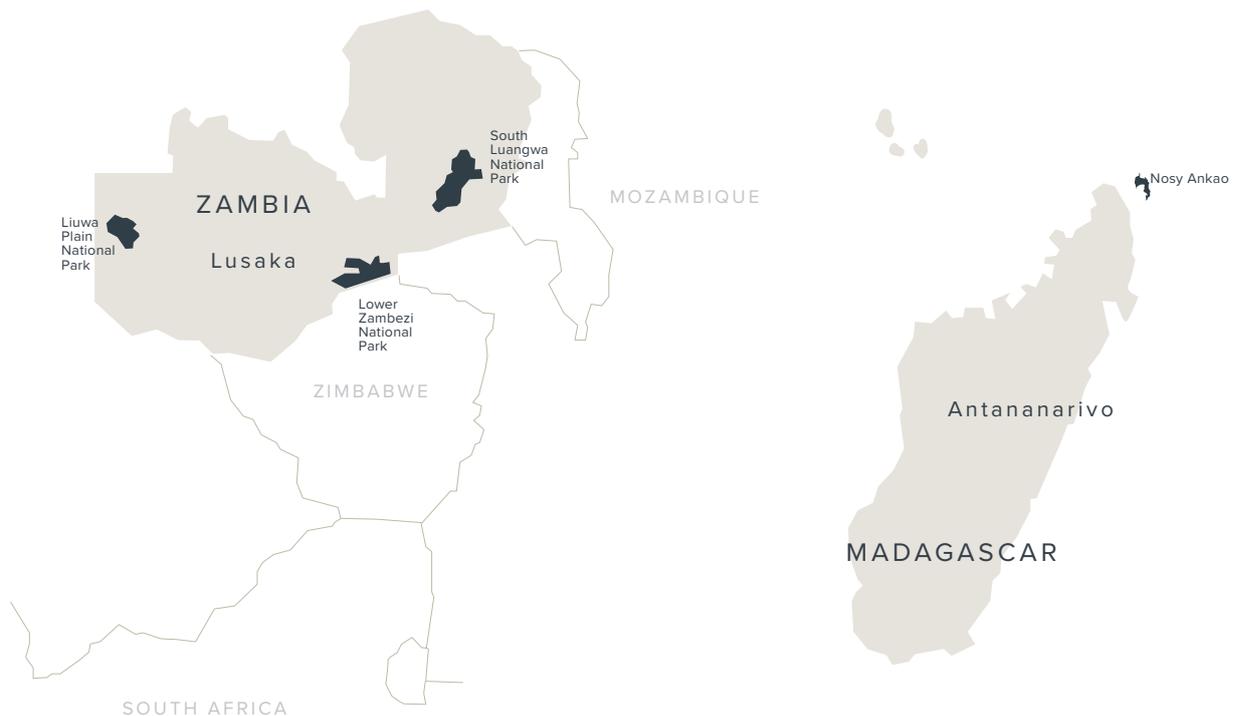






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## 2016 Highlights



### LIUWA PLAIN:

- 100% of Grade 7 Munde students interviewed in September 2016 stated that the promise of a sponsorship would motivate them to work harder in their final Grade 7 exams
- 100% of the Munde students who sat for their final Grade 7 exams in October 2016 passed to Grade 8
- 100% of PTA members for Sibemi Community School said they were confident that the school would continue to improve thanks to tourism in the national park

### SOUTH LUANGWA:

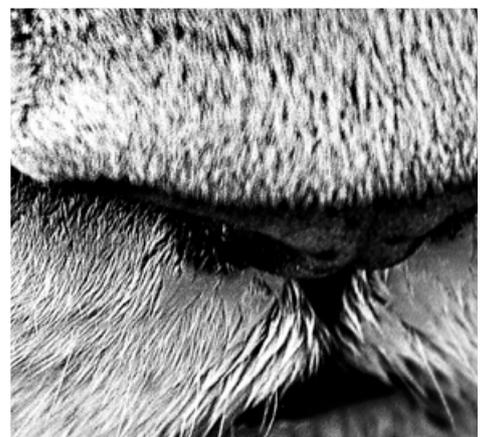
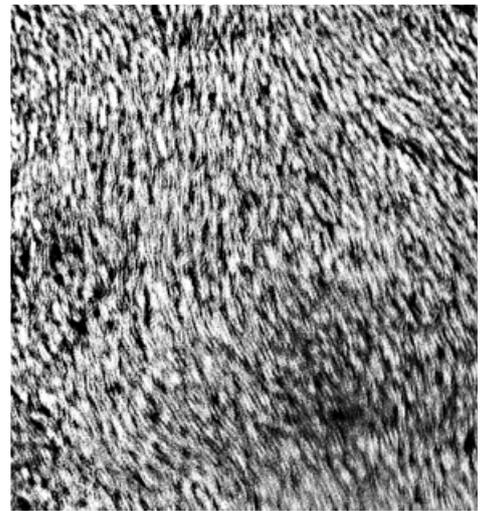
- Of the 30 children in the home-based education programme, 81% have showed improvements with basic motor skills, self-care and/or their ability to communicate
- In 2016, 92% of the Grade 7 girls in the Yosefe Girls Club passed to Grade 8 with an average mark of 84% on their exams
- 93% of Kapani School Project sponsored students, ranging from Grade 8 to the tertiary level, understand that without successful conservation efforts in the South Luangwa, sponsorships would not be possible

### LOWER ZAMBEZI:

- 77% of students in the theatre and performing arts society agreed that their experience at Chitende School in 2016 was more interesting than previous years, compared to only 39% of non-theatre students
- 100% of students involved with the theatre and performing arts society expressed that they learned new skills as a result of this extracurricular activity, and 100% said they would like the programme to continue

### NOSY ANKAO:

- In 2016, 70% of surveyed seaweed farmers stated that they do not fish due to the benefits and demands of seaweed farming
- 100% of the trained health committee members on Nosy Ankao were able to correctly identify the causes of the primary health concern of island residents (diarrhoea) and advise on appropriate precautionary measures
- Over 80% of the environmental committee on Nosy Ankao was able to explain the importance of monitoring sea turtles, fishing off take, coral reefs, and nesting terns





## Note from the Foundation Council

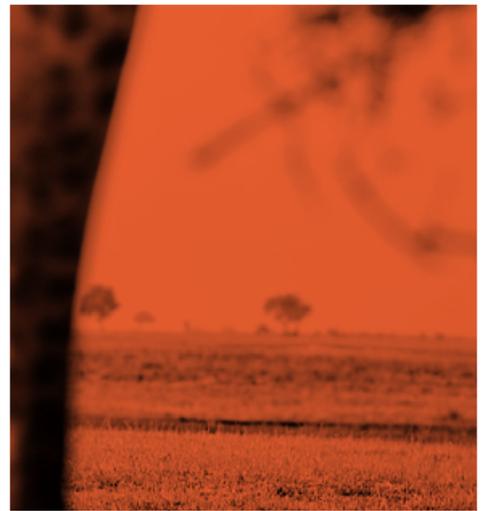
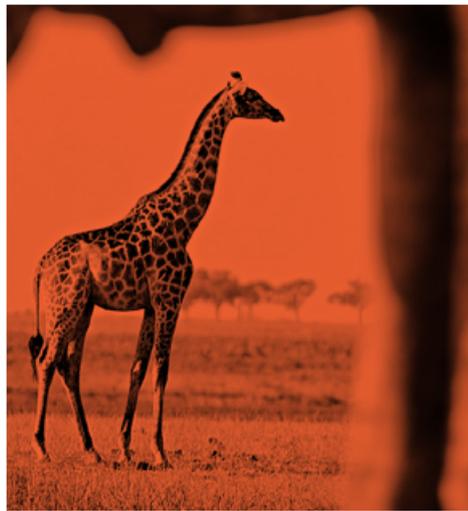
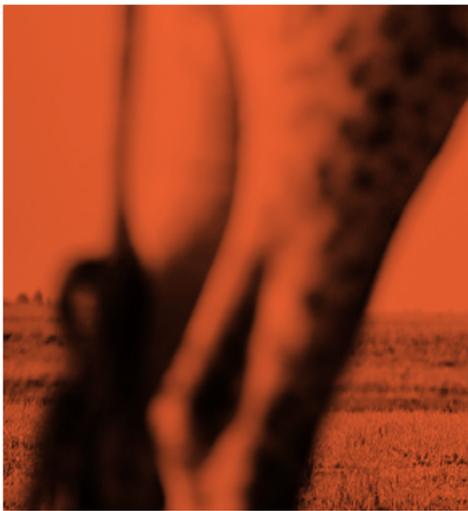


In our first year of operation, we have been active in community and conservation programmes in the South Luangwa, Liuwa Plain, and the Lower Zambezi in Zambia and in the Nosy Ankaos archipelago in Madagascar. Within this short period, our monitoring efforts have shown the growing understanding within local communities of how tourism has positively impacted their lives. The beneficiaries of our programmes are also beginning to appreciate that tourism is only viable and sustainable if underpinned by healthy and intact ecosystems. As we move forward, we will continue to promote such understanding based on our belief that it will lead to active and consistent community engagement in the conservation of these remarkable habitats.

Our journey has just begun and much remains to be done. However, we are confident that our governance, structures and processes will enable us to sustain and broaden our efforts in the years to come. On behalf of the Time + Tide Foundation, we thank you for your interest and support and we look forward to sharing our developments with you in 2017.

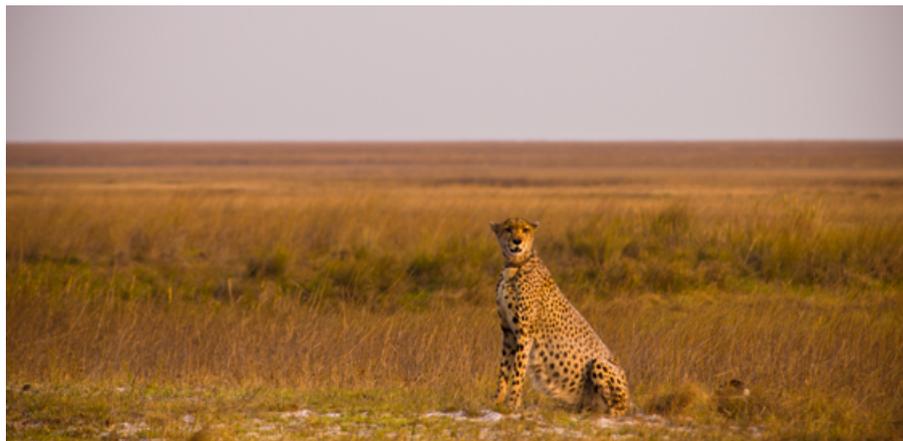
Sincerely,

James Orford  
Trustee  
Time + Tide Foundation





# Institutional Information



## **FIELD-BASED TEAMS:**

### **MADAGASCAR:**

Ny Sanda Ranaivoson, Programme Officer

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## **ADMINISTRATION AND FINANCIAL TEAM:**

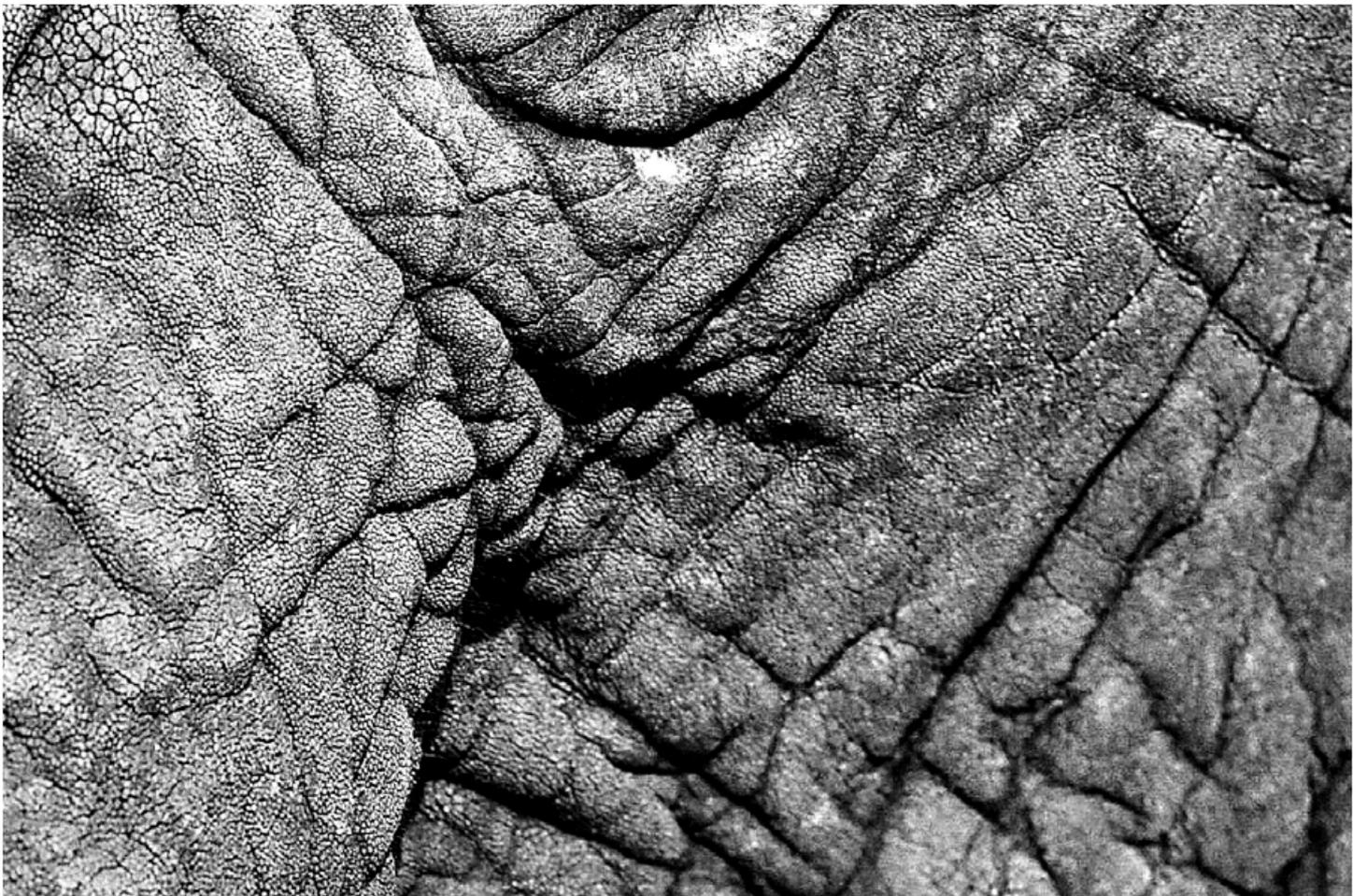
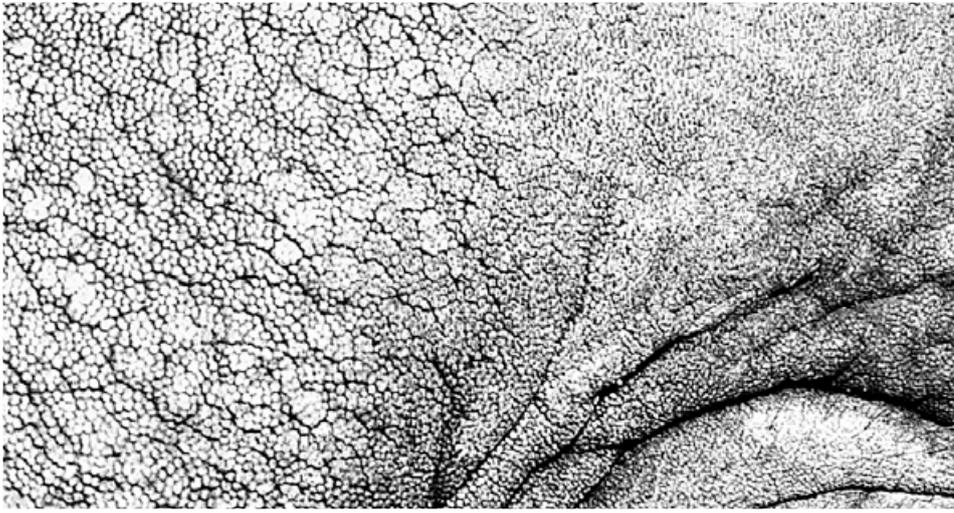
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Didier Bestel, Finance Manager  
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### **FOUNDATION COUNCIL:**

Sir John Rose (Chairman)  
Mark Carnegie  
R. Thierry Dalais  
James Orford  
Elizabeth Sadowski (Director)





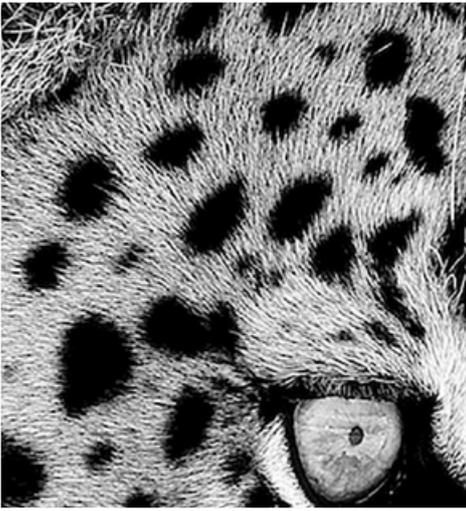
# The Time + Tide Foundation Philosophy

The protected areas in which the Time + Tide tourism brand operates are exemplary of the natural wealth in Southern Africa, harbouring incredibly bio-diverse habitats with species and spectacles found nowhere else on the continent.



The three Time + Tide companies – Norman Carr Safaris, Chongwe Safaris and Miavana – were designed to expose visitors to these wild land and seascapes and inspire thoughtful ways of exploring delicate ecosystems. All three companies employ eco-tourism models, including annual investments in wildlife conservation and local initiatives, but the pressures on natural resources are now stronger than ever and require renewed perspectives on sustainability.

The founders of Time + Tide, therefore, have established an independent non-profit partner to operate alongside the tourism businesses and focus exclusively on bringing social and ecological benefits to the four discrete protected areas. The approach of the Time + Tide Foundation is tailored to each context, with research conducted on the local challenges and resource gaps before engaging stakeholders in sensible interventions. Over the course of 2016, the Time + Tide Foundation focused on eleven projects, refining the lodges' previous social commitments and identifying new avenues of environmentally sustainable civic engagement. All eleven projects share the objective to relieve these wildernesses of anthropogenic stress and to incite awareness and appreciation of the long-term social benefits that complement conservation and eco-tourism.





# Overview of Projects



## LIUWA PLAIN

Found in the upper Zambezi floodplains of Zambia's Western Province, the remote and little known Liuwa Plain National Park spans an area of 3,660 km<sup>2</sup>. The former King of Barotseland (as Western Province was previously known), King Lewanika, traditionally allowed his people to reside within the reserve, making Liuwa Plain the only Zambian national park to permit permanent residents, schools, clinics, and subsistence farming. The plains of Liuwa are home to approximately 10,000 people, the second largest wildebeest migration in Africa and a fascinating, complicated human-wildlife dynamic. Opening King Lewanika Lodge in April 2017, Norman Carr Safaris is the first and only permanent Liuwa tour operator and one of the only employers within the boundaries of the park.

### MUNDE SPONSORSHIP PROGRAMME

Situated in one of the poorest Liuwa communities, Munde Basic School has faced many challenges over

recent years, including the unexpected departure of several heads of the school and abandoned development projects. The Time + Tide Foundation does not fund projects or services for which the local government is responsible, however we identified a lack of motivation in Munde students as a result of the school's limited resources. In January 2016, the Time + Tide Foundation began a sponsorship programme with the 3 top performing students from Munde School who were admitted to Kalabo Boarding School, located in the closest town, and Mishulundu Boarding School, located inside the national park. Thanks to generous commitment from Norman Carr Safaris guests, in May 2016 we announced the possibility of sponsorship for all Grade 7 pupils who pass to Grade 8. In October 2016, 88% of Grade 7 students at Munde sat for the exam and 100% qualified for Grade 8. By contrast, in 2015, 72% of Grade 7 students sat for the exam and 87% qualified for Grade 8. In 2016, 5 students were accepted to Kalabo Boarding School whereas only 1 student was accepted in 2015.

## SIBEMI COMMUNITY SCHOOL

Sibemi Village is located a few kilometres from King Lewanika Lodge, approximately 40 km from the town of Kalabo. Prior to 2011, the primary students from Sibemi had to walk 2 kilometres each morning to reach the closest school. As a result, the former headman of Sibemi, Edwin Mwaiba, was determined to build a primary school within their own village. In 2011, he assembled a Parent Teacher Association (PTA) to construct a mud and thatch classroom block that could accommodate Grades 1 and 2. In 2013, the PTA applied to the Constituency Development Fund for a grant to build a permanent school in anticipation of expanding to Grade 7 by 2017. They were awarded the grant and together the PTA and members of the Sibemi community constructed a new school over the course of 2014, which was finished and opened in time for the third term of 2015.

Recognizing the resourcefulness of this community, in 2016 the Time + Tide Foundation hired a full-time teacher and began funding the monthly resources required by the school. Consequently, for the first time since its inception, the school has been able to operate with a reliable teacher and a regular supply of new materials. Additionally, the Foundation has committed to the long-term future of the school through the Edwin Mwaiba Scholarship Fund. Through this Fund, the Foundation sponsors local secondary school graduates with the agreement that once they have obtained their teaching diplomas, they will assume the role of head teacher at Sibemi School for a minimum of three years. The first recipient of this scholarship, Gerald Namuchana, was nominated by the PTA in December 2015 and is currently studying at Solwezi Falls College. In between his term breaks, Gerald returns to Sibemi to guide lesson plans and liaise with the Ministry of Education about the future developments for the school.

In September 2016, the Time + Tide Foundation met with the members of the Sibemi PTA to discuss their interpretation of the newfound support for the school. One hundred percent of the interviewees explained that this funding became available as a result of the new

lodge in Liuwa, 100% of the respondents correctly defined the term conservation, and 100% identified that the success of tourism, specifically Norman Carr Safaris, is dependent on effective conservation of the national park. Over time, the Foundation will measure whether or not there is an inverse relationship between the educational benefits that are made possible through conservation and the poaching incidents in Sibemi.

## LOWER ZAMBEZI

Downstream from Victoria Falls and across the river from Mana Pools in Zimbabwe, the Lower Zambezi National Park stretches over 4,000 km<sup>2</sup>, from the Chongwe River in the west to the Luangwa River in the east. For over twenty years Chongwe River Camp has hosted guests on the banks of the Zambezi, exemplifying their conservation philosophy through low impact infrastructure and activities. The Lower Zambezi National Park was gazetted almost a decade after the other parks and reserves in Zambia, which made it especially vulnerable in the 1980s when poaching in Zambia was at its height. When Chongwe River Camp opened, the founders initiated their own anti-poaching unit and worked with other tourism operators to safeguard the wildlife and habitats they believed were of decisive ecological and economic value to Zambia.

## AERIAL CONSERVATION

In harmony with the founding priorities of Chongwe River Camp, in late 2016 the Time + Tide Foundation assisted with aerial surveillance of the Lower Zambezi by contributing to the engine refurbishment of an anti-poaching aircraft. Operated by Conservation Lower Zambezi (CLZ), a non-profit that assists in protecting the wildlife and habitats of the Lower Zambezi National Park, the plane was used in 2015 to identify 60% of all elephant carcasses in the park and surrounding buffer zones. In turn, CLZ was then able to plan strategic ground operations and mobilize patrol teams for these areas. Safety regulations stipulate that the plane's engine needs to be replaced every 1,500 hours. Flying approximately 150-200 hours per year, the new engine will allow CLZ to have 'eyes in the skies' for another 8-10 years.



While aerial surveillance doesn't stop the poaching of elephants, it enables CLZ to quickly spot and then assess carcasses to determine cause of death and document the presence or absence of ivory. CLZ also monitors the number of poaching incidents inside the national park and those in the surrounding game management areas, collaborating with other conservation organizations in Africa to create a large-scale picture of geographical poaching trends. In 2017, the plane will also be used to fly detection dogs to remote areas to respond to reports of illegal activities, decreasing the response time from approximately 4 hours to 30 minutes.

### CHITENDE SECONDARY SCHOOL

Chitende Secondary School, a boarding and day school founded in 2006, lies on the banks of the Zambezi in the Chiawa game management area (GMA). Because of the surrounding wildlife, students are not permitted to leave the school grounds except for weekend participation in nearby churches. When the students were approached by the Time + Tide Foundation in September 2015, they explained that they felt at a disadvantage attending school in a wildlife area because of the limited extracurricular opportunities. With this information in mind, in 2016 we introduced a theatre and performing arts society at the school led by Barefeet Theatre, a non-profit theatre organization based in Lusaka. Through performing arts, the objective is to inspire students' creative and artistic expressions in a way that incorporates and appreciates the unique environment in which the students attend school.

In 2016, facilitators from Barefeet Theatre travelled to Chitende School 20 weekends over the three school terms, devoting 150 hours to performing arts theory and practice. Twenty-five students emerged as particularly devoted to the society and held five performances over the course of the year: one at each of the three school closing assemblies, one at a Lower Zambezi conservation day and a final performance entitled 'Fly Eagle Fly' at Chongwe River Camp. Surveys conducted in July 2016 of 160 Chitende School students found that the members

of the theatre and performing arts society were 76% more confident speaking English than their non-theatre peers, 66% more confident writing in English and 35% more confident reading in English.

In addition to the theatre programme, the students also requested guidance on adolescent issues they did not feel comfortable discussing with their teachers. The Time + Tide Foundation engaged the Zambian National Men's Network (ZNMN) to hold discussion and information sessions with the students on topics such as healthy relationships and sexual experimentation. ZNMN employs an 'edu-tainment' approach to motivate students, organizing games and campfire discussions to encourage open, easy conversation and debate. In 2016, ZNMN hosted two full day and evening programmes at Chitende School, with a focus on gender-based violence and different, subtle forms of abuse that students may encounter at school, at home and in professional environments.

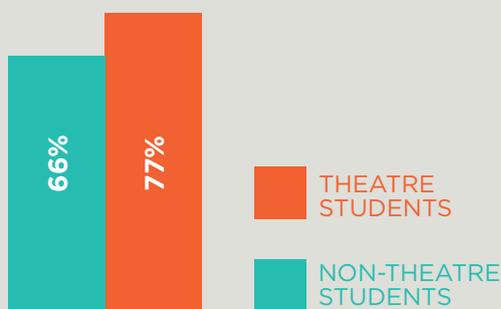
By offering extracurricular activities that incorporate themes from the natural environment, the Time + Tide Foundation wishes to emphasize to students that attending school in a conservation area can offer rewards that are not available in city settings. In so doing, we aim to nurture an enthusiasm for the wilds of Zambia that will hopefully feed back through families and communities so that these areas will come to be cherished by younger generations.

### SOUTH LUANGWA

The South Luangwa National Park is the second largest of Zambia's parks and the most prominent wildlife destination in the country. The park occupies 9,050 km<sup>2</sup> of the mid-Luangwa Valley and is bounded by the sharp Mchinga Escarpment on the western side and by the Luangwa River on the east. Norman Carr Safaris (NCS) has been operating in the South Luangwa since the 1950s, making it the first and oldest safari company in Zambia. Norman Carr himself was committed to integrating community development with conservation

#### CONFIDENCE IN FRONT OF LARGE AUDIENCES

Where 0% indicates no confidence and 100% indicates full confidence



*Not only do the theatre students feel more confident in their English reading, speaking and writing abilities, but they also feel more confident in front of large audiences. Theatre students demonstrated higher overall confidence which will prove a vital advantage in both their academic and professional careers.*



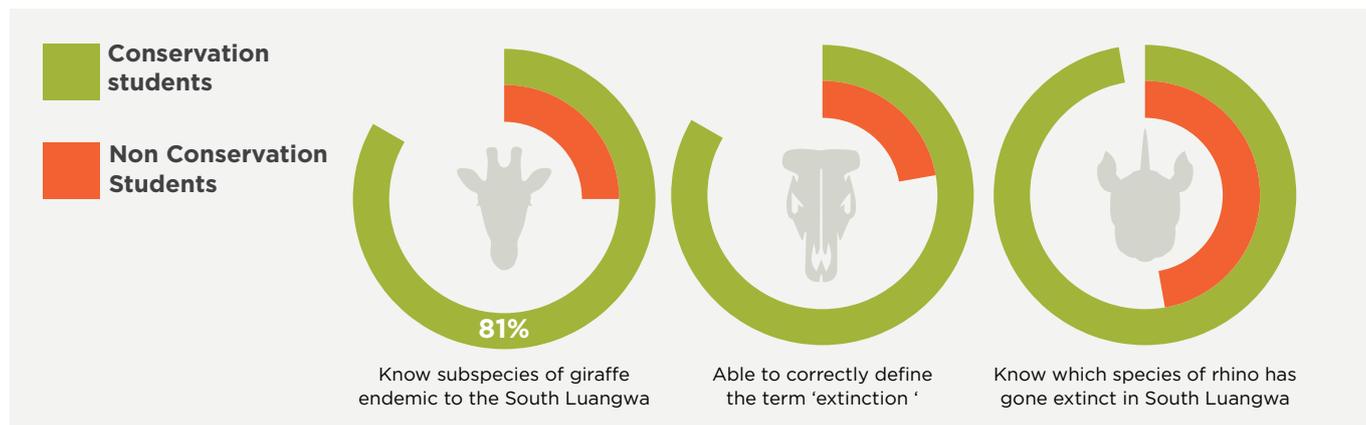
and tourism and started a sponsorship programme for students in the 1980s that has morphed into the modern day Kapani School Project. His legacy continues today in the philanthropic culture of NCS which, in partnership with the Time + Tide Foundation, has grown considerably over the course of 2016. Indeed in November 2016, Norman Carr Safaris was recognized by the Safari Awards as the best community focused camp in Zambia and runner-up for the best community focused camp in Africa.

### FIELD-BASED EDUCATION CENTRE

As of July 2016, the Time + Tide Foundation supports the running costs of a Field-based Education Centre in the South Luangwa, where conservation club students from six local schools travel for a hands-on conservation learning experience. The centre is managed by Chipembele Wildlife Education Trust, a Zambian non-profit that runs conservation clubs in Mfuwe schools and exposes students to field-based activities – a novelty for most primary and secondary students in rural Zambia. With an innovative approach, Chipembele has equipped the centre with an acclaimed museum and interactive classroom, and students involved in conservation clubs

with physical and mental handicaps. In rural Zambia, children with disabilities are stigmatized as the products of witchcraft and are frequently kept indoors, not permitted to socialize with other children or interact within their community. After meeting with several families during this trip, Mikala was convinced that the stigmas in Mfuwe were preventing over 100 children from receiving the specialized attention they needed in order to develop.

She returned in March 2016 to hold a community meeting and recruit handicapped children to join a home-based education programme as well as volunteer caregivers to lead the programme. Thirty children and thirty-three volunteers agreed to participate, with a caregiver assigned to each child and an additional three volunteer managers (the coordinator, vice coordinator and secretary). Over ten days in March, the volunteers underwent extensive training on the causes of disabilities, the theoretical, social and legal background of special needs in Zambia and one-on-one practical exercises, working directly with children affected by cerebral palsy, epilepsy, down syndrome, and hydrocephalus. At the start of the programme, 68% of the volunteers attributed disabilities to



alternate between club sessions at their local schools and day-long field trips to the centre. From September to December 2016, 440 students attended lessons at the centre to learn the history of the Luangwa Valley, with a focus on elephants, climate change and nocturnal animals. Through incentives, encouragement and friendly competition, the students who attended the Field-based Education Centre learned why conservation knowledge and action at the individual level are essential for the protection of the environment as a whole.

In surveys conducted throughout the last quarter of 2016, Conservation Club students selected a greater variety of agents to whom they attributed the responsibility of wildlife conservation in South Luangwa (such as themselves, the Mfuwe community and safari lodges), as opposed to non-Conservation Club students who identified the local wildlife authorities as solely responsible for conservation action.

### HOME-BASED EDUCATION PROGRAMME

In December 2015, Mikala Mbewe, head teacher from the first special needs school in Zambia, travelled to Mfuwe in an effort to quantify the number of children

with physical and mental handicaps. In rural Zambia, children with disabilities are stigmatized as the products of witchcraft; in a survey conducted in the last quarter of 2016, only 4% still believed witchcraft to be a factor.

Each volunteer has been assigned to one handicapped child in his or her immediate community whom he or she has committed to visiting on a weekly basis. During these visits, the volunteer works closely with the child's parent or guardian on the individualized education programme that was implemented for that child's developmental needs. The progress of the programme is monitored consistently by the volunteer coordinator who meets the guardians and children at the end of each month to assess the changes in each child. In May 2016, the volunteers underwent another ten days of training on physiotherapy, which was led by specialists from the Archie Hinchcliffe Disability Intervention. The lessons focused on the physical repercussions of brain damage and how other parts of the brain, through external stimuli, can be taught to compensate for the damaged sections. Damage to an immature (0-5 years) brain is one cause of cerebral palsy, which has been the most common handicap encountered in Mfuwe. Prior to this programme, there was no formal support for families with handicapped children in Mfuwe and were born with these conditions

conditions or how to help them. After 9 months of the programme, 81% of parents report that they now feel better able to help their children, and 92% of parents believe their children will one day attend school, as opposed to the start of the programme when 0% of parents thought formal education would ever be possible. The success of the programme depends on the children's parents, who are responsible for continuing the exercises that the volunteers demonstrate.

For the children whose families have shown dedication to their development, the results have been outstanding. For example, Patience Njobvu (2 years 8 months, intellectual disability) was not able to stand, walk or talk. As a result, she was unable to effectively express herself. As of December 2016, Patience is able to stand independently and is now walking without assistance. Her mother, Delira Banda, commented that Patience is playing more and now smiles regularly. Delira explained how, when Patience was born, her neighbours and others in the community said that Patience would never be able to walk or even crawl. Delira says that since the programme she feels as if "a burden has been lifted".



Another example is Promise Chirwa (1 year 8 months, cerebral palsy). Before the programme, Promise could not feed himself, grasp objects, he had difficulty sitting and was unable to crawl. After only 4 months of home-based education, Promise was able to sit and crawl with ease, he learned to hold his toys and eat on his own. Today, Promise can stand independently and is able to walk with assistance.

## KAPANI SCHOOL PROJECT

In 2016, the Kapani School Project sponsored 85 pupils: 21 college students and 64 basic and secondary school students. The principal aim of the Kapani School Project is to provide educational opportunities to hard working, serious students whose families would otherwise not be able to afford school fees. Four of the sponsored college students graduated over the course of 2016, two of whom are awaiting deployment as primary school teachers, one is working for Norman Carr Safaris and the fourth is applying for positions as a law clerk. In a survey conducted before the start of Term 3 in 2016, 93% of Kapani School Project sponsored students knew that without conservation in South Luangwa, there would be no sponsorship opportunities.

2016 was also the first full year of integrating the Girls Club at Yosefe Primary School into the Kapani School Project's activities. In 2015, the Kapani School Project facilitators noticed a drastic decline in academic performance from girls aged 14-16: girls who had previously scored top marks on their Grade 7 government exams were failing their Grade 9 tests and school-based assessments. In an effort to encourage girls and offer them support through the challenges of adolescence, the Kapani School Project began the Yosefe Girls Club and recruited girls aged 11 to 16 to join.

In the beginning of 2016, the girls expressed their self-consciousness when speaking English and requested that club lessons concentrate on English reading comprehension, writing exercises and verbal practice. With oversight from a specialized English as a Second Language teacher, the girls have made considerable strides, improving from an average of 61% on their Term 1 English exams to an average of 72% on their Term 2 English exams, which they maintained in Term 3. Through writing activities, skits, songs, stories, and poems, the girls have had ample exposure to many different forms and uses of written and spoken English. Since all Zambian government exams are administered in English, correct and confident use of the language are essential to advance to the best secondary schools. In May 2016, at the We Are Africa tourism trade show, Time + Tide received the Engage Africa innovation award for its commitment to empowering young girls in the South Luangwa.



## ENIA MWANZA

Enia Mwanza, one of the most active members of Girls Club, improved from 73% in her Term 1 English class to 90% in Term 2. In Term 3, Enia sat for the Grade 7 government exam, received high marks across all subjects and was accepted to one of the top girls boarding schools in the Eastern Province of Zambia. As her family is unable to afford the expensive fees for this boarding school, Enia is now a sponsored student under the Kapani School Project.



## NOSY ANKAO

At 360 hectares, Nosy Ankao is the largest island within the protected Levens Archipelago of northeast Madagascar. The archipelago starts from the east with the island of Nosy Manampaho, which is home to one of the most important seabird colonies in Madagascar. Prior to the arrival of Miavana Lodge, Nosy Ankao was the site of a major seaweed farming operation, with over 500 families living and working fulltime on the island. While seaweed farming provided consistent income to previously unemployed coastal and fishing communities, the dense human population on Nosy Ankao altered the ecology of the island. The seaweed farming industry collapsed on Nosy Ankao in 2010, most likely as a result of the El Niño of that year, which then exposed the island's potential as an eco-tourism destination. In 2012, construction of Miavana Lodge began alongside a long-term rehabilitation programme to remove all exotic flora and fauna and reforest the island with vegetation native to the northeast region of Madagascar. The eco concept of the lodge includes sustainable forms of energy, local water harvesting and purification, and a marine and terrestrial conservation programme to foster biodiversity across the marine reserve.

## CROWNED LEMUR CONSERVATION

In July 2016, 62 Crowned Lemurs (*Eulemur coronatus*) from the Bobankora Forest in northeast Madagascar were poisoned, dried and the meat was en route to the local restaurant industry when rangers apprehended the poachers. These endangered lemurs were to be sold at \$1.64 each. As a result of this poaching incident, only 3 Crowned Lemurs persist in the Bobankora Forest today.

This catastrophic poaching incident inspired the Time + Tide Foundation, Fanamby and the Madagascar Biodiversity Partnership (MBP) to develop a community and conservation programme to safeguard the species in the short term and build a long-term conservation model. In October, a team from MBP departed for three weeks of exploring protected tracts of forest in the vicinity of Bobankora. They were able to locate 8 distinct family groups with a total of 78 Crowned Lemurs in the nearby Bekaraoka Forest, as well as the Golden-crowned Sifaka, the Daraina Sportive Lemur and other nocturnal species. Thanks to support from Zoos Victoria, in 2017 the Time + Tide Foundation, MBP, Fanamby, the Ministry of Environment and Miavana Lodge will work with the Amparihirano community around the Bekaraoka Forest on a tourism exchange project that will bring tangible, economic benefits that far outweigh those of poaching. Specifically, through the project, members of the Amparihirano community will be hired as rangers to monitor land use, sensitize community members on the potential gains from tourism and conservation, work to reforest areas that have been slashed and burned, and record any illegal activities in the Bekaraoka Forest. In the last quarter of 2017, we plan to translocate the first family group of Crowned Lemurs from the Bekaraoka Forest to Nosy Ankao where they will be able to live without the human stressors of mainland Madagascar. Over time, we intend to move three more family groups to Nosy Ankao with the goal of the genetically distinct adults reproducing and then relocating the offspring to the Bekaraoka and Bobankora forests, where they will be protected by communities that have experienced the direct economic benefits of conservation action.





## ECOLOGICAL EDUCATION

Over the course of 2015 and 2016, the Time+Tide Foundation invested in the formation of an environmental committee on Nosy Ankaon to oversee the research and conservation initiatives in the protected archipelago. Thanks to support from Norges Vel, the committee was assembled and trained by a consultant on natural resource management to identify and monitor the island's biodiversity, ensure sustainable wood harvesting, educate island residents on proper waste management, and supervise water usage and quality. Throughout 2016, the environmental committee benefitted from visiting scientists and researchers who explicitly worked to build the capacity of the committee by exposing them to different research methodologies and data collection techniques.

The first environmental project was a series of biodiversity surveys conducted by Association Vahatra, a Malagasy non-profit dedicated to conservation biology and terrestrial research on Madagascar. Over the first two weeks of March 2016, the Vahatra scientists worked side-by-side with the Nosy Ankaon environmental committee to install a variety of different trapping devices on Nosy Ankaon and the neighboring islands of Nosy Manampaho, Nosy Ratsy and Nosy Borona. During fieldwork, the team researched the local diversity of mosquitoes, ants, invertebrates, reptiles, amphibians, small mammals, bats, and birds and documented vegetation structure and associated plant diversity. Some of the most surprising findings included a microscorpion of the genus *Microcharmus*, which is almost certainly new to science, some interesting reptiles such as a large skink (genus *Amphiglossus*), a dwarf chameleon (genus *Brookesia*) and a leaf-tailed gecko (genus *Uroplatus*), all of which are either new to science or significant distributional extensions of previously described taxa.

In May 2016, the Time + Tide Foundation welcomed a team of scientists from Kélonia, a sea turtle research centre and aquarium in Réunion, to train the environmental committee and local marine biology students from the University of Antsiranana on sea turtle monitoring protocols. With support from the Commission de l'Océan Indien, over the course of 10 days the scientists held lessons on the ecology and conservation of marine turtles, how to identify different species based on their tracks, how to mark turtles with identification tags, the impacts artificial light can have on hatchlings, and how to safely relocate nests in areas with severe erosion. With these standardized protocols in place, Kélonia will now be able to integrate the data collected on Nosy Ankaon into the regional sea turtle database for the Western Indian Ocean, allowing them to monitor the status of endangered sea turtles in this area of northeast Madagascar. The environmental committee collects data daily on the nesting activity on Nosy Ankaon and twice per week on Nosy Manampaho.

In the final quarter of 2016, the Time + Tide Foundation launched a coral reef monitoring programme in partnership with the University of Antsiranana and the Department of Environmental Affairs in South Africa (DEA). Thanks to funding from the Marine Conservation Action Fund, we hosted Dr. Maya Pfaff from DEA and Dr. Amelie Soambola from Antsiranana as well as three MSc students from the newly founded marine science department at the University of Antsiranana. Over the course of ten days, Drs. Pfaff and Soambola trained the students to assess reef health by identifying reef fish species using baited remote underwater videos, and how to evaluate the differences in coral reproduction between shallow and deep reef sites. The initial analysis of the collected data was completed by December 2016 and revealed the surveyed sites with the highest live coral cover, coral diversity and abundance of coral colonies, the presence of macro-invertebrates, and fish diversity.

## HEALTH LITERACY

In December 2015, the Time + Tide Foundation began a health literacy programme on Nosy Ankao in partnership with the newly established Malagasy non-profit TaFiTa ('Tantsoroka hoan'ny Fivoaran'ny Tanora' or 'Youth Empowering Services'). Health literacy is the capacity of individuals to understand and retain basic health information in order to make informed health decisions. As part of their approach, TaFiTa formed a health committee on the island, which is responsible for disseminating health-related information and encouraging active, hygienic lifestyles.

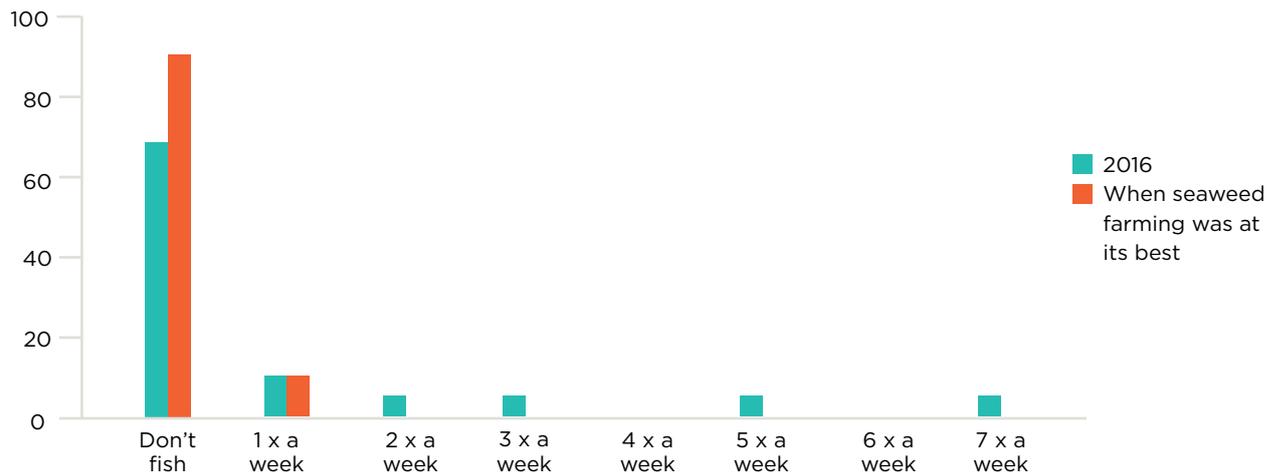
In May 2016, we welcomed back TaFiTa to Nosy Ankao to reinforce the capacity of the health committee and conduct a feasibility study for a community garden. The TaFiTa coordinators began by evaluating the progress the committee has made over the previous five months, holding individual assessments and reviews with committee members on water, sanitation and hygiene, sexually transmitted infections, prevention of child illnesses, family planning, and safe motherhood. They then trained the committee on active community outreach and sensitization to enable them to advise on local health concerns. One of the primary concerns of

island residents is their access to fresh produce, which is limited given their remote location and distance from the mainland. In order to address this point, TaFiTa consulted with an agricultural technician to analyze the physical properties of the soil across the island. They concluded that the soil was fertile enough for a small-scale vegetable garden and an experimental plot successfully yielded tomatoes, aubergine, spinach, chili, and lemons.

Miavana Lodge employed the vast majority of adult residents on Nosy Ankao in the process of constructing the lodge and rehabilitating the island. When the lodge opens to guests, the residents will assume roles in the various lodge departments. Traditionally, fishing communities from mainland Madagascar would settle on nearby islands during the fishing season, fishing on the coral reefs, mangroves and other biodiversity hot spots. By working at the lodge, local residents are now earning a stable income and pressure on the surrounding marine resources has eased. Moreover, residents are privy to supplemental benefits of working in eco-tourism, such as access to free healthcare through the island's clinic and regular exposure to current information and support through the health committee.



## TIME SPENT FISHING IN 2016 COMPARED TO WHEN FARMERS PERCEIVED SEAWEED PRODUCTION TO BE AT ITS BEST



This data indicates that seaweed farming is an attractive alternative to fishing, with 70% of seaweed farmers reporting that they did not fish in 2016.

### SEAWEED FARMING

In 1998, an American company, FMC, identified the good quality waters and conditions around Nosy Ankao as an ideal place to begin a seaweed farming business, through which they would harvest carrageenan, an essential ingredient for foods containing gelatine. More than 500 families were recruited to live on the island, and the seaweed farming business that developed, IBIS Algoculture, was at one stage the largest private producer of red algae in the world. Unfortunately, during the El Niño of 2010 and corresponding rise in ocean temperatures, all of the seaweeds acquired diseases and died. Despite several expert consultations and attempts to revive the business on Nosy Ankao, the seaweed farming collapsed with the final lines abandoned in 2015.

Nearby on the mainland, however, another IBIS site known as Ampasimadera managed to rebound from the effects of El Niño and independent farmers continue to generate enough income for their livelihoods. In 2016, the Time + Tide Foundation administered the remaining grant money from Norges Vel to help develop the village of Ampasimadera for the benefit of the seaweed farmers, which began with the construction of a new

primary school that doubles as a community centre. After several logistical setbacks, such as the tropical cyclone that hit northeastern Madagascar in early 2016, the school was completed and opened by July. In addition to the school, Norges Vel supported the installation of solar power in Ampasimadera, including a solar powered borehole pump, as well as ablution blocks for the school and new nylon cords for the farmers' seaweed lines.

Aquaculture has been introduced in many coastal areas around the world as an alternative livelihood that contributes to sustainable coastal management. The objective of introducing seaweed farming to Ampasimadera was to improve socio-economic conditions of the coastal fishing community such as increasing their income and investing in social capital, particularly that of women. The species *Eucheuma spinosum* is the primary crop farmed in Ampasimadera, selling for approximately \$400 per tonne with close to 200 tonnes sold in 2016, which has allowed farmers to consistently earn above minimum wage. Seaweed farming is classified as an environmentally benign form of aquaculture as it doesn't require fertilizers and thus minimizes eutrophication.



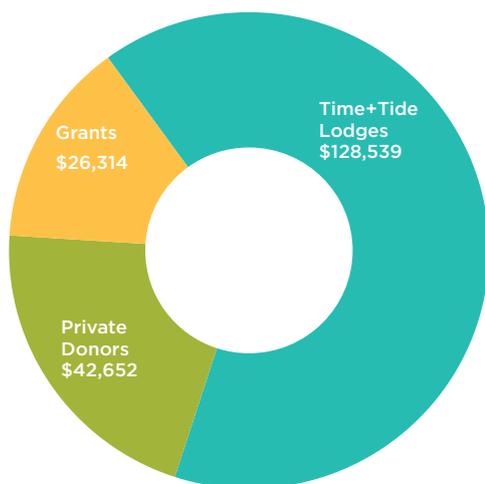




# 2016 Financial Overview



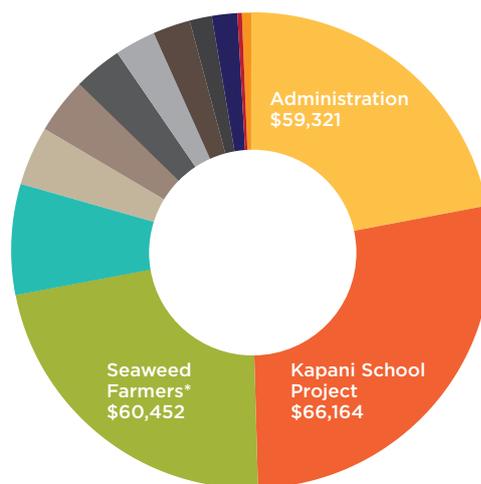
## Income



- Grants
- Time + Tide Lodges
- Private Donors

\$ 26,315  
 \$ 128,539  
 \$ 42,652

## Expenditures



- Administration \$ 59,321
- Communication \$ 7,528
- Monitoring & Evaluation \$ 8,880
- Kapani School Project \$ 66,164
- Field-based Education Centre \$ 20,000
- Munde Sponsorship Programme \$ 930
- Sibemi Community School \$ 5,184
- Aerial Conservation \$ 10,196
- Chitende Secondary School \$ 10,420
- Crowned Lemur Conservation \$ 3,764
- Ecological Research + Education \$ 6,616
- Health Literacy \$ 1,409
- Seaweed Farmers\* \$ 60,452
- Home-based Education Programme \$ 7,767

\*Funding from Norges Vel to IBIS Algoculture; administered by the Time + Tide Foundation  
 \$ (All figures in US Dollar)





# Funders & Partners

The Time + Tide properties generously support all administrative and operational costs for the Time + Tide Foundation, as well as numerous in-kind contributions at the respective lodges.

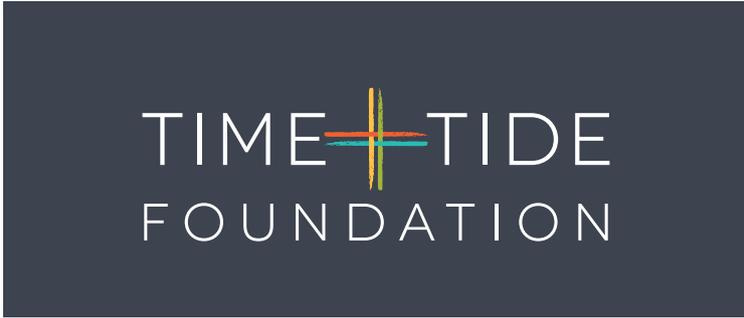
Funding for our projects and beneficiaries is provided through private donations and grants, with 100% of raised funds allocated to our projects on the ground. Over time, our goal is to direct monetary contributions from the Time + Tide properties to an endowment fund, which will allow us to provide sustainable, long-term funding to our beneficiaries.



## MAJOR PRIVATE DONORS

- The Carnegie Family
- The Edge
- The Jones Family
- The McMurray Family
- Greg and Mary Moga
- Gary and Maryanne Sparrow





[www.timeandtidefoundation.org](http://www.timeandtidefoundation.org)