

Zwazo

Number 21 Seychelles conservation magazine



**Biodiversity
for
Life**



2010 International Year of Biodiversity



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Zwazo

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Zwazo

Zwazo is produced biannually by Nature Seychelles, a non-profit, non-governmental organization that has worked in conservation in Seychelles since 1998. Its primary objective is to improve the conservation of biodiversity through science, education, awareness and training programmes. To achieve this we are dependent on voluntary support and funding. If you would like to help this work, please contact us at the address below.

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Cover Picture: George, the Giant Tortoise © Martin Harvey. "George lives on Cousin Island, a beautiful nature reserve in the Seychelles archipelago. He spends much of his time sleeping, drinking, having sex and breaking the reserve infrastructure." Nirmal Shah, 2003. Leave George be. New Scientist. 178 (2401):25.

Opinions expressed by contributors are not necessarily those of Nature Seychelles. Nature Seychelles does not accept responsibility for errors and omissions



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Guest Editorial

The effective conservation of biodiversity is essential for human survival on our planet and for the maintenance of ecosystem processes. This was recognised by the world's politicians back in 1992 when, at the Rio Earth Summit, they put in place the first legally binding global treaty for biodiversity conservation, the Convention on Biological Diversity. Ten years later, over 190 Parties to that convention had made commitments to substantially reduce the rate of biodiversity loss by 2010. So here we are in 2010, the UN International Year of Biodiversity, and how are we doing?

Sadly the most recent scientific analysis of global indicators, conducted by BirdLife International, UNEP-WCMC and others, shows that biodiversity loss has continued unabated, despite an increasingly large number of conservation actions being taken. There are, I believe, many reasons for this failure, but the story is not all doom and gloom, and it is interesting to look at places where this trend has been, at least partially, bucked and ask the questions 'why?'

In Seychelles, as all readers of Zwazo know, there have been a fantastic number of tremendous conservation successes since 2002. While many can and should take the credit for these conservation successes, I believe that the primary reason for these successes is the presence of a powerful, dynamic national conservation NGO, Nature Seychelles. This organisation, that grew out of a set of projects established by ICBP – BirdLife International's predecessor, has fostered public and political understanding of biodiversity, its values and the need for its conservation. It has also set examples of how biodiversity conservation can generate income (so be taken seriously by those concerned with business and finance), be used in education (and so helpful to those teaching future generations) and form a central part of people's wellbeing (and so be seen as worthwhile for all in society). I believe therefore that a major part of the solution to meeting post 2010 targets for halting the loss of biodiversity will be the replication of the Nature Seychelles model across the globe. I hope that the 10th Conference of the Parties to the Biodiversity Convention meeting in Nagoya this October recognises this fact and congratulate Nature Seychelles on all it has achieved so far.

Dr. Mike Rands is the Executive Director, the Cambridge Conservation Initiative, University of Cambridge, UK. He was until this year the long-serving Director of BirdLife International.

(Photo of Dr. Mike Rands Courtesy of the President's office.)



The next Zwazo: Climate Change

We welcome contributions to the next issue of Zwazo, July - December 2010, which will be on climate change. Contributions should be 500-800 words, illustrated with 2-3 high quality pictures and sent to: **Liz Mwambui - liz@natureseychelles.org**

US Envoy Visits Cousin



US ambassador Mary Jo Wills (3rd from left in picture) visited Cousin Island Special Reserve in April. She was welcomed on the island by wardens and volunteers as well as Nirmal Shah, Chief Executive of Nature Seychelles. The Ambassador toured the island where she saw firsthand the biodiversity it harbours.

“Thank you very much for your hospitality. You are doing very important work.” Ambassador Wills told the wardens and volunteers who included Miss Lyndsey Zhao from the Ambassador’s home state. Ambassador Wills was on an official visit to the Seychelles where she signed grant agreements with seven non-governmental organizations and community groups as part of the Ambassador’s Special Self Help Fund. Nature Seychelles received similar funding in 2007 to improve the visitor area of Cousin Island.

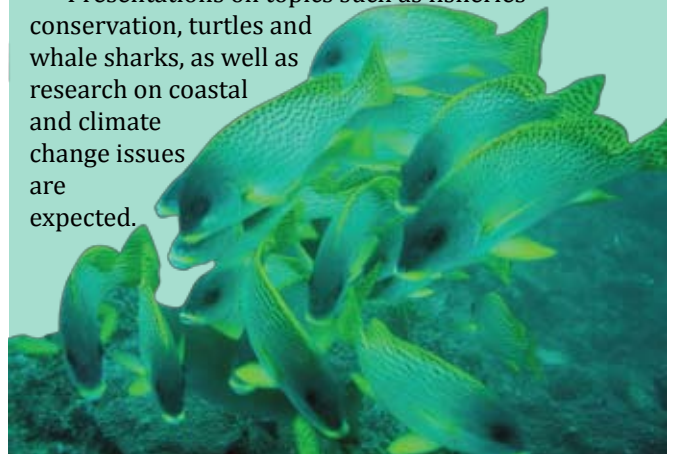
Marine Forum Launched

Nirmal Shah on behalf of WIOMSA - the Western Indian Ocean Marine Science Association launched the first session of the Marine Science Forum Seychelles, hosted by the Seychelles Fishing Authority (SFA), on 26 March 2010. The principal secretary for natural resources and transport Veronique Herminie was part of the well-attended forum.

The forum provides a platform for Seychelles-based scientists to present results and have their work reviewed by peers. The forums are held twice a month at the SFA. Dr Laurent Dagorn of the Institut de recherche pour le développement and Jan Robinson of the SFA gave the first two presentations.

The last decade has seen an upsurge in the quantity and quality of marine science conducted in Seychelles. There is now active collaboration in marine research between state and non-state institutions, and collaboration with international academic partners is growing. The SFA says that such fora will enable Seychellois scientists and visiting researchers to present their work to a wider local audience.

Presentations on topics such as fisheries conservation, turtles and whale sharks, as well as research on coastal and climate change issues are expected.



Electronic Bio Seychelles

Nature Seychelles has launched a new exciting feature on its website - an online Library. It was launched as part of several activities marking 2010 as the International Year of Biodiversity.

The Library contains a collection of scientific papers and publications relating to conservation and the environment in the Seychelles and the region. It is meant to overcome the lack of readily available information particularly for research and scholarship.

“It is difficult for people in Seychelles to have access to scientific papers so this is a facility we hope people, especially Seychellois students, will use.” Says Nature Seychelles Chief Executive, Nirmal Shah. A number of well-known scientists who have conducted research in the Seychelles and have contributed to the Library have lauded this move. “What a great resource!” Said Tony Diamond, Wildlife Ecology Professor at the University of New Brunswick.

The e-Library also has sections with general publications, species action plans, and national documents and legislation. It can be accessed via the “Library” link on the Nature Seychelles website.

And, if you are on Facebook, we are online at [facebook.com/natureseychelles](https://www.facebook.com/natureseychelles). Like us!

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Photo: Bronze eyed-Gecko (Philip Burns)



Mickey Mouse Saves Seychelles Birds

The Disney Worldwide Conservation Fund has provided two grants for Seychelles conservation. Nature Seychelles and the Royal Society for the Protection of Birds (BirdLife in the UK) were given the grants for bird translocations. A 2007 award helped establish a new population of one of the world's rarest birds, the Seychelles Magpie robin, on Denis Island. In a joint effort with multiple stakeholders, twenty birds – four from Cousin and sixteen from Fregate Island - were safely and successfully translocated to Dennis in mid-2008. Twenty hectares of habitat were restored on Dennis Island prior to this release, and for that of the Seychelles Paradise Flycatcher, which came later on in 2008. Both birds have flourished.

This project contributed to the achievement of the overall objective of the Recovery Plan for

the Seychelles Magpie robin, which came to near extinction during the 1970s and 1980s. In 1990, it became so urgent to save this bird a recovery programme was started to reverse its fatal decline. The population at this time was only 23 birds. Birdlife International and the RSPB, with support from the Seychelles Government, began a recovery programme in 1990 that Nature Seychelles later took over. A series of intensive conservation efforts saved the species. In 2005 it was down-listed to endangered due to increasing population size and numbers. However, the species remains a conservation concern. The goal of the five-year Action Plan for the Seychelles Magpie robin is to increase the range from four to seven islands and the population to 200 individuals. This project helped to ensure the establishment of a 5th population of this species.

The second award will build on the magpie experience to translocate another bird, the vulnerable Seychelles warbler to another Seychelles island later this year.

The Disney Worldwide Conservation Fund is a global awards program for the study and protection of the world's wildlife and ecosystems.

Photos: Seychelles Magpie robin (Glenn Jackway). Seychelles Warbler (Cas Eikenaar)

Flycatcher project is a success, says donor



The Seychelles Paradise Flycatcher project funded by the Darwin Initiative and implemented by DICE (Durrell Institute of Conservation and Ecology) and Nature Seychelles with the collaboration of other partners is completed. This project, among other things, established a new population of flycatchers on Denis Island, the only breeding population outside the species stronghold, La Digue Island. The Darwin Final Report review for

this project is highly complementary of the project, how it was implemented and managed, and what was achieved. The current success of this project is down to the hard work by all partners involved, the close coordination between DICE and Nature Seychelles with the other partners in particular Denis Island management and the Department of Environment, the dedication and time and effort of field staff, notably Rachel Bristol, the project manager, and the support of the Government and the people of La Digue. The RARE Campaign to change hearts and minds on La Digue conducted by Nature Seychelles's education unit has been highlighted as "particularly impressive" and was key in securing permissions for the translocation. Aspects of coordination and budget management are also discussed very positively as is the match of skills to work and budget.

Nirmal Shah CEO of Nature Seychelles says, "What the review has not elaborated but is worth highlighting is that the additional flycatcher habitat created on Denis by this project to complement that put in place by Nature Seychelles under a Global Environment Facility project, is of great value to other species we translocated there like the Seychelles Magpie robin and therefore generally enhancing biodiversity communities on that island. The report does say that the habitat restoration conducted by a Nature Seychelles team paid under the project was a 'substantial piece of work that may have been overshadowed by the success of the relocation.' We hope that this extremely positive review will stand the country in good stead for other future Darwin projects in Seychelles."

Photos: Girl with Vev flag (Terence Vel). Female Seychelles Paradise flycatcher (Jeff Watson)



notes from the field...



I am lucky to have been intensively monitoring the Critically Endangered Seychelles Paradise Flycatcher population on Denis Island for the last four months. The population on La Digue is monitored by Rachel Bristol who was part of the translocation, and still regularly visits Denis to help me and see what the birds are up to.

So far, seven chicks have successfully fledged on Denis, with two of them

fledging during my time there. Five breeding attempts are currently ongoing. Although breeding success is low at the moment, it is hoped that the newly implemented Indian Mynah (*Acridotheres tristis*) eradication programme will lead to a significant improvement in the future, as it is believed that these birds are heavily preying on the eggs and chicks of the flycatchers.

The flycatchers are always the highlight of every nature tour (provided they can be found!) and I am always proud to show them off and tell people about them. In my highly biased opinion they are the most beautiful birds on the island.

Georgia French, Flycatcher Research Assistant

Photo: Seychelles Paradise flycatcher nest and chick (Jeff Watson)

Celebrating Biodiversity

“You are an integral part of nature; your fate is linked with biodiversity.” Department of Environment



Photos: Students at the Nature Seychelles stand

Nature Seychelles took part in the Department of Environment organized International Day for Biological Diversity fair held at the foyer of Independence House in Victoria. The fair celebrated Seychelles' biodiversity and provided an opportunity to create awareness on the importance of Seychelles' natural environment. Nature Seychelles presented its work through posters, magazines and fliers. Its posters on “special” (endemic) Seychelles species were of particular interest to the visiting public. “You are an integral part of nature; your fate is linked with biodiversity, the variety of other animals and plants, the places they live and their surroundings all over the world.” The Department said in a message to the Seychelles public.

Breaking new ground: Cousin Celebrates IBA Branding



Photo: US Ambassador Mary Jo Wills (3rd left), Cousin Wardens and Volunteers in front of the IBA board in this souvenir photo

Cousin Island Special Reserve has become the first IBA - Important Bird Area - branded site in the Seychelles. The IBA branding states publicly that Cousin Island is of outstanding value for bird conservation. IBAs are sites of global importance for birds and their conservation defined and listed by BirdLife International - the world authority on birds.

The branding - large boards (pictured here) in the visitor reception areas of Cousin - was unveiled for visitors to the island as part of Nature Seychelles' activities for the International Year of Biodiversity.

"The IBA branding adds to Cousin Island's stature as one of the best small island reserves in the world," said Nirmal Shah, Nature Seychelles Chief Executive.

Because IBAs are recognised worldwide, they attract interest from millions of birdwatchers. They become travel destinations and targets for eco-tourism projects.

"We hope the branding will attract higher quality eco-visitors to Seychelles" says Ian Valmont, the island's Coordinator.

A site is recognised as an IBA only if it meets certain criteria, based on the occurrence of key bird species that are vulnerable to extinction or whose populations are otherwise irreplaceable. Conservation on Cousin Island helped save some of the Seychelles' endemic birds, notably the Seychelles warbler and Seychelles Magpie robin. Five of Seychelles' eleven endemic land birds - Seychelles sunbird, Seychelles fody, Seychelles blue pigeon, the warbler and the magpie robin are found here. Cousin is also a globally important site for seabirds, with seven species in numbers exceeding 300,000 individuals nesting here.

IBA branding also reflects measures taken to safeguard biodiversity. The IBA programme aims to identify, monitor and protect sites for the conservation of the world's birds and other biodiversity.

There are 20 IBAs in Seychelles, 11 in the granitic islands and 9 in the outer islands, but Cousin is the first to be publicly branded as such. Nature Seychelles encourages the managers of other IBAS to brand their sites in this manner.



New Scientist: “Cousin Island is Priceless”

In April the New Scientist - the premier international magazine popularizing science - featured Cousin in an edition commemorating the International Year of Biodiversity. The two-page article that traces the Island’s “coconuts to conservation” story is written by Deputy Editor Graham Lawton who visited the reserve on a trip to the Seychelles.

He recounts how a seven year campaign led by BirdLife succeeded in purchasing the island to save a bird. The island is famous because it is the site of one of the most inspiring wildlife rescue stories - that of the Seychelles warbler, on whose behalf the island was purchased. A handful were found on Cousin at the time of its purchase hanging on for dear life in the mangrove swamp before the island was restored. To return the island to a wildlife paradise, conservationists then cut down the coconut palms and allowed the native vegetation to regenerate. It supports many other endemic species of the Seychelles. “Today, Cousin Island is priceless,” Lawton says.

Lawton quotes respected scientists who have excellent things to say about this Seychelles island. “The whole island is a success,” David Richardson, a molecular ecologist at the University of East Anglia in Norwich, UK, who has been working on Cousin since 1997 is quoted as saying. “It’s a fantastic example of how conservation and science can go hand in hand.”

Accolades have also been given in the article to Nature Seychelles the organization that now manages the island and which goes to extraordinary lengths to restore and preserve endangered species.

But more importantly the article sheds a light on what this success story has meant to the global conservation world. The implications of this remarkable story run far beyond the archipelago, it says. “The Seychelles does have a special set of circumstances - islands that are small enough to be de-ratted, an income stream from eco-tourists, and good management,” says Richardson. “But I think it could work in other places.”

And whereas people often hear stories about how animals go extinct, the reverse has happened in Cousin.



Down listing of critically endangered birds by the World Conservation Union as a result of conservation action on this island, which was replicated on other islands, is an indicator of success.

“Cousin is internationally recognised as a good model of conservation.” The article says

Photos: Wildlife found on Cousin Top left - Sally-lightfoot crab (David Burns), Top right - Seychelles skink (David Burns), Above - Seychelles Blue pigeon (Paul Williams)

Connecting people and parks:

Keep it going, La Digue residents tell wardens

An island. Birds. Bird song. The quiet of nature. Walks. What a blissful way to spend a Saturday morning.

Lots of fun and enjoyment of nature was had by all when Cousin Island wardens hosted the Committee for the Disabled, La Digue District on Saturday 29, May 2010. The committee, the disabled, and their parents had particularly wanted to come to experience the beauty of Cousin, and the wardens and Island Coordinator had set aside this Saturday to specially welcome and show them around.

Long time warden Olivier conducted their tour. Speaking in Creole, he began by explaining the island's history and ecology. Then he demonstrated how to disentangle seabirds caught in the gummy resin of Bwa Mapou (*Pisonia grandis*) seeds. There has been a heavy fruiting of the Bwa Mapou in preceding weeks, and its fruits immobilises many birds. Further on, he called out to the Seychelles Magpie robins for the visitors to admire and dug out Seychelles Giant Millipedes, which the young people loved.

A walk up Cousin hill afforded a grand view of the surrounding islands. Olivier pointed out Cousine, Aride, Praslin, Silhouette, Mahe and Fregate in the distance, as White-tailed tropicbirds (Payanke in Creole) and the beautiful Fairy terns (Golan) that adorn the national airline, made sweeping passes above, and Brown noddies (Makwa) rested on the rocks below. There was also time to look at the Bridled terns (Fansen) and to listen to the lamenting Wedge-tailed Shearwaters (Fouke) nesting in the rocks and burrows.

At the bottom of the hill, the group paused to clear the climbing *Canavalia cathartica*, Gro pwa, before heading for the beach. Gathering at the visitor enclosure afterwards,



the group shared their lunch with the wardens and offered their appreciation for the welcome they had received before their departure.

Just another fun day out on Cousin Island.

Records show that there are more Seychellois visiting the island than ever before. Chief Warden Jovani Simeon says that in 2009, eleven percent (1395) of all visitors were residents, and nearly 900 of those were children. And from the comments left behind in the visitor book, Seychellois visitors are very

appreciative of the nature as well as the interactive tours conducted by the wardens and information provided in the brochures and boards at the visitor centre. Access to national reserves in Seychelles is free for Seychellois.

"We love to see people enjoying themselves when they go to Cousin," says Nirmal Shah. "As our mission says, we do what we do for nature, for people and for Seychelles."

All photos (Nature Seychelles)

Our Trip to a Biological Treasure Chest



It did not look promising at all! On 28th April, the last day of our Camp on La Digue, we had boarded Catalina at La Passe to travel to Cousin Island. It started to rain very soon after we left La Digue – in fact we could not see Praslin for most of the trip. Would we be able to land on Cousin?

Five minutes before reaching Cousin however, the rain squall lifted, and the island appeared as if by magic in front of the vessel. The weather was on our side at last!

The trip to shore by dinghy was slightly rough because of a choppy sea, but the experience of beach landing was exhilarating! Our group, consisting of 46 Secondary five students and 12 members of staff, received a warm welcome from Mr Ian Valmont, the Island Co-ordinator and the staff of Cousin Nature Reserve.

In the shed by the beach, we read informative posters about the varied wildlife the island had to offer and seated ourselves on the benches which were high for a reason; Kasban, a friendly giant tortoise who, as the name implies, is a natural bench breaker.

After a briefing about the island, we split into two groups; the first group took to the mountains then skirted the coast and the other group did the opposite. Much to our dismay, we were not allowed to kill the mosquitoes that feasted on us, so we had to pay with our blood! A price well worth it. We had to mind our step though, as there were many intimidating huge skinks darting about. How did they get so big?

We saw an astonishing variety of birds, one of which was the 'Golan' (Fairy Tern) white in colour, flying in pairs. The Ranger pointed out that the Golans are very faithful creatures who stick to one partner throughout their lives. While walking, we spotted several fluffy chicks of the White-tailed Tropicbird (Payanke) in the protruding roots of the trees.

We saw quite a few Timerl Dezil (Seychelles warbler) flying amongst the low bushes. We learned how that bird had been saved from extinction by the ICBP, after it bought the island in 1969, when, incredibly, there were only 23 Timerl Dezil left in the world – and all of them on Cousin.

From time to time, we observed some metallic blue magpie robins coming close to the path we were following. They seemed quite friendly, especially when our guide turned over some logs and they were able to feed on the insects that were scurrying about.

The Ranger also explained how Cousin is playing an important role, together with other rat-free islands, like Cousine and Aride in saving the Magpie Robin, which is still an endangered species.

There was a variety of colours amongst the plants; lush, untamed, a variable maze of green. One of the most interesting shrub on the plateau was the 'Bwa torti' (Noni). The fruit gave off an unpleasant pungent odour.

The most common tree on the island was clearly the 'Mapou' – and we saw some of its nasty, sticky fruits, which, we were told, became attached to the feathers of roosting sea-birds and prevented them from flying, and thus die of starvation. The cycle of life!

Cousin provided us with a rare chance to see wildlife that we had never seen before. For many of us, it was an experience that we would like to re-live when we are older.

Nyssa Vangadasamy, Peter Alvis, Kavinya Karunakaran, Alexander Mein, Laurent Leite and Alexina Larue are S5 students at the Independent School - Mahe.

cousin diary

january

- Sea conditions calm
- Observed a Curlew (*Numenius arquata*), Black-Crowned Night Heron (*Nycticorax nycticorax*) and a species of vagrant duck
- 168 hawksbill turtle emergences with 10 newly tagged females.

Visitor comment: The tour was very good. The guides were friendly & informative. Very interesting to see birds nesting on the ground! (Johannesburg, South Africa).

february

- Generally dry month with sporadic rainfall and moderate sea conditions.
- Two newly hatched Seychelles Magpie robins rung and biometrics taken. Total population stands at 35 birds in 11 territories.
- Grey Plover (*Pluvialis squatarola*) sighting for this month restricted to 3-5 individuals.
- Observed a school of Bottle-nosed dolphins (*Tursiops truncatus*) just off the Eastern visitors shelter!
- A confirmed sighting of the Red-tailed Tropicbird (*Phaethon rubricauda*) on the 15th.
- Seabird census of Wedge-tailed shearwater, Audubon's shearwater, White-tailed tropicbird and White tern.
- Exchanged visit with staff and volunteers of Aride Nature Reserve on the 8th.

Visitor comment: A wonderful experience – I hope that Cousin Island will still be protected when the tiny tortoises are 100 yrs old! Thank you. (Tim & Christine Millor, Great Britain)

march

- Partially dry month with random periods of torrential rainfall but calm sea conditions.
- Occasional sighting of the African Manarch (*Danaus chrysippus*) throughout the month.
- Completed tortoise pen for juvenile land tortoises.
- Received UNDP delegation.
- SFA's (Seychelles Fishing Authority) boat, 'Amitie' arrived to check on ocean temperature loggers around the reef of Cousin.

Visitor comment: A job well done!! Keep it up!! (Dennis & Janice, Malta)

april

- SE monsoon started to gust at the end of the month. A total of 195mm of rain recorded throughout the month.
- Another Seychelles Magpie robin rung and biometrics taken. Island population now at 36 birds.
- One Crab Plover (*Dromas ardeola*) observed towards the end of the month near the research house.
- Several sightings of the Bottled-nosed dolphins (*Tursiops truncatus*); groups up to 10 individuals observed just off shore throughout the month.
- Coral reef check on receiving bleaching warning for Seychelles. More than 90% of corals bleached.
- Received several government and private schools on visits throughout the Easter Holidays.
- H.E American Ambassador to Seychelles and delegation visited and went on a specially-organized tour.

Visitor comment: Highlight of our trip to the Seychelles. Very good guide and congratulations on the wonderful work that you do. (Richard & Anne Vowles, England)

may

- Particularly dry month with SE monsoon wind settled-in making sea conditions change from moderate to rough.
- A Green-Backed heron (*Butorides striatus*) seen throughout the month foraging along the beach.
- A group of Disadvantaged from LaDigue visited on 29th. Helped with invasive species eradication.

Visitor comment: Outstanding work...what a success story! (Prof. H.S. Walter, UCLA)

Mixed Reactions to Tuna Measures

The Indian Ocean Tuna Commission (IOTC) has been criticised by WWF for failing to introduce catch limits for the commercial fish species under its control.

The 14th Annual Meeting of the Seychelles-based IOTC held in Korea from 1-5 March ultimately left WWF feeling frustrated, but progress was made on some key issues relating to protection of sharks and seabirds.

Bycatch has become a focus lately for conservationists with studies by BirdLife International showing that several endangered albatross and petrels are highly vulnerable to longline fishing in the Indian Ocean during their critical juvenile phase. Nature Seychelles (BirdLife in Seychelles) has formed part of the BirdLife delegation at meetings of the scientific committee of the IOTC to discuss this subject.

The IOTC has hardened seabird catch mitigation requirements for longline boats operating 25 degrees south, a measure which should go towards reducing the levels of bycatch in the area. Boats will now need to use two out of five recognised mitigation measures, which include minimum light night operation, bird scaring lines, weighted branch lines and blue-dyed bait.

But WWF was disappointed to see the IOTC only commit to a fraction of the proposed measures it had hoped would be pushed through at the meeting. A key measure that was not adopted was a Seychelles proposal for a ban on discards of Skipjack, Yellowfin and Big eye tuna from purse seine vessels.

Under current laws, many fish are caught and then later discarded if better catches of higher value fish are found in a practice known as 'trading up'. The proposed measure would outlaw this practice and reduce the hugely damaging effect it has on the population of tuna. "Developing Indian Ocean states were rightly upset about the failure to pass this significant bycatch measure as it is a food security issue for them," said Dr Amani Ngusaru,

head of WWF's Coastal East Africa Marine Programme. "If it is good enough for fisheries in the Atlantic Ocean, why isn't it good enough for fisheries in the Indian Ocean?"

A similar feeling of disappointment was aroused by the agreement to adopt a ban on commercial landing of endangered thresher sharks: "[the ban] is not all we wanted in relation to sharks and to the trade in shark fins but it is a major advance for the commission," Dr Ngusaru said.

The area WWF feels most frustrated about was the failure to impose stricter catch limits upon tuna. IOTC's scientific community had warned contracting country parties that bigeye tuna catches should be limited to 110,000 tonnes and yellowfin tuna to 300,000 tonnes. Although the meeting accepted these recommendations, action to institute catch restrictions is to await a process of setting specific country allocations.

Another measure came in for widespread criticism: a ban on fishing in an area of Somalia that is already off limits due to piracy. Critics say it demonstrated how the IOTC was out of touch with what

needs addressing.

The one area that generated real optimism was the growing assertiveness of Indian Ocean developing states in taking responsibility for their fish stocks, both in improving management of their own fishing industries and in seeking better practice from foreign industrial fleets in their waters.

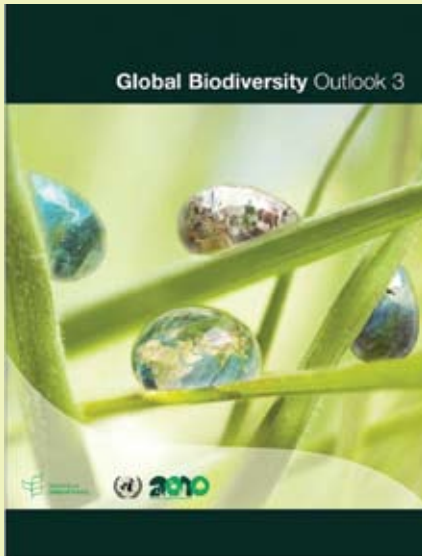
But the European Commission in a press release said that measures adopted were 'probably the most far reaching undertaken by IOTC since its conception in 1996' and that 'all stemmed from EU's proposal and were made possible thanks to the EU's progressive leadership and close cooperation with all IOTC Members, particularly coastal developing states'.

The EU also praised the time/area closure in the region outside the Somalian EEZ: "This measure, targeting longline and purse seine fisheries on equal footing, is the first management measure ever adopted by the IOTC". The EU also thinks measures to reduce bigeye tuna catches will kick start the development of a strong fishery management system for the region.



Photo: Eastern Pacific yellow-fin tuna (Brian Skerry Via Conservation International)

On Track? No, says the GBO-3



The target of achieving a reduction in biodiversity loss set in 2002 by governments has not been met, the Global Biodiversity Outlook-3 (GBO-3), published by the Convention on Biodiversity (CBD) has said. Adequate action has not been taken to address the pressures on

biodiversity in most places.

The GBO-3 was released in Nairobi during the opening ceremony of the 14th Subsidiary body on Scientific, Technical and Technological Advice (SBSTTA 14) meeting, which took place between May 10 - 21. Nirmal Shah was at the meeting in Nairobi and said, "It is sobering news that biodiversity loss is continuing at pace, with no signs that time-bound targets will be met."

The bad news is quantified by a study published in the Science journal, whose lead author is BirdLife's Dr Stuart Butchart. It looked at indicators - measures of different aspects of biodiversity, including changes in species' populations and risk of extinction, habitat extent and community composition - and found no evidence for a noteworthy reduction in the rate of decline of biodiversity. In fact, the pressures facing biodiversity continue to increase.

The outlook for Africa is no better. At the SBSTTA, the BirdLife Africa Partnership said that biodiversity is declining in Protected Areas. BirdLife shared results from a monitoring project of Protected Areas at 117 sites across seven African countries. The monitoring results clearly show that the state of biodiversity is declining here too.

But there is a ray of hope in all this gloom. Nirmal Shah together with colleagues from the Kenya Wildlife Service (KWS) and the Wildlife Conservation Society (WCS) presented papers on successful partnerships for marine science and conservation in the Western Indian Ocean during a side event at the SBTTA. He says that there are hopeful sites and examples of successful recovery that should inspire and show the way forward.

The GBO-3 can be downloaded from CBD.int

Seychelles in Regional EMS Programme



Businesses in Seychelles drawn from the tourism and hospitality sectors as well as other organizations were this June incorporated into a regional programme that introduces environmental management systems and best practices for hotels. Empretec of Mauritius, a capacity building NGO, are running the programme, which is supported by RECOMAP and is being delivered in Mauritius, Seychelles, Madagascar and Tanzania.

At a 2-day workshop organized

by Nature Seychelles in collaboration with the Seychelles Hospitality and Tourism Association (SHTA), the businesses were introduced to 'Do-It-Yourself' principles, concepts and best practices in environmental management that they can apply to better reduce their impact on the environment.

Present to launch the workshop was Director for Marketing at the Seychelles Tourism Board, Mr. Alain St. Ange who stressed the importance of Seychelles environment for the

tourism industry, a central pillar of the country's economy.

Participants heard that environmental systems can result in substantial cost-cutting and that recently there has been a joint effort by small and medium sized coastal hotels in Mauritius to identify and implement EMS best practices.

EMS can be considered as first-steps towards gaining international certification such as ISO. The practices cover water and energy saving, solid waste management, composting and alternatives to waste dumping, taking care of coastal environment and biodiversity, and integrating, managing and looking after natural and open spaces and landscaped areas.

Those present said they found the programme and the accompanying implementation manual extremely useful. Nirmal Shah said that as 2010 is the International Year of Biodiversity his organization felt that there was no better time to stress the need for nature-based businesses to take into account the impact they have on the environment.

Too Warm!



A Level 1 coral bleaching alert for the Seychelles was sent by the U.S. National Oceanic and Atmospheric Administration (NOAA) in late April. The alert resulted in “bleach watch” status with organisations including Nature Seychelles conducting reef checks. Reef-building corals need warm, tropical water. But if it gets too warm corals start getting stressed, and can die. Seychelles was placed on a Bleaching Alert Level 1, which means bleaching is expected, but with a good chance of recovery. At Level 2 wide spread bleaching and some coral mortality are likely.

NOAA, which assesses bleaching risk via satellites and identifies “hot spots” says that temperatures in Seychelles waters resulted in a maximum bleaching Degree Heating Weeks (DHW) of 5.4 in mid-April. The DHW is an index used to pinpoint areas where reefs are at risk of coral bleaching due to high temperatures and is calculated over a twelve-week period.

And although the southeast monsoon in the western Indian Ocean had set in early dissipating the hotspot rapidly on the east African coast, CORDIO-East Africa, the organisation that sends the regional alert and compiles near real-time feedback from regional coral reef watching had feared it would persist over Seychelles. It said sites around Madagascar and Seychelles were particularly vulnerable as they

recorded DHWs of 4-7 Degrees.

NOAA’s satellites also recorded sea surface temperature in the Seychelles of 30.5 Degrees Centigrade, which is higher than the hottest monthly average of 29.5.

Corals can recover from mild bleaching, gradually getting their colour back by repopulating their algae. However, if the bleaching is severe or prolonged, whole colonies might die, and fleshy algae takes over the reef. Sometimes corals undergoing bleaching are more susceptible to diseases.

Apart from servicing tourism and fishing in countries like Seychelles, corals are a natural barrier that protects tropical coasts from storms and floods. It has also been said that they have pharmaceutical potential. But even more importantly, coral reefs host some of the highest biodiversity on the planet - around a million species

depend on the reefs for survival. With background warming due to global climate change and year-to-year fluctuations such as El Niño cycles, the high temperatures causing coral bleaching are being exceeded more and more frequently, putting coral reefs at risk.

Photo: Lionfish among corals (Michel Vely)

BirdLife Partners with IYB

It is a call to action, it says of the UN year of Biodiversity

BirdLife is an official partner of the International Year of Biodiversity. “BirdLife International welcomes the UN’s decision to choose biodiversity as its focus for 2010”, says Dr Marco Lambertini, BirdLife International’s Chief Executive. “With threats to biodiversity growing faster than ever, this is an important recognition of the urgent need for more action to halt its loss.”

The BirdLife Partnership’s (Nature Seychelles is BirdLife in Seychelles) work around the world contributes to improvements in livelihoods and wellbeing, while protecting birds and other biodiversity.

“The local nature of the BirdLife Partnership means that we are well placed to run activities to celebrate biodiversity”, said Dr Lambertini. “Many BirdLife Partners will



undertake events and actions in 2010 in support of the International Year of Biodiversity. These will range from formal education and public awareness programmes to festivals and events celebrating biodiversity.”

The Partnership’s work ranges from the restoration of damaged small island ecosystems to the establishment and management of national and transboundary Protected Areas. Across the developing world, BirdLife is working with marginalised and impoverished communities, helping them to achieve security through land rights and representation, and sustainable livelihoods.



2010 International Year of Biodiversity

Biodiversity is Life Biodiversity is our life

Biodiversity 101

You have heard the terms, but what the heck do they mean? and what should they mean to you?

Biodiversity is an abbreviation of the phrase 'biological diversity. Simply put, Biodiversity = Life, the world, the variation of life for the entire globe. (Source WWF)

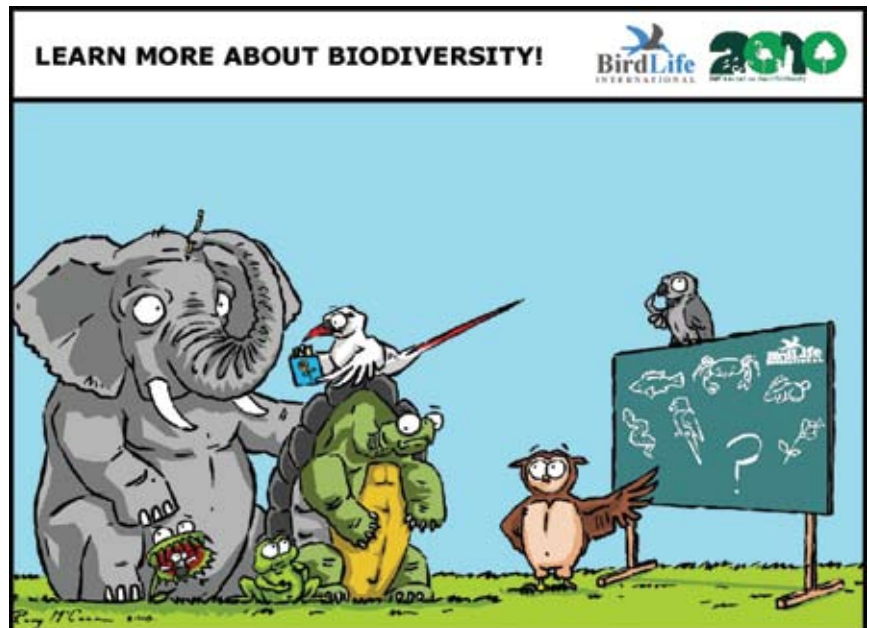
"Biodiversity is life and without biodiversity, there is no life on earth. It's our food. It's our water. It's our forest, our fish. So without biodiversity, there is no life. So biodiversity is about our life and life on earth." (Dr. Ahmed Djoghlaif, Executive Secretary CBD. Source CBD.int)

The Convention on Biological Diversity (CBD) is one of three Conventions that came out of the UN Conference on Environment and Development, also known as the Earth Summit, held in Rio de Janeiro in 1992. It came into force at the end of 1993. One of its objectives is the conservation of biological diversity. There are currently 193 signatories to the Convention. Seychelles is one of them.

Why the interest? A need to take action. Biodiversity is being lost at an increasing and alarming rate.

The 2010 target. In April 2002, the Parties to the CBD committed themselves to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth. At the moment, the ecological footprint of humanity exceeds the biological capacity of the Earth by a wider margin than at the time the 2010 target was agreed. (Source CBD.int)

Why should you care? Because biodiversity represents life itself. Says WWF, "Biological diversity is the resource upon which families, communities, nations and future generations depend. It is the link between all organisms on earth, binding each into an inter-dependant ecosystem, in which all species have their role. It is the web of life."



Let's look at some tangible values....

Agricultural Biodiversity includes ecosystems, animals, plants and microorganisms related to food and agriculture. It provides food and raw materials to produce goods. Wild relatives of crop species are important sources of new, desirable genetic traits for cultivated crops, such as disease and pest resistance. The same is true for genetically



diverse traditional crops. Through the Heritage Gardens project Nature Seychelles is helping to preserve agrobiodiversity and propagating traditional foods that are being forgotten and lost.

Biodiversity and food security - Marine fisheries contribute to the food supply, economy, and health of many nations. Seafood products are among the most widely traded commodities, worth billions of dollars annually, while fisheries directly employ over 38 million people. In addition, one billion people rely on marine fish as an important source of protein. However, massive overfishing has resulted in over 75% of the world's fisheries now being fully exploited, overexploited, depleted, or recovering from depletion. By protecting spawning grounds, nursery grounds, and other important fish habitats, marine protected areas (MPAs) like Cousin can help reverse this by providing essential safe havens where young fish can grow to maturity and reproduce before they are caught.

Biodiversity and Tourism - Tourism contributes about 8% of global GDP, and one in 12 jobs worldwide. Tourists are attracted by natural landscapes which harbour significant biodiversity. In Seychelles our tourists like the pristine environment, clean waters, beaches and wildlife. This requires us to keep the attractions intact, while ensuring that we and - unsustainable tourism - do not damage nature. Biodiversity keeps tourism going. On Cousin Island, eco-tourism brings financial benefits for conservation activities, local businesses and the surrounding communities



Biodiversity and Climate Change - Climate change affects biodiversity and it is likely to become the dominant direct cause of biodiversity loss by the end of the century. It is already forcing biodiversity to adapt either through changing habitat, life cycles, or growth of new physical traits. Biodiversity can help reduce the effects of climate change. The conservation of habitats, for example, can reduce the amount of carbon dioxide released into the atmosphere. Nature Seychelles has been working on making the entire operations of Cousin Island carbon neutral and has carried out a nest temperature project for hawksbill turtle to determine whether temperatures are affecting this endangered species.

Human Health and Biodiversity - You rely on biodiversity to stay healthy. Many plants and other organisms are useful in medical research or contain substances used as medicines. Artemisinin, from the sweet wormwood plant is one of the most effective anti-malarial drugs used today. Sharks contain substances that may be able to treat macular degeneration, the leading cause of blindness in the Western world. If species such as these disappear, they will take their secrets with them. When habitats are lost, people get into closer contact with wildlife that may transmit their diseases. It is the exchange of genes between species that triggers pandemics such as H1N1.

Island Biodiversity - One third of the world's conservation hotspots are islands. The Seychelles has the highest number of endemic amphibians in the world. Madagascar has over 8000 endemic species. But of 724 recorded animal extinctions in the last 400 years about half were island species. At least 90% of bird species that have become extinct in that period were island dwellers. In Seychelles conservation action has helped the recovery of critically endangered birds such as the Seychelles Magpie robin and Seychelles warbler.

Marine and Coastal Biodiversity - Marine and coastal habitats include coral reefs, and mangrove forests. More than just a valuable source of food, the ocean is one of the largest natural reservoirs of carbon. Today, human activities are greatly threatening the seas and coasts through overfishing, destructive fishing practices, pollution and waste disposal, agricultural runoff, invasive alien species, and habitat destruction. Mangroves, coral reefs, sand dunes, and other coastal habitats provide significant protection against damage from hurricanes, cyclones, storm surges, and tsunamis. A regional project called Mangroves for the Future which stretches from Asia to Seychelles is working to conserve mangroves.



Economics, Trade and Incentive Measures - Biodiversity and ecosystem services are of tremendous economic value. However, many ecosystem services are not traded in markets and their value is not properly reflected in existing market prices for other goods and services. Most biodiversity components are considered "public goods", belonging to everyone and to no one. Consequently there is little concern in economic decision-making for their conservation and sustainable use. But according to IUCN, the World Conservation Union, the monetary value of goods and services provided by ecosystems is estimated to amount to some US\$33 trillion per year - US\$33,000,000,000,000. Those are many zeroes!

What should you do?

To use biodiversity in a sustainable manner means to use resources at a rate that the Earth can renew them. It's a way to ensure that we meet the needs of both present and future generations.

It's simple - love the earth and it will love you right back. Such actions as simply not wasting, and re-using and re-cycling whatever is used can help to conserve biodiversity.

Sources: IUCN, WWF, BirdLife and CBD.int

IYB Spotlight: Biodiversity, It's Now or Never

World leaders need to take decisive action this year to save biodiversity, action that is based on sound science, says IUCN's Director General, Julia Marton-Lefèvre in this article.



“If a third of your family were threatened with extinction, or if only one third of your business was productive, or if you were losing trillions of dollars a year, would you be worried? Would you do something about it?”

Our food comes from supermarkets, our water from the tap, and our medicine from the pharmacy. One button is normally enough to heat or cool things; one flush to start decomposing our waste; one remote control to find cultural or spiritual inspiration.

Or so it often seems. It is easy to forget that all of this, without exception, comes directly or indirectly from nature. The fundamental realities of our life on earth have not changed.

We still need fresh water to drink, food to eat, clean air to breathe and medicine when we are sick. Our

crops still need to be pollinated. We still need natural beauty to fulfil our artistic, religious and spiritual lives. Nature is quite simply the basic infrastructure of all our societies, economies and culture.

These are ecosystem services, the services that nature provides, mostly for free. They are the vital support that our societies, economies and cultures need to survive and thrive. The natural infrastructure that provides all of these fundamental services is biodiversity: the enormous variety of plants, animals and their natural habitats, linked intricately and elegantly together in billions of ways.

But this essential infrastructure is breaking down, at an ever-quicken pace. In the never-ending quest to improve our lives – and especially in recent decades – we have been disturbing and destroying ecosystems, the natural places where plants, animals and micro-organisms live together.

Our wanton use and abuse of nature has caused many unique species to become extinct. In short, we are destroying the very natural infrastructure that supports us, at an ever-increasing rate.

A country that does not maintain its road or rail infrastructure will crumble and damage its economic growth. Our natural infrastructure, infinitely more necessary to our prosperity – will also break down without protection.

The IUCN Red List of Threatened Species is the world's regular health check on biodiversity and it makes for alarming reading.

According to the latest update of the Red List, 22 percent of all known mammals, 30 percent of all known amphibians, 12 percent of all known birds, and 28 percent of reptiles, 37 percent of freshwater fish species, 70 percent of plants, 35 percent of invertebrates, assessed so far, are under threat.

he current global rate of species extinction is estimated to be one thousand times the 'natural' rate of loss in pre-human times. And it is accelerating.

A road can be repaired, but a species that goes extinct is lost forever.

The Millennium Ecosystem Assessment, a recent study by more than 1,300 scientists over four years, found that more than 60% of ecosystem services worldwide are degraded. Huge areas of forest have disappeared, fisheries have collapsed, rivers and wetlands are polluted.

Another major study, The Economics of Ecosystems and Biodiversity (TEEB), reported last

year that the annual global cost of biodiversity and ecosystem damage already runs to several trillion dollars.

The study also tells us that half the welfare of the world's 1.1 billion poor people flows from nature. Biodiversity loss deprives our descendants of vast benefits. Biodiversity loss cuts us off from the wonders of nature, makes us less human.

2010 is the International Year of Biodiversity. More than 190 countries, through the UN's Convention on Biological Diversity, agreed in 2002 on a target to reduce the rate of biodiversity loss by 2010.

Although information is incomplete on global and local trends, and we lack baselines and metrics, it is painfully clear that this objective – vague and difficult to measure as it has been – will not be met.

But there is no 'in 10 years time', or 'in 20 years time'. We do not have this luxury. This year is the International Year of Biodiversity. This year is the time to take action.

In September this year, the UN General Assembly will address the biodiversity crisis for the first time. In October, the Convention will meet in Nagoya, Japan to evaluate the 2010 target and agree on new biodiversity targets for the world.

World leaders need to thrash out a new commitment to protect and invest in our natural infrastructure before it is too late.

They must sign up to a clear biodiversity roadmap for this coming decade with realistic targets and strong monitoring and enforcement mechanisms.

To measure progress we need indicators that are simple, relevant, measurable, locally and globally scalable, and designed for use by all: governments, business, academia and civil society.

The direct causes of biodiversity loss – habitat destruction on land and at sea, resource overexploitation, climate change, pollution, invasive species – as well as indirect causes such as unsustainable consumption, globalization and demographic change, must be included in any deal.

All types of species and natural habitats have to be included,

not just the ones that make it on television. We need to better protect and manage natural places where biodiversity can thrive. Areas that are specifically protected, such as national parks and World Heritage sites, are extremely important in preventing biodiversity loss.

And the roadmap must be inextricably linked to the climate roadmap, reflecting the crucial role of resilient ecosystems in helping us reduce carbon emissions and adapt to climate change.

Effective action starts with a clear understanding of the facts. We need above all good science. From Charles Darwin to the latest IUCN research we have learned a lot about biodiversity, but there is so much that we don't know.

The UN Intergovernmental Panel on Climate Change (IPCC) has demonstrated that independent, credible research can be carried out in a way that is useful to those who take decisions affecting our planet. We must give the same financial and political support to the newly proposed Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES).

Moreover the timeline must be clear and logical. By 2015, put in place actions to deal with what causes biodiversity loss. By 2020 stop biodiversity loss completely. By 2050, achieve a vision that sees forests, wetlands, coral reefs and other habitats comprehensively restored to give us a truly resilient natural infrastructure.

If a third of your family were threatened with extinction, or if only one third of your business was productive, or if you were losing trillions of dollars a year, would you be worried? Would you do something about it?

This is the question for all of us as we head to Nagoya, especially the politicians who will sign the deal.

We are the species that caused this problem. We are the only species that can fix it. This year is the time to do it.

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Photos: Previous page - Seychelles Sooglossid frog. This page Seychelles Pitcher plant, both Seychelles endemics (Dao Nguyen)

Can people be trusted with biodiversity?

By Ali Kaka



First of all, I would like to attempt a correction to a misnomer that has been in the minds of many budding conservationists and a subject of much heated debate in many forums worldwide.

There has been a misconception that communities and conservation are distinctly different concepts and entities. In much of un-urbanized Africa and indeed a number of urban areas, resident communities in whatever form have been and are till today part of their environment. Protected areas or what was later to become better known as Conservation Areas, were an extension to traditional practices of sustainable use of natural resources as a way of life.

I think it is interesting to observe that we have come around a complete circle as regards this subject. In the beginning, areas with rich natural resources with resident, user communities were delineated and became “Protected” under strict regimes of management by authorities of the land. Interestingly, today there has been a much heralded movement to (re)create Conservation Areas under the management of the same communities. A variety of names has been given for this, CBNRMAs, CCAs, IPCAs, and so on.

In spite of the creation of conventional protected areas much of the natural habitats and species still exist mostly outside these areas. Notably, at the same time, there are widespread incidences of degradation and over exploitation of resources outside protected areas. There are, of course, many arguments as to why this is so. But that is another matter.

In the East and Southern Africa region, in the last decade or so, there has been an unprecedented increase in the number of community owned and managed conservation areas. Policy and legislative framework has been specifically enacted to cater for this sector. There are excellent examples of successes as well as failures across this sub-region.

Successful examples have led to an overall improvement in the state of the natural resources while at the same time have been a source of additional income to individuals, households and the larger community, whereas the failures have resulted in the opposite on most if, not all, fronts.

I have had the privilege of being involved and seeing the evolution of some of these successful examples ranging from “Campfire” in Zimbabwe to LUMO Community Wildlife Sanctuary in the south of Kenya to a pioneer marine refuge in Kenya – Kuruwitu. In all these cases, diverse approaches were applied and yet in all cases the sum total was the same as mentioned before, that is a marked improvement in the natural resources and in direct benefit to the indigenous peoples.

A noticeable weak point in many countries however remains that of poor legislation to anchor the many successes in conservation and on rights over these lands with valuable natural resources. Zimbabwe, Namibia and Botswana are good examples of encouragement. On the other hand, Kenya and Tanzania are notable cases of uncertainty over this subject. In the latter countries, there are attempts at reforms and improving historical anomalies but the results on the ground on enabling legislation are still far from being successful.

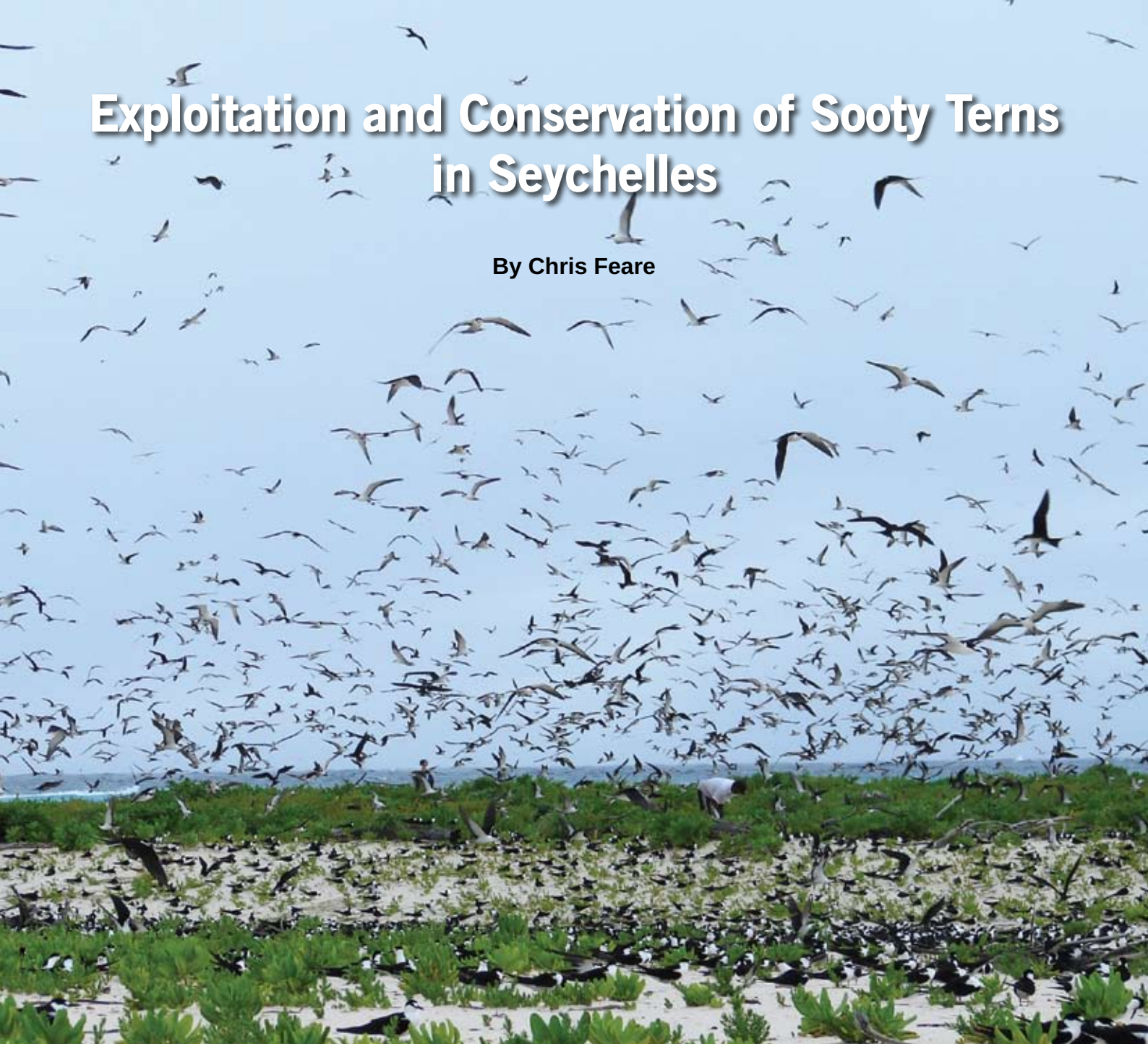
In the end, the people themselves need to manage their own resources. When all is said and done, what does appear clear in these cases is that in the hands of the indigenous communities, natural resources can be managed effectively and, can and should give a reasonable return.

Ali Kaka is the Regional Director, IUCN Regional Office for Eastern & Southern Africa based in Nairobi.

Photo: Community carrying out assessment of their self managed mangrove forest (Ali Kaka)

Exploitation and Conservation of Sooty Terns in Seychelles

By Chris Feare



An unexpected aspect of Seychelles' uniqueness lies in a long term dataset. Early settlers would soon have learned the palatability and ease of collection of Sooty Tern eggs. The desirability of these eggs, along with the British civil service penchant for controlling and monitoring everything, led the annual egg harvest to become organised as a small industry. Records of the number of eggs brought back to Mahe extend from 1928 to the present, with few missing years. The data are insufficiently robust to reveal detail but they illustrate the extent of the harvest and especially the huge numbers of eggs collected

in the 1920s and 1930s, when yolk was exported for industrial use. Throughout, however, eggs have been used locally, often claimed to be an important protein supplement during the windy south-east period when fishing was difficult but now entirely as a much appreciated seasonal gastronomic delicacy.

In the 1940s alarm bells were rung over the impact of the egg harvest on Sooty Tern populations following declines in numbers and colony extinctions. In the 1950s visiting scientists made recommendations but lack of knowledge of the birds' biology led to some of these failing to contribute to sustainability. In the early 1970s

I had the good fortune to be sent out to study the birds' breeding biology, enabling me to identify and rectify some of the earlier misguided regulations. However, my own recommendations were based on many assumptions since my two-year study could not address important demographic parameters, such as age at first breeding and annual survival of these long-lived birds. Luck smiled on me again in the early 1990s when a chance meeting with Nirmal Jivan Shah (then Director of Conservation in government) on Frégate Island led him to ask me to test the earlier assumptions. Ringing and other studies begun then are continuing to

fill in important demographic gaps and new technology is permitting further investigation, aimed at ensuring sustainability of the harvest and of finding ways to repopulate islands from which Sooty Terns became extinct.

There seems little doubt that the extreme harvests of the 1920s and 1930s over-exploited the stock of Sooty Tern eggs and unregulated poaching of eggs from smaller islands close to centres of human population led to losses of colonies there. However, in many colonies habitat change seems to have been the important driver of population decline, especially the conversion of former Sooty Tern colonies to agricultural production, of coconuts in particular. Such development is frequently accompanied by the introduction of invasive commensal animals although large Sooty Tern colonies are thankfully fairly resistant to Black Rat infestations. Nevertheless, rats, cats and mynas would not have helped already declining colonies.

The knowledge that we have gained from recent studies, mainly on Bird Island, has shown that close seasons and quotas have no place in ensuring sustainability of the egg harvest. Ringing studies have shown that breeding adults sometimes switch colonies (often resulting from human disturbance, especially egg

collecting) and all of the colonies in the Seychelles and Amirantes are involved in these transfers, indicating that they all form part of a single population. We also now know that young birds first breed usually around six years old and some Seychelles Sooty Terns survive at least 34 years. Data on breeding success, age at first breeding and annual survival suggest that the allowable harvest should be based on the area of all the Sooty Tern colonies in these archipelagos and that restricting the harvestable area to 20% of this total ensures the production of sufficient young from the remaining 80%, which must receive full protection, to provide recruits to future adult populations. This equates approximately to half of Desnoeufs or half of Bird, or if there is a desire to harvest eggs from both colonies in any year, the harvest must be restricted to one quarter of each colony. Managing the annual harvest by area avoids the necessity of difficult and expensive annual censuses of every colony, is a practicable way of regulating the harvest and helps to buffer harvests against variations in breeding numbers and success: in good years more eggs will be harvested than in bad years.

There are still important gaps in our knowledge. We do not know where Seychelles Sooty Terns feed

when breeding or where they go between breeding seasons, and thus what factors affect them in these areas. While we now have a scientifically-based system for regulating harvests, the major remaining hurdles are human: resources for monitoring harvests, policing regulations and ensuring island owners and managers are aware of and adhere to regulations in force. Flexibility is also required. Regulations may have to change as other impacts on seabirds come into play – habitat change, climate change and over-fishing are of particular concern. Attempts to re-establish a small colony on Denis Island look promising and if successful the methodology could be rolled out to other islands with suitably prepared and maintained habitats. This would contribute to restoring Seychelles to its former glory of hosting one of the largest concentrations in the world of this remarkable and useful species.

Chris Feare is now a freelance researcher and consultant, operating under the trade name “WildWings Bird Management.” He continues research on Seychelles seabirds and practical conservation management for island restoration in Seychelles and other tropical oceanic islands.

Photos: Sooty terns on Bird Island (Dao Nguyen)





Man Bites Shark

By Nirmal Shah

It seems to me that this is the end of the road for sharks. A recent study shows that the world's consumption of shark fins is more than three times higher than the statistics of the Food and Agricultural Organization (FAO). More than 70 million sharks are killed every year, an astonishing number, and many shark species are on the brink of extinction.

How often have I heard European and North American countries lamenting the disappearance of so many species in the developing world?

But incredibly, the European Union was responsible for 56% of worldwide shark meat imports and 32% of worldwide exports in 2005. In 2006, EU countries imported more than 40,000 tons of shark meat. Three European countries - the Netherlands, France and Spain - are the key traders in shark fin. Spain's dubious leadership in this trade amounts to approximately 95% of all the fins exported by Europe.

I was astonished to find out that Spain is the largest exporter of frozen shark fins to the Hong Kong market, the single biggest shark fin market in the world. Italy is Europe's largest consumer of shark meat, and second biggest importer. The UK leads Europe's catches of deep-sea sharks.

Early this year the European Commission released the Community Plan of Action for the Conservation and Management of Sharks, nearly 10 years after the adoption of the FAO International Plan of Action on Sharks. I find the Plan disappointing because it is vague and although has some positive aspects, including a

shark discard ban and a requirement to land shark fins and bodies at the same time and in the same port, its implementation and timeline is unclear. The major disappointment is the lack of controls over the EU's regulation prohibiting shark finning.

But sharks are worth far more to the economy alive than they are on a platter served up with chips or as a filling ingredient in soup, says a study in Australia by WWF-Australia. A James Cook University study found potential shark sightings to be a major drawcard to the diving sector, with tourists willing to pay thousands of dollars to see a shark in its natural environment.

The Australian study found the average live-aboard dive passenger spent at least \$5,000 while in the Cairns/Port Douglas area, with many attracted to the region by the opportunity to view sharks in the wild. The researchers estimated up to 25 per cent (or \$1,375) of each visitor's expenditure was directly attributable to the opportunity to see sharks.

Internationally, similar results have been recorded. A study in the Maldives estimated the value of one grey reef shark to be worth US\$3,300 per year to the Maldivian tourism industry as opposed to the one-off value of US\$32 to a fisherman. A guaranteed shark sighting is worth its weight in gold to the tourism industry.

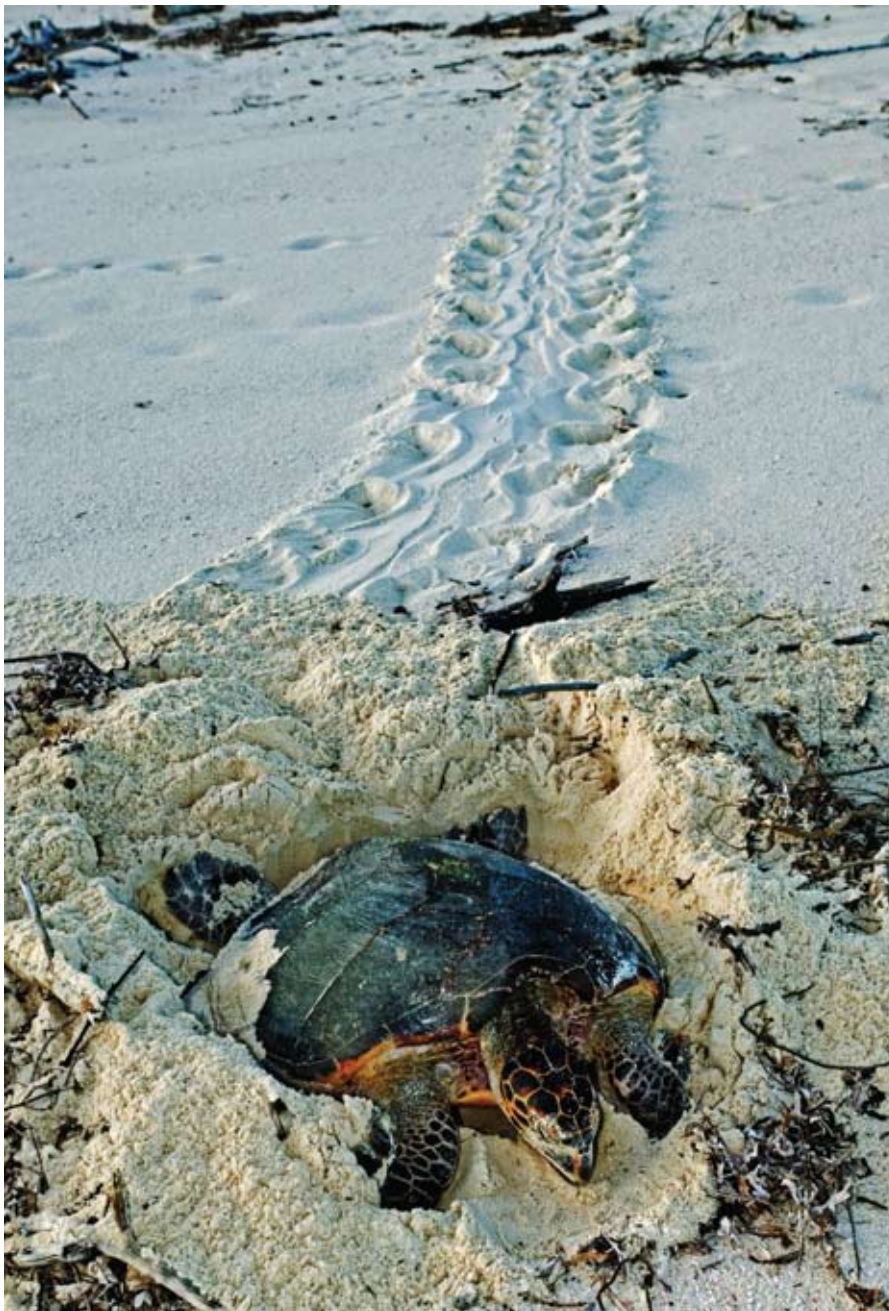
Nirmal Shah is Nature Seychelles Chief Executive.

Photo: Nurse shark (Nick Graham)

Turtle Conservation Success

Proof that long-lived species can be saved

By Liz Mwambui



Seychelles' Nirmal Shah and Gilles-David Derand.

The paper shows an estimated peak of 256 turtles nesting on the island each season between 2007-2008, compared with just 23 in 1973. In the early 1980s the number had risen to 28-30 turtles, and by 1994, an estimated 40-60 were breeding.

The latest data covers a 10-year period between 1999 and 2009 – during which time the population increased at an average rate of 16.5 turtles per season.

Turtle populations are notoriously difficult to census, relying upon long-term monitoring of females at their nesting beaches.

Survey effort varied over the years for a variety of reasons, but the underlying trends over time are considered robust. The paper says.

Consistent turtle monitoring commences each season when wardens observe the first evidence of a turtle emerging onto the beach to lay her eggs. Beaches are systematically patrolled. A complete patrol involves a full circuit of each of the 4 beaches on the island and varies in duration from 30 minutes to 3 hours, depending on the number of turtles and tracks encountered. Females emerging on Cousin are individually tagged, and nesting data collected from nesting attempts observed through tracks and actual turtle sightings.

Tag returns also show inter-island nesting occurs between Cousin and other islands within the Seychelles.

The Seychelles archipelago provides key nesting and feeding areas for the turtles. Seychelles accounts for breeding populations estimated to be in the thousands and is home to the largest remaining populations of hawksbill within the western Indian Ocean.

Liz Mwambui is Nature Seychelles Communications Manager.

Photo: Nesting Hawksbill turtle on Cousin Island (Martin Harvey)

Cousin Island Special Reserve recorded a phenomenal increase in abundance of nesting hawksbill turtles since the early 1970s based on new analysis of data, a scientific paper published in the *Endangered Species Research Journal* has revealed. The increase is directly attributed to the ongoing turtle conservation program on Cousin started in 1972. The paper concludes that the increase confirms the success of the management strategy.

“These findings are a validation of the important work carried out on Cousin.” Says Nirmal Shah Chief Executive of Nature Seychelles, which manages the island. “It is long awaited proof that conservation works even for long lived and critically endangered species like marine turtles. The evidence also shows that Cousin Island is not only important for bird conservation but for other endangered species.”

The analysis has been carried out by Zoë Allen, Prof Alistair Grant and Dr Diana Bell from the University of East Anglia, in collaboration with Nature



Good tree, bad tree?

How managers make decisions about conservation

By Wayne Meyer

Until 1968, Cousin Island was still a coconut plantation. This meant that most indigenous vegetation had been removed, which had long-lasting impacts on the island. Forty years down-the-line has seen the island restored back to its original state. However, it can take hundreds of years for the forest to reach its climax (maturity). *Pisonia grandis* or bwa mapou, the dominant tree species on Cousin, is an indigenous species to the island but its current abundance is likely to be much higher than it would have been in a climax forest. This is thought by some to be because *Pisonia* is a pioneer species, a plant that initially takes over an area after the area has been disturbed, and then gives way to other species which eventually leads to a climax forest of many mixed species.

Last year research on Cousin Island highlighted the fact that *Pisonia* may have a significant negative impact on the seabird populations of the island. This is due to the fact that the tree produces very sticky seeds, which get stuck in the seabirds' feathers and without human assistance, almost always lead to their death. A precise scientific assessment of how many birds are being affected is currently being carried out on the island by Gareth Davies, a Masters student from the University of East Anglia in the UK.

Seabird populations world-wide are currently under massive pressure

for a number of reasons. The most out-right causes are irresponsible fishing practices and over-fishing, climate change and the pollution of the oceans. With this in mind Nature Seychelles has taken the decision to set up a pilot project, which will investigate the impacts of removing the *Pisonia* trees in a limited number of study blocks and replacing them with other indigenous trees. The aims of this project are to decrease the numbers of birds dying from being caught in *Pisonia* seeds, and to increase the biodiversity of the forest while giving it a boost towards becoming a climax forest.

A Nature Conservator from South Africa, I have been requested

by Nature Seychelles to conduct the project. Within study blocks randomly chosen across the island, I aim to characterise key elements of the biodiversity, before and after the removal of the *Pisonia*, notably the state of the vegetation, the insect abundance, the number of seabirds utilising the sites for nesting, and the number of birds becoming entangled in the *Pisonia* seeds. At the same time, I am equipping a small nursery to propagate indigenous tree species that will replace *Pisonia* trees in the study blocks.

The project is currently underway and is being conducted in two phases. The reason for this is that the indigenous trees will take time to establish in the nursery before they are mature enough to be planted in the sites. The removal of the *Pisonia* will therefore have to be done a number of months after the propagation of the indigenous replacement species, probably at the end of the Lesser noddy breeding season.

Another goal of the project is to set up a long-term monitoring protocol to include all of the above-mentioned monitoring activities. This monitoring programme should be carried out for at least 10 years which is thought to be the necessary timeframe to be able to draw conclusions as to whether the removal of *Pisonia* has had a negative or positive impact on the ecosystem. If all evidence show that the removal of the *Pisonia* in certain areas has had an overall positive impact on the ecosystem, it is likely that the removal of a larger percentage of the island's *Pisonia* cover will follow. This will most likely be done in patches creating a mosaic of vegetation structures, compositions and ages, as this type of mosaic structure is more characteristic of a climax forest.

Wayne Meyer is a Nature Conservator from South Africa

Photos: Main - *Pisonia* seeds, Inset left - Fairy tern caught in *Pisonia* seeds (Wayne Meyer), Right inset - Freeing birds from *Pisonia* seeds (Liz Mwambui)



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Photo of Seychelles Blue Pigeon - Krijn Buijtelaar

Invasive Alien Plants in the Seychelles

Some lessons learnt

By Christoph Kueffer



Alien plants are common in all habitats of the granitic Seychelles. Lowland forests are mostly composed of alien trees of former plantations. In montane cloud and mid-elevation forest typically more than half of the trees are alien Cinnamon (*Cinnamomum verum*). Only managed offshore islands, Inselbergs ('glacis'), and tiny pockets of relatively undisturbed palm, cloud and dry forest are relatively free of alien plants.

Nevertheless, compared to other oceanic islands Seychelles may have been quite lucky. By far the most common alien tree is Cinnamon (See Photo 1), and it could even be a blessing in disguise, as I will discuss later. Besides, only some 10 to 20 alien plants seem to pose problems in natural areas at present. These are mostly woody species, but recently different creepers have expanded in lowland areas (Photo 2), and some of these species are starting to invade natural areas.

There are a number of possible reasons why there are relatively few invasive plants in Seychelles. The

dominance of most forests by Cinnamon since the 19th century may have kept out other invaders. Soils in Seychelles are very nutrient-poor, in particular of phosphorus. Thus, invasive plants have to be adapted to very particular soils. The low fertility may also reduce the risk that alien plants negatively affect soils. Further, in contrast to many other islands, there are no large feral alien animals such as pigs that often facilitate plant invasions through disturbance of soils and vegetation. Finally, intensive international trade and travel to the Seychelles started only a few decades ago, and the consequences of recent species introductions may not be visible yet. These lucky coincidences may however vanish if the wrong alien plants or animals are introduced, or if natural areas are not properly managed. I therefore suggest two main lessons learnt for future invasive plant management.

Firstly, several of the most problematic invasive plants known from other islands are not yet present in Seychelles. The prevention of new alien plant

introductions must therefore be a priority; for which collaboration with stakeholders is crucial. It is for instance encouraging that hotels increasingly use native plants for landscaping. In Hawaii it proved effective to set up invasive species committees on each island with tight links to the local communities. A recent global survey of plant invasions on islands has shown that different alien plants become invasive on different islands. Therefore it is not enough to regulate the import of particular species. Rather, the risks of groups of species with common characteristics need to be identified. For Seychelles I see at least three major risk groups. First, plants that are able to invade Inselbergs; but we do not know well what they might be. Second, Seychelles in contrast to most other islands has no alien understory herbs, such as *Hedychium gardnerianum*, that invade cloud forest. Third, a particular threat to dry forest on Praslin may come from species that are adapted to eroded and phosphorus-poor soil, a dry climate, and fire; for instance several Acacias (e.g. *Acacia mangium* or *auriculiformis*).

Secondly, invasive plant management is closely linked to habitat management; especially in the case of very common alien plants such as Cinnamon. Past experiences have shown that large-scale removal of Cinnamon is not effective. Rather, Cinnamon should be seen as part of the solution. In fact, Cinnamon has several characteristics that may facilitate habitat restoration. It does not form dense thickets in contrast to many other invasive plants, and native plants seem to regenerate rather well under its canopy. Then again, Cinnamon seems to serve as a barrier against other alien plant invasions that may be more problematic. Cinnamon also produces very nutritional fruits that are an important food source for endemic birds and fruit bats. The nutritional fruits may, however, also have negative effects on native plants because Cinnamon may distract birds and fruit bats from dispersing native species. On the main Seychelles islands, in contrast to small islands such as Cousin or Aride, alien plants will in the future always be part of the vegetation of natural areas. They will play both negative and positive roles for the recovery of the native flora and fauna.

We need to learn how to use the positive aspects for habitat restoration and mitigate the negative impacts. Rather than the large-scale removal of alien plants, the management vision should be to conserve and recreate functioning ecosystem processes and ecological interactions among plants and animals; even if these are partly ensured by alien species.

Photo 1: Cinnamon (*Cinnamomum verum*) is by far the most common alien tree in Seychelles. It will in the future always be part of the vegetation of natural areas on the main Seychelles islands, and it will play both negative and positive roles for the recovery of the native flora and fauna. We need to learn how to use the positive aspects for habitat restoration and mitigate the negative impacts (Eva Schumacher).

Photo 2: Over the past decades different alien species of creepers have expanded in lowland areas in Seychelles, and some of these species are starting to invade natural areas (Eva Schumacher).



Photo 2

Christoph Kueffer is a professor at the Institute of Integrative Biology, ETH Zurich, Switzerland

Genetics Reveal Katiti's Past

By Liz Mwambui



a continental distribution. This increases inbreeding and its associated risks of extinction. Inbreeding causes problems such as lowered reproductive fitness and vulnerability to disease. Preservation of genetic diversity is thus the basis of many conservation efforts because diversity is vital for evolutionary adaptation, and adaptation is key to the long-term survival of any species. Therefore, interventions on behalf of endangered birds on islands usually involve boosting population sizes in order to vary the genetic material. This has been true for species action for most of Seychelles endemics including the Seychelles Magpie robin *Copsychus sechellarum* (Pi Santez in Creole) and Seychelles warbler *Acrocephalus sechellensis* (Timerl Dezil).

In the past, conservation efforts relied on historical accounts and some anecdotal data. Historical records have variously described the Seychelles Kestrel as “tolerably common” in the 1860s, “frequently seen in all islands” in the 1930s, both “well distributed” and “rare” in the 1950s, “Critically Endangered and close to extinction” by 1966, with “probably less than 30 birds”

The Seychelles Kestrel (*Falco araea*), Katiti in Creole, crashed to approximately eight individuals since the 1940s before the population recovered, apparently unassisted, a genetics study published in the October 2009 Biological Conservation Journal has revealed. This crash, it is thought, approached the severity of the genetic bottleneck of the Mauritius Kestrel whose numbers reduced to only four known individuals in the wild in the early 1970s. Intriguing however, is that the Seychelles Kestrel seems to have recovered undetected and without intensive intervention.

Methods to measure levels of genetic diversity in ancestors have improved to allow pinpointing of major changes in a population's history. Using genetic data from 100-150 year-old museum specimen, and comparing this with data from current populations, the study established that at one point the population crashed. And then with very little conservation effort it recovered. Nirmal Shah, Chief Executive of Nature Seychelles, was part of the study led by Kent and Sheffield Universities in the UK.

A clear understanding of the recent population history of a species is important because it helps managers to anticipate problems associated with a dip in population. Island endemic bird populations generally have lower levels of genetic diversity than species with

confined to Mahe in 1969. Surveys in 1973 located 49 pairs and estimated a population of 150-300 birds and by 1981, there was an estimated carrying capacity of 370 pairs. In 1985, the Katiti was described as being “far more numerous than previously thought”. Surveys in 2000-2001 suggest that the population remained stable in the previous 25 years.

Although genetic data can help show changes, it does not explain why the changes occurred. Habitat loss, development and fires as well as predation and competition by introduced species is thought to have caused the decline of the Katiti. Kestrels were also killed because they stole chickens and were thought to be a bad omen.

The Seychelles Kestrel recovery from a severe population bottleneck relatively unaided by intensive conservation efforts is extremely rare. Many seemingly comparable ‘unmanaged’ species recoveries can often be explained by indirect intervention, such as broad-scale ecosystem management.

But the study bears a note of caution. “Given the current pressure on global conservation resources, this recovery may appear encouraging. However, outcomes such as this are likely to be the exception rather than the rule for other endangered island endemics.”

Photos: Kestrel chick (Jeff Watson)

WIOFish –

a regional programme to document the diversity of fisheries and their resources

By Rudy van der Elst and
Bernadine Everett

“Do those of us who reside, work or play in and around the West Indian Ocean (WIO) adequately pause to consider the amazing diversity of marine life on our doorstep? Do we take for granted the plethora of species and their fantastic life cycles that provide us with nourishment and other ecosystem services? In the past the answer would have been NO, but progressively the WIO is being recognised as a unique and exceptionally rich part of our planet.”

One of the most far reaching strategies to protect biodiversity on earth is the Convention on Biological Diversity (CBD), conceived by world leaders at their Rio de Janeiro Conference in 1992. But at subsequent meetings it was recognised that the marine environment was not specifically identified within the CBD and, at a meeting in Indonesia in 1995, a framework for implementation of the CBD in marine and coastal waters was developed. This became known as the Jakarta Mandate on Marine and Coastal Biodiversity and included five major themes:

1. Integrated marine and coastal area management
2. Sustainable use of marine living resources
3. Establishment and maintenance of marine protected areas (MPAs)
4. Sustainable mariculture
5. Eradication and control of alien species.

Momentum was provided by an IUCN/NORAD initiative whereby the Jakarta Mandate would be implemented in the WIO. Thus in 2000, a group of concerned researchers and resource managers gathered to put flesh on the bones of the major Jakarta Mandate themes. It was especially Theme 2 that drew their attention. It was noted that the great diversity of marine resources of the WIO had resulted in a many fisheries - but most were undocumented save



for some snapshots in a photo album. Without having each fishery properly identified and documented it is not possible to provide management support and evaluate its relationship to the region's biodiversity. And so WIOFish was born by placing these fisheries on the map specifically to gain a better understanding of biological and socio-economic characteristics of the fisheries in the region.

A network of scientists from six countries collaborated to create an open access database that currently documents 212 distinct fisheries in the WIO region. Each is described in terms of some 150 different parameters and associated with a management evaluation that scores some 30 variables. Included are aspects dealing with the fishery itself, the catch, management regime, and especially its impacts or otherwise on biodiversity and the ecosystem.

The fisheries have been grouped into six categories – ranging from subsistence to artisanal, small-scale commercial, recreational to industrial fisheries.

So what does analysis of WIOFish reveal?

Clearly, fishers in the WIO make full use of the diversity of resources with at least 451 species reported in their catches and some 27% of the catch not yet fully identified. Artisanal fishers make best use of all the resources with most species finding a place on the market. However, in the more industrialised fisheries there are much higher levels of discarded bycatch. The impact of this on biodiversity is of concern, especially in the case of trawl fisheries where,

despite recommendations only two countries of the region have mandated exclusion devices: namely Madagascar and Kenya. In a few other cases methods to minimise bird capture in longline fishing have also been introduced.

Despite the fact that in about ½ the region's fisheries there are documented concerns about the fishery's sustainability, only in 51% of cases has there been any level of stock assessment with only 3% of cases where the target species have been fully assessed. In only 20% of fisheries is there an effective management plan in place. Also, in about ¼ of all fisheries there is known to be an impact on threatened species, including turtles, mammals and red-listed fish and shark species. Very few of the fisheries have any input or output controls that set effort or harvest target levels - the exceptions being some of the shrimp fisheries.

Despite the low levels of formal management, there is nevertheless a reasonable level of data collection and monitoring in at least ½ of the fisheries. About 46% of the fisheries have some form of co-management and most do have some limited form of access control through licensing.

However, the real value of

WOFish lies in its analysis over time so as to track improvements and the attainment of objectives such as those set by the World Summit on Sustainable Development (WSSD). Here the results are more promising. Since 2000, the number of fisheries being monitored in the region has increased from 40% to 50%, those that are co-managed up from 17% to 46% and fisheries with some level of stock assessment up from 12% to 51%. Also, at least five fisheries are now in final stages of risk assessment towards managing them on an ecosystem basis.

The best part of WIOFish lies in its open access and powerful analytical tools. So why not visit www.wiofish.org and do the assessment yourself.

Rudy van der Elst and Bernadine Everett are from the Oceanographic Research Institute (ORI) in Durban, South Africa. Rudy is a board member of the Western Indian Ocean Marine Science Association (WIOMSA)

All photos Rudy van der Elst



Saving Seabirds from Fishers

By Ross Wanless

The perilous state of seabird conservation globally was recognized as a priority by BirdLife International in the 1990s. Out of this was born the Global Seabird Programme.

While the Global Seabird Programme is addressing an impressive range of seabird conservation issues, a major focus was, and remains, saving albatrosses from extinction by working with fishing industries to provide innovative and win-win solutions to seabird bycatch.



One of the biggest problems facing seabirds, particularly those from the procellariiform family (albatrosses, petrels and allies) is longline fishing. Longliners set thousands of hooks on short lines, attached to a single long mainline. While these hooks are near the surface, seabirds are strongly attracted to them and steal the baits off the hooks. Often, the birds get hooked, and as the line sinks, they are pulled under and drown. Hundreds of thousands of birds die from longliners every year, and this is responsible for driving many albatross populations towards extinction. Another huge, but more difficult problem, occurs in the tropical waters. The gigantic catches from all kinds of tuna vessels is stripping the ocean of these top predators. Many seabirds are almost entirely dependent on tunas. The fish drive schools of small prey fish to the surface, where seabirds can then dive and catch them. With fewer tunas, there are fewer schools of smaller fish being chased to the surface.

To address the seabird bycatch problem BirdLife created the Albatross Task Force (ATF). In 2006 South Africa became the first country to establish an ATF team. Since then teams have been established in Namibia and five South American countries. Initial work involved getting the teams up and running, establishing relationships and trust with the fishing industry and collecting basic information. January 2009 saw the start of Phase Two – doing practical research to improve measures that reduce bycatch ('mitigation measures') or trial of entirely new ideas. These results are being fed into our global programme – dealing with Regional fisheries management organizations (RFMOs)

RFMOs are responsible for managing vast fishing fleets in the different ocean basins. Their responsibilities include both to control exploitation levels of target stocks and, increasingly, to minimise other ecosystem impacts of fishing. However, many RFMOs, particularly the tuna RFMOs which manage longline fleets, and



that protect seabirds from being caught. Second is getting good, independent observer schemes in place to collect data on catch rates, use of mitigation measures, and so on. Finally, we aim to have strong compliance committees in place at each RFMO, so that there are serious consequences for nations that do not follow the conservation measures that have been agreed upon.

Success has been quite varied. At ICCAT we have not succeeded in strengthening the conservation measures in force. While we are pleased that there is a measure, we think there are critical weaknesses which mean that fishermen do not really have to change the way they fish, and so the measure is unlikely to actually reduce bycatch.

are thus of interest to BirdLife, have become mired in political battles and incapacitated through non-compliance and lack of data submission from countries. As a result, more than two-thirds of high seas fish stocks are either depleted or at high risk of collapse. Efforts to minimise the impact of fishing on other species are just as crucial, and are still in their early stages. A major part of BirdLife South Africa's Seabird Division Manager, Dr Ross Wanless, is to manage BirdLife International's Global Seabird Programme in Africa. This includes responsibility for pushing seabird conservation agendas at three RFMOs – ICCAT (Atlantic tunas), IOTC (Indian Ocean tunas) and SEAFO (Atlantic non-tunas).

BirdLife's strategy for reducing seabird bycatch through RFMOs is to strengthen the way they work. Getting the RFMOs to change the way fishing is done is built on three 'pillars'. First is to get strong conservation measures in place

central observer programme in place yet, either. In SEAFO, last year we were able to assist the commissioners to adopt a suite of really strong conservation measures. This included measures for trawl fishing, even though currently there is no active trawl fishery in the SEAFO area. Forward-thinking like this is highly commendable. SEAFO also has 100% observer coverage, so getting an understanding of what is happening in the fishery is not as difficult as in other RFMOs. Last is the IOTC, which has a seabird conservation measure similar to that in ICCAT. In July 2010 all nations that are signed up to the IOTC will have to implement observer programmes. This will hopefully result in good quality data from the region, because aside from a few minor fishing nations, no countries submit information on seabirds to the commission.

The exciting news is that new technologies are being developed which may well drive the bycatch problem down to insignificant levels in the near future. We hope that, in a couple more years, we will be able to demonstrate that with a few simple technological fixes, no seabirds need to die in the process of catching fish. Watch this space...

Dr Ross Wanless is the Africa Coordinator, BirdLife International Global Seabird Programme and Seabird Division Manager, BirdLife South Africa

Photos: Previous page - a wandering Albatross **Above** - longline hooks with 'safe leads', a concept developed and promoted by BirdLife to make lines sink out of reach of birds quickly. Longline Fishermen don't like conventional lead weights because when the line snaps under tension during hauling, the lead weight can fly back at tremendous speed and can cause injury or death. These safe leads fall harmlessly off the line without being dangerous to fishermen. (Ross Wanless)

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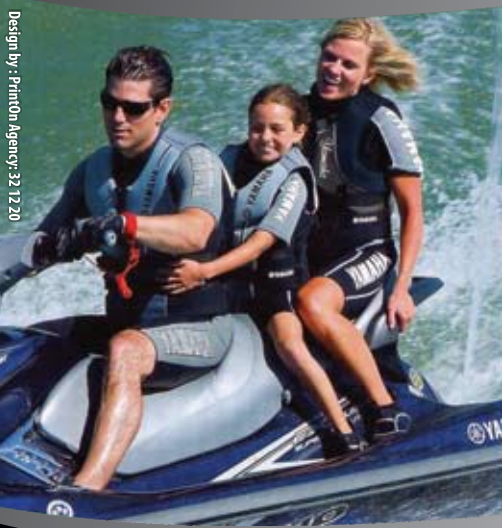
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Telling the Biodiversity Story

I am used to giving presentations and talking about the environment locally and overseas. I have been doing it for many years. As these things go, sometimes you catch the imagination of people and at times you do not. But the message is important and it must be passed on.

And yet, it's a good feeling when you have a responsive audience. I had one when year 3 students following an Advanced Diploma in Hospitality Management at the Seychelles Tourism Academy (STA) visited us at our Centre for Education and Environment (Nature Seychelles Headquarters) this May.

They were here to look at the Heritage Garden and the Sanctuary, which is a freshwater wetland, and to hear about environmentally friendly locations in the Seychelles such as Cousin Island. I gave a talk on Cousin - its successes, what it takes to make it environmentally friendly, ongoing research, visitor management, the systems that have been put in place and, generally, what it takes to run such a well-known and recognised nature reserve and eco-tourism site. We also had discussions on Seychelles as an eco-tourism destination. After the talk, Lucina Denis, Nature Seychelles horticulturalist, showed them the Garden and the Sanctuary.

I was very pleased with these discussions. I found the students to be smart, enthusiastic and interested in the subject. Their questions were pertinent and topical and it was a pleasure meeting and talking to such a clean-cut group of young Seychellois. I feel that our tourism industry has a good future if all the recruits entering the STA have such characteristics.

I think that they too were pleased with the visit.

Ms. Jourbet, one of their instructors, said in part in an email sent after: "The presentation has helped us to gain additional information on Cousin Island, which is a wonderful example of ecotourism in the Seychelles. The students have been able to learn more about ecotourism in their own country from an expert in the field. The visit in the Heritage Garden and the Sanctuary were also very interesting. Lucina was very helpful and we learned the names of numerous new plants and their beneficial properties. The Garden is a wonderful initiative. Especially the herbs and medicinal plants."

After telling the same story thousands of times one often wonders whether it really makes an impact anymore. We thank the year 3 students of the STA for reminding us that it does.

Nirmal Shah

More than an MPA Manager



Ian Valmont is the new Island Coordinator for Cousin Island Special Reserve. In February, he joined the ranks of the highly-trained and energetic Seychellois team that runs this world class protected area. He is no stranger to Cousin Island. For the past decade, he has worked mainly for Nature Seychelles and spent a considerable amount of that time on the island.

Ian is a keen Birder. And since Cousin Island is a birder's paradise - home to endemic land birds and key species of breeding seabirds, Ian indulges both his hobby and occupation. "Very few people are this lucky." He says

On Cousin, Ian coordinates conservation and research on some of Seychelles rarest bird species, including the Seychelles warbler (Timerl Dezil), the Seychelles Magpie robin (Pi Santez) and the Seychelles fody (Tok Tok). This also involves helping out other islands with their bird populations. Ian is a bird ringer with accreditation from South African Ring (SAFring), specializing in the endemic passerines and seabirds. He has rung and taken biometric measurements of more than 500 individual birds. This experience has given him the opportunity to visit some of Seychelles unique places with important bird populations such as the Aldabra atoll in the southern part of the archipelago. He has also helped to rehabilitate habitats on

other islands in the Seychelles for the re-introduction of endemic bird species.

Ian takes an interest in all aspects of nature. For the past year, he has been involved in monitoring of roosts for the endangered Seychelles Sheath-tailed bat on Mahe, which required him to work from dusk to dark. That monitoring has generated important information on the bat environment and the number of individuals on Mahe. Ian has a passion for mentoring younger Seychellois in conservation. He aims to nurture and train new staff to be the best, ensuring that Cousin is one of the best-run nature reserves in the world and passing on his skills to a younger generation of Seychellois. He is widely travelled in the western Indian Ocean region - including Kenya, Madagascar, Reunion, Mauritius and Rodrigues, and internationally - England, France and Australia and brings to Cousin an international outlook to the conservation of Marine Protected Areas in general.

The Economist and the Ecologist



Photo: Nirmal Shah, Ecologist and Kerstin Henri, Economist

"Ecology and Economics have the same Greek etymology – Oikos, which means home. But Economies are at odds with Ecology. The impacts on the planet and its resources, from global warming to over fishing, are directly derived from economic activities. Ecologists and Economists need to work together to become change agents and achieve sustainable living." Nirmal Shah and Kerstin Henri, Nature Seychelles

"The new breed of analyst argues that we can no longer afford to ignore the dependency of the economy and social progress on the environmental resource base. It is the content of economic growth, with natural resources factored in, that counts in the long term, not just the yield in products and currency. A country that levels its forest, drains its aquifers and washes its topsoil down river without measuring the cost is a country traveling blind."

Professor Emeritus E.O. Wilson of Harvard University in his Pulitzer Prize winning book The Future of Life



Angelo Stipinovich sent in this picture and asks, “This little fellow has taken a liking to the NE corner of Eden House. We see him here quite often. Is it in fact a Seychelles Kestrel or an imposter from Madagascar?”

Ed: This is indeed the Seychelles Kestrel, Katiti in Kreol

Photo: Johan van der Watt, Eden Island

Your Space

This page is Zwazo’s interactive forum. We invite you as our readers to make contributions, including short stories, observations, art and photos.

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