



## Shark Foundation Annual Report for 2017

July 2018

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### General

#### Foundation

The year 2017, marking the 20-year anniversary of the Shark Foundation, was overshadowed by the completely unexpected passing of Heinrich Thorbecke, the Founder and longstanding supporter of the Foundation. Heinrich Thorbecke was not only a dedicated member of the Board of Trustees but also a very good friend. He leaves a gap that cannot be filled. The entire Board of Trustees would like to thank him again for his enormous efforts in support of the Shark Foundation and its work for the protection of sharks.

In 2017 two threatened shark species received improved international protection with the support of the Foundation: the mako sharks and the whale sharks. According to a study made by the laboratory headed by Mahmood Shivji, the mako sharks in the North Atlantic have a catch mortality rate that turns out to be **10 times higher** than previously assumed (also see the project "Global analysis of migrations of large shark species"). As for whale sharks, they were taken up in Appendix I of the UN Convention on Migratory Species (CMS) thanks to data gathered by Simon Pierce's team (also see the project "Whale Sharks").

Once again the Foundation continued its active involvement in various shark protection projects in 2017 thanks to the large and small donations received from shark friends big and small who have significantly supported our work for sharks.

**We wish to extend our deepest gratitude to all our donors and benefactors. Your generosity is what makes our work even possible!!**

#### EEA Conference in Amsterdam, The Netherlands

From October 12 to 14, 2017, Alexander Godknecht represented the Shark Foundation in Switzerland at the 21st International Scientific Conference of the European Elasmobranch Association (EEA) in Amsterdam (The Netherlands).

#### Publications

In 2017 **nine** scientific papers were published, based on results of projects supported by the Shark Foundation.

One publication reported on Ruth Leeney's Saw Shark Project. A second publication deals with the mitochondrial genome of angel sharks, a joint project shared by scientists on Gran Canaria and M. Shivji's laboratory. A third publication deals with hammerhead sharks in the US and the Bahamas, and three additional ones deal with whale sharks, the genetic connectivity of Caribbean reef sharks (*Carcharhinus perezi*), as well as another publication from M. Shivji's laboratory on mako sharks, documenting a 10 times higher catch mortality rate than previously assumed.

And finally in 2018, slightly late, a report on the thermoregulation of nurse sharks was published, in addition to a report by Michael Hyatt on the stress imposed on sharks when they are caught and examined. Already published was also a report from C. Rohner on satellite tagging of whale sharks in Mozambique.

Thus since 1997 up until mid-2018 the Shark Foundation has supported a total of 66 scientific publications, 3 books, various conference reports, posters, as well as a diploma thesis.

#### US Shark Foundation

In 2017 the US Shark Foundation was again registered as a charitable organization seated in Miami, Florida, with Gary Adkison as the registered Director of the US Foundation. The

Foundation was self-supporting in 2017 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

The exhibit has been in storage since September 2016 and we are looking for new exhibit locations.

A large number of the shark models have been rented to the Dinosaur Museum in Aathal as of April 2018 where they will remain until January 2019 as part of a special exhibit on "Sharks of the Primordial Oceans".

In 2018 a model of a hammerhead shark was also donated to the Museum of Natural History in St. Gall for its permanent exhibit in memory of, and as a thank you to Heinrich Thorbecke.

*Expenditures/Investments to date: approx. CHF 260,000.*

2017 Projekt Erweiterung:

### 2017 Project Extension: Population genomics of large shark species

The scope of the project "Population Genetics of Oceanic White-Tip Sharks" was extended in 2017 and will in the future also include other large shark species.

Many shark species are being strongly overfished and are threatened globally. Although they can swim large distances, it must be assumed that they form local populations (philopatry) which leads to a low genetic exchange between the single populations. The genetic exchange between separated living populations and the resulting refreshment of the gene pool is an especially important factor for the survival of strongly declining populations.

In this connection Professor Mahmood Shivji at the Guy Harvey Research Institute, Daenia Beach, Florida, initiated a project to analyze the molecular-biological connections between populations of especially large oceanic but also of other shark species.

Populations of large hammerheads (*Sphyrna mokarran*) are strongly endangered due to the value of their fins and their global "on board " mortality rate of about 90%. In a study it was established that worldwide there are at least 3 clearly identifiable populations in the West Atlantic, the Northwest Indian Ocean and Australia. Initial analyses of 114 mitochondrial genomes seem to suggest two clearly different maternal evolutionary lineages. First results were presented by C. Ruck at the American Elasmobranch Conference in Austin, Texas.

A new edition of a publication issued earlier on genetic connectivity of Caribbean reef sharks (*Carcharhinus perezii*) was also published in 2017.

*Investments 2017: CHF 12,500*

*Total investments to date: approx. CHF 24,600*

2017 Project Extension:

### Global analysis of migrations of large shark species

The scope of the project "Mako Shark Migrations" was extended in 2017 and in the future will also include other large shark species.

For many shark species migrations are vital for their nutrition, reproduction, protection from enemies and the establishment of new, favorable habitats. Thus they are essential for the evolutionary health and conservation of the species. Understanding migrations, their patterns and the environmental forces driving them are critical details needed to better understand population dynamic and the behavior of shark species.

Shortfin mako sharks (*Isurus oxyrinchus*) belong to the globally critically endangered shark species (IUCN Assessment 2009). In 2000 the fins of mako sharks were the second most frequently traded fins on the international shark fin markets. Makos cover enormous distances on their migrations and the danger of them crossing paths with international fishing fleets is

very high, especially since they frequently swim near the water surface. Although makos are an economically strong exploited shark species, little is really known about their migrations, especially in the heavily fished Atlantic. The Foundation supports the very complex and sensitive data evaluation of satellite transmitters in this project.

In 2017 a significant publication was issued by the M. Shivji Laboratory which shows that the catch-related mortality rate of mako sharks in the North Atlantic is **10 times** higher than previously assumed by the ICCAT (International Commission for the Conservation of Atlantic Tunas). The results were examined together with the ICCAT and confirmed. Subsequent to these alarming figures, the NOAA (the National Oceanic and Atmospheric Administration, USA) issued a drastic emergency regulation, effective on March 2, 2018, to prevent overfishing of makos in US territorial waters in the North Atlantic.

*Investments 2017: CHF 8,200*

*Total investments to date: approx. CHF 26,400*

## Shark Nurseries

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

Despite efforts by the State of Florida to restore the natural balance of the marshlands, no significant changes were yet noticed in this freshwater outlet from the marshlands of the region in 2016/17. Although the process of restoring the natural balance in the Everglades swamps is almost 50% complete – the first pump station in the Merritt Canal is already in operation – data on juvenile sharks collected by the project team must still be viewed as baseline data gathered prior to the restoration of the natural balance in the surrounding marshlands.

Comparative studies made over the past 17 years, for example, showed that all examined shark species, except bull sharks, avoid Faka Union Bay during the wet season at which time the salinity content there falls below 25 ppt (parts per thousand).

In 2016/17 about 46% more sharks were caught and examined than in the past 15 years. Bull sharks and bonnethead hammerheads make up about 80% of all catches. Ever since 2001 the following number of juvenile sharks were caught, measured and tagged: 827 bull sharks, 564 bonnethead hammerheads, 156 lemon sharks, 154 blacktip sharks, 13 nurse sharks, 2 Atlantic sharp-nosed sharks, 2 scalloped hammerheads and 2 large hammerheads.

Costs of this project are strongly reduced mainly thanks to enthusiastic volunteers who work on the project. The Foundation will continue to invest whenever necessary.

In 2018 the Foundation may support a new tracking program using acoustic transmitters/receivers.

*Investments 2017: CHF 0*

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

## Fiji Shark Protection Zone

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 further 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 2013/2014.

In 2015 Christine Ward-Paige from Dalhousie University, Halifax, evaluated the data collected

during the Fiji Shark Count.

*Investments 2017: CHF 0*

*Total investments to date: approx. CHF 41,800*

## Migration of Large Coastal Sharks in Jupiter, FL, and the Bahamas

### **Great Hammerhead Sharks in Jupiter/Bimini/Bahamas**

The species of hammerhead sharks is heavily overfished in many regions. In March 2014 the large hammerheads were taken up in both Appendix II of the CITES Convention and the Red List of the IUCN and declared as endangered. They migrate over extensive distances through the territorial waters of various nations. For this reason they are also listed in Annex I of the UN Convention for Highly Migratory Species which calls for close cooperation of all involved countries in the management of these species.

Hammerheads are frequently found in bycatch, but are also actively fished because their fins score high market prices. Regulating bycatch and demanding that hammerheads be thrown back into the ocean makes little sense since the mortality rate of the hammerheads in bycatch is approximately 90%, the highest of all species. For this reason more information on the habitats, seasonal spatial utilization and behavior of these hammerhead species must be better known in order to provide them with more effective protection.

In 2017 the project team focused on the migrations of great hammerheads (*Sphyrna mokarran*) in the regions Jupiter (Florida, USA), Bimini and generally the Bahamas. In the 2017 season over a period of 104 days the team working at the Bimini Biological Field Station was able to tag 14 additional great hammerheads with acoustic and satellite transmitters as well as conventional markers and thus analyze their migrations/movements. During this season 28 sharks were identified in Bimini based on photo identification, standard markings and acoustic transmitters. Fourteen of these sharks have already frequented the waters around Bimini for several years.

Analyses of the movements of great hammerhead sharks confirm a philopatric behavior. They wander in annual cycles, remain stationary in one region for a season and continue to follow this behavior over many years. In Bimini and the Bahamas they remain from October to April, while in Jupiter/Florida they stay from October to March. Hammerheads who are tagged with satellite transmitters in Bimini or Jupiter wandered up to North Virginia and back, a distance totalling approx. 3,000 km. Such seasonal and thus predictable migrations are dangerous for the already strongly endangered hammerhead populations. They increase the probability of them being caught on a targeted basis or that they die in bycatch. Hammerheads are frequently fished by hobby fishermen. They are also popular with commercial fisheries because of their valuable fins. Once on board, hammerheads are almost certainly given the death sentence as opposed to other marine species. Their "on board" mortality rate is extremely high, amounting to approx. 90%.

In a cooperative effort with Dr. Natalie MyInicenko (Disney Science and Environment) some great hammerhead females were examined with the help of portable ultrasonic device to see if they were pregnant. One female was pregnant and was tagged with a satellite transmitter. She left Bimini end of May and in June her transmitter indicated that she was located 30 km off the coast of Georgia. Since recently newborn great hammerheads were found further northeast in South Carolina, it is highly likely that the female spent her gestation period in Bimini and then swam to South Carolina to give birth to her pup. It is especially precarious when pregnant females leave the shark sanctuary off Bimini to cross unprotected US territorial waters in a phase that is so important for the survival of the species.

In 2017 a scientific publication on the results of this study was published and also presented at the Conference of the American Elasmobranch Society in Austin, Texas.

In 2017 the payment mode for this project changed from end of the year to the beginning of the year. For this reason no payments were made in 2017, instead these were carried out in January 2018.

*Investments 2017: CHF 0*

*Total investments to date: approx. CHF 212,200*

2017 successfully completed:

## Angel Sharks off Gran Canaria

The project examined the highly threatened angel shark population in the region around Gran Canaria in order to improve protection of their last remaining habitats and nurseries off the Canary Islands. Molecular-biological relationship analysis was carried out in the laboratory of Professor Mahmood S. Shivji.

Results showed that two distinguishable populations of angel sharks live around Gran Canaria, both of which are strongly isolated so that hardly any genetic exchange with other populations takes place. This means that when populations are overfished, no replacement can stem from other populations, thus making them strongly endangered. In 2016 the complete mitochondrial genome of *Squatina squatina* was published in a scientific paper. A part of this study was presented by Drs. Krupskaya Narváez and Filip Osaer at a meeting of the European Elasmobranch Association and at the Colombian Elasmobranch Conference 2016 as well as in 2017 by Cirstin Fitzpatrick at the American Elasmobranch Conference in Austin, Texas. A further scientific paper is currently in progress for 2018.

*Investments 2017: CHF 4,200*

*Total investments to date: approx. CHF 53,900*

## Whale Sharks

Whale sharks are found on the IUCN Red List and on the CITES Appendix II where they are designated a globally endangered species. In addition to work being done in Mozambique to establish a marine sanctuary for whale sharks, the team under the direction of Simon Pierce, together with local and international scientists, is studying various ecological, genetic and biochemical aspects of whale shark populations around Mafia Island (Tanzania), the Red Sea, the Persian Gulf, the Philippines, Mexico (Yucatan), the Galapagos and a new whale shark hot spot around Madagascar. The Shark Foundation has been supporting the research of Simon Pierce and the Marine Megafauna Foundation since 2009.

*Various projects and locations include:*

- *IUCN Red List of Endangered Species:* In 2017 the official assessment of the global number of whale sharks was updated and extended by data from the Arabian Sea. Current numbers point to an approximate 50% decrease in worldwide whale shark populations since 1980, with no signs of any recovery since then.
- *UN Convention on Migratory Species:* A very significant success for whale shark protection was achieved in 2017. Based on IUCN data compiled by the team of Dr. Simon Pierce and other researchers, whale sharks were placed under the highest protection (Appendix I) of the UN Convention on Migratory Species (CMS). Aim of the CMS is to protect migratory species not only in specific countries but throughout their entire territory.
- *Madagascar:* A significant reduction of individuals in all larger whale shark populations in the western Indian Ocean, especially in Mozambique and the Seychelles, was noticed. The newly found whale shark population in Madagascar thus becomes all the more important. This aggregation is fortunately considerably larger than assumed up until today. Since 2015 more than 240 sharks were identified.
- *Mexico:* Genetic studies have shown that the migration of Atlantic whale sharks is extremely rare in the Pacific or Indian Oceans. Based on the current state of scientific knowledge, two whale shark populations could be identified, an Atlantic and an Indopacific one.
- *Galapagos:* the Galapagos Island Darwin is the only worldwide location known today where fully mature, pregnant whale shark females are sighted. Small tissue samples taken from these females should provide information on their population genetics as well as their feeding habits (stable isotopes and fatty acid analysis). The sharks were also tagged with satellite transmitters (not financed by the Foundation) in order to study their migratory routes.

In 2017 the project gained prominence thanks to its introduction in the world renowned BBC Production Blue Planet 2, an important public relations spot for the endangered whale sharks.

- *Mafia Island*: The whale sharks around Mafia Island are probably the best studied population from a genetic and biochemical angle. These studies continued in 2017, among other things focusing on differences in female and male whale sharks. Also in 2017 many returning whale sharks as well as some new ones were observed. Up until today a total of more than 170 whale sharks were identified and partially examined in detail.
- *Qatar*: In the past years 59 whale sharks were marked in cooperation with Dr. David Robinson and a team from the Qatar Whale Shark Project. This resulted in the identification of a feeding ground in the approximately 66 km<sup>2</sup> area in the Al Shaheen oil field; a second feeding ground in the region was discovered next to Al Jubail in Saudi Arabia.
- *Mosambique*: Work continues in Mozambique, including research on the linkage of whale sharks in the various Indopacific and Arabian regions.
- *Biology*: Various analyses on the biology of whale sharks run parallel to protective efforts. Research is being made on where adult females and males stay after they leave the "hot spots". First results indicate that they spend the rest of their lives in open waters on the high seas.  
How do whale sharks navigate on the high seas? Movement analyses show that they occasionally submerge to depths of over 1,200 m. Is this how they better orient themselves to the earth's magnetic field?  
Further research revealed that parasites accumulate their DNA on the surface of their hosts. This so-called iDNA (DNA won from invertebrates) was discovered for the first time in marine animals in this whale shark study. Modern techniques make it possible to analyze entire genomes from living organisms faster and in the field. Genomic DNA can provide considerably more detailed information on populations and their interactions compared to classical short DNA pieces. Applying these new technologies allows more detailed analysis of international whale shark populations.

In 2017 four scientific papers were published with the support of the Foundation.

*Investments 2017: CHF 9,700*

*Total investments to date: approx. CHF 101,000*

Completed in 2016:

### Thermoregulation of 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.

In 2018 a scientific paper was published on the migratory behavior/thermoregulation of nurse sharks.

No project support was applied for in 2017.

*Investments 2017: CHF 0*

*Total investments to date: approx. CHF 27,000*

### Bull Shark Populations in Fiji

With the constantly increasing overusage of the oceans, the conservation of single key species, their populations and their habitats gains even more importance. As a large top hunter with an extensive distribution range, bull sharks belong to those key species because they significantly regulate the ecosystem in which they live. In order to manage and maintain their populations sustainably, obtaining reliable information on their distribution, reproduction, diet and behavior

is essential. Bull shark populations in Fiji have already undergone intense examination over several years. Nevertheless many questions still remain. In the framework of her doctoral thesis at the University of the South Pacific, Fiji, Kerstin Glaus (University Basel) will address several of these questions:

- Do bull shark populations in Fiji form separate reproduction communities which must also be managed separately?
- Do bull shark populations in Fiji mix with other populations in the Indo-Pacific region or are they extremely isolated?
- How do bull sharks fit into the concept of metapopulations in which individual populations can show very specific behavioral patterns but at the same time can be influenced by exchanging individuals between the different populations? Dynamic metapopulation models start off from a set of populations that are connected through genetic exchange with each other, yet who are outweighed by their individual adaptations.

For this research, genetic population studies will be carried out in the bull shark nurseries around Viti Levu and Vanua Levu. Research on the number of bull shark females who use the different nurseries as well as the survival rate of their offspring shall continue. Cohort studies of young male bull sharks in rivers should provide insight into the behavior of the young sharks. Altogether these studies should then make it possible to estimate population sizes and establish effective management plans.

*Status 2017/18:* After two years of field studies 236 juvenile bull sharks were caught in the largest rivers of the main island Viti Levu, measured, tagged and set free: 188 in Rewa, 38 in Navua and 10 in Sigatoka. The collected data is currently being modelled and the respective publication on the prevalence of juvenile bull sharks in Fiji is expected to be submitted to the professional journal "Ecology & Evolution" in August 2018.

The genetic population structure of bull sharks in Fiji will be embedded in a supraregional context. This will enable scientists to determine the gene flow between different populations and thus their degree of connectivity and isolation. The focus here is on populations within the Indo-Pacific oceans. Over 1,000 single nucleotide polymorphisms (SNPs) were identified and biostatistically analyzed to determine the genetic population structure and connectivity between bull sharks from the Indo-Pacific. Results show that the bull sharks off Fiji and New Caledonia are genetically different, while a high degree of connectivity exists between the remaining populations. One possible reason for this observation is that the gene flow between the bull sharks off Fiji and New Caledonia and the other populations is limited due to discontinuous habitats and biogeographic barriers within the oceans (e.g. currents, deep sea trenches, temperature differences).

Bull sharks belong to the viviparous shark species. Although the occurrence of juvenile bull sharks in the three river systems has been successfully documented, the exact places of birth are not known. In October 2017 20 acoustic receivers were thus stationed in four rivers. Eleven pregnant animals and 3 juvenile bull sharks were tagged with acoustic transmitters. The transmitters used for the young animals have a service life of up to 10 years so that the movements and habitat usage of the bull sharks off Fiji can probably be documented for the first time over a period up to 10 years.

*Investments 2017: CHF 15,000*

*Total investments to date: approx. CHF 30,000*

New 2017:

### Ecological analysis of blue sharks in South Cornwall (England)

Blue sharks (*Prionace glauca*) are large pelagic sharks and top predators found worldwide in moderate and tropical waters. Like other shark species they represent an important regulation factor in their marine ecosystem.

Blue sharks are caught directly because of their fins or they die as bycatch in fishing fleets on the high seas. Their status on the Red List of Endangered species is "near threatened", i.e. shortly before or with a strong tendency to becoming "endangered". Respective data on their current situation is missing, so that they may already have to be classified as "endangered".

Besides being threatened by fishing, blue sharks and other top predators also have problems due to the accumulation of environmental pollutants. The concentrations of arsenic and

mercury measured in blue sharks are already far above European value limits. PCB (polychlorinated biphenyl), PAH (polycyclic aromatic hydrocarbons) and DDT (Dichlorodiphenyltrichloroethane) can also accumulate and impair the health and fertility of top predators.

The project aims at:

- Analyzing the general quality of the waters around the southwest coast of Cornwall.
- Identifying whether a region is used as a feeding ground or whether the blue shark population there is homogeneous by examining photo IDs of the dorsal fins and making genetic analyses of populations.
- Determining the health of the populations using chemical and genetic analysis methods.
- Explaining and sensitizing the local population to the situation of blue sharks along the southwest coast of Cornwall.

At the beginning of the project certain problems were encountered with the biopsy needles. Together with the research team from Fiji and Gary Adkison, President of the Shark Foundation, these problems were solved quickly thanks to their many years of experience in gathering tissue samples from bull sharks. It is just one out of many examples in which the Shark Foundation can help solve problems encountered quickly and efficiently thanks to their extensive network of research teams.

*Project Management:* Dr. Andrea Gaion, South Devon College

*Investments 2017:* CHF 6,500

*Total investments to date:* approx. CHF 6,500

New 2017:

### Artisanal Fisheries in Angola

In West Africa an alarming decrease in sharks has been noted, mainly because of the ever increasing demand for shark fins in the Asian region. Great hammerheads, lemon sharks and bull sharks have especially suffered a dangerous reduction in populations, but also many other shark species are affected.

Angola lies in the northern part of the so-called "Benguela Current Large Marine Ecosystem (BCLME)." The BCLME is an extremely productive maritime region where deep water rich in nutrients is pushed to the surface by eddies formed through the confluence of the Benguela and Angola rivers.

The demand for shark fins is the reason that especially in Angola within the last 10 years the local coastal fishery has massively increased (source FAO). No exact data on targeted shark fishing is yet available, but shall be collected in the project.

*Project Management:* Dr. Rima Jabado (Environment Agency Abu Dhabi)

*Investments:* approx. CHF 9,500 over a 2-year period (2017/18-2019)

*Investments 2017:* CHF 4,685

*Total investments to date:* approx. CHF 4,685

### Short Projects

#### **Bull Shark Tagging Program Fiji**

In 2017 the Foundation repeated its support of the long-term bull shark tagging program with acoustic transmitters headed by Dr. Jürg Brunnschweiler on Fiji. Purpose of the project is to follow the life cycle of bull sharks living off the coast of Fiji and study the effects of tourist diving on the behavior of bull sharks.

A broad spectrum of scientific research methods – from direct observation, movement analyses with the aid of acoustic and satellite transmitters up to population genetic analyses and the evaluation of information received from local fishermen – are all applied here. The

program's objective is to optimize the protection of bull sharks off Fiji based on the acquired data.

*Project Manager:* Dr. Jürg Brunnschweiler

Investments 2017: CHF 5,000

Investitionen bisher: ca. 10'000 CHF

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

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### Media/Public Relations

In 2017 the Foundation also supported lectures, gave various interviews, wrote articles for diverse media and provided expert advice and tips on sharks and shark protection.

### Web Server

In 2017 the Shark Foundation's German website ([www.hai.ch](http://www.hai.ch)) recorded approx. 174,214 actual visitors who called up 844,747 pages. The English website ([www.shark.ch](http://www.shark.ch)) had roughly 113,155 visitors who called up 248,364 pages.

Clearly leading in popularity on the pages frequented in [www.hai.ch](http://www.hai.ch) was again the Shark Database.

As for the English website [www.shark.ch](http://www.shark.ch) the favorites were the homepage followed by the shark database.

2017 marked the first complete year on the new Hostpoint platform and since the latter's web statistics allow more specific analyses, a direct comparison to 2016 is not really useful.

On [hai.ch](http://hai.ch) 44% of the browsers were mobile versions, on [shark.ch](http://shark.ch) at least 30%. It is thus urgently necessary to transfer the pages into an CMS System with responsive design. This project is already in progress.

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## Administrativa

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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.