

TURTLE FOUNDATION

Protecting Sea Turtles and their Habitats

Annual report **2017**



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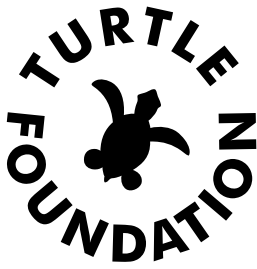
Fundação Tartaruga Cabo Verde: Euclides Resende

Turtle Foundation Germany: Prof. Dr. Otto Jockel

Turtle Foundation Liechtenstein: Dr. Frank Zindel

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Our Vision

... is a future where sea turtles and their habitats are sustainably protected, healthy, and safe from threat of extinction and destruction.

Our Mission

... is to contribute to sea turtle conservation at our own project sites by cooperating with local communities to create a future where both seaturtles and people can thrive.

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PREFACE



Dear friends and supporters of the Turtle Foundation,

In 1993 I got my diving license on Bonaire in the Caribbean and was immediately fascinated by the underwater world. In 1999, my husband Frank Zindel and I spent our diving holiday on the Island of Sangalaki off East Borneo, Indonesia. At that time we didn't know that this holiday would be the birth of the Turtle Foundation! During this stay, we were allowed to witness the turtles' laborious egg laying activities every night, but then we were shocked to discover that all the eggs were dug up by egg collectors the next morning. It quickly became clear to us that we must do something. After our return to Liechtenstein, by chance we saw a television documentary reporting exactly these terrible conditions on Sangalaki that we had to experience there ourselves! After contacting the filmmaker, together we founded the Turtle

Foundation. Our first website was created with an HTML handbook, the logo was designed, and with financial support from friends and family we were able to start the protection project on Sangalaki.

Today, almost 20 years later, the Turtle Foundation still exists and thanks to your donations and support, we are getting closer and closer to the fantastic mark of 10 million rescued sea turtle hatchlings on the islands of the Derawan Archipelago. I would therefore like to thank all donors, supporters, sponsors, members etc. from the bottom of my heart. My thanks also go to all those who work for the Turtle Foundation free of charge, and to the volunteers who spend their holidays protecting nesting beaches in Cape Verde. Children who donate their pocket money, school classes that collect money for the turtles, youth groups that draw attention to the Turtle Foundation with a booth during the Christmas season, altogether motivate me again and again to continue to work tirelessly for the protection of the "Dinosaurs of the Seas".

Thank you so much!

Christine Zindel

Board member of Turtle Foundation Switzerland and Liechtenstein



THE TURTLE FOUNDATION

The Turtle Foundation is an international association of closely linked organizations for the protection of turtles and their habitats. It currently consists of five national bodies registered in their countries as charitable, tax-exempt organizations under local laws: Turtle Foundation (TF) Germany (since 2000), TF Switzerland (since 2006), TF USA (since 2006), TF Cape Verde (since 2012; local name: Fundação Tartaruga), and TF Liechtenstein (since 2014). In addition, the Turtle Foundation Friends Association is registered as a nonprofit, tax-exempt organization in Germany. The Turtle Foundation primarily conducts operational activities and currently runs two conservation projects in Indonesia and Cape Verde. Our aim is to prevent the imminent extinction of sea turtles, to enable re-growth of the depleted populations back to healthy levels, and to prevent mistreatment of sea turtles. We foster the sustainability of our conservation projects by accompanying environmental education activities and by programs to create alternative income opportunities for the local population, with a focus on environmentally compatible and sustainable use of coastal and marine habitats.

We are very pleased that one of our main sponsors of the Boavista project, *MAVA Fondation pour la Nature*, committed to significantly increase the project funding in the coming years. In 2022, after 28 years of funding many very successful nature conservation projects, MAVA will discontinue its funding activities according to its statutes. MAVA now attaches particular importance to ensuring the effectiveness and sustainability of its engagement beyond 2022. The aim is to ensure that the project partners can continue and expand their work for nature conservation even after MAVA funding ceases. Regarding the Cape Verde project, the cornerstone of this program was laid in 2016/17 with the development of an action plan for an integrated protection concept for sea turtles in the West African archipelago. We

expect from this development great progress in the efforts for the conservation and recovery of the marine turtle populations in Cape Verde.

PROJECTS 2017

Project Cape Verde

Project background

The island state of Cape Verde off the coast of West Africa is home to the world's third largest nesting population of the endangered loggerhead turtle (*Caretta caretta*). About two-thirds of them nest on the easternmost, desert-like Island of Boavista (Fig. 1). Despite legal protection, the loggerhead turtles of the Cape Verde islands are unfortunately exposed to a number of existential threats. The greatest danger lies in the rampant poaching of females that come ashore to nest; however, also illegal hunting at sea, unwanted but generally deadly by-catch in fisheries, pollution of the seas, as well as uncontrolled tourism development take their tolls. Therefore, the local population of loggerhead turtles is officially classified as "endangered" and is one of the 11 most threatened sea turtle populations in the world. Although all species of sea turtles in Cape Verde are protected by law, protection is not enforced sufficiently. Alerted by the report of 1,200 turtles killed on the beaches of Boavista in 2007, the Turtle Foundation launched its conservation project on Boavista in 2008 and has been expanding ever since.



Fig. 1: Loggerhead turtle on Boavista after egg laying.

In 2012, the Fundação Tartaruga was founded on Boavista as an independent branch of the Turtle Foundation. Fundação Tartaruga is currently responsible for the implementation of the conservation project.

Project organization

During the nesting season, field stations (beach camps) are set up and operated at strategic points from which beach surveillance is carried out (Fig. 2). The organization and logistical supply of the camps (food, drinking water, technical support, etc.) is carried out by management and logistics teams in the headquarter of Fundação Tartaruga in the island capital Sal Rei. There, the project is led by Euclides Resende, João Cruz (each from Cape Verde), and Joana Nicolau (Portugal). They are supported by a coordinator for the volunteers program, a coordinator for public relations and environmental education, and by logistics staff. To assist rangers in patrolling the beaches, the Turtle Foundation runs a volunteer program every year between June and October. We were pleased to welcome 42 volunteers (6 Cape Verdean and 36 international) to our team this year!

We have acquired a warehouse in order to ensure the proper and safe storage and maintenance of material and equipment, which have become increasingly extensive in recent years. The building is located in the industrial area of Sal Rei. Heavy duty racking and workshop equipment will provide optimum use of the available space.



Fig. 2: Camp of Fundação Tartaruga at the beach of Canto.

Intensified local cooperations

Despite two community-based turtle protection projects, which are mentioned below, two other organizations are working in sea turtle conservation on Boavista, namely *BIOS.CV* and *Cabo Verde Natura 2000*. These organizations are monitoring different beaches and there was so far only sporadic cooperation in supporting programs such as organizing joint educational and awareness-raising activities. Within the framework of the MAVA funding program, however, cooperation has been significantly increased since 2017 in order to better bundle the forces in favor of sustainable sea turtle and nature conservation and to avoid duplication of activities. In the future, responsibility, organization and execution of important cross-functional tasks will be shared among the organizations. Fundação Tartaruga will be in charge of community engagement activities, while *BIOS.CV* and *Cabo Verde Natura 2000* will coordinate environmental education and scientific work, respectively.

Nesting beach surveillance

In 2017, the core project of Fundação Tartaruga was again the surveillance of beaches for protection against poaching on nesting female turtles during the nesting season between early/mid-June and late October. In the particularly vulnerable northeastern part of the island, the so far unguarded 4 km long beach Cruz do Morto was patrolled regularly for the first time, which reduced the number of documented poaching cases from 30 in 2016 to zero in 2017. For this purpose, additionally to our so far operated three beach camps a new camp including the necessary logistics was set up (Fig. 3). A fifth camp was newly created at the northeastern end of Curral Velho beach in order to better guard the northeastern part of this beach (Fig. 4). In 2017, with these five beach camps, nine beaches with a total length of more than 30 km were protected. Another 11 kilometers of beach were protected by two community-based conservation projects, which were supervised and financed by Fundação Tartaruga/Turtle Foundation (see also “Community involvement”). For the first time together more than 40 kilometers of beach on Boavista were effectively protected from poachers by the initiative of Fundação Tartaruga/Turtle Foundation. Other beaches in the east and southeast of the island



Fig. 3: In 2017, a patrol camp was set up for the first time on the so far unprotected beach of Cruz do Morto. As a result, the number of poached turtles dropped from at least 30 in the previous year to zero. **Fig. 4:** Thanks to another newly established camp, the northeastern section of the long Curral Velho beach long beach could now also be better guarded.

with a total length of ca. 15 km and with large nesting numbers were monitored by the organizations BIOS.CV and Cabo Verde Natura 2000 as in the years before.

The monitoring of the beaches, mainly by nighttime beach patrols to protect the nocturnally nesting turtles, was carried out by local rangers and local and international volunteers supervised by camp and field coordinators (Fig. 5). Every sighted turtle was guarded until it returned safely to the water. Subsequent morning patrols completed the data collection and observations of the previous night.

After setting a new record for turtle landing and nesting numbers since onset of data collection already in the nesting season 2016 (4,062 nests on all beaches, including community-based project Varandinha in 2016), this figure was exceeded by 39% in 2017 with 5,650 nests recorded, of which the newly added beaches had only a small share. These nests were laid by an estimated 1,130 individual turtle females.

On all beaches that were protected by our initiative, remnants of 21 killed turtles were found (Fig. 6), resulting in a rate of documented poaching of 1.9% based on the calculated number of nesting females. By including an estimated rate of 100% of undetected cases, this would result in a rate of nearly 4% of the turtles that nested on these beaches in 2017. Against the background of our long-term 0% target, this is still too much, but a great success when

compared to the bloody massacres before we intervened at the project beaches.

However, the apparently small number of fewer than 50 poached turtles (including estimation of undetected cases) on our project beaches during the entire nesting season must not hide the fact that we are dealing with the proverbial tip of the iceberg. It is estimated that in 2017 about 470 turtles were poached on all beaches of Boavista in total; additionally, the unknown number of animals killed by off-shore poaching is not even taken into account.

Due to certain anthropogenic and natural circumstances a number of turtle nests have only bad prognoses for successful development. In order to



Fig. 5: Field coordinator Alberto Queiruga plans the shifts of the night and morning patrols of the coming day.



Fig. 6: One of 21 poached turtles detected at our project beaches in 2017, which we were unable to save despite our intensive efforts. **Fig. 7:** Construction of the new hatchery on the beach of Boa Esperança.

give those nests a chance they are carefully relocated to safer beach areas or in special breeding stations (hatcheries). For some years now, we have been doing this with nests on Lacacão Beach, which are particularly vulnerable to artificial beach lighting caused by a mass tourism RIU/TUI hotel and an associated water treatment plant. In 2017, we additionally built a new pilot hatchery on the beach of Boa Esperança (Fig. 7), where we want to clarify the suspicion of a possible unusually high loss of eggs due to predation by ghost crabs. In both hatcheries together 196 nests were bred under protected conditions, from which 12,939 turtle hatchlings emerged. The hatching rate of 78.5 % was in the range of the natural hatching rate in undisturbed nests, thus confirming the high quality of our measures.

Research and monitoring

All landing and nesting activities of the turtles observed by our night and morning patrols were recorded together with the corresponding location data as acquired by GPS measurements. In addition, as far as circumstances made this possible we have measured every nesting turtle found, and either tagged it with Inconel and electronic (PIT) tags or, if tags were already present, recorded the tag data along with the measurements. In 2017, a total of 870 animals were newly marked. The data are used to obtain further information on the biology of the local population of loggerhead turtles in order to improve conservation management and protection measures.

As in previous years, we have collaborated with the research group of Dr. Christophe Eizaguirre of *Queen Mary University of London* (QMUL), which conducts research on loggerhead turtles at various locations throughout the archipelago, including Boavista.

Community engagement

The direct protection of the nesting beaches is a very important emergency measure to avert immediate threats to the turtles. However, these efforts would not be sustainable without a strong focus on involving the local population in nature conservation measures and on raising environmental awareness. In the future, sea turtles should no longer be present in the public mind as meat source, but rather as a national emblem and valuable natural resource for alternative income worthy of protection.

In 2017, 99 people including volunteers were involved in the Turtle Foundation projects on Boavista (community-based projects not included). A total of 57 people were either employed all year round or seasonally hired (management, technical support, logistics, camp and field coordinators, rangers); of those, 51 (89%) were Cape Verdean residents. Forty people worked as rangers on the beaches on a seasonal basis (Fig. 8; 2016: 26 rangers).

In view of the limited income sources on Boavista, these direct income opportunities are a great chance for employment for many Cape Verdean citizens, who also act as ambassadors for the cause of sea turtle and marine conservation. Since 2011

we have been supporting the *Associação Varandinha de Povoação Velha* (AVPV; Association Varandinha of Povoação Velha) from the village of Povoação Velha in the south of Boavista. Members of the community patrolled beaches in the south and southwest of the island (“Project Varandinha”). In 2017, the quality of these patrols was raised for the first time to the same level of completeness, regularity, and professional data collection as the Turtle Foundation’s own beach protection activities. Fourteen people were employed in this project on a seasonal basis, protecting a total of about 8 km of beaches.

The long-standing success of the community-based project in Povoação Velha encouraged us to replicate this concept in another village in northern Boavista called Bofareira (Fig. 9). Four members of the local association *Associação Onze Estrelas da Bofareira* were trained by an experienced Spanish coordinator to become rangers and, during the course of the “Project Bofareira”, they patrolled the approximately 3 km long beach Altar in the north of Boavista following our proven scheme.

In 2018, we will hire an experienced coordinator for the planning, coordination, and implementation of participatory community projects in the coming years. For the success of these projects it is important to have reliable information about public opinion, attitudes, and behavior towards the protection of sea turtles and the environment, but

also about demographic, social, educational and economic structures of the population. Already in 2016 the Turtle Foundation started a social survey based on questionnaires among randomly selected members of all communities on Boavista. The study was largely evaluated in 2017 and will be presented to a specialist audience at the 38th Annual Meeting of the *International Sea Turtle Society* (ISTS) in Japan in February 2018. A total of 951 people participated in the study, corresponding to 6.1% of the population of Boavista (official population size reported for 2016: 15,533). As a result of this study, we see great need and potential for optimizing our community work, especially in the villages of the northeast.

Awareness and environmental education

The “School in Nature” (*Escola na Natureza*) is a proven and successful environmental education program for children and adolescents, which has been carried out by Fundação Tartaruga/Turtle Foundation already for several years and which was expanded significantly in 2017. We invite local children and young people to spend either a day or a whole weekend in one of our beach camps, take part in our environmental education classes, and experience the nature of their home country directly. Under the direction of the Cape Verdean teacher Alcidia Mendes, the “School in Nature” was carried out 12 times in 2017 (2016: 5 times), with a total of 154 participating young people (2016: 71; Figs. 10, 11). This was the first year in which the program also took place at Camp Canto



Fig. 8: Ranger in the community tent of Camp Canto during the lunch break. **Fig. 9:** The Project Bofareira initiative was launched in 2017. Coordinator Laura Sanchez trains two of the four community guards who then actively protected the turtles on the beach Altar from poachers.



Fig. 10: In a lesson at one of our “School in Nature” events at Camp Canto, teacher Alcidia Mendes presents the consequences of the increasing pollution of the seas to children. **Fig. 11:** Afterwards the motivation for a thorough beach cleaning action was great...

(in previous years it could only be carried out in the Lacacão and Boa Esperança camps), which enabled the participation of children from the particularly important northeastern communities.

Other activities for environmental education, public information, and awareness-raising included film screenings, presentations on sea turtles, exhibitions, arts and crafts workshops, beach cleaning activities and an annual and now very popular football match between teams from the NGOs and the communities (“Turtle League”; Figs. 12, 13).

Advocacy

The Fundação Tartaruga / Turtle Foundation is an active founding member of the Cape Verdean sea

turtle network TAOLA (*Tartaruga Kriola*), which brings together all organizations and authorities involved in the protection of turtles in the Cape Verde archipelago. During 2017, several meetings were held in Cape Verde with the Parliamentary Commission for Economic Affairs, Environment, and Spatial Planning to improve national legislation for the protection of sea turtles. The joint effort of all TAOLA members finally led to the ratification of a law by the parliament of Cape Verde parliament on 22 January 2018, which for the first time not only penalizes the killing of sea turtles, but also criminalizes the consumption of meat and eggs. It is hoped that the authorities will then finally begin to prosecute crimes against protected turtles.



Fig. 12: Children painted small wooden sea turtles during an environmental education lesson in a local school. **Fig. 13:** Team of the Fundação Tartaruga in the “Turtle League” 2017.

Local partnerships

In order to fulfill our tasks in the best possible way, we maintain various partnerships with local authorities, institutions, groups, and small tour operators. Especially we would like to mention our commitment to TAOLA and our association with all the other groups working in Cape Verde for turtle protection, including *BIOS.CV* and *Cabo Verde Natura 2000* on Boavista. For years, we have been working closely with Dr. Christophe Eizaguirre from the *Queen Mary University of London* (formerly at GEOMAR Kiel, Germany) on scientific questions.

We also expanded our partnership with *Project Biodiversity Sal* (PB Sal), an organization that protects nesting beaches on the neighboring Island of Sal. In 2017, also on Sal a record number of nesting loggerhead turtles was recorded, with a total of 7,634 nests counted by PB Sal. Furthermore, with the expansion of PB Sal's activities, only in the recent years has the great importance of Sal as the second largest nesting rookery in Cape Verde become apparent. Unfortunately, however, the turtle population on Sal suffers from particularly high poaching pressure. In 2017, we supported PB Sal by donating one pick up and one quad bike from each of our stocks, as well as with other material such as GPS devices, rechargeable batteries with associated chargers, and equipment for tagging turtles.

Visit of Prince Albert II of Monaco

A highlight of the year was the visit of Prince Albert II of Monaco to Boavista in September. The visit took

place as part of the three-year Monaco Exploration Expedition of the research vessel M/V Yersin, which was initiated by the Princely House. Prince Albert II and scientists of the expedition received representatives of our team and other local nature conservation organizations on board the M/V Yersin and discussed the numerous questions and challenges of marine species conservation in Cape Verde. Afterwards, Prince Albert II and his delegation visited our camp Lacacão and our hatchery on the beach of Ponta Pesqueira in the south of the island (Fig. 14).

Project Indonesia

Project background

The conservation project on the Derawan islands in the Berau district of the Indonesian province of East Kalimantan on Borneo has been in place since the Turtle Foundation was founded in 2000. The project area is part of the so-called coral triangle, the world's richest hotspot of marine biodiversity. Distributed over several islands, the area holds the world's eighth-largest nesting rookery of the green sea turtle (*Chelonia mydas*; Fig. 15). Further, the coral reefs of the archipelago are feeding grounds of an important population of hawksbill turtles (*Eretmochelys imbricata*). Since 1999, in Indonesia all species of sea turtles have been protected by law. Nevertheless, until the end of 2001, the Berau district government issued concessions for the collection of sea turtle eggs on the archipelago's islands, which had been occurring for decades (Fig. 16). After the official ban of egg collection starting in 2002, eggs were still collected and traded on a large scale. If this activity had continued unabated, the population would have been completely eradicated in the foreseeable future.

The Turtle Foundation has conducted operational activities in the Berau district since its foundation in March 2000. Intensive negotiations with the local authorities led to the formal ban on the collection of turtle eggs in the region from 2002 onward. In the beginning, protection could be enforced only on the Island of Sangalaki by rangers of the Turtle Foundation and officials of the local nature conservation authority BKSDA. Since 2012, the BKSDA is solely responsible for the protection of Sangalaki. As of January 2008, protection programs were addi-



Fig. 14: Prince Albert II of Monaco visits our conservation project at the Lacacão beach camp.

tionally started on the islands of Bilang Bilangan and Mataha, and ranger stations erected there. Until the break with our local partner YPB in August 2014, the program was fully financed by Turtle Foundation. From the beginning of February 2015, the operation was continued by our new cooperation partner BLB (*Berkumpulan Konservasi Biota Laut Berau; Association for the Protection of Marine Life in Berau*), who then took over most of the rangers previously working on the project.

Protection of the nesting islands Bilang-Bilangan and Mataha

In 2017, our main activity in the Berau district focused on the continuous protection of nesting green sea turtles and their nests on the beaches of Bilang-Bilangan and Mataha from poachers (Figs. 17, 18). This work was carried out on-site by our partner

organization BLB under the leadership of Berlianto Daniel. Unfortunately, however, the cooperation with BLB had to be terminated in October 2017; until then, regular operation of the protection stations had taken place (see “Reorientation of the protection project”).

Until October 2017, about 10 rangers worked on both otherwise uninhabited islands, with at least three rangers continuously present on each island and patrolling the beaches several times a day. Additional major tasks of the island crews included professional relocation of endangered nests, the collection of nesting data, and the regular cleaning of beaches from washed up plastic waste and driftwood (Fig. 19). BLB's financial resources for carrying out these activities, including ranger salaries, supplies of materials and food, transport to and from



Fig. 15: A green sea turtle in the Derawan archipelago returns to the sea in the early morning hours after nesting in the night before. **Fig. 16:** Until end of 2001 turtle eggs were massively collected on Sangalaki with the permission of the local government, the turtles had no chance. Turtle nests are still threatened by poaching wherever they are not effectively protected.



Fig. 17: The project island Bilang-Bilangan. **Fig. 18:** Field station with hatchery on the project island Mataha.



Fig. 19: Driftwood, which is washed into the sea in large quantities over the rivers due to the deforestation in the interior of Borneo, is an obstacle for both nesting turtles and hatchlings. The driftwood is therefore regularly collected, cut, and burnt.

the islands, and local administrative costs, were provided almost exclusively by the Turtle Foundation.

Due to the termination of our cooperation with BLB, we have unfortunately so far only received figures on the nesting activity through the end of August, 2017. Up to that time on both nesting islands together we counted 4'978 nests, with 3'780 nests on Bilang-Bilangan and 1'198 nests on Mataha. Even though we are still lacking the figures for the following months, we can already deduce an above-average nesting activity for 2017, which may have been higher than in each of the three preceding years. From the number of nests it can be calculated by including the average number of eggs per nest, hatching rates, and natural losses that approximately 410,000 turtles hatchlings emerged from these nests in 2017 through the end of August. This would not have been possible without our protection, as experience shows that without continuous beach surveillance practically all nests would have fallen victim to egg poaching. In total, from the beginning of our protection project in the Derawan archipelago until the end of August 2017, we saved in absolute terms about 9 million sea turtle hatchlings.

Reorientation of the protection project

After we were forced to change our Indonesian project partner in 2014, we unfortunately had to end our relationship with our new project partner BLB in October 2017. This was due to increasing irreg-

ularities in accounting and reporting. Despite considerable efforts on our part, the situation did not improve and our concerns about the correct use of the donations entrusted to us and forwarded to our project partner increased accordingly.

In the end, we felt compelled to withdraw further funding from BLB as of October 2017. Equipment that was lent to BLB (speedboat, moped, and other) was reclaimed and handed over to us in November. The local authorities and other stakeholders have been informed of this step. We deeply regret this measure also with regard to the local rangers, some of whom have been working in the project for many years and who are not to blame for the failure of the local project management.

As far as information is available to us, BLB continues to operate at least formally on the islands. As long as the protection of sea turtles and their nests on Bilang-Bilangan and Mataha would be guaranteed, we would of course be in complete agreement with BLB's activities even without our participation. Unfortunately, this is clearly not the case. We receive regular reports of significant shortcomings in project implementation, increasing decay of the local project, and increased incidence of egg theft. One day in November 2017 alone, 45 nests (approximately 4,500 eggs) were stolen from Bilang-Bilangan Island according to *Profauna's* investigation.

Together with our long-standing Indonesian partner *Profauna*, we have therefore decided to regain control of the project as soon as possible.

The transition process will involve a certain amount of administrative effort and official decisions, which hopefully will be completed in the first months of 2018. We would also be very happy if our rangers would take part in the change and continue to work on the project.

Partnership with TNC

An important step towards consolidating and expanding our activities in the region is the start of a cooperation with the large international nature conservation organization *The Nature Conservancy* (TNC). TNC's involvement in the marine regions of the Berau district is also linked to a large program

organized by the *German Society for International Cooperation* (GIZ) for the protection of biotopes in the Sulu-Sulawesi marine ecoregion (SSME), to which the Berau region belongs. The main task of TNC will be to develop and to implement a management plan for the protected marine areas of the region together with the Indonesian government. The nesting islands Bilang-Bilangan and Mataha are supposed to belong to the core zone of the protected area and therefore would enjoy special protection status. Together with TNC, we developed a comprehensive and integrative master plan for the protection of sea turtles in the Berau region in September 2017.

Nesting islands Belambangan, Sambit, and Sangalaki

By guarding the nesting islands Bilang-Bilangan and Mataha, about 50% of the nests of green sea turtles in the Derawan Archipelago can be effectively protected from illegal exploitation. This however is not enough for the long-term survival of the local nesting population — especially as we have to assume that a large part of the other half of the nests will still be poached and consumed. For many years we have therefore been trying to extend our protection program to the two neighboring nesting islands Belambangan (Fig. 20) and Sambit. Unfortunately, this has failed so far due to lack of financial and organizational means. In the course of our planned project expansion and cooperation with the TNC, however,

we are now confident that we will be able to set up and operate a protection program on these islands in the near future based on our proven system. In the meantime, *Profauna* has carried out investigative research for us there, confirming the long-held suspicion that a large part of the eggs traded illegally in the Berau district originate from these islands (Fig. 21).

We are also concerned about the protection of sea turtles and their nests on the Island of Sangalaki, where we have been running a protection project from the foundation of our organization in 2000 until October 2012. From then on, the project was continued by the Indonesian nature conservation authority BKSDA, but we keep receiving news about organized poaching on Sangalaki. Also in 2017, we continued to collect all available information to document existing grievances. There seems to be an organized chain of collectors and traders of turtle eggs from Sangalaki. Egg poachers from the neighboring Island of Derawan even threaten the employees of the BKSDA, who formally are protecting the nests. We further disapprove of the BKSDA small head-starting basin on Sangalaki that the BKSDA has built, where, as usual in many places in Indonesia, freshly hatched turtles are being detained in order to be “sold” to tourists for celebrating releasing events (Fig. 22). Unfortunately, we currently do not have the opportunity to take official action on Sangalaki, but we will do so as soon as the situation changes.



Fig. 20: The still unprotected turtle nesting island Belambangan in the Derawan archipelago. **Fig. 21:** A member of Profauna discovered this box full of turtle eggs during his research on Belambangan, which was hidden there by egg poachers in order to be collected later by a middleman.



Fig. 22: Tourists are handling turtle hatchlings in a dirty headstarting basin on Sangalaki. (Image: Internet). **Fig. 23:** Bomb attack on nature: Another case of destructive blast fishing, documented by Profauna near the turtle nesting islands Bilang-Bilangan and Mataha. (Image: Profauna)



Fighting bomb fishing

Illegal fishing with explosives is still a major national problem in Indonesia and is heavily affecting the Berau region (Fig. 23). This extremely destructive fishing method not only kills countless other animals, but also destroys the valuable and sensitive coral reefs. In addition to the immense ecological damage, the vast majority of those fishermen who earn their livelihood honestly are deprived of their livelihoods, because coral reefs are breeding grounds for numerous economically important fish species. Turtles killed by explosives are repeatedly washed up on the islands and coasts of the region. With our support, *Profauna* is working intensively to combat bomb fishing in the region. Corresponding cases in the vicinity of our nesting islands are documented with a long-range camera and the videos are sent to the responsible authorities. Together with the local coast guard, *Profauna* patrolled the area of the nesting islands in November and December 2017. Further, it has turned out that bomb fishing near the nesting islands is being operated by a handful of players on the inhabited Island of Balikpapan who take up the lion's share of the profits and have left the dangerous work with the unpredictable bottle bombs to their handlers.

Awareness and environmental education

Great efforts beyond direct beach protection are required to put the protection of sea turtles on a sustainable basis. This includes the dissemination of knowledge about the importance of sea turtles

in marine ecosystems and the threats they face. Since 2015, our environmental education programs have been very successfully continued by *Profauna*. In the course of 2017, *Profauna* visited a total of 41 schools in the Berau district (Fig. 24). There, a total of 2,160 students were introduced to the needs of sea turtle and marine conservation through presentations, film screenings, discussions, and quizzes.

Protection of hawksbill turtles

The extensive coral reefs of the Derawan Archipelago are habitat and feeding grounds for a significant population of hawksbill turtles. These animals are especially endangered because they are still being hunted to obtain turtle shell used for the production of bracelets, necklaces, keyrings, etc., or to end



Fig. 24: Children and teachers after an environmental education event in the Berau district organized by Profauna.



Fig. 25: In a hotel in the district capital Tanjung Redeb, our folders containing a map and information on the problems of buying turtle shell products are waiting for to be taken by tourists. (Image: Profauna)

up as stuffed wall decorations. These products are locally sold to tourists. This is officially banned, but so far barely prosecuted by the authorities. Since 2014, we have been running a campaign against the trade in turtle shell in the Berau district conducted by *Profauna*. Local shops and market booths are monitored and reported to the authorities when offering turtle shell products for sale. We have also produced flyers for tourists, which contain a map with tips for activities in the region along with important information on the problems arising from buying turtle products. In 2017, *Profauna* distributed a total of 2,350 copies of these flyers in 12 of the largest hotels in the district capital Tanjung Redeb, which are regularly visited by local and international tourists as a stopover for a stay on Derawan (Fig. 25). Thanks to these measures, the sale of turtle products in Berau has already been significantly curbed. However, a continuation of the campaign is essential to maintain pressure against the trade with sea turtle products.

Anti headstarting campaign

The widespread practice of breeding sea turtle hatchlings in water tanks (headstarting) in Indonesia remains a major problem. This is partly due to misconceptions about appropriate measures for the protection of sea turtles, which are unfortunately still often propagated by the authorities. However, pure economic interests are also very often in the foreground, since the captive animals are marketed as tourist attractions. In order to document the

negative consequences of the headstarting practice using concrete examples, in 2017 we commissioned a small study for investigating headstarting facilities in West Sumatra, where this practice is particularly widespread (Fig. 26). In the city of Pariaman, we had to document terrifying conditions in such a facility



Fig. 26: Turtle suffering in a bath tube under the gaze of paying tourists in a "rescue station" for sea turtles in Pariaman, West Sumatra. (Image: Michal Tóth)



Fig. 27: With our colorfully illustrated brochure "Ready to go/Siap berlayar" children learn to have a different view on using turtle hatchlings for public display. (Image: Profauna)

where large quantities of antibiotics intended for fish and shrimp farming are used for trying to keep the dying turtles alive.

In order to explain the detrimental effects of turtle headstarting, we produced the bilingual and colorfully illustrated brochure “Ready to go/*Siap berlayar*” some time ago, which has now been printed in several editions (Fig. 27). The brochure is distributed with the help of local partners, especially in tourist areas of Indonesia. In 2017, over 800 copies of the brochure were distributed by *Profauna* in schools and other locations in the Berau district.

Turtle consumption on the Mentawai Islands

Indonesia still has many regions where, despite legal protection, sea turtles are exploited for food. One such area is the Mentawai Islands off West Sumatra, where we conducted a field study on the local occurrence of sea turtles and their immediate threats in May 2017. We found that not only turtle eggs are consumed there, but the animals are also regularly hunted for their meat. In the traditional culture of the Mentawai Islanders, turtle meat is consumed at various community celebrations such as the inauguration of a new clan house (*uma*). The carapaces of the killed animals are kept together with other hunting trophies in the roof trusses of the houses and are supposed to give blessings to

the inhabitants of the house (Fig. 28). Turtle meat consumption is not only problematic from the viewpoint of species protection. In the tropics there are repeated cases of so-called *chelonitoxism*, a rare but often fatal poisoning caused by turtle meat, which hits children the hardest and the causes of which are not yet been fully understood. We are now examining ways to initiate a general rethink of sea turtle consumption in cooperation with local authorities and local people. The two Indonesian colleagues Zai Meriussoni and Stefanus Satotton Ake, who carried out the study, came to our conservation project in Boavista in summer 2017 for a three-month training session to learn the “craft” of turtle protection. Stefanus Satotton Ake himself comes from one of those villages in the south of the Mentawai island Siberut that we want to win as a cooperation partner. Initial preliminary talks with influential clan leaders showed some willingness to replace turtle meat with pork meat.

Partnerships

The work of the Turtle Foundation in Indonesia is supported by various national and international partnerships. Our most important local partner is *Profauna*, especially its local branch *Profauna Borneo*, which is currently in charge of all environmental education and public relations activities in the Berau region and is in close contact with the authorities. *Profauna* also conducts ongoing investigation on illegal trade in turtle shell and turtle eggs in the Berau district. *Profauna* regularly organizes public campaigns and demonstrations to protect turtles in various parts of Indonesia. Further we would especially like to mention the partnerships with *The Nature Conservancy* (TNC), *Healthy Islands*, *Trash Hero*, the *Gadjah Mada University* in Yogyakarta, the *Mulawaman University* in Samarinda, IMEN/JaPeKI (*Indonesian Marine Educators Network/Jejaring Pendidikan Kelautan Indonesia*) and the diving centres Nabucco and Nunukan near the Island of Maratua. Cooperations exist with the district government of Berau and the local departments of the Ministry of Marine Affairs and Fisheries in Berau and Padang (West Sumatra).



Fig. 28: Carapaces of killed sea turtles next to other hunting trophies in the roof of a clan house on Siberut.

FINANCIAL STATEMENT 1 OCTOBER 2016 – 30 SEPTEMBER 2017

The current fiscal year covers the period from 1 October 2016 to 30 September 2017. All members of the board of the foundation work on a volunteer basis without any salary payments.

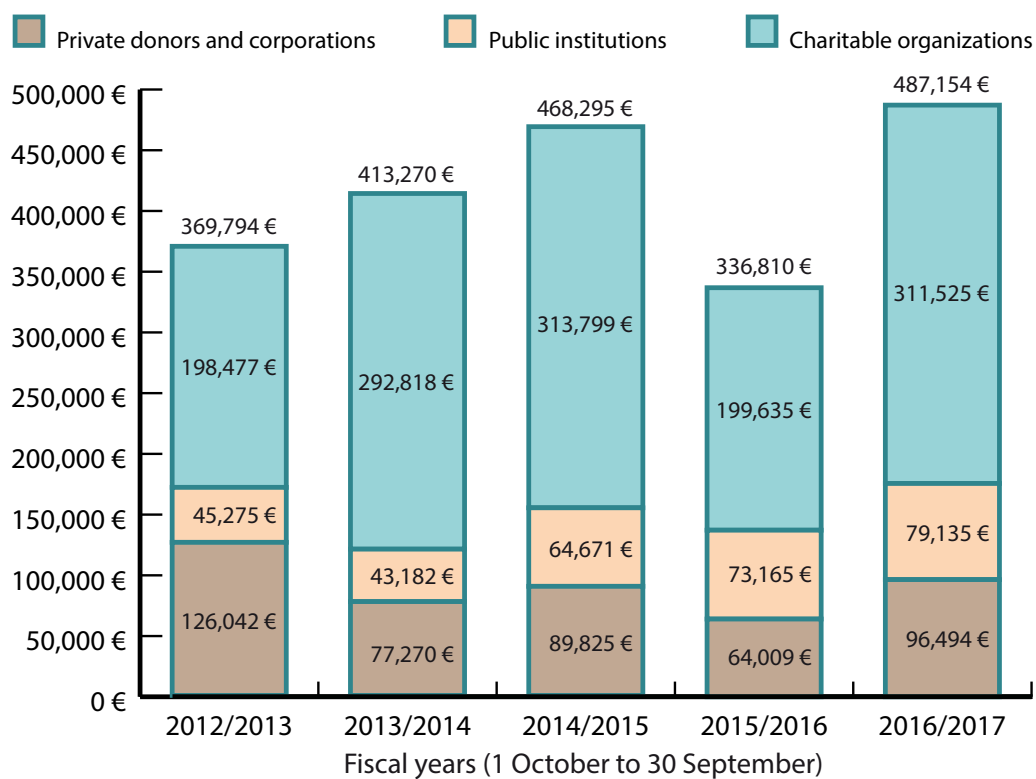
Balance sheet as per 30 September 2017

ASSETS	30.09.2017 EUR	LIABILITIES AND EQUITY	30.09.2017 EUR
Cash and cash equivalent	364'557	Accounts payable	0
Receivables	4'760	Deferrals	7'257
Accounts paid in advance	60'859	Accruals	50'000
Current assets	430'176	Committed assets	57'257
Tangible assets	2	Capital and surplus	366'175
Fixed assets	2	Expenditure surplus	6'746
		Capital and surplus	372'921
	430'178		430'178

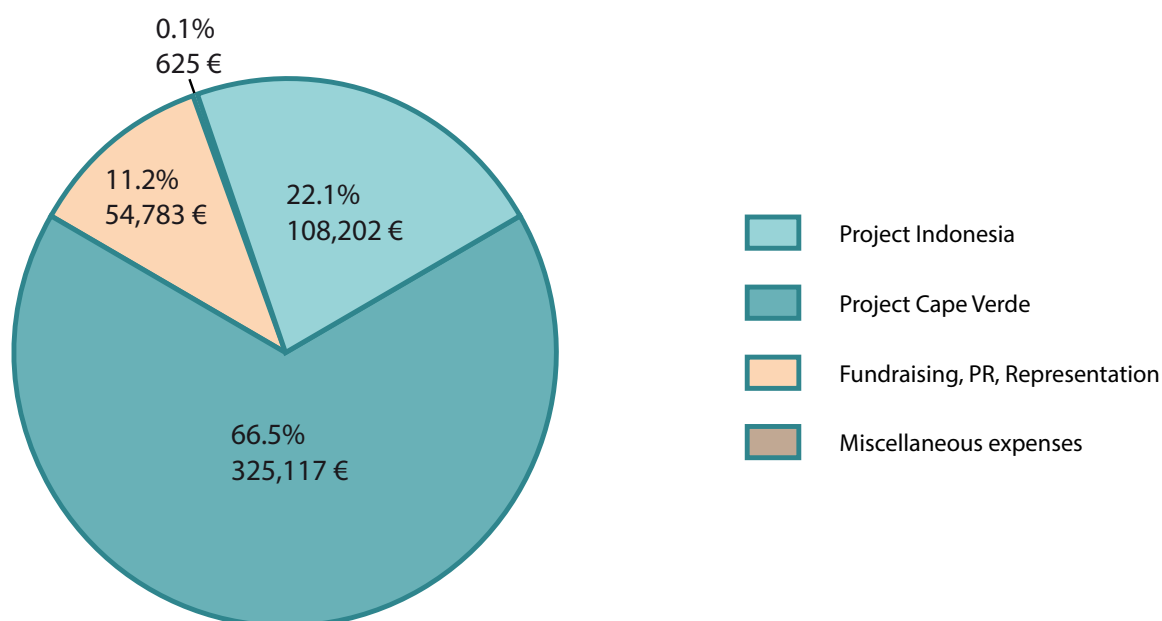
Profit & loss account 1 October 2016 – 30 September 2017

EXPENSES	30.09.2017 EUR	PROCEEDS	30.09.2017 EUR
<i>Project East-Kalimantan, Indonesia</i>		<i>Donations, grants</i>	
Direct project expenses	108'202	Private donors & corporations	96'494
		Public institutions	79'135
Direct expenses for Indonesia	108'202	Charitable organizations	311'525
		Total donations and grants	487'154
<i>Project Cape Verde</i>			
Coordination and overhead	130'218	Sale of products	26'337
Surveillance of nesting areas	155'371		
Community engagement	8'620	Interests	0
Increase of reproductive success	2'473		
Research and monitoring	28'435	Gain/loss on exchange	-17'991
Direct expenses for Cape Verde	325'117		
Support of foreign projects	0		
Capital expenditure	652		
Fundraising, PR	46'255		
Advertising, representation	8'528		
Allocation of reserve fund	0		
Surplus	6'746		
	495'500		495'500

SOURCE OF FUNDS



USE OF FUNDS 1 OCTOBER 2016 – 30 SEPTEMBER 2017



AUDIT REPORT

The Turtle Foundation (TF) Switzerland is responsible for the cumulated accounting and the consolidated financial statement for the organizations Fundação Tartaruga Cabo Verde, TF Germany, TF Liechtenstein, TF Switzerland, and TF USA. TF Switzerland is supervised by the National Supervisory Office for Charities, and is obliged have its accounts audited annually. The audit was performed by officially authorized revisers from the Prefera Audit AG (Grossfeldstrasse 40, 7320 Sargans, Switzerland; www.prefera.ch). Below is the official English translation of the original audit report written in German:



Report of the statutory auditors on the limited statutory examination
to the board of foundation of the
Turtle Foundation (Switzerland), 9470 Buchs

As statutory auditors, we have examined the financial statements (balance sheet, income statement and notes) of Turtle Foundation (Switzerland) for the year ended 30 September 2017.

These financial statements are the responsibility of the board of foundation. Our responsibility is to perform a limited statutory examination on these financial statements. We confirm that we meet the licensing and independence requirements as stipulated by Swiss law.

We conducted our examination in accordance with the Swiss Standard on the Limited Statutory Examination. This standard requires that we plan and perform a limited statutory examination to identify material misstatements in the financial statements. A limited statutory examination consists primarily of inquiries of company personnel and analytical procedures as well as detailed tests of company documents as considered necessary in the circumstances. However, the testing of operation alprocesses and the internal control system, as well as inquiries and further testing procedures to detect fraud or other legal violations, are not within the scope of this examination.

Based on our limited statutory examination, nothing has come to our attention that causes us to believe that the financial statements and the proposed appropriation of available earnings do not comply with Swiss law and the company's articles of incorporation.

7320 Sargans, 31 January 2017

Prefera Audit AG

H. Bertsch
Audit expert
(Auditor in charge)

A. Good
Audit expert

PROJECT PLANNING 2018

Project Cape Verde

General strategy

In the course of the extended funding by the *MAVA Fondation pour la Nature*, there will be considerable project extensions from 2018 onward. In particular, we will work more closely with the conservation organizations *BIOS.CV* and *Cabo Verde Natura 2000*, which are also active on Boavista. While the NGOs had worked largely independently in recent years with some cooperation in certain activities, in 2017 the development of common standards for data collection and for other activities, and the use of synergies for more effective nature conservation work was started. While each organization will continue to manage surveillance activity on assigned beaches, responsibilities for community projects, environmental education, and research will be shared between the organizations. Fundação Tartaruga / Turtle Foundation will be responsible for the organization and implementation of community projects on Boavista.

Protection of nesting beaches

The proven measures to protect the beaches by nighttime patrols will be continued on all beaches guarded already in 2017. The period of our presence at the beaches will be increased from 4 to 5 months to 6 months in most camps. We will attempt to more closely involve law enforcement authorities in the protection of sea turtles, which we hope will be supported by the new law. For even more effective beach protection, special teams using search dogs and night vision drones will be trained and deployed for tracking down active poachers on all beaches of Boavista. The activities of the dog and drone teams will be coordinated with the communities.

Research and monitoring

Cabo Verde Natura 2000 will appoint a scientific coordinator to link and coordinate the research activities of the individual organizations. A joint scientific action plan for Boavista is to be developed, and data collection and evaluation will be standardized. The cooperation between the Turtle Foundation and the *Queen Mary University of London* will continue.

Community engagement

The Turtle Foundation will employ a community coordinator to better communicate between conservation requirements and the needs of the local population. The coordinator will develop an action plan for development cooperation and will implement respective measures. Based on the results of the social study, a new participatory approach will be developed to motivate and to actively involve the local population in the protection of sea turtles. This concept should also include measures to develop alternative sources of income and to fight poverty. The support of the community-based turtle protection projects in Povoação Velha and Bofareira will continue.

Awareness and education

BIOS.CV will appoint a coordinator for environmental education to organize and to carry out respective activities for all organizations. In addition to initiating new projects, established, proven, and popular joint activities (e. g., "Turtle League", beach cleaning) will be continued.

Partnerships

The Turtle Foundation will continue to develop its network activities and cooperation with national institutions, authorities, NGOs, and other stakeholders to achieve better protection of the turtles in Cape Verde, not only on the beaches but also at the political level. In April 2018, the Fundação Tartaruga / Turtle Foundation will host the annual TAOLA conference in Sal Rei on Boavista.

Project Indonesia

Protection of nesting islands

The Turtle Foundation, with the support of *Profauna Borneo*, will resume the management of the conservation project on Bilang-Bilangan and Mataha as soon as possible. Furthermore, the possibilities of engagement on the Islands of Belambangan and Sangalaki are explored, financing is sought and opportunities are seized.

Fighting against bomb fishing

Exploration and documentation of blast fishing in the Derawan Archipelago, especially in the area of the nesting islands and with reference to the main

players on the fisher's island Balikpapan, will be continued. If during these explorations fishermen are encountered using explosives they will be disturbed in their activities as far as possible, and responsible authorities will be regularly informed of incidents based on evidence gathered.

Outreach and environmental education

Public relations and environmental education activities will continue to be conducted under the leadership of *Profauna* in the Berau district.

The Swiss initiative *Trash Hero* (www.trashhero.org) has taken up the issue of catastrophic marine pollution, especially on the beaches of Southeast Asia, including Indonesia. Trash Hero motivates children, young people and other interested parties to gather garbage on the beaches and to announce the achieved successes to the outside world as "Trash Hero". While we cover the costs, *Trash Hero* will initially provide us with 1,000 brochures containing information and action requests on the waste problem and 100 printed T-shirts. These articles will also carry our logo and support our public relations work.

Anti headstarting

In addition to the continued distribution of our anti headstarting brochure and direct educational efforts,

we will continue to insist that the Indonesian authorities no longer recommend and promote headstarting as an official method of protecting turtles, but instead prohibit this destructive practice.

Protection of hawksbill turtles

We will continue to seek for the necessary financial means to continue our research and conservation program for the hawksbill turtles of the Berau region. At the same time, we will intensify our cooperation with the initiative *To Rare To Ware*; in a questionnaire study we will identify the critical points of turtle shell trade in Indonesia.

Turtle protection on the Mentawai Islands

The possibilities for the protection of sea turtles on the Mentawai Islands will be investigated and options for action will be defined depending on financial resources and positive prognoses.

Partnerships

Existing partnerships will be maintained and further efforts will be made to create a solid and influential network of organizations in Indonesia to protect the sea turtles.

The implementation of all scheduled measures beyond direct protection work will depend on available finances.

ACKNOWLEDGMENTS

The successful implementation of our projects for the protection of sea turtles was only possible thanks to the solidarity and the generous support of our numerous private donors and supporters as well as to public, private, and corporate organizations. We would especially like to mention the following organizations:

Aquifarm Foundation Vaduz, Backhaus Foundation, Crea Group, Educasa Foundation, Elisabeth Rentschler-Foundation for Animal Welfare, Empathy Foundation for Animals and Environment, European Foundation for Animal Welfare, Five to Life, Fondation Conservation, Forteuem Trust reg., GCC Group Sp. z.o.o., Community of Vaduz, Gerda Techow Charitable Foundation, Global Environment

Facility, Jugalti Foundation, Juice Dream Trading AG, Kasakum Foundation Vaduz, LOTEX Foundation, Margarethe und Rudolf Gsell Foundation, MAVA Fondation pour la Nature, Narinja Foundation, Peace at Last Foundation, Queen Mary University of London, RHW Foundation, Salman Investment Management AG, SOS Seaturtles, Foundation Third Millennium, Fondation Temperatio, Turtle Foundation Friends e.V., U. S. Fish & Wildlife Service, Valüna Foundation, Vontobel Foundation, VP Bank Foundation, VT-Etiketten GmbH, Willy and Margherit Wölfl Foundation for the Protection of Nature, Environment, and Animals.

We would also like to thank the numerous dive companies and tour operators who generously provided the prizes for our annual Turtle Foundation Raffle for the benefit of our projects.

