



## Shark Foundation Annual Report for 2014

December 2015

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### General

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#### Foundation

In 2014 the Foundation was again actively involved in various activities for the protection of sharks and again received large and small donations from big and small shark friends who want to support our work.

**We wish to express our deepest gratitude to all our donors and benefactors. Our work would not be possible without your generous help!**

#### EEA Conference Leeuwarden

At the end of November 2014 Alexander Godknecht represented the Shark Foundation for Switzerland at the 18th International Scientific Conference of the European Elasmobranch Association in Leeuwarden (Netherlands).

#### US Shark Foundation

In 2014 the U.S. Shark Foundation was again registered as a charitable organization seated in Miami, Florida. Registered directors of the U.S. Foundation are Gary and Brenda Adkison, as well as Professor Mahmood Shivji. The Foundation was self-supporting in 2014 and achieved several important successes for shark protection.

*Total administrative costs to date: approx. CHF 58,000*

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### Projects

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#### Shark Exhibit

Following the big success of the 2013 Exhibit in Galileo Park, Lennestadt/Meggen (Sauerland) part of the exhibition was moved in 2014 to the Fossilienmuseum (Fossile Museum) Holcim Dottershausen.

*Total expenditures/investments to date: approx. CHF 245,000*

#### Shark Identification

No requests for financial support were received in 2014.

*Investments 2014: 0 CHF*

*Total investments to date: approx. CHF 186,000 CHF*

#### Shark Nurseries

The project "Shark Nurseries", located in Rookery Bay, 10,000 Islands, has been supervised by Pat O'Donnell since the year 2000, in collaboration with the Mote Marine Lab. Sharks use this region for their primary (pupping) and secondary nursing (juvenile sharks older than one year) grounds. The research area encompasses Fakahatchee, Faka Union and Pumpkin Bay.

Initial comparative studies showed that all species of shark examined, with the exception of bull sharks, avoid Faka Union Bay during the wet season. During this season the salinity of Faka Union Bay drops below 25 ppt (parts per thousand). During 2014 data collection

continued and 97 sharks were caught, 87 of which were measured and marked, 11 were recaptures and 2 sharks unfortunately did not survive.

Using information from genetic databases, the origin of the parents of young lemon, bull and hammerhead sharks was investigated together with Profs. Samuel Gruber and Demian Chapman. First results show, that parents of young lemon sharks do not originate from the Jupiter region, as was expected, but from the Gulf region. The project works mainly with enthusiastic volunteers which substantially reduces costs. The Foundation continues to invest in the project when needed.

*Investments 2014: CHF 0*

*Total investments to date: approx. CHF 61,500*

## Basking Sharks

Data collection on the occurrence and migrations of basking sharks along the Hebrides was continued in 2014. In July 2014 proposals and recommendations based on data collected for the basking shark project by the Shark Foundation and other data, were sent to the Government of Scotland regarding 14 marine reserves which, among other things, should ensure better protection of basking sharks in the waters of the Hebrides, Skye and Mull.

*Investments 2014: 11,250 CHF*

*Total investments to date: approx. CHF 97,650*

## Bull Shark Tagging Fiji (Subproject 2)

At the moment the project team focuses on the small-scale distribution of young bull sharks in Fiji. See short projects: Indigenous fisheries in Fiji.

*Investments 2014: CHF 0*

*Total investments to date: approx. CHF 63,800*

## Shark protection zone Fiji

Today the Fiji Shark Protection Project is financially self-sustaining. The Foundation is prepared to support the project financially, if necessary. At the end of 2013 Mike Neumann requested ongoing support of the Fiji Shark Count project which since 2012 has aimed at establishing an inventory of all sharks in the region. The Fiji Shark Count continues and was co-financed by the Foundation in 2013/14.

Since its start 2 years ago, the Fiji Shark Count has collected sufficient data to carry out initial scientific analyses. Within 2 years since the start of the project sufficient data material has now been collected so that performing initial scientific analyses is possible. Christine Ward-Paige from Dalhousie University, Halifax, will make the evaluations.

*Investments 2013: 1,450 CHF*

*Total investments to date: approx. 40,350 CHF*

## Lemon sharks Jupiter (Florida / USA)

Fifty-two hours were spent working at sea during the research period from February 25 to May 31, 2014. Altogether 46 large coastal sharks were captured, examined and marked: 11 lemon sharks, 16 tiger sharks, 8 bull sharks, 5 great hammerhead sharks, 2 sandbank sharks and 4 nurse sharks. DNA tissue samples were taken from all sharks (2 x 2 mm) in addition to a blood sample, if possible, for the analysis of stable isotopes. All lemon sharks were also implanted with a passive transmitter (Vemco PIT Tag).

During the research period, data from the stationary Vemco receiver was also downloaded. These new datasets contained information on 8,000 new positions on a total of 32 different lemon sharks. By 2014 a total of more than 3,000 positional datasets from a total of 8 hammerheads was registered. The data stems from 36 stationary receivers distributed over a distance of about 230 km between Boynton North and Cape Canaveral. The database of the

project's receiver array was extended with important additional data from the East Coast of the U.S., acquired through collaboration and data exchange with the Florida Atlantic Coastal Telemetry (FACT) Array and the Atlantic Coastal Telemetry (ACT) group.

In 2014 the research area was extended to Bimini, Bahamas. Since large coastal sharks can migrate over long distances, improving their protection means answering some important questions, among other things: Where do the sharks migrate to? Are the migrations seasonal? Are they gender based or not? How much time do the sharks spend in protected and unprotected areas (EEZ Exclusive Economic Zone) of the U.S. and the Bahamas?

The Shark Foundation has completely financed the project since 2006. .

The project is fully financed by the Shark Foundation since 2006.

*Investments 2014: 20,000 CHF*

*Total investments to date: approx. 160,000 CHF*

## Angel sharks in Gran Canaria

The project investigates the angel shark population in the Grand Canary region in order to better protect their last available habitats and nurseries along the Canary Islands. More than 200 tissue samples were collected between 2008 and 2013 and sent to the laboratory of Prof. Mahmood S. Shivji for relationship testing. Initial and not yet validated results indicate that, as expected, angel shark populations in Gran Canaria are very isolated and that almost no exchange of genetic material occurs between populations. This means that if those stocks are overfished, no replacements can move in from other populations and this makes them strongly endangered.

A small number of additional samples were collected in 2014. Further financial support is budgeted for the year 2016.

*Investments 2014: 0 CHF*

*Total investments to date: approx. 34,100 CHF*

## Whale sharks Mozambique

Whale sharks are on the IUCN's Red List of endangered species as well as in Appendix II of CITES. Next to the work in Mozambique aimed at establishing a marine reserve for whale sharks, Simon Pierce's team extended its research on whale sharks to a global level. Besides Mozambique and Mafia Island in Tanzania, the team – supported by local scientists – is now also examining whale shark populations in the Galapagos, Mexico, the Red Sea, the Persian Gulf and the Philippines.

In 2014 the Foundation supported the following subprojects:

- The Marine Megafauna Foundation with \$4,000 for biochemical analyses and research material.
- Drones: The search for whale sharks in the ocean on ships is both time-consuming and usually very expensive in light of ship rental and fuel costs. The search for whale sharks from the air using drones can cover a considerably larger surface area and scientists can find their way to the whales on their ships more directly to examine them. This increases efficiency while saving money at the same time. Since whale sharks often swim just underneath the water's surface, this method is to be tested in Mozambique and then later on applied at other research sites.  
For this reason the Shark Foundation financed the purchase of a drone for \$5,000.
- In 2014 the Foundation helped finance research work on Mafia Island/Tanzania with approx. \$4,400 needed to perform biochemical analyses and to purchase research material. In 2014 a scientific publication (see Publications) on the genetic structure of whale shark populations between the various ocean basins was published with the support of the Shark Foundation.

*Investments 2013: 14,400 CHF*  
*Total investments to date: approx. 67,800 CHF*

## Thermoregulation Nurse sharks

For thousands of years nurse sharks (*Ginglymostoma cirratum*) have been gathering between June and July to mate in the very warm waters of the Dry Tortuga Islands off Florida. Over the past 21 years, the project team has marked and studied more than one hundred of these two to three meter long animals. In order to minimize any disturbance to the nurse sharks, only kayaks and nets were used during this process.

Nurse sharks regularly move to regions that provide them with ideal conditions. This project aims at contributing to the understanding of why pregnant female nurse sharks visit regions with particularly high water temperatures. Nurse sharks mate in June and July in the warm, shallow lagoons of the Dry Tortugas. Some of the female animals return to these waters in the fall to give birth. It is assumed that the sharks, similar to reptiles, visit these places in order to raise their body temperature which in turn facilitates the development and delivery of the embryos.

Since 1993, a total of 297 nurse sharks in the project were examined and marked. 60% were recaptures. In 2014, 22 (14 males, 8 females) were recaptured and data from 3 sensors (CEFAS and G5) from the years 2011 and 2012 were downloaded and analyzed.

*Investments 2014: 6,700 CHF*  
*Total investments to date: approx. 27,000 CHF*

## Short projects

### **Indigenous fishing in Fiji:**

Observations made at the intensely examined Shark Reef on the southern coast of Viti Levu, Fiji, show that sexually mature bull sharks leave this region for weeks to months at the end of each year and then return. The hypothesis is that the sharks move away from the region to mate/reproduce, but the interesting question is where do they go. Extensive interviews with local fishermen in the year 2009 indicate that young bull sharks are found in all large rivers in Fiji. In the Navua River – the nearest river to Shark Reef in Fiji – young bull sharks have been found up to 38 km upstream. Sample catches made in 2010 also confirmed the existence of young bull sharks in the estuary of the Navua. In this pilot project the number of young bull sharks in the Navua River is to be analyzed more precisely with the help of volunteers. The young sharks caught will be implanted with Passive Integrated Transponders (PIT) before being freed in order to analyze their movements in the region in more detail.

*Project managers:* Dr. Jürg Brunnscheiler, Kerstin Glaus (University of Basel)  
Grant 2014: 5,000 CHF  
Total investments to date: approx. 10,700 CHF

### **Sawsharks in Mozambique and East Africa**

All sawsharks are listed on the IUCN Red List and are considerably endangered worldwide. It must be assumed that they are already extinct in large areas of their former range in Africa. This project aims to produce the first detailed record of the presence of sawsharks in Mozambique and other coastal areas of East Africa. Such basic information will then be used to initiate more effective protection of their remaining populations.

This project was proposed and granted in December 2013 and began in May 2014. Up to October 2014, interviews with fishermen, fish dealers and fishery surveillants were held and documented in all of Mozambique's coastal provinces. The interviews revealed only very isolated catches in 2014 which leaves hope that the strongly endangered sawsharks have not yet completely disappeared from the two coastal regions in Mozambique. Future efforts aimed at their protection should thus concentrate on both of these regions. Analyses of 13 sawshark rostrums point to the existence of the second species or the longtooth sawshark (*Pristis pristis*) and the green sawshark (*P. zijsron*) in Mozambique.

Besides analyzing the occurrence of sawsharks, a successful sensitization to the plight of threatened sawsharks was also achieved in public institutions such as the National Institute for Fisheries Research (IIP) as well as nongovernmental organizations in Mozambique. Employees of the IIP received training in the identification of sawsharks.

*Project managers:* Ruth Leeney, Simon Pierce

Grant 2014: 5,000 CHF

Total investments to date: approx. 10,700 CHF

### **Photo Documentation of Thresher Sharks in Malapascua, Philippines**

On November 8, 2013, the typhoon Yolanda devastated many islands of the Philippines, including Malapascua. The island of Malapascua is one of the few places worldwide where divers can still regularly observe thresher sharks.

The photo and video journalist, Steve De Neef, asked the Foundation for support in the production of a video report on Malapascua and its thresher sharks. The report is to document the reconstruction of Malapascua and the importance of the thresher sharks for the island's tourism and hence financing of this reconstruction work.

Articles on the thresher sharks of Malapascua were published in various journals and online, including: Ocean Geographic (cover story); Rappler – one of the largest news agencies of the Philippines; Sun Star – the Philippine news agency; Ocean Watch – Australia.

*Project Manager:* Steve De Neef

Grant 2014: CHF 1,100

Total investments to date: approx. CHF 1,100

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## Public Relations Activities of the Shark Foundation and Shark Info

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### Media / Public Relations

The Foundation gave several interviews, e.g. to the Focus and the Sauerländer local media, provided its expertise and advice revolving around the subject of sharks and shark protection.

### Web Server

In 2014 the Shark Foundation's German website recorded approx. 321,400 visitors, while the English website (www.shark.ch) counted roughly 386,600. Clearly leading in popularity on both servers was the Shark Database. Compared to the previous year, a slight increase in the number of visitors to the German webpages and a slight decrease in shark.ch was registered.

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## Administration

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### Financial Policy of the Shark Foundation

Established on August 29, 1997, the Shark Foundation is an internationally active organization that falls under the supervision of the Federal Department of Home Affairs (FDHA) / Swiss Federal Supervisory Authority in Bern. The Foundation can accept tax-deductible donations and once a year it submits its annual report and financial statement to the supervisory authority for approval.

The Foundation finances all its activities through donations, presentations or the sale of products such as T-shirts or plush toy sharks. The Board of Trustees works on a voluntary basis and its members receive neither attendance fees nor salaries. The Foundation runs a "Shark Shop" on its Internet website (T-shirts, cuddly plush toy sharks, tear-off notebooks, postcards, shark sponsorships). Sales revenues flow directly into the Foundation account, and once a year all interested parties are sent a mailing requesting donations and including a pay-in slip.

In its first meeting of the respective year, the Board of Trustees of the Shark Foundation decides on the usage of any accumulated income and donation money from the previous year. Up until then no reserves are set aside; instead all funds are released to cover ongoing projects, investments and administrative costs. The annual accounts for both the Foundation and Shark Info are checked by Revisal, an auditing company located in Gossau.

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