

Zwazo



Number 19 Seychelles conservation magazine



PEOPLE, BIRDS, AND SMALL ISLANDS

Zwazo

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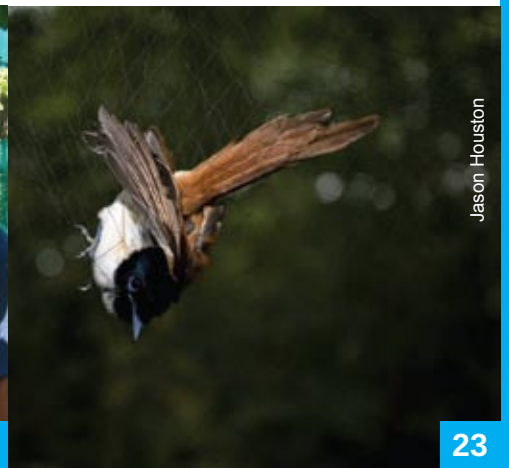
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Zwazo is produced by bi-annually by Nature Seychelles. Nature Seychelles is a non-profit, non-governmental organization that has worked in conservation in Seychelles since 1998. Nature Seychelles' primary objective is to improve the conservation of 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.

Chief Executive:
Nirmal Shah

Council:
A M Moustache, A Bowers,
P. Simon, J Albert, C Verjano
and M King-Harmon

Editor:
Liz Mwambui

Design and Layout:
Liz Mwambui

Photos: Nature Seychelles
and owners

COVER: Fairy Tern Chick
© Nature Seychelles

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contributors are not
necessarily those of Nature Sey-
chelles. Nature Seychelles will not
accept responsibility for any errors
and omissions



P.O. Box 1310
The Center for Environment and
Education, Roche Caiman,
Mahe, Seychelles
Tel: + 248 601100 / 601101
Email: nature@seychelles.net
Web: www.natureseychelles.org
Blogs:
theenvironmentinseychelles.blogspot.com/
savingparadise.wildlifedirect.org/



A word from the **FRONT LINES**



The Birds and the Buzz

Why so much buzz about birds?..... Rewind to 1968 for the answer.....That was a year that Time magazine defined as "The Year that changed the World".

It was also the Year that Changed Conservation in Seychelles. 1968 was the year that ICBP, now known as BirdLife International purchased Cousin Island to save a "little brown job", the Seychelles Warbler, which was then labeled as the "world's rarest bird". ICBP was the first international conservation organization to establish a permanent presence in Seychelles, a presence which continues to this day.

Sliding inexorably into extinction the warbler became the rallying point, the flagship, for conservation in Seychelles. After 20 years the warbler was saved but saving the warbler on Cousin also saved seabirds, lizards, sea turtles and coral fish as well as an entire floral community -the first ecosystem level conservation success story in the entire region of Africa and the Indian Ocean.

The success forged a new elan for conservation in Seychelles. ICBP put in place many programs with the help of RSPB, WWF, the Seychelles Government and later, private island owners. From 1998 onwards the BirdLife partner in Seychelles, Nature Seychelles had taken over these programs and initiated other exciting ones. By 2008 all the Critically Endangered birds, bar one, had been downlisted on the IUCN Red List and one, the Seychelles Fody, had been removed from BirdLife's Threatened Birds of the World listing – all through research and conservation action.

In this issue we highlight parts of this incredible and inspiring tale of loss and despair, hope and glory. We also showcase some of the achievements of the Association in the period. Happy reading.

We apologize to our Members and other readers for not publishing Zwazo No.19, owing to the sudden and unexpected departure of our Communication Manager Wanjohi Kabukuru and to the loss of donors in the economic crisis. What you have in your hand is a bumper issue combining the period July to December 2008 with January to June 2009. Zwazo remains the only color magazine that is regularly published and distributed free of charge in Seychelles. We will continue with our regular issues from now on.

I take this opportunity to welcome our new Communication Manager Liz Mwambui. Liz has worked for the East African Wildlife Society for many years and as such understands the nuances and dynamics of NGO work well but at the same time brings new skills, energy and ideas to our work. Let us wish her all the best.

Nirmal Shah



BirdLife, RSPB: We are committed to Seychelles

In an unprecedented event, the President of Seychelles Mr. James Alix Michel met with the Chief Executives of BirdLife, RSPB and Nature Seychelles in recognition of the long running relationship that BirdLife has had with Seychelles - 40 years. The two CEOs discussed future plans with the President who pledged to follow up with another meeting. BirdLife CEO Mike Rands promised continued attention to conservation in Seychelles.

In the picture from left to right: Mike Rands (BirdLife), Graham Wynne (RSPB), President of Seychelles Mr. James Alix Michel, and Nirmal Shah (Nature Seychelles).

Courtesy of State House.

Responsible Tourism: Making the case for Seychelles

In an enthusiastic response to a worldwide call for responsible tourism, the Seychelles chapter of the Worldwide Day for Responsible Tourism was launched with a great deal of interest from sector players, government and conservationists alike on June 2, 2009. The event held in the Grand Hall of Eden Island was graced by the Vice President of Seychelles, Mr. Joseph Belmont. Other invitees who enthusiastically turned up were Members of the National Assembly including Mr. Waven William, the Chair of the National Assembly's International Affairs Committee, Mr. Joe Morin, Executive Chairman of PUC, Managing Directors of tourism firms including Mr. Alain Mason of Masons Travel, NGOs, Wildlife Clubs and members of the press.

Nature Seychelles, a charter Member of the International Coalition for Responsible Tourism, and the Seychelles Tourism Board (STB), organized this event in collaboration with the Public Utilities Co (PUC) and Eden island. Worldwide events and celebrations are promoted by the International Coalition for Responsible Tourism and were held at the same time in other countries under the banner of this year's theme Tourism and Water Resources.

Nirmal Shah, the CEO of Nature Seychelles said that the main objective of the Day for Seychelles "is to promote Responsible Tourism to the trade and to

local people, to bring together the conservation and tourism community and to partner in responsible tourism projects and programmes." Mr. Alain St. Ange the Director of Marketing at STB, insists that Seychelles has all the elements of Responsible Tourism at hand. "We need to showcase the fact" he said.

Mr. Stephen Rousseau, the Managing Director of PUC Water and Sewerage presented an overview of demand and supply of potable water in Seychelles. Whilst demand was growing, supply, despite many PUC projects, could not keep pace. He therefore encouraged the responsible use and management of water in tourism estab-

lishments. Banyan Tree Hotel's efforts in water saving was showcased by the enthusiastic Mr. Aris Alcuaz. Seychelles is well on the way to adopting a Sustainable Tourism label through a project financed by the Global Environment Facility (GEF), which would be an excellent entry point for promoting Responsible Tourism, Mr. Joseph Rath, of UNDP Seychelles revealed.

In an interview with SBC TV Shah said that Seychelles had a great competitive advantage in responsible tourism. "As an environment manager, I can really say we can sell this honestly and responsibly" he closed with a smile.



Guests follow presentations during the event at Eden Island



Two thumbs-up for Seychelles conservation

Impressed by a group visit to Cousin Island Special Reserve, the American environmental foundation Seacology has lauded Nature Seychelles work on the Island and will use it as a model for small island conservation. The Foundation has funded conservation activities on Cousin Island Special Reserve that included the placement of demarcation buoys around the Island, the acquisition of composting toilets and production of educational materials.

Said the Foundation's Director Duane Silverstein after the trip, "When we funded Nature Seychelles' Cousin Island Reserve we knew we were supporting a very important project because of this island reserve's history and fame. However, we had no idea of what a fantastic job Nature Seychelles is doing until we visited the island. We were extraordinarily impressed by the whole experience, especially by the wildlife and the fantastic job that the Nature Seychelles staff are doing in conserving this island jewel".

The Foundation's work has been focused on protecting Island habitats and cultures. It currently has projects in over 100 islands in 45 countries, which have protected nearly two million hectares of rainforests and coral reefs.

"The projects supported by Seacology will go a long way in enhancing conservation work" said Nature Seychelles CEO, Nirmal Shah. The buoys are helping improve management effectiveness. "We needed to mark the boundaries of the Special Reserve to prevent fishers from inadvertently straying into the Reserve as there was no visible marker," says Shah.

The demarcation involved determining the exact location to place the buoys, with the help of the other partners and drilling into the sea bed to place them. In total 8 buoys were installed. Some buoys have been lost due to bad weather but new buoys have now been sourced and are being replaced. One of the missing buoys turned up many kilometers away

near Denis island.

Nature Seychelles reasoning for installing composting toilets is based on sound evidence that these toilets are environmentally friendly in the way they handle waste. They work by providing an enclosed environment for the natural process of decomposition to occur.

"These installations are difficult to locate for us in here Seychelles but will substantially help the environment and improve conditions on the Island. We could not get it funded by a project under a regional environmental Convention but it is ironic that a US Foundation understood the vital need and demonstration value" Says Kerstin Henri Nature Seychelles' Project Coordinator. Currently the Island is served by pit latrines which are environmentally unfriendly as well as inhospitable if not maintained on a daily basis..

The new educational and awareness materials are large full color panels highlighting the important features and biodiversity of the Reserve and Nature Seychelles' work. The panels were designed and produced locally and grace the visitor reception areas. "This is yet another important step we have made to improve the visitor experience on Cousin. We will continue to make the ecotourism visit to Cousin one of the best in the world" explained Jovani Simeon, the Reserve Chief Warden.

On 10 June 2009, the group from Seacology received a firsthand experience of the success that is Cousin Island Special Reserve when they were taken on a tour of the Island by Nature Seychelles CEO, Nirmal Shah and Cousin's indefatigable wardens.

"It's a humbling experience to see conservation success within one's own lifetime. I feel lucky to be here", concluded Dishon Murage, a Kenyan conservationist and Seacology's East Africa field representative accompanying the group.

Eyes to the skies: Cousin Island wardens receive Coxswain certification



Not content with the conservation successes of Cousin Island - "one of the world's great conservation success stories" according to the latest issue of *World Birdwatch*, the magazine of BirdLife International - Nature Seychelles has been steadily improving the management of the Special Reserve over the last 10 years with much benchmarking of conservation and ecotourism practice along the way.

The latest in these improvements is standardization of boat handling by Wardens on Cousin Island.

"Many management case studies have been written and a lot of awards have been given" says Nature Seychelles' Chief Executive Nirmal Shah. Now another milestone has been reached. "All our Wardens who use small craft to ferry the thousands of visitors to and from their tour boats and yachts moored off the island are now certified Coxswains" reveals Shah.

The exhilarating boat landing onto the beach at Cousin has been filmed and photographed thousands of times but needs to be experienced. Seemingly scary, it was highlighted as the most memorable experience of the trip to Cousin by about 90% of visitors to the island in an independent study conducted by a researcher from the Durrell Institute of Conservation and Ecology in the UK.

Cousin island Wardens have become famous for safely landing boatfuls of visitors at high speed on the beaches. This flair has made the Wardens stand out amongst other boatmen even locally and in a recent article in the Africa Partnership newsletter entitled *The Macho Men of Cousin Island* their legendary dexterity was made known through-

out Africa and beyond.

"The boat handling ability is passed on through practice, non verbal cues and intuition to successive Cousin boatmen" says Nirmal Shah. "Although highly effective and despite the fact that the trips for visitors are within the Special Reserve boundaries and thus very short, boat handling needed to be benchmarked and a standard operating procedure ensured" he continues.

"Enter Coxswain certification" says Chief Warden Giovanni Simeon, himself a highly experienced boatman. "We needed some formal training in various aspects to do with boats as well as standardization of our practices" he admits. But the wardens could not go back to the maritime school to earn a Coxswain license as they could not leave the biodiversity-rich Special Reserve unattended for too long and at the mercy of poachers.

"We had to approach the Seychelles maritime training school and plan a tailor made course" states Bernard Solomon, Nature Seychelles' Administration and Operations Manager. "We needed to fly in and put up the instructors of the various modules over a period of months and in this we were assisted by the LUNGOS small grant program" he says.

After successfully passing various modules the Wardens sat for their at-sea exams and received their Coxswains certificates recently. "This is yet another advancement we have made to guarantee exceptional service for our eco tourists. Now all visitors can be assured that we have certified proficiency to safely take them from their tour boats and yachts to the island and back" says Simeon with some pride.

Nature Seychelles bags Africa's coveted digital media award



Shah shows off his trophy

Rarely does an environmental NGO come out best in ICT related ventures. Nature Seychelles' CEO, Nirmal Shah is an exception to the rule. Just as year 2008 reached its sunset, he put the idyllic Seychelles archipelago and entire Small Island Developing States (SIDS) on the world map by scooping Africa's coveted digital award. The SABC-Highway Africa Digital Media Award. This highly prestigious digital award attracted thousands of entries from the entire African continent.

The award was bestowed on Shah on an auspicious gala dinner ceremony in the imposing "1820 Settlers Monument" which overlooks the historic town of Grahamstown in Eastern Cape province of South Africa. The ceremony which is normally the main highlight of the Annual Highway Africa Conference was attended by over 700 journalists, bloggers, internet buffs and media scholars from Africa and was beamed live through Africa's leading broadcaster, South African Broadcasting Corporation (SABC). The extremely competitive annual SABC Highway Africa Digital Media Awards runs in three categories, Student/Individual, Not for profit and Corporate.

Shah scooped the Not for Profit category as South African vlogger Khaya Dlanga and Togolese Tadergnon Kokou Noel ran away with the Student/Individual and Corporate categories respectively.

The citation by judges noted Shah's relentless pursuit and over-zealous commitment for the environment through his work with Nature Sey-

chelles. It reads: "Based in Seychelles, this is an environmental organization that, among other initiatives, is involved in activities that are targeted at raising the level of environmental awareness and education." The citation further pays tribute to Shah, "For spearheading environmental conservation through the internet within the Seychelles and across the Western Indian Ocean shelf". The glowing citation doesn't end there and pays homage to Nature Seychelles for encouraging "other Small Island Developing States (SIDS) to embrace new media technologies for environmental conservation. In addition, Nature Seychelles managed to use the youth's skills and creativity to spread the message of ICT and the environment on the fragile islands ecosystems within Seychelles."

Speaking after the award ceremony

Shah noted: "This is a moment of great pride for the entire Seychelles Archipelago and the whole community of Small Island Developing States. The win is not just a Nature Seychelles achievement; it is a great accomplishment for the Seychellois people. It is an honour and a morale booster for our nation that we are indeed endowed with both talent and resilience for coming out the best in the entire African continent."

At the Nature Seychelles offices' the news of the award was received excitedly. "This is indeed a big win for Seychelles. Our work in using ICTs with the youth and partners like Nortel Communications to spread the environment message has led us to receive international recognition and this is just an overwhelming thrill." Kerstin Henri, Nature Seychelles' Projects Coordinator says.

LIGHTNING STRIKES TWICE!

They say 'lightning never strikes twice at the same place.' Well Nature Seychelles untiring CEO, Dr. Nirmal Shah appears to be an exception to this rule. Just as he was about to wrap up the celebrations of winning this year's SABC-Highway Africa Digital Media Awards, another award landed on his desk. This time around, the go-getter environmental conservationist has scooped the Educating Africa Pan African Awards for Entrepreneurship in Education 2008 country prize.

Shah has been recognized for his ground-breaking pioneering Heritage Gardens work with the popular Wildlife Clubs of Seychelles (WCS) which he chairs.

"The Pan African Award for Entrepreneurship in Education 2008 is an acknowledgment that our work is world class. This is a moment of great pride for all Seychellois. Coming at this time such recognition reinforces the fact that we are capable of achieving much despite the fact that we are a Small Island Nation" an elated Shah says.

The high-status award is administered by a UK charity under the self explanatory name "TeachAManToFish". The TeachAManToFish envisions a "world free from poverty, one in which all individuals are able to enjoy the empowering benefits of an education that meets their needs and aspirations in life." TeachAManToFish network spans more than 80 countries, and represents a wide range of over 700 individuals and organizations interested in finding new ways to increase the availability of high quality agricultural education in developing countries by making it financially sustainable. The award recognizes and honours the most innovative education initiatives in Africa aimed at "making education to pay for itself."

"TeachAManToFish seeks for the very best programs and models for education. Organizations which are entrepreneurial using innovative, replicable and scalable approaches to tackling entrenched problems in education and empowering future generations of entrepreneurs stand good chances of winning. We are glad that our Heritage Gardens has stood out amongst the best in the continent to scoop the country prize. This award has come at an opportune moment when our country is undergoing a shift in her economic policy, and goes ahead to prove that our project is way ahead of its time." An overjoyed Shah reveals. Shah was quick to recognize the hard work of Nature Seychelles staff particularly resident naturalist Lucina Dennis and Site Support and Social marketing Coordinator Terence Vel together with the assistance of the Ministry of Environment's Natural Resources Division in the Heritage Gardens project.

The Educating Africa Pan African Awards for Entrepreneurship in Education 2008 country award comes hot in the heels of Shah being honoured by the South Korean government as a Distinguished Foreign Individual.

THE INTERVIEW

Immediately Nirmal Jivan Shah was declared winner of the 2008 SABC-Highway Africa Digital Journalism Award, at the 12th Highway Africa Conference, held in South Africa, Grahamstown, he became a 'hot item' and much sought after personality in the largest congregation of African media professionals. Here are excerpts of an exclusive interview by Senegalese Journalist Nana Mme Diop. Read on:

How did you get concerned in Nature Conservation ?

As a young child I was immersed in the rich environment of Seychelles because my father, a UNEP Global 500 Laureate and a pioneer of conservation, took me into the reefs, the mountains and the wetlands every weekend for many years. I was privileged at a young age to visit fantastic islands and discover amazing biodiversity in the company of world renowned scientists and naturalists researching the Seychelles.

Can you tell us first about the environmental biodiversity of Seychelles ?

The Seychelles has been a crucible of evolution. It's another world. Isolated for millions of years the islands evolved an amazing type of life, both fauna and flora. The Giant Tortoise, the infamous coco-de mer- the world's largest seed which coincidentally (or not) looks like a female pelvis, the worlds smallest frogs, and the world's rarest bat are some of the weird and wonderful biodiversity found in these incredibly beautiful islands.

What are the current issues ? Threats or positive aspects, treasures?

Of course the Seychelles has suffered greatly especially during the colonial era when the most widespread destruction took place. Today it is affluence and resulting effluence that threatens our shores. Of course climate change is another massive challenge. But Nature Seychelles has implemented multi stakeholder projects that have saved many of the rarest birds from extinction. These are world renowned conservation success stories.

You've just won a Digital Journalism Award prize at Highway Africa, what does it represent for you, regarding your work ?

It means that we can tell the world about our programs



Senegalese Journalist Nana Mme Diop

for saving rare species and critical habitats. We want to spread "Good News Conservation", inspiring others and empowering new generations of conservationists. The media usually portrays the environment in terms of doom and gloom. But this just makes people feel hopeless. In fact, we can make a difference. We can change things.

Experts in UN, says Africa will suffer more than any other part of the world, from Global warming consequences, what about Seychelles ?

As small islands the Seychelles are at great risk. We could lose 70 percent of our territory if the predicted sea level rise takes place. The entire population of the Seychelles could be homeless. We could be the next generation of environmental refugees.

Tell me about Marine Turtle species?

We have two nesting turtle species in Seychelles. Once the islands were swarming with turtles. Now like elsewhere they have become endangered. But on Cousin island, the turtle population has almost quadrupled since protection was instituted. Another inspiring conservation success story.

Are there threatened species in Seychelles that need attention from the world?

Yes, the worlds rarest bat is found here. Nature Seychelles has been conducting research on this bat which will become extinct if conservation measures are not taken. We need more resources to prevent this incredible animal from vanishing into extinction. Extinction is forever. Once gone we can never get anything back.

What more do you want to say, a message, something you think is relevant to be said?

The environment is the most precious resource we have. We need everyone on the planet to be taking care of it. We can save the planet. It is possible. It is being done in Seychelles and elsewhere. Join us. Do it Now.

NATURE SEYCHELLES AND STC IN ECOBAGS PARTNERSHIP



STC Communications Manager Gustave Decomarmond and Nirmal Shah launch the bag

In a ground breaking move aimed at safeguarding Seychelles' pristine environment, the Seychelles corporate firm, Seychelles Trading Company (STC) launched inimitable eco-friendly bags recently.

The fashionable looking cream coloured Eco-Bags project which are currently available from all STC outlets are meant to take over from the plastic bags currently in use for shoppers. Teaming up with STC in this exciting eco-venture is the award-winning national environmental NGO, Nature Seychelles' who have been involved in the project right from inception. A percentage of the proceeds from the sale of the stylish eco bags will go towards helping the Nature

Seychelles' children's environmental programs through Wildlife Clubs of Seychelles based in schools.

The Chief Executive of the STC Mr. Jayant Mayadas says that the new joint eco-venture between STC and Nature Seychelles is "a perfect antidote to arrest the plastic menace on our islands and a superb initiative to support youth led activities towards a cleaner pollution free environment."

The idea of the bag was aimed at capitalizing on fashion trends, consumer patterns and incorporating them within the concept of environmental conservation. The eye-catching eco-friendly bags concept was mooted by a special committee at STC with input from Nature Seychelles. After a series of meetings between STC and Nature Seychelles' top management, the final concept for the eco-bag design was adopted.

According to STC the roll-out of these bags which are now retailing country-wide the entire concept is in line with the corporation's external relations policy and her Corporate Social Responsibility (CSR) strategy.

Nature Seychelles' CEO, Nirmal Shah notes of the new joint venture with STC. "Nature Seychelles has always believed that partnerships are the key to solving environmental problems. In the past we have partnered with governmental agencies, private entities and even international development partners to push our environmental conservation message. This latest ideal is a cornerstone of Nature Seychelles' public-civil society partnership and we are excited to be a part and parcel of this eco-adventure."

BUILDING OUR human capacity...



Terence Vel was at the University of Kent courtesy of the Durrell Institute of Conservation and Ecology (DICE) to wrap up his two-year study on the novel ideal currently championed by Nature Seychelles dubbed 'social marketing'.

Vel captivated his audiences at the UK's prestigious university with his

articulation of Social Marketing principles within environmental conservation with a specific bias on his campaign to save the Vev (Seychelles Paradise Flycatcher). Vel's orature and his mastery of the Creole story-telling tradition galvanized his audiences making the global conservation giant RARE to write a glowing letter to Nature Seychelles CEO Nirmal Shah paying tribute to both Terence and Nature Seychelles conservation agenda. The letter reads in part:

"We are very happy to have been working with you – especially over the past 2 years, since Terence Vel began the Rare Pride adventure, way back in 2006. We have been very impressed with the good work you and your team have done, in carrying a campaign for the Seychelles Black Paradise Flycatcher (Vev) on La Digue – and we have been supporting Terence with the analysis and write-up of a report on this important project. Terence gave a wonderful presentation at the University of Kent."

According to RARE, TV's work outputs which are currently being tabulated to come up with a publication for use

by scholars worldwide found out that:

- 75 percentage point increase in the percentage of people who say they have talked to somebody about the threats to the Vev in the last month from 1% pre-campaign to 76 % Post-campaign (by May 2008).
- 43 percentage point increase in the percentage of people who say they had heard about activities to protect the Vev in the previous six months from 45% pre-campaign to 88% post-campaign.
- 28 percentage point increase in the percentage of people who say that they would support moving some of the paradise flycatchers onto another island from 30% pre-campaign to 58% post-campaign.

The RARE letter ends with a clincher: "During the last 3 weeks in Kent, we have been brainstorming some ideas for how to approach follow up for this campaign, to maximise momentum, and to ensure that follow up work fully supports your organisation's mission and strategy - leading to tangible conservation impacts. We would further be happy to continue to look for training and teaching opportunities for Terence and are excited by the opportunity of fund-raising for this. We will shortly be hiring an Alumni Manager for Kent – and they will be excited to discuss this opportunity with your team."

Indeed the year 2008 has seen Nature Seychelles crossing major milestones of conservation.

"Seychelles should be proud of our work. Social Marketing is about transforming environmental education and advocacy models by reengineering them into modern and people-centered 'edutainment' initiatives to be able to meet the demands of changing generational needs. We have translated that for the benefit of all Seychellois and now we are being recognized globally. Terence's work speaks for itself." Says Shah

Vote for the Earth



VOTE EARTH!

Small islands are victims of global warming but we can start doing something about it. Part of the international campaign to fight global warming is the Earth Hour. Every year, individuals, institutions and cities are asked to join in global solidarity to switch

off their lights for one hour since electricity generation is a major contributor to greenhouse gases. The campaign in Seychelles was launched by Nature Seychelles.

Earth Hour began in Sydney Australia in 2007, when 2.2 million homes and businesses switched off their lights for one hour. In 2008 it had grown into a global movement, with 50 million people switching off their lights. Lights at landmarks such as the Golden Gate Bridge in San Francisco, Rome's Colosseum, the Sydney Opera House and the Coca

Cola billboard in Times Square were all switched off.

For 2009, Earth Hour was taken to the next level by WWF with the goal of 1 billion people switching off their lights as part of a global vote. 2848 cities and towns in 83 countries across all seven continents switched off their lights. Among these were 829 icons and landmarks around the world such as the Great Pyramids of Giza and the Eiffel tower.

The campaign in Seychelles was launched by Nature Seychelles in newspapers, television and radio. In a nationwide broadcast on SBC Nirmal Shah asked citizens to switch off their lights from 8:30PM to 9:30PM local time on Saturday 28 March 2009 and to spread the message far and wide.

A public event was also held the associations' headquarters at Roche Caiman on Saturday night. At 7.30 pm members and staff of Nature Seychelles gathered at the Sanctuary at Roche Caiman to hear a speech, eat a pizza dinner (cooked in a wood burning oven and not electric) and participate in a night hike, songs, and stories. At 8.29 there was a countdown and all electricity was shut off at Nature Seychelles' facilities. A treasure hunt was organized in the Sanctuary for the children. Terence Vel says that participation nationwide could have been better and wishes that next year more groups will join in.

Mangroves for the Future

Wildlife Clubs of Seychelles is a recipient of an investment from "Mangroves for the Future" (MFF) initiative, which will support education of young people and public awareness about mangrove ecosystems and their services. WCS will produce environmental awareness materials, implement educational programs and experience-based learning, develop leadership in young people for coastal conservation and support public awareness of the MFF initiative.

The MFF initiative groups together the six countries which were severely affected by the 2004 Tsunami namely India, Indonesia, Maldives, Seychelles, Sri Lanka and Thailand to address coastal ecosystem conservation, while also including other countries of the Region that face similar issues.

It uses mangroves as a flagship ecosystem in recognition of the destruction caused to mangroves by the tsunami, and is inclusive of all coastal ecosystems, including coral reefs, estuaries, lagoons, sandy beaches, sea grasses and wetlands. However many of the affected countries owe their survival to mangrove belts which has to a huge extent acted as a barrier to the strong waves thus reducing considerable impacts from the 2004 tsunami.

The clubs that will participate in this initiative include Banyan Star, Palourde, Tyangomon, Moorhens, Black Parrot, Bamboo and Mangroove Aquatic Wildlife Clubs. Banyan Star Wildlife Club at Anse Etoile Primary school led by Christelle Jacques held a workshop on 4 June 2008 to kick start its activities.

And in activities related to the MFF, last year two of Nature Seychelles senior staffers took part in the two separate intensive training workshops in Indonesia and Thailand. Lyndy Bastienne attended a week-long concrete workshop

in Semarang, Indonesia whose theme was: "Mangroves for the Future: Promoting investment in coastal ecosystem conservation." This training workshop leaned heavily on community based mobilization. Seychelles was also represented by Joseph Rath from the Department of Environment and Lemmy Payet from the Engineering Department, Ministry of Environment, Natural Resources and Transport.

Terence Vel attended another MFF workshop in Rangoon, Thailand running under the banner: "Scientific and technical symposium on Sustainable Mangrove ecosystem Management."

"Though the two workshops took divergent thematic approaches, they were all aimed at meeting the very tenets that define MFF which is a vision of a healthier, prosperous and a secure future for all sections of the coastal populations in the Indian Ocean countries, complete with sustainable conservation." Says Lyndy.



L to R: Lyndy Bastienne, Joseph Rath and Lemmy Payet



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GLOBAL BIRD TALK



Photo: Nature Seychelles Project Coordinator Kerstin Henri, and CEO Nirmal Shah, had the honor of meeting the Honorary President of BirdLife IHH Princess Takamado at the conference

The 2008 BirdLife International's World Conservation Conference and Global Partnership Meeting was an exceptional global event, bringing together the 108 national conservation organizations that make up the BirdLife International Network, plus their existing and potential collaborators and supporters. The meeting was held in Buenos Aires, Argentina in September 22nd – 27th.

Nirmal Shah and Kerstin Henri represented the Seychelles at the global Zwazo [bird] talks.

The agenda of this world forum covered a wide range of current environmental issues, ranging from climate change to key biodiversity areas. It also covered Species Champions to flyways conservation, from global landscapes to local conservation groups.

Other key highlights of the meeting included empowering the BirdLife Partners to adopt and launch their strategies and programmes for the next 4-10 years, providing opportunities for sharing common problems and solutions to today's most urgent environmental challenges.

Bird reintroduction specialists praise Nature Seychelles



Photo: The Seychelles Warbler

The first Avian Reintroduction Biology Symposium was held at the Zoological Society of London in 2008. This landmark symposium brought together the leading academics and practitioners on bird reintroductions from all over the world. Nirmal Shah presented a well received paper on Planning and Implementation of Reintroductions in Seychelles with an emphasis on providing outputs or multiple stakeholders. Dave Richardson of the University of East Anglia made a presentation on the Seychelles Warbler, a long running work in collaboration with Nature Seychelles. Delegates at the symposium praised Nature Seychelles for its outstanding work with stakeholders and partners in reducing threat levels for globally threatened birds.

GOOD NEWS CONSERVATION

Nature Seychelles CEO, Dr Nirmal Shah and Kerstin Henri head of projects, travelled to Barcelona for the world's biggest environmental conservation gathering, the IUCN World Conservation Congress.

This global congress, hosted by the Ministry of Environment of Spain and the Ministry of Environment and Housing of Catalonia in Barcelona is kicked off from 5th to 14th October 2008. The Congress, one of the world's most important environmental events, consisted of a 4-day Forum run by IUCN members and partners discussing cutting edge ideas, thinking and practice.

"It is significant to note that this year marks our tenth anniversary and we attended this conference both to highlight our achievements in the last decade as an island state and highlight what I call 'good News' conservation to the rest of the world." Says Mr Shah

ISLANDS AND CLIMATE CHANGE

Islands and the European Union should value their political and cultural links and reinforce cooperation in working towards a sustainable future.

This was one of the objectives of the international conference entitled Islands and the European Union: Strategies in the face of climate change and biodiversity loss held in La Reunion in 2008. Nature Seychelles was represented by Lyndy Bastienne, Education Coordinator. Although the focus was on overseas territories of the EU Lyndy said she personally learned a lot on climate change and small islands.

Cousin on CNN

Plans to make Cousin Island the first Carbon Neutral Reserve receive world attention

CNN Video

Live Video

Podc



Efforts to make Cousin Island the first carbon neutral reserve in the world received a dose of publicity at the end of last month through a CNN World Report submitted by the Seychelles Broadcasting Corporation (SBC).

The report related the incredible triumph of Cousin island, which was turned from a loss making coconut plantation to one of the world's conservation successes.

Cousin is a popular ecotourism destination, attracting about 11,000 eco-visitors every year. Like most visitors to the Seychelles, they arrive via long haul flights.

However, such travel is increasingly raising unease. Travel experts are concerned that the extensive journeys often required to reach untouched natural wonders such as those found in the Seychelles produces climate-destroying greenhouses gases and causes other environmental damage. A further danger to poor countries is the call by many first world politicians, analysts and academics that the tourist industry should give priority to developing ecotourism in markets closer to home.

Such emphasis on less air travel might result in a voluntary roll back on long distance trips by tourists.

This would in turn have far reaching consequences for far flung destinations such as Seychelles, whose economy is largely dependent on tourism.

To counter such a serious turn of events, visitors need to be reassured that carbon emissions related to their travel are being offset. This is what Nature Seychelles is seeking to do for Cousin Island.

"We want our eco-visitors to not only enjoy the incredible nature that's been restored, but to also come here conscience free, knowing their carbon footprint has been reduced". Nirmal Shah, the CEO, says. "Therefore, we want to put in place a carbon offset program that will maintain Cousin's worldwide reputation as a world class reserve, protect the environment, and reassure visitors that their travel to the Reserve would be carbon neutral"

INTERNATIONAL AGREEMENT PROTECTS SEABIRDS

Several species of seabirds found in the Seychelles have been protected under the African-Eurasian Migratory Waterbird Agreement (AEWA). This is a United Nations Environment Programme (UNEP) backed convention which protects migratory water birds. The seabird species were added at the Fourth Meeting of the Parties of the AEWA which was held in Madagascar last month was attended by over 150 representatives of government and non-governmental organizations as well as experts from 80 countries.

The seabird species found in Seychelles which are now protected include the White tailed Tropic Bird (payanke lakeblan), Red tailed Tropic Bird (payanke lakerouz), Bridled Tern (fansen), Sooty Tern (golet), Brown Noddy (kelek), Lesser Noddy (makwa), Great Frigate bird (gran fregat), Lesser Frigatebird (ti fregat) and Masked Booby (fou zenero).

The inclusion of the seabird species on the AEWA list provides them with greater international protection and calls upon countries and other stakeholders in the region to take concrete action for those species that are not being conserved properly. The Meeting of Parties noted that most seabird populations are highly threatened.

Amongst the threats facing seabirds are food shortages due to depletion of fish stocks, to which overfishing and climate change both contribute. By catch in long line fisheries, oil pollution and solid waste are other problems for seabirds. Further threats are destruction of habitats and



unsustainable human exploitation. On land threats include disturbances at breeding sites and introduced terrestrial predators.

The international scientific advisory body of the AEWA had reviewed existing provisions and regulations related to seabirds in international law and found that although a number of provisions and regulations exist, the threats seabirds are facing are insufficiently covered by other international Environmental Agreements. The inclusion of these migratory seabird species in the AEWA will help fill this gap and provides the basis for greater international conservation efforts.



“We are the champions!”



1

Nature Seychelles recently initiated another fresh and enthralling program known as YES, an acronym for Young Environmentalists for Seychelles, which seeks to model young Seychellois into champions of conservation and environmental management.

Some 13 Secondary School students from the schools in the main island of Mahe, who have shown exemplary leadership qualities and passion for the environment within the Wildlife Clubs of Seychelles (WCS), were selected to participate in this new venture.

“These young people are our future environmental champions and we are preparing them for the challenges to come. The YES Initiative is meant to pass on the mantle of environmental leadership to Seychellois youth. YES is about getting young people actively engaged, revitalized and immersed in responsibility, leadership, initiative, and creativity on all matters pertaining to the environment.” Nature Seychelles’ CEO Nirmal Shah, asserts.

The YES Initiative was borne out of Shah’s intrinsic attachment to the youth. It is instructive to note that Shah himself started very early in his boy-

hood as a naturalist and conservationist owing to the prodding of the father, Kantilal Shah.

YES Initiative is a jointly supported undertaking bringing together Nature Seychelles, Wildlife Clubs of Seychelles and the Ministry of Education. The pioneering class of environmental champions came from English River, Point Larue, Mont Fleuri, Beau Vallon, Belonie, Anse Royale and Plaisance Secondary schools. The workshop keynote address and official opening was presided by a senior Ministry of Education official, Brenda Andimignon who is also the Vice chairperson of the Wildlife Clubs of Seychelles.

Terence Vel who doubles up as Nature Seychelles’ Education and Advocacy Coordinator and Site Support and Social Marketing Coordinator respectively developed the YES curricula materials and implemented the workshop.

“The YES Initiative is Nature Seychelles’ antidote to the new demands and strains of today’s young generation. The Initiative is aimed at illustrating and empowering our youth with responsible leadership at ages where



2



3

such qualities are feigned upon. By launching YES we intend to get our youth in the right structures to become avid conservation champions. This way we are solidifying responsible citizens in our slogan 'Conservation For people, for wildlife, For Seychelles.' Lyndy explains.

The first in-take of the YES Initiative champions included, award winning nature photographer and ReCOMAP art contest winner, Bertrand Gappy of Plaisance Secondary School and high achiever Adriana Julius of Beau Vallon Secondary School. They were joined by other fervent wildlife club members Rodney Esparon, Nelson Crispin, Sophie Larue, Lella Kilindo, Julie Lespoir, Shana Hoareau, Manuella Vallentin, Naomie Agricole, Eilish Charlette, Tina Songoire and Natalie Bristol

"This workshop has been very interesting. When I came, I didn't know the other kids and I also had very little idea about leadership. It has made me understand that as young people we need to start taking responsibility early. Apart from learning I have also made new friends and I was able to get adults to listen to my ideas about the environment." The ebullient Gappy says.

The newly initiated conservation champions were given ground breaking lessons on field trip preparation, camping techniques, survival skills, risk assessment, environmental education and conservation overview, managing wildlife club activities and overall presentation skills. They were also given tips on group dynamics, inter-personal communications and human capital reviews. At the end of the course certificates were awarded to all the participants.

"An innovative feature we want to develop is to get the young people excited about championing their ideas for environment projects with each other and with adults." says Nirmal Shah who wants youngsters to initiate environmental activities of their own.

"As young champions of the environment, the YES Training is rather new for us youth. It actually provides us with what is needed to give back to our clubs, the schools and the community what they have given to us and I am grateful to have been selected to attend. I am so proud because through YES I now know the basics of environmental leadership and the course has also helped me to become more confident to help my leader and lead my

colleagues forward." An elated Sophie Larue of Anse Royale Secondary School asserts.

According to Lyndy and Terence, the success of the pioneering YES Initiative class of 2008 has made a strong case for YES to become an annual event. This year's training has been fully funded by the President's Office and a similar conference with the inner islands active members is currently being planned.

"The high excitement and energy from the YES Initiative class has parents, teachers and young people putting immense pressure on us here at Nature Seychelles to continue it and even to widen the program content. We are now looking for sponsors to assist in supporting the 2009 group." Terence says.

As the young Seychellois 'conservation champions' received their well embossed certificates, Freddy Mercury's evergreen hit song "We are the Champions" chimed through.

"Young people are our future environmental champions and we are preparing them for the challenges to come"



Photos:

- 1 & 3:** Beach monitoring for the young champions
- 2.** Champion Adrianna Julius of Beau Vallon Secondary school making her presentation during the YES workshop
- 3.** A light moment for the YES champions at the Heritage Garden
- 4.** The champions on a learning tour of the Heritage Garden

US Navy docks at the Sanctuary

The Sanctuary
at Roche Caiman



Photo: US naval officers help out at Roche Caiman

Just two months after it was officially opened the now famous Sanctuary at Roche Caiman hosted a high-powered military delegation from the US Navy whose mission was not just a courtesy tête-à-tête over SeyTea and biscuits.

Led by Commander Russell Smith the US Naval officers from the USS Momsen (DDG-92), a guided missile destroyer, visited the sanctuary and helped in weeding out and creating more room for the dam to allow waders to scrape in their habitat.

"Am always excited to host the US military personnel, who have been keen on the Sanctuary's development. This was the third time we have hosted them here at the Sanctuary at Roche Caiman, and it is indeed a positive step for conservation. We have developed a cosy working relationship with them and each time they are around, they always pay us a visit." Nirmal Shah, CEO of Nature Seychelles asserts.

Ever since it was officially inaugurated in April after years of restoration works the Sanctuary has become a popular destination spot for lovers looking for quiet spots, tourists groups looking for a natural spot within the city limits, religious teams seeking for the solace granted by nature and multitudes of school groups visiting for their nature studies in the 'outdoor classroom auditorium'. Indeed the popularity of the sanctuary has kept Nature Seychelles staff literally on their toes owing to the amount of visitors it hosts each week.

The 25 naval officers who visited Roche Caiman, helped in cutting and weeding out the hard-to-control typha reed, which has resisted many attempts to slow

down its growth. They also went further and helped dig the wader scrapes and cleared weeds from the perimeter fence.

"As part of our community service initiative, we seek to build bridges with all the people we interact with. Being involved in the real on the ground initiatives like the wetland here in Roche Caiman is one way of engaging with communities." Commander Russell says.

The USS Momsen is named after Vice Admiral Charles Momsen, a decorated US Naval officer who made great contribution to the Navy with his invention of the Momsen lung, an underwater escape device and his critical role in the successful rescue of personnel in a sunken submarine.

"It is indeed an honour to have top military personnel visit us and appreciate our noble work here at the sanctuary." Says Shah as he acknowledges the presence of Commander Russell and his crew. Russell is the third in the chain of command of the USS Momsen with the rank Command Master Chief.

"This was the third time members of the US Navy paid us a visit and worked on our wetland. Their very act is actually a symbol of approval to all Seychellois, that our conservation efforts are world class in nature with a local touch. We don't take it for granted to host US military personnel. If anything we highly do appreciate their penchant for working with us in safeguarding Seychelles environment and also the generous support we receive from the US government through their embassy." Nirmal Shah, CEO of Nature Seychelles says.



HERITAGE GARDEN

Visitors flock to peek at neighbourhood nature

“I didn’t know you were doing things that are so interesting and useful” a typical statement from a high powered business man visiting the Heritage Garden at Roche Caiman, someone who is used to thinking about conservation as esoteric and not relevant to everyday life. From conservation to food security - the seemingly surprising turns that Nature Seychelles makes in its relentless quest to make environmental management socially relevant in the 21st Century have continued to grab the attention of the Seychellois public. Projects meant to make environmental conservation easily accessible and personally useful to people include the fascinating Heritage Garden and the new generation reserve, the Sanctuary at Roche Caiman. Widely covered by the media, these projects have attracted many segments of society to the peri-urban neighborhood of Roche Caiman

The Heritage Garden has hosted high powered teams from various organizations in Seychelles including the National Assembly, the Seychelles Tourism Board (STB), the telecommunication company Airtel, and Creole Travel. First were the National Assembly Secretariat led by the Clerk to the National Assembly, the dynamic Marie Nella Azemia, who is also a veteran of NGO work in Seychelles. The young staffers were fascinated by plants, which they knew only by reputation from parents and grandparents. Blaisila Hoffmann from STB led the marketing team of this important organization to the Sanctuary at Roche Caiman, the Centre for Environmental Education (CEE) and was wrapped up by a visit to the award winning Heritage Garden where the tourism professionals pondered on the exciting ecotourism potential of these sites.

Visitors not only mingle freely with the ‘Eco Warriors’ of Nature Seychelles such as Terence Vel, Nature Seychelles’ award winning conservation educator and Lucina Denis our

horticulturist who is fluent in Italian and likes to welcome visitors from that country, but also have an opportunity to view the rich wares of nature such as various medicinal and aromatic plants, fruits, spices and herbs .

“We want conservation to be relevant to people. The Garden not only captures the attention of the man on the street who may be inattentive to conservation messages but also provides a practical demonstration of what I call edible landscaping (see overleaf) and the art of eco-gardening. If people establish such gardens in their back yards, in school grounds even around buildings, they can stop “and smell the roses” so to speak – a form of nature communing and eco-healing in a society where, surprisingly, many youngsters are already suffering from nature deficit.” Shah revealed in his welcoming speech to the International Affairs Committee (IAC) of the National Assembly recently.

The IAC led by its Chairman the Honorable Waven William wanted to see more efforts like this spread all over the country and continue to provide much welcomed advice and moral support to Nature Seychelles work.

“The most excited visitors continue to be the students from the National Institute of Education, primary and secondary schools who throng here. The Heritage Garden was of course established with an intention of acting as a demonstration for other similar Gardens which have been established in schools all over Seychelles and also as a research facility for students” says Terrence Vel. It boasts of a variety of plant species namely Bwa torti (*Morinda citrifolia*), Bwa sousori, Roz Ammer, Saponer Blah, Confitir papaya, Nougat Bannan, Beignet bannan, Tart bannan, Saponer blan, among others.

The Heritage Garden Project has won many admirers. It was cited by the Commonwealth for “preserving and maintaining an important part of Seychelles culture and traditions that is in danger of being lost, the Project is of benefit to local communities. It adds value to the communities and their local resources by promoting understanding of the value of the plants that are around us, that fosters care of the local environment and a sustainable attitude to the use and continued existence of plant diversity.”

“I believe the Heritage Garden have inspired many people to take up what we are calling edible landscaping and to plant medicinal and edible plants rather than only decorative ones that could also be invasive. This is the feedback I have been getting from visitors. I am always amazed at the number of people from all walks of life who come to see us here. We are working at making it a fully fledged herbarium in the not so distant future.” said Lucina Denis, the resident horticulturist.

The satisfied look of the visitors after tours are obvious as most take pictures, to keep the memories precious and sip Citronnele tea (which thrives well at the Heritage Garden) with satisfied glee.



Hon. Waven William and IAC of the National Assembly at the Garden

edible landscaping

Nirmal Shah explains why the success of the Heritage Garden should be replicated across all the urban areas of Seychelles.



A well known agronomist who recently visited Nature Seychelles's Heritage Garden at Roche Caiman told me that this demonstration Garden, jam packed with fruit trees, crops, grains and vegetables, was a landscape that needed to be replicated across homes, in back yards, on reclaimed land and around buildings to produce food to feed Seychelles in these difficult times. That remark got me thinking because I had just read an article from the City University of London that made similar observations about Britain.

The City University says Britain will have to rely on a return to past methods of food production. The country needs to re-learn the gardening skills it lost a century ago and to change its diet to one that includes less meat, fewer dairy products and more fruit and vegetables. Britain produces less than 10 per cent of the fruit it eats and experts say that the country has to consider planting on a massive scale as well as encouraging people to eat more fruit and vegetable.

The skyrocketing rise in food prices has made most countries re-think their food strategy. With the multiple shocks of high oil prices and domino effect down the food production chain, increase in biofuel production, the credit crunch, higher demand for food in India and China, and the carbon footprint involved in

transportation of food, a total revolution in every nation's agriculture is needed to save them from serious food shortages. The City University says it is no longer acceptable that 40 per cent of the grain produced in Britain is used to feed livestock that provide meat and dairy products. Growing grain which is then fed to animals is an inefficient way to produce protein. Livestock should be confined to hillsides where they can graze and not use up grain that has required oil-based fertilizers for its growth. Prime land should be protected from development and used to feed people directly. If countries like Britain are already discussing such enormous changes to food production, what of Seychelles? The loss of arable land over the years, the rise in oil prices, and now the impacts of our economic restructuring program all lead to one inescapable conclusion. In the short term, many of our people may not be able to nourish themselves or their families properly. We need a radical re-thinking of food security and the rapid implementation of activities that include home and community gardens that generate local food for local people. I suggest that, among other things, we need edible landscapes that look like the Heritage Garden at Roche Caiman across all the urban areas of Seychelles.

Nature Seychelles enhances 'Knowledge Society'



Sylvie Meme of Nature Seychelles with WCS leaders during the training

2008 has seen Nature Seychelles blazing the trail in the country's environmental leadership.

For those keen watchers the last twelve months have seen Nature Seychelles adequately equipping the country's populace with requisite information and communications technologies (ICT) knowledge. In the latest of its "Emerging Technologies and Environment Initiative Series", Nature Seychelles partnered with the Ministry of Education and the National Institute of Education to train Wildlife Club of Seychelles (WCS) leaders on ICT skills.

In the training were 15 club leaders who were taken through the paces by Sylvie Port Louis, who recently joined Nature Seychelles from CompuFast where she was a lecturer.

"We are seeking to empower the Wildlife Clubs leaders on packages that will enhance their work especially PowerPoint and Internet. Our mission is to make sure all leaders are fully equipped with the necessary skills so

that they can be able to take Nature Seychelles to the next level. At the same time we are also equipping them for the larger benefit of Seychelles. Since most of our leaders are drawn from the Ministry of Education, we see them as critical pillars in spreading our message of conservation." Says Sylvie.

The two day workshop was conducted at the National Institute of Education Computer Laboratory in Mont Fleuri late last week.

Some of the participants in the training interviewed were full of praise for the training: "This training has shown me that there is a world of opportunities when one is equipped with necessary technological skills. I am happy as my work as a wildlife club leader has now been beefed up with the acquisition of this knowledge." Christine Payet from the School of Visual Arts says.

Similar sentiments were echoed by Millicente Vidot from the Grand Anse Mahe School who notes: "The train-

ing came at the right time just as the school term is set to begin. With the new skills we will roll out results for the benefit of our students."

"ICT and other emerging technologies are no longer alien to conservation. At Nature Seychelles we do acknowledge this fact. As an organization we have embraced ICTs to flag and scale up conservation success stories. We are now rolling out the benefits to all our working partners here in Seychelles." Nirmal Shah, the Chief Executive of Nature Seychelles reveals.

In the last eight months, Nature Seychelles has played an instrumental role in pegging ICTs as her new strategy in conservation frontiers within the Seychelles archipelago.

Since the beginning of the year Nature Seychelles has been at the forefront of advocating for more concerted efforts in embracing ICTs for conservation. In January, Nature Seychelles partnered with the Marine Conservation Society of Seychelles (MCSS) and financial giant Barclays Bank of Seychelles to launch the highly successful Turtle Satellite Tracking programme which is purely an ICT related venture, where students can be able to track turtles by real time satellite remote sensing techniques using the internet.

In April Nature Seychelles yet again in her time tested maxim of "partnership for Progress" partnered with the global telecoms conglomerate Nortel Communications in a venture that saw Praslin youth being inducted into the "digital age" by receiving both training and ICT equipment of digital cameras and related gadgets to help them prop conservation from the viewpoint of the youth.

"We are not doing all these things in isolation. They are all related. By the end of the year we expect to have Wildlife Clubs Leaders, Youth leaders all the way down to members fully conversant and compliant with ICTs and its relevance to conservation. Having a digital friendly citizenry is a boost to the latest world trend of the much hyped 'knowledge societies', which is where we want to be in the not-so-distant-future." Echoes Shah.

TRACKING CAROL

Carol, the now famous Hawksbill Turtle that was thrust onto the world limelight in December 2007 is still alive and continuing on her voyage across the globe.

This was revealed at a briefing ceremony by David Rowat of the environmental NGO, Marine Conservation Society of Seychelles (MCSS). The project dubbed "Tracking Carol, the Hawksbill Turtle" is funded by Barclays Bank and draws its support from the Ministry of Environment, Wildlife Clubs of Seychelles (WCS) and SeaTurtle.org.

Initially two tracking satellite tags were deployed but sadly one turtle succumbed to the ignominy of poachers and that is how "Carol" came into being for surviving. She was named "Carol" during one of the school awareness programmes organised under this project. Barclays has funded the purchase of 2 MK10AF satellite tags which were deployed in December 2007 and will further support the cost of ARGOS satellite time.

According to Rowat the latest satellite track from SeaTurtle.org showing the location of Carol the turtle as of the 11th September 2008 is a wonderment of nature. "While the tag was expected to last only 3 months due the tag setting and associated battery life, Carol is still transmitting 10 months on. She has spent the past two months off the coast of Madagascar bringing into question the previous school of thought which suggested that Hawksbill turtles remained on the Seychelles plateau between nesting seasons." Asserts Rowat.

The tracking of Carol the hawksbill turtle is a wholistic venture incorporating other side events to stimulate awareness on turtle conservation. In April 2008, MCSS together with Barclays Bank and Nature Seychelles (Wildlife Clubs) organized an Art competition for Schools. Prizes were presented on earth day. These were sponsored by MCSS, Barclays Banks, Nature Seychelles, Save our Seas Foundation and Underwater Centre. During that same month, MCSS joined hands again with the same partners involved in the tracking and organised a competition to name the Turtle. The name "Carol" was drawn from a bag during the Earth day activities and a prize was presented to the winner, Jessica Marengo.

A third competition currently underway was launched with schools using the resources of SeaTurtle.org to track Carols' progress. Participants have been asked to complete a project form which should be submitted shortly. As a side event MCSS has recently set up a Turtle blog to raise public awareness on turtles. The site <http://seychelles-turtles.blogspot.com/> features updates on the MCSS/Barclays project and features updates of the tracks from SeaTurtle.org. In addition, MCSS is keen to launch a local awareness campaign, to address the problem of Turtle poaching in Seychelles and together with partners is exploring funding support possibilities.

"Tracking Carol the hawksbill turtle is generating a lot of interest among the youth and especially Wildlife Club members. Nature Seychelles is proud to be associated with such. Colibri Wildlife Club at Plaisance school, Grand Anse mahe and Anse Etoile school have all shown great interest in participating actively in this turtle tracking project and competition. We have identified experienced environmental conservation education specialists and publicity mavens namely Brenda Andimignon, Ministry of Education, Colleen Morel of Barclays Bank, Elke Talma, MCSS, Wilna Accouche, Ministry of Environment and a representative from Nature Seychelles to act as judges." Said Lyndy Bastienne of Nature Seychelles.

Unlike many other competitions, prizes for the Tracking Carol are expected to be a huge bounty both for the children and a special prize to the group leaders of the tracking project in recognition of their contribution.





Coconuts to Conservation: Celebrating forty years of conservation successes on **Cousin Island Nature Reserve**

“Seychelles is a conservation success story”. We have heard this so often it may be becoming trite. But herein lays an intriguing and magnificent tale of disaster, loss, hope and glory.

Back in the 60’s conservationists were deeply worried about the birds of Seychelles, those flagship species that often attract the first conservation concern. In 1969, in an indictment against the loss of birds in the Seychelles, the first Red Book declared, “It is scandalous that so many rare endemic birds are being allowed to disappear in Seychelles...”

In that year’s Red book the following was written about 5 of the Seychelles endemic birds:

Seychelles warbler: “...could well become extinct in our time..”

Seychelles Flycatcher: “.. ...sliding towards irreplaceable destruction”

Seychelles scops owl: “...another Seychelles bird that is very near the verge of extinction..”

Seychelles Fody: “... some rare land birds are now very near the point of extinction”

Seychelles Magpie robin: “...only the greatest fears can now be expressed for its survival”

A year before this bleak forecast was published, the International Council for the Protection of Birds (ICBP),

now Birdlife International, had purchased Cousin Island.

Its intention was to save the Seychelles Warbler. That year Cousin was declared a legally protected Nature Reserve. This became the turning point for not just the warbler but for many of the Seychelles endemics. Conservation on Cousin Island helped save some of the Seychelles endemic birds, globally important seabirds, Critically Endangered marine turtles, precious coral reefs and fish. Cousin was subsequently given Special Reserve status in 1974 and this has enhanced its protected status.

To many experts the purchase of Cousin and the work began there with the installation of scientific wardens was the beginning of modern conservation in Seychelles. The scientific wardens were at the time the only full time scientists permanently in the country and were called upon to advise on all things conservation. With Cousin under its wing the ICBP (BirdLife) developed a permanent Representative in the country and many other projects and programs. By all counts it has had the longest running presence in Seychelles of any international environmental organization. No mean feat!

Last year, 2008, Cousin Island Special Reserve celebrated 40 years of conservation success. Nature Sey-

chelles and her partners teamed up to organize an International Symposium for these celebrations dubbed “Coconuts to Conservation: Celebrating forty years of conservation successes on Cousin Island Nature Reserve”. The symposium was held from 17th to 19th December 2008 at the Centre for Environmental Education, in Roche Caiman, Mahe, Seychelles. Nature Seychelles is the Seychellois NGO that took over management of Cousin Island and it celebrated 10 years of existence at the same time.

Good news conservation

The symposium helped to chart the forward motion of Cousin Island Special Reserve, which has led to its triumph. It drew the participation of the two top CEOs of the world’s authorities on birds; the Royal Society for the Protection of Birds (RSPB) Graham Wynne and Mike Rands of Birdlife International. Other notable guests included Prof. Jan Komdeur of the university of Groningen, Dr. David. S. Richardson, University of East Anglia, Dr. Mathieu Le Corre, University of La Reunion and Prof. Tony Diamond of University of New Brunswick, and Nirmal Shah the Nature Seychelles CEO and an expert on Seychelles conservation among others.

All have had a relationship with

the Island. Each related interesting scientific studies of the various facets of Cousin's conservation from avian translocations to vegetation and bird interactions over the years (see related story by Tony Diamond), to turtle monitoring and marine reserve management and the application of Cousin as a best practice for ecotourism.

Cousin Island now

Cousin was successfully restored to its original vegetation, creating a home for many endemic species of land birds and important breeding sites for seabirds. Most remarkably, the Seychelles Warbler, on whose behalf effort went into purchasing the Reserve was brought back from the brink of extinction.

The success registered with the Warblers was followed up by improvements in other species notably the Seychelles Magpie robin. The first step in the rescue of the Seychelles Magpie robin, also once on the brink of extinction, was the establishment of a population on Cousin.

There has been successful trans-

location of Seychelles Warblers from Cousin to Cousine, Aride and Denis Islands, and of Seychelles Fodies from Cousin to Denis. Cousin hosts seven species of nesting seabirds, 5 species of endemic birds and 7 species of endemic reptiles.

By 2005, the outlook for the birds had changed. Of the endemics on Cousin, the Seychelles Magpie Robin and the Seychelles Warbler had been down listed to "Endangered". The successful management of cousin has helped these and other species thrive.

Cousin has been transformed to a flourishing tropical woodland. The numbers of nesting hawksbill turtles have tripled making it the most important nesting site for this species in the Western Indian Ocean. It is today one of the few islands free of introduced predators like cats and rats. Research has shown that the Reserve's reefs are well protected resulting in a diverse and abundant marine fauna, especially of fish targeted by fishers.

International recognition

Cousin is designated as an Im-

portant Bird Area (IBA) by BirdLife International and is a Demonstration Site for the International Coral Reef Action Network (ICRAN). It is classified as a Wetland under Ramsar criteria. In 2005, a management effectiveness study by UNEP and IUCN found the Reserve to be well managed and effective. In 2006, the IUCN Turtle Specialist Group highlighted the success of Cousin's turtle conservation program which started in 1972.

Benefits to local people

Initiation of eco tourism in 1972 has grown to become an exciting program run under internationally accepted principles. The Reserve attracts over 10,000 eco-visitors annually. It has won numerous awards and accolades including the Conde Nast Ecotourism Award, and the British Airways Tourism for Tomorrow. A Seychellois team runs the Reserve and only local people are involved in the ecotourism. A thrilling education program for schoolchildren and the Wildlife Clubs is run by Cousin management.



Main picture: Cousin wardens in action. The Seychelles Warbler (top right), a nesting turtle (middle right) and the Seychelles Magpie robin are special Seychelles wildlife that can be found on Cousin Island Special Reserve



Birds and the Bush: Bird responses to vegetation changes on Cousin Island, 1970s – 2008

Prof. Tony Diamond, University of New Brunswick, Fredericton, Canada

When I lived on Cousin in the mid-1970s (see Zwazo No. 12, July-December 2003, p.11) there were many non-native plants on Cousin, notably Papaya (*Carica papaya*), Calyptice (Eucalyptus sp.), Sed (*Casuarina equisetifolia*), Tantan (*Ricinus communis*), Manioc (*Manihot esculenta*), San Santiman (*Kalanchoe pinnata*) etc. I was struck by how many times I saw endemic birds feeding on these exotic plants, and was concerned that perhaps the birds might suffer as these alien food-plants declined with the regeneration of the native forest. So I recorded the feeding behaviour of all the land birds, and the plants on which they feed, throughout my two years on Cousin, as well as preparing the island's first vegetation map (used in the 1975 Management Plan).

Birds that take nectar from flowers – TokToks (*Foudia sechellarum*) Seychelles Fody, Kardinal or Tisren (*Foudia madagascariensis*) (Madagascar Fody) and Kolibri Nectarinia (*Nectarinia dussumieri*) (Sunbird) – or fruits or seeds, are usually taking part of the plant they are feeding in, but when they or the Timerl Dezil *Acrocephalus sechellensis* (Seychelles Warbler) are taking insects, they are using the plant as a perch, or as a substrate for insects, rather than feeding on the plant itself. The species of plant a bird was seen feeding in was recorded regardless of whether the bird was taking insects, nectar, fruit or seeds.

In January 2008, through the generosity of Nature Seychelles, I was able to revisit Cousin for two weeks with my wife Dorothy, and we repeated the measurements I had made over 30 years before on the island's land birds. As described in Zwazo No.12, there are now two more native birds on Cousin (Blue Pigeon and Magpie Robin), and one present in the 1970s – Kardinal or Tisren - has disappeared. Several whole plant communities have also disappeared as the forest has grown up, notably the "coastal tall herb" community dominated by Erb Sarzen (*Achyranthes aspera*) along the north coast, and the open woodland dominated

by Coco (Coconuts *Cocos nucifera*) immediately inland of it; these are now both closed woodland dominated by Bwa mapou (*Pisonia grandis*). Our main finding was that Bwa mapou is now the dominant tree throughout the lowland plateau of Cousin and is still widely used by the three commonest landbirds (Timerl Dezil, Kolibri and Toktok). However the most widely-used tree in the 1970s – Bwa Torti *Morinda citrifolia* – has become much less important

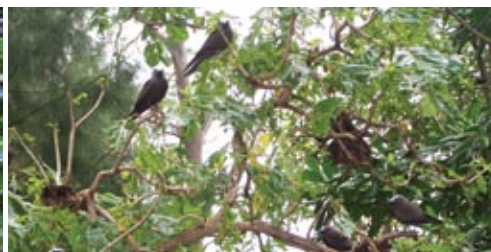
to Toktoks (for which it was the most widely-used tree in the 1970s), ranking only 4th now, equal to the Bwa Sousouri *Ochrosia oppositifolia*. In the 1970s Bwa Torti was an extremely common understory tree, the commonest place to find all three bird species

feeding, and Bwa Sousouri so scarce that I knew where pretty well each tree was and it did not place in the top 10 species used by any of the landbirds.

It is notable that Bwa Sousouri is now as common in the Cousin understory as Bwa Torti was in the 1970s, apparently having squeezed Bwa Torti out of much of the island. Yet it is used much less than Bwa Torti was then, accounting for only 4.4% of all bird-feeding observations, compared with 33% of feeding observations on Bwa Torti in the 1970s. Use of Bwa Torti has dropped from 33% then to 11% in 2008, and use of Bwa Mapou has risen from 17% in the 1970s to 51% in 2008.

Overall, birds have responded to vegetation changes much as you would expect, using plants more as they become commoner, and evidently were not dependent on many of the introduced plants they used in the 1970s and that have now disappeared or declined greatly. Concern remains that the tree (Bwa sousouri) that has replaced Bwa torti is not used nearly as much, and seems not to offer as much in the way of resources for birds as the tree it has replaced. Nonetheless the woodland birds on Cousin continue to thrive as the forest reaches what is presumably a more natural state.

The restoration of native forest on Cousin Island is an international success story. It has also been an interesting, and potentially instructive, ecological experiment. The fundamental assumption behind using habitat restoration to conserve native species on islands, is that a species will "do best" in native habitat, i.e. that habitat within which it evolved. "Doing best" ultimately means maintaining a healthy population, which depends on adequate food resources.



On the way to saving the Flycatcher

The translocation of 23 Seychelles Paradise flycatcher (Vev) birds from La Digue to Denis Island late last year has already yielded its first success: two chicks have fledged

Rachel Bristol, Nature Seychelles/DICE



Photo: Success! First flycatcher chick on Denis

The historic transfer to Denis was a first as the flycatcher the only one of its kind in the world is only known to be found breeding on La Digue. This translocation had the approval of the La Digue Development Board, The Ministry of Environment and Natural Resources (MENR) and the support of the La Digue community.

The project, called “Investing in island biodiversity; restoring the Seychelles Paradise flycatcher” is funded by Darwin Initiative and is led by the Durrell Institute of Conservation and Ecology (DICE) and Nature Seychelles. Partners and collaborators include Denis Island Development Limited, the La Digue Development Board, the Ministry of Environment and Natural Resources and the Royal Society for the Protection of Birds (RSPB).

For the last 2 years the project concentrated in building critical community support and raising awareness locally of the plight of the flycatcher and the necessity of creating additional populations, and gaining support from the majority of the La Digue community before translocation.

For the translocation 12 males and 11 females were

transferred by helicopter. The birds were caught in mist nets on La Digue in the early morning and were all given unique colour ring combinations for identification purposes while on Denis.

On Denis the birds were taken into the middle of the restored native forest, removed from their transport boxes, given a drink of re-hydration fluid and released. They flew straight up onto tree branches, preened then moved off and began to feed. They all looked fit, healthy and behaved normally upon release. Some of the birds appear to have paired up almost immediately and were singing the morning after release and the results are the two nests and egg laying.

The translocation is the culmination of many years work. Initially a Nature Seychelles Seychelles-led Global Environment Facility (GEF) financed project “Restoring Avian Ecosystems” 1999-2002 looked at habitat requirements of the flycatcher. Issues, such as what they need to survive and thrive were researched. It was discovered that ongoing habitat loss was the greatest threat to flycatchers. Alongside efforts on La Digue to protect flycatcher habitat, the creation of additional populations was very necessary to the species long term survival prospects.

The GEF project started habitat restoration on Denis and this has continued under the present Darwin Initiative project. Nature Seychelles staff with the help of island management cleared large chunks of degraded habitats and planted native trees over a period of several years. The island managements initiated a successful rodent eradication program which was the critical step in making the island suitable for endemic birds.

The habitat is still evolving but the proof is in the pudding because several endemic bird species are now thriving there. Nature Seychelles has previously translocated Seychelles Warblers and Seychelles Fodies to Denis island and these populations have flourished. Last year the Seychelles Magpie robin was also brought there as well and the population of this species is also progressing

The transformation of old coconut plantations and other degraded habitats on islands, especially privately owned ones, has been a huge success and has contributed immensely to conservation successes in Seychelles.



Preparing female Vev for translocation



Releasing male Vev on Denis



Katiti: Myths unfurl

Professor Massimo Pandolfi and Dr. Michele Barilari from Urbino University –Italy which has an MOU with Nature Seychelles have for the last couple of years been conducting research on Seychelles Kestrel (Katiti). Here they give a sneak preview of their stirring findings exploring the diverse myths on this inimitable bird of prey.



The Seychelles Kestrel (Katiti in Creole) is endemic to the granitic Seychelles and little is known about its ecology and behaviour. Its ancestors came from Africa and Madagascar and the life in small and isolated islands, principally covered by a wide and deep tropical forest, made it a tiny raptor (no more than 90 g, the smallest kestrel in the world) with wide wings and long tail like Sparrow hawks. The life on the Seychelles forest changed not only its aspect, but transformed deeply its behaviour from a grassland hunter into a small raptor able to move and hunt inside dense forests.

The low detectability of the Katiti, due to the nature of its habitat and behaviour, makes difficult the observation and the study of this bird, but the high conservation value of the species (classified as Threatened by IUCN) and its importance in the Seychelles ecology motivated us to spend long hours searching for this enigmatic bird in the forests of Seychelles.

The Katiti today has a world population of only 350 pairs and the distribution

of the species is not uniform in the archipelago: the largest part of the population (near 300 pairs) is confined to Mahè and Satellite islands, 40-50 pairs on Silhouette, only a few pairs in North and Praslin.

At the beginning of the century the Seychelles Kestrel was extinct on Praslin till the reintroduction of 13 birds in 1977. During the following years the population reached 10 pairs (Watson, 1989), but recent studies (2003), carried out by Nature Seychelles, demonstrate that the reintroduction was not a complete success because on the island were present only 6 pairs and most of them were not attempting to nest or failed in the first phase of the breeding season.

An island of the size of Praslin could be expected to hold more than 90 pairs, based on observation of the Mahè population done by Dr. J. Watson in 1980. We can wonder now if some ecological aspects of Praslin could be a limiting factor for the local population or if the reduction of the population is the result of a normal dynamic (statistical fluctuations) of a small and (almost) isolated population.

A study group of the Urbino University directed by the ornithologist M. Pandolfi began to follow the Katiti with a first survey on Silhouette in 2004 where, with the help of Justin Gerlach, some observations on the species were done and blood samples for the genetic evaluation collected.

Later, in 2006-2007, another survey was done in Mahè analyzing the distribution and the ecological preferences of the Katiti population in two different, forest and urban, areas.

In 2008, with the collaboration of Dr. Nirmal Shah and Nature Seychelles, a group of us, Massimo Pandolfi and Michele Barilari, with three Master thesis students of the Urbino University, Diego Tarini, Carlotta Di Biase and Emily

Pasquini, began a study on the critical Katiti population of Praslin with the aim to characterize which causes determine the different dynamics of the population between Mahè and Praslin. In the study we are trying to evaluate which ecological parameters might be limiting factors in the Praslin population. The distribution and breeding success of the pairs and some ecological parameters (and potential limiting) factor as predation, inter-specific competition, prey and nest site availability are being analyzed.

In order to evaluate the predation pressure on the island, we placed "eggs models" in artificial cavities. Eggs models were made by moulding plasticine that retains impression of the bill or teeth of the predator aiding the identification. Plasticine eggs have been located in different habitat: forest, urban and sub-urban. Predation index was calculated as number of artificial cavities predated/days of exposure.

Relative abundance of the main katiti preys, Green Day Gecko (*Phelsuma* spp.) and Skinks (*Mabuya secellensis*), was evaluated with a *Phelsuma* index (scanning with binoculars 100 trees in each territory at a distance of 30m). The height from the ground of the single geckoes on the trees had been evaluated too. Skinks abundance was evaluated with transects of 500m x 3m in different habitat.

We evaluated the local density of a nest site competitor and potential nest predator too, the Indian Mynah (*Acridotheres tristis*). Plots (300m radius) with a 10 minutes of observation had been realized.

Once we characterize the distribution of the population and the limiting factor/s on Praslin we will underline a conservation program to increase the critically endangered population of Praslin.

Photos: Katiti on a tree and with prey on Praslin © Professor Massimo Pandolfi, in photo

The Seychelles Kestrel

The Seychelles Kestrel is the only native day-flying bird of prey in the central Seychelles and one of the only two in Seychelles (the other is Madagascar Kestrel found on Aldabra). It eats a variety of small animals, mainly lizards. Pairs of birds defend a territory, keeping other kestrels out. They do not construct a nest but lay their eggs on the ground among rocks, on cliffs or on ledges of buildings such as church towers. Traditionally, people have thought of this bird as unlucky and even killed it. Now, it is protected by law. Nature Seychelles has recently conducted research on the population status of this bird on Mahe and Praslin. Most of the surviving Seychelles Kestrel live on Mahe. The conservation goal is to secure a stable breeding population of at least 500 pairs distributed among four of the larger granitic islands or island groups to reduce the threat of extinction, and allow reclassifying the species from Vulnerable to Near threatened by 2012.

Scientific name: *Falco araea*

Conservation status: Globally Threatened, Vulnerable

Population in Seychelles 420-430 pairs

Distribution in Seychelles: Breeds on Mahe and near by small islands, Praslin (where very rare), Silhouette, North Island and Felicite

Habitat: Woodland, scrub, cliffs, coconut plantations, urban and cultivated areas from sea level to high altitudes

Nest: Nest on cliffs, in buildings and sometimes tops of coconut palms or trees. Two to three eggs laid

Diet: Geckos and skinks, small birds and insects

Identification: The only resident small falcon. Grey head, red-brown back



More bird facts at www.natureseychelles.org

Family matters – cooperative breeding and grandparents in the Seychelles warblers

David Richardson, University of East Anglia

“Whether it is grandparents, older brothers and sisters, or aunts and uncles, it is great to be able to rely on family to help out”

For over 10 years I have been coming to the Seychelles to study the Seychelles warblers. To begin with there was no problem; spending many months at a time on beautiful tropical islands following the lives of these charming little birds was exactly what a wildlife biologist would want to do. Then, a few years ago I met the woman of my dreams and, as you do, got married and had kids. Suddenly, being away from home was much more difficult, not just because I missed the kids, but also because it left my wife having to manage both her full-time scientific career and all the childcare. At this point, my wife and I realised what most parents already know; having your extended family around to help with the kids is priceless! Whether it is grandparents, older brothers and sisters, or aunts and uncles, it is great to be able to rely on family to help out. Funnily enough it was at about the same time that we (the Seychelles warbler study group) were discover-

ing how important the extended family was to the Seychelles warbler.

For many years now, we have been studying the population of warblers on the wonderful island of Cousin. Indeed, our colleague Jan Komdeur started the study over 20 years ago! Each year we make sure that we catch every warbler living on the island and fit the legs of each with coloured rings so that we can easily recognise every individual with binoculars. Then we spend endless hours tracking them through the dense vegetation, watching their behaviour and following the success, or otherwise, of their breeding attempts. Over the years our studies have shown that Seychelles warblers often participate in ‘cooperative breeding’. Because the islands on which they live are small and fully occupied by warblers, the younger adults cannot find any space in which to set up their own territory and breed. So instead the young warblers sometimes stay at home with their parents and help to



Seychelles Warbler © Jeff Watson



Janske van de Crommenacker one of the researchers on the Seychelles Warbler makes a presentation on their findings to an attentive audience at the Nature Seychelles centre in Roche Caiman

raise the next lot of offspring produced – their younger brothers and sisters. Most of the time it is the young females that stay and help, and they do so by helping to incubate the eggs and feed the young chicks. What a boon this is for the parents who are then able to raise more offspring without wearing themselves out! However, things don't always work so well. Sometimes the urge to incubate the eggs is so strong in the helper females that you get 2, 3 or even 4 females all trying to sit on the eggs at the same time. This bizarre pile-up of females can end in tragedy, with the precious eggs getting broken. Luckily, such problems are relatively rare and normally the helpers really do benefit the parents, by helping them to produce more offspring per year than those parents without helpers.

The question, then, is why are these young females so helpful? Although this kind of apparently altruistic behaviour is a defining characteristic of humans, in nature such helping behaviour is rare. Indeed, evolution will favour individuals who only expend energy in ways that ultimately benefit themselves and their own offspring. The Seychelles warblers are no different. Over the years our studies have shown that these helper females do gain in a number of ways. Firstly they gain experience – those that help are themselves better at raising their own offspring later in life. Second, they can gain what is called 'kin benefits'. This is a very important concept in evolutionary biology. The idea is that by helping to raise relatives you help to spread your genes, even if you do not reproduce yourself. Were these kin benefits the main

reason the female warblers stayed and helped their siblings? Well, there is no doubt that they are important and at first we thought this explained everything. However, when we used DNA profiling to check the parentage of the offspring in nests, we were surprised to find that many of the helper females were also mothers. These helpers were sometimes sneakily laying an egg into the nest themselves, and so were often raising one of their own offspring alongside those of their parents!

The Seychelles warbler is not the only species of animal to show cooperative breeding. It is estimated that approximately 3% of all bird, mammal and fish species behave in such a way. However, over the last few years we have uncovered a more surprising behaviour that really does make the Seychelles warbler unique among birds. We noticed that older adult females do not necessarily remain as the dominant female in the territory until the end of their days. Some of them are deposed by new females that take over the breeding duties. Remarkably, the deposed females, that no longer bred themselves, often remain in the territory and help the new female to rear chicks. After investigating this in more detail we found that the older females were normally being replaced by their daughters. Suddenly this makes clear evolutionary sense; the older females were helping to raise their own grandchildren and thereby perpetuating their own genes! Such doting grandparents are extremely rare in the animal kingdom. Apart from humans the only other animals in which this has been documented are pilot whales and mon-

keys. That it has now been observed in a bird species strengthens the idea that grandparenting may be a behaviour of more fundamental evolutionary significance than previously thought. It is also important because the Seychelles warbler can provide us with a model system in which to investigate how this behaviour might have evolved and we can use it to compare and contrast with what has been observed in humans.

So, after all this work, it appears that for both me and the warblers it is important to have family help. With my parents helping to look after my children back in England I am free to spend more time in the Seychelles working out how these amazing birds have evolved to cope with the unique pressures of their island paradise. Just like in the warblers, I know that the shared genes within my family means that my children will be well looked after.

The Seychelles Warbler Study Group

Research on the Seychelles warblers on Cousin Island is being undertaken through a long-term collaboration between David Richardson (University of East Anglia, England), Jan Komdeur (University of Groningen, the Netherlands), Terry Burke (University of Sheffield, England), their students, Nirmal Shah and Nature Seychelles.

Herald and Jounins Petrel on Cousin?

David Andrews - a student from the University of East Anglia in the UK helping Nature Seychelles on a program on the impact of *Pisonia grandis* on seabirds - makes a surprising sighting of petrels not seen in recent years on Cousin Island. He tells us in his own words about his exciting discovery and provides photos of their subsequent capture and ringing. **The finding has not been verified. It has been sent to the Seychelles Bird Record Committee for species validation.**



The bird then made several more passes further away over the mangrove, where coincidentally Martyn Hammers was carrying out his Seychelles Warbler research. He too saw the bird fly over, although he was unable to get to higher ground to get a better view. I managed to get some more photos including underside shots at this point. I last saw the bird at 1532hrs as it flew round the

back of the island.

Throughout, it appeared to be acting much like the few Wedge-tailed Shearwaters also present at the time, flying around making low passes and looking like landing on occasion, which it presumably did.

An after dark search of the hill failed to find the bird in question or any other petrels.

The next evening I returned to the top of the hill at 16:30 with Jenifer Love - also an MSc student from the University of East Anglia - and within five minutes we had briefly seen the bird in flight again. With no further sign I walked around to the top of the hill and met Martin who had just seen the bird (17:15). We searched around and at 17:45 I heard a call I did not recognise

and turned to see the petrel circling the top of the hill. The bird called twice in flight giving a meh-meh-meh-meh-meh-meh call. At 18:10 I heard the call again distantly from below me, I scrambled towards the sound before hearing it again and homing in on it. I then found the bird seating on a rock in a semi-open mixed boulder/fern area. I took a couple of bad photos and made a short video of the bird. I then attempted to catch the bird to see if it was the ringed Kermadec petrel from previous years. I could not however get close before the bird took flight.

Annoyed that I had been unable to catch the bird I return later that evening after dark and found the bird in exactly the same place but under the same rock rather than on top of it. I picked up the bird and found it not to be ringed. I took the bird back to the research house where we took measurements and ringed the bird before returning it to the same spot I had found it in.

Thanks to numerous photos and precise external measurements of the bird, it was first identified by myself and Martyn Hammers as probably being a Herald petrel, *Pterodroma arminjoniana* (Sibley and Monroe 1990, 1993), a species that has now been split into *P. arminjoniana*, *P. heraldica* and *P. atrata* following Brooke (2004). This species is known to breeds in Round Island Mauritius and if the sighting and identification is confirmed by the Seychelles Bird Record Committee, it would be the first record of this petrel species in the Seychelles.

On 10 June I decided to go up the hill on Cousin to get some photos of Frigatebirds or Wedge-tailed Shearwaters. The previous night we had been talking about the discovery of a Kermadec Petrel in 2003 and a re-discovery in 2004 made by Cas Eikenaar. He had written about it and provided photos for his PhD. Knowing that the Kermadec had been seen approximately the same time of year, I planned to stay out just past dusk on the look-out for the possibility of sighting a petrel. Upon reaching the top of the hill at 1512hrs, I sat down to take a splinter out of my foot when almost immediately I saw a petrel fly past. I had my camera ready and managed to fire off a few out of focus shots.

Shocked by what I had seen I looked at the photos and knew I would have to get better shots to have any chance of clinching the identification. About 5 minutes later the bird flew past much closer. I was not able to get any photos. I did however this time see the pale bellied underside with darker wings except for skua-like wing flashes and a pale leading edge to the inner wing, which appeared, from what I could remember, very similar to the photos I had looked at the previous night. The bird then passed by closely a third time and I managed to capture some in focus photos of the upperside



David Andrews also had an unusual sighting of a **Jouanin's Petrel** on the top of Cousin hill on 15 June 2009. This pelagic and solitary bird outside the breeding season is considered as the most frequently reported all-dark petrel in Seychelles waters, notably between Aldabra, Farquhar and Amirantes. However it is usually recorded from October to March in the Seychelles.

Photos of the birds during ringing and measurement © David Andrews

Of Moorhens and Magpie robins

Liz Mwambui



Moorhens, or poul do in Kreol, are funny looking birds that are well known in Seychelles. With conservation succeeding on several islands, the moorhen population has been exploding. On Cousin Island Special Reserve, Nature Seychelles noticed a decline in the Seychelles Magpie-Robin population, from 47 birds in December 2005 to 27 birds at the moment, in sharp contrast with the increasing moorhens' population.

Moorhens are medium-sized, ground-dwelling birds, which are usually found near water. They are not endemic to Seychelles but are considered native and can be found in all over the world. Nature Seychelles is now closely monitoring the population of moorhens

Ongoing monitoring on Cousin Island is looking at the effect the population growth of **the moorhen, poul do in Creole (bottom in photo)**, could be having on endemic wildlife such as the **Seychelles Magpie robin (left)**

and to see whether they are a threat to endemic species of Cousin Island. Eric Blais the Conservation Officer on Cousin is being assisted by students from the UK to undertake this work.

Nature is rife with competition. In common and widespread populations it is considered part of what Charles Darwin called "nature red in tooth and claw", but in a greatly diminished endemic species such as the Seychelles Magpie robin, it can be catastrophic.

The moorhens diet overlaps with that of the magpie robin, both feed largely on ground-based invertebrates, putting them in direct competition. Already, there have been observations of moorhens chasing magpie robins off areas where prey is abundant.

The threat is magnified by the fact that the magpie robin has a low reproductive rate typical of endemic island birds but unlike mainland birds as the moorhen.

"Nesting success is strongly influenced by the quality of the bird's territory and the availability of food, mainly cockroaches, insect larvae, and small skinks in the case of the magpie. Therefore anything that forces magpies to settle for territories of poorer quality could delay the recovery of the species" David Derand, Nature Seychelles Science Coordinator, says. He also points out that other potential causes could also explain the recent magpie population decrease, notably a high inbreeding level, a higher eggs and chicks predation in artificial nest boxes due to geckos attraction, and for sure the negative effect of subordinates magpies that have been shown to increase the frequency takeover of established breeders, thus delaying offspring production. At the moment no detrimental effect of moorhens on magpie robins has been observed at low density, although they are potential food competitors.

The International Union for Conservation of Nature (IUCN) classifies the Seychelles Magpie robin as Endangered. Extensive conservation management has resulted in its recovery, with total population of approximately 200 individuals, 27 of which inhabit Cousin Island. The highly successful Magpie robin Recovery Program led by BirdLife International then managed by Nature Seychelles took this very rare species away from the brink of extinction when it was considered Critically Endangered to a lower level of threat which is classified as Endangered. However it still exists on only five of the Seychelles Islands with Denis island being the recent addition.

The monitoring on Cousin island will also look at the effect the moorhens population growth is having on the endemic Wrights and Seychelles skinks. These species are found in their highest densities on Cousin Island and any decline in their population would be globally significant.

"There is an indication that while the moorhens' population has increased dramatically, that of the skinks has decreased. This may indicate that moorhens are either directly or indirectly detrimental to the island's skink population". Says Jennifer Love, one of the students.

Predator vs Bird

Nirmal Shah

“Rat and cat eradication are the precursors to successful island restoration and establishment of new populations of threatened species. The spectacular recovery of the Seychelles avifauna in recent years is due to the restoration of whole island ecosystems including rat eradication”



Rats=0 Birds=1

Rats are a danger to and the cause of disappearance of many species of birds as well as other wildlife. The granitic Seychelles has only two native mammals, both bats. Following the discovery of the islands, a number of mammal species were introduced. One of the earliest accidental introductions was the ship rat (or black rat, or roof rat). This species, originating in Asia, has been spread throughout the world. It has a broad diet and is an agile climber with a long tail used for balance. It is usually grey-black above, and the belly may be grey or white.

Twenty years after the first human settlement on Mahe, ship rats

were rampant, and were said to be on nearly all the islands. Rats thrived in the coconut plantations that were planted to replace native vegetation. Early attempts to eradicate them using inorganic poisons failed. It was not until the development of chemicals that prevented the blood from coagulating that the battle against rats took a serious turn.

The larger Norway rat (or brown rat), is a recent introduction to the Seychelles, most likely arriving here in the twentieth century. It probably originates in Europe, but has spread throughout the world. The Norway rat is far less able to climb. It has a shorter

tail, stockier build and bristly hairs on the back. It is usually brown above with a cream-coloured belly.

Rats will feed on all sorts of plants and animals. We know what happens to ecosystems where there are no rats. Some islands, particularly Cousin, Cousine, Aride, do not have rats, and on these endemic birds and seabirds have thrived. Other animals such as Wright's Skink, Whip scorpions, giant millipedes and others have also flourished. It is for this reason why island owners, Nature Seychelles and the Government joined forces some years ago to start the first of what would become a series of projects to eradicate rats on

islands by using aerial or hand spraying of the anticoagulant Brodifacum.

The first phases started on Fregate, Denis and Curieuse islands. A separate eradication was undertaken on Bird island. Rats re-invaded Curieuse and Denis but the latter undertook another eradication which was successful. On the outer islands Darros management led a successful campaign to get rid of the rodents permanently. Today, the number of rat free islands have tripled in number laying the grounds for re-introduction of threatened bird species such as the Seychelles warbler, Seychelles Magpie Robin and Seychelles Flycatcher.

The eradication campaign on Fregate island is illustrative of the kind of operation. Eradication was conducted in 2000 by a team from New Zealand led by Dr. Don Merton. A rat bait called Brodifacoum (an anticoagulant) was dropped on the entire island from a helicopter. Three drops were made. Prior to this Nature Seychelles (then called BirdLife Seychelles) had caught the entire population of Magpie-robins and over 300 Seychelles Fodies (♂). They were captive managed in 20 custom-made aviaries for several months until the bait had rotted away. According to Dr. Merton this was the world's largest captive management operation during an eradication campaign. The island finally became free of the vermin. The next step was to prevent re-invasion and this has been successful. This allowed the Magpie robin population to explode on Fregate and to have more birds for translocations on other islands.

Rat and cat eradication are the precursors to successful island restoration and establishment of new populations of threatened species. The spectacular recovery of the Seychelles avifauna in recent years is due to the restoration of whole island ecosystems including rat eradication.

Photos on facing page

Top right: rats after eradication

Left: Birds in a holding pen awaiting rat eradication before release

Right: Helicopters used for aerial bombing of rats

I thought you knew cats ate birds?



Domestic cats have been in the news in Europe, where conservationists have been testing techniques to try to limit the depredations of pets and feral cats on different kinds of wildlife species. There is no dispute about the volume of wildlife killed by cats, but what is not always clear is the extent to which this results in declines of the species they are depredating. Most species are able to tolerate the impact of this predation,

because they are evolved to cope with it.

The situation is different in small islands, especially ones in which evolution has taken place in the absence of cats, or any other land mammals for that matter. It is plain that cats and small island conservation do not mix. Worldwide, domestic cats have been responsible for the extinctions of at least 33 bird species. This has often happened on small islands, with domestic cats becoming semi-wild, or feral, and finding the local birds and other wildlife easy prey.

Cats have often been introduced to islands in an attempt to control rats and mice. This was done, for example, on Stewart island in New Zealand. The cats there found it easier to catch and eat the rare birds than the rats, and were responsible for extinctions.

Cats were probably introduced in Seychelles when the first settlers arrived. Cats in Seychelles have dramatically reduced the range of and have been responsible for the extinctions of species endemic to islands. It has been suggested that the feral cat was the cause of the extinction of Magpie-robins on Aride and Alphonse islands as well as serious declines on Fregate, which became the last refuge of the species. Cats were introduced to Aride in 1918 and on Alphonse and Frégate in the 1950s. On Aldabra, feral cats have been observed to take turtle hatchlings.

"It is sometimes, difficult to separate the effects of rats and cats on wildlife because, on most islands, both species are present - cats often introduced in an attempt to control rats." Says James Millet of BirdLife International, who was Science Coordinator at Nature Seychelles for several years and was involved in rat eradication on Fregate island.

Across the world, domestic and feral cats now have been removed from at least 48 islands, including Fregate, Cousine, Aride and Denis islands in Seychelles. Under the Seychelles Magpie-robin Recovery Programme cats were eradicated on Fregate in 1982 They were removed from Cousine in 1986 under a program funded by BirdLife International and supported by the Government of Seychelles and the Island owner. There, cat density had reached an extraordinary 243 cats per square kilometre, three times the density that has been recorded on most other islands of the world.

The experience of Cousine island has shown just how rapidly cats can multiply in a seabird island situation, spelling doom for the native and endemic birds, reptiles and other animals. Removing cats even from a relatively small island like Cousine is a major undertaking, require much skill, planning, resource and commitment. But the rewards for conservation are great, and Cousine has been testimony to that.

For successful cat removal on larger islands, it is now recognised within conservation circles that new and more efficient techniques used in combination with current techniques will likely be needed. This presents new challenges for conservation, for which the lessons learned from Cousine and other islands will stand us and our colleagues elsewhere in the world in very good stead.

In Seychelles, the SSPCA provides a free cat neutering service, for pets and strays. This service is invaluable both for animal welfare and for conservation, and provides at least some level of control of the ecological impact of cats.

BIRDS SAVE PEOPLE FROM FEVER

Nirmal Shah

Few Seychellois know that West Nile Fever reached Seychelles in the past and infected a good part of our population. Medical researchers have speculated that the West Nile virus arrived in Seychelles in episodic waves. There is no human immunization against this disease. The scary prospect is that with climate change, globalization and other factors we may be hit by epidemic waves again.

The West Nile virus mainly affects birds but can be transferred to humans via mosquitoes. It first spread to the United States in 2002, and since that time it has reached an epidemic scale with over 28,000 human cases – including 1,100 deaths - being reported. The cost of West Nile virus-related health-care in the United States was estimated at \$200 million in 2002 alone.

The virus is also an important threat to bird populations says BirdLife International. Over 300 species act as hosts, although the American Robin has been named as largely responsible for transmission from birds to humans. West Nile virus may compound existing pressures - like habitat loss - to increase the risk of extinction for species.

With the spread of diseases such as avian flu and West Nile people have become terrified of the prospects of birds carrying diseases. But now researchers studying the West Nile virus say that more diverse bird populations can help to buffer people against infection and in fact even reduce the spread of the virus. The research by John P. Swaddle and Stavros E. Calos was published in June 2008 in the online Journal PLOS ONE.

The studies on the virus and bird populations looked at US counties east of the Mississippi River and compared bird diversity with the number of human cases. They found that high bird diversity was linked with low incidence of the virus in humans. They reported that about half of the human incidences of West Nile virus could be explained by the differences in local bird populations. The study's results also suggest that bird communities lowered human case numbers even when the epidemic was underway.

The social and economic importance of biodiversity is increasingly being recognized because of the valuable services it provides. This latest research highlights the increasing evidence for economically valuable ecosystem services provided by biodiversity. In Seychelles biological diversity has been recognized for many years as having economic value especially for tourism and fisheries.

The manner in which biodiversity and disease rates are linked has been dubbed the 'dilution effect'. Although the exact mechanisms aren't currently clear, scientists believe that increased diversity within an ecosystem reduces - or dilutes - the proportion of suitable hosts for a disease, and therefore reduces transmission rates. It has previously been studied through another infection, Lyme disease, but this new research suggests that it may be more widely applicable.

This could be a valuable tool for public health and safety



Photos: Efforts pioneered by BirdLife international in island restoration have shown that native habitats, such as **Cousin Island** above, can be brought back and species found only on a few islands, such as the **Seychelles Paradise Flycatcher translocated from La Digue to Denis in 2 and 3 above**, can be re-introduced to other islands to create diverse communities.

plans. In Seychelles conservation has always been about saving our unique species. In particular, efforts pioneered by BirdLife international in island restoration have shown that native habitats can be brought back and species found only on a few islands can be re-introduced to other islands to create diverse communities. The proliferation of restoration projects now bodes well for creating high diversity and thus buffers against West Nile.

Success breeds trust at Nature Seychelles

Braving the chilly weather spiced with a rain swept Saturday morning members of Nature Seychelles converged at the Centre for Environment and Education at Roche Caiman for their General Assembly.

They came from as far as La Digue, to get a glimpse of the overall performance of the organization and also chart the course that this environmental NGO will follow. Nature Seychelles CEO, Nirmal Shah, welcomed the expectant members who filled the hall to capacity.

The CEO opened the meeting officially by admitting that the future was bright for Nature Seychelles owing to its steady stream of successes which have brought world wide acclaim for the entire Seychelles archipelago.

Indeed the assertions were proven when he took the floor to make his presentation. Mr Shah was forced to summarize his presentation because the achievements accumulated were just too many. These included, the success story of the downlisting of the Seychelles magpie robin and scops owl from critically endangered to endangered incorporation of an Invasive Species Action Plan for both Cousin Island Special Reserve; and Cousine island, publication of scientific papers; launch

of the award winning Heritage Gardens; participation in several United Nations' summits; the restoration works at the Sanctuary at Roche Caiman; the completion of the highly popular eco-education Island Conservation Centre in Praslin and the launch of the Wildlife Guide to Seychelles, among many others.

"Winning worldwide recognition for our work did not come easy. It was a results-based approach stratified by commensurate management techniques to achieve tangible outcomes." Shah confessed at the meeting.

The nitty gritty of the bagful of successes were expounded further by Treasurer Ms. Amy Bowers and Nature Seychelles resident Economist Kerstin Henri who briefed the members with a blow-by-blow account reportage covering all the aspects of the finances of the organization ranging from donor support to project implementation and the strict adherence to the rules of financial mainstreaming to secure the best results for conservation.

The members showed complete satisfaction and clapped in approval when Seychelles UNEP laureate Kantilal Jivan took to the floor and commended Nature Seychelles for the wonderful work done. "Their sterling work is what

has made it possible for such complete successes with negligible hitches in the protection of species for both Seychelles and the world. Such a success cannot be allowed to go unnoticed it should be commended." Affirmed Kantilal.

The gathering elected the following members to the council: Antoine Moustache, Peter Simon, Mike King Harmon, Amy Bowers, Joe Albert and Carlos Verjana.

The meeting was followed by a sizzling brunch of pastries, confectioneries and mouth watering dishes. Amidst the grandeur of fine culinary delights the 60 or so members who had turned up took some time to meet, socialize and visit the Heritage Gardens and the Sanctuary at Roche Caiman. Commenting on the Meeting Shah reckoned: "This is a stirring endorsement for our work. It is gratifying to note that our members are very satisfied with our achievements and we look forward to even scale greater heights with their unflinching support, which has been instrumental in all our success stories. Both the Council and the management of Nature Seychelles are humbled by such trust bestowed by our members. It has suddenly occurred to us that success breeds trust." He said.



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ERIC BLAIS:

'World class staff bring world class conservation'



Eric Blais is the Nature Seychelles, conservation officer and technical coordinator at the Cousin Island Special Reserve. As a conservation officer Eric is at the nerve centre of conservation on Cousin Island.

Eric, a native of Rodrigues in Mauritius had his life shaped early in his youth and curved for marine life. He is synonymous with marine science and conservation. As a young lad in Rodrigues, Eric was at home with Yamaha outboard engines dismantling them, servicing and giving them life to plough the oceans.

A qualified mechanic Eric mastered the art purely for survival purposes. But that is not all there is for this hands-on conservation officer. His love for marine life drew him closer to conservation concerns as he interacted with marine scientists and ecologists quite frequently. In 1999, Eric had become an invaluable icon for scientists conducting research in Rodrigues that they had no option but to take him on board. This was when a major project by the Royal Geographical Society, code-named the "Shoals of Capricorn" initiative was underway.

"I was hired to help coordinate Satellite ground truthing, Octopus fishery research (collecting catch and socio –

economic data), and generally support the education department with snorkeling and activities in the sea." Eric says.

For four years, Eric diligently undertook his job and in 2004 moved from Shoals of Capricorn to its successor the Shoals of Rodrigues as its Technical Officer. With expanded duties, Eric's resilience saw him transforming his department and won the admiration of all with his highly engaging ideas. Two years into the job and Eric had become a director of the Shoals of Rodrigues.

His new responsibilities included managing a team of educators, scientific researchers and trainers, promoting the work of Shoals Rodrigues locally, regionally and internationally and coordinating science, education and training activities.

From 2002 to 2007 Eric built up his portfolio as he represented Shoals of Rodrigues at National and International meetings and conferences, took a lead role in leading reef fisheries research projects (sampling catch data from seine net fisheries, collecting gonads and participate in preparing reports) and carried out reef monitoring surveys (specializing in fish). He also led octopus pots pilot project by working closely with a group of fishers and funders to develop a new technique for catching

octopus in pots.

A great swimmer, Eric is also a qualified diving instructor. The multi-lingual Eric who can speak fluent English, French and Creole joined Nature Seychelles last year as Conservation Officer and has been a pillar of monitoring at the Nature Seychelles run, Cousin Island Special Reserve.

"Joining Nature Seychelles has really boosted my career. At Cousin I coordinate terrestrial and marine monitoring and survey programs for turtle, coastal reef, seabirds, land birds and vegetation. Habitat restoration, species rehabilitation, analysis and management of output data resulting from monitoring and the coordination of the work of MSc students are also within my schedule of activities. These are challenges which I love." He says with a toothy grin.

Eric's expertise has seen him rising in stature and at the moment he is a member of the Mauritius Government Coordinating Committee for Fisheries and Marine Resource Management. He is also a Member of the Integrated Marine Protected Area Management Board (IMPAM) at the Rodrigues Regional Government. Though his name has been a prominent feature in many scientific papers on marine biology, Eric's happiness is on species survival.

"Nothing gives me pleasure like seeing a turtle laying her eggs and watching the hatchlings finding their way to the great sea. Each and every time I see that spectacle, I know my work is not in vain." He surmises.

Nature Seychelles is pleased to welcome these new members of staff:

**Liz Mwambui, as Communication Manager
J-elle Perrine, Sharry Brutus and Alrick Agricole as wardens on Cousin Island and June Latulipe as Administration Officer at the Nature Seychelles Conservation Centre on Praslin.**

Janske van de Crommenacker in...

COUSIN ISLAND, A VERY SPECIAL RESERVE



Janske van de Crommenacker is a biologist from the Netherlands. She is one of the researchers within the Seychelles warbler research group; a cooperation between Nature Seychelles, the University of Groningen (The Netherlands) and the University of East Anglia (UK). Her first field visit to Cousin was in 2002, and 4 years later she started a PhD project on the Seychelles warbler. Each year she travels to Seychelles to spend some months on Cousin studying the birds. Here she tells us how Cousin became more than an excellent ecosystem for research.

I realize that I'm very lucky to work on such a beautiful island. The place has become very special to me, and Seychelles feels like a second home. Still, every time it is hard to leave my boyfriend Martijn behind in the Netherlands when I come here. We have been together for more than 7 years. A few months ago, when I boarded the plane to go back home after another field visit, I realized that I wanted to propose to him. I've always let myself be guided by my own feelings, so I didn't want to wait for him to pop the question. Also, I knew instantly where I wanted to carry out my plan: on Cousin Island of course!

And so things happened. During my last visit to Cousin last January, I arranged for Martijn to come along. He's also a biologist, so he would be a good assistant with the fieldwork.

On a beautiful afternoon, we climbed up the hill to watch the sunset. I brought along some nice goodies and we sat down in what I call 'the throne of Cousin': a perfectly comfortable chair-shaped granite rock with a view over Aride, Praslin, Cousine and Mahe. I couldn't imagine a better place to ask him this One Special Question. I was a bit nervous but... his answer was yes!

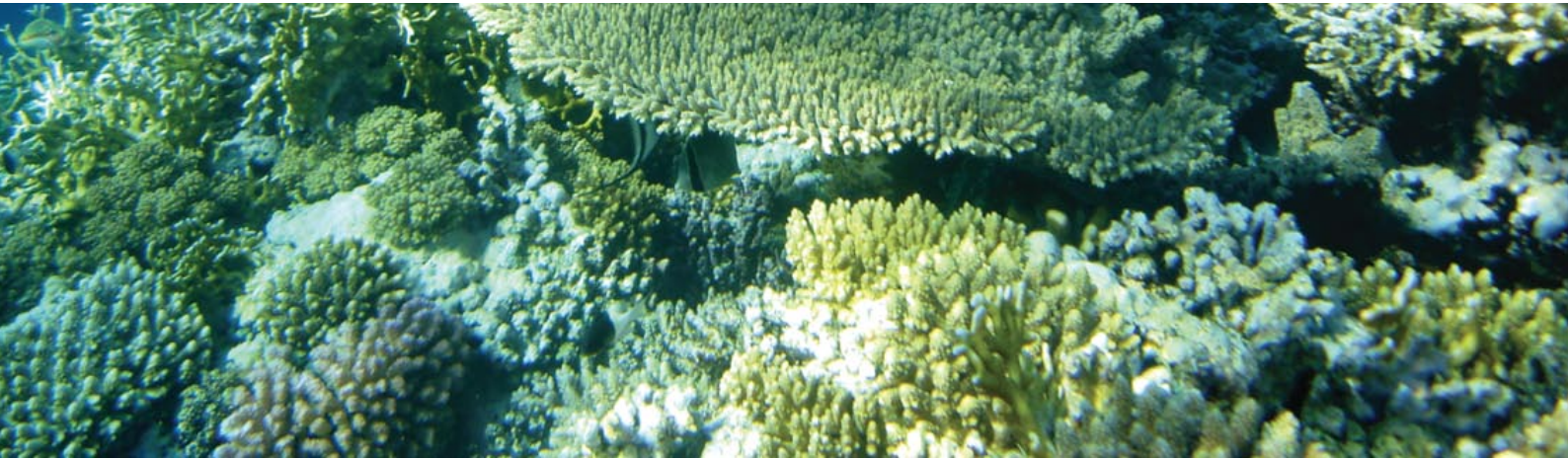
The funny thing is that later during the trip, Martijn proposed to me too, with a ring! Apparently he had the same idea, but I was first! Two souls, one thought.

So this is how Cousin became even more special to us, and now we will get married in 2010. You'll never guess where we will spend our honeymoon....

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.

advertorial: EDEN ISLAND'S CORAL RELOCATION SUCCESS



The Seychelles' fauna and flora is rich and varied. Not just on the islands, but also in the oceans. There are corals, fish, turtles and many other underwater species depending on one another. It is a sensitive environment where the removal of one can have lasting effects on the others.

Eden Island was designed in such a way that its shape fits with the contours of the reef structure that was still present. In changing the shape of the island, certain parts of the sea had to be reclaimed. After an extensive Marine Ecology Specialist Study, it was found that there was a certain amount of live coral cover on the two reef areas that were about to be reclaimed.

These corals had to be relocated to suitable areas where they would thrive. It was important to ensure that the conditions from where the corals are being moved from are similar to the conditions where they are moved to. This could be crucial when transferring coral between the sites, keeping the impact to an absolute minimum.

Local biologists found three such sites in close proximity to Eden Island and adhering to all the specifications. The primary location was a carbonate reef found just north of Eden Island with another reef patch off the north-eastern tip of the island. The third location was the reef of Moyenne Island situated in the St Anne National Marine Park.

The biologists monitored and documented the status of the corals, fish and macro-invertebrates in great detail before any alteration of the sites were done.

The relocation was done in three stages over a period of two months. During this time the corals found in the two reclamation areas were relocated to their new homes whilst monitoring their progress and adaptability continuously.

The actual relocation were done by five full-time people, working together to ensure the survival of the reefs. The process was highly specialised and very delicate, and called for long periods of working underwater.

Corals were detached from the reefs by gently lifting their bases. Once detached, the corals were placed in buckets of water and taken to the new sites to be rehabilitated.

Once on site, the buckets were transferred to divers in the water. They made use of marine epoxy and plastic cable ties to secure the relocated coral colonies to the seabed.

The coral were placed in such a manner that it forms an underwater snorkelling trail along the northern reef of Eden Island. Underwater information panels will provide divers with information on the different coral colonies and other life forms that they are likely to see. Each information panel will point to the next one in line, creating a 'hiking trail' underwater whilst teaching people about their environment.

For more information on the relocation of Eden Island's coral reefs and the new underwater trail, please visit www.edenisland.sc or contact +248 346 000.





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Eden Island



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Traffic-stopping scenery is just one of the many advantages of living on Eden Island. From the magnificent views over lush forests, turquoise oceans, smoky-grey granite mountains and pristine white beaches to the underwater explosion of colour just off the island itself, you'll never look at life the same again.

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