

Devil’s Isle Detail

An Overview of the Laws Regulating Bermuda’s Marine Environment

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1. Introduction

1.1 Bermuda’s location and marine environment

1.1.1 Bermuda is a chain of about 150 islands that lies in the north-west Atlantic Ocean at 32° 20’N and 64° 45’W. The nearest landmass is Cape Hatteras, North Carolina, which is 1,042 kilometres to the west-northwest.

1.1.2 Bermuda’s marine environment is made up of a narrow intertidal zone consisting of 786 square kilometres of coastal waters on top of the Bermuda platform and an Exclusive Economic Zone (‘the EEZ’) with a radius of 200 miles which extends beyond the Bermuda platform. Although the EEZ consists mostly of open ocean, it includes the two submerged platforms, the Challenger Bank and the Plantagenet Bank, which rise to within 55 metres of the surface. Surrounding the Bermuda platform is the world’s northernmost coral reef ecosystem.¹ This reef tract forms a mostly submerged 26-kilometre by 52-kilometre ellipse around the island.²

1.2 Bermuda law

1.2.1 Bermuda is a British Overseas Territory and as such, it is a self-governing but dependent territory of the United Kingdom. English law was introduced to Bermuda at the date of its settlement on July 11, 1612 and it has since provided

¹ AF Glasspool, W Sterrer, J Ward, H DeSilva and J Furbert, 2000. “Biodiversity Recording and Planning: Bermuda.” Calpe 2000: Linking the fragments of Paradise. <http://www.ukotcf.org/pdf/calpe/calpe064-068.pdf> Accessed 22/04/13.

² A Logan and T Murdoch, ‘Bermuda’ in D Hopley (ed), Encyclopedia of Modern Coral Reefs: Structure, Form and Process (2011) 118.

a framework from which a distinct body of Bermudian statute law and Bermudian case law has developed.³ Bermuda law continues to be subject to any Acts of the UK Parliament which have been passed since 1612 and made expressly applicable to Bermuda.⁴

1.2.2 The Bermuda Constitution Order 1968⁵ ('the Bermuda Constitution') sets out the structure and function of the Bermuda Government. Queen Elizabeth II is head of state and is represented in Bermuda by a Governor, whom she appoints.⁶ The British Government retains control over external affairs, defence and security and the Governor exercises special authority relating to these areas.⁷ While military defence is officially the responsibility of the United Kingdom, Bermuda maintains its own military force, the Bermuda Regiment.

1.2.3 British Overseas Territories are unable to enter into international treaties directly (with certain exceptions for particular treaties or categories of treaties) and consequently, all relevant international treaties and conventions are entered into by the UK Government and then extended to Bermuda.

1.3 Overview of legislation

1.3.1 The three key pieces of primary legislation that relate to the protection of marine species and habitats are: the Coral Reef Preserves Act 1966 ('the Coral Reef Act'); the Fisheries Act 1972 ('the Fisheries Act'); and the Protected Species Act 2003 ('the Protected Species Act').

This legislation is administered by the Bermuda Government's Ministry of Environment and Planning.

1.3.2 The multilateral treaties that relate to biodiversity protection and marine conservation which have been extended to Bermuda include:

- i. the International Convention on the Regulation of Whaling TS 33/1934;⁸
- ii. the International Convention for the Prevention of Pollution of the Sea by Oil TS 56/1958;⁹
- iii. the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters TS 43/1967;¹⁰
- iv. the International Convention on the Conservation of Atlantic Tunas 1969 ('ICCAT');
- v. the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES/1973);¹¹
- vi. the International Convention for the Prevention of Pollution from Ships (MARPOL 1973/78) ('MARPOL');¹² and
- vii. the United Nations Convention on the Law of the Sea (1982).¹³

³ Section 15 of the Supreme Court Act 1905 provides, in particular, that the systems of law administered in Bermuda are: (a) the common law; (b) the doctrines of equity; and (c) the Acts of Parliament of England of general application which were in force in England at the date of Bermuda's settlement, subject to the amendments by any Acts of the Bermuda legislature which have been passed since 1612.

⁴ Colonial Laws Validity Act 1865, sections 1-3; see, also, N Hargun and A Potts, 'Commercial Litigation in Bermuda' in IRC Kawaley (ed), *Offshore Commercial Law in Bermuda* (2013) 242.

⁵ The Bermuda Constitution Order 1968 was made by Her Majesty-in-Council under the Bermuda Constitution Act 1967 of the United Kingdom.

⁶ The role of the Governor is to act as the *de facto* head of state. The current Governor is George Fergusson; he was sworn in on 23 May 2012.

⁷ The Bermuda Constitution, section 62.

⁸ Ratified by the UK on October 18, 1934 and extended to Bermuda on February 17, 1937.

⁹ Accepted by the UK on May 6, 1955 and extended to Bermuda on September 19, 1980.

¹⁰ Ratified by the UK and extended to Bermuda on November 17, 1975.

¹¹ Ratified by the UK and extended to Bermuda on August 2, 1976.

¹² Ratified by the UK on May 25, 1980 and extended to Bermuda on June 23, 1988.

¹³ Acceded to by the UK and extended to Bermuda on July 25, 1997.

2. MANAGEMENT OF CONSERVATION AND PROTECTION OF REEF AREA

2.1 Relevant legislation

2.1.1 The primary legislation that relates specifically to managing conservation and protection of reef areas is:

- i. the Coral Reef Act;
- ii. the Fisheries Act; and
- iii. the Bermuda National Parks Act 1986 ('the National Parks Act').

2.1.2 The secondary legislation that relates to managing conservation and protection of reef is the Fisheries (Protected Areas) Order 2000 ('the 2000 Protected Areas Order').

2.2 Responsible body

2.2.1 The Coral Reef Act is administered by the Minister of Environment and Planning, with specific responsibility delegated to the Director of Conservation Services.¹⁴

2.2.2 The Fisheries Act and the related 2000 Protected Areas Order are administered by:

- i. the Minister responsible for the environment, the Minister of Environment and Planning;¹⁵
- ii. persons who are fisheries inspectors, such as officers of the Department of Environmental Protection;¹⁶
- iii. the Marine Resources Board ('the MRB'), as appointed by and subject to general direction of the Minister of Environment and Planning;¹⁷ and
- iv. the Commercial Fisheries Council ('the Fisheries Council'), subject to policy direction from the Minister of Environment and Planning.¹⁸

2.2.3 The National Parks Act is administered by:

- i. the Director of the Department of Parks, subject to the general direction and control of the Minister responsible for parks¹⁹ who is also the Minister of Environment and Planning; and
- ii. the National Parks Commission ('the Parks Commission').²⁰

2.3 Overarching function of responsible body

2.3.1 The Ministry of Environment and Planning is made up of seven departments²¹ that share the mission to lead Bermuda toward sustainability by protecting its "natural and built environment".²²

2.3.2 The objectives of the Department of Conservation Services are:

- i. to promote the conservation and sustainable use of Bermuda's natural resources;
- ii. to assess the status of Bermuda's unique habitats and species and to promote the preservation and restoration of threatened species and habitats;
- iii. to produce and deliver educational materials and exhibits to promote appreciation and care of Bermuda's natural heritage; and

¹⁴ Coral Reef Act, section 5.

¹⁵ Fisheries Act, sections 1 and 2.

¹⁶ *Ibid*, section 2. Fisheries inspectors include every officer of the Department of Environmental Protection appointed by the Minister in writing, every commission officer of Her Majesty's Royal Navy, every customs officer and every police officer.

¹⁷ *Ibid*, section 3.

¹⁸ *Ibid*, section 3A.

¹⁹ The National Parks Act, sections 1 and 7.

²⁰ *Ibid*, section 9.

²¹ The Department of Environmental Protection, the Department of Planning, the Department of Land Survey and Registration, the Department of Land Valuation, the Department of Sustainable Development, the Department of Parks and the Department of Conservation Services.

²² Ministry of Environment and Planning: Full Strategic Plan.

- iv. to provide advice to central government on policy and legislation to support the sustainable use of Bermuda's natural resources.²³

2.3.3 The strategic objectives of the Department of Environmental Protection are:

- i. to provide direction and management in the formulation and implementation of environmental policy;
- ii. to provide legislation, policies, standards and enforcement to protect Bermuda's environment; and
- iii. to conduct research and monitor environmental quality.²⁴

2.3.4 The mission of the Department of Parks is, in part, to provide safe and accessible facilities for active and passive recreation and to develop, enhance and maintain an island-wide system of National Parks.²⁵

2.4 Specific responsibilities

2.4.1 Under the Coral Reef Act, the Director of the Department of Conservation Services:

- i. shall keep the map that delineates the two coral reef preserves that are established by the Coral Reef Act; and
- ii. shall certify a true copy of the map as evidence in any proceedings that may be brought under the Coral Reef Act of the boundaries of the coral reef preserves.²⁶

2.4.2 Under the Fisheries Act, the Minister of Environment and Planning:

- i. shall appoint annually the MRB which shall advise the Minister on the protection and use of marine natural resources;²⁷
- ii. may give policy directions to the Fisheries Council which is responsible for the issuing of licences specified in regulations made under the Fisheries Act, and for assessing eligibility for benefits of fishermen in respect of fishing vessels and related matters;²⁸
- iii. may by Order declare that any area of water within the EEZ is a protected area within which the taking of fish is prohibited, or that the taking of particular types of fish specified in the Order during certain times of the year is prohibited without a licence, or that the use of certain types of anchor is prohibited within protected areas;²⁹ and
- iv. may prohibit the taking of certain fish and the use of certain methods of taking fish anywhere within the EEZ;³⁰
- v. may make regulations for the promotion, development, improvement and protection of the fisheries industry.³¹

2.4.3 Under the National Parks Act, the function of the Director of the Department of Parks is to undertake the administration and management of protected areas, subject to any directions given by the Minister of Environment and Planning. The Director of the Department shall:

- i. prepare a National Parks Plan which contains information on the management and research of protected areas;
- ii. clean and maintain protected areas;
- iii. promote and assist with the development of training, educational and information exchange programmes in respect of the protected areas;

²³ Department of Conservation Services website:

<http://www.gov.bm/portal/server.pt?space=CommunityPage&control=SetCommunity&CommunityID=206>

²⁴ Department of Environmental Protection website:

http://www.customs.gov.bm/portal/server.pt?open=512&objID=207&&activetab=TabCTRL_DropDownTabsGovernment1&mode=2&in_hi_userid=2&cached=true

²⁵ Department of Parks website: http://www.gov.bm/portal/server.pt?open=512&objID=209&mode=2&in_hi_userid=2&cached=true

²⁶ Section 5.

²⁷ Section 3.

²⁸ Section 3A.

²⁹ Section 4.

³⁰ Section 5.

³¹ Section 13.

- iv. oversee scientific research undertaken in a protected area and promote scientific exchange with international organizations;
- v. prepare a management plan for the protected area;
- vi. implement the National Parks Act and any related regulations.

2.4.4 The functions of the Parks Commission are to advise the Minister of Environment and Planning on matters affecting the long-term conservation and management of the National Parks System. The Parks Commission shall, among other things:

- i. periodically review the National Parks Plan;
- ii. make recommendations to the Minister regarding any matter affecting the protected areas;
- iii. advise the Minister on any proposal to change the boundaries, use or classification of an existing protected area;
- iv. review any management plan for a protected area;
- v. promote public awareness in matters relating to protected areas;
- vi. co-ordinate and exchange information on protected areas within government and non-government organizations; and
- vii. establish sub-committees with other bodies to use expertise and services.

2.5 Regulatory functions relevant to coral reefs

2.5.1 The Coral Reef Act established two coral reef preserves, the North Shore Coral Reef Preserve and the South Shore Coral Reef Preserve, and prohibits the removal, wilful damage and wilful impairment of all attached organisms within the same.³²

2.5.2 The 2000 Protected Areas Order, made under section 4 of the Fisheries Act, specifies and declares 29 areas as protected areas.³³ The taking of fish and the use of any anchor other than a Danforth anchor³⁴ within a specified radius (which varies between 300 metres and 1000 metres) of the protected areas listed is prohibited.³⁵ Section 3(2) of the 2000 Order further prohibits the taking of fish during the period between 1 May and 31 August from two additional areas, the South Western Area and the North Eastern Area. These seasonally restricted areas were established primarily to protect grouper in their spawning grounds.³⁶

2.5.3 The National Parks Act establishes the National Parks System which is made up of specified protected areas, one of which is Bermuda's first marine park, the Walsingham Marine Reserve.³⁷

Enforcement mechanisms

2.6.1 Offences and penalties under the Coral Reef Act: Removal of marine flora or fauna in contravention of section 3 is a criminal offence and is liable on summary conviction by a fine of BD\$480 or imprisonment for 6 months or both fine and imprisonment.³⁸

2.6.2 Offences and penalties under the Fisheries Act: Any person who directly contravenes any Order made under either section 4 or 5 of the Fisheries Act and any person in charge of a vessel who permits any other person to contravene such an Order by taking, selling, purchasing or transporting any fish from a protected area, commits an offence punishable on summary conviction by a fine of BD\$50,000 or imprisonment for two years or both, and the fish taken and the vessel used

³² Sections 2, 3(1) and 3(2).

³³ Section 2.

³⁴ A Danforth anchor, also known as a sand anchor, is a type of lightweight anchor with two, triangular, flat flukes.

³⁵ Section 3(1).

³⁶ Ministry of the Environment, 2000. "Marine Resources and the Fishing Industry in Bermuda." A Discussion Paper, Government of Bermuda, Bermuda.

³⁷ Section 3.

³⁸ Section 3(3).

are liable to forfeiture.³⁹ Any person who contravenes any Order by anchoring a vessel in a protected area or uses a type of anchor that is prohibited, commits an offence and is liable on a summary conviction to a fine of BD\$2,500.⁴⁰

2.6.3 Stop and search under the Fisheries Act: A fisheries inspector may stop and search any vessel within the EEZ and if he has reason to suspect that any person on board has contravened any of the provisions of the Act, he may, without summons or warrant, seize the vessel and arrest any person on board.⁴¹ Any person who resists or obstructs a fisheries inspector in the exercise of any of his powers commits an offence punishable on summary conviction by a fine of BD\$10,000.⁴²

2.6.4 Penalty for repeated offence under the Fisheries Act: If a person having been convicted of an offence is convicted of a further offence against the same provision, he shall be liable to either a double fine or a double imprisonment, or to both.⁴³

2.6.5 Offences and penalties under the National Parks Act: Any activity conducted within a protected area which causes damage to the environment is an offence.⁴⁴ Section 18 enables any authorized officer,⁴⁵ without a warrant, to search any land or building, search and seize any vehicle or vessel which appears to have been used in the commission of an offence and arrest any person that is reasonably suspected of having committed an offence. Such an offence is punishable by imprisonment for 3 months or a fine of BD\$1,000 or both.⁴⁶ Subsequent offences incur a higher penalty.

3. BIODIVERSITY PROTECTION (E.G. SPECIES)

3.1 Relevant legislation

3.1.1 The primary legislation that relates to biodiversity protection is:

- i. the Fisheries Act; and
- ii. the Protected Species Act.

3.1.2 The secondary legislation that relates to biodiversity is:

- i. the Fisheries (Protected Species) Order 1978 ('the 1978 Protected Species Order'); and
- ii. the Protected Species (Delegation of Powers) Notice 2012.

3.2 Responsible body

3.2.1 Please refer to 2.2.2 above for a description of the body responsible for the Fisheries Act.

3.2.2 The Protected Species Act is administered by the Minister responsible for the environment, the Minister of Environment and Planning,⁴⁷ and in part, by the Director of the Department of Conservation Services.⁴⁸

3.2.3 The 1978 Protected Species Order was made under section 5 of the Fisheries Act and is administered by the same body responsible for the Fisheries Act.

³⁹ Sections 4(3) and 4(3A).

⁴⁰ Section 4(3B).

⁴¹ Sections 8(1) and 8(2).

⁴² Section 8(4).

⁴³ Section 14.

⁴⁴ Section 17.

⁴⁵ Section 2 defines "authorized officer" as a police officer, park ranger, park warden, conservation officer or other officer of the Department, and such other persons authorized in writing by the Minister of Environment and Planning.

⁴⁶ Section 28.

⁴⁷ Protected Species Act, sections 1 and 3.

⁴⁸ Protected Species (Delegation of Powers) Notice 2012, section 2.

3.3 Overarching function of responsible body

3.3.1 Please see the functions of the Department of Environmental Protection listed at 2.3.3 above.

3.3.2 Please see the functions of the Department of Conservation Services listed at 2.3.2 above.

3.4 Specific responsibilities

3.4.1 Please see the functions of the Minister of Environment and Planning listed at 2.4.2 above.

3.5 Regulatory functions relevant to coral reefs

3.5.1 The 1978 Protected Species Order prohibits the taking of 20 different types of fish within the EEZ. The removal of any fish of the following types anywhere within the EEZ is prohibited:

- i. Marine turtles of all species;
- ii. Marine mammals of all species;
- iii. Corals of all types;
- iv. Queen conch;
- v. Harbour conch;
- vi. Bermuda cone;
- vii. Netted olive;
- viii. Bermuda scallop;
- ix. Calico scallop;
- x. Atlantic Pearl Oyster;
- xi. Helmets and Bonnets of all species;
- xii. Calico clam;
- xiii. West Indian top-shell;
- xiv. Parrotfishes of all species;
- xv. Nassau grouper, green hamlet, grass hamlet;
- xvi. Red grouper; deer hamlet;
- xvii. Mutton hamlet;
- xviii. Yellowfin grouper, prince and princess rockfish, red rockfish;
- xix. Finescale rockfish, gag grouper; and
- xx. Tiger rockfish.

3.5.2 The Protected Species Act provides that the Minister of Environment and Planning:

- i. may make an order declaring that any species of plant or animal is a protected species;⁴⁹
- ii. may designate as a protected area any marine habitat essential for the protection of a specified species and may impose prohibitions on activities within the area;⁵⁰
- iii. shall publish a map of any protected area in the Gazette⁵¹ and provide the Director of Conservation Services with a copy for public inspection;
- iv. shall develop and publish a recovery plan which identifies the protected species and a description of the management action to be taken to enhance the species;⁵² and

⁴⁹ Section 5.

⁵⁰ Section 6.

⁵¹ Gazette refers to the The Royal Gazette which is Bermuda's only daily broadsheet newspaper.

⁵² Section 7.

- v. may under section 8 issue a license to authorize activity that would otherwise be prohibited for purposes relevant to the conservation or survival of a particular protected species, for example scientific research, or for the conducting of an aquaculture programme in respect of a protected species.⁵³

3.5.3 By section 2 of the Protected Species (Delegation of Powers) Notice 2012, the Minister of Environment and Planning authorises the Director of the Department of Conservation Services to exercise on his behalf the power to issue licences and permits under section 8 of the Protected Species Act.

3.6 Enforcement mechanisms

3.6.2 **Offences and penalties under the Protected Species Act:** It is an offence:

- i. to take, purchase or have in possession any protected species or part of a protected species;
- ii. to contravene any provision of the Act;
- iii. to wilfully destroy, damage or remove the habitat of a protected species;
- iv. to fail to comply with the terms of a licence issued under section 8;
- v. to make a false statement to an officer for the purpose of obtaining a licence; and
- vi. to obstruct an officer in the execution of his functions under the Act.

3.6.3 Any offence is punishable by imprisonment for 6 months or a fine of BD\$5,000 or, in the case of a subsequent offence, to a fine of BD\$10,000 or imprisonment for 6 months and where the offence is a continuing offence, is liable on summary conviction to a fine of BD\$1,000 per day that the offence continues.⁵⁴

3.6.3 **Stop and search under the Protected Species Act:** An authorised officer shall have the powers of a police officer for the purposes of enforcement of the Act.⁵⁵

4. ENVIRONMENT PROTECTION (E.G. POLLUTION)

4.1 Relevant legislation

4.1.1 The primary legislation that relates to environment protection is:

- i. the Marine Board Act 1962 ('the Marine Board Act'); and
- ii. the Merchant Shipping Act 2002 ('the Merchant Shipping Act').

4.1.2 The secondary legislation that relates to environment protection includes:

- i. the Marine & Ports Authority (Dumping) Regulations 1967 ('the 1967 Dumping Regulations');
- ii. the Merchant Shipping (Prevention of Pollution) (Limits) Regulations 2004 ('the 2004 Merchant Shipping Regulations');
- iii. the Merchant Shipping (Prevention of Pollution – Substances other than Oil) (Intervention) Order 2004;
- iv. the Merchant Shipping (Prevention of Air Pollution from Ships) Regulations 2005;
- v. the Merchant Shipping (Prevention of Pollution by Garbage) Regulations 2005; and
- vi. the Merchant Shipping (Prevention of Oil Pollution) Regulations 2010 ('the 2010 Merchant Shipping Regulations').

4.2 Responsible body

4.2.1 The Marine Board Act and the various regulations made thereunder are administered by:

⁵³ Section 8.

⁵⁴ Section 9.

⁵⁵ Section 11.

- i. the Minister responsible for marine ports and services, the Minister of Tourism Development and Transport;⁵⁶
- ii. the Ports Authority, to the extent prescribed by section IV of the Marine Board Act and subject to the direction of the Minister;⁵⁷ and
- iii. the Department of Marine and Ports Services, subject to the direction and control of the Minister.⁵⁸

4.2.2 The Merchant Shipping Act and the various regulations made thereunder are administered by the Minister responsible for maritime administration, the Minister of Economic Development.⁵⁹

4.3 Overarching function of responsible body

4.3.1 The Minister of Tourism Development and Transport is responsible for the general management, control and supervision of all maritime matters in Bermuda.⁶⁰

4.3.2 The Ports Authority may, by regulations under the Marine Board Act:

- i. control and regulate the ports of Bermuda and the use thereof;
- ii. make provision for the levy, payment and collection of port dues; and
- iii. make provision for co-ordinating the development, administration and operation of the ports of Bermuda.⁶¹

4.3.3 The Department of Marine and Ports Services assists the Minister of Tourism Development and Transport and the Ports Authority in the discharge of their functions under the Act.⁶²

4.3.4 The mission of the Ministry of Economic Development is to facilitate the creation of jobs and the generation of GDP by creating an environment that is conducive to sustaining businesses already established in Bermuda and by attracting new business into Bermuda. The Minister of Economic Development:

- i. shall have the general superintendence of all matters relating to merchant shipping and seamen and is authorised to execute all statutory provisions relating to merchant shipping and seamen;⁶³
- ii. shall be responsible for implementing the provisions of international maritime conventions that are ratified by the UK on behalf of Bermuda;⁶⁴ and
- iii. shall by statutory instrument make such provision appropriate to give effect to the provisions of the United Nations Convention on the Law of the Sea 1982 for the protection and preservation of the environment.

4.3.5 The Department of Maritime Administration, which falls under the auspices of the Ministry of Economic Development, oversees the conduct of ships that enter Bermuda's waters.

4.4 Specific responsibilities

4.4.1 Under the Marine Board Act, the Minister of Tourism Development and Transport:

- i. shall have the administration and control of, among other things, ship channels, pilotage and the pilot service, navigational aids and tugs and tenders, and shall have the charge and management of the improvement and dredging of ship channels;⁶⁵

⁵⁶ The Marine Board Act, section 5.

⁵⁷ *Ibid*, section 6.

⁵⁸ *Ibid*, section 9.

⁵⁹ The Merchant Shipping Act, section 7.

⁶⁰ The Marine Board Act, section 5.

⁶¹ *Ibid*, Section 76.

⁶² Section 9.

⁶³ Section 7(1).

⁶⁴ Section 7(2).

⁶⁵ Section 5(a).

- ii. shall control the navigation of ships and boats in the territorial waters of Bermuda;⁶⁶
- iii. may give general direction to and may consult the Ports Authority;⁶⁷ and
- iv. may make regulations regarding shipping.⁶⁸

4.4.2 Under the Merchant Shipping Act, the function of the Minister of Economic Development in relation to marine pollution is to coordinate measures to prevent, reduce and minimise the effects of marine pollution by:

- i. preparing a national plan setting out arrangements for responding to incidents which cause or may cause marine pollution;
- ii. acquiring and disposing of ships and other property;
- iii. providing relevant services, including research and training; and
- iv. giving assistance to any other international institution under any international agreement relating to the prevention or control of marine pollution.⁶⁹

Regulatory functions relevant to coral reefs

4.5.1 The 1967 Dumping Regulations make it an offence to dump ballast, oil or rubbish into the waters of the harbours of Bermuda without the permission of the Minister of Tourism Development and Transport.⁷⁰ It is also an offence to abandon any hulk, wreck or other ship remains in the territorial waters of Bermuda.⁷¹

4.5.2 Section 130 of the Merchant Shipping Act makes it an offence to discharge oil from a ship into certain Bermuda waters.

4.5.3 Section 12(3) of the 2010 Merchant Shipping Regulations prevents ships from discharging into the sea any substance that contains chemicals or other substances in quantities or concentrations which are hazardous to the marine environment.

4.6 Enforcement mechanisms

4.6.1 A person who contravenes section 130 of the Merchant Shipping Act is guilty of a criminal offence which is punishable on summary conviction to a fine of BD\$50,000 and on conviction on indictment to a fine of BD\$1,000,000.⁷²

5. COASTAL DEVELOPMENT (LAND USE AND PLANNING)

5.1 Relevant legislation

5.1.1 The primary legislation that relates to coastal development is:

- i. the Development and Planning Act 1974 ('the Development and Planning Act'); and
- ii. the Minor Dredging Works Act 1945 ('the Minor Dredging Works Act').

5.2 Responsible body

The Development and Planning Act is administered by:

the Development Applications Board ('the Applications Board'), as appointed by the Minister responsible for planning, the Minister of Environment and Planning;⁷³

⁶⁶ Section 5(b).

⁶⁷ Sections 7 and 8.

⁶⁸ Section 11.

⁶⁹ Section 8.

⁷⁰ The 1967 Dumping Regulations, section 2.

⁷¹ Section 1.

⁷² Section 130(3)

⁷³ The Development and Planning Act, section 3.

the Advisory Architectural Panel, as appointed by the Minister;⁷⁴ and municipal authorities, to the extent delegated by the Applications Board.⁷⁵

5.2.2 The Minister responsible for marine and ports services, the Minister of Tourism Development and Transport is authorised to act under the Minor Dredging Works Act.

5.3 Overarching function of responsible body

5.3.1 The mission of the Department of Planning is to control and direct development by providing regulatory mechanisms that strive to use land resources wisely in order to safeguard the environment.

5.3.2 The Minor Dredging Works Act provides for the prohibition of dredging below the high water mark and the deposit of any object on the seashore or seabed unless consent from the Minister has been granted.

5.4 Specific responsibilities

5.4.1 Coastal development which constitutes “development”, as defined by section 14 of the Development and Planning Act, requires planning approval and the issuance of a building permit. The permit application procedure requires review by the Government Conservation Officer of planning applications that impinge on conservation areas.

5.4.2 Part III of the Development and Planning Act states that the Minister of Environment and Planning shall carry out a survey of matters relating to the development of Bermuda. Section 6(2) states that the Minister shall prepare a development plan for Bermuda on the basis of the survey that outlines the land use and development requirements that make the most effective use of Bermuda’s resources and protects its natural environment. The Bermuda Plan 2008 was drafted in accordance with Part III and it is the fifth development plan for Bermuda.

5.5 Regulatory functions relevant to coral reefs

5.5.1 The Development and Planning Act was amended in 1983 by sections 28 and the Fourth Schedule to strengthen protection for, among other things, caves and coastal areas.

5.5.2 All proposed coastal developments must be approved by the Applications Board with advice from the MRB. The Applications Board comprises 12 laypersons appointed by the Minister of the Environment and Planning, in accordance with Part II (Section 3) and the First Schedule of the Act, to review planning applications and make decisions to grant or refuse planning permission. The Applications Board cannot grant permission which would result in a development that is contrary to the Act. The Applications Board is directed to:

- i. protect the natural and scenic qualities of the coastline;
- ii. protect the marine environment; and
- iii. minimize the physical and visual impact of all development on the coastline when considering an application.⁷⁶

In accordance with the Development and Planning (Application Procedure) Rules 1997, the Board shall seek speciality advice, and may consult the MRB with regard to coastal development.

⁷⁴ *Ibid*, section 4.

⁷⁵ *Ibid*, section 5.

⁷⁶ Ministry of the Environment, ‘Marine Resources and the Fishing Industry in Bermuda: A Discussion Paper, Government of Bermuda, Bermuda’ (2000)

5.6 Enforcement mechanisms

5.6.1 A foreshore encroachment licence from the Ministry of Works and Engineering is required for all developments over the seabed such as docks, jetties and floating births. Applications for such developments are vetted by the MRB.

6. COMMERCIAL MARINE TOURISM

Relevant legislation

6.1.1 The primary legislation that relates to commercial marine tourism, specifically the regulation of cruise ship movements, is the Fisheries Act.

6.1.2 The secondary legislation that relates to commercial marine tourism is the Fisheries (Anti-Fouling Paints Prohibition) Regulations 1989 ('the 1989 Anti-Fouling Regulations').

6.1.3 The International Convention that relates to commercial marine tourism is MARPOL.

6.2 Responsible body

6.2.1 Please refer to 2.2.2 above for a description of the body responsible for the administration of the Fisheries Act.

6.3 Overarching function of responsible body

6.3.1 Please refer to 2.2.2 above for a description of the overarching function of the body responsible for the Fisheries Act.

6.4 Regulatory functions relevant to coral reefs

6.4.1 Organotin anti-fouling agents are primarily used in paint additives as a specialised coating applied to the hull of ships and boats to prevent encrustation by barnacles and growth of mussels and algae. The 1989 Anti-Fouling Regulations banned the importation of any organotin anti-fouling paint, any paint to which an organotin, irgarol or diuron has been added, or any organotin, irgarol or diuron additive unless authorised by the Minister of Environment and Planning (by letter of authority copied to the Director of Environmental Protection and the Collector of Customs).⁷⁷ Sections 4 and 5 of the 1989 Anti-Fouling Regulations also prohibit the possession and sale of organotin anti-fouling paint, and its use.

6.4.2 Section 6 prohibits the cleaning of the hull or bottom of any vessel which is painted with an organotin anti-fouling paint, paint to which an organotin, irgarol or diuron has been added, or any organotin, irgarol or diuron additive.

6.4.3 In 1988, MARPOL was amended to include Annex IV which prohibits the discharge of sewage into the sea, except where the ship:

- i. has in operation an approved sewage treatment plant; or
- ii. is discharging disinfected sewage using an approved system at a distance of more than three nautical miles from the nearest land; or
- iii. is discharging sewage which is not disinfected at a distance of more than 12 nautical miles from the nearest land.

6.4.4 Annex V of MARPOL bans (with limited exceptions) the disposal of all forms of plastic and garbage into the sea.

6.4.5 Annex VI of MARPOL establishes limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone-depleting substances.

⁷⁷ The 1989 Anti-Fouling Regulations, section 3.

6.5 Enforcement mechanisms

6.5.1 Any person who contravenes any provision of the 1989 Anti-Fouling Regulations is punishable on summary conviction to imprisonment for one year or a fine of BD\$5,000. Any customs officer, police officer or fisheries officer may seize or detain any paint or additive containing irgarol or diuron.⁷⁸

7. RECREATION

7.1 Relevant legislation

7.1.1 The primary legislation that relates to recreation is:

- i. the Fisheries Act; and
- ii. the Marine Board Act.

7.1.2 The secondary legislation that relates to recreation is the Marine Board (Diving) Regulations 1997 ('the 1997 Regulations') made under section 102 of the Marine Board Act.

7.2 Responsible body

7.2.1 Please refer to 2.2.2 above for a description of the body responsible for the administration of the Fisheries Act.

7.2.2 Please refer to 4.2.1 above for a description of the body responsible for the Marine Board Act.

7.3 Overarching function of responsible body

7.3.1 Please see the functions of the Department of Maritime Administration listed at 4.3.5 above.

7.4 Specific responsibilities

7.4.1 Section 3 of the 1997 Regulations requires that any person operating a diving service shall be licensed. Section 12 enables the Minister to declare that diving is prohibited in any area of water, or may impose restrictions on areas where diving is permitted.

7.5 Regulatory functions relevant to coral reefs

7.5.1 The 29 permanently protected areas that were established by the 2000 Protected Areas Order are used as dive sites. Within these areas all types of fishing and anchoring on the reef is prohibited, however, the use of a sand anchor is allowed. Dive sites are marked by a mooring buoy to reduce anchor damage to corals.

7.6 Enforcement mechanisms

7.6.1 Section 14 states any person who fails to comply with the provisions of the 1997 Regulations is guilty of an offence and is liable on conviction to a fine not exceeding BD\$1,000 or imprisonment for up to six months, or both.

8. PORTS AND SHIPPING

8.1 Relevant legislation

8.1.1 The primary legislation that relates to ports and shipping is the Marine Board Act.

8.1.2 The secondary legislation that relates to ports and shipping and is made under the Marine Board Act is:

⁷⁸ Section 3A(2).

- i. the Marine and Ports Authority Regulations (Berthing and Anchoring) Regulations 1967 ('the 1967 Berthing Regulations'); and
- ii. the 1967 Dumping Regulations.

8.2 Responsible body

8.2.1 The Marine Board Act is administered by the Department of Marine and Ports Services.

8.3 Overarching function of responsible body

8.3.1 The Marine Board Act provides for the establishment of a Ports Authority, and addresses navigational safety in Bermuda's waters and the dumping of waste into local waters.

8.4 Specific responsibilities

8.4.1 Please see the functions of the Ministry of Economic Development listed at 4.3 above.

8.5 Regulatory functions relevant to coral reefs

8.5.1 Section 15 of the Marine Board Act states that it is an offence to discharge, dump or pump any ballast, gravel, rubble, ashes, coke, cinders, coal dust, refuse or other solid material, or any fuel oil in any ship channel in Bermuda.

8.5.2 Section 9 of the 1967 Berthing Regulations prohibits any person from depositing or throwing any ballast, rubbish or filthy water into the waters of the harbours of Bermuda or so near to the foreshore that the waters of Bermuda may become contaminated.

8.6 Enforcement mechanisms

8.6.1 Any person who contravenes the Marine Board Act commits an offence unless the defence of necessity due to weather is available to him. Section 16 of the Marine Board Act states that the defence of necessity due to weather will prevent liability when the act or omission was necessary or reasonable on account of stress of weather or other sufficient cause

8.6.2 Section 10 of the 1967 Berthing Regulations states that any person who contravenes any provisions of the Regulations commits an offence which is punishable on summary conviction by imprisonment for 3 months or a fine of BD\$360 or both imprisonment and fine.

9. SCIENTIFIC RESEARCH

9.1 Relevant legislation

9.1.1 The relevant primary legislation that relates to scientific research is the Protected Species Act.

9.2 Specific responsibilities

9.2.1 Under the Protected Species Act, the Minister of Environment and Planning may issue a licence, on such terms and conditions as he may determine, authorizing the holder of the licence to engage in any activity that would otherwise be prohibited or restricted for the purposes of scientific research relevant to the conservation or survival of a particular species.

10. WATER QUALITY

10.1 Relevant legislation

10.1.1 The relevant primary legislation that relates to water quality is:

- i. the Marine Board Act; and
- ii. the Water Resources Act 1975.

10.2 Responsible body

10.2.1 Administered by the Ministry of Environment and Planning, the Water Resources Act provides protection for Bermuda's fresh ground water resources and seawater.

10.3 Overarching function of responsible body

10.3.1 Please see the functions of the Department of Environmental Protection listed at 2.3.3 above.

10.4 Specific responsibilities

10.4.1 The Water Resources Act creates Ground Water Protection areas that recognise the approximate extent of Bermuda's four underground lenses,⁷⁹ the St. George's Lens, Central Lens, Port Royal Lens and Somerset Lens.

10.5 Regulatory functions relevant to coral reefs

10.5.1 The pollution of public water due to the discharge of marine vessels is an offence under the Water Resources Act.⁸⁰

10.6 Enforcement mechanisms

10.6.1 Punishment on summary conviction for committing an offence against various provisions of the Water Resources Act attracts a fine between BD\$1,000 and BD\$10,000.⁸¹

11. HERITAGE

11.1 Relevant legislation

11.1.1 The relevant legislation that relates to heritage in Bermuda is the Historic Wrecks Act 2001 ('the Historic Wrecks Act').

11.2 Responsible body

11.2.1 The Historic Wrecks Act is administered by the Minister responsible for conservation services, the Minister of Environment and Planning.

11.3 Overarching function of responsible body

11.3.1 Please see the functions of the Department of Conservation Services listed at 2.4.1 above.

11.4 Specific responsibilities

11.4.1 Section 3 establishes the Historic Wrecks Authority which consists of a chairman and seven members appointed by the Minister to represent Bermuda interests related to scientific research, cultural resource management, tourism, diving or dive boat operators and education. There is also a custodian who is an *ex officio* member of the Historic Wrecks Authority.

⁷⁹ A lens is a convex layer of fresh groundwater that floats on top of salt water that arises when rainwater seeps through a soil surface.

⁸⁰ Section 34.

⁸¹ Section 37.

11.5 Regulatory functions relevant to coral reefs

11.5.1 The functions of the Historic Wrecks Authority are to advise the Minister on matters relating to the management of historic wrecks and marine heritage sites, and to advise the custodian on the classification of wrecks and the issuance of licences.

11.6 Enforcement mechanisms

11.6.1 Section 7 prohibits any person from interfering with any wreck or historic artefact unless he or she is licensed under section 8. Section 9 states that any person who fails to comply with the conditions of a license commits an offence punishable on summary conviction by a fine of BD\$10,000 or imprisonment for one year, or both.

12. CLIMATE CHANGE

12.1 The treaties that are applicable to Bermuda that relate to climate change are:

- i. the United Nations Framework Convention on Climate Change TS 28/1995;⁸² and
- ii. the Kyoto Protocol to the United Nations Framework Convention on Climate Change TS No. 6/2005.⁸³

12.1.2 Bermuda does not currently have any local legislation specifically concerning climate change. However, some experts believe that the coral reef legislation that manages local stresses on reefs should help enhance coral recovery from damage caused by climate change.⁸⁴

12.1.3 The Department of Energy⁸⁵ published the 2011 Bermuda Energy White Paper: A National Energy Transition (‘the Energy White Paper’). The purpose of the Energy White Paper is to provide a nine-year plan that outlines the key energy policies required to:

- i. reduce fossil fuel dependency;
- ii. maintain energy security; and
- iii. reduce greenhouse-gas emissions below 10 metric tonnes carbon dioxide equivalent per capita by 2020.

This paper is based on a survey completed for the Cyrus R. Vance Center for International Justice’s Coral Reef Project 2013

⁸² Ratified by the UK on December 8, 1993 and extended to Bermuda on March 7, 2007

⁸³ Ratified by the UK on May 31, 2002 and extended to Bermuda on March 7, 2007

⁸⁴ A Glasspool, ‘The Impact of Climate Change on Bermuda’ (2008), 153

⁸⁵ The Department of Energy was formed in 2008 in response to a direct recommendation of the Bermuda Government’s Sustainable Development Strategy and Implementation Plan.

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