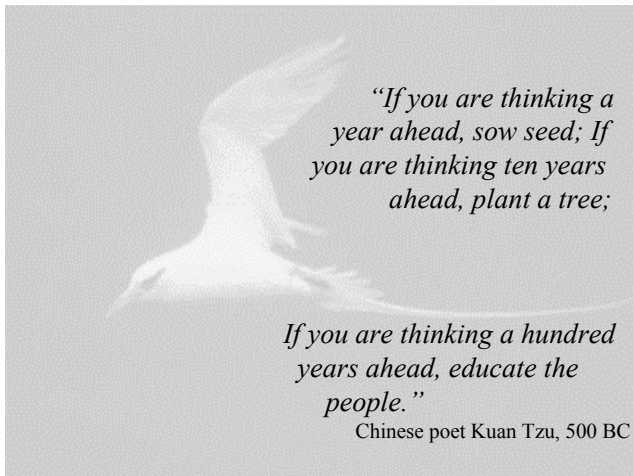


EXISTING AGENCIES FOR BIODIVERSITY CONSERVATION AND THEIR ROLES



Despite its geographical isolation, the small size of the Island, and a population of just 60,000, Bermuda’s current capacity to satisfy the components needed for promoting effective biodiversity conservation is significant. Particularly encouraging is the increasing spirit of collaboration between so many sectors of the community.

Government Agencies

As would be expected of a sophisticated community, the Government infrastructure in Bermuda is highly developed. Various bodies have been established to manage the Island’s natural resources. Under the Ministry of the Environment, Development and Opportunity these include: The Department of Agriculture and Fisheries, which supports and regulates these primary industries, and also has a Plant Protection Unit and an Animal Husbandry unit to guard against invasions by disease-causing

organisms; the Department of Planning, which includes a building control section, a development control section and a forward planning section; and the Department of Parks, which has responsibility for terrestrial conservation, (marine conservation falling under the Department of Agriculture and Fisheries). Additionally, under other Ministries, the Department of Health addresses environmental health, whilst the Department of Works and Engineering assumes responsibility for waste management.

In a very promising move, a review of the then Ministry of the Environment was initiated in 1998, at the request of senior civil servants who felt that the department “lacked relevance and stature in comparison to other government departments; that certain constituencies within the community were not being well served; and that the development of adequate environmental protection legislation was lacking”¹. A stakeholder survey identified the following as areas where the Ministry should be more active:

- Educating and communicating with the public
- Conserving Bermuda’s natural resources
- Leading in the ‘greening’ of Bermuda
- Institutionalising environmental consciousness
- Establishing and supporting an integrated planning process
- Building on and strengthening existing NGO relationships
- Maintaining envirometrics and conducting relevant research

¹ Department of Management Services, Bermuda Government. 2000. Review of the Ministry of the Environment.

- Strengthening the enforcement of environmental regulations.

The result is a proposed re-structuring with two new departments; one, the Department of Environmental Protection brings together setting standards, monitoring and enforcement activities. The second, the Department of Conservation Services, “would assume responsibility for promoting the safeguarding of Bermuda’s environmental heritage and would be a proactive, public facing unit”.

Non-Governmental Organisations

The Non-Governmental Organisations (NGO’s) in Bermuda play a vital role in promoting local biodiversity conservation. Some are purely voluntary while others have full time paid staff co-ordinating activities and programmes. The largest, the Bermuda Zoological Society has a membership of just over 4,000, representing approximately 15.5% of the population. Many individuals in the community enjoy membership in several of the NGO’s, which helps foster open communication between them. However, there is still a need for greater co-operation in order to make more efficient use of limited resources.

<i>Organisation</i>	<i>Focus</i>
Bermuda Audubon Society	Established in 1954 to lobby against the policy of filling marshes with waste; incorporated in 1960 to hold land as nature reserves. Promotes education and in-situ conservation. http://www.audubon.bm
Bermuda Biological Station	Established in 1903, to carry out marine and atmospheric research and education in science. http://www.bbsr.edu
Bermuda Botanical Society	Began in mid-1980’s to encourage and support the botanical sciences and promote further development of the Botanical Gardens and Arboretum
Bermuda Eden Project	Formed in 1998, to raise awareness of environmental issues by holding an annual exposition.
Bermuda Feline Assistance Bureau	Established as a charity in 1992 to control and reduce, through humane means, the feral cat population of Bermuda.
Bermuda Garden Club	Established in 1921 to promote horticulture through courses and to improve the environment through gardening.
Bermuda Zoological Society	Established in 1978 to support BAMZ and develop community participation in, and support for programmes in education, conservation and research through membership and donation. http://www.bamz.org
Bermuda National Trust	Restructured from the Historical Monuments Trust; incorporated in 1969 as a membership organisation. Engages in environmental advocacy work to prevent loss of open space and buildings of historical character. http://www.bnt.bm
Bermuda Underwater Exploration Institute	Established in 1992, opened in 1997 to advance the understanding, appreciation and knowledge of the ocean and to encourage the protection of the marine environment. http://www.buei.bm
Friends of the Bermuda Aquarium	Incorporated in 1993 as a U.S. not-for-profit organisation to promote education, conservation and research through BAMZ. http://www.bamz.org/foba/friends.html
Friends of Fish	Formed in the late 1980’s and dedicated to ensuring Bermuda’s reef fish are protected and preserved for future generations. Instrumental in the 1990 fish pot ban.
Keep Bermuda Beautiful	Originally part of the Bermuda Garden Club, established as a separate organisation in 1964. Emphasises programmes to reduce litter and promote appropriate disposal and recycling of waste. http://www.kbb.bm
Save Open Spaces	Formed in the early 1980’s out of concern for the rapid pace of development, resulting in the loss of open space.

Table 9. Principal local environmental non-governmental organisations.

Educational/Research Institutions

The absence of a degree granting institution on the Island is, on the one hand beneficial in that it forces young Bermudians to continue their education overseas. On the down side, finances preclude many young people from furthering their education abroad, and Bermuda does not benefit from the research component associated with such institutions. Having said that, the Bermuda College offers first and second year college courses in preparation for higher degree courses overseas, including the sciences, and is supported by a keen faculty.

The principal scientific research body on the Island is the Bermuda Biological Station for Research. This U.S. not-for-profit facility has established itself as a global leader in the fields of physical and chemical oceanography, attracting multinational research projects. It currently has 11 resident faculty, comprising U.S., Canadian, British, and Bermudian scientists. There is currently limited research at the taxonomic level, but ongoing monitoring of Bermuda's coral reef ecosystem is an important component of the facility's activities. Educational opportunities are provided for overseas and Bermudian students.

The natural history museum at the Bermuda Aquarium, Museum and Zoo (BAMZ) is the principal organisation for promoting research of the Island's terrestrial and shallow water flora and fauna. With a long history of supporting overseas scientists conducting research aimed mainly at the

taxonomic level, the launch of the Bermuda Biodiversity Project in 1997 (a joint initiative of BAMZ, the Bermuda Zoological Society and the Friends of the Bermuda Aquarium) has provided the necessary framework for a more integrated approach to research into the Island's biodiversity.

Research at the Division of Fisheries is focussed on studies of fisheries-related issues. There is also a plant biology laboratory at the Department of Agriculture and Fisheries which focuses primarily on plant pest species.

Business Involvement

The local and international business community makes a significant contribution to biodiversity conservation, although this is largely limited to a small number of dedicated supporters. Most of this support is through corporate sponsorship of NGO initiatives. This may be either through membership, or directly for specific projects such as the Keep Bermuda Beautiful "Adopt-a-Park" and the Learning Through Landscapes programmes. A number of businesses also provide significant "in kind" support (such as the printing and/or distribution of information/flyers). Many also serve as volunteer representatives on various advisory committees.

International Co-operation/ Exchange Projects

<i>Organisation</i>	<i>Relevant Activities</i>
Bermuda Aquarium, Museum & Zoo/ Bermuda Zoological Society	<ul style="list-style-type: none"> • Associate member of U.K.O.T. Conservation Forum • Collaboration with Fauna and Flora International to develop BSAP • Collaboration with Marine Mammal Stranding, WIDECAST, Caribbean Conservation Corporation • Support visiting scientists • Funding from overseas agencies • Participation in REEF fish and AGRRA coral surveys
Bermuda Audubon Society	<ul style="list-style-type: none"> • Support for Cahow conservation (BirdLife)
Bermuda Biological Station for Research	<ul style="list-style-type: none"> • Member of the CARICOMP Caribbean-wide monitoring project on corals, seagrasses and mangroves • Cooperative studies with University of the Azores on systematics and molecular genetics • Current graduate research (Snell, SUNY, Buffalo) on genetic similarity of Bermuda's corals to Caribbean conspecifics
Bermuda Garden Club	<ul style="list-style-type: none"> • Affiliated with Royal Horticultural Society, National Association of Floral Artists • Hosts gardening enthusiasts from abroad
Bermuda National Trust	<ul style="list-style-type: none"> • Associate membership of U.K. O.T Conservation Forum
Department of Agriculture and Fisheries	<ul style="list-style-type: none"> • CITES • Member CCA, GCFL, ICAAT
Department of Health	<ul style="list-style-type: none"> • Affiliated with Center for Disease Control • Liase with Environmental Protection Agency
Department of Parks	<ul style="list-style-type: none"> • Collaboration with NSW Parks and Wildlife Service (Australia) in sharing information & techniques in Petrel management • Collaboration with U.S. Fish and Wildlife Service and National Audubon Society in sharing migratory bird and banding data
Department of Planning	<ul style="list-style-type: none"> • Member of the UK Institute of Environmental Assessment and Management
Keep Bermuda Beautiful	<ul style="list-style-type: none"> • Collaboration with the Centre for Marine Conservation (CMC) for International Coastal Cleanup • New information and resource sharing partnership with Keep America Beautiful • Partner with ITW Hi-Cone to collect and return over 10,000 six-pack holders to their factory

Table 10. Current co-operative programmes with international agencies.

Most of the NGO's and government departments have forged strong working relationships with international bodies.

Community Groups

A recent survey of local community groups and churches revealed that many promote biodiversity conservation by raising awareness². A number also actively participate in clean-up and enhancement programmes, and some encourage the propagation of native and endemic plants. Some expressed their receptiveness to undertake more ambitious projects given some guidance.

Training for Biodiversity Conservation

Despite limited formal training programmes in Bermuda, many of the environmentally-related Government departments encourage young Bermudians enrolled in undergraduate degree programmes overseas, to undertake a period of internship. This applies to the Departments of Parks (including the Division of Conservation), the Department of Agriculture and Fisheries and the Department of Environmental Health. These programmes are designed to provide hands-on field experience but also allow the students an opportunity to gain exposure to potential employers. Most departments also support overseas training for resident staff. The Department of Parks is currently

² Bermuda Biodiversity Project. 2000, Unpublished survey. Bermuda Zoological Society.

developing an in-house training programme in conjunction with the Bermuda College for accredited courses in all horticultural practices.

Many of the NGO's also provide training opportunities, either through scholarships for overseas training (Bermuda Botanical Society, Bermuda Garden Club, Bermuda Underwater Exploration Institute, Friends of the Bermuda Aquarium), or through their own internship programmes (Bermuda Aquarium Museum and Zoo/Bermuda Zoological Society, Bermuda Biological Station for Research). It is widely felt that locals would benefit from more overseas training opportunities.

Existing Financial Resources for Biodiversity Conservation

Conservation funding is derived from both local and overseas sources. The Environment component of the Ministry of the Environment, Development and Opportunity secures only about 2% of the Island's annual budget, which is perhaps indicative of the current lack of cross-sectoral awareness of the value of Bermuda's natural resources. Most of the remaining support comes from private donations through the local NGO's. Their achievements reflect the extent and generosity of the local community (including the international business sector) in supporting local conservation.

Financial support from overseas has been harder to secure. As a U.K. Overseas Territory, Bermuda is

excluded from many funding sources available to other small island states. Adding to this frustration is the fact that its relative affluence has often been an obstacle to accessing funding available through the U.K. There has been a failure to communicate that the cost of conserving Bermuda's biodiversity is directly proportional to the high cost of living! However, the U.K. Government has recently demonstrated its commitment to conserving the Island's biodiversity through various grants to support habitat mapping, a marine moorings initiative, and the development of a Biodiversity Strategy and Action Plan. A number of local initiatives have also benefited from generous support from overseas NGO's, both in the U.K. and in the U.S.A.