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Blue Ventures Conservation Andavadoaka, Madagascar

The end of 2005 saw considerable progress in marine conservation and research activities in Andavadoaka, including expansion and replication of marine reserves.

Research Update, September 2005 - December 2005

Traditional ceremonies mark marine reserve closure
A unique year-long data set showing variations in the size of individual octopus caught in the region.
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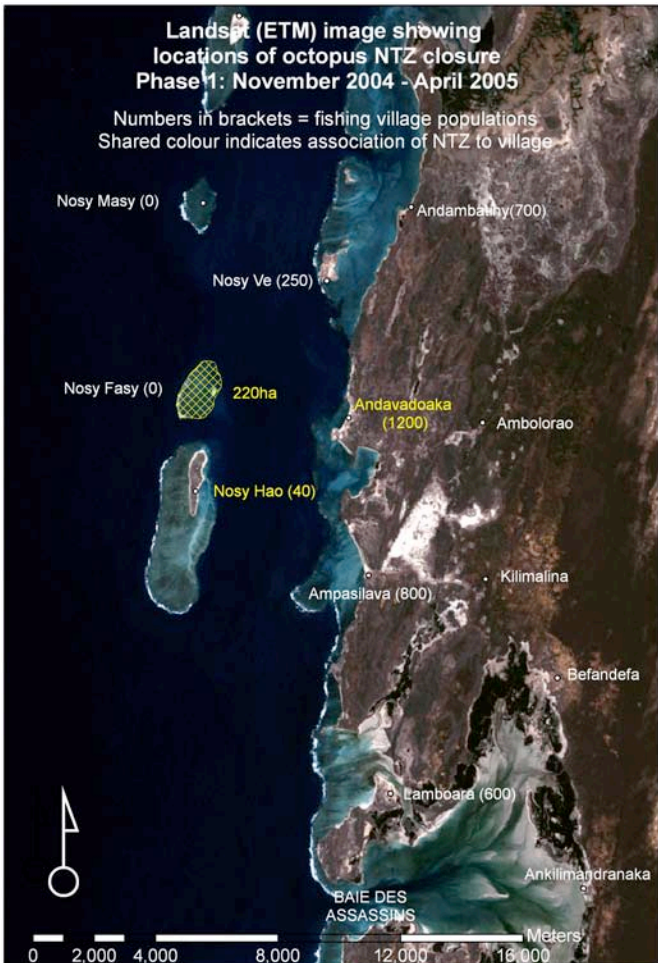
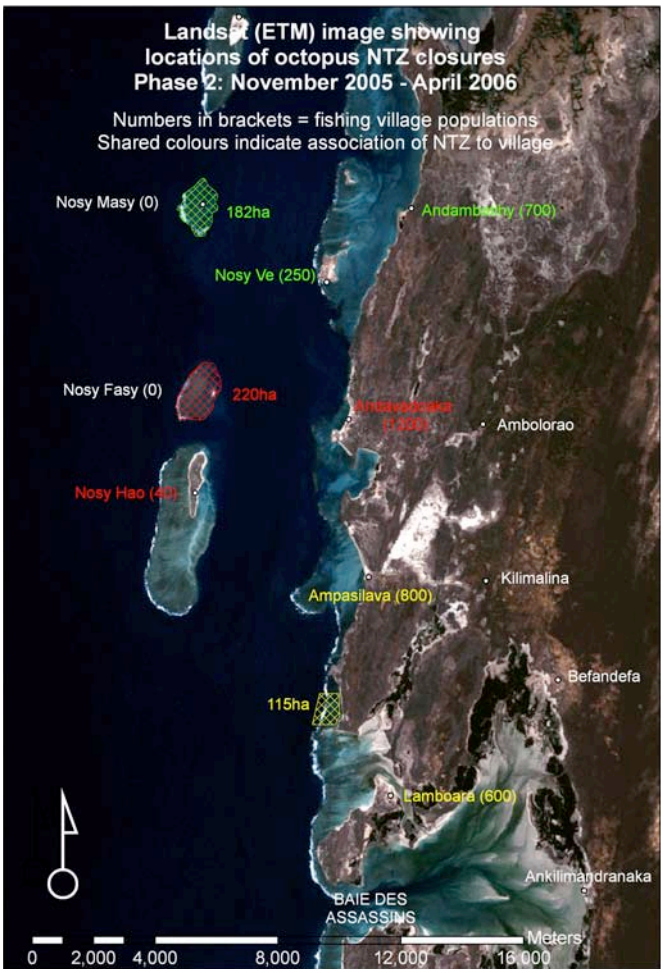
Second round closure and replication of Nosy Fasy Octopus No Take Zone

Since the reopening of the Nosy Fasy octopus reserve (discussed in last season's research update), marine and social scientists from Blue Ventures and WCS have conducted a lengthy series of community consultations in Andavadoaka and surrounding villages. These consultations comprised workshops, presentations and discussion events, and sought to illustrate the benefits of marine reserves, as well as to present, to as wide an audience as possible, the results and outcomes of the first marine no take zone in the region. Discussions also focused on ideas and possibilities for future reserves, and identified potential areas for replicating the pilot Nosy Fasy reserve elsewhere in the region. Meetings took place throughout October and November in Andavadoaka, Nosy Ve, Andambatihy, Andranombala, Belavenoaka and Antstsamoroy.



These consultations recorded encouraging community support for expansion and replication of the pilot Nosy Fasy octopus reserve, and in late November a local law, or *Dina*, was signed by the elders of villages throughout the region, aiming to move regional marine conservation plans forward by closing three reef flats, each representing important octopus fishing sites. Catch monitoring data show that these sites are typically fished by a total of ten villages (Andavadoaka, Andabatihy, Ampasilava, Ambalorao, Ankilimanilike, Antsatsamoroy, Befandefa, Lamboara, Nosy Ve, and Nosy Mitata), and the agreement is seen as a major advancement that there is now consensus between all of these villages to protect the octopus fishery. The three reef sites, Ampisorogna, Nosy Fasy, and Nosy Masay, have now been closed for an average of 4-5 months.



Traditional ceremonies mark marine reserve closure

The Vezo of southwest Madagascar have a well-respected tradition of ancestor worship, and prior to the implementation of any *Dina* or environmental management plan, it is necessary that ancestors are appeased by through a ceremony called a Fomba. A *Fomba* was held prior to the establishment of each reserve and was carried out in the name of the *Tromba* or *Doany*. the supernatural spirit of the ancestors. Each *Fomba* was led by a village elder, known during the ceremony as the *Ombiasa* or *Mpitoka*.

Small amounts of money and local rhum are offered to the *Doany* during each ceremony, prepared by the son of the *Mpitoka*. The opening of the rhum signified the commencement of the *kabary*, or dialogue with the spirit *Tromba*. In principle everybody present is required to taste the rhum, and those not willing to drink must pour some over their head instead to show respect to the *Doany*.

The quotation below is an excerpt from the prayer read by the *Mpitoka* during the *Fomba* for the Nosy Fasy reserve:

"You the Doany, live here in this sacred land. We have come here to present our collaboration with the "vazaha" [foreigners] regarding putting in place a marine protected area. They bring with them rhum and money for you. We accept to work with them if you permit because they want to help us to improve our fisheries. Bless them because the reserve will be good, and please protect them from any danger when travelling on your seas."

New national fisheries policy to protect Octopus populations

Based on results from the pilot seven month closure of Nosy Fasy's reef flat (November 2004 to June 2005), and resolutions passed at Madagascar's first cephalopod fisheries workshop, held in Toliara in July (See BV research update, June – Aug 2005), a national law has now been passed to prohibit all octopus fishing on the southwest coast of Madagascar between 15 December and 31 January each year. Additional accompanying regulations stipulate a minimum length (4cm) and a minimum weight (350g) for individuals caught outside these periods.

Unfortunately the Department of Fisheries has yet to implement a communication strategy to publish the new policy, therefore the level of compliance to these regulations, by both fishers and collection companies, remains to be seen. In Andavadoaka the first closed season for octopus has brought a quiet air to the village, with no vedettes or Copefrito camions collecting produce.

However, Coprefrito and Aquamena have set up a crab fishery (possibly mangrove crab) collection in the Mangoky delta (north of Andavdoaka). The aim of this is to ensure continued revenue to fishermen during the closed season and to enable them to respect the closure. This has enabled them to maintain the collection in the

Andavadoaka area despite the poor state of the roads.

Increased national conservation focus on Andavadoaka

Following the April 2005 meeting of conservation partners working with Blue Ventures in Andavadoaka, November and December saw a series of visits to the region by a number of partners to discuss research carried out to date, and plans for the months ahead. Visiting partners included: research conservation organisations the Wildlife Conservation Society (WCS), Institute de Recherche ed de Développement (IRD) and Conservation International (CI); national ministerial representatives from Direction de la Pêche and Ministère de l'Agriculture, de l'Elevage et de la Pêche; private sector partner Copefrito, and representatives from all villages affected by the new marine reserves. One of the principal subjects under discussion at these meetings was logistics for the reopening of the reserves, particularly concentrating on methods of limiting or regulating fishing access to prevent non-local fishermen fishing in the reserve areas after reopening.

Environmental Education and Awareness Raising

One of Blue Ventures' long-term objectives in Andavadoaka is to increase overall environmental understanding and awareness amongst the local community. As a part of our environmental education and awareness-raising programme, Blue Ventures' work with the younger generation has seen the creation of an environmental youth club called *Alo Alo* (Swordfish). This environmental youth club follows the principles of the *WWF Club Vintsy* created elsewhere in Madagascar by WWF in the 1990s. The Club's aim is to teach younger members of the Andavadoaka community about their local environment, its importance, threats to the environment, and steps they can take to protect it.

Alo Alo started in October 2005, and has so far attracted 47 members aged 10 - 18 years. The club meets every fortnight and has been granted the use of the Commune de Befandefa building in Andavadoaka for their meetings. Bic Manahira, one of Blue Ventures' Malagasy research assistants, with help and support from Blue Ventures volunteers, facilitates the meetings.

Club *Alo Alo* has elected a president, vice-president, treasurer, and a secretary, and decided on objectives concentrating on the marine and coastal environment. So far the club has organised a wide number of environmental awareness raising activities, including a beach clean-up competition, redecorating the commune building with colourful paintings of marine creatures, playing games focused on increasing knowledge of local ecosystems (coral reefs, mangroves, baobabs and the spiny forests), their use and importance. In the months ahead the club will be holding Open Days to present its activities and findings to family and friends.

Blue Ventures is looking forward to the growth and expansion of environmental education activities in Andavadoaka throughout 2006, and will be recruiting a full-time environmental educator to work with local schools in Andavadoaka, and throughout the commune of Befandefa, to implement a long-term environmental education component to the regional school curriculum.

New Fishing Cooperative

Following problems with the organisational structure of Andavadoaka's first fishing Cooperative (Cooperative Maritime du 22ième Parallel), established in late 2003, a newly structured replacement fishing Cooperative was initiated on 26th of November. M. Roger (vice-president of the former Cooperative) was elected president; two secretaries, one treasurer, one chief of accounts, and four advisers were also elected, and for the first time the latter included fisherwomen. The total number of members has also increased significantly to 69 members (of whom 27 are women) therefore representing a greater proportion of village fishers.

The previous fishing Cooperative failed as a result of a lack of effective management, poorly defined roles of Cooperative members, and unfortunate corrupt dealings in which certain members profited personally from the Cooperative's resources. This time around the new Cooperative's members are speaking with a more united voice and the overall motivation of the Cooperative to manage Andavadoaka's fishery effectively appears to be greater.

The first official meeting for the new Cooperative was held on the 30th of November and was attended by Blue Ventures and research partners from IHSM, WCS and IRD. The objectives of this meeting were to redefine the structure and responsibility, of the Cooperative. It was agreed that the new Cooperative will have an important role in the advancement of environmental conservation and fisheries management activities in Andavadoaka, playing a crucial part in managing existing octopus reserves and developing future plans. Projects currently under discussion include the implementation of a possible Marine Protected Area in the region (discussions for this were first initiated in March 2004, see Blue Ventures research update April 2004), and the deployment of Fish Aggregating Devices (FADs), the latter scheduled to take place (thanks to recent funding from the British Government's Foreign Office Small Grants Scheme) in April 2006.

The Cooperative will be in a key position to negotiate higher prices for marine

products from collection companies, which are currently considered by villagers to be selling at under valued prices. In addition, the cooperative has committed to working to increase the level of understanding of sustainable fisheries within the community, with the aim of improve the economic well-being of the people of the village. Specific aims of the cooperative as agreed by its new membership include:

- Protecting marine resources for future generations.
- Improving sustainability of fishing practices
- Increasing prices for fisheries products.
- Increasing market access to villagers (débouche des produits)
- Developing alternative income sources for women, in addition to octopus gleaning.
- Obtaining financial aid for the Cooperative to purchase rice at a low price to sell to villagers.
- Regaining the confidence of the community in the Cooperative's work.

Some of the problems and issues discussed during the Cooperative meetings were recorded by Blue Ventures' fisheries biologist Daniel Rabinery:

"Andavadoaka is very isolated. The standard of living in the village is very low. We need to raise the prices of our products. I buy food at a very high price and sell fisheries products at a low price…." M. Pierre, fisherman.

"We, the Cooperative, will explain to the village the reason for not using nets with small mesh sizes, and the importance of this reserve, because many still ask what the reserve is and what does it mean for us exactly." Fisherman.

"If we all work to fish individually there will be insufficient fish for our needs. That is why I would like to enter the Cooperative to resolve this problem. The women do not have many or any alternative livelihood and that is why they need to be a part of it, so that they can survive. We will identify the problems and resolve them together. The Cooperative can help to facilitate communication with the state or other organisations. We, the members, hope that the Cooperative will increase the well-being of local people." Alex Norbert, fisherman and village elder.

Training and Management

It is seen that the key to the successful development of an effective fishing Cooperative in Andavadoaka will be in ensuring its effective management. Without it the fishers of Andavadoaka will not be able to benefit from its presence. The members of the Cooperative acknowledge that they lack the required management skills, and in response to this Copefrito (the region's principal collector and exporter of seafood products) has agreed to sponsor an experienced manager for three months to train a local replacement. The president and vice-president of the Cooperative have also sought scientific advice from Blue Ventures and WCS. We remain positive that with increased motivation and an effective management plan put in place the fishing community will soon see the benefits.

World coral reef experts visit Andavadoaka

In November 2005, as part of a biodiversity assessment project funded by Conservation International, world coral and reef fish experts Doug Fenner and Gerry Allen visited Andavadoaka in an attempt to gain a better understanding of the reef species present in the region.

Mulloidichthys vanicolensis

Additional taxonomic expertise was provided by biologists from ARVAM (Agence pour la Recherche et la Valorisation Marines), La Réunion. Data and reports from this important visit will be available on the Blue Ventures website early in the new year.

Giant grouper

The giant grouper *Epinephelus lanceolatus*

In late October, Blue Ventures biologists carrying out a reconnaissance dive on the Dos de Baleine, a submerged limestone cave system just north of the Baie des Assassins, some 20km south of Andavadoaka, received something of a surprise when they turned a corner to come face to face with a Giant Grouper *Epinephelus lanceolatus*, measuring over 2.5m in length. The maximum recorded length of this extraordinary species, listed as vulnerable on the World Conservation Union Redlist of endangered species, is 270cm, so it is quite possible that the divers may have recorded one of the largest individuals ever seen.