

effectively doubled the area accessible to the public from the park itself. As an added bonus, they also covered the cost of a necessary security fence.

Meanwhile, the Buy Back committee submitted an application to the Planning Department to enhance the reserve by installing the perimeter fence, extending the pond and creating an interpretive nature trail and observation hide. Then, in the hope of being able to take this work forward in tandem with the fund-raising effort for purchase, we applied also to the Overseas Territories Environment Programme for a \$50,000 grant. Our application was successful and the work was carried out between 2005 and 2007, using three different contractors and numerous volunteers, including school children from the neighbourhood schools. Included within our enhancement plan has been a thorough culling out of aggressive invasive plant species and the planting in of a new woodland using primarily the native and endemic trees and shrubs that characterised pre-colonial Bermuda. The reserve was opened by Bermuda's Deputy Premier, the Hon. Paula Cox, on Earth Day, 22 April 2007. David Wingate, Email: dwingate@northrock.bm

The Saltus Island Project (BDA401)

The Bermuda National Trust's goal is to protect Saltus Island as a nature reserve and undeveloped open space forming part of the natural landscape of this part of Hamilton Harbour, Bermuda. This school and NGO project began in March of 2002, following a discussion with the Bermuda National Trust. The aim of the project is to manage the woodland on Saltus Island, (named for the school founder Samuel Saltus) and maintain the 3.2 acres as a nature reserve.

The project is offered to Senior 9 students (age 13), groups of whom visit on average twice per month. All students have at least two opportunities to visit during the academic year. Students are transported to Saltus Island, in Soncy Bay, by the Marine Police, who kindly provide their services. Students new to the project are first given a tour of the island, to enable them to identify the species of vegetation which are 'invasive' as well as those which are endemic, other natives, and non-invasive introductions. The main invasive species on Saltus Island are the 'Walking Casuarina' and the Mexican (Brazil) Pepper, which threaten to take over the island, as they have done on many of the islands in Hamilton Harbour.

Initially, students spent the first year of the project helping to develop paths around the island. Over subsequent years, students armed with only loppers and bow-saws have started to clear areas of invasive species, so that endemic and other native plants can be put in place.

The project is ongoing and has a secondary aim to educate a generation of local students. It is our hope that these students will



Local school children help with the clearing of invasive species on Saltus Island.



form a new generation who can make informed decisions about changes to the local habitat of a highly developed island on which natural landscapes are continually dwindling.

Steve Briggs, Saltus Grammar School, Email: sbriggs@saltus.bm

Bermuda Environmental Valuation: Tools and Capacity-Building for Integration in Policy (BDA402)

Increasing development and lack of enforcement for environmental infractions place intense pressure on Bermuda's natural resources. This project seeks to address the lack of environmental consideration in current policy and decision-making, by providing a means of recognizing the value of the range of ecosystem services provided by Bermuda's environment. Given the vast range of impacts caused by human development on both the terrestrial and marine environment, identification of the policy questions to be addressed and prioritisation of environmental services were first considered. This was evaluated during a 3-day workshop attended by various government department officials and representative members of several local NGOs. The project was formulated further during a training workshop held in the Cayman Islands and led by a JNCC economist and overseas consultants (van Beukering Consultants). It was decided that a first environmental economic valuation in Bermuda would focus on the Coral Reefs surrounding the island. Determining the total economic value (TEV) of Bermuda's Coral Reefs will provide the basis for establishing damage compensation fees following such events as ship groundings, as well as a means to integrate environmental considerations in Cost Benefit Analysis of proposed developments.

Coral Reefs were selected as a priority ecosystem, despite the long history of protection surrounding them. Conservative measures have been taken since 1966; nevertheless, according to a 2004 report by the World Resources Institute, Bermuda's reefs are ranked in the "high risk" category. This is probably attributed to the Island's high population density within 20 km of the coral reefs, as well as the volume of shipping traffic and potential pollution threats from these vessels. In addition, there is a lack of formal procedure during "planning" or "developing" in the marine environment, and environmental impact assessments are not mandatory and are only recommended for larger developments. Due to the lack of policy regarding developments in the marine system, and the absence of a mechanism for integrating environmental values, decisions are tourism- or business-driven with little consideration for the marine environment.

The project is of immediate interest due to the increasing ship traffic and renewed use of an existing channel on the outer rim of the lagoon, referred to as the North Channel. This passage is rarely used, and has remained for this reason a pristine coral reef. Its proposed use for larger ships involves widening of the channels, as well as cutting through sections of the reef. The alternative proposal is to modify the well travelled South Channel, which has been exposed routinely to sedimentation – to the extent that coral species have adapted and composition has altered. This alternative proposal attempts to restrict sedimentation effects to one already impacted passage, rather than



Sedimentation plume following the passage of a mega cruise ship in Bermuda's North Channel. Photo: Thad Murdoch