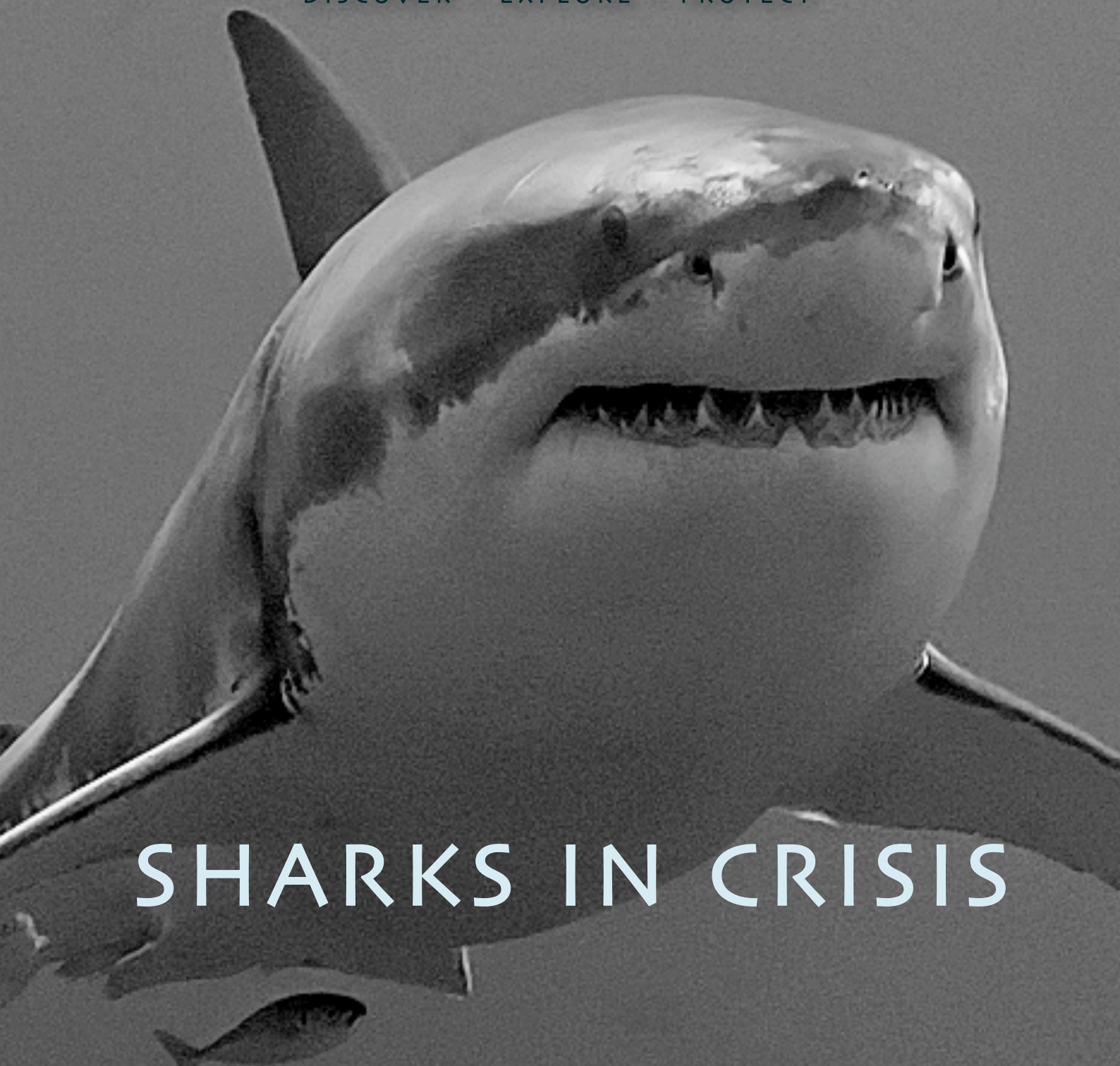


WAVEFORM

DISCOVER ~ EXPLORE ~ PROTECT

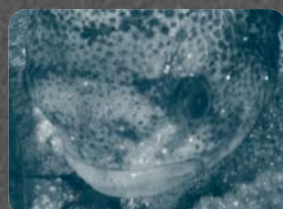


SHARKS IN CRISIS

WHALE WATCHING



WEIRD FISH



DEEP HISTORY



TRAVEL TIPS



Welcome to the April edition of WAVEFORM.

This magazine is a philanthropic venture, aimed at encouraging the exploration of our natural world and as we discover its wonders, then hopefully we also learn to cherish and protect our blue planet. In this issue I have chosen to highlight a subject close to my own heart – the plight of sharks. I have been privileged to dive with over twenty different species of these magnificent animals, but sadly have also witnessed their abuse, decline and disappearance from our oceans. Sharks need friends and I urge you to support responsible ventures that aim to safeguard a future for these ancient animals.

Please share this magazine with your friends and colleagues in order to spread the word. If you haven't already done so, sign up for WAVEFORM via the Silvertip website: www.silvertipworld.com

Stay safe, happy trails!

Kelvin

SILVERTIP Expedition & Diving Management
info@silvertipworld.com



Kelvin explores a wreck in Ireland.

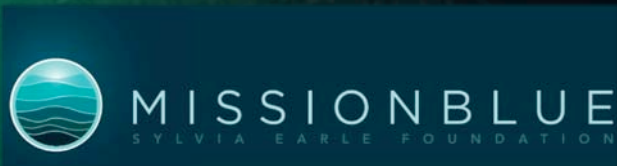
~DIVE BRIEF~

~DISCOVER THE OCEAN~

TED and Sylvia Earle, the 2009 TED Prize winner and world-renowned, deep-ocean explorer, have announced the launch of Mission Blue to raise awareness of the urgent need to create Marine Protected Areas – Hope Spots – ranging from the deepest oceans to sunlit reefs. The announcement came on the first day of the Mission Blue Voyage, a first-of-its kind conference hosted by TED from 6-10 April aboard the *National Geographic Endeavour* in the Galapagos Islands.

Currently, it is estimated that just 0.95% of the ocean falls within Marine Protected Areas and of that around 0.08% is fully protected and set aside for marine wildlife and ecosystems. By contrast, nearly 13% of the world's land area is already protected. Marine Protected Areas help recover marine environments in order to provide natural solutions to some of our environmental challenges.

TED is a non-profit organization devoted to Ideas Worth Spreading. At TED, the world's leading thinkers and doers are invited to give the talk of their lives in 18 minutes. These talks are then made available via www.TED.com



Visit Mission Blue online for details on Hope Spots and further expeditions:

www.mission-blue.org



Rupert Pilkington of Ursus International has been studying bears for nearly twenty years. He brings us a glimpse into the world of these magnificent animals, and the other creatures that share their environment.

www.ursusinternational.org

Around 200,000 years ago, Polar bears began to develop from Brown bears, which were widespread in temperate latitudes. These Brown bears were the ancestors of today's Grizzly bear. In moving north and hibernating for increasing amounts of time, Brown bears were at the margin of their range, and their advance would have stopped were it not for the fact that the sea ice they encountered yielded an abundant winter source of food; seals.

The Brown bears were not adapted to hunting or travelling on the ice, but in their hardy, opportunistic way, they learned how to capitalise on seals, a food source of such benefit that evolution gradually adapted the bears to it. Their claws became curved, and their paws bigger and partially webbed, while the neck lengthened and tapered and the head became less blocky. Fat deposition changed and the skin became black, allowing for better absorption of heat, while the white coat with its hollow-stranded hairs developed, aiding flotation and insulation. Hibernation became unnecessary. The result of this adaptation is the Polar bear – an ice-bear, almost completely reliant on seals.

~PAWS FUR THOUGHT~

~LOOK FORWARD~

Dive Fest 2010, Cornwall, UK

30 April - 03 May

Join divers from across the UK for what is essentially a huge party complete with live music, food, guest speakers, equipment and travel stalls, plus a bit of diving! Tickets are available online:



www.divefest.co.uk

Feedback

Ongoing

We always like to hear what you think of WAVEFORM - give us your feedback. Send Kelvin an email:

info@silvertipworld.com

Exploring the Arctic Underwater

14-21 June 2010

Want to dive the frozen north? Kelvin will be helping guide a team of intrepid divers to the Norwegian Arctic with Aqua-Firma. Contact our colleagues for details on this trip and other worldwide destinations:



www.aqua-firma.co.uk





Watson and the Shark, by John Singleton Copley, 1778
This painting represents our outdated and misguided view of the shark as some form of demon.

Ask many people which animal they are most afraid of and many will answer - the shark. For centuries mankind has feared and despised sharks, resulting in them being perceived as savage man-eaters and a useless scourge in our oceans. In the last few decades however this much-maligned and poorly understood animal has been subject to an unregulated and widespread slaughter, which has reached industrial levels verging on genocide.

BY KELVIN MURRAY

sharks in crisis

LOGLINES AND FINNING

It is believed that the most significant cause of the decline of shark populations worldwide is the use of longlines used in shark finning operations. Longlining is a commercial fishing technique where a series of baited hooks are attached at intervals along a main line. The hooks can number in the hundreds or thousands and lines are towed, anchored or set to drift with the current. The shark finning process involves hauling in the shark whereupon the dorsal, pectoral, pelvic and caudal [tail] fins are sliced off. Because shark meat is worth much less, takes up space and contains urea, which turns into ammonia, the now finless shark is thrown overboard, often still alive. The hapless beast then sinks and either suffocates because it cannot swim, or is eaten by other predators. Finning has increased sharply over the last decade largely due to the increasing demand for Chinese shark fin soup and traditional medicines, improvements in fishing technology and market economics.



regulate our seas by picking off the weak, sick and injured, thereby making ecosystems healthier. There is also the question of whether it is ethical to continue such a barbaric practice as finning. To brutally slaughter tens of millions of animals in order to make a thin soup, designed to impress colleagues and family, seems utterly ridiculous, morally corrupt and decadent.

WHAT CAN BE DONE?

Although commercial fishing has claimed approximately 90% of our oceans' big fishes, 10% are left - which gives us hope. Public opinion is slowly swinging in favour of the shark. The monster of our predecessors' nightmares is now being seen as a vital element to healthy oceans. The indiscriminate man-eater is now understood to be a much more social, intelligent and complex animal. Governments and regulatory organisations are starting to listen to scientific and public opinion, and every voice is getting the opportunity to be heard in some way.

Sharks have lived in our oceans for over 400 million years, but will they last another 40? In a few decades we have devastated their numbers and brought some species to the brink of extinction. We can save them, but we have to join together, speak together and act together.

For more information:

The Global Shark Initiative:
<http://theglobalsharkinitiative.ning.com>

Stop Shark Finning:
www.stopsharkfinning.net

Shark Alliance:
www.sharkalliance.org

You can find these groups on:



THE SCALE OF THE SLAUGHTER

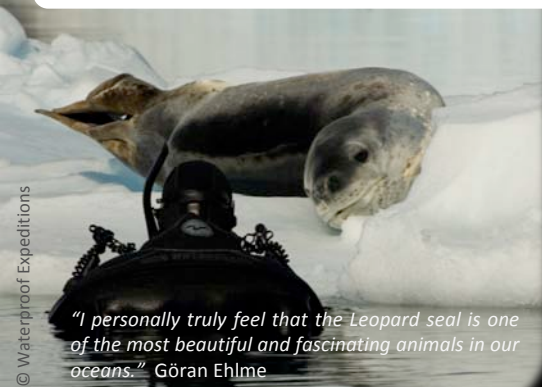
The figures involved are so large they are difficult to comprehend. Scientific study of the finning trade is challenging due to the secretive nature of the industry and the lack of robust legislation and regulation, however specialists estimate that 38 - 100 million sharks are killed annually for their fins. The industry is indiscriminate, with fins taken from virtually any species of shark and also some cousin species of the sharks - the rays. Some shark species are thought to have declined in numbers as much as 80 - 97%. The industry is valued at US \$1.2 billion and due to the lucrative profits to be made there is speculation about links to organised crime.

WHY ARE SHARKS IMPORTANT?

Sharks are a vital element in the complex ecosystems of our oceans. Large-scale removal of a species, whether on a local or global level, has a major impact on associated species. The detrimental effect of removing these predators is being witnessed. Prey species are exploding in numbers, causing an imbalance and devastating their own prey populations. For example, it is thought that the decline of shark populations in the Eastern Pacific has contributed to the increase in Humboldt squid, itself a voracious predator, which is now affecting fish stocks as there aren't sharks to help manage squid numbers. Sharks



The iconic and majestic Great White Shark is now believed to be more endangered than the Tiger in the wild.



"I personally truly feel that the Leopard seal is one of the most beautiful and fascinating animals in our oceans." Göran Ehlme

Many readers commented on the stunning images used in the last month's issue. The cover image is a Leopard seal photographed in Antarctica by Göran Ehlme, co-founder of Waterproof Expeditions and widely acknowledged as a living legend in polar underwater photography. Articles about Göran's incredible work can be found on the Waterproof Expeditions website.

Waterproof Expeditions specialises in unique photography, diving, snorkelling, and cruise experiences to some of the world's most remote and exotic destinations. Explorers and divers alike can share their passion for adventure, conservation and education in destinations ranging from the Arctic and Antarctic, to the tropics in Mexico, Galapagos and Papua New Guinea.



www.waterproof-expeditions.com



© Terry Goss

© Waterproof Expeditions

~ WATER COLUMN ~

Message In 12,500 Plastic Bottles

At the end of March an international team of sailors, environmentalists and filmmakers set sail from San Francisco on the *Plastiki*, a unique 18 metre catamaran engineered from 12,500 plastic bottles. Relying primarily on renewable energy systems, the *Plastiki* and her crew will travel nearly 11,000 nautical miles across the Pacific to highlight the health of our oceans and in particular the colossal amounts of plastic debris which has such a major impact on marine life. Follow the journey on their fun and informative website: www.theplastiki.com

Capt. Don Walsh Receives Hubbard Medal

14 April: Fifty years after he descended nearly seven miles to the ocean's deepest point, Capt. Don Walsh, 78, has received the National Geographic Society's Hubbard Medal, the Society's highest honour. At the event, he also received the U.S. Department of the Navy's Distinguished Public Service Award. On 23 January 1960, Walsh, then a Navy lieutenant, along with Swiss oceanographer Jacques Piccard, descended in the Navy bathyscaphe *Trieste* to the floor of the Pacific Ocean's Mariana Trench, the world's deepest location, 35,800 feet below the ocean surface. No one has ventured to 'Challenger Deep' since. Other recipients of the Hubbard Medal include polar explorers Roald Amundsen in 1907 and Sir Ernest Shackleton in 1910, astronauts Armstrong, Aldrin and Collins in 1970, and conservationist Jane Goodall in 1995.

Don Walsh and Jacques Piccard inside the cramped observation sphere of the bathyscaphe.



Chagos Becomes World's Largest Marine Reserve

1 April: The U.K. government designated the Chagos, a British territory in the middle of the Indian Ocean, as a no-take marine reserve. This declaration will make it the largest marine protected area in the world, totaling more than 210,000 square miles [544,000 square kilometres] an area twice the size of the U.K. The combination of tropical islands, unspoiled coral reefs and adjacent oceanic abyss makes this area comparable in global importance to the Great Barrier Reef or Galapagos Islands. As a fully protected marine reserve, all extractive activities, such as industrial fishing and deep-sea mining, will be prohibited in the Chagos. This decision will safeguard the rich diversity of marine life found in the area. Scientific research indicates that 90% of the ocean's largest fish have disappeared over the past five decades by commercial fishing, and the hunt for what remains continues unabated. As a result, the world's oceans are facing a crisis. No-take marine reserves are scientifically proven to be an effective tool to protect and restore marine ecosystems and the species they support. www.protectchagos.org

Maldives Protects Sharks

The Maldives has announced complete protection for sharks in its territorial waters. It declared its exclusive economic zone, 35,000-square-miles [90,000 square kilometres] of the Indian Ocean, as a sanctuary free from all shark fishing plus banned all imports and exports of shark fins.

Matt Rand, Director of Global Shark Conservation for the Pew Environment Group said, "The Maldives were one of the first countries to recognize that sharks were a key reason tourists went to dive there. Today's announcement protects the Maldives' tourism industry - the largest segment of their economy - from the ravages of the shark fin trade. It is a bold and farsighted move on the part of the government of the Maldives."

The ban on trade and export of sharks and shark products will come into effect on 1 July 2010, the ban on shark hunting in the Maldives will be effective as of 1 March 2010. It was further decided that the Ministry of Fisheries and Agriculture would assist shark fishermen to find alternative livelihoods.



© Peter Schneider

Is Commercial Whaling Set To Return?

A highly contentious proposal is due to be presented to the 88-nation International Whaling Commission [IWC], which will consider a return to commercial whaling. A moratorium on such activities has been in place since 1986, after a highly publicised campaign to 'Save the Whale' that garnered immense public support. In the 24 years since, whaling has been carried out by Japan, Norway and Iceland by either opting out of the treaty or under the guise of scientific research, resulting in the deaths of 35,000 animals. Meat from 'scientific' catches has been found in restaurants in Asia and the U.S., further angering environmental groups.

The compromise deal, which has generated intense controversy within the IWC and among anti-whaling activists, would allow the three whaling countries to continue hunting whales for the next 10 years, although in reduced numbers. In exchange, the whaling nations would agree to stricter monitoring including the placing of tracking devices and international monitors on all whaling vessels. The deal also proposes that no new countries be permitted to take whales, whalers would have to report the time of death and means of killing of all whales and provide DNA samples to a central registry to help track the end use of the dead animals. Populations of some whale species have been increasing since the whaling ban ended decades of uncontrolled hunting, however whales in all oceans remain under threat, from hunting, ship strikes, pollution, habitat loss, climate change and entanglement in fishing nets.



© Luca Babini



© Wurzellier

The Icelandic whaling fleet, mothballed for 14 years, resumed scientific whaling in 2003 and commercial whaling in 2006 with strong domestic support despite an international outcry.

Whale and Seabird Safari: Search for the Bowhead Whale

Oceanwide Expeditions, North Atlantic Odyssey, 04-14 June 2010

Once thought hunted to extinction in the area, the Bowhead whale is believed to be on the increase between Greenland and Svalbard. Also known as the Greenland whale, these magnificent animals are thought to reach ages of over 200 years; some have been found with 19th century harpoons still in their bodies. They have the largest mouths in the animal kingdom and reinforced skulls for breaking through thick ice. On this voyage we hope to find the elusive Bowhead along the edge of Arctic ice.

Join whale and dolphin specialist Kelvin Murray and Oceanwide Expeditions as we explore some of the most magnificent sites of the North Atlantic in search of a range of wildlife. We hope to see a variety of species, including Bottlenose and White-beaked dolphins, Orca and Pilot whales, plus Minke, Humpback, Fin, Sperm and Blue whales. From the beautiful islands of Western Scotland we sail to the remote island groups of St. Kilda, the Faeroes and Jan Mayen before reaching the edge of the sea-ice, northwest of Svalbard. Upon reaching Spitzbergen we hope to see walrus, seals, reindeer, foxes and the Lord of the Arctic - the Polar Bear. These rich waters also attract seabirds counted in the thousands and millions.

Oceanwide Expeditions specialises in ship-based expeditions to the High Northern and Southern latitudes plus several remote North and mid-Atlantic islands. You will become fascinated by these unique wildernesses, places with so much drama, wildlife, history and true emotion.



Above: Humpback enjoys a closer view
Below: The Lord of the Arctic



www.oceanwide-expeditions.com

Email Kelvin for more information:
info@silvertipworld.com

~ ALWAYS READY ~ TOP TIPS FOR STAYING SAFE AND WELL

Some say the world is becoming a smaller place, but it can seem pretty big when you need help. If others need to care for you while you are travelling, it can be helpful to have the right information available quickly:

- Keep a card on your person, which includes details of who you are, who to contact in the event of an emergency, plus your doctors or medical backup.
- Leave the following with your emergency contact:
 - Itinerary and names of the places you'll be staying
 - Copy of your passport details and other travel documents
 - Medical information e.g. blood type, allergies, medication
 - Travel insurance details plus specialist insurance e.g. diving or equipment
 - Your company/travel operator details
- Scan paperwork or type details into a document and email it to yourself – POP email accounts such as Yahoo or Hotmail are relatively easy to access as an online backup.
- Note the contact details of your national consulate or embassy in the country you visit – you may be able to register your visit to the country with them in advance.



Having the proper paperwork in place may help you should anything go wrong.

Common name: Lump sucker
 Scientific name: *Cyclopterus lumpus*
 Max. length: 0.6 m / >1 ½ feet
 Max. weight: 9.5 kg / 21 lb
 Location: North Atlantic/Arctic

This unusual fish gets its common name from the large sucker formed by the pelvic fins on the underside. They have rough skin over bony plates, which combined with their shape gives them a 'lumpy' appearance. They are poor swimmers and are usually on or near the seabed, feeding on worms, crustaceans and molluscs.

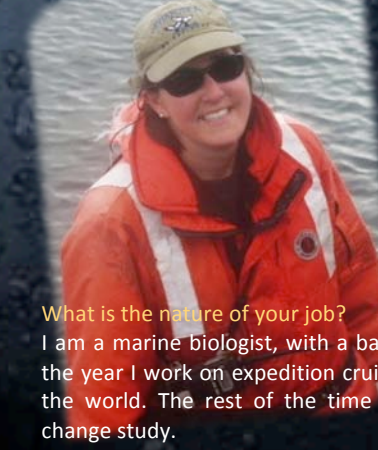
Spending most of the year in deeper water, the Lump sucker moves inshore to breed between February and May. At this point, the male then loses his normal drab grey appearance and adopts his breeding colours, with hues of orange, yellow and violet. Once the fish have paired, the female sticks her eggs to rock or kelp and the male fertilises them. The male remains in the shallows to guard the brood, clamping himself down with the sucker disc. Fanning the eggs to keep them oxygenated and picking off predatory crabs and starfish, the male fish runs the risk of being eaten by seals, otters and seabirds.

These fish are more common in colder waters and are fished in Nordic countries. Lump sucker eggs are sometimes harvested as a caviar substitute, and in Iceland the flesh of the male is considered a delicacy, resulting in annual catches of 3-13,000 tonnes. Caution has been advised in conducting extensive fishing due to insufficient data on stocks.

Kelvin talks about photographing these fish:
"It can be a bit of a surprise finding such a large fish in relatively shallow water. The colours of the breeding male are bright and prominent, making them appear almost fluorescent in certain light conditions. As long as you aren't too obtrusive, you can get close to the fish and catch a privileged glimpse of his precious brood."



Stephanie meets the locals – Brown lemur in the French Comoros...and King Penguins in South Georgia.



Stephanie Martin is an expedition leader and naturalist, affectionately known onboard various expedition ships as *The Whale Lady*. Originally hailing from Providence, Rhode Island, Stephanie is now based in the UK and spends much of the year exploring some of the most remote and pristine places on the planet.

What is the nature of your job?

I am a marine biologist, with a background in marine mammals. Most of the year I work on expedition cruise ships as a naturalist working all over the world. The rest of the time I work with my partner on a climate change study.

What does a typical day consist of?

If it is a day at sea, I'm on the bridge looking for whales or giving lectures. If we have landings, I will be driving zodiacs [inflatable boats] and leading hikes onshore.

What are the greatest challenges of the job?

Weather mostly. I hope the day I was in 100+ knots of wind off Elephant Island* in a zodiac is a once in a lifetime experience.

**Elephant Island is a desolate, mountainous island in the Southern Ocean, famous as the refuge of Shackleton's crew from the 1916 Endurance expedition.*

What are the rewards of the work?

I have the best job on the planet. Every day I get up and love to go to work. I work with the best group of people and we work on some of the most amazing animals in the ocean. Whether we are actually in the water having encounters with these gentle giants, in the office doing our part to contribute to what we know about these species, or out on the road educating or spearheading conservation measures we are always having fun and working on something that we are passionate about.

What makes it special? Is it as cool as it sounds?

Hell yeah! It is cool to look into the eyes of Polar bears and to have Killer whales swim right underneath your zodiac!

Greatest/funniest/hardest/saddest thing you last experienced at work?

The chance to be in the middle of the Southern Ocean and collect a skin sample from a Blue whale, the largest and one of the rarest animals on the planet, after five years of trying to make it happen. The moment when I realised I had a sample was indescribable.



What one thing do you need more than anything else in your job?
Patience, always working on that one!

What is your current or next project?

This summer I am in Alaska, the Arctic, and in the Baltic. At the end of the year in Antarctica, I am hoping to collect more whale skin samples.

Do you think economic or climate changes might affect your work?

I have seen the climate change quite a bit in the last ten years with glaciers rapidly receding and loss of habitat in the polar regions. Things are changing at such a rate in some places it really is hard to predict all the impacts.

What do you eat when you are on the job?

We eat really well onboard the ships with our 5 star chefs so the challenge is to not eat too much. Tea, please.

Is there a particular piece of equipment you find indispensable?

My crossbow* - for collecting skin samples. It is a fantastic bow that my agent in Ushuaia, Argentina found for me.

**A crossbow is used to fire purpose-made bolts with special tips – the dart penetrates the skin and blubber of the animal by just a few centimetres, collecting a sample of tissue before popping out. The bolt floats upright for later retrieval. With such large animals this is essentially a pinprick, but provides vital genetic data.*

How much does a torch cost for your line of work?

The one I always travel with in case of emergency cost five dollars two years ago.

What do you do to unwind in your spare time?

Have a massage to get rid of those muscle knots from driving small boats all the time!

Is there a movie that portrays what you do and how well?

I was filmed collecting whale skin samples in the IMAX movie *The Living Seas*.

Do you have a favourite quote or book that inspires you?

From my favorite book by Henry Beston 'The Outermost House':

"Touch the earth, love the earth, her plains, her valleys, her hills, and her seas; rest your spirit in her solitary places. For the gifts of life are the earth's and they are given to all, and they are the songs of birds at daybreak, Orion and the Bear, and the dawn seen over the ocean from the beach."



An 'indescribable moment' – Stephanie collects a skin sample from a Blue whale in Antarctica