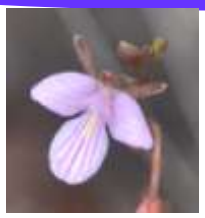
St Eustatius National Parks

March 2013



Newsletter 1/2013

STENAPA Update

Volunteer Weekend at the Botanical Garden

There has been a period of serious drought on the island since last late year. Not only have we had no rain, we have had no international volunteers either! With high flight costs and financial issues across the world our numbers of volunteers from abroad have dropped significantly in the last couple of years. This is bad for all areas of the parks as we cannot carry out as much work as we would like but *it's a nightmare at the garden* where there is ALWAYS more work to do than people to do it!

So, we decided this year to try a volunteer weekend and see if people from the local community were interested in helping out a few hours on a weekend. We held our first one in March as a tester to see what kind of interest there would be, we thought perhaps 5 or 6 people would come and that would be great, when 25 people showed up, it was awesome! So much work got done in the few hours the volunteers were working, more than would be achieved in a whole week with just the Garden Ranger and Intern working alone! There was a picnic to say thank-you with sandwiches and cakes and overall it was a really nice weekend. Everyone who came said they would be happy to help out again and other people have contacted us already asking when the next one will be.

We were especially pleased to see so many young people come along with their parents. They were really keen to help out and it was really refreshing to see there are a lot of people from the next generation eager to carry on the work with nature conservation on Statia. A HUGE thank-you goes out to everyone who helped us.

So our little 'tester' was a massive success and we now plan to repeat the weekend every other month for the rest of the year. The next one is planned in May so if you are interested in helping out, keep an eye on the STENAPA facebook page for more details on when it will be.

Volunteers from the Saturday morning showing off their handi-work cleaning up around the entrance.

Inside this Publication...

Don't forget...

Guided Hikes: Are available

Botanical Garden: It is Humpback Whale watching season. Check out the view from the Lookout Garden Open from sunrise to sunset. Great for picnics.

Find us on Facebook:
Keep up to date with all the latest happenings—Like our *'Stenapa St. Eustatius'* page!

REMINDER

Lionfish are venomous and should only be removed by Marine Park Staff.

If you have any questions or a Lionfish sighting please call us on 318 2884

Red-billed Tropicbirds

Local Monitoring Efforts

The Red-billed Tropicbird nesting season is in full swing and STENAPA has begun a six-month study on this species of seabird, funded by the Society for the Conservation and Study of Caribbean Birds (SCSCB). National Park Ranger Hannah Madden and intern Andrew Ellis, who hails from the UK, assisted by students from the Gwendoline van Putten high school, are responsible for finding and mapping accessible nests, marking them with individual numbers and banding and measuring the birds in each nest. The nests being monitored are in varying stages of development, ranging from an adult with an egg to an adult or just a nest with a chick. Some of the chicks have already started to fledge and may not return to Statia to nest for at least four years. STENAPA returns to each nest weekly in order to measure the progress of the chicks. Tropicbirds favour rocky outcrops, with Pilot Hill being the most popular nesting site on Statia. This makes access extremely difficult due to the steep and dangerous terrain, therefore only nests near the bottom of the cliff can be marked. However, around 100 nests have already been found and it is estimated that there could be up to twice that amount at higher elevations.

Part of the project is to determine the risk of predation of these birds. On nearby Saba nests were monitored in 2011 and 2012, and sadly up to 100% of chicks were killed by rats and cats in one nesting site. Cameras have been set up in front of two nests in an attempt to capture photos of potential predators, and we just received a generous donation from NuStar to purchase ten additional cameras and a laptop in order to better monitor nests. STENAPA believes the predation rate on Statia is much lower than Saba, however this needs to be properly documented and the cameras are an ideal tool for this. All accessible birds (adults and chicks) have been banded with a unique metal band around the leg that will identify them to Statia. Should any birds fly to nearby islands, it will be possible to trace them back to Statia. The results of this study will be published in July. Should predation by cats be considered a serious problem, STENAPA will consider what steps to take to reduce or control the feral cat population.

GvP student Jose-Luis holding a tropicbird chick, no more than a week old, (photo by Hannah Madden)

International Cooperation

Last year National Park Ranger Hannah Madden attended a seabird workshop in the Bahamas, which resulted in Stenapa receiving a small grant to conduct its current tropicbird monitoring project. One of the speakers from the workshop, Dr. Pat Jodice of Clemson University, recently contacted Stenapa to ask if they were interested in collaborating on his own seabird research project, namely geolocators. Stenapa readily agreed, and for the past few days Madden and intern Andrew Ellis have taken Dr. Jodice to the various nesting sites of Statia's Red-billed Tropicbirds (*Phaethon aethereus*) in order to attach small geolocators to the legs of 18 adult birds. The units weigh around 2.5 grams and give very coarse information about the regional movements of these birds outside the nesting season (they do not give information about local movements). Very little is known about these seabirds and their movements, however it is believed that they travel far outside of the tropics. Stenapa hopes to be able to retrieve as many of the geolocators as possible in early 2014 when the birds return to nest once more in the rocky cliffs of Statia. Tropicbirds lay just one egg per season; if the chick successfully hatches the parents travel far out to sea to forage for food such as flying fish, which seems to be a staple part of their diet. The chicks are so well fed that they often outweigh their parents at the time of fledging. Statia's tropicbird population is currently being monitored for predation by feral cats and rats; the results of this study will be published by Stenapa in July, and Madden may travel to Grenada to present the findings at SCSCB's annual regional meeting.

NP intern Andrew Ellis holds a tropicbird while Pat attaches the geolocator (photo by H. Madden)

Staff Matters

Prizewinners

Stenapa took three lucky prize-winners out on the Blue Runner boat for a fun ride within the Statia National Marine Park. Makeda Vonk, Charisse Woodley-Adams and her sister all enjoyed going out on the boat and exploring some of Statia's offshore coral reefs. The competition, held during Stenapa's first People & the Parks event in October last year, was to draw an animal or bird found on Statia. Many children entered in the age category 4 - 12 and three winners were selected. Marine Park Ranger Nadio Spanner drove the excited winners to Jenkins Bay, one of Statia's snorkel sites at the northern end of the island. Parents of the girls accompanied them on the trip and also got to enjoy views of the island and water. Following the success of last year's People & the Parks awareness-raising event, Stenapa hopes to continue to host this on a yearly basis.

In addition to this, Snorkel Club has begun once more and is being held every Monday afternoon, excluding holidays, from 2.15 to 4pm until the end of the school year. Space is available in the beginning and the advanced Snorkel Club. Any parents wishing to sign up their children aged 8 and above can do so at the Visitor's Centre on Gallows Bay, or call

3 1 8 2 8 8 4 .

Photo: Prize-winners on the boat heading to Jenkins Bay, by Fraukje Vonk

Permaculture. "Err, Perma-what?"

When I tell most people I just completed a Permaculture Design Certificate course (PDC course) they say to me, Perma-what-now? Permaculture is an emerging movement but is gaining momentum and popularity among horticulturalists every year. In its most basic form it derives from the words permanent agriculture and the idea was developed in the 70's by two Australians named Bill Mollison and David Holmgren. It is, however, a little more involved than that. Permaculture design is about creating spaces like gardens, farms, business, communities using ecological and environmentally sustainable, agricultural practices. It has three main ethos, earth care, people care and fair share.

Earth care is all about looking after the most important element in your garden, farm or plantation, the soil. It's about not abusing it with intensive agricultural techniques, like massive mono-culture planting. It's about giving it what it needs, mulching, composting and not messing about with the delicate balance of life within the soil that makes everything else 'work' with things like artificial fertilizers and weed-killer.

People care focuses on our interaction with nature, working with nature and not against it to allow us to produce food, building materials and all the other things we need for a healthy and happy life. For example when you look at a design feature you need to install such as a windbreak, instead of just planting a whole bunch of ornamental plants and trees that cannot be used in some way, you would plant fruiting trees and bushes that produce berries or nuts that can be harvested. 'Permies', as permaculturalists are known, love certain plants, things like Bamboo and Moringa trees that have multiple uses, building material, wind resistance, or that produce food or nutrients for the soil. The theory makes such good sense, why just plant a pretty garden, when you can plant a garden that looks pretty and will feed you too?

Fair share is about sharing the wealth and sharing the bounty of the harvest. To me, growing up in a family where we always grew veggies and had fruiting trees in our garden, this is just part of growing your own food. When we had a bumper harvest of apples, we gave some to our neighbours, family and friends. If you get a huge crop of something you can't ever hope to eat before it all spoils, you share it out with the people you know, and of course, they share their excess with you in return, "I have some extra tomatoes, would you like a few?' "Oh thanks, that would be great, hey I have too many plums would you like some of them?" Of course it does go a little deeper than that, it's also about building communities, sharing knowledge, building co-operatives that don't feed 'fat-cat' board members but benefit the people who do the work, things like fair trade products etc.

The first PDC course was held this year in February and the field work was carried out at Green-blends, Congo preserve and in the final week at the Botanical Garden. I have to say it was great experience and I picked up a lot of new skills. It gives you a different perspective on what you do and makes you realise your impact on the world around more.

Leo Baxk from Aarwerk, who ran the course this year, will be back before Christmas (and the cold Dutch winter) to prepare for the second one and this time he will have an assistant, me! The PDC course qualifies you to teach permaculture so now we will be able to offer more training for the schools, workshops for local people and training for Interns and Volunteers who pass through.

Making natural compost bins with Tan tan trees around the garden (photo and story by Claire Blair)

The Human Element

It is easy to get so wrapped up in our line of work that we sometimes forget the importance of human interactions with nature. What may be even more important is encouraging our young people to get outdoors and connect with their natural environment. All too often sensationalist images of 'dangerous' animals on television result in an increased paranoia of nature, whereas it is important to embrace and celebrate our biodiversity.

Renowned author Richard Louv's self-coined hypothesis **Nature Deficit Disorder** relates to the fact that people—especially children—are spending less time outdoors, possibly resulting in health and behavioral problems. Louv claims the causes for this phenomenon include parental fears, restricted access to natural areas, and the lure of the electronic screen. Recent research suggests there is a link between the declining number of visits to national parks and the increasing consumption of electronic media by children.

Photo: getting our young people out into nature is a challenge we are facing head-on

Stenapa's role in turning this around is therefore crucial—starting with elementary school students and continuing all the way up through high school and beyond. Each month since 2009 we have been visiting all the elementary schools to give lessons on nature-related topics. We aim to make the lessons fun and interactive, with the ultimate goal of eliminating any fear of nature altogether.

Photo: playing games is a fun way to educate children about nature

In addition to in-school lessons, Stenapa hosts a variety of after-school programs, including Snorkel Club, Junior Rangers and Summer Club. These programs have been running since 2003 and have been so successful that many students asked for more. As a result, Stenapa created Advanced Snorkel Club and Junior Rangers 2 for students that had completed the first clubs but still wanted to come back for more. Given such demand, how could we say no?

Photo: Snorkel Club students take a quick break

Reaching out to younger children (ages 8-12) has never been a problem, however we noticed that interest among students quickly dropped off once they reached their teens. Stenapa is currently unable to offer additional after-school activities due to the lack of a dedicated Education Officer. Our sister organisation, STINAPA Bonaire, has an excellent program that offers nature-related activites up to age 18 and above, including PADI dive certification, first aid training and much more. Their graduates are well prepared to work in the fields of coastguard, ambulance and even may become park rangers themselves. This is something we at Stenapa look forward to being able to offer in the future.

Photo: Junior Ranger students looking through a microscope for the first time

Currently we encourage our Junior Ranger students to continue their interest in nature by offering a free Discover Dive courtesy of local dive operators, Golden Rock Dive and Scubaqua. Ideally we would like them all to become PADI certified, proficient divers. That will become enthusiastic spokespersons for the sport to their peers.

Although Stenapa does not visit the local high school to give lessons, we were recently requested to work with some students that wish to gain practical work experience. Of course, we readily accepted and now receive a number of students every week that assist us in the Botanical Garden and National Park. We hope that this collaboration with the school will continue to blossom into a fruitful relationship from both sides. Recently the boys assisted us with orchid surveys, tropicbird research and trail maintenance in the parks, and weeding and other tasks in the garden. We hope that in the future we can expand work experience opportunities to include the Marine Park.

Photo: GvP student Geraldi counts orchid leaves in the Quill

Looking even further beyond high school, we would like to offer internships to local persons that are interested in learning a specific trade related to nature conservation. Currently Stenapa brings in interns from overseas, but there is no reason why we cannot offer this to our locals as well. Positions within the National Park, Marine Park, Botanical Garden, and even administration, are all possible. We can train them how to be tour guides in the Quill or how to monitor sea turtles; the possibilities are endless for the right candidate. The future looks bright for us all!

Photo: GvP students Jose-Luis, Giovanni and Geraldi assist with tropicbird research and data collection on Zeelandia beach

STENAPA Focus on Invasive Species

Biological invasions are a leading cause of biodiversity loss and represent a substantial contribution to human-induced global change. While invasions by marine fishes are relatively uncommon and their ecological effects are largely unknown, introductions of predatory freshwater fishes have often proven to be devastating to native communities. Lionfish (family Scorpaenidae) are striking and attractive reef fishes. They are very popular among aquarists and highly recognizable because of their ornate striped coloration and Xamboyant dorsal and pectoral Wns. The two best known species, *Pterois volitans* and *Pterois miles* (referred to collectively as lionfish) are venomous, predatory reef fishes native to Indo-Pacific waters, but because of their popularity as aquarium fish they have been widely distributed and now occur in aquaria on six continents. This worldwide aquarium trade is likely responsible for introducing lionfish to the wild outside their native range, and has been identified as the source of the invasion of lionfish in the western Atlantic.

Photo: Red lionfish

Photo: Black lionfish

Lionfish reproduce by releasing free-floating egg masses that develop into planktonic larvae. It is during these early life history stages that dispersal by ocean currents occurs. The floating egg mass may enhance survival by reducing predation from other planktonic organisms, and it also facilitates broad and rapid dispersal by keeping the eggs concentrated at the surface where wind-driven currents are stronger than they are at depth. These characteristics have likely promoted the fast and wide spread dispersal of lionfish in the western Atlantic.

On December 1st, 2010, the first lionfish was recorded on Statia's dive site The Cliffs by dive operator Scubaqua. The first specimen was brought in by marine park staff members and was measured at10 cm in length with unknown gender. Since then all specimens brought in to Stenapa's office have been measured and dissected to determine stomach contents as well as gender. The largest individual to date has been measured at 36 cm. The stomach contents of the dissected lionfish usually contain juvenile wrasse, gobies and shrimps. The most interesting find was an ingested juvenile lionfish.

Photo: Culled lionfish from Statia's waters

During 2011, 190 lionfish sightings were reported and 102 fish were culled by Marine Park staff. Most of the culled lionfish were in the Northern Reserve, as were most of the sightings. Thanks to this information we are now able to better target the lionfish. New methods of control are being developed and lionfish-specific traps are being experimented on throughout the wider Caribbean region.

These might make it possible for us to use in less accessible areas, such as the Atlantic

It is vital that marine park users continue to report each lionfish sighting. Reporting of lionfish provides us with information on which areas to target and helps us improve efficiency. The information can be used to assess the impact of this invasive species on our reefs surrounding the island in the future, as well as develop new techniques to target and eradicate them as much as possible.

Trials are being conducted to find more efficient ways to catch lionfish and their larvae. There have been reports that lionfish enter fish traps; therefore prototype traps for lionfish are being tested. There are also attempts to try to evaluate and catch lionfish larvae with light traps. If any of these methods work this is something we will consider in the future.

One idea is to promote the lionfish as an edible commercial fish, both for the island and regionally. Unfortunately, some lionfish that were sampled with a basic test for ciguatoxin showed positive results (St Maarten Nature Foundation). According to researchers, however, the test that was used does not actually measure ciguatoxin but another toxin that is sometimes found along with ciguatoxin, so the results could be misleading and wrongly interpreted. In addition, the ciguatoxin test only gives a positive and negative result, not the range of toxin present that could influence toxicity to humans.

Photo: Although the lionfish itself has venomous spines, its flesh should be safe to eat

Therefore, a collaborative research project to analyse levels of ciguatoxin in lionfish is required. The St. Maarten Nature Foundation has applied for a grant to conduct a broader lionfish study, including genetic analysis, prey fish analysis and a more complete ciguatoxin check. The neighboring islands of St Martin (French and Dutch), St Barth's and St Eustatius will all be involved by sending in samples from their waters for analysis.

Photo: MP intern with a live captured lionfish

In Other News.....

Arachnid Survey Visits Statia

This February STENAPA hosted a team of scientists travelling the Lesser Antilles to collect arachnids. This is a five-year project initiated by Dr. Ingi Agnarsson (University of Vermont) and Dr. Greta Binford (Lewis & Clark College), funded by the National Science Foundation, in order to document arachnids from across and beyond the Caribbean archipelago. The region is a Conservation International hotspot of biological diversity, yet detailed processes that generate species diversity on the islands are complex and poorly understood. The project aims to test hypotheses about how the age and dispersal ability of lineages and the geological history of islands interplay to generate biodiversity hotspots by sampling 70+ arachnid lineages; analysing biogeographical and diversity patterns within and among lineages and relating them to dispersal ability of taxa; and generating a synthesis of Caribbean island biogeography.

STENAPA National Park Ranger and project collaborator Hannah Madden, who travelled to Puerto Rico in 2011 to participate in initial fieldwork, took the scientists to different areas of St. Eustatius in order to collect a variety of arachnid specimens. Leaf litter was collected and sifted from the Quill and Gilboa Hill, and the team also went out at night to collect nocturnal species. Given the enormity of this project, the results will not be published for some years, however Dr. Lauren Esposito (University of California, Berkley) who is heading up the current expedition believes they made some interesting discoveries, with possibly at least one new species of spider. STENAPA's Junior Rangers students also helped out by collecting specimens during their after-school programs, which Madden gave to the team before they left. STENAPA will continue to collect arachnids on an ad-hoc basis and send them off for documentation and analysis. The expedition left by yacht this week for St. Kitts/Nevis and will be continuing south on its six-month journey through the Lesser Antilles. Blogs and updates are available on the official website http://www.islandbiogeography.org/

Photo: Dr. Lauren Esposito holding a tailless whip scorpion (*Phrynus goesii*) in the Quill crater - by Hannah Madden

Appeal to the Public!

We are currently trying to raise funds to buy a new wood chipper or garden shredder for the Botanical garden. This is a vital piece of equipment for us as it allows us to process all our garden debris and make compost, mulch and reduce our waste. Compost is so important, we use it in the shade house to make good quality potting soil, we add it to the garden flower beds to improve the soil and it means that we can recycle so much of the grass clippings, leaves and weeds that we remove from the garden. Mulching is when you spread a layer of organic material over the surface of the soil. It can be leaves, wood chips, compost or even things like shredded newspaper or cardboard. It is important because it suppresses weed growth and helps to retain moisture in the soil, both of which is really important to us at the Botanical Garden.

The shredder we have is broken, rusted and basically dead (and has been for years now). We desperately need a new one and the kind we will need will cost around $2500. Of course we do not have that kind of money sitting in the donation box so we are appealing to the public and have approached some local businesses to try and raise funds. If you would like to contribute please visit or contact the STENAPA office in Gallows bay.

Thank you Rivers Enterprises

On Tuesday, February 12, 2013, Rivers Enterprises generously donated a water cooler to the St. Eustatius National Parks Foundation (STENAPA) Visitor Center.

This was gratefully accepted by Claire Blair, Botanical Garden Ranger.

In the photo (l to r) Claire Blair (STENAPA), Patsy Patrick, Mr Gibbs and Avril Maduro (Rivers Enterprises)

Thank You Nustar Terminals

A generous donation from Nustar Terminal has allowed STENAPA to finally replace our old dingy and outboard with a new dingy and outboard from Budget Marine. The old dingy was worn out and needed constant repair. This new, dependable dingy will allow STENAPA to spend more time on the water fulfilling our mandate to manage the St Eustatius National Marine Park.

Ranger Nadio Spanner and intern Steve Leeming (photo by Anna Maitz)

St Eustatius National Parks

Gallows Bay z/n
Lower Town
St Eustatius,
Dutch Caribbean

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STENAPA is an environmental not-for-profit foundation on St Eustatius and was established in 1988.The purpose of the Foundation is the acquisition, preservation, protection and administration of parcels of land/water on Sint Eustatius, worthy of preservation, due to; a. its scenic beauty and/or presence of flora and fauna important in scientific and cultural respect or valuable from a geological or historical point of view; b. its purpose to serve for the well being, the education, and the recreation of the Sint Eustatius population as well as that of visitors, all this with due observance of the primary requirement of preservation.

STENAPA is legally mandated by the Island Council to manage the St Eustatius National Marine Park, The Quill / Boven National Park and the Miriam Schmidt Botanical Gardens .

President:	Irving Brown
Vice President:	
Treasurer:	Ruth Pandt
Secretary:	Linda Berkel

www.statiapark.org

Friends of STENAPA

STENAPA would like to thank the following businesses for supporting us. Their donations make it possible for us to continue our mandate of managing the protected areas of Saint Eustatius. Each of the following has made a contribution to the Friends of STENAPA. We would like to encourage all of you who receive this newsletter to support these businesses.

Individuals who join Friends of STENAPA will receive the following discounts from our supporting businesses.

Franky"s Bar and Restaurant: 1 regular drink by lunch or dinner

Golden Era Hotel, Bar, Restaurant and Conference Centre:
10 % off dinnerbill higher than $60,-

Yummy Tummy Bar and Restaurant: 10 % off dinner bill

Fay Bar & Restaurant: 1 beer or soda with dinner more than $ 10,-

I.F. Rivers Enterprises N.V.: 10 % discount on merchandise

Blue Bead Restaurant
Golden Era Hotel, Bar, Restaurant & Conference facility

The Old Gin House

Yummy Tummy Bar & Restaurant

Chamber of Commerce & Industry St. Eustatius & Saba.

Super Burger ice cream and shakes

Fay Bar & Restaurant (a.k.a. Sonny"s place)

I.F. Rivers Enterprises N.V.

Original Fruit Tree bar & restaurant

Scubaqua Dive Centre

Coolcorner:

Peso"s Supermarket

Golden Rock Mini Market

Brown"s car rental & garage

Dutch Plumbing Services

Golden Rock Dive Center

Hai Zhu N.V. Julie Supermarket

Modentes Tandtechnisch laboratorium

All Run supermarket.

Franky"s Bar en Restaurant

Duggins Shoppingcentre

Lyn"s dream Bakery:

4piek Travel Agency.

Opa"s snack

Statiahousingandservices (harbervieuwapp

University of St. Eustatius School of Medicine