CANARI

CAPACITÉ

CRITICAL ECOSYSTEM PARTNERSHIP FUND

Special Feature on Combating Invasive Alien Species

In this issue of Capacité, we turn our focus to invasive alien species (IAS). Several grants in the CEPF Caribbean portfolio are addressing this issue. And with good reason too. According to the CEPF Ecosystem Profile for the Caribbean islands hotspot, the spread of invasive aliens is generally considered the greatest threat to the native biodiversity of the region, especially to its endemic species, with invasive aliens recorded in a wide range of habitats throughout the hotspot.

An overview article by Island Conservation provides a useful context for understanding the threat of IAS in the Caribbean. Fauna & Flora International shares information about its work in the Eastern Caribbean along with useful tips on using fixed-point photographs as a monitoring tool. From the Philadelphia Zoo we learn about efforts to investigate the presence of the fungal disease chytridiomicosis in amphibians in four key biodiversity areas in Hispaniola.

We also feature the field-based work of the Environmental Awareness Group in Antigua's Offshore Islands, and of Island Conservation in association with the Bahamas National Trust. These field-based efforts are complemented by initiatives by CAB International and Auckland Uniservices Ltd. to promote networking between and among IAS professionals and conservationists and build regional capacity to address IAS issues.

Please check out the grantee resources section of Capacité 9 with its links to an on-line Resource Kit for Invasive Plant Management and a fundraising guide. As usual, you can read about grants awarded this quarter and new listings on the Eco-Index. We hope you find this issue of Capacité informative.

The Regional Implementation Team (RIT) in CANARI

The **Critical Ecosystem Partnership Fund** (CEPF) is a joint programme of l'Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank.

The programme was launched in August 2000 and since then has supported civil society to conserve critical biodiversity in 22 hotspots, committing over US$151 million in grants. CEPF is investing US$6.9 million in the Caribbean islands during the five-year period from October 2010 to September 2015.

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Invasive Species on Caribbean Islands: Extreme Threats but Also Good News

- Boris Fabres, Caribbean Regional Director, Island Conservation

ISLAND CONSERVATION

Preventing Extinctions

Extraordinary biodiversity under intense pressure

The insular Caribbean is a centre of high species endemism. With almost 8,000 species found nowhere else in the world, regional endemism includes 100 per cent of amphibians, 95 per cent of reptiles, 74 per cent of mammals and 26 per cent of birds. The region is listed as the third most critical of the world's 34 biodiversity hotspots. Invasive species, particularly invasive vertebrates such as rats, feral cats and goats, are a primary threat to the Caribbean's biodiversity, including many protected areas. Globally, invasive species are implicated as drivers of species extinctions of plants and animals and, unfortunately, the frequency of invasions is increasing significantly. A review of Caribbean islands in the *Threatened Island Biodiversity Database* shows 138 invasive vertebrate species, and 198 islands with IUCN Red Listed Critically Endangered, Endangered and Vulnerable vertebrate species of which 120 islands (61 per cent) also host invasive vertebrates.

The critically endangered Ricord's Iguana (*Cyclura ricordii*) on Isla Cabritos in Lago Enriquillo, Dominican Republic is one species that is benefitting from the control of invasive alien species.
© *Kirsty Swinnerton*/Island Conservation

How invasives threaten native and endemic species

Invasive species directly prey on native species, can outcompete them for resources, modify their reproductive behaviour, alter community structures, and degrade or destroy habitat used in nesting, protection or for food. Invasive vertebrates can accelerate the spread of invasive plants through fruit and seed dispersal, and some invasive vertebrates are hosts and vectors of pathogens that cause human illnesses, for example, leptospirosis and toxoplasmosis.

Addressing invasive species threats has many positive biodiversity and ecosystem restoration impacts

Removal of invasive species is a tested, cost-effective and long-term conservation tool. Following removal, native island ecosystems can recover dramatically as shown on many islands all over the world. And there is a growing record of eradications of invasive vertebrates in the Caribbean, with 134 eradication events on 83 islands to date. Of these, there are 66 confirmed successful eradications (with no re-invasions) removing 15 invasive vertebrate species.

International commitments not well reflected in national policies

In 2010, Parties to the Convention on Biological Diversity, including Caribbean countries, adopted the Strategic Plan for Biodiversity 2011-2020, with 20 priority targets (the 'Aichi Biodiversity Targets'). /→

Target 9 focuses on invasive species. However, removal of invasive species also achieves several other Aichi Biodiversity Targets: 5 (Reducing Loss of Natural Habitats); 12 (Preventing Extinction of Threatened Species); 14 (Restoring Ecosystems); and 19 (Knowledge Sharing, Technology Application and Capacity Strengthening). But most Caribbean countries have not yet adequately mainstreamed actions on invasive species in their national environmental policies and plans, such as their National Biodiversity Strategies and Action Plans (NBSAPs), nor have they dedicated adequate funding, or estimated the economic and social costs of invasive species.

Restoration team in Isla Cabritos, Dominican Republic conserving the critically endangered Ricord's Iguana (*Cyclura ricordii*) by removing invasive species. © *Island Conservation*

Building regional capacity

The recently concluded GEF/UNEP/CABI project "Mitigating the Threat of Invasive Alien Species in the Insular Caribbean – MTIASIC" in The Bahamas, Jamaica, Dominican Republic, Saint Lucia, and Trinidad & Tobago successfully initiated a wide range of invasive species actions. These include a draft regional invasive species strategy in the five countries, economic evaluations, national critical situation analyses and strategies, pilot projects on control and eradication and the development of communication tools. The CEPF programme in the Caribbean islands biodiversity hotspot is building on this momentum by supporting regional networking and action plan development in Antigua and Barbuda, the Bahamas, Dominican Republic, Jamaica and Saint Lucia through grants to CABI and Auckland Uniservices Ltd., and NGO institutional strengthening in Antigua and Barbuda and St. Lucia through grants to the Environmental Awareness Group and Fauna & Flora International.

Needs going forward

In order to prioritise and effectively focus interventions, there remains a critical need for data-driven assessment of islands to identify sites with the most threatened native species, including single island endemic species, and assess where actions on invasive species, especially eradication, will have the largest, most long-lasting and cost-effective conservation impact. Importantly also, regional networking and sharing of experiences, skills, success stories and technical information are critical to develop effective regional capacity. Initiatives such as the Caribbean Invasive Alien Species Network – CIASNET (http://www.ciasnet.org/) promote these goals.

Finally, new invasions and re-invasions must be prevented. Caribbean countries must develop secure bio-security policies and practices, integrated with protected area management, and changes in perceptions of invasive species. Global experience shows that the benefits of effective bio-security measures far outweigh the costs.

Making Pictures that Speak a Thousand Words

- Jenny Daltry, Senior Conservation Biologist, Fauna & Flora International

Throughout this region, efforts are underway to save threatened species and restore habitats. Fauna & Flora International's (FFI's) *Islands Without Aliens*: *Building Regional Civil Capacity to Eradicate Invasive Alien Species* project, for example, is enabling local organisations to create safe havens for their highly endangered island wildlife. Our partners have successfully removed harmful alien mammals from six offshore islands in Antigua, Saint Lucia and Barbados since late 2012, and are taking active measures to protect another dozen from invasion.

CEPF support to the *Islands Without Aliens* project has led to the successful removal of mammals from five islands in Antigua and Saint Lucia in partnership with the Environmental Awareness Group (Antigua & Barbuda) and the Saint Lucia National Trust. The populations of more than 30 plant and animal species, including the critically endangered Antiguan racer snake (*Alsophis antiguae*) and vulnerable Saint Lucia whiptail lizard (*Cnemidophorus vanzoi*), are already showing improvement now that the invasive mammals are gone. A representative of the University of the West Indies, Cave Hill Campus, who was trained under the project carried out Barbados's first rat eradication from Culpepper Island in July 2013 to help save the newly-rediscovered Barbados leaf-toed gecko (*Phyllodactylus pulcher*).

Monitoring is key to understanding the effects of such conservation actions. This project uses a wide range of methods to record changes in species and habitats, both before and after the aliens are removed. These include, among others, vegetation plots, bird point counts and lizard distance sampling.

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Tips for Taking Fixed-Point Photographs

In every photograph, try to include an obvious landmark (e.g. a big rock, tree or building). Record where you stand to take the photo (e.g. GPS coordinates or written description) and if possible leave a permanent mark to help you find the exact spot next time. Take photos under the same weather conditions, preferably avoiding bright sunshine that can create dark shadows. Use your previous photographs to help line up the camera correctly. If desired, multiple photographs can be taken from the same spot e.g. by pivoting to take photos to the North, East, South and West.

Fixed point photos can be repeated at whatever intervals make sense to your project, but once a year (ideally in the same month) or every five years is usually sufficient. Statisticians can quantify the changes; for example, by measuring the percentage cover of vegetation in the frame or counting the number of photos showing a particular type of development. But the human eye often tells us what we need to know.

While many of these methods are fairly time-consuming and require specialist training, not all do. The humble fixed-point photograph (see box), for example, is a simple, speedy and incredibly powerful way of detecting and describing changes in the landscape. Besides changes in vegetation, fixed point photos can be used to assess changes in coastal topography, coral reef bleaching, infrastructure development and even the extent of nesting seabird colonies.

Our library of fixed-point photos from the CEPF project gives powerful evidence that removing alien mammals results in striking improvements in native vegetation. In Antigua, for example, forest cover continues to visibly increase on islands cleared of rats, including Great Bird, Rabbit and the 45-hectare Green Island. The photographs below from Dennery Island in Saint Lucia show remarkable recovery of the vegetation within a year of removing goats and sheep.

Even at this early stage, these results are great news for Caribbean biodiversity and climate change resilience, and make a great case for local groups like the Environmental Awareness Group, the Saint Lucia National Trust and the University of the West Indies to continue the fight against harmful alien invaders.

Dennery Island, Saint Lucia, looks conspicuously greener shortly after the last alien mammals (goats and sheep) were removed (September/October 2012). While there may be some seasonal effect, the headland behind (left) shows little difference between years. Photos taken on Dennery Island also show an explosion of healthy tree seedlings.

© Jenny Daltry/FFI

See related article by the Environmental Awareness Group, Antigua on page 12.

For background information on FFI's Islands Without Borders project, see the project feature in Capacité Issue 4. March 2014

On the Case of the Highly Invasive Amphibian Chytrid Fungus in Hispaniola

PHILADELPHIA ZOO

- Carlos Martinez Rivera, Amphibian Conservation Specialist, Philadelphia Zoological Society

New threat to amphibians

Amphibians are highly sensitive to environmental changes and their loss is a potential harbinger of the disappearance of other species. They were thrust into the spotlight in the early 1980s when frogs and salamanders the world over began to mysteriously die off and disappear in large numbers from otherwise pristine habitats. Nearly one-third of the world's amphibian species are currently at risk of extinction due to environmental degradation and climate change. And now an emerging fungal disease, called chytridiomicosis, is posing an additional threat, causing mass mortalities in amphibians in many countries including Australia, the USA, Costa Rica and parts of the Caribbean. The culprit is *Batrachochytrium dendrobatidis* (Bd), a single invasive species of parasitic fungus that is new to science.

Dominican biologist Cristian Marte Pimentel swabs the skin of a frog to test for the presence of Bd fungus spores on the frog's skin. Bd is known to cause mass mortalities in many species of amphibians worldwide.

© Carlos Martinez Rivera/Philadelphia Zoo

What is the chytrid fungus?

First described in the 1990s, the amphibian chytrid Bd fungus is a highly invasive parasitic fungus with zoospores that can swim through water to find a new host. During the parasitic phase Bd lives exclusively on the skin of amphibians, where it feeds on keratin, the main protein in vertebrate skin. Once infected, the amphibian's skin can no longer function as a respiratory organ and a permeable membrane, so gas, water, and ions cannot be freely exchanged with the environment as should occur naturally. Most frogs have an area in their groin called a 'drink patch': they literally sit in the water and drink through their skin. Others, like lung-less salamanders, breathe exclusively through their skin. When the amphibian's skin is infected by Bd, it reacts by producing extra layers of tissue in an effort to shed the infection. This, however, taxes the animal too much and it eventually succumbs to the infection and dies from cardiac arrest.

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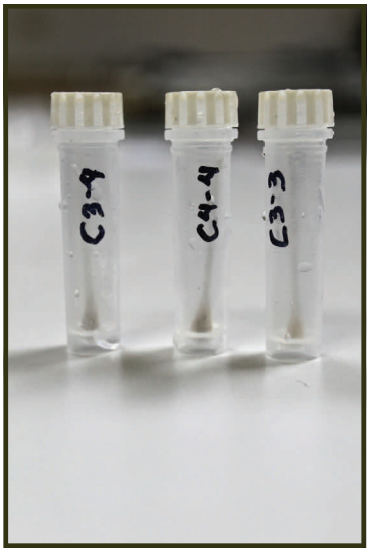
Vials containing skin swabs from frogs from Sierra de Bahoruco in the Dominican Republic are ready to be sent for analysis to test for the presence of the Bd fungus.

© Carlos Martinez Rivera/ Philadelphia Zoo



Testing for the chytrid fungus in Hispaniola

Bd has already been reported in the Caribbean, including in Hispaniola where its potential effects on its amphibians have been all but ignored. With support from the CEPF, scientists from the Philadelphia Zoo, Grupo Jaragua in the Dominican Republic and the Societé Audubon Haiti are evaluating the presence of the fungus in four key biodiversity areas (KBAs).

We have analysed field samples for chytrid in frogs from Massif de la Hotte and Massif de la Selle in Haiti and so far have not found the fungus in these populations. However, we have found frogs from Foret des Pins in Massif de la Selle with lesions in their skin that are consistent with Bd infections, and past records show that the fungus is present in Massif de La Selle, at Furcy. We have swabbed frogs from Sierra de Bahoruco and Bahoruco Oriental in the Dominican Republic and are awaiting the results of those tests.

A rain frog from South America with chytrid fungus showing the skin sloughing and lesions that are typical in chytridiomicosis, the amphibian disease caused by Bd.
© Carlos Martinez Rivera/Philadelphia Zoo

Implications of the chytrid fungus for amphibians populations and forest resources

If we find the fungus in the KBAs, the entire amphibian fauna in these areas would be at risk of disappearing, thereby altering the ecology of the ecosystems forever. Bd can wipe out entire populations of amphibians and wreck havoc on the natural food chain and carbon cycle, setting off a series of events that reduces soil fertility and increases the presence of plant eating insects, thus preventing forests from regenerating naturally.

Arresting the development of the chytrid fungus in Hispaniola

As a pre-emptive measure it is important to put in place mitigation efforts and biosecurity protocols that help prevent the arrival and eventual spread of this fungus. Project partners are currently working with the Instituto Dominicano para el Desarrollo Integral (IDDI) and Sociedad Ornitológica de la Hispaniola (SOH), fellow CEPF grantees in the Dominican Republic, to pilot such measures at the Monumento Natural Domingo Fuentes in the Bahoruco Oriental KBA. The pilot will include protocols for safe frog handling and for the proper cleaning of field equipment. We will also establish a protocol for handling dead and sick frogs safely, in the event that these are found, so they can be sent to a laboratory in Santo Domingo for Bd testing. We hope that with these measures, local conservation groups can monitor their amphibian population safely and guarantee the health of the ecosystem in general.

Connecting the Caribbean KBAs via a Virtual Network for Enhanced Action on IAS

- Shyama Pagad, Program Officer, IUCN SSC Invasive Species Specialist Group, University of Auckland &
Naitram (Bob) Ramnanan, IAS Coordinator and Regional Representative, CABI

Invasive alien species (IAS) are the second largest driver of biodiversity loss after habitat destruction. Successfully managing the threat of IAS requires collaboration and engagement across several sectors. Platforms for sharing invasive species information like the Caribbean Invasive Species Network (CIASNET) portal can be particularly useful in providing information for governments, decision makers, and resource managers on invasive species and pests and diseases, including their presence and distribution, pathways of introduction and spread, impacts, ways to prevent their introduction, and strategies to control and manage them.

CIASNET is a collaborative effort of national, regional and international agencies that was developed under the regional project *Mitigating the Threats of Invasive Alien Species in the Insular Caribbean* (MTIASIC), which CAB International (CABI) implemented between September 2009 and March 2014 in association with United Nations Environmental Programme (UNEP) and a wide range of national and regional organisations, with funds from the Global Environment Facility (GEF).

An exciting collaboration between two leading providers of global invasive species information, the Invasive Species Specialist Group (Auckland Uniservices Ltd.) and the manager of the CIASNET site, CABI, has now expanded the functionality of this regional virtual networking platform. Although the CIASNET site was a valuable information resource on the presence and threat of IAS and agricultural pests and diseases, it was not optimally engaging all stakeholders, especially conservation managers and invasive species practitioners who work on the management of biological invasions and their impacts on native/endemic species and areas of high biodiversity values, such as protected areas and key biodiversity areas (KBAs). /→

Upgrades to CIASNET.org now mean the site includes a searchable digital library with data and information on native and invasive species at island and site level; a skills-register; a space for discussions and sharing of experiences via webinars; and multi-language capability. Since the enhanced web site went live in March 2014, more than 200 journal articles, published and unpublished reports, and datasets have been uploaded to the digital library. The library also includes more than 50 short videos that cover varying aspects of IAS control and management. CABI successfully used the site's live discussion facility when it hosted its first webinar on 4 June 2014, and is now actively building the skills register to become the most comprehensive listing of Caribbean experts in all areas relevant to IAS management.

Visit www.ciasnet.org to browse the searchable document library, view the database of experts, or register as an expert.

To register for the webinar or get involved in the national workshops in Antigua & Barbuda, The Bahamas, the Dominican Republic, Jamaica, or Saint Lucia, contact Naitram (Bob) Ramnanan on n.ramnanan@cabi.org

The CEPF-supported Invasive Species Specialist Group/ Auckland Uniservices Ltd. initiative complements work being done by CABI under the project Regional *Networking and Strategy Development for Invasive Alien Species in Priority Key Biodiversity Areas*. In an effort to strengthen stakeholders' capacity to conduct *surveillance* for IAS threats and advocate for appropriate action to curtail these threats to KBAs, CABI is not only building the online skills register on CIASNET.org as explained above, it is also addressing identified skills gaps through webinars and discussions via the upgraded web site, and hosting national stakeholder workshops in Antigua & Barbuda, The Bahamas, the Dominican Republic, Jamaica, and Saint Lucia. Along with a regional meeting, these will strengthen networking and exchange of experiences in order to mainstream IAS issues.

The next webinar will take place on 23 July and will examine the lessons learnt in eradication of IAS on Isla Cabritos in the Dominican Republic and the impact of IAS removal on ecosystems. The first national workshop will take place in Jamaica on 20 and 21 August 2014.

Read the related article about the CABI project *Regional Networking and Strategy Development for Invasive Alien Species in Priority Key Biodiversity Areas* in Capacité 7 (December 2013).

Haitian Grantees Honoured by their Government

Two CEPF grantees were in the spotlight in Haiti on World Environment Day, 5 June 2014. The Réseau d'Enseignement Professionnel et d'Interventions Écologiques (REPIE) received the Elie Dubois Award from the Government of Haiti for their work in the field of environmental education. Jean Weiner, founder and director of the Fondation pour la Protection de la Biodiversité Marine (FoProBiM), received the Erick Eckman Award for his decades-long work to protect and manage Haiti's coastal and marine environment while engaging in poverty alleviation.

Jean Wiener (right) with Haitian President Michel Martelly (centre) and Minister of Environment Jean-Francois Thomas (left). *© Presidence/Haiti*

Earlier this year, Jean won the 2014 Whitley Gold Award donated by the Friends and Scottish Friends of The Whitely Fund for Nature for his contributions to conserving Haiti's coastal ecosystems and towards establishing the country's first marine protected areas. Haiti's coastal ecosystems and contributions towards securing the country's first marine protected areas (MPAs).

In 2012, REPIE was awarded a CEPF small grant that allowed them to carry out a biodiversity conservation training programme for schools and community groups in Fonds-Verrettes about the value and importance of the ecological patrimony and biodiversity of the neighbouring Forêt des Pins in the Massif de la Selle (Haïti) Key Biodiversity Area (KBA). Following the training, a coalition of school, community and farmer organisations came together to form a network of environmental action committees dedicated to the protection of Forêt des Pins, known as Comités d'Action et de Concertation sur l'Environnement (Committees for Action and Dialogue on the Environment).

CEPF support has contributed to FoProBiM's efforts to promote nature-based tourism and sustainable livelihoods in the Massif-Plaine du Nord Conservation Corridor. An ongoing CEPF grant is supporting FoProBiM's work in the Caracol Bay area of the Lagons du Nord-Est KBA prepare a management plan for a locally managed marine area.

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New on the Eco-Index!

- Dipika Chawla, Rainforest Alliance

CEPF has given a grant to the Rainforest Alliance (RA) to work with fellow grantees to publish profiles of their projects on the Eco-Index. In addition, RA also features a select number of projects in the Eco-Index's "Stories from the Field" and *Eco-Exchange* publications, and will also organize and facilitate a number of webinars among grantees and with recognized experts (see related article above).

All grantees in the hotspot are encouraged to participate; to add your project to the Eco-Index database, please visit: www.eco-index.org/add, or contact Dipika Chawla at dchawla@ra.org.

Projects recently added to the Eco-Index:

- Diversified Forest Restoration in the Fonds-Melon River Basin of Southeastern Haiti -- http://www.eco-index.org/search/results.cfm?projectID=1534 -- Agronomes et Vétérinaires Sans Frontières (AVSF), Haïti; and Coordination Régionale des Organisations du Sud-Est (CROSE), Haïti
- Reducing Biodiversity Loss by Identifying Sustainable Income Generation Models in Communitiesn ear Los Haitises National Park, Dominican Republic -- http://www.eco-index.org/search/results.cfm?projectID=1592 -- Centro para el Desarrollo Agropecuario y Forestal Inc. (CEDAF), Dominican Republic
- Caracol Coastal and Marine Management Initiative, Haiti -- http://www.eco-index.org/search/results.cfm?projectID=1595-- Fondation pour la Protection de la Biodiversité Marine (FoProBiM), Haïti.

Interviews & Articles:

Jean Wiener, director of the Fondation pour la Protection de la Biodiversité Marine (FoProBIM), has long been working with local communities to protect the natural resources of Haiti. Now, a recently built industrial park poses a new set of challenges in the critically important "ridge-to-reef" ecosystem of Caracol Bay. We spoke with Wiener about his efforts to protect the area from further degradation. Read the interview here: http://ecoindex.wordpress.com/2014/06/02/jean-wiener-foprobim-caracol/

A Win in the Battle Against Invasive Species on Antigua and Barbuda's Offshore Islands

- Natalya Lawrence, Programme Coordinator, Environmental Awareness Group, Antigua

The International Union for Conservation of Nature (IUCN) describes rats, especially black rats *(Rattus rattus),* as one of the main contributors to declines and extinction s of seabird populations. Black rats have certainly made their mark not only on the seabird populations of Antigua and Barbuda's offshore islands, but also on native plants and animals, including the critically endangered Antiguan Racer Snake *(Alsophis antiguae).* Research and monitoring in Antigua have shown that islands that have been invaded by black rats and/or the small Asian mongoose (*Herpestes javanicus*) have ecosystems with fewer species and less variety compared to islands free from these alien predators.

Antigua's offshore islands are an area of indescribable natural beauty and great socio-economic value. They are internationally recognised for their globally important biodiversity and have been designated an Important Bird Area (IBA), and a key biodiversity area (KBA).

Pelican Island with a view of Codrington and the unnamed island where the eradications were carried out. © Natalya Lawrence/EAG

In 2013, feasibility studies were carried out for eradicating rats and mongooses from Pelican Island, mainland Antigua, and several other neighbouring islands. In March 2014, the Environmental Awareness Group (EAG) began eradications on Pelican, Codrington, and an unnamed island, covering an area of 19 ha. EAG was supported by the Government of Antigua, Fauna & Flora International, Durrell Wildlife Conservation Trust, the Boys' Brigade and the Anguilla National Trust. The effort was carried out with the help of volunteers from Antigua, Saint Lucia, and the United Kingdom. The mongooses were captured using live traps, while the rats were removed in three stages. First an access grid was laid across the islands, toxic bait was then distributed by hand in accordance with strict protocols. This was followed by intensive monitoring to ensure no rodents remained. The process was completed in May 2014, without any native animals being harmed.

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Least terns (*Sternula antillarum)* nesting on Pelican Island.
© Natalya Lawrence/EAG

Local Field Officers, Sean Lee and Tahambay Smith, conduct biosecurity monitoring.
© Steve Read

Before EAG and its partners and collaborators could begin removing rats and mongooses, the team was trained in eradication and monitoring techniques, along with colleagues from Saint Lucia and Barbados. And given that public education is an important strategy in efforts to control IAS, EAG complemented its field-based activities with outreach to school children, private land owners, and visitors to the islands to engage their interest in biodiversity of the Offshore Islands KBA and educate them about the impact of IAS on the islands. Innovative "floating classrooms" gave young people and their parents a first-hand opportunity to see and experience the KBA's beauty.

Not even a month after the eradications were completed, there are signs of recovery from the effects of predation. Seabirds have already started nesting on Pelican Island. It is almost as if they know rats and mongooses won't be eating their eggs and chicks.

This work was supported by two mutually reinforcing CEPF grants: one to the EAG for the *Offshore Islands Conservation Programme: Maintaining Rat-Free Islands for the Benefit of Antigua's Biodiversity and People* and one to Fauna & Flora International for its *Islands without Aliens: Building Regional Civil Capacity to Eradicate Alien Invasive Species* project.

See related article by Fauna & Flora International on page 4.

Stories From the Field: Site Visit to Booby Cay, The Bahamas

- Wesley Jolley, Island Conservation and Predensa Moore, Bahamas National Trust

ISLAND CONSERVATION

Preventing Extinctions

BAHAMAS NATIONAL TRUST

Booby Cay in The Bahamas is home to the IUCN listed Critically Endangered Barstch's iguana (*Cyclura carinata bartschi*) and two Mayaguana bank endemic lizards. The small uninhabited cay, located to the east of the island of Mayaguana, also hosts bird species such as American flamingos (*Phoenicopterus ruber*), yellow warblers (*Setophaga petechia*) and Bahama woodstar hummingbirds (*Calliphlox evelynae*) and important native plant species such as the Inagua century plant (*Agave inaguensis*). The cay has been proposed as a national park, but is currently unprotected.

The Critically Endangered Bartsch's Iguana (*Cyclura carinata bartschi*) is found only on Booby Cay, The Bahamas © *Island Conservation*

In March 2014, six biologists from The Bahamas National Trust, Island Conservation, and the International Union for the Conservation of Nature's (IUCN's) Iguana Specialist Group spent five days on Booby Cay. The trip was part of a CEPF-supported project that Island Conservation is implementing in collaboration with partners in The Bahamas and the Dominican Republic to remove invasive species and expand protection of biologically important areas. The goal of the trip was to assess the status of invasive species on the cay and the feasibility of removing them, as well as perform an ecological assessment as part of the process to designate Booby Cay a national park.

Historically, as many as 30-50 goats and a population of black rats had been on Booby Cay; their impacts on the native plants and animals, including the Bartsch's iguana, were evident on earlier visits. Some members of the local community on Mayaguana reported that the goats had been removed. And as it turned out, the reports were true and there are no longer invasive goats on Booby Cay! However, rats remain and the team collected DNA samples to assist in determining the feasibility of a future rat removal campaign. The data collected will provide insight into how frequently rats may swim from Mayaguana (the islands are only separated by about 500 meters). Black rats are known to impact land iguana species, and removing them from Booby Cay could result in a positive conservation outcome.

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The field team representing The Bahamas National Trust, Island Conservation, and the Iguana Specialist Group. From left to right: Cameron Saunders (BNT), Joe Wasilewski (ISG), Lindy Knowles (BNT), Predensa Moore (BNT), Ethan Freid (BNT), Wesley Jolley (IC), and Worley Moss (boat captain)
© *Island Conservation*

Booby Cay is recovering from the damage caused by the goats. Typical impacts by goats include stripped vegetation, loss of diversity and well-beaten paths. The last goat was likely removed two or three years ago and it is already difficult to find evidence they were on the island. Lush, healthy vegetation means more food and cover for the Barstch's iguana and other island inhabitants.

Outreach, engagement, and consultation with local communities form a significant part of the process to develop a new national park in The Bahamas. The team of biologists held two meetings with local officials and community members in Mayaguana, to introduce the project. The Bahamas National Trust will continue to lead community interactions throughout the year.

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See the Rainforest Alliance Eco-Index for the complete profile of the project "**Feasibility Analysis, Operational Planning, and Capacity Building to Eradicate Invasive Alien Species and Expand Protection in the Bahamas and the Dominican Republic**".

Resources for Grantees

CRITICAL ECOSYSTEM PARTNERSHIP FUND

On-line Resource Kit for Invasive Plant Management

The Pacific Invasive Initiative (PII), a CEPF grantee from the Pacific region, launched an on-line Resource Kit for Invasive Plant Management earlier this year. This practical guide is designed to help invasive plant teams (i.e. decision makers, project managers, officers and field crews) make informed decisions about the prioritisation, design, development and implementation of an effective invasive plant management programme. It also includes templates and guidelines with advice and information on completing the various elements of an invasive plant management project.

You can download the PII Resource Kit for Invasive Plant Management Resource Kit in English by clicking here.

Fundraising Guide for Conservation Projects

Birdlife International colleagues from the CEPF Regional Implementation Team in the Eastern Afromontane biodiversity hotspot have released the second edition of *Institutional Fundraising for Conservation Projects*.

This guide to developing, writing and successfully selling successful projects to save the world's wonderful biodiversity takes first-time fundraisers step by step through the fundraising process. But each section has been designed to stand alone and so it is also a useful reference or "first aid kit" for more experienced fundraisers. Naturally tools, practical examples, and tips abound as the guide walks fundraisers through project development; donor selection; writing and submitting applications; developing and maintaining good donor relationships; and fundraising strategies.

Institutional Fundraising for Conservation Projects is available for download in English and French.

Grant Approvals April —June 2014

To date, CEPF has approved 73 grants in the Caribbean region totalling over USD 6.6 million. During the period April - June 2014, 9 new grants were contracted:

Grantee	Country	Grant(US$)	Title/Description
Strategic Direction 1: Improve protection and management of 45 priority key biodiversity areas			
Caribbean Coastal Area Management Foundation (CCAM)	Jamaica	268,995	Implementing the Hellshire Hills and Portland Ridge Sub-areas Management Plans in Jamaica
Clarendon Parish Development Committee Benevolent Society	Jamaica	65,314	Promoting Conservation of Peckham Woods Key Biodiversity Area, Clarendon, Jamaica
Fondo Pronaturaleza Inc. (PRONATURA)	Dominican Republic	138,214	Management Plan Implementation for Participatory Management and Biodiversity Conservation in Valle Nuevo National Park in the Dominican Republic
Instituto Tecnológico de Santo Domingo (INTEC)	Dominican Republic	56,925	Establishing Mechanisms for the Sustainable Financing of Biodiversity Conservation and Watershed Management in Montaña La Humeadora National Park, Dominican Republic
Strategic Direction 2: Integrate biodiversity conservation into landscape and development planning and implementation in six conservation corridors			
Grenada Dove Conservation Programme	Grenada	101,050	Mainstreaming Biodiversity Conservation and Ecosystem Services Action for Climate Change Adaptation in Grenada's Priority Dry Forest KBAs
Strategic Direction 3: Support Caribbean civil society to achieve biodiversity conservation by building local and regional institutional capacity and by fostering stakeholder collaboration			
Consejo Interinstitucional para el Desarrollo de Constanza, Inc.	Dominican Republic	19,872	Strengthening the monitoring component of the management plan of the Valle Nuevo National Park through the implementation of participatory management in the communities of El Castillo, Montellano and Pinar Parejo
International Iguana Foundation (IIF)	Haiti	19,990	Assessing the Status of Rock Iguanas (Cyclura ssp) and Integrating Community Outreach and Education in Massif la Hotte and Massif la Selle Conservation Corridors, Haiti
The CARIBSAVE Partnership	Jamaica	50,000	Strengthening Institutional Capacity of the Local Forest Management Committee Management Plan Implementation in the Dolphin Head Key Biodiversity Area in Jamaica
Conservation Trust of Puerto Rico	The Bahamas, Dominican Republic, Haiti and Jamaica	19,100	Strengthening Partnerships to Achieve Conservation of Critical Ecosystems in the KBAs of the Caribbean

Click here to see a full listing of all 73 grants in the region, including project summaries, on the CEPF Caribbean webpage.

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We want to hear from you!
All grantees are invited to contribute updates on their projects to Capacité.
Please share copies of Capacité with others in your network and
send your comments about the newsletter to us at the address below.

About CANARI

The Caribbean Natural Resources Institute (CANARI) is a non-profit organisation registered in Saint Lucia, St. Croix and Trinidad and Tobago, with its main office in Port of Spain, Trinidad. It has 501(c) (3) status in the United States and charitable status in Trinidad and Tobago.

Our mission is promoting and facilitating equitable participation and effective collaboration in the management of natural resources critical to development in the Caribbean islands, so that people will have a better quality of life and natural resources will be conserved, through action learning and research, capacity building and fostering partnerships.

CANARI's geographic focus is the islands of the Caribbean but its research findings are often relevant and disseminated to the wider region. Our programmes focus on research, sharing and dissemination of lessons learned, capacity building and fostering regional partnerships.

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