

Conservation news

Antigua announces 15th island cleared of invasive alien mammals

The once-forested island nation of Antigua and Barbuda in the Eastern Caribbean looks starkly different today. Besides having lost most of its forest cover—first to agriculture and later to urban sprawl and tourism developments—this small country has suffered from a wide range of harmful invaders. Among the most devastating for wildlife are the Eurasian black rat *Rattus rattus*, which reached the Caribbean with European settlers in the 17th century, and the small Asian mongoose *Herpestes javanicus*, introduced in the late 19th century in an attempt to control the rats. Many native species have been lost, including the Antiguan burrowing owl *Athene cunicularia amaaura*, the endemic Antiguan and Barbudan muskrats '*Ekbletomys hypenemus*' and *Megalomys audreyae* and, most recently, the Lesser Antillean iguana *Iguana delicatissima*.

While native biodiversity declined on Antigua and Barbuda, the country's uninhabited offshore islands emerged as vitally important natural refugia. More than 30 small limestone islands scattered across Antigua's shallow coastal shelf are home to globally important colonies of seabirds, the Vulnerable West Indian whistling-duck *Dendrocygna arborea*, nesting marine turtles and many of the country's last endemic plants, reptiles and invertebrates. Collectively, the islands have been internationally recognized as a Key Biodiversity Area, an Alliance for Zero Extinction Site, and an Important Bird Area.

By the 1990s, however, most of Antigua's offshore islands were occupied by rats, and mongooses had reached the larger islands, further depleting their native flora and fauna. Among the many species affected was the Critically Endangered Antiguan racer *Alsophis antiguae*, a harmless dipsadid snake. Only c. 50 racers remained when the species was first surveyed by Fauna & Flora International (FFI) in 1995, all confined to the 8-ha Great Bird Island, and most had been injured by black rats. To save these rare snakes, rats were successfully eradicated from Great Bird Island and two neighbouring cays in 1995 by staff from FFI, the Forestry Unit and the Environmental Awareness Group. Since then efforts to remove invasive alien mammals have expanded across the archipelago, with 15 islands successfully targeted: Great Bird, Galley Major, Galley Minor, Redhead, Rabbit, Lobster, Little Lobster, Maiden East, Maiden West, Unnamed, Green, York, Pelican, Codrington and Guardhouse. The last three islands were cleared of rats and mongooses in 2014 with grants from the Critical Ecosystem Partnership Fund and rat bait generously donated by Syngenta plc.

Our methods of eradicating black rats have remained largely unchanged for 20 years. A brodifacoum-based bait

(Klerat) is distributed manually across the islands at intervals of 10–40 m for 3 weeks (c. 5 kg bait per ha in total). Uptake is monitored closely and any uneaten bait, and carcasses, disposed of. The same bait is used in permanent bait stations to detect and prevent any further rodent incursions. These methods have proved to be remarkably safe and effective on these islands, with 100% success in eradicating rats and no sign of any non-target animals being harmed. Mongooses are removed quite easily using live traps baited with tinned fish or chicken. The eradication operations have typically cost c. USD 1,000 per ha, with most of the labour provided by local and international volunteers.

The responses of native wildlife to removing rats and mongooses have been conspicuous and swift. Since 1995 the national population of Antiguan racers has grown more than 20-fold to over 1,100 individuals, spread across four islands that have been cleared of invasive alien mammals. Vegetation biomass and invertebrates have visibly increased on the rat-free islands, which now support a three-fold greater density of the endemic lizards *Ameiva griswoldi*, *Anolis watti* and *Anolis leachi* than neighbouring islands containing alien mammals. Colonies of seabirds and land birds that nest on the offshore islands have increased 6–20 fold during the same period. Not only does the absence of mammalian predators aid intrinsic population growth, it appears birds actively seek out such islands to colonize. In 2014 30 pairs of least terns *Sternula antillarum* began nesting on Pelican Island within 2 months of the rats and mongooses being eradicated—the first time that any seabirds have nested on Pelican Island in living memory.

With 15 islands cleared of invasive alien mammals and plans to restore two more, Antigua and Barbuda is leading the Caribbean in tackling this threat to island biodiversity and is enabling its native species and forests to thrive again.

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Conservation Leadership Programme: 30 years of building capacity for conservation

This year the Conservation Leadership Programme (CLP) celebrates 30 years of building capacity and supporting threatened species conservation. A collaborative partnership between BirdLife International, Fauna & Flora International and the Wildlife Conservation Society, the

programme is recognized for identifying exceptional young conservationists, investing in their professional development, and providing a platform from which they become leaders.

When it was launched in 1985 as the Conservation Expedition Awards, the primary objective was to fund British university students to collect baseline data on threatened species. These grants have grown into what are now known as CLP Conservation Awards, with three stages of support. The focus has also shifted to support nationals living and working in lesser-developed countries, with the intention to build a cadre of local conservation leaders. Funding is initially awarded to advance small-scale conservation and research projects, and continuation funding helps teams establish longer-term initiatives with the potential to offer more sustainable solutions to conservation issues.

The Programme's investment is complemented by support for professional development, including short-term training courses and internship placements with the CLP partner organizations, as well as travel grants and networking and mentoring opportunities for CLP alumni. Projects have had significant impacts and been recognized for their contribution to biodiversity conservation by governments, the scientific community and conservation practitioners. Highlights of the Programme include the following examples:

- In 1988 a team was funded to survey the avifauna of Gola Forest, the largest area of intact lowland rain forest in Sierra Leone. The project led to a partnership agreement with the forest department, the Conservation Society of Sierra Leone and the Royal Society for the Protection of Birds. In 2011 the government of Sierra Leone declared this area the Gola Rainforest National Park.
- In 1996 activities initiated under Project Swallow Reef later resulted in the establishment of a permanent marine research and monitoring station on Layang Layang, supporting the conservation of one of the most biodiverse coral reefs in Malaysia.
- In 2009 a 3,000 ha nature reserve was established in Guangxi province, China, to conserve the world's rarest primate, the Critically Endangered cao-vit gibbon *Nomascus nasutus*, and its habitat, as a result of a CLP-funded project.
- Following initial sighting of a new primate species in Brazil, a team funded by CLP collected data that led to the description of a new species of Titi monkey *Callicebus miltoni* in 2015.

With the support of *Oryx—The International Journal of Conservation*, CLP also runs a week-long workshop to encourage alumni to publish their findings in peer-reviewed journals. In February 2015 CLP ran its 6th Writing for Conservation workshop, for 20 participants from Indonesia. Approximately 100 CLP alumni have now taken this training

since 2008, resulting in publication of articles in a range of peer-reviewed journals.

The legacy of the Programme spans 4 decades. In April 2015 the Programme announced its latest Conservation Award winners, with a total of USD 300,000 granted to 22 projects in 12 countries. Results from CLP projects are published in project reports and are freely accessible via the CLP website. Further information can be found at <http://www.conservationleadershipprogramme.org>

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Community forest rights established for baobab conservation in Madagascar

December 2014 marked a significant step towards effective conservation of the iconic, Endangered Granddier's baobab *Adansonia grandidieri*, endemic to western Madagascar. Despite its high cultural significance in Madagascar, the species has limited protection from overexploitation. Non-timber forest products from the species, including bark, fibres, leaves, fruits and seeds, are utilized for various purposes, and particularly for food, medicine, construction and oil production, and to generate a small income. Local people recognize that the species is most heavily used 'when people don't have money' (*Biodiversity Conservation*, 2009, 18, 2759–2777), suggesting that the species may be at risk of overexploitation.

Supported by the Global Trees Campaign, the NGO Madagasikara Voakajy has been working closely with local communities to secure management rights to key baobab forests. This will allow communities to manage the forests sustainably to avoid deforestation and the over-exploitation of the species. Towards the end of 2013 the team secured the transfer of forest management rights to the community in the village of Bepeha in the west. The site covers 6,453 ha of forest, with 400 adult Granddier's baobabs.

Building on the successful transfer of rights in 2013, the process was replicated in December 2014 for a second village, Betainkilotra. As before, a new management plan was developed, outlining natural resource use within different forest zones: a core conservation zone (the critical area for baobabs), a subsistence use zone and a third area for reforestation. The communities will be supported and monitored in the implementation of the plan by the Direction Régionale de l'Environnement et des Forêts.

The Global Trees Campaign and Madagasikara Voakajy continue to support a similar process in Ambodimadiro in northern Madagascar. This site supports a population of c. 500 Endangered Diego's baobab *Adansonia suarezensis*.