

# Community festivals celebrate coastal conservation

- Family planning programme celebrates three years of operation and new funding
- BBC film crew visits Andavadoaka
- Lionfish: Invasive species monitoring
- Monitoring the effectiveness of Bacalar Chico Marine Reserve

## Festivals spread message of sustainable resource management

Since March, Blue Ventures has been implementing a [campaign for sustainable fisheries management](#), within the 'Velondriake' locally managed marine area (LMMA). The campaign, developed in partnership with social marketing organisation [Rare](#), uses social marketing techniques to reduce destructive fishing practices such as poison fishing, beach seining, and coral damage. Celebrating the traditional Vezo way of life, the campaign's slogan of "Vezo aho" (literally "I am Vezo") honours the sea-faring, fishing-dependent lifestyle of the region's Vezo people. In doing so the campaign is working to raise awareness of how sustainable marine resource management will be fundamental to future generations continuing this lifestyle. The campaign also aims to motivate communities to improve enforcement of the local laws (*Dina*) that have been implemented within Velondriake for better management of their common resources.

Blue Ventures' partnership with Rare was launched following a year of socio-economic research, community consultation, and preparation by Campaign Manager Gildas Andriamalala. Since the campaign's launch in March 2010, numerous social marketing materials have been distributed across Velondriake, including over 500 posters, and 800 t-shirts. More than 162 local sailing canoes (pirogues) have had their sails painted with slogans from the campaign, providing a moving billboard to ensure even greater regional visibility of the campaign's important conservation message. Outreach has also included radio commentary and songs, and community theatre productions that all integrated the campaign's messages focusing on halting destructive fishing methods and promoting marine conservation.

In September the campaign culminated in a series of festivals held in three large villages across Velondriake, attended by over 3000 community members. The festivals were all-day events, with presentations from [village leaders](#) about the importance of responsible marine

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Above: Velondriake trainers and visitors from the Diego province visit a seaweed farm within the Velondriake LMMA.

the permanent marine reserve of the village of Andavadoaka, to see how it is demarcated; and a nearby reef flat where a temporary octopus reserve had recently opened. Throughout these excursions, the Velondriake trainers explained about the evolution and management of the LMMA, including the challenges and successes in getting to this point. The training sessions culminated in a lively information exchange, where the trainees described what they found interesting or surprising about their visit, and asked questions of the Velondriake representatives.

Lucie Monica Tombolahy, Regional Conservation Coordinator at Conservation International said, "The visit of our community members from the north of Madagascar to Velondriake was an excellent experience which was extremely motivating for the community."

Rebecca Inman, a Peace Corps volunteer who also helped to organise the collaboration between Conservation International and Blue Ventures said, "Making the long trip from Diego to Andavadoaka proved an invaluable experience for our community members making the steps towards managing their marine resources. Getting a chance to meet, learn from and exchange ideas with Velondriake leaders really opened their eyes and got them excited about their future reserves."

As Velondriake continues to build capacity and successfully implement temporary and permanent reserve closures, it will likely draw more and more interested groups from around Madagascar and the broader western Indian Ocean region. It is hoped that this area can become a prominent centre of learning for others wishing to replicate the community management model throughout Madagascar, the Indian Ocean, and beyond.



Above: The visitors visit Andavadoaka permanent reserve

## Two months on from their visit to Velondriake

After the trip to Velondriake, each village representative organised a meeting with their community to describe their experience and what they had learnt. The village representatives explained how marine reserves can benefit fishermen in Madagascar. They also spoke about how the Vezo community are embracing their own identity to increase awareness of how they could manage their resources sustainably. They also discussed the benefits that could be gained if good working relationships were developed with NGO partners, in particular capacity building.

At present, one temporary marine reserve has been officially closed to fishing at Ivovona village, in northeast Madagascar, from November until January 2011. Three surrounding villages are also keen to set up marine reserves and have begun the process of community meetings to implement their reserves.

## Terrestrial reptile monitoring begins in Andavadoaka

An exciting, new terrestrial monitoring project has recently been launched to investigate the impacts of habitat disturbance on Velondriake's reptile communities. Madagascar is home to 363 described species of reptiles, 92% of which are endemic. The semi-arid southwest region of the country, home to Blue Ventures, exhibits a very unique type of littoral thicket, whose reptile inhabitants have not yet been well studied. The region's spiny forest is characterised by areas of bare, uncovered sand lying between forest thickets. This has created very specific ecological niches, which several species of burrowing reptiles have evolved to fill. These reptiles spend much of their time underground, and over evolutionary time have lost redundant body parts, such as limbs and eyes.

Unfortunately, the littoral thicket habitat is under threat from several human activities, including clearance for building construction, grazing of cattle or goats, and collection of firewood and building materials. Through this research, Blue Ventures is studying the effects of these disturbances on reptile populations by comparing sites of differing levels of degradation, using a method known as pitfall trapping. It is the first study of its kind in the region, and has potential for finding species new to science, as well as providing valuable information on habitat degradation.



Above: *Paroedura picta*, a gecko found within the Velondriake region

The project, carried out in collaboration with the University of Kent, is conducted once every six weeks, for ten consecutive days, and compares two trap lines – one in a degraded area, and one in a relatively pristine area. The lines are each 90 m long, with ten sunken buckets placed along the line, into which reptiles are trapped. Every



*Above: Blue Ventures volunteers check a reptile trap in a degraded area of littoral thicket*

morning, Blue Ventures' scientists and volunteers check the traps, and every afternoon line maintenance is conducted. Each reptile found in the buckets is logged, marked and released far from the line so as not to be caught again.

Since the project's inception the team have caught, inspected and identified numerous different reptile families; it is hoped that this research will not only increase scientific knowledge on Madagascar's endemic reptiles but also provide an exciting opportunity for volunteers to experience terrestrial ecology.

## Family planning programme celebrates three years of operation and new funding!

Blue Ventures' family planning programme began in August 2007 with the opening of a small clinic in the village of Andavadoaka. Three years later, the programme has grown to include four clinic sites (with one more on the way), and 18 community-based distributors (CBDs) serving the Velondriake region. In that time 1687 new patients have been seen and the programme has provided nearly 550 years' worth of contraceptive protection (not including condoms). The Marie Stopes International (MSI) calculator translates that to averting just under 450 unwanted pregnancies, avoiding over 110 unsafe abortions, and preventing almost 200 years of lost life due to premature mortality (DALYs – Disability Adjusted Life Years).

The success of the clinic to date has resulted in new grants from both the [United Nations Population Fund \(UNFPA\)](#) and the [MacArthur Foundation](#). Blue Ventures is the first marine conservation organisation to partner with the UNFPA, a testament to Blue Ventures' recognition of the effects of maternal and infant health, access to reproductive healthcare, and population growth on the sustainability of marine resources. Together, these grants will support the family planning programme for the next three years, providing for the training and support of CBDs, opening additional clinics, offering new services geared towards maternal and child health, increasing outreach and education activities, strengthening links with regional health care providers, monitoring and evaluating the family planning programme, and ensuring its long-term sustainability.

The CBD program is already well underway, and has thus far yielded significant results. In the program's first three months alone, the CBDs increased outreach by nearly 150% throughout the Velondriake region. A follow up training was held at the end of August to review the importance of the CBD's role, to reinforce proper practices, and



*Above: Community Based Distributors are given additional training by Population Services International (PSI) on administration of a progestogen-only injectable contraceptive (Depo-Provera) that lasts 3 months*

to improve the reporting process. The three best CBDs were chosen to receive an additional four-day training provided by [Population Services International \(PSI\)](#) on administration of a progestogen-only injectable contraceptive (Depo-Provera) that lasts 3 months. These CBDs will now be able to circulate throughout the region providing additional options to women using family planning.

Marie Stopes International (MSI) also visited the area in late September. The team checked-up on over 60 patients that had previously received contraceptive implants (Implanon), and fitted more than 20 new patients with the three-year contraceptive. Additionally, six women were fitted with intrauterine devices (IUDs) that provide contraception for up to 12 years.

In October a regional football tournament and theatre tour featured



*Above: The regional football tour promoting access to sexual and reproductive health services in Velondriake*

in a number of educational side events promoting the access to family planning services within Velondriake. Many exciting events are also planned for the upcoming months. Our annual survey will also be conducted in the next couple of months to find out how much of a difference the family planning programme has made in reducing the local fertility rate, increasing knowledge and use of family planning methods, and educating people about HIV and other STIs.

Blue Ventures PHE programme is funded by the UNFPA. Blue Ventures would like also to thank all those that have donated to the programme, and also to Population Services International and Marie Stopes International for their continued assistance.

## Andavadoaka Women's Association gets creative

Within Velondriake there are few opportunities to earn income other than by fishing. This almost complete economic reliance on the sea puts enormous pressure on coastal and marine resources and often does not allow for anything but subsistence survival by communities. Blue Ventures is helping Velondriake to create [alternative livelihood](#) opportunities for its residents, to both reduce pressure on natural resources and provide additional income. One such program involves working with local Women's Associations to create souvenirs and crafts for tourists.



*Above: Member of the Women's Association practising measuring and cutting skirts out of poster paper*

Thanks to a generous donation by a former Blue Ventures volunteer, members of the Women's Association in Andavadoaka recently received intensive training in embroidery and tailoring. Throughout the month of August, the women spent several hours a day at the local elementary school to learn from two experts from the regional capital Toliara. After several days of theory on the blackboard, the women practiced measuring and cutting skirts out of poster paper, and then graduated to cloth, using sewing machines to make several different clothing designs. At the same time, other women are learning new techniques and practicing embroidery on napkins, tablecloths, and wall hangings. By early September, the women had an impressive array of creations, which they displayed for volunteers and Blue Ventures staff at a Women's Association catered lunch.



*Above: Putting the training into practice- using a sewing machine to create items for sale*

The women in the Andavadoaka Women's Association have historically made items such as clothing, hammocks, and souvenirs for sale to Blue Ventures volunteers. The intention of this training workshop was to improve the women's skills so that they are able to provide higher quality items for sale to the volunteers and other tourists that come to the region. In the future, they may even look towards exporting to the capital city and larger tourist markets.

The Women's Association and Blue Ventures would like to thank Steve Richards, Ruth Rosselson and Richard Nimmo for their kind and generous sponsorship.

## Scaling Blue Ventures' conservation successes

Every austral winter, Madagascar's coasts witness one of the world's most remarkable animal migrations. From May to early September the country's shores become a highway for hundreds of humpback whales, migrating between their equatorial breeding sites and their feeding grounds in the southern Ocean. For the first week in August, the distant splashes of the whales formed a spectacular backdrop to a landmark event for marine conservation planning, when 35 marine conservationists working around the island continent converged on the remote village of Andavadoaka for an unprecedented symposium to discuss marine and coastal management.



*Above: Blue Ventures staff and volunteers take a break from proceedings to pose for a photo*

The conservationists, together responsible for managing all of Blue Ventures' conservation programmes in the south and west of Madagascar, met to exchange information and updates on progress made in marine conservation in the region. All conservation projects being developed by Blue Ventures in Madagascar, ranging from schools scholarship programmes to migratory studies of nomadic fishermen, were reviewed during an ambitious series of presentations and workshops designed to develop the organisation's strategic plan for the year ahead.

The remote Vezo fishing village of Andavadoaka was a fitting venue for the symposium, having hosted Blue Ventures since 2003, and today forming the geographical and administrative centre of Velondriake, the Indian Ocean's largest locally-managed marine area (LMMA).

At the time of the workshop, Samba Roger, elected President of the Velondriake Management Committee, remarked: "This is an exciting time for coastal communities in Madagascar. Velondriake is three years old now, and local management here is working for our fishermen and their families."

Lalao Aigrette, Blue Ventures' natural resource monitoring manager, travelled to the workshop from Belo-sur-Mer, an isolated village several hundred kilometres north of Andavadoaka. In Belo, Blue Ventures is

responsible for providing support to Madagascar's national parks service in developing an ambitious new marine protected area in the Mozambique Channel modelled on Velondriake's successes.

*"This workshop is an incredible opportunity for us to share what we've learned in community-based marine conservation so far"* said Lalao. *"We're here to make plans for how best to share this information with our partners around Madagascar and the Indian Ocean."*

Exciting plans for the future were made particularly with regards to the women's association, increasing the impact of Blue Ventures work, promoting greater volunteer participation, and improving English language teaching. Watch this space to see how these projects evolve over the year ahead!

## BBC film crew visits Andavadoaka

In September 2010, Blue Ventures was announced as one of this year's 12 finalists for the World Challenge 2010 Award, an international competition organised by BBC World News and Newsweek magazine to champion projects showing enterprise and innovation at a grassroots level. Blue Ventures' work using social enterprise to drive sustainable community-based conservation initiatives saw it beat over 800 nominations worldwide to make it to the final twelve.

To illustrate the work of Blue Ventures to a worldwide audience, BBC producer Rob Gould visited the remote village of Andavadoaka to make a short film on the project. Villagers, volunteers and staff were honoured to host the BBC, though Rob's visit was not without a few hiccups! (you can read his blog at <http://www.theworldchallenge.co.uk/producer-project09.php>).

Over the past two months Rob's video of Blue Ventures' work has been featured on BBC World News television and in Newsweek magazine. You can view Blue Ventures video, One Reef at a Time, at <http://vimeo.com/15944635>.

## News from Malaysia

### Biorock comes to Tioman!

The destruction of coral reefs can have devastating effects on coastal economies as well as marine biodiversity, notably through a drop in fishing and tourist revenues, as well as through damage caused by increased wave action and erosion of land. In a number of tropical coastal countries, artificial reefs have been used as a management tool to restore coral reefs and mitigate the negative effects of habitat loss.

There are a number of artificial reefs currently installed around Pulau Tioman, home to Blue Ventures' Malaysia research team. The reefs are made from concrete domes, ceramic structures, PVC pipes and several old wooden fishing boats. They are placed at a range of depths and locations, between 6 and 30 m, on the sand adjacent to natural reefs. In addition to these 'conventional' forms of artificial reef, a new generation of artificial reef or 'reef rehabilitation technology' is being trailed on Pulau Tioman, using mineral accretion on artificial reef structures to encourage the growth of hard corals. A Biorock structure has recently been commissioned off Tekek beach, supported by the Malaysian Nature Society, and Blue Ventures volunteers were involved in the underwater installation of the 20 m by 20 m structure in October 2010.

Biorock's mineral accretion reefs, if successful, represent an exciting innovation in artificial reef design. The technique requires metal structures to be built and placed in shallow water, up to 14 m deep, and supplied with low voltage electrical current. The



*Above: Biorock tunnel deployed in Tioman © MNS/ Biorock 2010*

electrical current can be provided by mains power or solar, tidal or wind energy. The electrochemical reaction induced by the current passing through the metal causes calcium carbonate and magnesium hydroxide to be drawn from the salt water and deposited on the framework. The mineral ions extracted from the water are then used by scleractinian corals (hard corals) to form their calcium carbonate skeleton. Studies have indicated that corals can grow at accelerated rates on these structures. If this is the case, not only does the current help the corals to strengthen and grow, the framework itself is strengthened and fastened to the seabed by the mineral accretion and therefore does not rust and crumble over the years. Electricity can be applied at the deployment of the structures; to encourage recruits and stimulate faster growth of transplanted corals, and after physical damage; to repair the corals.

Whilst artificial reefs will never mimic the complex diversity of naturally formed habitat, or be able to rebuild areas of tropical reef lost in recent years as a result of human impacts and climate change, it is hoped that Pulau Tioman's artificial reefs will provide important educational case studies in artificial reef construction, as well as helping reduce tourist pressure on the island's natural reefs by attracting dive tourists. Blue Ventures is currently monitoring these different forms of artificial reef to measure their success in recruiting coral and fish populations.

## Spawning research begins in collaboration with National University of Singapore

Coral spawning is an important event in the life cycle of hard coral. Corals are able to reproduce both sexually and asexually. In asexual reproduction a single coral polyp undergoes mitosis, splitting in two to produce genetically identical offspring. This is the process by which coral colonies grow, and in some species an initial pioneer polyp can give rise to hundreds of thousands of offspring, sharing the same colony. Colonies can also reproduce sexually, through spawning of gametes into the water column allowing for mixing of genes from two separate adult colonies. Owing to its high energy demand, a coral colony will typically only spawn once or twice a year. By spawning at the same time, corals maximise the concentration of eggs and sperm in the water, and so increase their chances of fertilisation. This simultaneous spawning also inundates predators with an excess amount of food in a short time period, thereby minimising the impact of predation on larvae survival numbers.

Very little research has been conducted into the spawning times and

patterns of hard corals in the waters around Peninsular Malaysia, however November and March are considered to be the most likely times for spawning given that corals surveyed in Thailand and other parts of Southeast Asia were found to have spawned at these times.

Dr James Guest, an expert in coral reproduction from the National University of Singapore, is collaborating with Blue Ventures on the first in-depth coral spawning study on the island. Surveys to monitor spawning activity are carried out at the beginning of every month through night dives conducted 5-7 days after full moon cycles in an attempt to pinpoint the exact time and date of coral spawning events.

## News from Belize

### Monitoring the Effectiveness of Bacalar Chico Marine Reserve

During Blue Ventures' first year in Belize marine research has focused on examining the health of the coral reefs within the Bacalar Chico Marine Reserve. Monitoring sites have been established in all four categories of managed zone within Bacalar Chico; the Preservation Zone, where fishing is banned; Conservation Zones 1 and 2, where anchoring is outlawed and SCUBA diving and fishing limited; and the General Use Zone, where limited fishing, including conch and lobster - two major reef fisheries in Belize - is allowed.

Data gathered so far show a trend of increasing abundance and



Above: Map showing the four management zones within the Bacalar Chico Marine Reserve.

diversity of hard corals and reef fish across the different zone types as the extent of legislative protection increases; moving from the General Use Zone, to Conservation Zone 1 and onwards to the Preservation Zone. These results are being analysed to share with partners at the Belize Fisheries Department, the Sarteneja Alliance for Conservation and Development (SACD) and [WWF Central America](#) and will soon be available on the Blue Ventures website.

## Lionfish: Invasive species monitoring

Two closely related species of the invasive predatory Lionfish, the Red Lionfish (*Pterois volitans*), and the Devil firefish (*Pterois miles*), are now found in the Caribbean, and represent a huge problem throughout the region, having been introduced to the Atlantic inadvertently. It is not known exactly how the lionfish got into the Atlantic from their natural range in the Indian and Pacific Oceans, though the most common theory is that they were released from aquaria off the coast in Florida in the early 1990s. In recent years, sightings have increased, and in 2006 there appeared to be a population explosion around the Bahamas. Sightings have now been recorded as far north as North Carolina, in much of the Caribbean, and south into northern South America.



Above: Lionfish are now seen on almost every dive in Bacalar Chico

Lionfish are indiscriminate predators, and have voracious appetites - adult lionfish weighing 300-400 g can consume around 8.5 g of prey every day. They herd and trap prey on coral reefs using their oversized pectoral fins and attack with a fast strike. This technique is highly efficient and can rapidly diminish the numbers of their prey, including juveniles of many endangered fish species. It can also heavily impact on numbers of herbivorous fish, which are necessary to prevent algae outcompeting coral on reefs, and outcompete the native competitors. Lionfish grow quickly, reproduce frequently, their eggs can stay alive for days drifting in the currents, and due to the possession of feathery venomous spines, have no natural predators in the Caribbean.

Since establishment of the Bacalar Chico research programme, Blue Ventures has been closely monitoring lionfish abundance. Already a marked increase in lionfish numbers has been observed by the research team; in March, one lionfish would be seen every few dives, but the species is now seen on nearly every dive and frequently over ten are seen per dive. The increase in lionfish abundance needs to be continually monitored; it is seriously adding to the stresses already faced by Caribbean reefs and their fish populations as a result of overfishing.

## Conferences

### Population Symposium for World Population Day

Rebecca Hill, UK Manager of Blue Ventures' Population, Health and Environment (PHE) Programme, attended a symposium at the London School of Hygiene and Tropical Medicine in July 2010 addressing the links between population growth, climate change and health. The event was timed to coincide with the World Population Day on 11th July, designated by the UN as a day to consider our increasingly crowded planet.

With the projected figure of the world's population to reach 9.1 billion by 2050, the day presented the stark realities of what such a growth in population will mean, particularly for those living in the less developed regions.

Universal access to family planning services was high on the agenda throughout the day, with eminent figures such as Professor Malcolm Potts highlighting the benefits that can be gained from providing family planning services that respect and protect human rights.

Blue Ventures PHE approach was cited by one of the speakers, Karen Newman from the Population and Sustainability Network, as being an effective programme for bringing about positive and lasting benefits to communities and ecosystem health.

## Other news

### 2011 Young Conservationist Award

Blue Ventures' Research Director, Dr Alasdair Harris this year won the 2010 Young Conservationist Award. The award aims to recognise and raise awareness of the outstanding contributions made to the management of protected areas, and leadership shown, by young conservationists. Now, the International Ranger Federation (IRF) and IUCN's World Commission on Protected Areas (WCPA), in collaboration with Parks Victoria and the George Wright Society, call for nominations for the 2011 Young Conservationist Award. To nominate yourself or someone else for this award, please see [http://www.georgewright.org/yca\\_app](http://www.georgewright.org/yca_app).

### A day in the life: Dolce Augustin, Community Organiser for Velondriake

So, what's it really like working for Blue Ventures? To give you an inside view about what our staff really do, this edition focuses on Dolce Augustin, community organiser for the Velondriake locally managed marine area (LMMA) in southwest Madagascar.

Dolce joined the Blue Ventures team in May this year, and has since taken on a wide range of responsibilities. With a degree in marine sciences from the University of Toliara, Dolce's first job experience was working with a seafood exporting company. There, he was responsible for quality control of exports including octopus, squid, lobster, shrimp and fish to the neighbouring island of Mauritius.

*"Looking to become more involved with marine conservation, I applied for a number of jobs in conservation and aquaculture in southwestern*



Above: Blue Ventures' Dolce Augustin

*Madagascar. I was so happy to find my current job with Blue Ventures and have been enjoying the work ever since. My work with Blue Ventures allows me to spend about 70% of my time in the field, meeting with village members, village leaders and Velondriake committee members. Travelling around to the 24 villages, I have helped with Velondriake committee elections, dina (the local law) enforcement sessions, and numerous other related meetings."*

In addition to liaising with communities and building capacity of Velondriake members, Dolce is responsible for organising the local community around the development of a community-owned ecolodge in the village of Andavadoaka. Bringing together the community, the women's association, and the local Velondriake committee, Dolce has helped create a new association that will oversee the ecolodge construction and its eventual management.

Dolce has also played a key role in Velondriake's social marketing campaign (managed by Blue Ventures and Washington-DC based NGO Rare Conservation). The campaign has used educational outreach such as theatre, sail painting, and festivals to encourage people to give up destructive fishing practices. The campaign uses the slogan "the sea is my heritage and that of my future generation's too".

Dolce also works on the project 'Programme d'Appui aux Communautés des Pêcheurs de Toliara' – an African Development Bank funded initiative working to replicate the temporary octopus reserves pioneered by Blue Ventures in Andavadoaka, scaling this model for fisheries management to new communities in the south of the country.

*"Last week, I held meetings to set the date for the next octopus reserve closures in Velondriake. I also travelled north to Morombe where I met with village leaders about extending temporary octopus reserves to that area. I have enjoyed the challenge of this job so far, and hugely appreciate being involved with a committed team that is so integrated into the Vezo community."*

#### Keeping in touch

In addition to our quarterly newsletters, (sign up at <http://www.blueventures.org/newsroom.html>), you can keep in touch with Blue Ventures' projects around the world on our website ([www.blueventures.org](http://www.blueventures.org)), blog (<http://blog.blueventures.org/>), facebook ([www.facebook.com/blueventures](http://www.facebook.com/blueventures)) and twitter (<http://twitter.com/blueventures>).