

Saint Lucian Project Profile: “Mitigating the Threat of Invasive Alien Species in the Insular Caribbean”

In Saint Lucia the project seeks to develop a National Invasive Species Strategy that will provide a guide to comprehensively address the issue of IAS in terrestrial, fresh water and marine eco-systems. Similarly Saint Lucia is actively participating in the activities to develop a Regional Invasive Species Strategy. The project will also engage in a range of activities to raise awareness of the issue of IAS and their impacts in Saint Lucia. The project sees to protect the endemic and endangered Saint Lucia whiptail lizard. It will also protect the Maria Islands endemic reptile populations from further threat posed by the introduction of IAS such as rats. The project will also seek to eradicate the invasive alien green iguana from the South West Saint Lucia. When completed Saint Lucia will have a comprehensive strategy for addressing the issue of IAS as well as protected its endemic endangered biodiversity.

Background

Saint Lucia’s achievements during the Project Preparation Grant (PPG) of the GEF-funded project “Mitigating the Threat of Invasive Alien Species in the Insular Caribbean”

Activities in Saint Lucia during PPG	Output Achieved during PPG
<ul style="list-style-type: none"> • Desk study on existing inventories for terrestrial, marine and aquatic organisms, with respect to (1) preserving native species and (2) invasive alien species threatening native biodiversity • Review MEA obligations and their fulfilment so far to prioritise next steps on strategic level 	<ul style="list-style-type: none"> • Country is aware of the IAS data and information available in their country and formulated research needs based on this data available • Country identified gaps, inconsistencies and conflicts in their national policies and legislation of relevance to IAS
<ul style="list-style-type: none"> • Draft training plan for implementation under FSP • Draft communications plan for dissemination of project up-dates and lessons learnt 	<ul style="list-style-type: none"> • Key stakeholders regarding IAS are identified and aware of their potential roles • Target groups for public awareness activities in FSP identified; draft communication plan circulated for feedback • Tentative training needs identified and capacity-building strategy drafted for fine-tuning and subsequent implementation under FSP
<ul style="list-style-type: none"> • Finalize selection criteria, if appropriate in consultation with additional stakeholders • Select pilot projects based on all the information and criteria (international workshop and PPG) 	<ul style="list-style-type: none"> • A confirmed list of species and/or sites for pilot projects agreed by key national stakeholders • Preliminary list of measures for prevention, early detection, rapid response and eradication compiled and budgeted for each pilot project • Equipment and personnel needs assessed and budgeted

At the end of the PPG phase, the proposal for the Full Size Project (FSP) was submitted to the GEF in January and approved in July 2009. The FSP has five components:

1. Development of National IAS Strategies
2. Caribbean-wide Cooperation and Strategy
3. Information and Knowledge Generation, Management, and Dissemination

4. Prevention of IAS in Terrestrial, Freshwater and Marine Systems
5. Early Detection, Rapid Response and Control of IAS Impacts in Terrestrial, Freshwater and Marine Systems

*The **Current Full Size Project (FSP)** phase started on October 2009 for a duration of four years.*

Component 1

St. Lucia is in the process of recruiting consultants to prepare a draft National Invasive Species Strategy (NISS). The NISS structure has been outlined and approved by the national IAS working group.

Component 2

St. Lucia is contributing to CABI-lead activities, e.g. active participation in the Regional Consultation process with experts from the Departments of Forestry and Fisheries. We compiled a list of existing NISS and RISS, particularly from the Caribbean region or other small island states, as well as of toolkits how to go about preparing these: [Link 1 - Existing NISS and RISS.docx](#)

Component 3

Environmental Education:

The Forestry Department has an Environmental Education Unit that is currently involved in an IAS awareness survey designed to inform a subsequent public education campaign. The unit has extensive experience in effective didactic methods for all audiences. The Department's staff are bilingual (English and Kwéyòl).

Regional Knowledge Sharing:

St. Lucia is the only OECS country in this regional project. Thus, the project collaborated closely with the OECS's Protected Areas and Associated Livelihoods (OPAAL) project. The Durrell Wildlife Conservation Trust has also been working on a number of IAS projects in the Eastern Caribbean, including Saint Lucia, since the 1990s. The following ones are of relevance to IAS in other OECS countries and Wider Caribbean Region (WCR) and knowledge sharing will be supported by the GEF-funded IAS project:

Meta-population management of the Endangered Antigua racer snake on Antigua's offshore islands; ecosystem restoration.

Durrell is a founding member of the Antigua Racer Conservation Project, along with the Antiguan NGO the Environmental Awareness Group, the Antigua Forestry Department and overseas NGOs Fauna & Flora International, Black Hills State Uni and the Island Resources Foundation. The project follows a similar plan to the Saint Lucia whiptail project and has recovered the global population of the Antigua racer from 50 individuals to over 300 in 10 years. The project is now renamed the Offshore Islands Conservation Programme in recognition of its wider ecological restoration goals: plant diversity and seabird nesting numbers have both increased since the removal of rats. Rat bait stations provide an early warning system as in Saint Lucia. Donors have included the Disney Foundation, USFWS, the Balcombe Trust, Syngenta, OAS, IFAW, Whitley Award.

Enabling Montserrat to save the Critically Endangered mountain chicken.

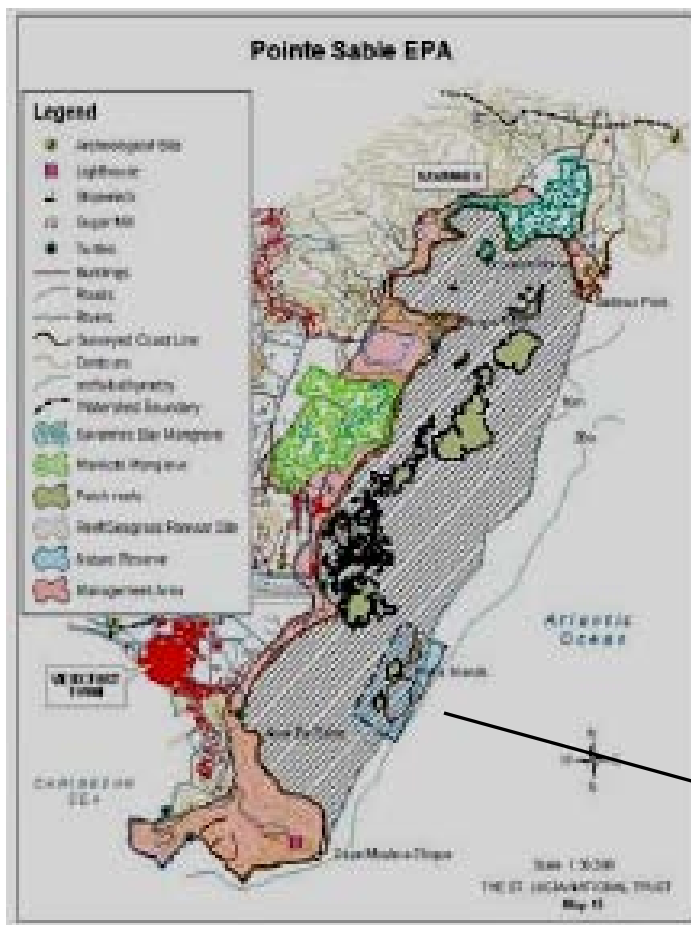
This Darwin Initiative project is due to start in mid 2010 in response to the recent introduction of chytrid fungus to Montserrat and its devastating effect on the Critically Endangered mountain chicken frog. The project is a part of the wider Mountain Chicken Recovery Programme initiated by Durrell, Montserrat's Department of Environment, Dominica's Forestry Department, the Zoological Society of London and

several European zoos. The latter partners are maintaining a captive “safety net” population of uninfected frogs whilst options for a reintroduction are explored: the data from field trials of in situ treatment of chytrid infection are currently being analysed and an expedition into Montserrat’ volcanic Exclusion Zone is planned this month to confirm that an isolated area unaffected by the volcano has remained chytrid-free.

St. Lucia is moderating the Yahoo Group Carib_IAS_Threat, which seeks to review invasive species issues across the Wider Caribbean Region. Project information of interest to the wider public is circulated to over 200 members. Please visit http://tech.groups.yahoo.com/group/carib_ias_threat/

Component 4

This component is led by the Fisheries Department. It is supported by the Durrell Wildlife Conservation Trust and the Forestry Department with respect to the following joint activities:



The vulnerable St. Lucian Whiptail lizard (*Cnemidophorus vanzoi*) is endemic on Maria Island



Meta-population management of the Vulnerable Saint Lucia whiptail lizard on four of Saint Lucia’s offshore islands:

Saint Lucia whiptail lizard was only described to science in the 1960s. This species is presumed extirpated from the mainland by introduced predators, such as cats, dogs, rats, mongooses. It survived on two offshore islands to which these predators had never been introduced, and Durrell and the Saint Lucia Forestry Department eradicated rats on two others to allow the lizard population to grow through translocations. The rat-free status of these islands is maintained through a network of rat bait stations that provide an early warning mechanism in case of re-invasion. This work has been funded by the Balcombe Trust and Syngenta, with support from Sandals Hotel.

Marine Monitoring

Of all the protected areas of Saint Lucia, Maria Island (Major) contains the most threatened, endangered and endemic reptile species. The island is located 1000 yards off the southeastern coast of Saint Lucia. There are actually two Maria Islands, Maria Minor and Maria Major. Together they are about 25 acres in size. There are eight (8) reptile species of which five (5) are endemics. This high rate of endemism on such a vulnerable small (19 acres, 3 roads and 9.4 perches) fragile area/ecosystem is of serious concern as it pertains to IAS, more so since the area is both a marine reserve and a bird sanctuary, which make it vulnerable to IAS by (land, sea and air), and by both natural and human agents, such as avian influenza and rats respectively.

An inventory of the marine and terrestrial components of the Maria Island Nature Reserve will be updates. The Veterinary Department, in collaboration with the Forestry Department, is working towards a schedule of surveillance for detection of the Avian Influenza Virus at various wetlands island-wide. This programme is being funded by the Government of Saint Lucia. We will sensitize community, users and national populations on the threat posed by IAS and train port quarantine officers and personnel in early detection of IAS. This project component is closely collaborating with the National Trust and the OECS's OPAAL project.

Staff is currently being trained to expand existing marine and coral reef monitoring to vigilance against IAS. The lionfish (*Pterois volitans*), which is getting ever closer to St. Lucian waters, is a major concern. Thus, island-wide monitoring will involve recreational divers as well as conch and lobster divers.

An externally funded student project focusing principally on Dominica led to the detection of incipient populations of an invasive seagrass in St. Lucia: *Halophila stipulacea* ([Willette & Ambrose, 2009](#)), which may pose a threat to the indigenous *Halophila decipiens*. While monitoring for this aquatic flowering plant will be systematized, its potential management will fall under Component 5.



The invasive seagrass *Halophila stipulacea* has recently been detected in St. Lucia
(Photo: Demian Willette)



The lionfish is still absent from St. Lucia. Island-wide monitoring will involve recreational divers as well as lobster and conch divers
(Photo: J. Randall, Bishop Museum)

Monitoring at official entry points

The Research Division, with funding from the FAO, conducted a Phytosanitary Training Workshop in November 2009. A follow up is planned for mid 2010. It appears that training is translated into practice, as a large shipment of (apparently correctly treated) lumber from Central America was intercepted at Castries Port following phytosanitary inspection, due to insect contamination. The vessel had previously made several stops in the WCR without being stopped.

Component 5

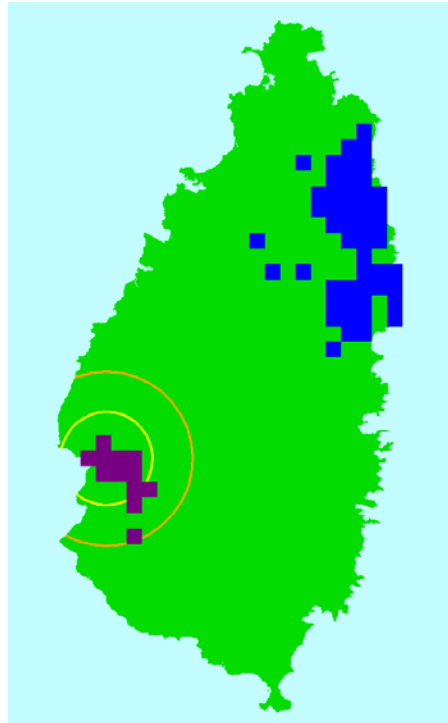
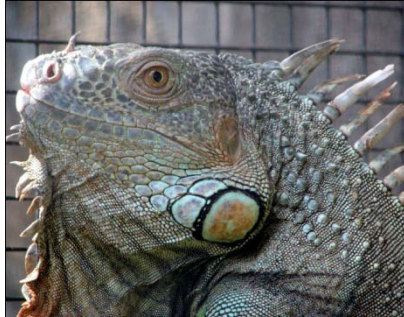
IAS Management

This component is led by the Forestry Department. It is supported by the Durrell Wildlife Conservation Trust with respect to the following joint activities:

Alien green iguana removal from South West Saint Lucia

This is an ongoing collaboration between Durrell and the Forestry Department, initiated by questionnaires and field surveys in 2008. It is a part of wider efforts to conserve the Saint Lucia iguana now restricted to a small range in the north east of Saint Lucia. Durrell have been involved with Forestry in the implementation of removal methods since they were first deployed in 2009, and are supported by the Balcombe Trust in this work. This activity is now being continued with the support of the GEF-funded project.

The alien iguana is spreading in the South West. The clutch size exceeds 40 eggs. Keep the ranges of the two iguanas separated is a priority, as scientists believe the two iguanas could mate hybridize. Eradication attempts are underway.



St. Lucia's native iguana, the *iyanaola* lives in the North-East and has a relatively small clutch size of 20-25 eggs.



Mongoose control research at sensitive iguana nesting site.

Durrell and Forestry trialed live-trapping and euthanasia at the most important iguana nesting site on Saint Lucia and demonstrated that a relatively low trapping and removal effort around nest areas can effect a sharp decline in numbers of mongooses (an iguana hatchling predator) that persists for several months (the window of hatchling emergence). This work was funded by the Balcombe Trust.

Capacity-Building in Impact Assessment

Three staff members covering the departments of Forestry and Fisheries have been selected to benefit from training in impact assessment if IAS. It is hoped that the knowledge to be gained can be put to good use, e.g. to estimate the damage done by feral pigs in the Forest Reserve and to decide whether or not the marine plant *H. stipulacea* requires management.

Summary of the project activities to be undertaken within the next six months

- Complete Critical Situation Analysis (CSA) summarizing the baseline on IAS presence, management activity and awareness in St. Lucia
- Initiate development of National Invasive Species Strategy (NISS)
- Participate in regional meeting to prepare outline of Regional Invasive Species Strategy (RISS)
- Conduct nation-wide IAS awareness survey to inform public education campaign
- Intensify monitoring for IAS in a systematic manner
- Participate in T-STAR IAS Symposium at the Caribbean Food Crop Society Meeting, Dominican Republic, July 2010
- Continue eradication efforts of alien iguanas using a greater variety of approaches

The project is being executed in Saint Lucia:

Ministry of Agriculture, Lands, Forestry and Fisheries (MALFF)

4th & 5th Floor, Sir Stanislaus James Building
Waterfront, Castries
Saint Lucia, West Indies
Telephone : (+1-758) 452-2526 or (+1-758) 468-4104/8
Fax : (+1-758) 453- 6314
Email : adminag@candw.lc
Website: <http://www.maff.egov.lc/>

The project itself is housed at the:

Forestry Department of MALFF

Union
Saint Lucia, West Indies
Telephone : (+1-758) 468-5635
Fax : (+1-758) 450 2287
Email : deptforest@slumaffe.org
Websites: http://www.slumaffe.org/Forestry_Department/forestry_department.html
http://www.malff.com/index.php?option=com_content&view=article&id=49&Itemid=56

Component 4 (prevention) is spearheaded by the:

Fisheries Department of MALFF

Pointe Seraphine
Castries
Saint Lucia, West Indies
Telephone : (+1-758) 452 3987 or 542 6172
Fax : (+1-758) 452 3853
E-mail: deptfish@slumaffe.org
Websites: http://www.slumaffe.org/Fisheries_Department/fisheries_department.html
http://www.malff.com/index.php?option=com_content&view=article&id=48&Itemid=55

Close consultation on all aspects takes place with the

Biodiversity Programme of MALFF

4th Floor, Sir Stanislaus James Building
Waterfront, Castries
Saint Lucia, West Indies
Telephone : (+1-758) 468-4122
Fax : (+1-758) 453- 6314
Email : biodivproject@slubiodiv.org
Website: <http://www.slubiodiv.org/>

For More Information please contact:

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Invasive Iguana Hotlines:

Please report any iguanas in the Soufriere area (Canaries to Fond St. Jacques to Choiseul) to any of the numbers below, so we can catch it. Please do not attempt to catch the iguana yourself:

Tel.: (+1-758) 713 4974
519 0184
519 8215

The Ministry of Physical Development Environment and Housing has the mission to foster sustainable improvement in the Quality of life of all St. Lucians, through effective integrated planning, coordination, implementation and monitoring of physical/spatial, technological, economic, environmental, and social development activities. The project collaborates closely with three units of the Sustainable Development and Environment Section,

- GEF Operational Focal Point
- Coastal Zone Management Unit (CZMU)
- Climate Change and Adaptation Unit

with other Government Departments and Agencies,

- Customs and Excise Department of Saint Lucia: www.customs.gov.lc/
- Saint Lucia Sea and Airports Authority (SLASPA): <http://www.slaspa.com/>
- Saint Lucia National Emergency Management Organisation (NEMO): <http://www.stlucia.gov.lc/docs/nemo/nrp/index.htm>
- Veterinary Department: **

with Non-Governmental Organizations (NGOs),

- Saint Lucia National Trust: <http://www.slunatrust.org/>
- Soufriere Marine Management Area (SMMA): <http://www.smma.org.lc/>
- Soufriere Foundation
- Durrell Wildlife Conservation Trust: <http://www.durrell.org>
- The Nature Conservancy (TNC): http://www.tncfire.org/crosscutting_fandi.htm

with Regional Intergovernmental Organizations,

- CABI Caribbean and Latina America: <http://www.cabi.org/?site=170&page=1339>
- Caribbean Environmental Health Institute (CEHI): <http://www.cehi.org.lc/>
- Organization of Eastern Caribbean States (OECS): <http://www.oecs.org/esdu>

as well as civil society, including private sector representatives:

- Conch and lobster divers
- Saint Lucia's Dive Association (ANBAGLO)
- Roger Graveson's "The Plants of Saint Lucia": <http://www.saintlucianplants.com/>