save our seas
FOUNDATION

# REACH OUT TO THE FUTURE

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# OUR PLANET'S OCEANS

**72%**

72% of the Earth's surface is covered by water

**1M**

The seas are thought to be home to over 1 million species

**70%**

The oceans produce 70% of the oxygen we breath

**50%**

50% of $CO_2$ emissions are absorbed by the oceans

**500M**

Over 500 million people in developing countries depend on fisheries and aquaculture for their livelihood

**1BN**

Over 1 billion people rely on seafood as their primary source of animal protein

# THE BIGGEST THREATS TO OUR OCEANS

## TAKING TOO MUCH OUT

**OVERFISHING** If a fish population is heavily overfished the stock may collapse (as has happened with the once-prolific Canadian cod) because there are no longer enough breeders left to produce successive generations. The UN Food & Agricultural Organisation (FAO) estimates that over 76% of the world's fish stocks are already fully exploited or overfished. The UN Environment Programme (UNEP) estimates that over a third of exploited fish stocks have now collapsed; they warn that without drastic action, by 2050 "we are out of fish".

**ECOSYSTEM EFFECTS OF OVERFISHING** Besides reducing fish population size, intensive fishing activity has had devastating effects on marine ecosystems, destroying seabed habitats and triggering ecological collapse. Sea-bed trawling kills many fragile invertebrates and the by-catch of juvenile fish and other non-target animals hinders stock replenishment and disrupts food chains.

**APEX PREDATORS** Intensive fishing may intentionally or unintentionally lead to the loss of apex predators, that play a key role in sustaining the balance of the oceans. Most conspicuously up to 73 million sharks and their relatives are being caught each year, most entirely for their fins (for shark-fin soup). According to the International Union for the Conservation of Nature (IUCN), of nearly 450 shark species 126 are now considered as 'threatened' with extinction.

## PUTTING TOO MUCH IN

**CLIMATE CHANGE** Increasing atmospheric levels of $CO_2$ and other greenhouse gases are raising the temperature of the planet, including the oceans. Extensive mortality of corals caused by higher than normal sea temperatures (coral bleaching) has already led to an extensive decline in coral reef communities in many parts of the world. In addition, increasing amounts of $CO_2$ are being absorbed into sea water resulting in greater acidity that will cause chemical erosion of the skeletons of corals and shellfish, leading to their disappearance.

**INFILLING & SEDIMENTATION** Infilling of coastal waters to extend the land or even create new islands (as in parts of the Arabian Gulf) is destroying the most productive and diverse marine habitats that occur in shallow waters, where the light intensity is high enough to support the growth of corals, seagrasses and marine algae. Sediment entering the sea (e.g. as a result of inland deforestation or soil erosion) or stirred up from the seabed (through dredging or coastal engineering works) has also degraded these nearshore habitats.

**POLLUTION** The concentrations of toxic metals and persistent organic pesticides found in some top predators (such as swordfish) are so high that humans should restrict their consumption. Pollution by fertilising nutrients (nitrates and phosphates) has changed the ecology (eutrophication) of many coastal zones, causing for example death of corals through overgrowth by algae across many Caribbean reefs. It has also been estimated that as many as a hundred thousand marine mammals and turtles, and a million seabirds are killed annually by ingestion of plastics or entanglement.

## LEADING TO DYING OCEANS:

**Loss of marine fisheries and other renewable resources**

**Loss of touristic and recreational facilities**

**Collapse in biodiversity, including the loss of species of potential economic value**

**Growing number of dead zones (already more than 400) in which oxygen levels are too low to support life**

# SOSF
# A BIG STORY TO TELL

01

02

01 Much of our focus is on shark species, since this apex predator is vital to the balance of marine ecosystems.
02 Each year a staggering tens of millions of sharks are killed, largely for their fins.
03 Our award-winning SOSF camera team captures HD footage in remote corners of the globe.
04 Underwater filming allows people to see and experience the wonders of the ocean for themselves.

03

04

From a small not-for-profit organisation funding just five projects, in less than 10 years, the Save Our Seas Foundation (SOSF) has grown to become a major player in the fight to save the world's oceans and the wealth of marine life they contain.

During that time the SOSF has provided financial and, equally important, practical assistance to over 150 marine research and conservation projects spread around the world. Most conspicuous has been a programme focusing on the understanding and protection of the largest shark species; not only are these top predators believed to play a key role in the balance of marine ecosystems, but the population collapse of many sharks has been the most severe of any group of marine animals. Further, these iconic species are of immense public interest and so serve to promote public understanding of the ongoing wholesale destruction of both fragile marine habitats and the fish stocks they support.

There have been some extraordinary discoveries along the way, and a wealth of knowledge gained and shared, with scientists and the wider public, about both the charismatic marine creatures concerned and their role in the oceans. In addition, the passion and commitment of individual project leaders has been outstanding, and has translated into a mission to tell their story to as wide an audience as possible.

Their role in raising awareness of vital conservation issues has been supported by the award-winning SOSF camera team, capturing in HD (high-definition video) amazing animals and fascinating behaviours – often in hard-to-access locations or little explored environments – so that other people can see and experience the wonder for themselves. Linked to all this has been an innovative programme to educate children – future consumers and policymakers – about the nature and importance of our oceans, and the very real threats to our marine ecosystems. It is vital that both future and present stakeholders understand and care about these issues, so that they can play a part in preserving the ocean's fragile health.

01

# RESEARCH
# EDUCATION
# AWARENESS
# CONSERVATION
# HOLISTIC

02


03

01 **Research** — enhancing and increasing knowledge about the oceans and the threats facing them.
02 **Education** — inspiring young people to become future guardians of the oceans.
03 **Awareness** — informing people about the threats and encouraging them to be part of the solution.

**REACH is SOSF's multi-faceted approach which ensures that the projects we are funding have a positive impact across a wide audience:**

**RESEARCH** is the cornerstone to this – our scientists work in collaboration with one another to enhance and broaden their knowledge – the more we understand about the oceans and the threats facing them, the better able we will be to protect them.

**EDUCATION** is vital to long-term success – by inspiring young people to fall in love with, to respect and learn to act in a more responsible manner towards the ocean, we create the guardians of the future.

**AWARENESS** campaigns inform the general public about the threats to the oceans – the more people know about the crucial issues, the greater the likelihood that they will want to be part of the solution.

**CONSERVATION** is the ultimate aim – whether it's saving a species from extinction or preserving a vital habitat, our goal is to return the oceans to their once healthy, abundant state.

**HOLISTIC** implementation is at the heart of all our programmes – just as the oceans form one interconnected system, by integrating our research with our education, awareness and conservation projects, we are both more effective and efficient in everything that we do: the whole really is greater than the sum of the parts.

We're really proud of the successes that we've had to date and the impacts and contributions that we've already made to conservation planning and marine protection. SOSF is now at the forefront of marine conservation research and looking forward to making a bigger difference through our REACH philosophy.

Overleaf we share some of the highlights of our project work; our website at **www.saveourseas.com** has more detailed reports on these and all our projects – and our interactive websites for children and teenagers engage with them at a level and in language that best gets the messages across to them about protecting our underwater world.

**04 Conservation** — actively returning the oceans to their once healthy, abundant state.
**05 Holistic** — integrating research with education, awareness and conservation initiatives.

04

05

01 Mahmood Shivji (Director of the SOSF Shark Centre in Florida) was awarded a prize for best conference paper given by a professional scientist at Sharks International 2010, which took place in Cairns, Australia earlier this year.

01

# CONFERENCE ROUND-UP

**During the last year SOSF has not only provided financial support and helped promote a number of key marine conservation events but has also made important contributions to the current topics of debate. The ground-breaking work being carried out at SOSF projects around the world places us at the forefront of much of today's research. Through collaboration and information-sharing, we continue to make our mark on the future.**

## SHARKS INTERNATIONAL 2010

Sharks International conference took place in June 2010 in Cairns, Australia and was a major coup with over 200 attendees from 21 countries – and numbers limited only by the size of venue. SOSF was not only one of the main sponsors, but also a significant funder of many of the scientific studies that have led to progress in the field of shark and ray ecology since the last international meeting over 19 years ago. As these species become more affected by human and environmental factors on a global scale, international approaches to their study and management are becoming increasingly important. With keynote speeches by distinguished researchers setting the tone each day, the conference included four days of presentations and posters. We were particularly proud when Professor Mahmood Shivji (Director of the SOSF Shark Centre at Nova Southeastern University, Florida) was awarded a prize for the best conference paper.


02

03

02 A serious message communicated in a light-hearted way can make it more memorable as demonstrated by these supporters of European Shark Week 2009 in Spain.
03 Blue pygmy whale in the waters of the Indian Ocean Sanctuary off the coast of Sri Lanka.

## EUROPEAN SHARK WEEK

The Shark Alliance (established by the Pew Foundation) includes aquaria, dive clubs and conservation organisations throughout Europe. Every October, members take part in European Shark Week (ESW), designed to engage thousands of the public in generating support for shark conservation, with the specific goal of promoting European Parliament and Commission's endorsement of effective regulations for shark conservation and management. SOSF was pleased to support the promotion of ESW 2009, which was hugely successful with over 300 activities held in 15 countries - including Spain, Italy, France, Germany, UK, Netherlands and Sweden. SOSF funded a special performance of the Cool Seas Road Show at the London Aquarium.

## INDIAN OCEAN CETACEAN SYMPOSIUM

In July 2009, the first Indian Ocean Cetacean Symposium was held at Lankanfinolhu Island, near Malé, Maldives, 30 years after the International Whaling Commission set up and imposed a commercial whaling ban in the Indian Ocean Sanctuary (IOS). Hosted by the Maldives government's Marine Research Centre, the Symposium was attended by 60 scientists and conservationists from 22 countries; SOSF provided financial support to enable participation by regional scientists, who presented the findings of research and conservation projects. Amongst recent studies, delegates heard how the use of DNA sequencing and satellite-tagging of whales has revealed astonishing migratory patterns and about previously unknown populations of smaller cetaceans, such as humpback and spinner dolphins, threatened by accidental capture in fishing gear and an increase in use as human food or shark-fishing bait. The Symposium produced the Lankanfinolhu Declaration in support of the continuation of the IOS and a volume of peer-reviewed scientific papers will be published in late 2010.

# OUR SUCCESSES


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# DISCOVERY OF SECOND MANTA RAY SPECIES

## TRACKING NEW OCEAN-GOING MANTA

During her five-year PhD study into the ecology and distribution of manta rays (*Manta alfredis*), Dr Andrea Marshall created what is probably the largest, most in-depth manta database: cataloguing over 900 individuals on a single reef in Mozambique and taking DNA samples from a fifth of those. But the single, most important aspect of her work to date has been the astonishing discovery of a second species (*Manta birostris*), with clearly different physical characteristics and lifestyles. This has far-reaching implications for real-world conservation, as the newly identified species appears to be migratory, making co-operation between countries essential in protecting it. SOSF is now funding a major, two-year collaborative study to ascertain, through the use of satellite telemetry, the range and migratory habits of this second species at various aggregation sites around the world. This has identified a potential third species, off the coast of Mexico, with research currently ongoing.

**Global (Indian, Atlantic, Pacific, Andaman Sea, Gulf of Thailand)**

www.sosf.me/mantarays_mz

# INNOVATIVE TURTLE TRACKING

## SOLAR TECHNOLOGY WINS THE DAY

Innovative solar technology incorporated into satellite tags has greatly reduced their size, so that they can be used for tracking juvenile loggerhead turtles (*Caretta caretta*) as they head into the Atlantic from the Florida coast. A collaboration between scientists at Florida Atlantic University and the National Research Council is filling a critically important gap in our knowledge of the life history of marine turtles – where the juveniles go for the years between them leaving the nesting beach as a hatchling and appearing as adults in coastal waters. Building upon successful pilot studies, ongoing research funded by SOSF is helping to solve the mystery of these missing years. The results will provide key information for turtle conservation.

**USA (Atlantic)**

**www.sosf.me/loggerheads_us**

# DANGER — HEAVY METAL

## SHARK FINNING — A COMPLEMENTARY STRATEGY

From his laboratory at the SOSF Shark Centre at the Nova Southeastern University in Florida, conservation biologist and geneticist Professor Mahmood Shivji has been assessing the frequency, load and species distribution of heavy metals and persistent organic pollutants in market-derived shark fins and other shark products. While there has been anecdotal evidence to suggest that these pollutants occur in shark fins, there were no scientifically peer-reviewed studies to support this. His findings show that 1 in 3 shark fins have dangerously high levels of heavy metals in them, which could pose a serious health risk to humans who regularly consume shark fin soup. SOSF is now funding both the publication of this research and a documentary film to disseminate these findings amongst scientific circles, international health organisations and to the general public. It is hoped that a supporting publicity campaign will help reduce the consumption of – and therefore the demand for – shark fins, which will in turn reduce the unsustainable fishing pressure on these apex predators.

**Global**

www.sosf.me/sharkfins

# POWERFUL CONSERVATION WEAPON

## PHOTOGRAPHY DELIVERS STRIKING MESSAGES

A striking, photographic image has the ability to inspire people to help protect the marine environment. To harness this power, in 2008, SOSF created the world's first dedicated Marine Conservation Photography Unit, led by SOSF Chief Photographer Thomas Peschak. Projects photographed to date include shark fishing in the Indian Ocean, manta ray exploitation in Sri Lanka and South Africa's shark nets. Tom has also documented endangered manatees in remote West Africa, great hammerhead sharks in the Bahamas, whale sharks off Djibouti and Mexico's threatened mangroves. Notable successes in 2009 include a feature story on Maldivian manta rays in *National Geographic Magazine,* the publication of *LOST WORLD* (a book showcasing the marine treasures of Aldabra, a remote Indian Ocean atoll), and exhibitions and presentations around the world at prestigious venues such as the Royal Geographic Society and the World Wilderness Congress.

**Documenting global projects**

www.sosf.me/photos_tp

# PRESERVING GREY REEF SHARKS

## DIVE TOURISM DRIVES CONSERVATION PLANNING

A combination of acoustic tagging and community monitoring has helped researchers, Tova Harel and Mark Meekan, amass a significant amount of data about the grey reef sharks (*Carcharhinus amblyrhynchos*) in Palau, Micronesia. Shark abundance around the Micronesian reefs has made dive tourism both a major employer and contributor to the economy. Understanding the biology of the grey shark population is important to preserve it as a resource for ecotourism and as a keystone species in the reef system. Twenty-nine grey reef sharks have been sonic-tagged with over 130,000 detections, indicating long-term residency, although there are variations in depth distribution and migration. There has also been outstanding community participation with over 1,000 shark count sheets returned by ecotourism operators and an enthusiastic response to a 'Sharks in Schools' outreach project. But undoubtedly the crowning highlight of the year was the designation of the whole of Palau as the world's first national shark sanctuary.

**Micronesia (Pacific)**

www.sosf.me/greyreefsharks_pw

# LIVING WITH WHITE SHARKS

## UNDERSTANDING MEANS PROTECTION

White sharks (*Carcharodon carcharias*) are threatened apex predators listed as 'Vulnerable' on the IUCN Red List of Threatened Species. Yet, information essential to effectively conserve and manage populations such as identification and utilisation of critical habitats remains sparse. The SOSF white shark research project, led by Alison Kock, has determined the year-round presence and seasonal habitat use of white sharks within False Bay, Cape Town, identifying the area as a critical feeding habitat. Fear, misconceptions and myth continue to plague the white shark and hinder conservation efforts. In January 2010 another fatal white shark attack at a popular beach left the community of Cape Town in shock with fresh calls for culling the population. Scientific information continues to be instrumental in formulating effective awareness and safety programmes and preventing knee-jerk reactions to these tragic incidents. Together with graduate student Adrian Hewitt, future work includes studying the poorly known reproductive biology of white sharks.

**South Africa (Atlantic)**

**www.sosf.me/whitesharks_za**

# LOBSTERS GO WILD

**SUCCESSFUL REAR AND RELEASE OF 11,000 JUVENILES**

SOSF supported an innovative programme at the National Lobster Hatchery (NLH) in Cornwall, UK to rear and release over 11,000 juvenile lobsters into local waters, with the active involvement of local fishermen. More recently, it has helped upgrade the educational and visitor facilities for the 44,000 visitors that the NLH attracts each year and create space for interpretative material that will focus on key sustainability issues in fisheries.

**UK (Atlantic)**

www.sosf.me/lobsters_uk

# RAISING AWARENESS ABOUT OCEAN ACIDIFICIATION

## INCREASED $CO_2$ EMISSIONS CAUSE CHEMICAL EROSION

Fieldwork, carried out by Jason Hall-Spencer of the University of Plymouth, using submarine volcanic vents off the coast of southern Italy, that emit large volumes of $CO_2$, has shown that the resulting increase in acidity causes chemical erosion of both the skeletons of corals and the shells of mollusks. A grant from SOSF has been used to publicise these findings, providing "a wake-up call" to alert both government and the general public to the little appreciated problem of the ocean acidification that will occur (in addition to global warming) as a consequence of unabated $CO_2$ emissions.

**Italy (Mediterranean)**

www.sosf.me/oceanph

# TAGGING THE MANATEE

## WEST AFRICAN MANATEE CONSERVATION

SOSF-funded telemetry equipment is being used in fieldwork to assess the population of the little-known West African manatee (*Trichechus senegalensis*) in Gabon. Satellite tags are attached via specially-constructed harness-like belts, with a release mechanism to free the manatee should it become ensnared. The first live-captured manatee in Gabon in December 2009 proved too small for tagging but collected samples and measurements will feed into a database that is being established. Analysis from this and from genetic samples collected locally from carcasses over four years will be carried out by Lucy Keith of the Florida-based Wildlife Trust, as part of her PhD at the University of Florida. She will be returning to the Gabon to collaborate with a team of international researchers and continue with efforts to capture, tag and track the West African manatee. A comprehensive understanding of the behaviour and movement patterns is crucial for the conservation of this species.

**Gabon and Senegal (Atlantic)**

www.sosf.me/manatees_ga

**Image** West Indian Manatee

# MEXICAN WHALE SHARK MYSTERIES

## TAGGING ANALYSIS SHOULD PROVIDE ANSWERS

Since 2002, Deni Ramirez has been studying the life history and migratory behaviour of whale sharks (*Rhincodon typus*) in the Gulf of California, Mexico, as part of her doctoral thesis. With the help of volunteers, photo-identification methods have been used to recognise 106 juveniles and 26 pregnant adults, and also to assess the size of the whale shark population in the Gulf. The destination of juveniles migrating from La Paz Bay, where most have been recorded, remains unknown. However, analysis from two satellite tags deployed in January 2009, with pop-off times of approaching a year, should solve the mystery. An even more intriguing question concerns the migratory routes followed by the pregnant females that aggregate every year in the southern Gulf of California; this is the only aggregation of pregnant females yet known. Four pregnant females were satellite tagged in May 2009, off Espiritu Santo Island, and the results awaited with considerable excitement.

**Mexico (Pacific)**

www.sosf.me/whalesharks_mx

# PROTECTING TURTLE POPULATIONS

## TURTLE RESEARCH SEYCHELLES AND MALAYSIA

Since 2006, Rainer von Brandis has been studying the foraging behaviour of the hawksbill turtle (*Eretmochelys imbricata*) within the coral reef off the island of D'Arros in the Seychelles. He has undertaken some 235 scuba dives to make close observations on the feeding behaviour of juvenile turtles. Rainer's findings indicate that the roles of foraging hawksbills as both consumers and modifiers of the landscape are fundamental in helping maintain the ecological balance of the reef ecosystem. On the Mananani Islands in Borneo, Malaysia, Nicholas Pilcher of MRF is studying the green turtle (*Chelonia mydas*) populations, which have been overexploited and severely impacted through by-catch in fisheries' nets. The Turtle Islands Park in Sabah has established a hatchery, with nearly all locally, wild-laid eggs moved there for protection. However, because of conditions in the hatchery, all the young hatch as females and Nicholas is investigating the factors causing this anomaly.

**Seychelles (Indian Ocean), Malaysia (South China Sea)**

www.sosf.me/hawksbills_sc

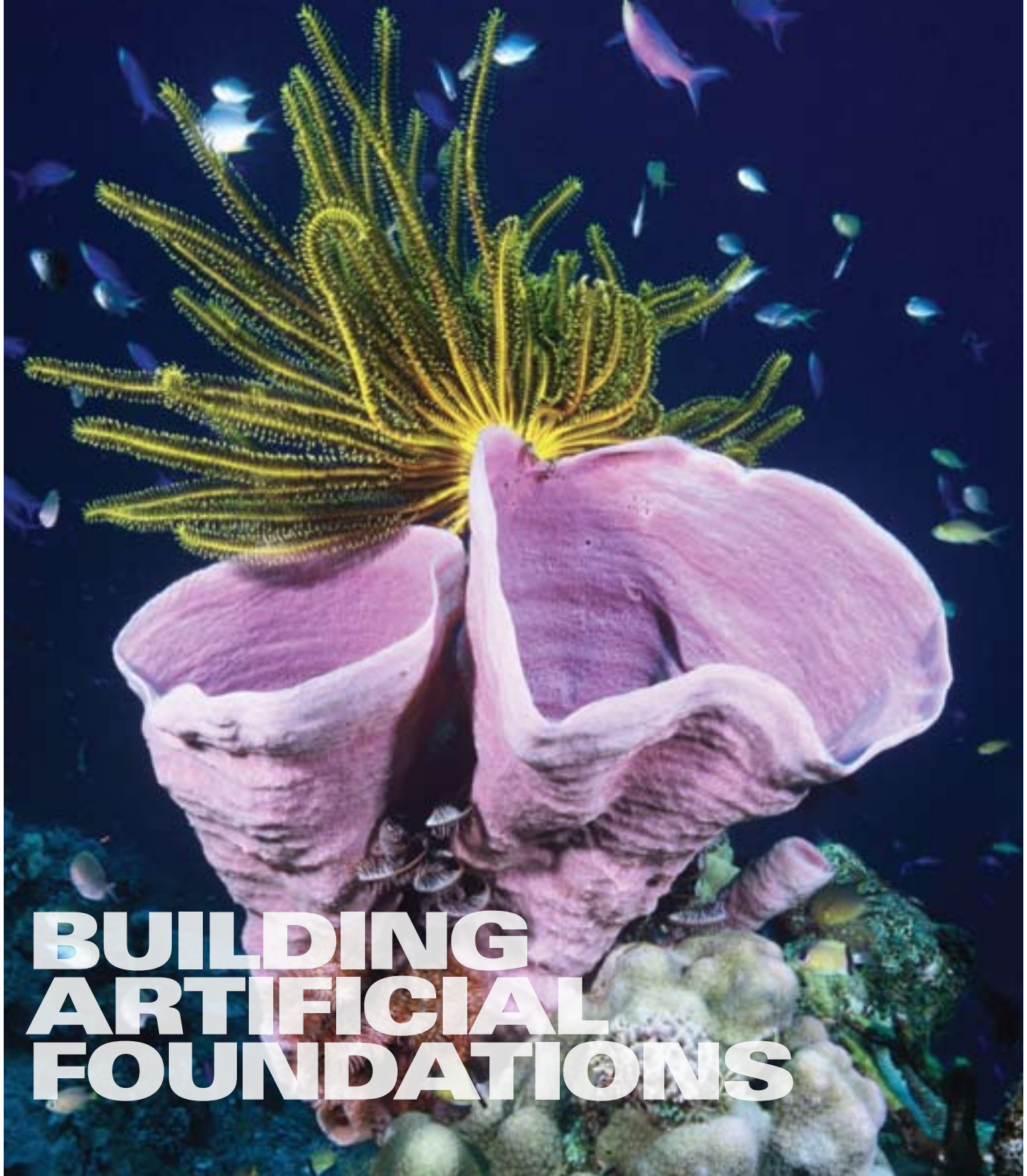
# RETHINK THE SHARK


## CAMPAIGN WINS COVETED PANDA AWARD

The Rethink the Shark campaign and commercials, conceptualised by Saatchi & Saatchi in South Africa, challenge the media-driven public perception of sharks as man-eaters, throwing new light on these key ocean predators. In 2008 SOSF was awarded a coveted Wildscreen Panda Award for Best Campaign film, in 2009 won Best 360 Campaign at the prestigious Jackson Hole Film Festival, and in 2010 is nominated again as a Wildscreen finalist in the Campaign Film category. The campaign's witty series of films have already made an impact on audiences in South Africa and can be seen online and at museums and aquariums worldwide.

**South Africa (Atlantic)**

www.sosf.me/rethinktheshark



# BUILDING ARTIFICIAL FOUNDATIONS

## PRACTICAL SUPPORT FOR ENDANGERED CORAL REEFS

With erosion of coral reefs through global warming and coastal development impacting these fragile ecosystems, SOSF is funding research by Abigail Hine into a sustainable solution to recover coral reefs in the Red Sea waters around Jeddah, Saudi Arabia. Coral fragments are transplanted onto iron structures (coral frames) that are then placed alongside the natural reef, adding to and regenerating the reef area. The first of these artificial reefs was put in place in the Maldives in 2007 and is now being monitored to ascertain the growth and success rates of different species on the coral frames. SOSF is at the forefront of transferring this technology, with the Seychelles the next proposed location.

**Saudi Arabia (Red Sea)**

www.sosf.me/corals_sa

# HALTING SILKY SHARK DECLINE

## SILKY SHARKS IN THE RED SEA

Silky sharks (*Carcharhinus falciformis*) were once one of the most abundant shark species in the world's oceans but, due to commercial fishing, numbers are estimated to have declined by as much as 90%, although little else is known about the species. As part of a larger initiative that aims to establish a marine reserve, Chris Clarke and James Lea of SOSF have been conducting a study of the silky shark in the waters around Jeddah, Saudi Arabia. Using acoustic telemetry and archival tags, they have started to build a picture of the residency patterns and habitat use, including insights into home ranges and seasonal movement patterns. Protection schemes are urgently needed to actively promote the survival of the silky shark. Data on the behavioral ecology and population dynamics from this – and ongoing – research will play a vital role in developing informed management programmes.

**Saudi Arabia (Red Sea)**

www.sosf.me/silkysharks_sa

# BASKING SHARKS ABROAD

## COLLABORATION ON MIGRATING POPULATIONS

A study, led by Dr Mauvis Gore, focusing on the behaviour and movements of the basking shark (*Cetorhinus maximus*) population, off the west coast of Scotland, has shown their hitherto unknown migration across the Atlantic ocean to Canada as well as along regional, coastal shelves. This has serious impacts on global species conservation and management. In 2009, SOSF was co-sponsor of the Basking Shark Conference with a global network of scientists agreeing co-operation on monitoring migration patterns and sampling of the species. As a result, and with co-funding from SOSF, a community project is undertaking photo and genetic identification to determine the size, structure and trends of the basking shark population in the north-east Atlantic region.

**Global (Atlantic)**

www.sosf.me/baskingsharks_uk

# TRACKING MIGRATING GIANTS

## WHALE SHARKS IN THE SEYCHELLES AND BEYOND

Everything about the whale shark (*Rhincodon typus*) is impressive: the largest fish in the sea, growing up to 20 metres long and weighing up to 30 tons; diving to depths of over 1,000 metres; migrating distances in excess of 3,600km. However, data on whale shark movements have been difficult to obtain with conventional tagging methods proving unsuccessful or impractical: restraining a whale shark to attach a satellite tag is problematic. In the Seychelles, which has a large returning whale shark population, Dr David Rowat of the Marine Conservation Society Seychelles has been collaborating on the development of a robust dorsal fin tag, that can be attached without immobilising the shark. Positive progress has already been made and field tests are ongoing.
As international concern for effective conservation and management increases, this new tagging system will help provide accurate information about the migration routes of this vulnerable giant.

**Seychelles (Indian Ocean)**

www.sosf.me/whalesharks_sc

# COOL SEAS ROADSHOW

**LIFE-SIZE MARINE CREATURES ON TOUR**

With support from SOSF and partners, the Marine Conservation Society's Cool Seas Roadshow has toured primary schools and public events in the UK and the Isle of Man since April 2009. Thousands of school pupils have been treated to presenter Andy Starbuck's marine conservation workshops and his life-size, life-like inflatable whales, dolphins, sharks, seals and leatherback turtles. The roadshow also made a successful tour of schools in Sri Lanka and a complementary Coral Seas Road Show is now planned which will tour three or more countries each year.

**UK (Atlantic), Isle of Man (Irish Sea)**

www.sosf.me/roadshow_uk

# DETERMINING THE LIFE CYCLE OF BULL SHARKS

## MYSTERY OF THE DISAPPEARING SHARK

Tagging of bull sharks (*Carcharhinus leucas*) has helped to reveal and protect their habitats in the coastal waters of the Bahamas and Fiji. In 2009, this was extended to the exploration of reported shark occurrence in Fijian rivers. Ongoing studies into the presence/absence patterns at the Shark Reef Marine Reserve and the confirmation and identification of nursery grounds will help to lay the foundation for conservation measures that cover the whole life-cycle of this species. This work carried out by Dr Juerg Brunnschweiler, supported by the SOSF team, was instrumental in establishing the Shark Reef Marine Reserve, which has been a no-take zone since 2007.

**Fiji (South Pacific), Bahamas (Caribbean Seas/Atlantic)**

www.sosf.me/bullsharks_fj

# OUR PROJECTS AROUND THE WORLD

AUSTRALIA
BAHAMAS
BRAZIL
BRITISH INDIAN OCEAN TERRITORY
CANADA
CAYMAN ISLANDS
CHINA
COSTA RICA
DJIBOUTI
ECUADOR
EUROPE
FIJI
GABON
GREENLAND
INDONESIA
IRELAND
ISLE OF MAN
ITALY
KENYA
MALAYSIA
MALDIVES
MEXICO
MICRONESIA
MOZAMBIQUE
OMAN
PHILIPPINES
SAUDI ARABIA
SEYCHELLES
SOUTH AFRICA
SPAIN AND PORTUGAL
SUDAN
SWITZERLAND
UNITED ARAB EMIRATES
UK
USA
GLOBAL

## SOSF AROUND THE WORLD

**Geneva, Switzerland**
Geneva is the original headquarters of SOSF. It is the legal and accounting base from where the organisation's international operations are monitored.

**Jeddah, Saudi Arabia**
Our marine research facility, where our research and conservation activities are administered for the Red Sea.

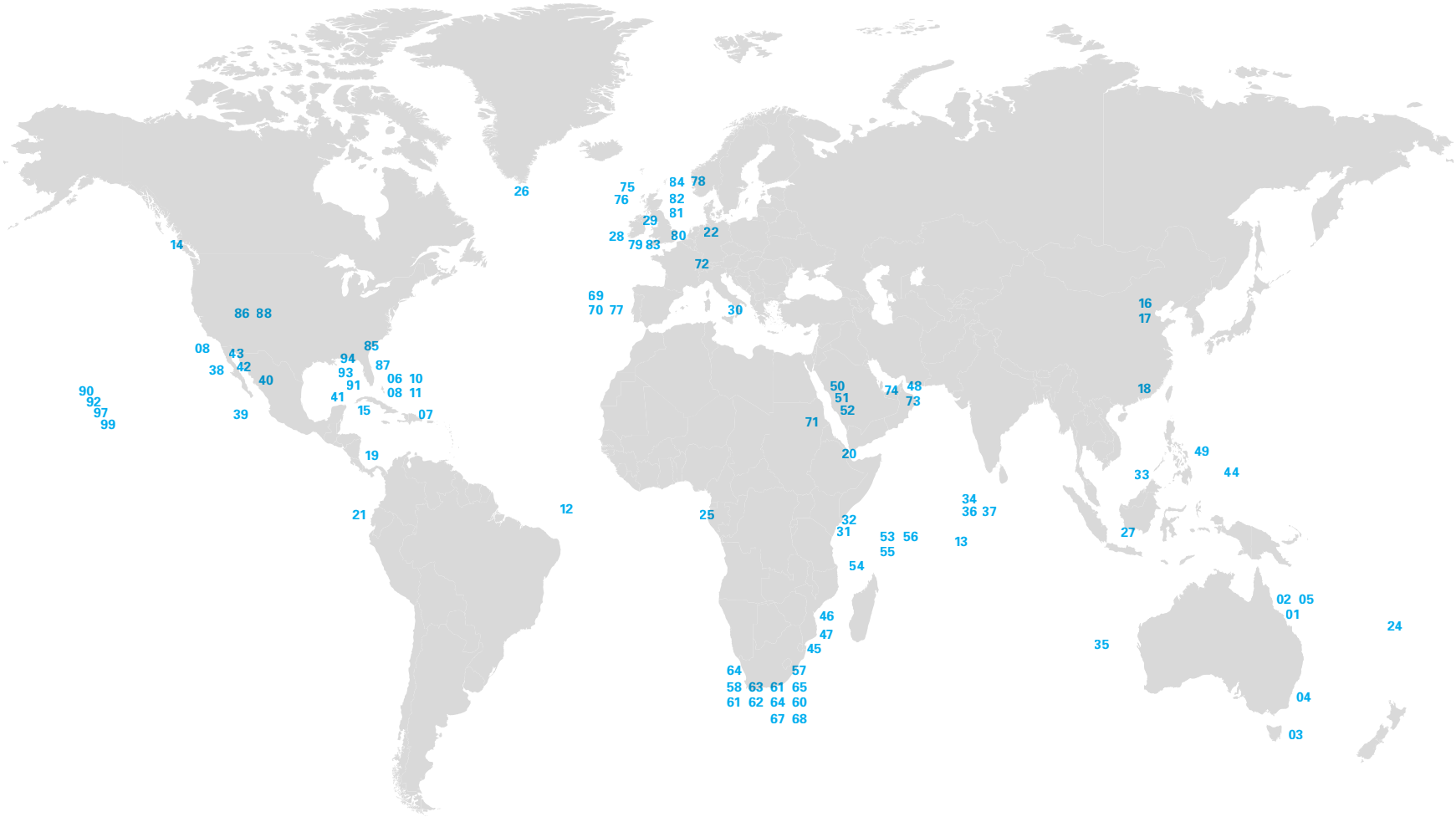
**Dubai, UAE**
Dubai is our co-ordination centre for international projects and awareness campaigns.

**Edinburgh, UK**
Our Chief Scientific Officer administers and supervises research projects and monitors their progress.

**Cape Town, RSA**
Our shark visitor centre provides Research, Education and Awareness programmes for the local schools and the general public.

**Florida, USA**
SOSF-US, a non-profit subsidiary of SOSF, located at Nova Southeastern University, Florida provides a research base and co-ordination centre for our US fundraising activities.

**Mahe, Seychelles**
Provides local school children and visiting tourists with marine education workshops and conservation activities.




– 126 species of shark and rays are now listed as threatened by the IUCN's Red List
– 76% of the world's fish stocks are already fully exploited or overfished
– The ocean's acidity has increased by 30% since 1750
– The hammerhead shark population in the north-east Atlantic has declined by 89% in the past 20 years due to bycatch
– Up to 73 million sharks are killed each year to supply global fin trade
– 33% of coral species are listed as threatened on the IUCN Red List
– An estimated 300,000 cetaceans (dolphins, whales and porpoises) are killed each year as bycatch

## AUSTRALIA

**01 Protecting large ray species** The giant shovelnose ray (*Glaucostegus typus*), whitespot guitarfish (*Rhynchobatus australiae*) and narrow sawfish (*Anoxypristis cuspidate*) are found in tropical regions throughout the Indo-Pacific and highly valued for their flesh and fins. This study of their long-term movement and residency will provide valuable data for conservation action.

**02 Relieving stress in elasmobranchs** SOSF has funded ground-breaking research into the development of techniques to alleviate stress and improve post-release survival in sharks, rays and skates caught for recreation or research.

**03 Sevengill shark in Tasmania** This PhD study, financed by SOSF, has been exploring the interaction of the sevengill shark (*Notorynchus cepedianus*) with the fisheries in the Tasmanian inshore ecosystem.

**04 Juvenile white shark** Research on juvenile white sharks (*Charcharodon carcharias*), off the coast of eastern Australia, to ascertain population size, habitat and movement patterns, is providing new knowledge to alleviate the concerns of the public media and policy makers.

**05 Sharks International 2010** SOSF was a major sponsor of the first truly global shark conference held in June 2010 in Cairns, Queensland, Australia and attended by over 200 scientists. The meeting demonstrated how new technologies, including satellite-based location-tracking tags, acoustic pingers and DNA sequencing, have been used to reveal surprising new insights into the migration patterns, ranging behaviour, reproductive biology and population structures of many of the larger species of shark and ray.

## BAHAMAS

**06 Bull sharks in the Bahamas and Fiji** Tagging of bull sharks (*Carcharhinus leucas*) has helped to reveal and protect their breeding grounds in the coastal waters of the Bahamas and Fiji. In 2009, this work was extended to the exploration of traditional and local ecological knowledge, in order to obtain information on bull shark breeding in Fijian rivers.

**07 Impacts of catch-and release angling** With the rise of recreational angling, assessing how much the physiological stress of capture affects post-release mortality rates of sharks is vitally important to future regulation of increasingly popular fishing tournaments.

**08 New techniques for shark surveying** Cape Eleuthera Institute in the Bahamas was the research base for an SOSF-funded project into non-invasive methods of assessing shark populations.

**09 Sharks Up Close** SOSF has sponsored a second film from award-winning film maker, Michael Wham. *Sharks Up Close* was filmed during an expedition to San Diego to dive with mako sharks.

**10 Spotlight on Caribbean reef sharks** An SOSF-supported study into the Caribbean reef shark (*Carcharhinus perezi*) population off the coast of Cape Eleuthera will shed light on the variations in abundance and migration of this economically and ecologically significant shark species.

**11 Studying mantas under glass** Complementing SOSF manta research around the world, this project focuses on the sensory, learning and cognitive abilities of giant manta rays (*Manta birostris*), which will be studied in the controlled environment of the Atlantis Aquarium in Nassau, Bahamas.

## BRAZIL

**12 Profiling whale sharks in the St Peter and St Paul Archipelago** SOSF funding has helped obtain information and define a conservation plan for whale sharks (*Rhincodon typus*) occurring in the waters around this group of islands off the coast of Brazil.

## BRITISH INDIAN OCEAN TERRITORY

**13 Managing environmental threats** Lying in the central Indian Ocean, the Chagos Archipelago is one of the world's few remaining pristine marine environments making it an ideal 'clean' control site for earth system science and regional conservation. SOSF is funding research into threats to the reef – and the wider global implications – posed by persistent organic pollutants in our oceans. The Archipelago was designated the world's largest marine reserve in April 2010.

## CANADA

**14 Happy hearts love sharks** SOSF has sponsored a novel approach to reducing shark finning. Shark Truth is a Chinese community campaign group in Vancouver (which has the second largest Chinese community in North America). It is targeting wedding couples to Stop the Soup since shark fin soup is popularly served at wedding banquets.

## CAYMAN ISLANDS

**15 Conflicting tourism needs** This SOSF-supported study investigates the movement of reef shark species around the Cayman Islands and the possible effects that shark-watching tourism may have on other already popular marine activities, including snorkelling with large rays at Sting Ray City.

## CHINA

**16 SOSF on Chinese television** China is the biggest consumer of shark-fin products. An SOSF television special, co-produced with WildAid to highlight the need for shark conservation, reached an audience of some 200 million people.

**17 High profile anti-finning campaign** Following the success of WildAid's campaign in Beijing during the Olympics to publicise and change perceptions about eating shark-fin soup, SOSF is continuing its support for a campaign that uses sporting celebrities and heroes as advocates for this message.

**18 Methylmercury poison in shark fins** Research carried out by WildAid has confirmed that methylmercury in shark fins exceeds accepted safety levels. SOSF funded a booklet and poster campaign: 'In the Soup – how mercury poisons the fish we eat' to help raise awareness and, at the same time, help reduce shark finning.

## COSTA RICA

**19 Protecting hammerhead sharks in Costa Rica** Providing a patrol boat for the Cocos Island National Park, a world heritage site off the coast of Costa Rica, has helped protect the famous aggregations of scalloped hammerhead sharks (*Sphyrna lewini*) that occur there.

## DJIBOUTI

**20 Population planning for whale sharks** Whale sharks (*Rhincodon typus*) appear to form a single, interbreeding population within the Indian Ocean, yet adults do not seem to move bewteen regions and little is known about where they breed. This SOSF project is cataloguing the individual juveniles that occur in the Gulf of Tadjoura, the only Indian Ocean location at which an aggregation of juveniles occur.

## ECUADOR

**21 Project Elasmo at Isla de la Plata** Further to a successful baseline study on a population of manta rays (*Manta birostris*) frequenting the Isla de la Plata in coastal Ecuador, SOSF is supporting the ongoing 'Project Elasmo': measuring plankton type, presence and densities in the area, analysing current data and continuing manta identification.

## EUROPE

**22 Improving water quality in Europe** SOSF commissioned an indepth study of experimental research into the use of cultured bivalves as biofilters for improving water quality with a view to possibly funding further research.

**23 Supporting European Shark Week** In 2009 and 2010, SOSF has been the major sponsor of European Shark Week, which with the Pew Foundation engages tens of thousands of EU citizens in generating support for shark conservation with over 200 events held across Germany, UK, Netherlands, Sweden, France, Spain, Portugal and other European countries.

## FIJI

**24 Bull sharks in the Bahamas and Fiji** Tagging of bull sharks (*Carcharhinus leucas*) has helped to reveal and protect their habitats in the coastal waters of the Bahamas and Fiji. In 2009, this work was extended to the exploration of traditional and local ecological knowledge, in order to obtain information on bull shark breeding in Fijian rivers.

## GABON

**25 West African manatee conservation** SOSF is funding fieldwork to assess the population of the West African manatee (*Trichechus senegalensis*) in Gabon and, using satellite tags, to study their movement between feeding grounds.

## GREENLAND

**26 Conservation of the Greenland shark** SOSF has sponsored a study into the biology of the Greenland shark (*Somniosus microcephalus*) and its potential key role in the polar ecosystem. Fishing pressure and ignorance of its basic natural history threaten the long-term viability of this long-lived (150+ years) Arctic shark.

## INDONESIA

**27 Documenting manta ray fisheries** Work in Indonesia, Thailand and the Philippines has recorded the growth of targeted fisheries for manta rays, pursued for the sake of their gills. The data has enabled us to understand the reproductive parameters of *Manta birostris*, the larger species of manta that has recently been identified.

## IRELAND

**28 Grey seals in Ireland** SOSF supported the adaptation of this award-winning film for children. It tells the story of a seal colony on Blasket Island off the Dingle Peninsula in south-west Ireland.

## ISLE OF MAN

**29 Basking Shark Conference** SOSF was co-sponsor with the Manx government of this gathering in 2009 of scientists who met to describe their research in parts of the world as far apart as Canada and New Zealand, and agree co-operation on monitoring the abundance, migration patterns and genetic relatedness of the basking shark (*Cetorhinus maximus*).

## ITALY

**30 Raising concern about ocean acidification** Fieldwork around submarine volcanic vents off the coast of southern Italy, that emit large volumes of $CO_2$, has shown that increased acidity of sea water causes chemical erosion of coral skeletons and mollusc shells. A grant from SOSF has been used to raise public and political awareness of this tangible proof that acidification linked to global $CO_2$ emissions presents a major threat to the health of our seas.

## KENYA

**31 Kenya Sea Turtle Conservation Committee (KESCOM)** A grant from SOSF enabled KESCOM to visit existing turtle conservation groups and establish six new groups. Public awareness and environmental education events were also held in four villages and 13 schools.

**32 Watamu Turtle Watch** In the north coast resort of Watamu, grants from SOSF are being used to develop a highly successful education and outreach programme linked to work to release turtles caught accidentally in fishing nets. As a result, last year over 900 sea turtles were rescued and released back into the ocean.

## MALAYSIA

**33 The turtle farm problem** SOSF is funding an investigation into the problem that, as elsewhere, only females are produced at the hatchery for green turtles (*Chelonia mydas*) at Turtle Islands Park in Sabah, Borneo. The fieldwork is being carried out on the Mananani Islands and requires the capture and medical examination of free-living juvenile turtles once they are old enough for their sex to be determined.

## MALDIVES

**34 Artificial reefs success** To date artificial reefs have had limited success, but in the Maldives coral fragments have been transplanted onto iron frames that are then placed to assist regeneration of damaged reef areas. The first of these artificial reefs was put in place in 2007. Subsequently SOSF has funded monitoring to help ascertain the growth and success rates of different species. Work is also in hand, transferring this technology to coral reefs near Jeddah, Saudi Arabia.

**35 Population links of Indian Ocean whale sharks** This SOSF-funded study will take a holistic, multi-disciplinary approach by combining tagging and photo-identification of whale shark (*Rhincodon typus*) from populations across the Indian Ocean with genetic studies of their copepod parasites. This work will help determine the extent of connectivity betweeen different populations and hence the corresponding scale of management activity needed for the protection of this species.

**36 Manta rays in the Maldives** SOSF's five-year funding of detailed research has contributed to the understanding of the manta ray (*Manta alfredi*) 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 Maldivian government has recently announced three new marine protection areas for mantas and whale sharks.

**37 Indian Ocean Cetacean Symposium** This symposium to mark the 30th anniversary of the establishment of the International Whaling Commission's Indian Ocean Sanctuary was sponsored by SOSF. It showcased the quality cetacean scientific research that has been – and is continuing to be – carried out across the area.

## MEXICO

**38 Fishery management in US-Mexican waters** SOSF funding is supporting binational research to augment fisheries management in US and Mexican waters around the South California Bight. The results will help sustain both commercial and recreational fishing, and in particular conserve shark populations.

**39 Giant manta ray migration in Mexico** SOSF has supported research trips to satellite tag and collect DNA samples from the giant manta ray (*Manta birostris*) that frequent remote islands off the Pacific coast of Mexico.

**40 Saving the turtle dance** Turtle Dance, an SOSF-sponsored film that tells the extraordinary story of the rare Kemp's Ridley (*Lepidochelys kempi*) sea turtle and of a US/Mexican partnership established to protect it, was premiered in 2008.

**41 Whale sharks of Holbox** Teenage filmmaker, Michael Wham is already winning awards for his cinematography, including the SOSF-funded Whale sharks of Holbox, filmed at the largest known whale shark aggregation site in the world off the Yucatan coast of Mexico.

**42 Whale sharks in the Sea of Cortez** An ongoing study of whale sharks (*Rhincodon typus*) in the Gulf of California. This project has investigated population structure and migration using genetics, photo-ID and satellite tagging. The latest phase of the study is focusing on the behaviour of the pregnant females, this being the only aggregation site in the world where they are known to occur. The information is key to the management of the species and associated tourism.

**43 The biggest creature on earth,** SOSF has supported research into blue whales (*Balaenoptera musculus*), the biggest animal ever to have existed on the planet. Carried out in the Gulf of California by the Interdisciplinary Science Center in La Paz, Mexico, the project involved individual identification and monitoring of the growth and survival of mothers and young, in the only known nursery area for the species in the north-east Pacific.

## MICRONESIA

**44 Conservation of sharks in Micronesia** Through sonic tagging and a community monitoring programme, a great deal has been learnt about the migration patterns and population status of grey reef sharks (*Carcharhinus amblyrhynchos*) in Palau, Micronesia. This no doubt contributed to Palau being designated the world's first national shark sanctuary in 2009.

## MOZAMBIQUE

**45 Indo-Pacific humpback dolphins** SOSF supported research monitored the population and behaviour of these rare dolphins (*Sousa chinensis*) that inhabit the waters around Inhaca Island, Mozambique.

**46 Manta rays in Mozambique** A five-year doctoral study, funded by SOSF, exploring the population dynamics and reproductive behaviour of manta rays off the coast of Mozambique has identified a second, previously unknown, larger oceanic species of manta (*Manta birostris*). SOSF is currently funding a further collaborative study to ascertain the range and migratory habits of this second species.

**47 Whale sharks of Mozambique** A long-term study of the residency patterns, feeding ecology, migratory linkages and conservation requirements of whale sharks (*Rhincodon typus*) in Mozambican waters.

## OMAN

**48 Protecting sharks and turtles** Financial support from SOSF is permitting monitoring of the populations of elasmobranchs and turtles within Oman's Daymaniyat Islands Nature Reserve. In addition to using remote underwater video to record shark abundance, pioneering use of stereoscopic images is facilitating size estimation of individuals. The results will facilitate resource management within the reserve.

## THE PHILIPPINES

**49 Global study of giant manta migration** Newly distinguished giant mantas (*Manta birostris*) are being satellite-tagged and photo-identified at sites in the Phillipines, Thailand and Brazil to understand the global migratory patterns of this iconic species.

## SAUDI ARABIA

**50 Restoring Red Sea reefs** SOSF is at the forefront of an exciting project to regenerate coral communities on reefs around Jeddah. Coral fragments are transplanted onto iron frames that are then placed on the natural reef, adding new corals and so aiding recovery. This furthers similar work begun in the Maldives in 2007 where monitoring of the fragments is helping to establish the growth and success rates of different species.

**51 Creating a protected marine area** Measures have been taken to create a natural reserve in the Red Sea, off the coast of Jeddah, Saudi Arabia, in order to protect reef fauna and flora, including the corals and reef fish.

**52 Silky shark in Saudi Arabia** SOSF has been undertaking (in conjunction with London University) a long-term study into the residency patterns, foraging behaviour and population dynamics of the silky shark (*Carcharhinus falciformis*), which very unusually occurs in reef areas.

## SEYCHELLES

**53 Key role of Hawksbill turtles** A study on D'Arros Island over the last four years of the feeding behaviour of juvenile Hawksbill turtles (*Eretmochelys imbricata*) has helped to demonstrate the key role that this species plays in maintaing the ecological balance of Indian Ocean coral communities offshore. SOSF funded the purchase of underwater photographic equipment necessary to document the final data collection phase.

**54 The lost world of Aldabra** In his book *Lost world – the marine realm of Aldabra and the Seychelles,* SOSF photographer Thomas Peschak records the beauty of this remote atoll that provides sanctuary for many unique animals.

**55 Whale sharks in the Seychelles** This long-term study of the occurrence, behaviour and conservation biology of whale shark (*Rhincodon typus*) in Seychelles waters is also developing and testing new satellite tagging techniques.

**56 Restoration and public awareness of coral communities** A new project will look at the feasibility of applying reef restoration techniques to sites around Mahe and using this work as a focus for environmental education about the biology of corals.

## SOUTH AFRICA

**57 Beach clean-up collaboration** SOSF is working in partnership with environmental agencies and local companies to encourage school children to help clean rivers, canals and beaches.

**58 Behavioural ecology of great white sharks** SOSF's Shark Centre at Kalk Bay near Cape Town has been undertaking a long-term collaborative study into the foraging and ranging behaviour of this iconic species. Work will quantify reproductively related steroid hormones as a means to understanding the species reproductive cycle.

**59 Envirokids gets the message across** SOSF contributed to the publication of a junior environmental magazine, *Envirokids*, that has been promoting environmental awareness to children for over 35 years.

**60 Releasing Maxine** Maxine, a ragged tooth shark (*Carcharias taurus*), held in the Two Oceans Aquarium in South Africa, was satellite-tagged and released into the sea in 2004. Her journey back into the wild was told in a documentary sponsored by SOSF and also led to the establishment of the Maxine Science, Education & Awareness Project (M-Sea), aimed at educating children about the challenges facing marine life.

**61 SOSF Shark Centre** The SOSF Shark Centre at Faulk Bay near Cape Town, opened in 2008 while undertaking and encouraging scientific research, on threatened species, it is also promoting environmental education and awareness programmes that target surfers, fishers and in particular children.

**62 Sharker Spotters at large** SOSF is co-sponsoring, with the City of Cape Town, a pioneering shark safety programme that is already proving successful and attracting attention locally and internationally as it seeks to find a solution to potential conflicts between people and sharks.

**63 Sharkworld at the South African Museum of Natural History** SOSF has sponsored Sharkworld, a modern new gallery and audio visual theatre at the South African Museum of Natural History in Cape Town.

**64 Targeting the surfing community** SOSF sponsored the 2008 and 2009 Wavescape Surfing Film Festival in South Africa in a partnership that has proved invaluable in reaching over four million people with films and materials promoting shark conservation.

**65 Tiger sharks in Kwazulu-Natal** A study undertaken at Aliwal Shoals south of Durban has led to a better understanding of the behaviour, movements and residency patterns of tiger sharks, (*Galeocerdo cuvier*), along this part of the African coast.

**66 Out of their comfort zone?** Zambezi (bull) sharks (*Carcharodon leucas*) discovered in the temperate Breede River estuary on the southwest coast of South Africa – more than 300km outside their known range – prompted SOSF to establish a funded project to identify reasons for this shift in distribution and determine the population structure in this new location.

**67 Nicole, in the surf is my turf** This SOSF-funded children's book chronicles a day in the life of Nicole, a great white shark (*Carcharodon carcharias*). The book is aimed at young children as part of the white shark education and awareness campaigns at the SOSF Shark Centre in Cape Town.

**68 Photo-identification of sevengill sharks** In collaboration with the University of Cape Town and Shark Explorers, it was determined that the black and white spot pattern on the dorsal surface of sevengill sharks (*Notorynchus cepedianus*) can be used to reliably identify individuals. So far 161 individual sevengills have been identified in the Table Mountain National Park.

## SPAIN AND PORTUGAL

**69 Shortfin mako shark in the Atlantic** The detailed distribution and habitat use of the increasingly threatened shortfin mako shark (*Isurus oxyrinchus*) is being investigated in relation to long-lining and gillnetting operations off the coasts of Spain and Portugal.

**70 Blue sharks in the north-east Atlantic** A three-year study into blue shark (*Prionace glauca*) movements in the Atlantic from 2006-09 using pioneering telemetry has identified migration routes, feeding areas and philopatric behaviour. New research is tracking the destination of pregnant females.

## SUDAN

**71 Reef health and shark abundance** As part of IUCN's Red Sea Marine Program, SOSF is funding a detailed survey of reefs, designed both to assess the health and resilience of coral communities, and the status of existing shark populations.

## SWITZERLAND

**72 IUCN Specialist Shark Group** SOSF supported the development of a new website and publication of a major report, revising IUCN's Red List for sharks, from the IUCN Specialist Shark Group, the world's most influential network of shark specialists.

## UNITED ARAB EMIRATES

**73 First Arabian Seas Whale Shark Symposium** SOSF was the primary sponsor of this symposium and workshop, held in 2009 as part of the SharkQuest Arabia Initiative.

**74 The Dugongs of Abu Dhabi** An award-winning film, *The Dugongs of Abu Dhabi*, showcases steps taken in the UAE to preserve the key population of dugongs (*Dugong dugon*) that occurs there and the seagrass beds on which it feeds.

## UK

**75 Basking shark conservation** A long-term study, focusing on basking shark (*Cetorhinus maximus*) 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 is providing key information for global species conservation and management.

**76 Basking shark community project** As a result of the Basking Shark Conference held in 2009, SOSF is now co-funding research by a network of four teams from the UK and Ireland; they will use photo and genetic identification to determine the size, structure and trends of the basking shark (*Cetorhinus maximus*) population in the north-east Atlantic region.

**77 Blue sharks in the north-east Atlantic** A three-year study into blue shark (*Prionace glauca*) movements in the Atlantic from 2006-09 using pioneering telemetry has identified migration routes, feeding areas and philopatric behaviour. New research is tracking the destination of pregnant females.

**78 Be WiSe at sea** SOSF has funded the production of a DVD by WiSe (Wildlife Safe) to raise awareness among boat users on how to safely watch and approach 'mega' marine life such as whales, seals, dolphins and basking sharks without harassing them or breaking the law.

**79 Lobsters go wild in Cornwall** SOSF assisted an innovative programme at the National Lobster Hatchery (NLH) in Cornwall, UK to rear and release over 11,000 juvenile lobsters to the local environment, with the active involvement of local fishermen. More recently, it is helping upgrade the educational and visitor facilities for the 44,000 visitors that the NLH attracts each year.

**80 Partnership with the London Aquarium** SOSF has established a mutually beneficial relationship with the London Aquarium, using it as a highly effective showcase for educational displays and videos, as a channel for SOSF literature, and included the support of European Shark Week 2008.

**81 Small Talk Reef** As part of its education programme, SOSF is funding this children's television series. The award-winning format will use underwater macro-photography and computer animation to feature the lives of the reef's most charismatic creatures.

**82 The Great Eggcase Hunt** Since 2003 The Great Eggcase Hunt, a Shark Trust initiative, has been engaging the public in hunting for spent shark, skate and ray eggcases which wash-up along the UK coastline throughout the year. A grant from SOSF will enable the Trust to build on the success of this project, and publicise their six-year findings.

**83 Wonderful World of Water** *Princess of the Seashore*, set in Cornwall, is the first in series of edutainment story books that aims to tell children and their parents about the amazing creatures found in and around water all over the world.

**84 Travelling with the Cool Seas Roadshow** SOSF is funding the Marine Conservation Society in an innovative educational initiative that is touring the UK to introduce schools and the wider public to the largest of the Atlantic Oceans inhabitants and the threats that they face.

## USA

**85 Discouraging shark fin consumption** SOSF funded research is confirming and raising awareness about the possible health risks associated with shark fin consumption due to accumulation within shark tissues of heavy metals, such as mercury and cadmium.

**86 Bringing the ocean to the land** SOSF is continuing its sponsorship of the series of Riddle in a Bottle films produced by the brother and sister film makers SisBro in order to bring an appreciation of the ocean to the children of the landlocked mid-west regions of the USA. Their latest production will be released in summer 2010 – *The Riddle Solvers: The Shark Riddle*.

**87 Sea Angels Conservation Initiative** Angels of the Sea was set up to support and educate women anglers in the USA and has been a huge success. SOSF is funding a new initiative to increase awareness and provide conservation education for female marine enthusiasts – an extremely influential group – via a website and community initiatives.

**88 Dive into your imagination** This series of interactive DVDs uses actual footage of marine animals to educate and entertain children about the colourful creatures in the oceans.

**89 Ground-breaking tracking techniques** Innovative solar technology incorporated into satellite tags has greatly reduced their size so that they can be used for tracking the movements of juvenile loggerhead turtles (*Caretta caretta*). Very little is known about the early life histories of any sea turtle species, but collaboration between Florida Atlantic and Miami Universities is filling in the knowledge gaps and will greatly assist in the species conservation.

**90 Preserving the Polynesian way of life** On the island of Kauai in Hawaii, SOSF has supported the creation of a marine protected area, harmonising the needs of the local community and a thriving tourist industry with the protection of the coral reefs and a number of endangered species.

**91 Producing OCEAN for USA audiences** SOSF funded the production of a pilot for a new USA television series aiming to combine the thrills of ocean life with an honest assessment of both contemporary challenges and solutions.

**92 Reducing sea turtle bycatch** With six of seven recorded species of marine turtle on the Red List of Threatened Species, SOSF was pleased to be one of the sponsors of an IUCN workshop in Hawaii that focused on reducing turtle bycatch in coastal and pound net fisheries.

**93 SOSF Shark Center USA** The SOSF Shark Center based at Nova Southeastern Univeristy in Fort Lauderdale, Florida is mainly focussed on groundbreaking research into shark DNA sequencing and pollutant analysis. Work there has demonstrated significant genetic differences between sharks in different ocean areas hitherto thought to be of the same species. It has also facilitated the identification of isolated fins recovered from the shark fin trade. It also acts as a physical base for SOSF's operations in the US.

**94 Siren Song – Manatees in Peril** SOSF sponsored an award-winning film, *Siren Song: Manatees in Peril*, produced in English and Spanish, to raise awareness of the plight of the manatee (*Trichechus manatus*) in Florida.

**95 The Wild Classroom** SOSF funded the production of a series of short videos for The Wild Classroom, a website aimed at inspiring young people to become passionate protectors of the oceans.

**96 Turtle: The Incredible Journey** SOSF was the chosen charity for a 2009 film documenting the life of a loggerhead turtle (*Caretta caretta*), released at the Berlin Film Festival.

**97 International White Shark Symposium** SOSF co-sponsored a dedicated symposium to determine future priorities for research and conservation of the white shark (*Carcharodon carcharias*). Over 100 scientists, managers and environmentalists gathered in Hawaii in February 2010 and a dedicated report of the proceedings will be published.

**98 Partnering with the Smithsonian** SOSF has partnered with the Smithsonian Institute on the development of their new, award winning website, the Ocean Portal.

## GLOBAL

**Naked Oceans** Capitalising on the success of an existing Cambridge University initiative called Naked Scientists, SOSF is financing Naked Oceans, a series of radio programmes. Broadcasting to over 15 million people per week, this will cover marine science and conservation, using radio, the internet, podcasts and live discussions and demonstrations to reach a global audience.

**Care for Corals campaign** Raising awareness that corals are living entities that shelter marine life and protect coastlines across the tropics, this campaign is encapsulated in an SOSF DVD called *Coral reefs: living cities of the sea*. It has been produced with sub titles in Afrikaans, Arabic, French, German, Italian and Russian, along with a supporting leaflet and poster.

**EDGE Sharks** Launched in 2007, the Zoological Society of London's (ZSL) EDGE of Existence programme is the only global initiative to focus on the conservation of those threatened species that incorporate the greatest genetic diversity. With funding from SOSF and in collaboration with the IUCN Shark Specialist Group, EDGE Sharks will identify the world's 100 most evolutionarily distinctive and globally endangered sharks, before creating a shortlist of 10 for priority conservation action.

**Sharks fingerprinting for conservation** SOSF is supporting a large-scale five-year project to identify the DNA fingerprints of all shark species and provide information about their global population genetic structures. This will provide a powerful tool that can be used to monitor and deter illegal fishing and trading.

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## SOSF TEAM

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# CHANGING THE FUTURE NOW

**At SOSF, we firmly believe that through research and education – by sharing knowledge – we can help determine the future of the earth's seas and oceans. Working with communities across the world, we have already begun to show how small actions can make a difference in the conservation and preservation of marine life, with positive results for the economy and well-being of local culture and industry.**

01 Research is helping us gain more knowledge and be better able to protect the marine world.

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Knowledge is power and the general public have the ability to be the biggest conservationists out there. Equipping people with the information to see the connection – that rivers, waterways and drainage systems eventually wash into the sea – helps them to take responsibility for their part in the process. There is evidence that people don't generally worry about the things they can't see. Through SOSF's campaigns to raise awareness and the astonishing films of our work in far-flung corners of the globe, often hundreds of feet below the surface, we are able to show people both the wonders of the marine world and the awful practices carried out within it.

There is a danger that, overwhelmed by the seeming scale of the problem that we are facing, inertia is the natural response. But these are threats – not promises of things to come – and we can all actively influence the actual outcome by the actions that we take now.

It is time to face up to the stark realities of our dying oceans but also take hope in the fact that flourishing life can be restored into them if focused and consistent action is taken urgently – the rebalancing of biodiversity can reverse and rejuvenate these degraded environments. By changing public perceptions, we are able to create a new reality for the planet's marine species and the oceans that they live in.

01 Capturing the wonders of the underwater world on camera enables better understanding of conservation issues.
02 Oceans teaming with fish will be a thing of the past without positive action.

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# FUNDING THE WORK OF SOSF

**SOSF is unique in that its operational and administration costs are completely supported by a private fund. Any and all donations received will directly support worthy projects and marine conservation initiatives around the world.**

Our website **www.saveourseas.com** contains a wealth of information about the work of SOSF: reports on our scientific successes; insights from the blogs of researchers out in the field; extraordinary footage from the depths of the oceans; news of our involvement with marine conservation events. As well as offering the opportunity to donate funds to SOSF, it provides information on how to be a wise consumer of seafood, and enjoy responsible ocean leisure, connecting to the seas through conservation volunteer programmes with helpful links to other organisations. Our interactive websites for younger children **www.sosforkids.com** and for teenagers **www.sosforteens.com** engage with these two very different audiences in a variety of entertaining formats, encouraging them to embrace their role as guardians of the water world of the future.

## PHOTO CREDITS

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