fragile habitats are to be rescued and protected.

Besides shark projects, the Foundation funds several turtle research projects.

**Six out of the seven species of marine turtle are threatened.** Threats to marine turtles occur at all stages of their life cycle. Marine turtles lay their eggs on beaches, which are impacted by coastal development, sand mining, and introduced predators. The eggs and hatchlings die from pollution and predation, and eggs are





collected by humans as food in many parts of the world. At sea, marine turtles face the threat of being targeted by small-scale subsistence fishing, hauled in as a bycatch of long-line and trawling activities, entangled in marine debris and either injured or killed by boat strikes.

A small number of projects focus on marine mammals, such as manatees and dugongs.

**One-quarter (25%) of all marine mammals are now threatened.** Major hazards include entanglement in fishing lines, directed harvesting, noise pollution from military and seismic sonars and being hit by boats. In many regions, marine mammals are also at risk due to water pollution, the loss of habitat caused by coastal

development, the loss of prey and other food sources due to poor fishing management, intensive hunting and the combined effects of climate change. As for sharks, the true proportion of threatened species may well be even higher, as a large proportion of marine mammals (44.4%) have been assessed as Data Deficient.

As the Foundation began recognising the increasing and severe threat of ocean acidification, it started funding the work of Jason Hall-Spencer, a renowned scientist in this field. **Approximately a quarter of the atmosphere's carbon dioxide enters our oceans and seas. As the amount of carbon in the atmosphere**

**rises, there is a corresponding increase in ocean carbon levels.** When carbon dioxide is absorbed by seawater, chemical reactions occur that reduce seawater pH, carbonate ion concentrations, and the saturation states of biologically important calcium carbonate minerals. This process is called 'ocean acidification'. Calcium carbonate minerals are the building blocks for the skeletons and shells of many marine organisms. In areas where most life now congregates in the ocean, the seawater is oversaturated with calcium carbonate minerals. This provides abundant building blocks for organisms to build their skeletons and shells. However, continued ocean acidification is causing many parts of the ocean to become under-

saturated with these minerals, which is likely to affect the ability of some organisms to produce and maintain their shells. **It is estimated that between 1751 and 1994, the surface ocean pH fell from approximately 8.25 to 8.14, representing an increase in acidity of roughly 30%.**

Unfortunately, the human race is rapidly destroying that upon which it is ultimately dependent for its very survival: the oceans of our world.

At Save Our Seas, we believe in the strength of the individual. We can make a difference. And we will make a difference. Through the strength of our individual project leaders, who together form a strong platform for ocean conservation by means of research and education. By raising awareness of our oceans and its inhabitants. By showing people the beauty of our water world through great photography and films. The future is now!

# GOOD NEWS!

Together, we have made history in 2011!

Ocean conservation is not easy. Raising public awareness through research and education is a long-term process. But we'll get there, step by step. This year has already brought several successes! We'd like to share some of them with you.

## An international status for giant manta rays:

Only recently, the Parties to the Convention on Migratory Species of Wild Animals (CMS) agreed to include giant manta rays (*Manta birostris*) in CMS Appendices I & II, thereby compelling Member States to introduce strict measures for the protection of these creatures and their primary habitats. The move comes as mantas are increasingly falling prey to being fished for their gill rakers, which are highly sought in East Asia for use in Chinese medicine.

The Save Our Seas Foundation was one of several organisations with a key role in supporting this measure. There are, however, several individuals whose names must specifically be mentioned for their efforts: Sonja Fordham of Shark Advocates International (the champion of the project), Andrea Marshall, Rupert Ormond, Shawn Heinrichs, William White and Sarah Fowler, all of whom laid the foundations for the measure to be taken.

Dr Andrea Marshall of the Marine Megafauna Foundation was the leading author among those who submitted evaluations to the IUCN.



These evaluations helped raise the previous 'Near Threatened' status of both species to their present 'Vulnerable' status worldwide. Now for the first time, manta rays are officially recognised as a 'Threatened' species.

The Save Our Seas funding of satellite tagging over the years provided Andrea with sufficient information on giant manta rays (*Manta birostris*) to write the first-ever petition for a CMS (Convention for the Conservation of Migratory Species Act) listing (Appendix I & II). Once drafted, the petition was filed by Ecuador. Ecuador launched its national manta ray protection programme last year and the petition was adopted during this year's CMS meeting in Norway, making the manta ray the only fish species nominated for a CMS listing in 2011.

### **Historic protection for mantas in the Maldives**

SOSF project leader Guy Stevens also brought us good news this year. Two Marine Protected Areas (MPAs) in the Maldives were specifically designated for their importance as manta ray aggregation sites. In addition, management

schemes were introduced and monitored for these MPAs. The entire Baa Atoll was designated as a UNESCO World Biosphere Reserve, while a complete ban on fishing within Maldivian waters has been introduced for all shark species, as well as the export and import of all shark products.

### **Shark finning bans imposed and loopholes closed**

The Shark Alliance this year welcomed a long-anticipated proposal by the European Commission to close existing loopholes in the European Union's ban on shark finning. This shameful practice involves slicing the fins off sharks and throwing their mutilated bodies back into the sea. The proposal followed European Shark Week, an event supported by SOSF. Bans on shark finning were also passed this year in Taiwan and Chile, and Toronto prohibited sale, possession and consumption of shark fins.

### **Shark sanctuary declared for the Marshall Islands**

The government of the Marshall Islands



passed fishing regulations in 2011 in line with the establishment of the world's largest shark sanctuary, covering almost 2 million square kilometres of the Pacific Ocean and globally extended the area in which sharks are protected to roughly 4.6 million square kilometres. The move follows the recent establishment of similar sanctuaries in Honduras, the Maldives, the Bahamas, Tokelau and Palau, in which SOSF project leader Tova Harel-Bornowski had a leading role.

### **SOSF scientific advisor honoured**

Nick Pilcher, a member of the Save Our Seas Foundation's scientific advisory committee, was honoured by the IUCN for his work in sea turtle conservation. Nick has worked with local communities throughout the world to establish programs that protect endangered sea turtles. Based in Malaysia, he runs the

non-profit Marine Research Foundation and supervises the Malaysian SOSF Sea Turtles research project. This research focuses on reducing the number of turtles hauled in as a bycatch by fishermen. Some of the equipment used by the foundation, the so-called Turtle Excluder Devices (TEDs), are now being introduced by the Malaysian Department of Fisheries and will help provide a better understanding of the dynamics of open-water populations. Nick's approach acknowledges the need to actively involve businesses in conservation:

"Cooperating with industries rather than constantly confronting them, and making them understand that most of what is needed for conservation can be integrated with their own requirements, is a much more practical approach to conservation."

## MEDIA

2011 has been a busy year! Our projects received a lot of media attention, from countless online publications on websites and digital magazines, to publications in prestigious magazines like Nature and National Geographic Magazine.

The National Geographic film team visited us in South Africa, where they attached crittercams to great white sharks in False Bay. The Channel Nine Network sent a team over to the Maldives, to document the manta rays at the world-famous Hanifaru for "60 Minutes Australia". The CEO and professional underwater photographer Peter Verhoog documented this expedition in his pictures. This project was also covered by "How Life Works" - a four part BBC production presented by Chris Packham and "Indian Ocean" - a six part BBC production presented by Simon Reeve.

New project leader Christopher Neff was consulted many times. He is conducting the first doctoral thesis on the "politics of shark attacks". Following a number of shark incidents worldwide, Chris was interviewed by many large networks, such as the BBC and ABC, and his quotes were used by a large number of newspapers and websites worldwide. There was a great deal of praise and also a

prestigious award for the Save Our Seas supported project 'Riddle of the Shark', by Laura and David Sams of Sisbro Studios. Their project was a finalist for Best Children's Program at the Jackson Hole Wildlife Film Festival, and it won... The Riddle of the Shark was partly made with great Save Our Seas stock footage, and was produced by Save Our Seas HD library manager Caroline Brett.

Caroline has been working on updating the SOSF HD library, incorporating and documenting new footage and also making select tapes for the Specialist Stock Footage Library, adding to existing SOSF material. Some of the footage was used for several BBC productions and documentaries and a ZDF program.

In India, the team of Dusty Foot Productions are working on an exciting project called Turtle Diaries, documenting sea turtle natural history in India's coastal and marine habitats. The project also aims to chronicle the deep

cultural connections linking sea turtles and coastal communities.

Save Our Seas supported another daring project this year. Because of the ever increasing number of recreational water users, the number of interactions between people and sharks is growing. Surfers in South Africa have stigmatized sharks, ever since the first surfers entered its coastal waters in search of epic swell conditions to ride. The SOSF supported the documentary Surfing and Sharks by director Julian Watson which covers this issue, following pro-surfers and their rides on the waves. Backed by an A-list panel of shark specialists, some of whom are SOSF project leaders, the film aims to inform and educate the viewer, to bridge the gap between myth and reality. The star of the documentary is Avuyile Ndamase, whose brother was killed by sharks near Port St John. Despite his fears, Avuyile goes sharkdiving...













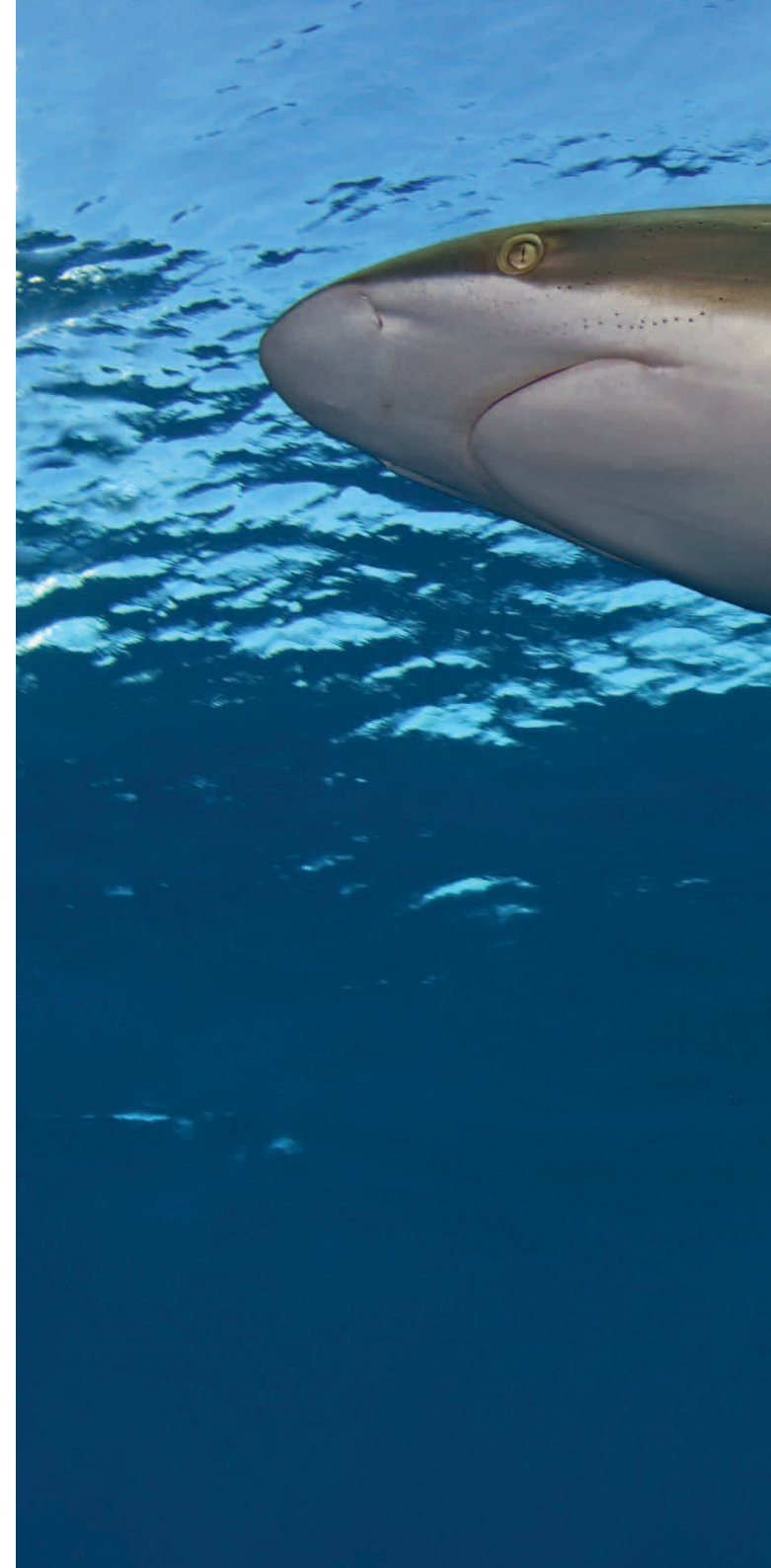




## **SAVE OUR SEAS SHARK CENTRE USA uses DNA research to advance global shark and ray conservation**

Genetic techniques are generally well established in wildlife conservation and have become indispensable tools in advancing conservation and in managing shark and ray protection programmes. Specific examples of genetic techniques applied in elasmobranch conservation can be found in the work conducted by the Save Our Seas Shark Centre USA (SOSSC) in partnership with the Guy Harvey Research Institute and the Nova Southeastern University in Florida. Previous research techniques discovered by the SOSSC, which have had a global impact on conservation, include the development of rapid DNA forensic methods to identify the origins of shark body parts found in international trade. This

ground-breaking work has found immediate application in shark conservation and management policies. These methods are now being applied internationally and have enabled the US National Oceanic and Atmospheric Administration's Office for Law Enforcement to successfully prosecute many perpetrators for illegal shark fishing and trading practices. Rapid DNA research also enabled Dr Shelley Clarke of Imperial College in London to make the first quantitative assessments of species of shark traded in the various global fin markets in 2000. DNA research conducted by the SOSSC has also led to the discovery of new species of large sharks and rays, including a hammerhead species that is very similar to





the scalloped hammerhead (*Sphyrna lewini*) but actually has a genetically distinct lineage!

The current genetics research programme (2010-2011) of the SOSSC is focusing on achieving three objectives:

1. Expanding the scope of forensic techniques to identify the body parts of shark and ray species that have fallen victim to secondary fishing activities.
2. Answering the fundamental questions: How many of the genetic populations of shark species are of interest to the fishing industry and does conservation exist on a global scale?
3. Obtaining an understanding of the white shark at its most fundamental level, by determining its genetic (genome) makeup and comparing it to that of other vertebrates, including humans.

#### **Why are Objectives 1 and 2 important?**

The market for shark fins and other products is growing at an alarming rate, increasing the pressure on already depleted shark populations and possibly even entire species. Although well-meaning management and legal measures have been implemented by some countries in an attempt to conserve specific



shark species, many of those efforts have been made in vain. There are two reasons for this. Firstly, inadequate monitoring means that it is often impossible to determine which shark species are being exploited and the extent of their exploitation, especially in the wide-spread international trade in body parts (e.g., detached fins and headless/tailless/finless carcasses). Secondly, even if DNA forensic techniques are able to establish the species of some sharks from their body parts, the genetic structure of shark populations at a global level is so poorly understood that it is virtually impossible to determine the source of the population, and therefore the geographic area that the shark was caught in. This means that some shark species and/or populations may unknowingly be subjected to disproportionate and unsustainable levels of exploitation. This situation needs to be dealt with by providing all of the required information and tools for identifying both the species and the population origin of traded shark body parts before certain species or populations are depleted to such an extent that recovery becomes impossible. This study will provide some of the information needed to develop tougher legislation that will address these problems.

### **Why is Objective 3 important?**

There is increasing recognition that sharks, being the earliest-evolved jawed vertebrates, might serve as important biomedical research models for understanding the evolution and function of human biology and disease, including immune systems, neurobiology, stem





cells, aging and cancer biology. Using sharks as research models may lead to direct benefits for human health. For example, sharks have renal tissue regeneration processes that are more advanced than those in mammals, and the remarkable ability of sharks to heal from significant dermal injuries, although not well studied, is anecdotally well known by field researchers. The regenerative and healing properties of tissues in sharks is unknown, but it is probably part of their genetic make-up. This points towards the presence of undiscovered genes or differences in the way specific genes, which are perhaps even shared with other vertebrates such as humans, interact. Thus, in addition to contributing to a bet-

ter understanding of human biological and immune systems in general, sharks might prove to be a useful model for studying genes and genetic mechanisms that enable healing and tissue regeneration, both of which are of major interest to human health. Exploring and raising public awareness of potential connections that exist between sharks and human biology may also provide additional tools that can be used in shark and marine conservation in general.



*Top left: artist impression of the new Oceanographic Building*

*Bottom right: professor Mahmood Shivji in his lab*

# SAVE OUR SEAS SHARK CENTRE, KALK BAY, SOUTH AFRICA

The Shark Centre is manned by a small but dedicated and enthusiastic staff, working as a closely knit team to ensure the smooth running and development of the Centre.

The main objective of the Shark Centre is to spread awareness of the importance of maintaining healthy and well-balanced oceans through education and research, with particular emphasis on sharks as top predators. Information about sharks and local marine life is continuously updated and expanded for the benefit of visitors.

## Research

Research plays an important role in the Shark Centre. Save Our Seas funded project leader Alison Kock and Master's student Adrian Hewitt frequently cruised the waters of False Bay around Seal Island on the lookout for white sharks.

## Education

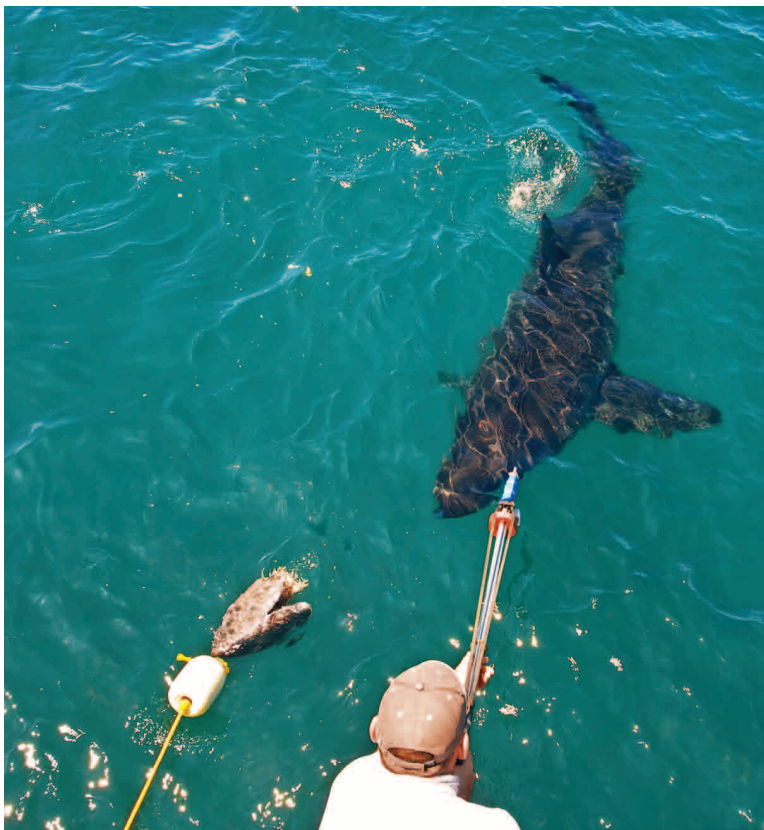
The Save Our Seas Shark Centre educational programs focus not only on sharks, but also on other aspects of the marine environment.

The Centre's staff work with school parties, university students, teachers and other interested groups.

While the educational programs on offer aim to build a better understanding of the marine environment amongst participants, the Save Our Seas Shark Centre staff acknowledge that their role involves more than providing knowledge and teaching skills. Most of the activities are also designed for the purpose of providing a memorable, hands-on experience of a marine environment. This is particularly important to us, because although Cape Town is a coastal city, the reality is that most local children have very few opportunities to experience its magnificent coastline. Young people engage best with "Save Our Seas" when they feel that the seas are "ours". When we learn about an environment while having a positive experience in that environment, not only are







we likely to learn more, but we are also far more likely to retain that knowledge together with an appreciation of the environment that we have experienced.

So with this in mind, in addition to offering lectures and information on sharks, the staff at the Centre spend a lot of time exploring and learning about the rocky shores opposite the Centre and around the Cape Peninsula. These lessons can be introductory or they can have a specific theme, such as food webs, ad-

aptations or data collection and handling. We are currently developing a three-day program which will be run at marine camps held in some of the most spectacular parts of the Cape coast. The Shark Centre also organizes regular children's holiday clubs which are increasing in popularity.

#### **Communication and Awareness**

The Save Our Seas Shark Centre regularly hosts and takes part in public events such as scientific lectures, expositions and beach

cleanups. This is done primarily with public awareness in mind, and often opens doors to other networks.

Participation in various expositions and festivals gives the Centre a platform via which to spread awareness of the plight of sharks and the damaging affect their loss has on sustaining healthy and well-balanced oceans.

**The ongoing generosity of the Save Our Seas Foundation allows the Shark Centre to continue introducing its programs to people of all backgrounds, thereby increasing their knowledge and appreciation of the marine world.**





## PROJECT IN FOCUS

# SHARK BITES AND PUBLIC POLICIES: How does the framing of shark attacks have an impact on shark conservation policy?

Project Leader: Christopher Neff



**Christopher, an American PhD student at the University of Sydney, is conducting the first doctoral thesis on the “politics of shark attacks”. His research aims to identify how government responses to shark attacks can improve and enhance shark conservation and beach safety.**

“Beaches offer the best hope for shark conservation because this is where the human-shark relationship is decided,” says Christopher. His social science research looks at how the cultural and political framing following shark bite incidents impacts the development of beach safety (shark control), policies and shark conservation efforts.

As a native of New England, Christopher grew up near the ocean but spent most of his time in a freshwater lake close to home. He was a self-defined “Shark Kid” by the age of ten. “I had read about 15 shark books and painted a ten foot cardboard great white shark that hung on the wall next to my bunk-bed.” Shark research, however, was not Christopher’s first step. He worked for former Senator John Warner (R-Virginia) and current Senator Harry Reid (D-Nevada) as well as in public relations. “I started out as a Senate staffer and lobbyist in Washington, D.C. For ten years I was honored to fight for issues I believed in, but research is my love and I was encouraged during my studies to pursue my passion for sharks.”

Christopher is comparing case studies in Cape Town, Sydney, and Florida by reviewing shark bite incidents in each area and the government responses that followed. The three cases, Cape Town (2004), Sydney (2009) and Florida (2001), with similar conditions, gov-

ernment reactions, public fears and media hype resulted in three different policies. In Cape Town, the Shark Spotter program was created. In Sydney, beach nets were continued and helicopter patrols were added. And in Florida (which has no nets), a ban on eco-tourism shark feeding was instituted. Christopher believes that finding the reasons behind these differences will help define the ‘best practices’ in shark bite response management. “Defining the factors that influence government response can help minimize overreactions that kill sharks, educate and empower the public towards shark conservation and establish new international norms for balanced beach management.”

Christopher was recently in Cape Town doing some field work for his PhD. He surveyed the public near Fish Hoek and Muizenberg beaches on their perception of sharks and the Shark Spotter program. He also interviewed ten community stakeholders and is documenting his findings for academic publication. He is





researching the innovative approach of the Shark Spotter program, initiated after two shark bite incidents in False Bay in 2004. In this case study, spotters are placed on nearby hillsides and serve as an early warning system, coordinating with lifeguards and law enforcement officers to alert bathers. Christopher presented his initial findings at the International Marine Conservation Congress in Victoria in Canada in May 2011 as well as a presentation at the Save Our Seas Shark Centre in June 2011 and has presented his research at the International Congress for

Conservation Biology in Auckland this December. His research was recently mentioned by Demon Fish author Juliet Eilperin in Time Magazine.

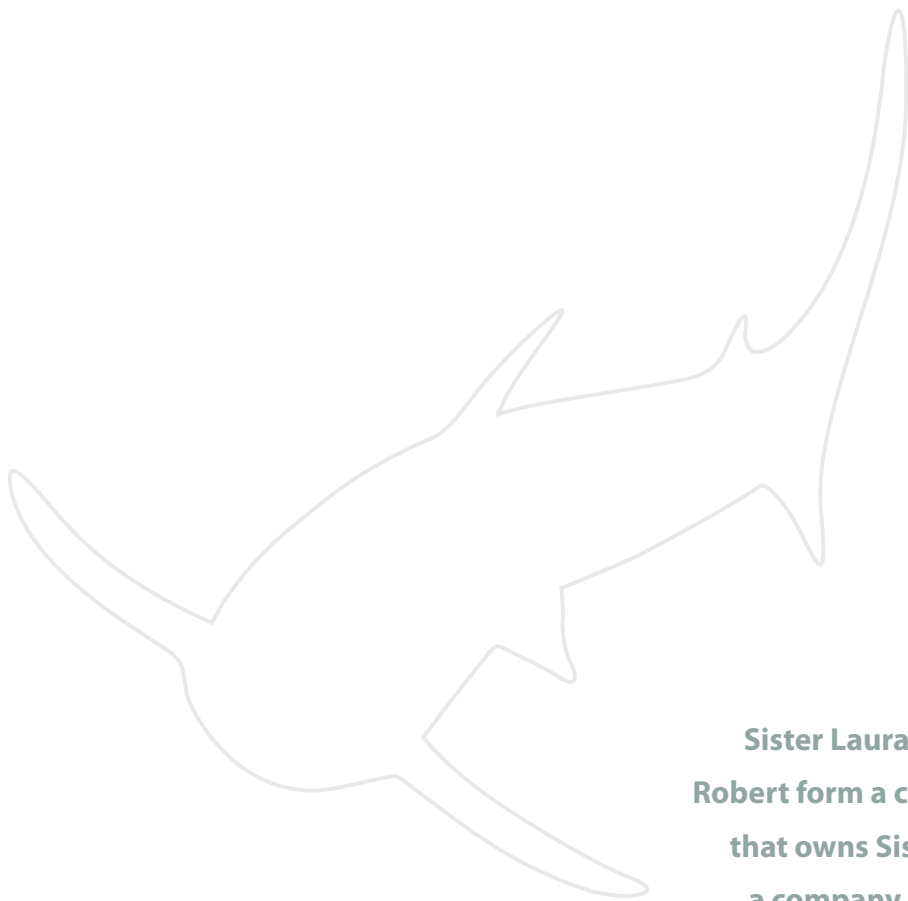
"We are in the way, not on the menu" says Christopher, who believes that science can play a key role in redefining shark conservation for the public. "The fear of dangerous sharks near beaches paints a very narrow picture of the human-shark experience and undermines the conservation of all shark species. However, if personal experience, scientific data and beach management can in-

crease public acceptance of sharks near our beaches, then a new story emerges of balanced co-existence. This narrative improves public support for sharks and gives new political will to shark conservation.

Solving this puzzle, making beaches safer for swimmers and sharks, is a team effort and I am very proud and fortunate to have found my team at the Save Our Seas Foundation. As a grantee and researcher, I have been connected to the very best shark scientists in the world. I have had access to tremendous resources, including the Shark Centre, a hub for

community education, where I was able to present my thesis to a public forum of 40 people. And there is no place like False Bay to learn about sharks. I have been on the SOSF research boat seven times to learn more about shark behavior. I'll be honest, the Save Our Seas Foundation has done more than take a chance on my first-of-its-kind research. They have challenged me to set higher standards for my project, to work collaboratively with my colleagues and to produce results with meaning for sharks and shark conservation."

Among the more controversial issues Christopher is researching in his Sydney case study is the use of beach nets. Beach nets were installed following shark bite incidents in Sydney in 1937. These nets became a model for other jurisdictions, including Dunedin, New Zealand, KwaZulu-Natal, and netted enclosures are now also used in Hong Kong. Most recently, Australian-style nets were reportedly proposed following shark bite incidents in Sharm-el Sheikh, Egypt. In his final case study, Christopher's Florida review looks at the lack of nets and shark control measures in the region. The "swim at your own risk" ethic of public safety provides a distinct element which is separate from shark co-existence and shark control.



**Sister Laura and brother Robert form a creative team that owns Sisbro Studios, a company dedicated to creating nature films, music, books and programs that help children discover their world (and laugh along the way).**

## PROJECT IN FOCUS

# THE SHARK RIDDLE

**Project Leaders: Laura and Rob Sams**

When we tell people that we made a film about sharks, one question we never hear is “Why”? No one ever asks, “Why would you want to make a movie about sharks”? That’s because people assume they already know the answer: “Because sharks are AWESOME”! Yes, sharks are awesome. But that’s only part of the reason we decided to make a film. We had a few other reasons as well.

First, sharks are incredibly diverse. The smallest species practically fits into your hand. So would the largest.....if your hand were over 50 feet (15 metres) long. Sharks come in a wide variety of colors – grays, blues, browns, greens, whites, stripes and spots. The lantern shark even glows in the dark! Sharks come in an amazing variety of shapes too. Hammer-head sharks have heads shaped like hammers. The saw shark has a head shaped like a saw.

Angel sharks are flat, like angelic pancakes. Of the more than 400 species in the world, no two sharks look the same.

Second, sharks are very important. As masters of the food chain they inhabit every corner of the ocean, keeping ecosystems healthy by feeding on the sick, the weak and the old. They help curb other populations, thereby contributing to a well-balanced ecosystem.

Third, people don’t really know a lot about sharks. And that includes researchers. If I walked up to the average Joe on a street and asked, “Where in the world do great white sharks breed?”, that person would probably say, “I have no idea. And how did you know my name was Joe?” On the other hand, if I asked a Ph.D. shark biologist the same question, I’d get the same answer: “Nobody







knows!" I mean, how exciting is that?! Much about one of the world's most famous predators, a giant 20-foot (6 metres) shark is still a mystery. Sharks will always be mysterious because they are hard to study. They are like swimming secrets waiting to be revealed.

So, sharks are very diverse, very important and very mysterious. But if we had to summarize our reasons for creating a project about sharks in just one sentence, the answer would be this: Sharks are AWESOME!

*The Shark Riddle* is a half-hour program designed to introduce children and their families to the marvelous, magical, mysterious world of sharks. The movie is accompanied by a multi-disciplinary educational activity package called *The Shark Packet* and "Shark Day" events at aquariums, museums and sanctuaries in the United States. Our goal was to convey two simple messages:

- 1) Sharks are very diverse and
- 2) Sharks are important for a healthy ocean.

### **The film begins with a simple riddle:**

*Teeth can tell you stories. They're full of clues about how a creature lived and how its jaws are used. Your riddle is to find a tooth. This is your test. A tooth from the greatest living fish, much bigger than the rest.*

So, what is the largest fish in the world, and what do its teeth look like? Follow a sister-brother team, known as The Riddle Solvers, on a journey to find the answers. Meet a raucous group of sea lions singing a tribute to their old nemesis, the great white shark. Follow a remora fish, the charming host of the underwater game show "Are You A Shark?" Meet a pair of shark dentists to discover why sharks, regardless of their various diets, never need a dentist. Find sweet shark-infested dreams with *The Shark Lullaby*. Join the children at the Sanibel Sea School's summer shark camp who are building a life-sized sand sculpture of the world's largest shark. Experience an unexpected whale shark opera, and learn why the ocean's largest sharks don't need the ocean's largest teeth. The film features over 20 differ-

ent shark species around the world.

Working with Save Our Seas has been a wonderful experience. The Foundation provided funding, footage and guidance and gave us full creative freedom. We began by looking through SOSF's incredible stock footage to create the film's outline. Then, as the film began to take shape, we worked over the course of the year to create a musical score that would appeal to all age groups and do away with the typical "Jaws" stereotype. During production, our crew of ten braved ever-changing filming conditions on the coast, ranging from rainstorms to high winds and fluctuating tides. Each day of shooting brought new challenges. One day, after setting up a shark-themed bed near the surf line, the crew had to continually dig the bed out of the sinking sand and prevent the set from being blown away during a sudden hailstorm.

**We always received constructive feedback from Save our Seas Foundation's dedicated and professional staff, and *The Shark Riddle* is a better film for their input. We wanted to**

**make a shark film that was completely opposite to the norm, something we could have never done without Save our Seas Foundation. It is a pleasure working with an organization that fights to change public perception of the ocean's most infamous predators.**

In the most prestigious nature film festival in the world, in a competition with all the major broadcasters, *The Shark Riddle* won Best Children's Program of the Year. Internationally renowned as the largest and most prestigious competition of the nature genre, this year's Festival competition included 510 films from more than 30 countries - a record number of submissions competing for 22 special category awards!





Rob and Laura Sams





PROJECT IN FOCUS

## SATELLITE TRACKING NEONATE GREEN SEA TURTLES (*CHELONIAN MYDAS*) IN THE ATLANTIC

Project leader: Jeanette Wyneken

Jeanette has had turtles on her mind since childhood. A child's curiosity matured into the scientific pursuit of biology and later a focus on research in aid of sea turtle conservation. Jeanette grew up far away from the ocean, but was captivated by all swimming creatures, including turtles. As a PhD student her attentions turned to sea turtles, their ancient history, their unique form and their long but mysterious migrations. Jeanette left the landlocked parts of the United States to study sea turtles along the US east coast. Watching hatchlings scamper down the beach and swim away in the surf left her wondering about their destination.

For the past 25 years, Jeanette has been exploring sea turtle swimming behaviors and the mysteries of their migration, often with her husband Mike Salmon, a behavioral biologist and also a sea turtle expert. Jeanette's research has taken her to the waters of the Atlantic, the Caribbean, and the central and south Pacific. Her studies led her to meet and collaborate with Kate Mansfield, an expert in sea turtle satellite tracking. Kate, too, was driven to know more about the plight of turtles once they left shore. Together they took on the challenge of inventing ways to track little sea turtles on the high seas, something never done before. With creativity, a sense of humor, many dedicated students and the willingness to seize inspiration from odd sources they successfully adapted solar-powered satellite tags, initially meant to track migratory birds, to track turtles gliding through the sea. A handful of neonate loggerhead turtles traveled well into and across the Atlantic, "calling home" every few days, reporting their lo-







Left: Kate Mansfield, right: Jeanette Wyneken

cations online for all to see and unlocking some of the mystery that had piqued their scientific curiosity years before. The journeys made by those turtles are so compelling that they serve as a foundation for many education programs and the basis of information for further conservation. Jeanette and Kate continue to take inspiration from the unknown turtle voyages which some refer to as the 'ancient mariners'. They never cease to marvel at the beauty of their turtles gliding through blue waters on an ever continuing journey.

Florida's coastline might best be described as the "Turtle Coast". The largest assemblage of loggerhead sea turtles in the Atlantic nest on Florida's beaches. Alongside the loggerheads are growing populations of nesting green and leatherback turtles. Hatchlings from these nests leave Florida's east coast and soon enter deep water, where strong currents transport them to offshore nursery areas. The early life history of any sea turtle species is poorly known because of technological limitations; until very recently there was a lack of small-

scale tracking devices capable of remotely recording the animals' positions for days, weeks, or months. Yet, imperiled species recovery requires an understanding of spatial distributions and life stage-specific survival. Our understanding of the spatial biology of neonate sea turtles has been limited by technology, creativity and funding. There are major gaps in our understanding of what the turtles identify as their offshore nurseries and the routes they travel.

Hatchlings are caught as they emerge from the nest and are taken directly from the beach into our laboratory where they are maintained for weeks to months to identify their sex (a thermal response) and to test tagging methods. We are able to test various types of tracking tags and ways to attach them to the animals before selecting the best tags for off-shore use. A critical aspect of tracking free-swimming turtles is insuring that we do not change their behavior, imperil the animal, and that our devices will be shed cleanly so that they do not harm the turtle after the data collections are complete. This in-house testing of turtles from many different nests gives us a great deal of confidence that we can avoid many field-based risks before the neonate turtles are released back into the ocean.

**The Save Our Seas Foundation has made it possible for Jeanette and Kate to address the key data gaps in sea turtle conservation. This kind of science is neither easy nor cheap but it is absolutely critical to the conservation of animals that grow up far from shore.**









## PROJECT IN FOCUS

# IDENTIFYING SITE FIDELITY AND IMPORTANT AGGREGATION HABITATS OF WHITE SHARKS (*CARCHARODON CARCHARIAS*) THROUGH ACOUSTIC TELEMETRY IN SOUTH AUSTRALIAN WATERS

Project leader: Rachel Robbins



Rachel has been working with white sharks for over ten years. Originally from Plymouth in the UK, she grew up near the ocean and from an early age had a curiosity and passion for ocean life, sharks in particular. After obtaining an honors degree in Marine Biology in Belfast, Rachel traveled the world to dive with sharks. This ultimately brought her to Australia to study for her PhD in white shark ecology

and behavior, which she completed in 2007. Along with shark expert and friend Andrew Fox, Rachel founded the Fox Shark Research Foundation in 2002 to inspire the appreciation and understanding of great white sharks through research and education.

Research on the movement patterns of white sharks by Barry Bruce of CSIRO and his colleagues has shown that while they travel extensively across Australian waters, they have preferred sites where they regularly reside and to which they return. One such site in Southern Australia is the Neptune Islands, from which, unsurprisingly, much of our knowledge of white sharks in South Australian waters comes. However, despite the large number of sharks tagged there, sightings of tagged sharks away from the Neptune Islands in other parts of South Australia are few. Yet encounters with white sharks in other areas are not uncommon. White sharks demonstrate such a high degree of fidelity that animals temporarily residing at one location are not seen at other sites frequented by white sharks. It is therefore likely that there are other important white shark sites similar to the Neptune Islands. Pinpointing the locations of other important habitats and defining the connectivity between them is important in

understanding how to effectively protect and recover white shark populations. This project aims to identify such key habitats in South Australian waters.

Acoustic listening stations deployed on the Neptune Islands show migratory patterns demonstrated by some white sharks as they return annually for up to four months, with some individuals exhibiting this pattern for ten years or more. The Neptune Islands, which belong to the Neptune Islands Group Marine Park, have been identified as important aggregation grounds for the species. However, tagging studies also show that white sharks travel extensively across Australian waters, regularly visiting other areas. In addition, some areas in which white sharks are regularly seen appear not to have been visited by sharks tagged at the Neptune Islands. It is therefore likely that there are other key habitats where individual sharks exhibit similar residency patterns to those visiting the Neptune Islands.

Satellite and acoustic tagging have revealed common routes associated with the 60-120 metres (200-395 feet) depth zone along which some white sharks migrate, suggesting that

this depth band is an important corridor for movement around Australia's coast.

A great deal of research has been conducted into white sharks around the Neptune Islands over the last ten years, incorporating operators' log book data, photographic identification, genetic sampling, fine scale movement studies and acoustic and satellite tagging. However, since this data has been limited to the Neptune Islands, there is limited understanding as to how it relates to the overall population. This has ramifications for using sites such as the Neptunes for monitoring trends in population size and status. The North Neptune Island group is one of several significant seal colonies in South Australian waters, and is clearly an important habitat to which some white sharks show a high degree of site fidelity. But it is not known if these sharks periodically reside near other islands, nor how important other seal colonies are to sharks that may not visit the Neptune Islands group.

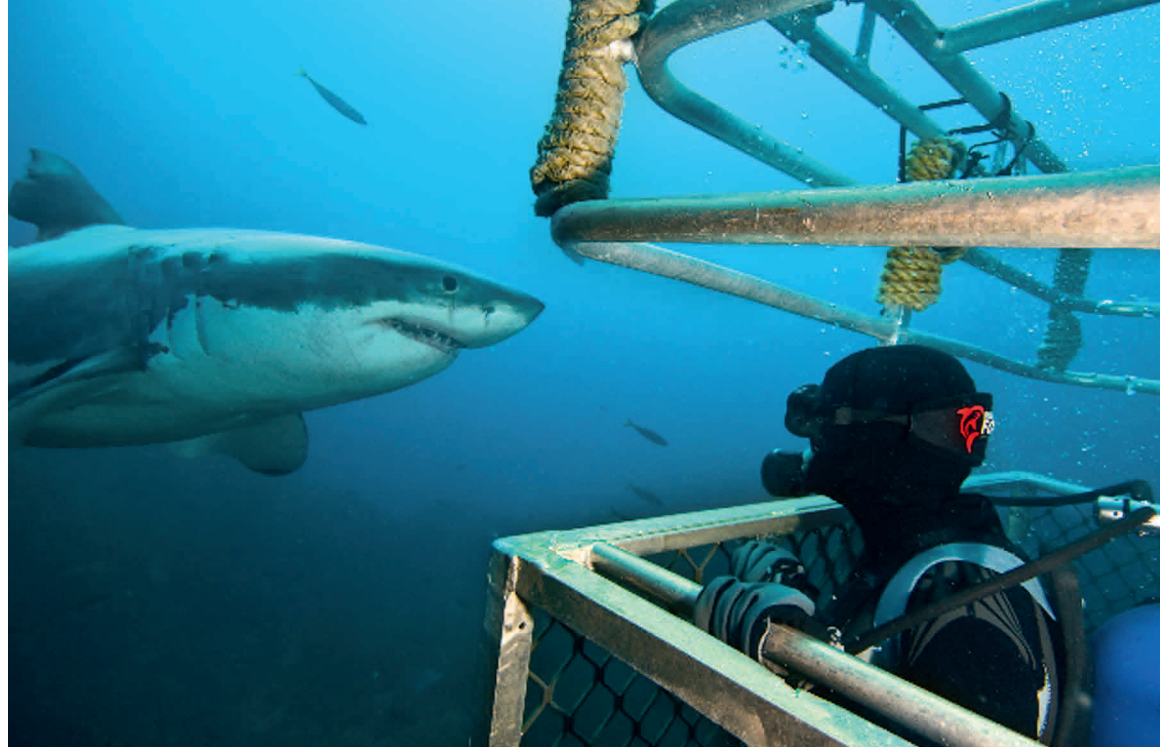
The funding from Save Our Seas will allow us to purchase VR2W acoustic receivers, which will be anchored in the seabed at each of three designated sites. We intend to deploy two stations at each site in order to maximize coverage of the area. Liguanea Island has a



large population of New Zealand fur seals as well as a smaller Australian sea lion population. South Neptune Island has a large colony of New Zealand fur seals and is known to be frequented by previously tagged sharks. The third site, Dangerous Reef, is a well-known white shark feeding ground with a large Australian sea lion population, and is known to be frequented by Neptune Island sharks on a seasonal basis.

V16 coded acoustic transmitters will be implanted externally in the muscle behind the first dorsal fin of 15 white sharks. Five sharks will be tagged at each location. These will be an addition to the 75 sharks that have already been tagged during the CSIRO-led study. When a tagged shark swims within the vicinity of the receivers, its identification code is recorded. Data will be downloaded approximately every 4-6 months.

**In order to minimize the impact of fishing on white sharks in these areas and to develop threat abatement plans, it is essential to understand their critical habitats in terms of movement and seasonal variability as well as their migratory patterns and fidelity to each area. The funding received from Save Our Seas will allow such data to be collected. The results will help us understand white shark movements and history in Australian waters.**





## PROJECT IN FOCUS

# MARINE EDUCATION IN THE SEYCHELLES

**Project Leader: Abbie Hine**

**Abbie is a marine educator with over 11 years of experience in educating people of all ages and abilities. She spent many years in various countries during Coral Reef Research Expeditions, teaching volunteers to identify and survey vulnerable reefs.**

For her MSc in Tropical Coastal Management, Abbie researched marine education as a form of management to reduce the destruction of coral reefs; her thesis was presented at the 2007 International Pacific Marine Educators Conference (IPMEC) in Hawaii. Abbie founded WiseOceans, a specialist Marine Education and Conservation Company striving to spread awareness of our wonderful yet fragile oceans and the fantastic creatures that live within them. The WiseOceans website is a place where people can learn about the marine environment and its creatures as well as recent research and campaigns.

“Education is a brilliant way to increase our enjoyment of the oceans and the life they

contain. More importantly, however, it is the key to help preserve the marine environment. Education can stir up a sense of wonder for the ocean’s beauty and compassion for its vulnerability. The ultimate aim is to encourage a sense of ownership for the essential resource we call our oceans”.

The purpose of this project is to use marine education as a tool to create awareness of the marine environment, its plight and the concept of conservation within the Seychelles. Specific attention is given to turtles, sharks and reducing pollution. Attention is also given to coral reefs that have been degraded in the Seychelles due to mass bleaching and increasing anthropogenic impact over the years.

The project aims to provide marine education and awareness at schools and other educational institutions, to tourists and the Seychelles community as a whole.

Much of the work in the Seychelles during the initial months of the project involved develop-

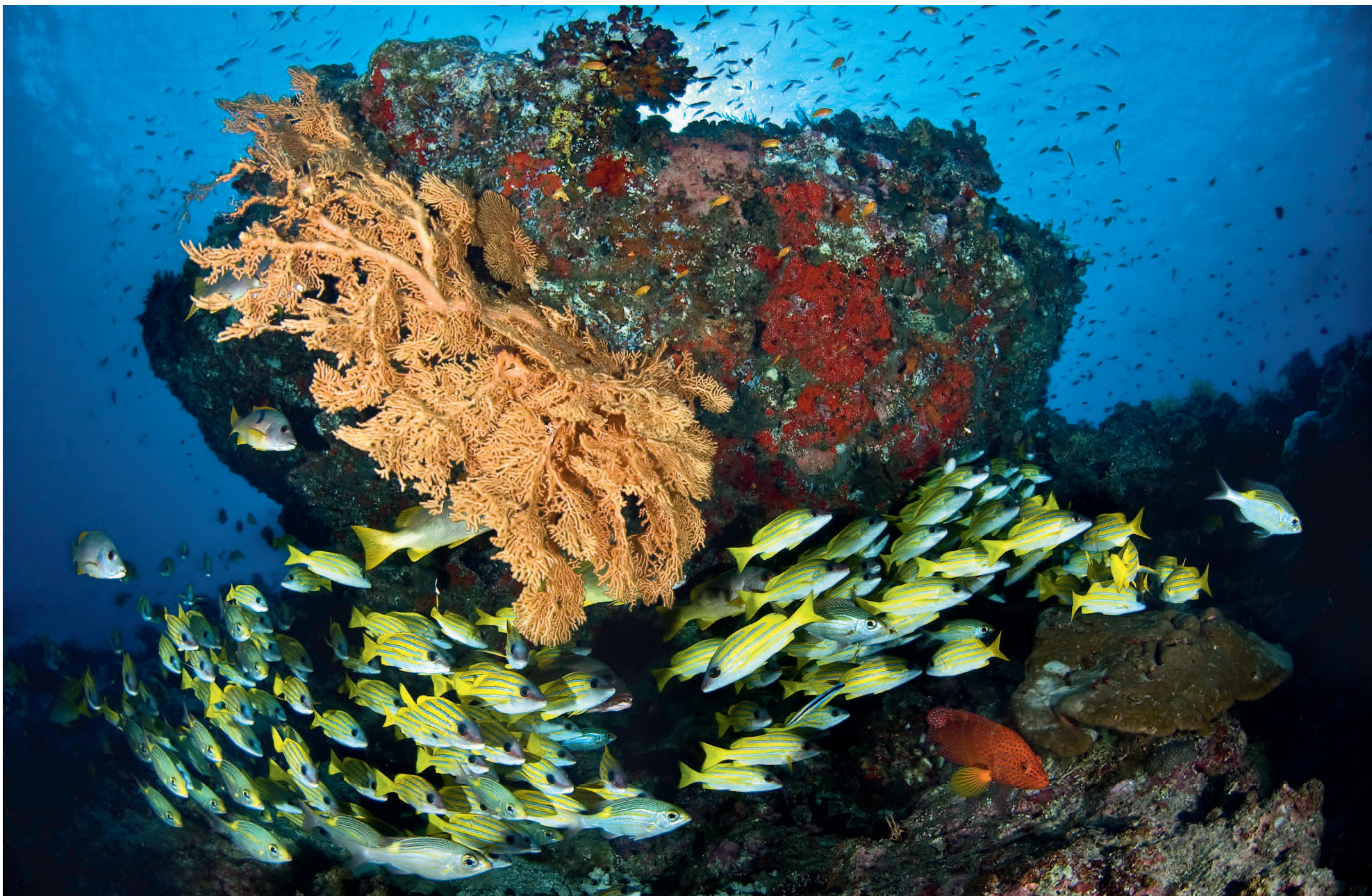
ing and testing the education program at schools and linking up with other environmental organisations and Ministries to create joint projects. These initial steps cemented foundations and enabled the project and Save Our Seas to establish a name for itself within the country. The hope is that the presence of Save Our Seas and this educational program will become a basic part of Seychelles school curricula and the community as a whole, and will have a positive impact on behavior towards the marine environment.

The program provides marine education for every school within the Seychelles by means of Marine Awareness presentations, activities and activities, events, games and interactive activities for children. Among the many organised incentives, we recently wrote a number of marine related songs focusing on sharks, turtles and stingrays. Classes are also given on subjects such as food webs, ecosystems and conservation issues, and coral reefs and marine organisms are used to explain specific subjects to pupils. Workshops are

held for teachers, enabling them to pass on the knowledge they acquire. A small after-school club at the International School has also been established. It consists of a group of very enthusiastic marine conservationists working on campaigns and learning about marine life, both in class and in practice. Each school in the Seychelles has a Wild Life Club with whom events are organised, such as beach cleaning, snorkling and campaign poster designing.

Marine education and awareness is provided through different forms of media, organised activities and public presentations held at numerous venues, including marine awareness activity mornings at the Natural History Museum and regular articles that are published in the environment section of the Seychelles national newspaper, The Nation. The articles focus on activities carried out in the Seychelles and other Save Our Seas projects and campaigns around the world. Talks for resort guests and the general public are held around the country, with topics such as “Who’s





who on the coral reef” and “Re-think the shark”, often accompanied by a guided snorkel. Every opportunity is taken wherever and whenever there is potential for spreading marine awareness.

Save Our Seas and its funding has given Abbie and this project many possibilities. It has enabled marine education to be provided to so many in a country where the desire to educate and protect exists, but where the focus is often on the terrestrial environment and resources are low. Save Our Seas has generously donated a large number of books to the schools, which means that children can read stories about some of their favourite creatures while learning about many of the threats they face due to human impact. The project has become a part of the Seychelles community, bringing a sense of enthusiasm for marine life, and is teaching many children and adults throughout the country about their marine environment and how they can help protect it for future generations. The project has also made it possible for other Save Our Seas projects around the world to be promoted by means of presentations at resorts and schools.

“The foundation is an amazing organisation that has done so much over the years to help protect what is vital and fragile in our oceans. I feel very fortunate to be part of it and I will continue to play my part.”





## PROJECT IN FOCUS

# SHARK SPOTTERS

**Project leader: Sarah Titley**

**Shark Spotters is a pioneering shark safety program in Cape Town, South Africa, that aims to improve human safety without compromising wildlife or ecosystems.**



Around Cape Town, white sharks (*Carcharodon carcharias*) are responsible for the majority of bite injuries sustained in recreational waters. Although relatively rare, shark bites resulting in human injury or death threaten existing protection programs and stimulate the possible introduction of culling programs by authorities and illegal hunting. Furthermore, shark bites have a negative impact on local business and tourism. Shark Spotters is a proactive program that aims to reduce the risk of shark bites and the associated negative impact on both humans and sharks.

Shark Spotters was initiated by local surfers and business owners in 2004, and was formally adopted by the City of Cape Town in 2006 as its primary shark safety strategy. It is a registered NPO managed by the Kommetjie Environmental Awareness Group, which embodies a holistic approach to the mitigation of shark-human conflict by reducing encounters between sharks and people and by incorporating elements of research, awareness and education. The management team comprises of key role players from stakeholder organizations and managers, scientists and environmentalists.

Shark Spotters improves beach safety through shark warnings and emergency assistance in the event of a shark incident. It contributes to research on shark ecology and behavior, rais-

es public awareness about shark-related issues and provides employment opportunities and skills development to South Africans from previously disadvantaged communities.

Two Shark Spotters are assigned to each beach where Shark Spotting programs are operational. One spotter is positioned at an elevated point above the beach, the other on the beach. All the spotters on duty are in radio contact. The spotter looking for sharks is equipped with polarized sunglasses to reduce glare, binoculars to scan the waters below, a two-way radio and a remote to set off a beach siren that functions as a shark alarm. Once the elevated spotter detects a shark, the siren is sounded, warning flags are erected and swimmers are actively encouraged by the beach spotter to leave the water. Shark Spotters provides current and accurate sightings-data to help understand white shark presence at popular beaches and safety tips that are current and applicable to the species and area. During the period November 2004 to June 2011, 960 shark sightings were recorded, demonstrating the effectiveness of the program.

Shark awareness and education are fundamental components of the Shark Spotting Program and the shark safety strategy for the City of Cape Town. The success of the Shark Spotting Program relies on an effective com-









munication strategy. Signage at appropriate beaches has been instrumental in communicating shark information and the operational protocol of the Shark Spotting Program to the public. In addition to signage, brochures and posters explaining the operational protocol are also provided to the public. Regular press releases on shark activity and the promotion of positive shark related media articles and news reports are actively promoted and encouraged. A dedicated website ([www.sharkspotters.org.za](http://www.sharkspotters.org.za)) is used to convey relevant information on the program as well as the most recent shark sightings. Text messages of each sighting are also sent to a network of agencies and the public can subscribe to receive shark sightings by mobile phone, website or Twitter.

Shark Spotters employs 14-28 spotters at 4-10 of Cape Town's popular beaches. They are positioned at strategic points along the Cape Peninsula, primarily along the False Bay coastline, scanning coastal waters for sharks from elevated positions in daytime, seven days a week, 365 days a year. Further training is given on first aid and how to provide immediate medical care to shark bite victims. Workshops and seminars on sharks and associated issues are held yearly. Field experience is provided through participation in white shark research trips, and seminars are held to improve shark spotter communication with the public. As well as being an effective beach safety program, Shark Spotters has also helped to change public perception of sharks around

Cape Town from one of fear to one of acceptance. Nevertheless, as long as white sharks and humans continue to share the same environment, shark-human conflict will be an issue that requires constant attention. Shark Spotters has proved to be an effective warning strategy and a viable alternative to the culling or extraction of sharks. In the first few years of the program we observed that after a shark sighting many water users would not only leave the water, but leave the beach all together. Over the past few years we've seen a complete change in how the public responds to shark sightings. Most people now simply get out of the water and wait for the shark spotters to give the 'all clear' sign before getting straight back into the water again.

**The Save Our Seas Foundation has provided Shark Spotters with significant financial, logistical and leadership assistance. Our partnership with the Save Our Seas Shark Centre in Cape Town allows us to play an influential role in creating and providing white shark awareness, conservation and education. It also enables us to disseminate current information collected by Shark Spotters on shark sightings, high shark alert areas and times, among the public.**

## PROJECT IN FOCUS

# LOOKING FOR MANIWATA - WEST AFRICAN MANATEES

Project Leader: Lucy Keith



Lucy is from Massachusetts, USA, and first became interested in manatees when she learned about them at the age of twelve. Years later, Lucy became intrigued by their ability to repeatedly navigate to specific habitats hundreds of miles apart through dark, murky waters and by the food they ate. Lucy received her BSc degree in Biology from St. Lawrence University in New York and her MSc degree in Marine Biology from the Boston University Marine Program in Woods Hole, MA. She studied seals for many years before starting to work with manatees in Florida in 1998.

After six years in Florida, Lucy began working with manatees in other parts of the world; first in Belize and Costa Rica, and then in Africa in 2006. She began her first West African manatee project in equatorial Gabon. Now, after six years of fieldwork, she has completed the first countrywide manatee surveys as well as a study of manatees in the lower Congo River, in Angola (2007-2009). She is currently organizing manatee research projects and study sites in three different regions of Senegal. Additionally, Lucy is in the process of building a collaborative partnership for manatee fieldwork, genetics and biological sampling with researchers from 18 West African countries. She is also working on her PhD at the University of Florida, College of Veterinary Medicine, where her research focuses on the ecology and genetics of the West African manatee. Lucy is particularly interested in manatee habitats, their seasonal migration patterns, what they eat and how different populations throughout Africa are related or separated from each other. She was awarded

the Manatee Conservation Award by the U.S. Fish and Wildlife Service in 2003, and she is a member of IUCN Sirenian Specialist Group, the Convention of Migratory Species / West African Manatee Working Group, and the Scientific Committee of Gabon's National Center for Research and Technology.

The West African manatee is one of the least understood marine mammals in the world. They live in remote parts of Africa, often in murky water, and they are heavily hunted. They are difficult to locate, let alone study. Their range exceeds the width of the United States, yet, to date, only a handful of studies exist. Prior to this project, less than 25 genetic samples had been analyzed for the entire species, all of which came from five of the twenty-one range countries. No one knows how many West African manatees exist, and little is known about the impact of hunting and habitat destruction. However, the trade in manatee meat is well known throughout West Africa. Additionally, dams have isolated manatee







populations in most major rivers in Africa, while other manatees in inland river systems 1000 km (621 miles) or more from the coast now live a trapped existence.

The object of Lucy's West African project is twofold: to collect information about the species and to increase the number of researchers across Africa capable of collecting accurate information and scientific data. To achieve that, Lucy conducts four to six months of fieldwork annually, including surveys, interviewing local residents, rescuing injured manatees, collecting samples from the food eaten by manatees and their carcasses and analyzing those samples for age and eating habits. Because the West African manatee is so difficult to study, this project and its participants have to take advantage of every opportunity to study these elusive creatures.

Lucy primarily works in Gabon and Senegal, but she also collaborates with researchers in other countries to help them get started. The project provides training, fieldwork experience and basic field equipment to local biologists, resource managers and students, empowering them to advance their scientific knowledge of this vulnerable species and to increase their long-term conservation capacity. Lucy also organizes training workshops at manatee research sites, thus providing the exchange of knowledge between researchers and a network platform. In the past four years, Lucy has trained 43 researchers from 18 countries. West African manatee research has only just begun, but momentum is building. There is still a critical need for basic information

about the entire range of the species. The long-term strategy is to create a sustainable and cohesive network of African researchers who will determine population sizes and the status of West African manatees in a majority of the 21 range countries as well as developing and implementing management plans for conservation of the species. Once the network has been fully set up and collaborators have been trained, more detailed and more focused research, such as on the preservation of specific habitats and poaching practices in certain areas, can be conducted in most countries. The project also provides material and presentations for educational awareness programs.

Without adequate information about West African manatee populations, their needs and the impact of their threats, effective conservation remains impossible. This project will greatly increase our knowledge of these mysterious animals and how to protect them.

**Save Our Seas has generously funded this project since 2009. Their grant has allowed us to complete the first manatee surveys in Gabon. Their support allows us to collect critically needed scientific information and to build and train the African research network. The Save Our Seas Foundation's mission to conserve wildlife through research, education, awareness and conservation perfectly matches the objective of the West African Manatee project and we are both excited and grateful to be a part of such a dynamic and well-respected organization.**



## PROJECT IN FOCUS

# THE MANTA PROJECT IN ECUADOR

**Project Leader: Mark Harding**

Mark became interested in mantas in 2005, when he was in Ecuador training to be a dive master and instructor. He took an interest in individual mantas to find out whether there were more individuals than assumed. He usually only saw two or three specimens together and each time they were different individuals. By 2009 he had aroused interest in others to study them further and his first two volunteers joined him to work on the project.



Mark explains: "My identifications (ID) database up to 2009 held some 43 individuals, a lot more than anyone had thought were present. I was the only person actually ID photographs, and with the help of volunteers to spot them, my database grew by 101 individuals in just 6 weeks. During that time I questioned why mantas could only be observed in steady numbers from July to October. We recorded environmental conditions, tides and moon phases to see if this influenced migration.

In 2010 I brought more volunteers to the area, and my team, now involving more photographers, captured another 178 photo-IDs in a six week period. We also started plankton trawls to see if we could find the link between food

source and manta migration, given that nutrition is a prime motivator for such a large marine animal. We were surprised to find that only one individual was resighted between 2009 and 2010, and we recorded only a handful of repeated sightings over one day.

The project has now attracted even more volunteers. We were able to put in more time than in previous years, although uncharacteristically warm conditions kept the mantas at bay for several weeks. To our frustration, our first manta didn't show up this year until August 4th, and even then the individuals kept their distance. Our first official ID this year was not made until August 16th.

Since then, an influx of voluntary divers has swelled our database considerably. We have

yet to verify the actual number of sightings from this season, as we have had up to eight fully equipped divers in the water on different sites every day. The number of new IDs reaching our lab daily has been astounding and much needs to be done to consolidate the database. However, there are one or two snippets of information that underline how many mantas we saw on some occasions. One buddy team dived at the same small site for three days in a row. The site is a known cleaning station and, at a depth of approximately 20 metres (65 feet), easy to cover. The idea was to see how many IDs they could record and how many times they identify the same individuals at that site between them. After three days the team had apparently not captured the same individual on any occasion. The low





number of repeat sightings has been consistent throughout the project, regardless of the number of divers. We have yet analyze the data to find out whether our ID's this year correspond with those of last year. Incidentally, one of the divers captured an incredible 156 individual photographs in a 12 day period. No wonder we have an ID backlog!

We have begun to look farther afield, making inquiries within the regional fishing community. I found and confirmed one cleaning station last year, 40 miles (65 kilometres) from the main study area, and observed that the mantas disappeared from both sites on the same day as the end of the season. This was borne out again this year when the mantas arrived at both sites within one day of each other. At the height of the season, mantas were seen at all three locations, including a new one in north Ecuador, on the very same day. This indicates the presence of mantas all along the 260 km (162 miles) coastline. Does this migration stretch the entire length of the Ecuadorian coastline? Is it the most important area for *Manta birostris* in the world? Clearly our research is progressing towards the answers, but there is a lot more to do. We have again worked with Andrea Marshall this year to tag two more individuals, and we

hope to gain further insight into where mantas live the rest of the year.

Although now protected by law in Ecuador, we regularly see mantas with deep cuts caused by fishing. Countless multi-hooked fishing lines are dragged through the same areas used by mantas close to Isla de la Plata, some more than 50 meters (164 feet) long. Even if we can prevent these practices from occurring in the waters of the national park, no protection can be given further along the coast, as most waters have no national park status.

**The amount of data collected this season is impressive. Three years in, and we have the most comprehensive dataset to date. Knowing that there is such a significant manta population makes the project very exciting. However, the low number of repeat sightings means that our database will have to be expanded much more for accurate and significant conclusions to be drawn. As this year's field work ends, we feel that we have come a long way, but still have a long road ahead.**

**The Ecuador manta project has been running since 2009, and has been supported by the Save Our Seas foundation since 2010.**





## PROJECT IN FOCUS

# THE PALAU GREY REEF SHARKS

**Project Leader: Tova Harel Bornovski**



**Tova Harel Bornovski has travelled around the world, not only learning different languages but also diving in all the oceans, and has developed an infinite appreciation of the ocean and its delicate ecosystems. She sailed from Florida to Palau with her husband, Navot, and their two toddlers. The family settled in Palau in 1993, where Tova's deep love for the local culture, flora, and fauna blossomed.**

On realizing how little is known about many of the shark species, Tova established the Micronesian Shark Foundation in 2002 in her quest to fully understand the extent to which sharks were being mistreated locally as well as internationally. The constant need to protect the sharks and to educate the people in one of the world's last remaining intact shark habitats continues to motivate Tova and the Micronesian Shark Foundation board members in their work. Based at the Micronesian Shark Foundation, Tova initiated the first shark research project in Palau in order to collect, distribute and analyze data that could be used for regional shark protection. She organized the first shark count in Micronesia, with the help of tour operators and volunteers who also gathered other shark data (species, gender, markings, depth, water temperature, etc.), and has successfully secured the assis-

tance of government funded conservation organizations. By collecting DNA samples, documenting illegal shark finning practices in Palau and developing shark-count procedures, Tova has created an extensive database.

In her successful attempts to reach out to the community Tova instigated education programs for elementary schools in Palau and supervised the production of a childrens shark workbook that was designed by local students and is being distributed at schools. The program has been active since 2009 and is already showing encouraging results.

The Micronesian Shark Foundation is looking to use its educational programs as a model and in 2011 conducted workshops and education programs on the islands of Yap, Kosrae,

Pohnpei and Chuuk. More islands will be visited in 2012 as part of an initiative by Palau's President to make the entire Micronesian Region a shark sanctuary. This extensive program will be partly funded by Save Our Seas.

The Save Our Seas Foundation has been the main sponsor of the research and has made it all possible. SOSF's support has enabled the shark research organization to extend its scope and expand its database. The Micronesian Shark Foundation has also partnered up with AIMS (Australian Institute of Marine Science) under the scientific leadership of Dr. Mark Meekan of AIMS, who is also a member of the Save Our Seas scientific team. To date, 48 grey reef sharks have been tagged and monitored, 30 in 2008 and 18 in 2011, effectively charting the movements of grey reef sharks around Palau.





The shark tagging program involves the tagging of sharks with acoustic and satellite tags, the deployment of acoustic loggers around Palau's reefs, and the collection of measurements and DNA samples from tagged sharks. In coordination with the Attorney General's office of the Republic of Palau, further information is obtained through DNA samples from confiscated shark fins.

Sharks are caught using bait fish and are then brought on board the vessel, which can be a real challenge! The scientists make a 2" (5 cm) incision in the shark's belly to insert the tag and to collect DNA samples. Pertinent data such as measurements, sex etc. are logged before the shark is released into the ocean unharmed. The whole tagging and measuring process only takes around eight to nine minutes in total!

As part of the scientific research program the Micronesian Shark Foundation has been gathering shark count data over the past two years. The data has been collected by tour operators in Palau and the program is now extending to other islands in Micronesia. It includes information on the sighted numbers of shark species, gender and size and their behavior patterns. It also identifies other factors such as water temperature, visibility and the number of divers underwater.

This daily accumulated data provides information that will be invaluable to our scientific research into the migratory patterns of Gray Reef Sharks in Palau, including helping us to

determine the optimal month to tag the sharks. Through this data collection we can also identify irregularities and can relate them to weather and other natural phenomena.

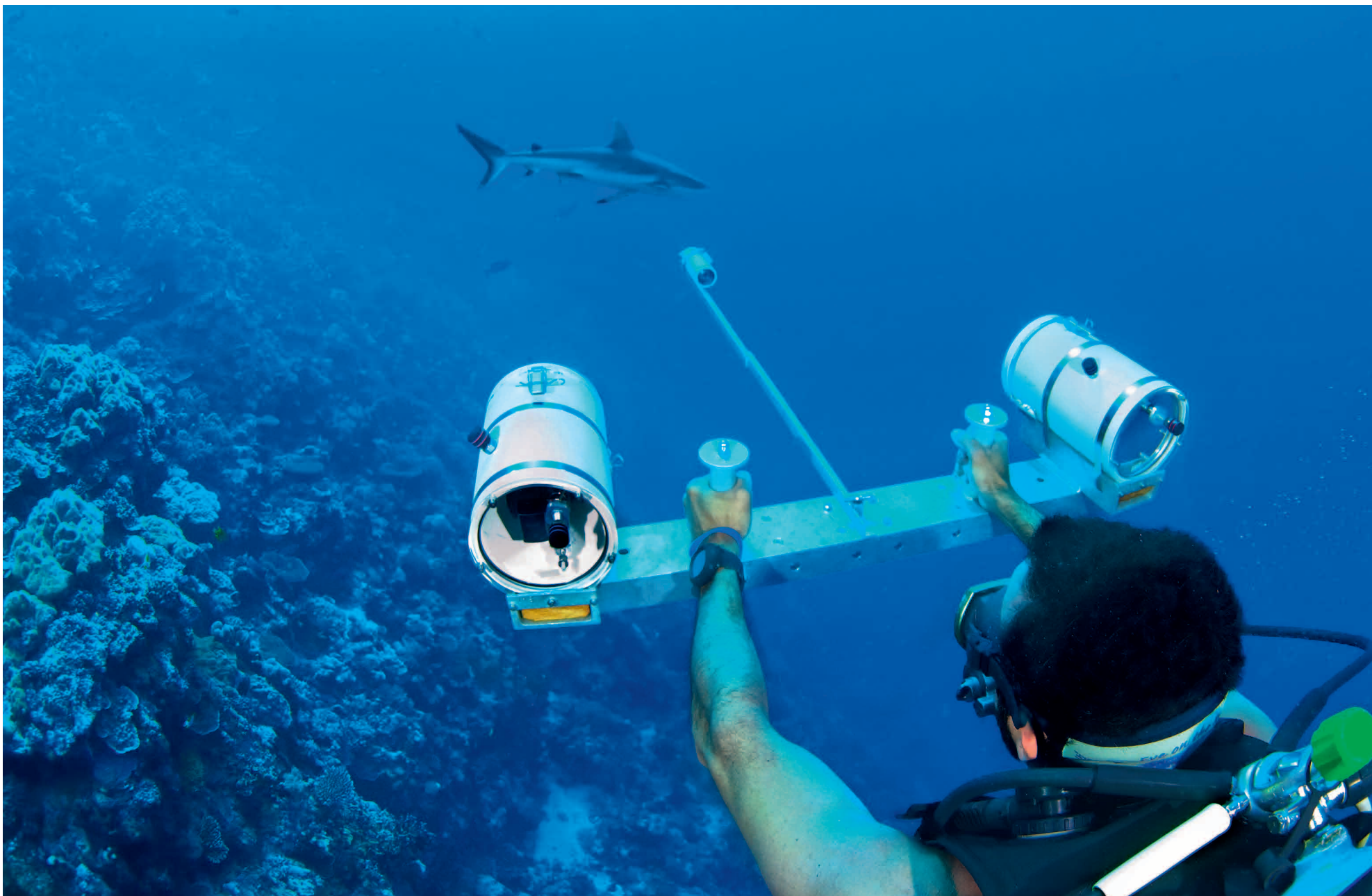
A recent example is the grey reef sharks' mating season, which normally falls in February and March. This year, however, observations of female sharks with fresh mating scars showed that the sharks had mated in the month of August, which is very unusual. When we analyzed our data, we noticed that the water temperatures were below the norm (it was akin to the normal pattern for Feb-March), and quite a few underwater seismic activities were occurring in our region. While the link between these factors and the shark mating season is not yet clear, it is through such data collection and analysis that we hope to come to a better understanding of these beautiful creatures.

**Save Our Seas funding has helped Tova in her efforts to protect "her" sharks and Palau's incredibly beautiful underwater world. Through the joint efforts of the Micronesian Shark Foundation and Save Our Seas, these wonderful waters will remain a safe haven for countless ocean creatures.**













## PROJECT IN FOCUS

# SHARKS FOR THE FUTURE CAMPAIGN

**Project Leader: Naneng Setiasih**

As the Coral Triangle Regional Manager of the Coral Reef Alliance, Naneng Setiasih works with local communities to find sustainable, long-term solutions for healthy, resilient coral reef ecosystems. She considers herself fortunate to have the opportunity to protect the coral reefs of Indonesia's spectacular Raja Ampat Archipelago, which boasts the world's richest variety of coral species. This region harbors an estimated 75 percent of the world's coral species and over 1,300 fish species.



Over the past few years, Naneng and her local recreational dive partners have reported a reduction in shark sightings in the Raja Ampat region. This disturbing trend is mainly the result of intense commercial fishing in the region. Shark finning - the practice of catching a

shark, removing its fins when alive, and dumping it back into the sea to face a slow and excruciating death - is particularly rampant throughout the Indo-Pacific due to its close proximity to Asian markets. The popularity of shark fin soup, a delicacy for many Asians, has made the fins the most valuable part of the shark to the fishermen. Shark fins can fetch from \$300 per pound (0.5 kg) upward, while the rest of the shark only yields a few dollars in comparison.

Naneng recalls the moment when she knew that something needed to be done to protect the local shark population. While visiting an island in Raja Ampat, she discovered a baby shark stranded near a beach without its fins.

"At that moment I realized that not only were the mature shark populations disappearing, but the fishermen were now moving on to

smaller, juvenile sharks," she said. "If we continue to overfish the local shark population, we risk losing these incredible creatures and the important role they play in safeguarding the region's diverse ecosystem."

Sharks are vital because they prevent the overpopulation of other species, create diversity and contribute to a balanced ecosystem. Because sharks reproduce late in life and tend to have few offspring, some severely depleted populations may take hundreds of years to recover. With this knowledge in mind, the government in Raja Ampat decided to act before it was too late.

Last year, in a historic move, the Regent of Raja Ampat declared a 17,760 square mile (45,998 km<sup>2</sup>) shark sanctuary in the waters surrounding Raja Ampat. The new sanctuary regulations provide full protection for sharks and their relatives, including manta rays and

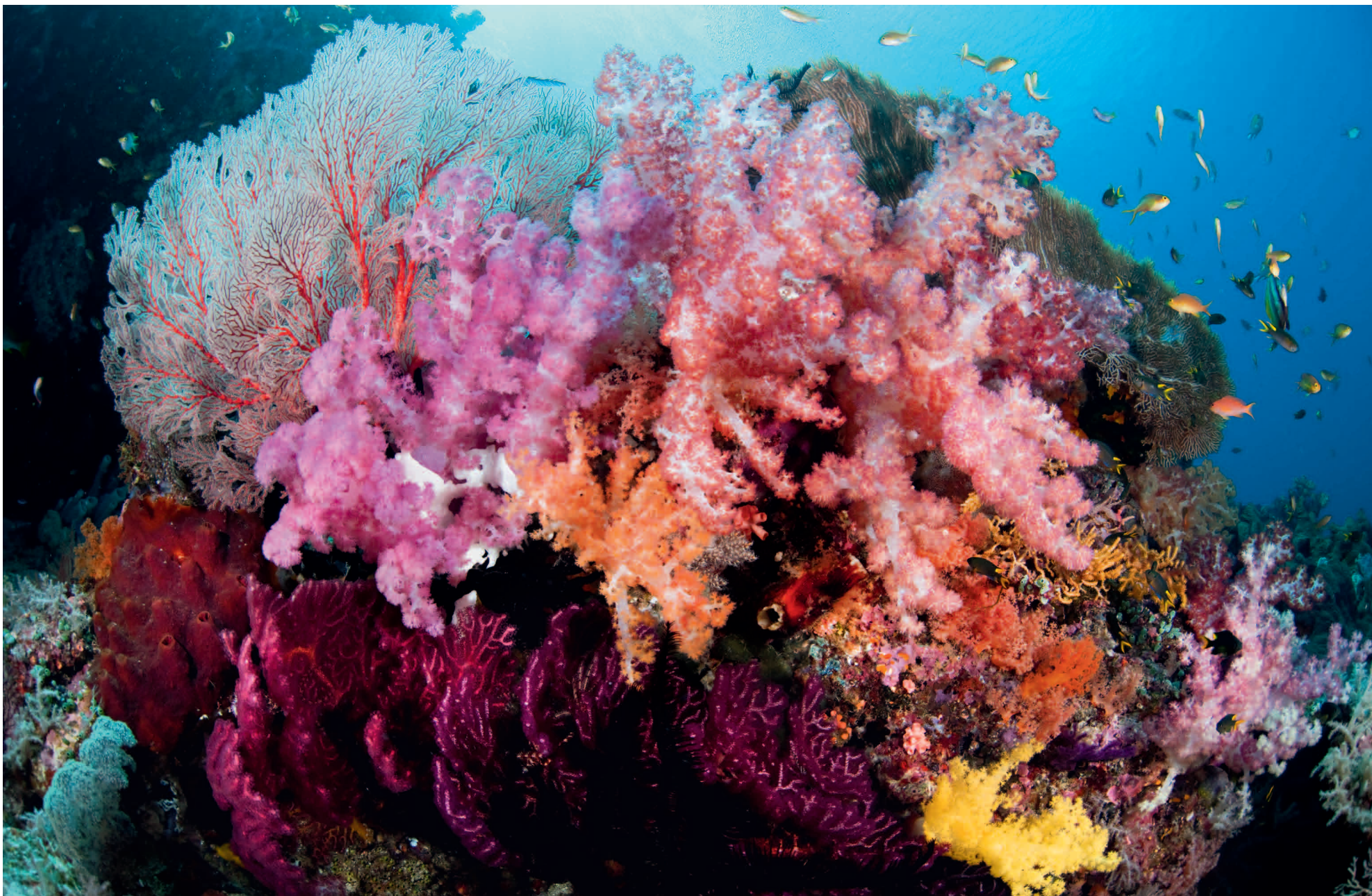
mobulas - but only on paper. Although the creation of legislation was an important first step, it is now critical that regulations are consistently implemented and respected.

To make sure this happens, Naneng and her colleagues at the Coral Reef Alliance contacted the Save Our Seas Foundation to enlist their participation by funding Sharks for the Future, a local shark conservation campaign in Raja Ampat.

"The Save Our Seas Foundation's track record of organizing successful awareness and conservation campaigns is truly inspiring," says Naneng. "With their help, we will be able to make a significant impact in Raja Ampat that will ensure long-lasting protection for sharks."

Naneng designed a multi-tiered campaign that aims to create community awareness and







increase government engagement, to increase the knowledge of local teachers in order to bring the issue of shark protection to village classrooms and to guide the implementation of local projects to reduce the immediate threats to sharks through community efforts.

As the project leader, she is utilizing her local connections and expertise in conservation science and natural resource management to lead the campaign.

"My work with the Coral Reef Alliance has afforded me the opportunity to build key alli-

ances and partnerships in the region," says Naneng. "I am using these relationships to share important knowledge and tools with the people of Raja Ampat so that they are empowered to protect their marine life and ensure its continued preservation."

As part of the campaign, Naneng is working with local partners to create an engaging educational video, to write educational curricula for school teachers and to develop an essay competition among students to raise awareness of sharks and to build support for their protection.

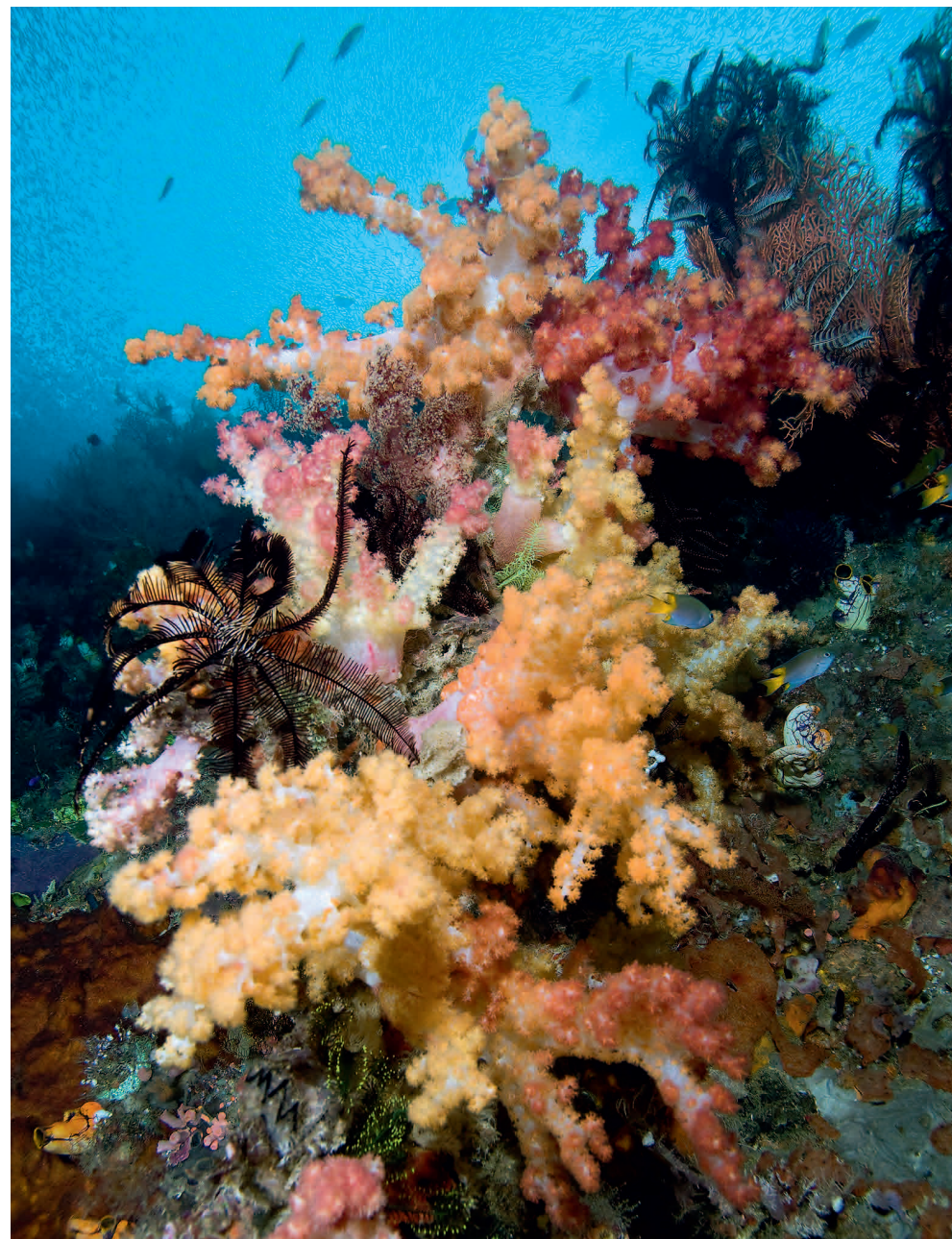


"We want to target the heart of the community, and the local schools were a perfect place to start," says Naneng. "This remote island community has a large population of young people. By involving students in the process, we are able to reach a wide audience, while also tapping into their families and the greater community."

One key message to be incorporated into the campaign is the compelling fact that sharks are worth more alive than dead. A study conducted in Palau shows that the revenue from shark diving significantly surpasses that of po-

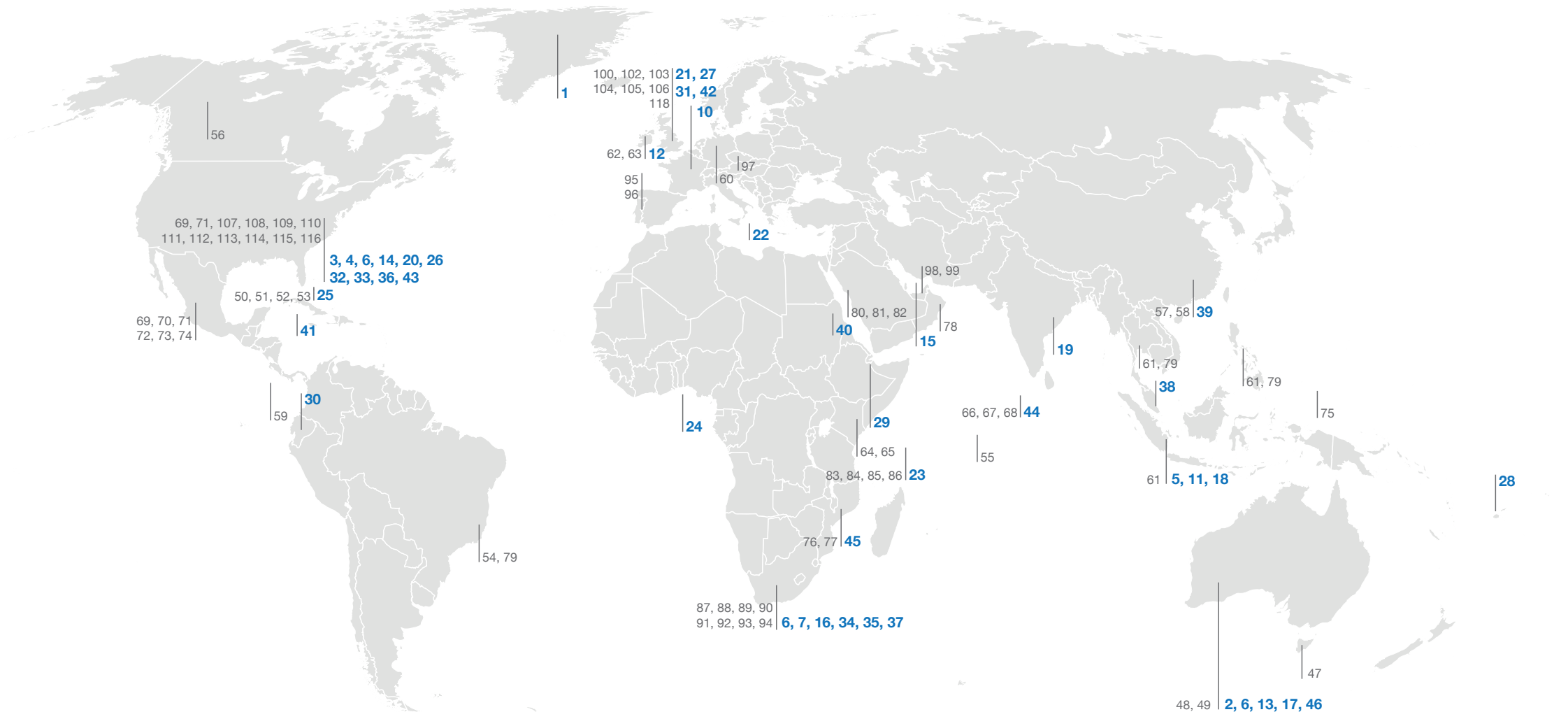
tential shark-finning. The touristic value of each living grey reef shark has been estimated at US\$ 33,500 a year, indicating that shark diving can potentially result in millions of dollars annually for each of the individual local destinations, which is well beyond the one-time income from shark finning.

**Thanks to the Save Our Seas Foundation, Naneng and the rest of the Coral Reef Alliance team are ensuring a healthy ecosystem and a strong economic future for Raja Ampat.**



# Save Our Seas Foundation Projects Worldwide – Past & Present

Global Projects – 8, 9, 117



## PAST PROJECTS

- 47 Sevengill sharks
- 48 Protecting large ray species
- 49 Sharks International 2010
- 50 Impacts of catch and release angling
- 51 New techniques for shark surveying
- 52 Sharks Up Close
- 53 Spotlight on Caribbean reef sharks
- 54 Profiling whale sharks in the St Peter and St Paul Archipelago
- 55 Managing environmental threats
- 56 Happy hearts love sharks
- 57 High profile anti-finning campaign
- 58 Methylmercury poison in shark fins
- 59 Protecting hammerhead sharks in Costa Rica
- 60 Improving water quality in Europe
- 61 Documenting manta ray fisheries
- 62 Grey seals in Ireland
- 63 Basking Shark Conference
- 64 Kenya Sea Turtle Conservation Committee (KESCOM)
- 65 Wetamu Turtle Watch
- 66 Artificial reefs success
- 67 Population links of Indian Ocean whale sharks
- 68 Indian Ocean Cetacean Symposium
- 69 Fishery management in US-Mexican waters
- 70 Giant manta ray migration in Mexico
- 71 Turtle Dance
- 72 Whale sharks of Holbox
- 73 Whale sharks in the Sea of Cortez
- 74 The biggest creature on earth
- 75 Conservation of sharks in Micronesia
- 76 Indo-Pacific humpback dolphins
- 77 Whale sharks of Mozambique
- 78 Protecting sharks and turtles
- 79 Global study of giant manta migration
- 80 Restoring Red Sea reefs
- 81 Creating a marine protected area
- 82 Silky shark in Saudi Arabia
- 83 Key role of hawksbill turtles
- 84 The lost world of Aldabra
- 85 Whale sharks in the Seychelles
- 86 Restoration and public awareness of coral communities
- 87 Beach clean-up collaboration
- 88 EnviroKids
- 89 Releasing Maxine
- 90 Sharkworld at the South African Museum of Natural History
- 91 Wavescape Surfing Film Festival
- 92 Tiger sharks in Kwazulu-Natal
- 93 Nicole in The Surf is My Turf
- 94 Photo-identification of sevengill sharks
- 95 Shortfin mako sharks in the Atlantic
- 96 Blue sharks in the north-east Atlantic
- 97 IUCN Specialist Shark Group
- 98 First Arabian Seas Whale Shark Symposium
- 99 The dugongs of Abu Dhabi
- 100 Basking shark community project
- 101 Be WiSe at sea
- 102 Lobsters in Cornwall
- 103 Partnership with the London Aquarium
- 104 Small Talk Reef

- 105 The Great Eggcase Hunt
- 106 Wonderful World of Water
- 107 Sea Angels Conservation Initiative
- 108 Dive into your imagination
- 109 Preserving the Polynesian way of life
- 110 Producing OCEAN for USA audiences
- 111 Reducing sea turtle bycatch
- 112 Siren Song – Manatees in Peril
- 113 The Wild Classroom
- 114 Turtle: The Incredible Journey
- 115 International White Shark Symposium
- 116 Partnering with the Smithsonian
- 117 Care for Corals campaign
- 118 EDGE Sharks

## CURRENT PROJECTS

### 2011-01 Conservation and Natural History of the Greenland Shark

*Project leader: Peter Bushnell*

*Location: Greenland*

This project focuses on the biology of the Greenland shark as well as its future as a central component of the polar ecosystem. Fishing pressure and ignorance of its basic natural history threaten the long term survival of this long-lived Arctic shark.

### 2011-02 Continued Chondrichthyan Monitoring

*Project leader: Jayson Semmens*

*Location: SE Australia*

With a strong emphasis on conservation of chondrichthyans, this SOSF-funded project will provide optimal management strategies

for a number of top order shark species.

### 2011-03 Building Shark Advocates International

*Project leader: Sonja Fordham*

*Location: USA*

The IUCN classifies nearly one-third of the world's 1044 assessed shark species as Near Threatened or Threatened. Shark Advocates International addresses this by providing leadership in advancing sound shark conservation policies through collaboration with a variety of organizations and decision makers.

### 2011-04 White Sharks (North Atlantic)

*Project leader: Greg Skomal*

*Location: Massachusetts, USA*

Although the occurrence of the white shark is

well documented in the North Atlantic, little is known about its distribution and movements there. Through the use of passive acoustic telemetry, this project will shed light on fine-scale movements, habitat use, and site fidelity of this species.

### **2011-05 Aceh-Weh Seascape**

*Project leader: Stuart Campbell*

*Location: Indonesia*

SOSF funding for this project complements the ongoing Marine Park Area work in the Aceh-Weh Seascape to reduce the impacts of unsustainable fishing practices on coral reef fishes, sharks, and rays. The area boasts critical habitats for many species which are increasingly threatened by unsustainable fishing practices and climate change.

### **2011-06 Shark Bites and Public Policies**

*Project leader: Christopher Neff*

*Location: South Africa, USA, Australia*

Shark conservation efforts are now in a position where they must compete with fears and disproportionate risk perceptions of the public. This SOSF-funded work examines how social and political framing of shark attacks impacts the development of shark conservation policies on three continents.

### **2011-07 Zambezi Sharks**

*Project leader: Meaghen McCord*

*Location: South Africa*

Zambezi (bull) sharks discovered in the temperate Breede river estuary on the southwest coast of South Africa – more than 300km outside of their known range – prompted SOSF to fund a project to identify reasons for this shift in distribution and determine the population structure in this new location.

### **2011-08 Securing the Conservation of Sharks and Rays**

*Project leader: Nick Dulvy*

*Location: Global*

The long-term aim of this SOSF-funded project is to set the agenda for the future and coordinate activities of those conservation and management agencies and organizations concerned with the status of sharks and rays.

### **2011-09 Sawfish Conservation**

*Project leader: Nick Dulvy*

*Location: Global*

This SOSF-funded initiative will develop and publish a Sawfish Conservation Strategy, summarizing all of the available information on sawfish around the world as well as providing specific recommendations for research, education, and conservation activities relating to this species.

### **2011-10 European Shark Week**

*Project leader: Martin Clark & Irene Kingma*

*Location: Europe*

European Shark Week 2011 raised public and awareness and encouraged citizen engagement across Europe, successfully contributing to the recent EU proposal finally to close long-standing loopholes in its current legislation prohibiting shark finning, which is among the weakest in the world.

### **2011-11 Sharks for the Future**

*Project leader: Naneng Setiasih*

*Location: Indonesia*

This project focuses on developing anti-shark finning campaigns to build community awareness of the issue and deepen government engagement, as well as increasing conservation knowledge of local teachers and guiding the implementation of locally-driven projects to reduce immediate threats to sharks through innovative microgrants.

### **2011-12 Porbeagle Sharks**

*Project leader: Ryan Saunders*

*Location: Ireland*

The porbeagle shark is particularly vulnerable to population depletion because of its complicated lifecycle and unsustainable fishing activities. The tagging data generated by this project will contribute to the development of robust porbeagle conservation and management strategies in this region.

### **2011-13 Marine Megafauna**

*Project leader: Mariana Fuentes*

*Location: Australia*

The goal of this SOSF-funded project is to conserve populations of dugongs and sea turtles in Australia by providing adequate tools to prioritize the management of these species in the face of climate change, as well as building monitoring capacity in the local communities that rely on these populations.

### **2011-14 White Shark Genome**

*Project leader: Mahmood Shivji*

*Location: Florida, USA*

This project is aimed at establishing sharks as a comparative biomedical model at the genomics level to aid in the understanding of human biology and disease, including discovery of genes that may underlie the potentially unique adaptive properties of sharks that have made them one of the oldest and most successful vertebrate lineages.

### **2011-15 Whale Shark Ecology**

*Project leader: David Robinson*

*Location: Arabian Gulf & Gulf of Oman*

With a significant increase in whale shark sightings in the Gulf of Oman and Arabian Gulf, it is believed that this area may be of greater importance to the species than previous thought. This project aims to investigate the ecology of local whale sharks through fieldwork and satellite tagging.

### **2011-16 Sodwana Bay Diving Industry**

*Project leader: Matt Dicken*

*Location: South Africa*



This study investigates the socio-economic aspects of the Sodwana Bay diving industry, with the aim to estimate the economic value of the industry to local communities as well as highlighting the non-consumptive value of the sharks in the Marine Protected Areas, helping them gain protected status.

#### **2011-17 White Shark Site Fidelity**

*Project leader: Rachel Robbins*

*Location: Australia*

Research on the movements of white sharks shows that while they travel extensively across their range in Australian waters, they have preferred habitat sites that they may temporarily reside in and revisit. This project aims to identify more of these key habitats in South Australian waters.

#### **2011-18 Manta Rays (Indonesia)**

*Project leader: Sarah Lewis*

*Location: Indonesia*

The objective of this project is to learn more about Indonesia's manta fishery and the manta populations impacted by it, and to use this information to raise awareness about the importance of conserving mantas as well as developing a management plan for local manta populations.

#### **2011-19 Turtle Diaries**

*Project leader: Rita Banerji & Maya Khosla*

*Location: India*

Four species of sea turtles breed in India's coastal habitats, and the vision for the Turtle Diaries project is to provide media tools to assist in conservation education and to empower local communities to share their knowledge and resources bases.

#### **2011-20 Elasmobranch Reproduction**

*Project leader: James Sulikowski*

*Location: USA*

SOSF is funding this innovative research into developing methodologies that will allow biomarkers in skeletal muscle tissue to be used as a reliable, noninvasive technique for the study of elasmobranch reproductive biology.

#### **2011-21 Cool Seas Roadshow**

*Project leader: Peter Richardson*

*Location: United Kingdom*

SOSF continues to fund the Marine Conservation Society in an innovative educational initiative that is touring the United Kingdom to introduce kids and the wider public to the largest of the ocean's inhabitants and the threats that they face.

#### **2011-22 White Sharks (Mediterranean)**

*Project leader: Leslie Noble*

*Location: Mediterranean*

To understand how white sharks use the Mediterranean as well as determine how isolated these populations are, this project aims to assess what, if any, mating or migratory connec-

tions they have with the Atlantic, and how environmental pollutants may be compromising their reproduction.

#### **2011-23 Marine Education (Seychelles)**

*Project leader: Abbie Hine*

*Location: Seychelles*

Marine education can be an ideal way in which to turn the tide towards improved environmental stewardship and renewing the public's feeling of ownership. This project is promoting marine education in the Seychelles, with particular focus on local coral reefs which have suffered from mass bleaching events and increasingly destructive human impacts over the years.

#### **2011-24 West African Manatees**

*Project leader: Lucy Keith*

*Location: West Africa*

SOSF is funding an initiative to build a network of trained African researchers in all 21 range countries of the West African Manatee, who will collect critically needed baseline data and enable grassroots conservation action for the species.

#### **2011-25 Manta Ray Cognition**

*Project leader: Csilla Ari*

*Location: Bahamas*

This project focuses on finding out more about the visual abilities, social behavior, learning and memory capabilities of giant

manta rays, which have the largest brains of all fish.

#### **2011-26 Tracking Turtles**

*Project leader: Jeanette Wyneken*

*Location: Florida, USA*

This SOSF-funded project is testing small solar-powered satellite tracking tags on post-hatchling sea turtles to increase our understanding of their habitat selection and offshore movements.

#### **2011-27 Ocean Acidification**

*Project leader: Jason Hall-Spencer*

*Location: United Kingdom*

SOSF continues to support ocean acidification research which studies the effects of increasingly acidic seawater by looking at sites with naturally high levels of CO<sub>2</sub>, such as those near underwater volcanic vents.

#### **2011-28 Bull Sharks (Fiji)**

*Project leader: Juerg Brunnschweiler*

*Location: Fiji*

Tagging of bull sharks has helped to reveal and protect their breeding grounds in the coastal waters of the Bahamas and Fiji. This work has been extended to the exploration of traditional and local ecological knowledge, in order to obtain information on bull shark breeding in Fijian rivers.

### **2011-29 Whale Sharks (Djibouti)**

*Project leader: David Rowat*

*Location: Djibouti*

The continuation of high intensity monitoring of this aggregation of very small juvenile whale sharks found in the Gulf of Tadjoura off Djibouti is providing key data needed to better protect this important species.

### **2011-30 Manta Rays (Ecuador)**

*Project leader: Mark Harding*

*Location: Ecuador*

This study of a population of giant manta rays frequenting Isla de la Plata in coastal Ecuador is the continuation of a successful identification program from previous years, which is now looking farther afield from the study site to find if the population may be more widespread.

### **2011-31 Naked Oceans**

*Project leader: Helen Scales*

*Location: United Kingdom*

Naked Oceans is a pioneering audio podcast series and interactive web-based platform that presents cutting-edge marine science and conservation issues to an international audience. After a successful first season, SOSF is continuing its funding with season two.

### **2011-32 The Shark Riddle**

*Project leader: Laura Sams*

*Location: Portland, USA*

SOSF funded the production of a new episode of the children's series, which won the award for Best Children's Program at the prestigious 2011 Jackson Hole Wildlife Film Festival.

### **2011-33 SOSF Shark Center USA**

*Project leader: Mahmood Shivji*

*Location: Florida, USA*

The Shark Center in Fort Lauderdale provides a physical presence for SOSF in the US while also being a leader in worldwide shark research under Dr Mahmood Shivji, whose groundbreaking work in shark fin pollutants and DNA forensics is paving the way for more rigorous enforcement of shark-protecting legislation.

### **2011-34 White Sharks (South Africa)**

*Project leader: Alison Kock*

*Location: South Africa*

Based out of the SOSF Shark Centre in Kalk Bay, this project provides current scientific information on white shark abundance, distribution and behavioral patterns for their population in Cape Town, South Africa.

### **2011-35 SOSF Shark Centre SA**

*Manager: Heidi Thormählen*

*Location: South Africa*

The SOSF Shark Centre was established in 2008 to provide a focus point where scientists, researchers, marine educators, and others are able to work in unison to promote

the conservation of elasmobranchs in this crucial area.

### **2011-36 Shark Fin Pollutants**

*Project leader: Mahmood Shivji*

*Location: Florida, USA*

SOSF-funded research is confirming and raising awareness about possible health risks associated with shark fin consumption due to the accumulation of heavy metals and other toxins in shark tissue, providing another potent piece of information in the battle against unsustainable consumer practices.

### **2011-37 Shark Spotters**

*Project leader: Sarah Titley*

*Location: South Africa*

Together with the City of Cape Town, SOSF is funding a pioneering shark safety program that is already proving successful and attracting local and international attention as it seeks to find a solution to potential conflicts between people and sharks.

### **2011-38 Sea Turtles (Malaysia)**

*Project leader: Nicolas Pilcher*

*Location: Malaysia*

The purpose of this project is to conserve endangered sea turtles in Sabah, Malaysia by reducing their bycatch in shrimp trawl nets and by developing a better understanding of sex ratios and development rates of foraging populations in the wild.

### **2011-39 Anti-Shark Finning Campaign**

*Project leader: Peter Knights*

*Location: China*

SOSF is funding a WildAid initiative in China focused on reducing consumer demand for shark fin soup through the use of celebrity advertising campaigns and television programs.

### **2011-40 Conserving Sharks & Rays and Understanding Reef Resilience in the Sudanese Red Sea**

*Project leader: Ameer Abdullah*

*Location: Sudan*

This project forms part of the IUCN regional marine program for the Red Sea, and is aimed at determining the abundance of larger shark and ray species as well as the health of local coral reefs and their resilience to climate change.

### **2011-41 Cayman Shark Study**

*Project leader: Mauvis Gore*

*Location: Cayman Islands*

Through the investigation of reef shark movements, the effects of shark tourism, and feasibility of tracking large sharks to provide real time alerting at sensitive tourist areas, this project will assist the Cayman Islands in protecting these key components of their marine biodiversity.



### **2011-42 Basking Sharks (Scotland)**

*Project leader: Rupert Ormond & Mauvis Gore*

*Location: Scotland, United Kingdom*

A long-term study focused on the basking shark along the west coast of Scotland has documented their abundance and shown their hitherto unknown migration across oceans as well as along regional, coastal shelves. This continues to provide key information for global species conservation and management.

### **2011-43 Applying DNA Tools to Shark Conservation**

*Project leader: Mahmood Shivji*

*Location: Florida, USA*

SOSF continues to fund this research, which aims to answer the fundamental question of how many genetic populations of key shark species of fisheries or conservation concern there are on a global scale. This information is needed to substantially improve shark conservation efforts.

### **2011-44 Manta Rays (Maldives)**

*Project leader: Guy Stevens*

*Location: Maldives*

SOSF's five year funding of this detailed research project has contributed to the understanding of the manta ray in this region and determining seasonal patterns and identifying critical habitats. The work has been key to the recreational diving and tourist industry in the Maldives and as a direct result, the Mal-

divian government has announced three new marine protected areas for mantas and whale sharks.

### **2011-45 Ray of Hope**

*Project leader: Andrea Marshall*

*Location: Mozambique*

This long-term project exploring the population dynamics and reproductive behavior of manta rays off the coast of Mozambique continues to be funded by SOSF. One result of this research has been the identification of a second, previously unknown, larger oceanic species (*Manta birostris*).

### **2011-46 White Sharks (Australia)**

*Project leader: Barry Bruce*

*Location: Australia*

Based in Port Stephens, this study is developing populations assessments and monitoring the key habitats and movements of juvenile white sharks, producing data that is crucial for underpinning conservation management decisions.



## CORE TEAM

**Chief Executive Officers** Peter Verhoog and  
Georgina Wiersma

**Scientific Team** Sarah Fowler (principal scientist),  
Dr. Mark Meekan

**Chief Photographer** Peter Verhoog

**Film Producer** Caroline Brett

**Web Officer** Stefan Kubicki

**Media team** Kim von Brandis, Stefan Kubicki,  
Christopher Neff, Georgina Wiersma

## SAVE OUR SEAS SHARK CENTRE, SOUTH AFRICA

**Manager** Heidi Thormählen

**Communications Officer** Kim von Brandis

**Education Team**

Paul Millar

Kevin Baker

Zanele Mayiya

**Great white shark research**

Alison Kock / Adrian Hewitt

## SAVE OUR SEAS FOUNDATION (USA) SHARK RESEARCH CENTER, FORT LAUDERDALE

**Director** Dr. Richard E. Dodge

**Director** Professor Mahmood S. Shivji



## SENIOR ADVISORS

**Dr. Eugenie Clark** Director Emerita, Mote Marine Laboratory, Florida, USA & Professor Emerita, Department of Biology, University of Maryland, USA

**Dr. Richard E Dodge** Dean, Oceanographic Center, Nova Southeastern University, Florida, USA

**Dr. Sylvia Earle** Former Chief Scientist, National Oceanic and Atmospheric Administration (USA) & National Geographic Explorer-in-Residence, Washington, DC, USA

**Carl Gustaf Lundin** Head, IUCN Global Marine Programme, Switzerland

**Martha Holmes** producer and writer

## SCIENCE AND CONSERVATION ADVISORY PANEL

**Dr. Barry Bruce** CSIRO Division of Marine Research, Tasmania, Australia

**Dr. Juerg Brunnschweiler** ETH Zurich (Swiss Federal Institute of Technology Zurich), Switzerland

**Dr. Robert E Hueter** Director, Center for Shark Research, Mote Marine Laboratory, Florida, USA

**Dr. Rupert Ormond** Director Marine Conservation International, Former Director of the University of London's Marine Biological Station Millport, UK

**Dr. Nicolas J Pilcher** Co-Chair IUCN SSC Marine Turtle Specialist Group, & Executive Director, Marine Research Foundation, Sabah, Malaysia

**Professor Callum M Roberts** Environment Department, University of York, North Yorkshire, UK

**Dr. David Rowat** Marine Conservation Society Seychelles, Mahe, Seychelles

**Dr. Robert Rubin** Director, Pacific Manta Research Group, Department of Biology, Santa Rosa Jr. College, California, USA

**Professor Mahmood S. Shivji** Director Save Our Seas Shark Center and Guy Harvey Research Institute, Oceanographic Center, Nova Southeastern University, Florida, USA

**Professor David Sims** Deputy Director, Marine Biological Association UK, Devon, UK

## MAIN CENTRES

SOSF is an international organisation with projects around the world. We have a few small administration offices in key places but the real work happens in the field with the project leaders we support.

### Headquarters in Switzerland:

6 Rue Bellot, 1206, Geneva, Switzerland

### Save Our Seas Shark Centre South Africa:

28 Main Rd, Kalk Bay, Cape Town

### Save Our Seas Shark Centre USA:

Located in the Oceanographic Center of Nova Southeastern University, Fort Lauderdale, Florida



## THE FUTURE IS NOW!

The Save Our Seas Foundation is looking to the future. It will celebrate its 10th anniversary in 2013 with its REACH mission (Research, Education, Awareness campaigns and Conservation within a Holistic framework) still in the forefront of its campaign. As the oceans form a single, delicately balanced system, the SOSF will continue to integrate education, awareness and conservation into its projects to make them as effective as possible in the delicate system. What ultimately counts is the entity as a whole.

It is time to act! Our oceans are our future, and we urgently need to protect our blue planet.

Visit [www.saveourseas.com](http://www.saveourseas.com) to find out more about our projects and what you can do to help.

### About Save Our Seas

In less than 10 years, the Save Our Seas Foundation (SOSF) has become a key player in the battle to save the world's oceans and the wealth of marine life they contain. From being a small non-profit organisation funding only five projects, the SOSF has evolved into what it is today, a strong force providing financial and, equally important, practical assistance to over 160 marine research and conservation projects all over the world.

There can be no balance in the oceans without sharks. The SOSF aims to understand and protect larger shark species and increase public awareness. It also supports projects involving education, marine mammals, turtles and marine parks.





## CREDITS AND CONTACT

**All pictures** Save Our Seas Foundation/Peter Verhoog

**Except for:** page 9: Guy Stevens / page 15 top right,  
31, 33: Sisbro Studios LLC, page 23, top left artist's  
impression Nova University, page 23, bottom right: Alexa  
Elliot, page 34,35,36,37,38: Jim Abernethy, page 39: Jeanette  
Wyneken, page 40,41: Andrew Fox, page 44: Abbie Hine,  
page 50: Aimee Sanders, page 51,52,53: Lucy Keith, page  
56,57: Mark Harding, page 66: Tobias Zimmer, page 67: Jeff  
Yonover, page 68: Coral Reef Alliance, page 69 left: Tobias  
Zimmer, page 69 right: Jeff Yonover

**Design** Maarten Radstake, Utrecht, The Netherlands

**Text editing** Adam Kleyn / Jadzia Sieminski-Kleyn

**Printing** Drukwerkconsultancy, Utrecht, The Netherlands  
[www.drukwerkconsultancy.nl](http://www.drukwerkconsultancy.nl)





[www.saveourseas.com](http://www.saveourseas.com)