**UK Overseas Territories and Crown Dependencies: 2011 Biodiversity snapshot.**

**Cayman Islands: Appendices.**

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More information available at: www.DoE.ky

This section includes a series of appendices that provide additional information relating to that provided in the Cayman Islands chapter of the publication: UK Overseas Territories and Crown Dependencies: 2011 Biodiversity snapshot.

All information relating to the Cayman Islands is available at http://jncc.defra.gov.uk/page-5749

The entire publication is available for download at http://jncc.defra.gov.uk/page-5759

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## APPENDIX I: BIODIVERSITY RELATED NATIONAL LEGISLATION

Existing relevant legislation dealing with protected areas, species protection and conservation in the Cayman Islands are:

**Animals Law (2003 revision)** provides for the protection of the endemic Grand Cayman Blue iguana *Cyclura lewisi* and Sister Islands Rock iguana *Cyclura nubila caymanensis* and all non-domesticated bird species. The Animals Law also describes designated Animal Sanctuaries within the three islands: brackish water pools and buffer vegetation protected, in the most-part, for their birdlife interest. Within Animal Sanctuaries, hunting is prohibited and it is an offence to disturb any flora or fauna. This law, however, offers no protection to native species of bats or any of the many other endemic species of animals. This list of protected species would be updated by the (draft) National Conservation Law (Appendix IV).

**Development and Planning Law (2008 revision)** mandates the development of a Development Plan for Cayman Islands. This Plan delineates land use zones on the island. However, this plan only covers Grand Cayman and it includes little or no environmental consideration. For example, the four proposed Conservation Overlays were removed from the last version of the Development Plan. There is also no legislated requirement for EIA in the Cayman Islands; any requirement for EIA currently falls to the discretion of the Central Planning Authority.

**Endangered Species (Trade and Transport) Law, 2004** gives effect to the provisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

**Marine Conservation Law (2007 revision)** provides protections for marine resources including closed seasons, size limits, catch limits, and restrictions on fishing methods for a variety of species and allows for the designation of restricted marine areas for the purpose of research and management (marine parks).

**Marine Conservation (Marine Parks) Regulations (2007)** designates marine protected areas within four categories and specifies the rules that apply to each zone:

1. Environmental Zones: removal or damage of any marine life, any in-water activity and anchoring are all prohibited.
2. Replenishment Zones: removal of conch and lobster is prohibited and fishing methods are restricted.
3. Marine Park Zones: all marine life is protected and anchoring of boats over 60 ft. forbidden.
4. Wildlife Interaction Zones: restricts interaction with marine species, e.g. fish feeding, to these designated zones; restricts fishing within these zones. Vessels visiting the popular Stingray City WIZ are required to be licensed and are subject to a variety of best practises in the form of licence conditions.

**National Trust Law (1997 revision)** outlines the purposes and powers of the National Trust for the Cayman Islands. This includes the capability to purchase and protect land through its being declared inalienable. Offences on Trust property include take of any flora or fauna.

A proposed (draft) **National Conservation Law (NCL)**, first tabled in the Legislative Assembly in 2002, and again in 2007, would replace the Marine Conservation Law and sections 66-79 of the Animals Law. A public consultation process is now underway with key stakeholders and the general public. If passed, this Conservation Law would establish a National Conservation Council to administer the law and bring conservation actions closely in line with the CBD, other MEA commitments and the Environment Charter.

Relevant features of the NCL which would strengthen biodiversity conservation include[1]:

- Establishment of protected areas on Crown Lands. The objectives and level of protection will be detailed in a management plan for each site. There is currently no legislation for National Parks or a system of Protected Areas on the islands.
- Provision for the protection of private lands through a government-financed lease agreement between landowners and the Governor which would restrict the use or development of land. The conservation agreement can be renegotiated after a specified period.
- Protection of plant and animal species and establishment of conservation plans for each protected species. Currently, no plant species are protected in Cayman and only iguanas and non-domestic birds other than game birds are protected. Until recently the current Animals Law (1976) protected the invasive Green Iguana although recent amendments to the law have addressed this anomaly.
- Empowerment of Conservation Officers to enforce the provisions of the NCL.
- Introduction of EIAs as a requirement for development proposals which will need to be approved and reported to the National Conservation Council.

The NCL also aims to establish a mechanism to relate the government's existing Environmental Protection Fund to a new Conservation Trust Fund and make it operational for conservation and environmental projects in the Cayman Islands. In 1997 the Cayman Islands government began charging an environmental protection fee against the departure tax paid by travellers leaving the country. The fees collected now amount to CI $26 million (approx £20.5 million). If made operational, the Conservation Trust Fund would also be able to receive money from grants and donations. Over the past six years the DoE has been able to access a small amount of funds from the existing fund to buy small pieces of land for protection but the fund has otherwise been inaccessible.

Protected species in the Cayman Islands would be updated by the (draft) National Conservation Law (Appendix IV), to include all those currently protected under local legislation, and MEAs to which Cayman is already signatory. Endemic and some critically endangered local species would also be afforded appropriate protection under this (draft) legislation.

[1] http://www.doe.ky/wp-content/uploads/2010/04/NCL_2010%20REPORT_YOUR%20QUESTIONS%20ANSWERED.pdf

## APPENDIX 2: NATIONAL ENVIRONMENTAL STRATEGIES

The Cayman Islands has a **Biodiversity Action Plan (BAP)** (www. DoE.ky[2]) published in 2009. 19 Habitat Action Plans and 30 Species Action Plans were developed out of the BAP process. However, these plans have no legal standing until the draft National Conservation Law can be enacted.

The Sustainable Development Unit within the Department of Environment is currently developing a framework for a **National Sustainable Development Strategy** (NSDS) but this has yet to be approved by government.

The **Cayman Islands Development Plan** is a zoning plan for the territory. However, this plan only covers Grand Cayman and it includes little or no requirement for environmental concerns to be considered in the planning approval process. All past attempts to correct this deficiency in the planning process have proven unsuccessful. For example, all four proposed Conservation Overlays were removed from the last version of the Development Plan. Even a proposal to assign land already owned and protected by the National Trust for the Cayman Islands as "Conservation Zone" was removed from the final version of the plan. There is also no legislated process for Environmental Impact Assessment (EIA) in the Cayman Islands; any requirement for EIA currently falls to the discretion of the Central Planning Authority. This matter would be addressed by the (draft) National Conservation Law, which prescribes a full mechanism for EIA in the Cayman Islands.

| Multilateral Environmental Agreement | Ratified? | Status |
|---|---|---|
| Convention on Biological Diversity | ✓ | |
| Convention on Migratory Species | ✓ | |
| Ramsar | ✓ | |
| Convention on International Trade in Endangered species | ✓ | |
| World Heritage Sites | ✓ | |

[2] The Cayman Islands BAP can be accessed from the DoE homepage

## APPENDIX 3: PROTECTED AREAS IN THE CAYMAN ISLANDS

The Cayman Islands Department of Environment has established a well-structured network of marine protected areas. This system of protected areas celebrates its 25th anniversary in 2011.

There is currently no legislation to enable establishment of a parallel system of Terrestrial National Protected Areas in the Cayman Islands, effectively paralyzing efforts to develop a National Parks system in the three Islands. Land-based protected areas are limited to Animal Sanctuaries (designated under the Animals Law 1976), and National Trust property. In the past, Animal Sanctuaries have been degazetted in the interests of facilitating development, (e.g. Westerly Ponds, Cayman Brac). Saltwater Pond Animal Sanctuary (Cayman Brac) is currently subject to a proposal for development into a marina. Despite its “inalienable” status National Trust Property is currently subject to gazetted roads corridors, which includes transgression of the “Central Mangrove Wetland”, the “Mastic Reserve” and the “Salina Reserve” National Trust properties.

The most significant forest areas are within the Mastic region of Grand Cayman and the Bluff forest on Cayman Brac. The National Trust has purchased, and protects, a significant proportion of the Mastic forest within its expanding Mastic Reserve (ca. 998 acres with further purchases pending); however, the southern portion of this reserve is currently at threat from a proposed road corridor. The Trust also protects some 287 acres of the Bluff forest, in the form of the Brac Parrot Reserve.

Shrubland is a biodiverse habitat and underrepresented in the protected areas of the island. In Grand Cayman ca. 624 acres of shrubland is protected within the National Trust Salina Reserve, and a further 190 acres was recently secured on a 99-year peppercorn lease from Cayman Islands Government. Both areas are currently under threat from a proposed road corridor. Both areas are of particular importance for reptiles, particularly the Grand Cayman Blue iguana, which is utilized locally as a charismatic flagship species for shrubland preservation.

Many reefs are protected in the form of Marine Parks, and associated Replenishment Zones, in which in-water activities are restricted. The Department of Environment is currently operating a Darwin-funded research grant; examining the effectiveness of the Marine Parks in the Cayman Islands. It is anticipated that this study will produce practical recommendations for the enhancement and best management of these protected areas.

**Summary of protected areas in Cayman Islands**

| | GRAND CAYMAN | | LITTLE CAYMAN | | CAYMAN BRAC | |
|---|---|---|---|---|---|---|
| **TERRESTRIAL** | | | | | | |
| Total area (hectares) | 19,685.47 | | 2,886.81 | | 3,847.43 | |
| ***Protected areas*** | | | | | | |
| Animal Sanctuaries | 99.66 | 0.51% | 4.58 | 0.16% | 0.0 | 0.0 |
| National Trust land | 924.04 | 4.69% | 141.98 | 4.92% | 123.38 | 3.21% |
| Environmental Zone | 647.70 | 3.29% | 0.0 | 0.0 | 0.0 | 0.0 |
| Total protected | 1,671.40 | 8.49% | 146.56 | 5.08% | 123.38 | 3.21% |
| **THREE ISLANDS TOTAL TERRESTRIAL PROTECTED AREAS** | Of a total land area of 26,419h - 1,941h (7.35%) are protected | | | | | |
| **MARINE** | | | | | | |
| Total shelf area to 80ft contour (hectares) | 16,148.30 | | 2,614.07 | | 2,125.19 | |
| ***Protected areas to 80ft contour*** (hectares) | | | | | | |
| Environmental Zone | 1,020.01 | 6.32% | 0.0 | 0.0 | 0.0 | 0.0 |
| Grouper Hole | 256.51 | 1.59% | 309.41 | 11.84% | 200.92 | 9.45% |
| Marine Park | 923.06 | 5.72% | 277.93 | 10.63% | 326.66 | 15.37% |
| No Dive Zone | 263.25 | 1.63% | 0.0 | 0.0 | 0.0 | 0.0 |
| No SCUBA Zone | 23.65 | 0.15% | 0.0 | 0.0 | 0.0 | 0.0 |
| Replenishment Zone | 4,255.84 | 26.35% | 710.40 | 27.18% | 41.53 | 1.95% |
| Wildlife Interaction Zone | 563.35 | 3.49% | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total no-take zones** | 2,530.07 | 15.67% | 277.93 | 10.63% | 326.66 | 15.37% |
| **Total marine protected area** to 80ft contour (hectares) | 7,305.67 | 45.24% | 1,297.74 | 49.64% | 569.11 | 26.78% |
| **THREE ISLANDS TOTAL MARINE PROTECTED AREAS** (to 80ft contour) | Of a total shelf area of 20,887.56h – 9,172.52h (43.91%) are protected, of which 3,134.66h (15.01%) are no-take zones. | | | | | |
| **Total marine protected areas** including areas outside 80ft contour (hectares) | 8,103.78h of which 3,211.45h are no take. | | 1,453.18h of which 277.93h are no-take. | | 668.40h of which 326.66h are no-take. | |

| | |
|---|---|
| **Total marine protected areas** including areas outside 80ft contour (hectares) | In the Cayman Islands, a total of 10,255.36h of marine areas are protected, of which 3,816.04 are no-take zones. |
| NOTE: where marine protected areas overlap, the higher designation is considered. | |

**Detailed breakdown of protected habitats in Cayman Islands**

| HABITAT STATUS 2006 – OPEN SEA | | | | |
|---|---|---|---|---|
| **Category** | **Total area ($km^2$)** | **Area within protected areas ($km^2$)** | **Area outside protected areas ($km^2$)** | **% Habitat protected** |
| Exclusive Economic Zone | 119,023 | 91.08 | 118931.92 | 0.076 |
| Cayman Territorial Waters | 5,875 | 91.08 | 5783.92 | 1.55 |

| HABITAT STATUS 2006 – CORAL REEFS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Category** | **Total area (acres)** | | | **Area within protected areas (acres)** | | | **Area outside protected areas (acres)** | | | **% Habitat protected** | | |
| | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** |
| Aggregate reef | 122.9 | 0.0 | 7.8 | 61.8 | x | 7.8 | 61.1 | x | 0.0 | 50.3 | x | 100.0 |
| Spur and groove | 5153.1 | 2940.3 | 2045.1 | 1397.4 | 903.5 | 811.1 | 3755.7 | 2036.9 | 1234.0 | 27.1 | 30.7 | 39.7 |
| Individual patch reef | 0.8 | 0.1 | 0.0 | 0.0 | 0.1 | x | 0.8 | 0.0 | x | 0.0 | 100.0 | x |
| Aggregate patch reef | 37.1 | 68.7 | 9.8 | 34.1 | 53.6 | 9.8 | 3.0 | 15.1 | 0.0 | 92.0 | 78.0 | 100.0 |
| Reef rubble | 840.3 | 55.0 | 281.7 | 325.4 | 25.4 | 175.2 | 514.9 | 29.6 | 106.6 | 38.7 | 46.2 | 62.2 |
| Reef crest | 496.7 | 39.4 | 264.6 | 204.2 | 19.4 | 155.6 | 292.4 | 20.0 | 109.0 | 41.1 | 49.2 | 58.8 |
| Sand plain | 217.1 | 14.8 | 9.4 | 145.4 | 14.8 | 9.3 | 71.7 | 0.0 | 0.2 | 67.0 | 100.0 | 98.2 |
| Colonised hardbottom | 1190.9 | 481.0 | 611.7 | 485.3 | 86.2 | 257.5 | 705.6 | 394.7 | 354.2 | 40.7 | 17.9 | 42.1 |
| Uncolonised h'bottom | 4131.3 | 1494.5 | 1395.4 | 1372.5 | 293.3 | 436.1 | 2758.8 | 1201.2 | 959.3 | 33.2 | 19.6 | 31.3 |
| Wall | *No measurements – vertical feature* | | | | | | | | | | | |
| Beachrock | 6.4 | 0.0 | 0.3 | 6.4 | x | 0.3 | 0.0 | x | 0.0 | 100.0 | x | 100.0 |
| **TOTAL** | **12196.7** | **5093.7** | **4625.9** | **4032.6** | **1396.2** | **1862.7** | **8164.1** | **3697.5** | **2763.2** | **33.1** | **27.4** | **40.3** |

**HABITAT STATUS 2006 – LAGOONS**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** |
| Seagrass | 15808.8 | 36.3 | 452.4 | 7803.4 | 2.8 | 283.3 | 8005.3 | 33.6 | 169.1 | 49.4 | 7.6 | 62.6 |
| Sediment | 2109.7 | 13.9 | 540.8 | 1339.8 | 0.6 | 343.5 | 769.9 | 13.3 | 197.4 | 63.5 | 4.0 | 63.5 |
| Hardbottom | 2097.2 | 60.4 | 311.5 | 1099.0 | 18.1 | 204.1 | 998.2 | 42.3 | 107.4 | 52.4 | 30.0 | 65.5 |
| Vegetated sand | 4021.0 | 11.7 | 336.4 | 1751.5 | 0.1 | 252.6 | 2269.5 | 11.6 | 83.8 | 43.6 | 0.5 | 75.1 |
| Mud | 2472.5 | 0.0 | 0.0 | 1969.8 | x | x | 502.7 | x | x | 79.7 | x | x |
| Lagoonal coral | 143.9 | 0.0 | 25.4 | 68.8 | x | 23.0 | 75.1 | x | 2.3 | 47.8 | x | 90.8 |
| Backreef | 319.9 | 34.9 | 154.1 | 146.2 | 8.3 | 93.9 | 173.7 | 26.6 | 60.2 | 45.7 | 23.7 | 61.0 |
| Beachrock | 11.2 | 0.8 | 7.6 | 2.6 | 0.0 | 4.6 | 8.7 | 0.8 | 3.0 | 22.9 | 5.9 | 60.3 |
| **TOTAL** | **26984.1** | **158.0** | **1828.2** | **14181.1** | **29.8** | **1205.0** | **12803.0** | **128.2** | **623.2** | **52.6** | **18.8** | **65.9** |

**HABITAT STATUS 2006 - SEAGRASS**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GC | CB | LC | GC | CB | LC | GC | CB | LC | GC | CB | LC |
| Seagrass beds | 15808.8 | 36.3 | 452.4 | 7803.4 | 2.8 | 283.3 | 8005.3 | 33.6 | 169.1 | 49.4 | 7.6 | 62.6 |

**HABITAT STATUS 2006 – DREDGED SEABED**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % dredged seabed within protected areas | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GC | CB | LC | GC | CB | LC | GC | CB | LC | GC | CB | LC |
| Dredged seabed | 683.9 | 4.0 | 12.0 | 162.9 | 0.0 | 4.1 | 521.0 | 3.9 | 7.9 | 23.8 | 0.5 | 34.3 |
| Canals connected to sea | 649.7 | 0.0 | 0.0 | 0.0 | x | x | 649.7 | x | x | 0.0 | x | x |
| **TOTAL** | **1333.6** | **4.0** | **12.0** | **162.9** | **0.0** | **4.1** | **1170.8** | **3.9** | **7.9** | **12.2** | **0.5** | **34.3** |

**HABITAT STATUS 2006 – MARITIME CLIFFS AND IRONSHORE**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GC | CB | LC | GC | CB | LC | GC | CB | LC | GC | CB | LC |
| Cliffs with sparse vascular vegetation VII.A.1.N.a | 0.0 | 16.4 | 0.0 | x | 0.0 | x | x | 16.4 | x | x | 0.0 | x |
| Ironshore | 91.4 | 32.3 | 20.3 | 0.1 | 0.0 | 0.0 | 91.3 | 32.3 | 20.3 | 0.1 | 0.0 | 0.0 |
| Ironshore mosaic | 18.6 | 138.0 | 23.7 | 0.0 | 0.0 | 0.0 | 18.6 | 138.0 | 23.7 | 0.2 | 0.0 | 0.0 |
| Beach rock | 7.2 | 0.0 | 0.3 | 0.0 | x | 0.0 | 7.2 | x | 0.3 | 0.0 | x | 0.0 |
| Beach rock mosaic | 23.6 | 20.2 | 16.9 | 0.0 | 0.0 | 0.0 | 23.6 | 20.2 | 16.9 | 0.0 | 0.1 | 0.0 |
| **TOTAL** | **140.9** | **206.9** | **61.2** | **0.1** | **0.0** | **0.0** | **140.7** | **206.9** | **61.2** | **0.1** | **0.0** | **0.0** |

| Category | Total length (km) | | | Length within protected areas (km) | | | Length outside protected areas (km) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GC | CB | LC | GC | CB | LC | GC | CB | LC | GC | CB | LC |
| Maritime cliffs | 17.2 | 112.3 | 0.0 | 0.0 | 0.0 | 0.0 | 17.2 | 112.3 | 0.0 | 0.0 | 0.0 | 0.0 |

**HABITAT STATUS 2006 – SANDY BEACH AND COBBLE**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GC | CB | LC | GC | CB | LC | GC | CB | LC | GC | CB | LC |
| Sandy beach | 113.8 | 5.2 | 2.5 | 0.0 | 0.0 | 0.0 | 113.8 | 5.2 | 2.5 | 0.0 | 0.1 | 0.0 |
| Sandy beach mosaic | 4.3 | 10.8 | 32.9 | 0.1 | 0.0 | 0.0 | 4.2 | 10.8 | 32.9 | 2.5 | 0.0 | 0.0 |
| Cobble | 4.3 | 11.0 | 6.1 | 0.0 | 0.0 | 0.0 | 4.3 | 11.0 | 6.1 | 0.0 | 0.0 | 0.0 |
| Cobble mosaic | 6.6 | 16.0 | 13.6 | 0.0 | 0.1 | 0.0 | 6.6 | 15.9 | 13.6 | 0.0 | 0.4 | 0.0 |
| **TOTAL** | **129.0** | **43.1** | **55.0** | **0.1** | **0.1** | **0.0** | **128.9** | **43.0** | **55.0** | **0.1** | **0.1** | **0.0** |

**HABITAT STATUS 2006 – MANGROVE**

| Category | Total area (acres) | | | Area within protected areas / buffers (acres) | | | Area outside protected areas / buffers (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GC | CB | LC | GC | CB | LC | GC | CB | LC | GC | CB | LC |
| Seasonally flooded mangrove shrubland / woodland | 697.3 | 19.3 | 700.0 | 65.5 | 0.1 | 26.0 | 631.8 | 19.3 | 674.0 | 9.4 | 0.3 | 3.7 |
| Seasonally flooded mangrove forest / woodland | 12138.6 | 23.4 | 464.2 | 1467.2 | 0.1 | 9.6 | 10671.4 | 23.4 | 454.7 | 12.1 | 0.3 | 2.1 |
| Tidally flooded mangrove shrubland / | 477.6 | 0.0 | 0.0 | 394.5 | x | x | 83.1 | x | x | 82.6 | x | x |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| woodland | | | | | | | | | | | | |
| Tidally flooded mangrove forest / woodland | 2802.0 | 0.0 | 19.0 | 1046.6 | x | 0.0 | 1755.4 | x | 19.0 | 37.4 | x | 0.0 |
| **TOTAL** | **16115.4** | **42.7** | **1183.2** | **2973.8** | **0.1** | **35.6** | **13141.7** | **42.6** | **1147.7** | **18.5** | **0.3** | **3.0** |

**HABITAT STATUS 2006 – INVASIVE COASTAL PLANTS**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | |
|---|---|---|---|---|---|---|---|---|---|
| | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** |
| Weeping willow *Casuarina equisetifolia* Needle-leaved evergreen woodland II.A.3.C.a. | 320.1 | 12.6 | 7.7 | 0.1 | 0.0 | 0.0 | 320.0 | 12.6 | 7.7 |
| Beach naupaka *Scaevola sericea* | 15.2 | 1.9 | 0.7 | 0.0 | 0.0 | 0.0 | 15.2 | 1.9 | 0.7 |
| **TOTAL** | **335.3** | **14.5** | **8.4** | **0.1** | **0.0** | **0.0** | **335.2** | **14.5** | **8.4** |

**HABITAT STATUS 2006 – COASTAL SHRUBLAND**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** |
| Sea grape hedge | 267.9 | 208.1 | 400.8 | 0.0 | 0.1 | 0.0 | 267.9 | 208.0 | 400.8 | 0.0 | 0.1 | 0.0 |
| Dwarf vegetation and vines | 26.6 | 50.6 | 0.0 | 0.0 | 0.1 | x | 26.6 | 50.5 | x | 0.0 | 0.2 | x |
| **TOTAL** | **294.5** | **258.7** | **400.8** | **0.0** | **0.2** | **0.0** | **294.5** | **258.4** | **400.8** | **0.0** | **0.1** | **0.0** |

**HABITAT STATUS 2006 – SALT-TOLERANT SUCCULENTS**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GC | CB | LC | GC | CB | LC | GC | CB | LC | GC | CB | LC |
| Tidal tropical or subtropical annual forb vegetation V.D.1.N.d. | 0.0 | 0.0 | 0.6 | x | x | 0.0 | x | x | 0.6 | x | x | 0.0 |
| Salt-tolerant succulents | 33.6 | 0.0 | 9.3 | 2.1 | x | 0.0 | 31.5 | x | 9.3 | 6.3 | x | 0.0 |
| **TOTAL** | **33.6** | **0.0** | **9.9** | **2.1** | **x** | **0.0** | **31.5** | **x** | **9.9** | **6.3** | **x** | **0.0** |

**HABITAT STATUS 2006 – PONDS, POOLS AND MANGROVE LAGOONS**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GC | CB | LC | GC | CB | LC | GC | CB | LC | GC | CB | LC |
| **Vegetated** | | | | | | | | | | | | |
| Semi-permanently flooded grasslands V.A.1.N.h | 122.7 | 0.2 | 2.0 | 0.5 | 0.0 | 0.0 | 122.1 | 0.2 | 2.0 | 0.4 | 0.0 | 0.0 |
| Tidal tropical or subtropical annual forb vegetation V.D.1.N.d | 0.0 | 0.0 | 0.6 | x | x | 0.0 | x | x | 0.6 | x | x | 0.0 |
| **Open water** | | | | | | | | | | | | |
| Flooded marl pits | 366.4 | 0.0 | 0.0 | 0.0 | x | x | 366.4 | x | x | 0.0 | x | x |
| Pools, ponds and mangrove lagoons >0.25 acres* | 2117.3 | 0.0 | 241.2 | 179.4 | x | 59.8 | 1937.9 | x | 181.4 | 8.5 | x | 24.8 |
| Water features associated with golf courses and developments | 104.2 | 0.0 | 0.0 | 0.0 | x | x | 104.2 | x | x | 0.0 | x | x |
| Sewage settlement ponds | 8.3 | 0.0 | 0.0 | 0.0 | x | x | 8.3 | x | x | 0.0 | x | x |
| Canal works not | 42.3 | 0.0 | 0.0 | 0.0 | x | x | 42.3 | x | x | 0.0 | x | x |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| currently open to the sea | | | | | | | | | | | | |
| MRCU canals | 106.6 | 0.0 | 0.0 | 0.0 | x | x | 106.6 | x | x | 0.0 | x | x |
| Dry lake bed | 0.0 | 34.2 | 413.2 | x | 0.8 | 49.7 | x | 33.4 | 363.5 | x | 2.4 | 12.0 |
| **TOTAL** | **2867.8** | **34.4** | **657.0** | **179.9** | **0.8** | **109.5** | **2687.9** | **33.5** | **547.5** | **6.3** | **2.4** | **16.7** |

**HABITAT STATUS 2006 – DRY SHRUBLAND**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** |
| Dry shrubland | 2973.6 | 391.2 | 2247.5 | 59.9 | 16.1 | 113.1 | 2913.7 | 375.1 | 2134.4 | 2.0 | 4.1 | 5.0 |
| Black candlewood alliance III.A.1.Na (1) | 4.5 | 0.0 | 0.0 | 0.0 | x | x | 4.5 | x | x | 0.0 | x | x |
| Inland sparsely vegetated rock | 153.4 | 0.0 | 0.0 | 6.7 | x | x | 146.7 | x | x | 4.3 | x | x |
| **TOTAL** | **3131.4** | **391.2** | **2247.5** | **66.6** | **16.1** | **113.1** | **3064.8** | **375.1** | **2134.4** | **2.1** | **4.1** | **5.0** |

**HABITAT STATUS 2006 – FOREST AND WOODLAND**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** |
| Seasonally flooded / saturated semi-deciduous forest I.C.1.N.c | 164.3 | 0.0 | 0.0 | 59.1 | x | x | 105.2 | x | x | 36.0 | x | x |
| Xeromorphic semi-deciduous forest I.C.4.N.b | 0.0 | 4558.8 | 0.0 | x | 261.5 | x | x | 4297.3 | x | x | 5.7 | x |
| Dry forest and woodland | 7371.5 | 0.0 | 1926.6 | 491.2 | x | 71.3 | 6880.3 | x | 1855.3 | 6.7 | x | 3.7 |
| **TOTAL** | **7535.8** | **4558.8** | **1926.6** | **550.3** | **261.5** | **71.3** | **6985.5** | **4297.3** | **1855.3** | **7.3** | **5.7** | **3.7** |

**HABITAT STATUS 2006 – FARM AND GRASSLAND**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Habitat protected | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** |
| Seasonally flooded grassland V.A.1.N.g | 99.6 | 1.3 | 50.5 | 92.5 | 0.0 | 0.0 | 7.1 | 1.3 | 50.5 | 92.9 | 0.0 | 0.0 |
| Farmland | Current farmland usage, including crops and plantations, actively grazed pasture, and areas of prime relict farmland, to be determined in consultation with local farmers and partners. | | | | | | | | | | | |

**HABITAT STATUS 2006 – URBAN AND MAN-MODIFIED AREAS**

| Category | Total area (acres) | | | Area within protected areas (acres) | | | Area outside protected areas (acres) | | | % Within protected areas | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** |
| Buildings<br>**Number of buildings** | 1006.5<br>**1867 1** | 65.1<br>**2066** | 10.7<br>**334** | 1.5<br>**27** | 0.1<br>**4** | 0.2<br>**6** | 1005.0<br>**18644** | 65.0<br>**2062** | 10.5<br>**328** | 0.15<br>**0.14** | 0.15<br>**0.19** | 1.87<br>**1.80** |
| Urban – impervious surfaces inc. building & roads | 1862.3 | 262.0 | 97.2 | 2.7 | 1.2 | 1.1 | 1859.6 | 260.8 | 96.2 | 0.1 | 0.5 | 1.1 |
| Man-modified land inc. cleared land, parks, landscaping, farmland, secondary growth | 17475.2 | 3656.5 | 403.4 | 55.2 | 26.3 | 6.8 | 17420.0 | 3630.2 | 396.5 | 0.3 | 0.7 | 1.7 |
| Land for Public Purposes | 182.8 | 0.00 | 0.00 | 1.00 | x | x | 181.8 | x | x | 0.5 | x | x |

| | Total length of major roads (km) | | | Length of roads designed and managed to minimise ecological impact (km) | | | Length of roads not designed and managed to minimise ecological impact (km) | | | % of roads actively designed and managed to minimise ecological impact (km) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** |
| Roads | 500 | 96 | 47 | 0 | 0 | 0 | 500 | 96 | 47 | 0 | 0 | 0 |

**HABITAT STATUS 2006 – ROADS**

| Category | Total length of major roads (km) | | | Length of roads designed and managed to minimise ecological impact (km) | | | Length of roads not designed and managed to minimise ecological impact (km) | | | % of roads actively designed and managed to minimise ecological impact (km) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** | **GC** | **CB** | **LC** |
| Roads | 500 | 96 | 47 | 0 | 0 | 0 | 500 | 96 | 47 | 0 | 0 | 0 |

**Ramsar sites**

- One actual Ramsar site - Booby Pond and Rookery, Little Cayman (Designated Ramsar site since 1994), four potential (details below – of these the Central Mangrove Wetland is the most critical)

**ACTUAL RAMSAR SITE:**

- **Booby Pond and Rookery, Little Cayman (*Designated Ramsar site since 1994*)**
- **Geographical coordinates** (latitude/longitude)**:** 19 39 51.4 N 80 04 33.0 W
- **Area** (hectares)**:** 82
- **Ramsar Criteria: 1, 2, 3, 4, 6**
- **Justification:**

| | |
|---|---|
| 1 | Representative of a coastal, land-locked, mangrove-fringed lagoon system of a kind that is widespread among low-lying islands in the region. |
| 2 | The *endangered* endemic Lesser Cayman Islands Iguana *Cyclura nubila caymanensis* is found on site, also *vulnerable* West Indian Whistling duck *Dendrocygna arborea*. |
| 3 | *Floristic diversity:* Lagoon fringe vegetation, transition through to diverse dry evergreen thicket on rock pavement, including several species endemic to Cayman.<br>*Faunal diversity*: Supports significant populations of breeding water birds, and endemic birds and reptiles. |
| 4 | An important feeding area for resident and migratory herons, and passage and wintering Nearctic shorebirds. |
| 6 | This site contains a breeding colony of Red-footed Boobies *Sula sula*, ca.10-15,000 individuals, probably accounting for at least 30% of the total Caribbean population (est. 35,000 ind.) |

**PROPOSED RAMSAR SITES:**

**Salina Reserve, Grand Cayman.**

- **Geographical coordinates** *(latitude/longitude):* 19 20 38.2 N 81 07 52.4 W.
- **Area** (hectares)**:** 252.
- **Ramsar Criteria: 1, 2, 3.**
- **Justification:**

| | |
|---|---|
| 1 | Undisturbed sedge and buttonwood swamp mosaic with dry shrubland and forest. |
| 2 | Natural release site for *critically endangered* Grand Cayman Blue Iguana *Cyclura lewisi.*<br>*Endangered* endemic plant *Agalinis kingsii,* the only large population known anywhere in the world. |
| 3 | Mosaic of wetland and dry habitats contributes to high overall diversity of animal and plant life. |

**Little Cayman Crown Wetlands and Marine Parks**

- **Geographical coordinates** (latitude/longitude)**:**
  Little Cayman (wetlands general) 19 41 25.1 N 80 02 17.1 W
  Bloody Bay Marine Park 19 41 05.3 N 80 04 53.3 W
  Preston Bay Marine Park 19 39 22.6 N 80 05 36.7 W
- **Area** (hectares)**:** Marine Parks 249, Wetlands 652
- **Ramsar Criteria: 1, 2, 3, 4, 6, 7**
- **Justification:**

| | |
|---|---|
| 1 | Representative pristine mangrove, brackish herbaceous and temporary freshwater wetlands, accounting for some 40% of the island's total area. Representative marine profiles from shore to deep terrace reef. |
| 2 | Supports *vulnerable* West Indian Whistling duck *Dendrocygna arborea*, and *endangered* reptiles, including Sister Isles Rock iguana *Cyclura nubila caymanensis.* Marine waters support *endangered* Nassau grouper *Epinephelus striatus* and foraging grounds for *endangered* Green turtles *Chelonia mydas* and Hawksbills *Eretmochelys imbricata*. Beaches provide nesting grounds for Green turtles and Loggerheads *Caretta caretta.* |
| 3 | *Floral Diversity:* Representation of four different wetland types.<br>*Faunal Diversity*: Significant bird populations, include 16 breeding species and 111 species of migrants. Endangered and endemic reptiles.<br>*Marine*: Parks include biologically diverse protected reef habitat. |
| 4 | An important feeding area for resident and migratory herons, and passage and wintering Nearctic shorebirds. |
| 6 | 300 individuals, 135 pairs of the global population West Indian Whistling duck (> 1%). |
| 7 | Pristine reef is representative of wetland benefits and values. Little Cayman is renowned for its clearwater diving, the primary tourist attraction for the island. |

**Barker's Wetland**

- **Geographical coordinates** (latitude/longitude)**:** 19 23 19.3 N 81 22 04.7 W
- **Area** (hectares)**:** Marine Replenishment Zone 348, Terrestrial 112
- **Ramsar Criteria: 1, 2, 3, 7, 8**

- **Justification:**

| | |
|---|---|
| 1 | Continuum, through coral reef, subtidal aquatic beds, including seagrass, to low elevation Caribbean coral derived beach and ridge, backing onto coastal forest and man-modified mangrove wetland and ponds. The rocky-bottomed Sea Pond is lithologically unique to Grand Cayman. |
| 2 | Historic site for *endangered* Green turtle *Chelonia mydas* nesting and vital foraging area for juvenile turtles. Proposed site for the reintroduction of the *critically endangered* Grand Cayman Blue Iguana *Cyclura lewisi.* |
| 3 | Biodiversity representative of ecological continuum from terrestrial wetland to coral reef. Breeding and feeding grounds for local and passage birds. |
| 7 | Cayman endemic fish species *Limia caymanensis* is found in ponds on site. |
| 8 | Important habitat for marine turtles, Queen conch *Strombus gigas* conch and Spiny lobster *Panulirus argus*. Potential as a high-value recruitment ground for conch and lobster currently subject to investigation by Cayman Islands Government DOE. |

**Central Mangrove Wetland, Little Sound, Ponds and associated Marine Zones**

- **Geographical coordinates** (latitude/longitude)**:**

| | | |
|---|---|---|
| Central Mangrove Wetland | 19 20 13.5 N | 81 16 22.2 W |
| Malportas Pond | 19 20 40.1 N | 81 12 09.9 W |
| Meagre Bay Pond | 19 17 42.9 N | 81 13 57.4 W |
| Pease Bay | 19 17 23.4 N | 81 14 34.6 W |

- **Area** (hectares)**:** Primary zone 6380, Secondary zone1659
- **Ramsar Criteria: 1, 2, 3, 4, 5, 6, 7, 8**
- **Justification:**

| | |
|---|---|
| 1 | A large, almost pristine mangrove wetland growing on autochthonous peat sediments, draining into subtidal aquatic beds, including extensive seagrass beds, bounded along the northern extent by coral reef. |
| 2 | Breeding and roosting habitat for the *vulnerable* West Indian Whistling duck *Dendrocygna arborea*, and *near-threatened* Grand Cayman parrot *Amazona leucocephala caymanensis.* Feeding habitat for *endangered* herpetiles Green turtle *Chelonia mydas* and Hawksbill turtle *Eretmochelys imbricata.* |
| 3 | Mangrove swamp, interspersed with seasonal areas of open water, and “dry cays”, the latter supporting dry forest species. Biome species include *Quiscalus niger bangsi, Melanerpes superciliaris caymanensis,* and *Tyrannus caudifasciatus caymanensis.* The only breeding site for Grand Cayman’s resident population of ca.600 Snowy egrets *Egretta thula*. Biodiversity representative of ecological continuum from terrestrial wetland to coral reef. |
| 4 | This site is important for the recruitment of the severely depleted stocks of Spiny lobster *Panulirus argus,* and possibly Queen conch *Strombus gigas* conch (currently |

| | |
|---|---|
| | subject to reasech by DOE). Refuge for marine species during adverse weather conditions. |
| 5 | 2000 West Indian Whistling duck, ca.5000 herons, ca.5000 migrants in spring and fall, ca.3000 migrant ducks in spring and fall, min. 5000 shorebirds in year-round migration |
| 6 | West Indian Whistling duck >1% of the population, (ca. 2000 individuals). Total population est. 15,000 (not including Cuban population). |
| 7 | Important roles as a refuge for marine species, maintenance of reef biodiversity and preservation of coral through aggregation of suspended materials. |
| 8 | Important nursery and feeding area for local reef fish. |

## APPENDIX 4: RESEARCH PRIORITIES

1. **INVASIVE SPECIES:** The DoE is currently working on the control of Monk parakeets *Myiopsitta monachus* on Grand Cayman, and cats on Little Cayman. A native tree nursery has been established to promote landscaping with native species, and reduce the reliance on exotic imports and associated potential for the introduction of Invasive Alien Species (IAS). The largest IAS action item at present is marine. An integrated control effort of the recently established Red lionfish *Pterois volitans* has involved reef biomass monitoring, training of volunteer cullers from the dive community, public outreach and promotion of lionfish as an environmentally sound food. The latter item benefitted from a JNCC grant award in 2010. Most IAS are beyond any scope for practical control due to limitations of capacity.

2. **MONITORING:** Developing monitoring protocols for endangered species e.g. Cayman Parrot (*Amazona leucocephala caymanensis* and *A .l. hesterna*), Sister Islands iguana *(Cyclura nubila caymanensis*). Restoration programmes for Red mangrove *Rhizophora mangle* are also subject to monitoring to determine success and cost-effectiveness.

3. **BASELINE SURVEY:** Baseline population estimates have been undertaken for some data-deficient species, which include most insects, reptiles, some avifauna, and some plants e.g. Cayman sage - *Salvia caymanensis*. In the case of Cayman sage, this plant, feared extinct, was rediscovered in association with a public outreach campaign featuring a “Wanted Poster” which offered $1000 for information leading to the rediscovery of the plant. Ten thousand seeds were collected for the Millennium Seed Bank MSB project, and the plant has been successfully propagated and sold to members of the public through the Native Tree Nursery. Several other MSB collections are currently underway in Grand Cayman, with support from Kew sponsorship. A course population survey of the Little Cayman Green anole *Anolis maynardi,* with the support of Dr. Jonathon Losos (Harvard), Dr. Anthony Herrel (Département d'Ecologie et de Gestion de la Biodiversité, Paris) indicated that populations were healthy, with some 250 individuals per acre occupying suitable habitat. The Department of Environment’s Visiting Scientist Programme, coupled with the support of international organisations such as Kew, continues to contribute to the identification of previously unknown species of animals and plants.

## APPENDIX 5: HABITATS IN THE CAYMAN ISLANDS

### HABITAT CATEGORIES:

An integral component of the *National Biodiversity Action Plan* is the mapping of the diversity of habitats of the Cayman Islands. This ambitious project was undertaken by staff of the *Department of Environment*, with the assistance of Frederic J. Burton.

At the highest level, habitat categories are broadly divided into Marine, Coastal and Terrestrial.

Marine habitats were subdivided and categorised in part, based on a similar project: *Benthic Habitats of Puerto Rico and the U.S. Virgin Islands,* completed by NOAA's Centre for Coastal Monitoring and Assessment (CCMA).

Coastal and terrestrial habitats were subdivided, and categorised according to the *Vegetation Classification* formations of Burton (2008b), with supplementary categories for man-modified environments.

Habitat distinctions are made by way of facilitating a logical treatment of the habitats of the Cayman Islands, and should not be taken as indicative of isolation of ecological function or independence. To some extent, all elements of biodiversity are fundamentally interlinked.

### MARINE HABITATS

CATEGORY

***1.*** ***Open sea*** defined as all *marine habitats*, including the seabed and benthos, the water column and pelagic zone, and the water surface, which extend beyond the fringing reefs which surround the Cayman Islands, and which fall within the Cayman Islands EEZ. *Open sea* incorporates the deep sea, offshore waters, and *"nearshore waters"*, defined as those within a twelve-mile radius of the fringing reefs around the islands.

***2.*** ***Coral Reefs*** defined as limestone formations produced by living organisms. Corals are found both in temperate and tropical waters; however, shallow-water reefs are formed mostly within the zone between 30° north and 30° south of the equator. Incorporates, the following formations:

- Aggregate reef: defined as areas where hard coral cover (alive & dead) exceeds 70% substrate coverage. Usually found in the bank / shelf area, and / or the escarpment. Some soft corals / sponges may also be present.
- Spur and groove: defined as feature, typically hard coral cover (alive & dead), exhibiting a high vertical relief relative to the surrounding pavement / sand channels. "Spurs" are usually formed by accreting hard corals. "Grooves" usually comprise sand and / or

hardbottom. Spur and groove features are usually associated with the seaward edge of the reef crest, and with the edge of the fore reef, near the escarpment, orientated perpendicular to shore and escarpment. Some soft corals / sponges may also be present.

- Individual patch reef: defined as isolated coral formations. Hard corals generally dominate, although some soft corals and sponges may be present. Only patch reefs greater than the MMU feature in habitat maps.
- Aggregated patch reef: defined as aggregated coral colonies, where colonies exhibit > 70% substrate coverage. Hard corals generally dominate, although some soft corals and sponges may be present. Confined areas of bare sand or hardbottom are present within the matrix of the reef aggregation, and are incorporated into the mapping delineation
- Reef rubble: defined as dead, unstable coral rubble and rocks. Reef rubble is often colonised with filamentous or other macroalgae.
- Reef crest: defined as a semi-emergent to emergent high points of coral reef.
- Sand plain: defined as an expanse of uncolonised sediment (ranging from course sand to silt) located between the shallow and deep terrace reefs.
- Colonised hardbottom: defined as pavement exhibiting coral cover within the range of 10-70% of the substrate. Dominant features are low-relief pavement or rubble, or low-relief rock and sand grooves, colonised by algae, soft corals, and sparse hard corals, which are dense enough to partially obscure the underlying rock. Where coral cover >70%, areas fall within the *aggregate reef* category.
- Uncolonised hardbottom: defined as pavement, often dominated by algae but exhibiting a hard coral, soft coral, and sponge cover of <10%.
- Wall: near-vertical or vertical slope extending from the shelf-margin to abyssal depths and characterised by abundant coral and sponge colonisation from the drop-off to 120 m.
- Beachrock: defined as cemented sand. Beachrock is derived from calcite precipitating out of seawater; resulting in the formation a flat rock-like substrate.

***3. Lagoons*** defined as nearshore reaches of shallow salt or brackish water, separated from the *open sea* by a shallow or exposed *coral reef,* banks, or similar feature. Incorporates, the following formations:

- Seagrass beds: defined as areas where seagrass species represent the dominant substrate coverage. In cases where algae and seagrass co-exist, coverage is designated as *seagrass beds* if seagrass is dominant, and to the *vegetated sand* category if algae is dominant. *See also separate Seagrass beds HAP.*
- Sediment: unvegetated mud and sand.
- Hardbottom: low-relief pavement or rubble, or low-relief rock, often colonised by algae.
- Vegetated sand: vegetated sediment ≥1 mm in diameter.
- Mud: bare or sparely vegetated sediment <1 mm in diameter.
- Lagoonal coral

- Backreef: defined as dead, unstable coral rubble and rocks located on the landward side of the fringing reef / reef crest. Reef rubble is often colonised with filamentous or other macroalgae.
- Beachrock: defined as cemented sand. Beachrock is derived from calcite precipitating out of seawater; resulting in the formation a flat rock-like substrate.

***4. Seagrass beds*** defined as areas where seagrass species represent the dominant substrate coverage. In cases where algae and seagrass co-exist, coverage is designated as *seagrass beds* if seagrass is dominant, and to the *lagoons, vegetated sand* category if algae is dominant.

***5. Dredged seabed*** defined as any area of lagoon, inshore waters, reef or shallows, which has been modified as a result of channelisation, coastal development or dredging for fill.

**6.** ***Artificial installations*** defined as maritime constructions, including docks, large piers, and groynes. This category also includes underwater structures such as shipwrecks, underwater sculptures, and artificial reef structures.

**COASTAL HABITAT CLASSIFICATIONS:**

***7. Maritime Cliffs and Ironshore*** defined as consolidated rocky coastal areas, between the limits of the high water mark on the seaside, and the natural continuous vegetation line on the landside. Incorporates the VII.A.1.N.a vegetation formation, as *per* Burton (2008b):

- Cliffs with sparse vascular vegetation VII.A.1.N.a – vegetation of shaded cliffs, supports *Verbesina caymanensis*, restricted to north-facing section of bluff near Peter's Cave, Cayman Brac
- Maritime cliffs
- Ironshore
- Ironshore mosaic – shoreline comprising mostly ironshore, with one or more other substrates
- Beach rock
- Beach rock mosaic – shoreline comprising mostly beach rock, with one or more other substrates

***8. Sandy beach and cobble*** defined as all unconsolidated coastal sediments, between the limits of the high water mark on the seaside, and the natural continuous vegetation line on the landside.

- Sandy beach
- Sandy beach mosaic – shoreline comprising mostly sandy beach, with one or more other substrates
- Cobble
- Cobble mosaic – shoreline comprising mostly cobble, with one or more other substrates

***9. Mangrove*** defined as habitat and plant assemblages associated with Black mangrove *Avicennia germinans*, White mangrove *Laguncularia racemosa*, Red mangrove *Rhizophora*

*mangle*, and Buttonwood *Conocarpus erectus*. Incorporates the following vegetation formations, as *per* Burton (2008b):

- Seasonally flooded evergreen sclerophyllous forest I.A.5.N.c
- Tidally flooded mangrove forest I.A.5.N.e
- Seasonally flooded / saturated sclerophyllous evergreen woodland II.A.1.N.i
- Tidally flooded evergreen woodland II.A.1.N.e
- Seasonally flooded / saturated evergreen shrubland III.A.1.N.f
- Saturated sclerophyllous evergreen shrubland III.A.1.N.h
- Tidally flooded evergreen shrubland III.A.1.N.i

***10. Invasive coastal plants*** defined as the species / monoculture habitats of Weeping willow (Casuarina, Beefwood, Whistling pine, Australian pine) *Casuarina equisetifolia* and Beach naupaka (Sea lettuce, Scaevola) *Scaevola sericea*. Incorporates the following vegetation formations, as *per* Burton (2008b):

- Needle-leaved evergreen woodland II.A.3.C.a

***11. Coastal shrubland*** defined as a class of vegetation dominated by flora which ranges in height between 0.5m and 5m. Shrubs tend to grow as separate individuals or clumps of individuals. In *shrubland*, the canopy cover of shrubs constitutes greater than 25% of the total canopy cover. Larger trees may be present in *shrubland;* however, tree canopy cover should constitute less than 25% of the total cover to distinguish the area from "woodland". Incorporates the following vegetation formations, as *per* Burton (2008b):

- Hemi-sclerophyllous evergreen shrubland III.A.1.N.b
- Sclerophyllous evergreen shrubland III.A.1.N.c
- Mixed evergreen / drought-deciduous dwarf-shrubland IV.C.1.N.a
- Low tropical / subtropical perennial forb vegetation V.B.1.N.b

**TERRESTRIAL HABITAT CLASSIFICATIONS:**

***12. Salt-tolerant succulents*** defined as areas of succulent-dominated forb vegetation (non-woody plants other than grasses, sedges and rushes) influenced by regimes typically of high salt, and temporary or occasional water immersion. In coastal areas, this may include tidal areas, or those influenced by the tide. Further inland, this habitat forms in association with temporarily flooded pastures, and moderately elevated rocky cays, often at the edges of wetlands and *mangroves*. Incorporates the following vegetation formations, as *per* Burton (2008b):

- Tidally flooded perennial forb vegetation V.B.1.N.e
- Tidal tropical or subtropical annual forb vegetation V.D.1.N.d. (NOTE: Due to the aquatic nature of this habitat, it is also listed under *pools, ponds and mangrove lagoons*).

***13. Pools, ponds and mangrove lagoons*** defined as natural and man-modified areas of standing permanent and temporary water and associated vegetation, including pools, ponds,

ditches and flooded marl pits. This habitat category incorporates both natural areas, and manmade ditches and flooded marl pits. Natural freshwater pools are a rarity in the Cayman Islands, and of key conservation interest. With appropriate management, the ecological value of man-modified water features can be greatly increased.

- Semi-permanently flooded grasslands V.A.1.N.h.
- Aquatic vegetation V.C.1.N.a.
- Tidal tropical or subtropical annual forb vegetation V.D.1.N.d. (NOTE: Due to the vegetation component of this habitat, it is also listed under *salt-tolerant succulents*).
- Mangrove pools and ponds
- Mangrove lagoons
- Flooded marl pits

***14. Dry shrubland*** defined as a class of vegetation dominated by flora which ranges in height between 0.5m and 5m. Shrubs tend to grow as separate individuals or clumps of individuals. In *shrubland*, the canopy cover of shrubs constitutes greater than 25% of the total canopy cover. Larger trees may be present in *shrubland,* however, tree canopy cover should constitute less than 25% of the total cover to distinguish the area from "woodland". Incorporates the following vegetation formations, as *per* Burton (2008b):

- Tropical or subtropical broad-leaved evergreen shrubland III.A.1.N.a
    - Incorporating Black candlewood *Erithalis fruticosa* alliance III.A.1.N.a (1)
- Mixed evergreen-drought deciduous shrubland with succulents III.C.1.N.a

***15. Forest and woodland*** defined as a class of vegetation characterized by a closed tree canopy, with interlocking crowns generally providing 60-100% cover. "Woodland", by comparison, is characterised by an open canopy, with tree crowns constituting just 25-60% cover. The canopy height of *forest and woodland* ranges from about 16m, down to about 4.5m in height, below which *shrubland* species dominate. Incorporates, the following vegetation formations, as *per* Burton (2008b):

- Lowland semi-deciduous forest I.C.1.N.a
- Seasonally flooded / saturated semi-deciduous forest I.C.1.N.c
- Xeromorphic semi-deciduous forest I.C.4.N.b
- Lowland / submontane drought-deciduous woodland II.B1.N.a
- Tropical or subtropical semi-deciduous woodland II.C.1.N.a

***16. Caves*** defined as erosional landforms, including pot holes and fissures, which form as a result of wave action, or the action of rain and underground water courses.

***17. Farm and grassland*** defined as any land which is activity managed for agricultural purposes, or comes under the influence of agricultural practice, specifically, the growing of fruits, crops or the keeping of livestock. Incorporates, the following vegetation formations, as *per* Burton (2008b):

- Seasonally flooded grasslands V.A.1.N.g
- Medium tall tropical/subtropical grassland with broad-leaved evergreen or semi-evergreen shrubs V.A.3.N.c
- Short tropical or subtropical grassland with broad-leaved evergreen or semi-evergreen shrubs V.A.3.N.f
- Saturated tropical or subtropical perennial forb vegetation V.B.1.N.d
- Agricultural plantation

***18. Urban and man-modified areas*** defined as the populated areas of the Cayman Island, and those areas of land subject to direct modification by man.

- commercial and residential areas on the islands, incorporating town centres, industrial sites, hotels and condominiums, and private homes and residential developments
- public and private green-space, such as parking lots, landscaped areas, parks and recreation grounds, cemeteries, and private gardens
- land cleared for development
- actively farmed land
- historically cleared areas, now reverting to nature, and exhibiting secondary growth
- roads are a component of this landscape, and are also assigned an individual *Roads* HAP.

***19. Roads*** defined as the public and private roads network. *Roads* incorporates surfaced and unsurfaced roads and associated landscaping and infrastructure, including roundabouts, mediums, sidewalks, drainage conduits, roadside verges and pathways.

**APPENDIX 6: LIST OF SPECIES IN THE CAYMAN ISLANDS SLATED FOR PROTECTION UNDER THE (DRAFT) NATIONAL CONSERVATION LAW.**

**FIRST SCHEDULE:** PART 1 SPECIES PROTECTED AT ALL TIMES

| Marine Animals | Details | Scientific Name | Common Name |
|---|---|---|---|
| Marine mammals | All species | Cetacea | Whales, dolphins |
| | | Sirenia | Manatees |
| Marine turtles | All species | *Caretta caretta* | Loggerhead turtle |
| | | *Chelonia mydas* | Green turtle |
| | | *Dermochelys coriacea* | Leatherback turtle |
| | | *Eretmochelys imbricata* | Hawksbill turtle |
| | | *Lepidochelys kempii* | Kemp's Ridley turtle |
| Crocodiles | | *Crocodylus acutus* | American crocodile |
| Fishes | | *Epinephelius itijara* | Jewfish, Goliath grouper |
| | | *Malacanthus plumieri* | Tilefish |
| | | Monacanthidae | Filefish |
| | | Pomacanthidae | Angelfish |
| Sharks and rays | All bar Part 2 listed species | Elasmobranchii | Sharks and rays |
| Echinoderms | All species | Echinodermata | Starfish, Sea-dumplings, Urchins, Sand dollars |
| Corals and Anemones | All hard and soft corals (inc. Black corals, Gorgonians and Telestaceans) | Anthozoa | Corals and anemones |
| | | Milleporidae | Fire corals |
| | | Stylasteridae | Lace corals |
| Sponges | All species | Porifera | Sponges |
| Snails | | *Cassis flammea* | Cassidae |
| | | *Cassis madagascariensis* | Cassidae |
| | | *Cassis tuberosa* | Cassidae |
| | | *Cypraeacassis testiculus* | Cassidae |
| | | Littorinidae | Periwinkles |
| | | Neritae | Bleeding Teeth |
| | | Phalium granulatum | Cassidae |
| | All bar Part 2 listed species | Strombidae | Conch |
| | | Tonnidae | Tuns |
| | | Tritonidae | Tritons |

| Terrestrial Animals | Details | Scientific Name | Common Name |
|---|---|---|---|
| Bats | All species | Chiroptera | Bats |
| Birds | All bar Part 2 listed species | Aves | Birds |
| Crocodiles | | *Crocodylus acutus* | American crocodile |
| Iguanas | Grand Cayman endemic | *Cyclura lewisi* | Grand Cayman Blue iguana |
| | Sister Islands endemic | *Cyclura nubila caymanensis* | Sister Islands Rock iguana |
| Insects | | *Anaea echemus daneliana* | Chestnut Leaf butterfly |
| | Endemic | *Brephidium exilis thompsoni* | Pygmy Blue butterfly |
| | | *Hemiargus ammon erembis* | Lucas' Blue butterfly |
| | | *Papilio andraemon taylori* | Swallowtail butterfly |
| Snails | Endemic | *Cerion nanus* | Little Cayman snail |

| Terrestrial Plants | Details | Scientific Name | Common Name |
|---|---|---|---|
| Critically endangered plants | Grand Cayman endemic | *Aegiphila caymanensis* | *none* |
| | Grand Cayman endemic | *Agalinis kingsii* | *none* |
| | Sister Islands endemic | *Banara caymanensis* | *none* |
| | Grand Cayman endemic | *Casearia staffordiae* | *none* |
| | Little Cayman endemic | *Chamaesyce bruntii* | *none* |
| | Little Cayman endemic | *Dendropemon caymanensis* | *none* |
| | Grand Cayman endemic | *Dendrophylax fawcettii* | Ghost orchid |
| | Sister Islands endemic | *Encyclia kingsii* | Orchid |
| | Cayman Brac endemic | *Epiphyllum phyllanthus* var. *plattsii* | Cayman Brac cactus |
| | Grand Cayman | *Hohenbergia* | Old George |

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|---|---|---|---|
| | endemic | *caymanensis* | |
| | Cayman Brac endemic | *Consolea millspaughii caymanensis* | Cayman Brac cactus |
| | Grand Cayman endemic | *Pectis caymanensis* var. *robusta* | Tea banker |
| | Critically endangered | *Pisonia margarettiae* | (none) |
| | Grand Cayman endemic | *Salvia caymanensis* | Cayman Sage |
| | Grand Cayman endemic | *Terminalia eriostachya margaretiae* | (none) |
| | Greater antillean | *Tolumnia (= Oncidium) calochila* | Orchid |
| | Greater antillean | *Tolumnia (= Oncidium) variegata* | Orchid |
| | Cayman Brac endemic | *Verbesina caymanensis* | (none) |
| Vulnerable plants | Near endemic | *Pleurothallis caymanensis* | Orchid |

***PART 2: SPECIES WHICH MAY BE HUNTED OR COLLECTED ONLY IN ACCORDANCE WITH RESPECTIVE REGULATIONS OR CONSERVATION PLAN***

| Marine Animals | Details | Scientific Name | Common Name |
|---|---|---|---|
| Fishes | All bar Part 1 listed species | Teleostei | All bony fishes |
| | | Atherinidae | Fry, Silversides |
| | | Clupeidae | Herrings |
| | | Engraulidae | Anchovies |
| | | *Epinephelus striatus* | Nassau grouper |
| | | *Selar crumenophthalmus* | Goggle eyes |
| | | *Starksia y-lineata* | Y-Lined blenny |
| Sharks and rays | | *Dasyatis americana* | Stingray, Southern stingray |
| Lobsters | | Palinura | Lobsters |
| | | *Panulirus argus* | Spiny lobster |
| Mussels | | *Cosa caribbaea* | Tulip mussel |
| Clams | | *Transenella gerrardi* | Commissioner Gerrard's clam |
| Snails | | *Cittarium pica* | Whelk |
| | | *Strombus gigas* | Queen conch, |
| | | *Turbonilla alfredi* | Alfred's turbonille |

| Marine Plants | Details | Scientific Name | Common Name |
|---|---|---|---|
| Seagrasses | | *Halodule wrightii (= ciliate / bermudensis / beaudettei)* | Eel grass |
| | | *Syringodium filiforme (= Cymodocea manitorum)* | Manatee grass |
| | | *Thalassia testudinum* | Turtle grass |
| Algae | | Chlorophyta | Green algae |
| | | Phaeophyta | Brown algae |
| | | Rhodophyta | Red algae |

| Terrestrial Animals | Details | Scientific Name | Common Name |
|---|---|---|---|
| Birds | Game birds | *Anas discors* | Blue-winged teal |
| | | *Zenedia asiatica* | White-winged dove |
| Aquatic turtle | | *Trachemys decussata angusta* | Hickatee, Taco River Slider |
| Snakes | Grand Cayman endemic | *Alsophis cantherigerus caymanus* | Grand Cayman Racer |
| | Cayman Brac endemic | *Alsophis cantherigerus fuscicauda* | Cayman Brac Racer |
| | Little Cayman endemic | *Alsophis cantherigerus ruttyi* | Little Cayman Racer |
| | Grand Cayman endemic | *Tretanorhinus variabilis lewisi* | Grand Cayman Water Snake |
| | Grand Cayman endemic | *Tropidophis caymanensis caymanensis* | Grand Cayman Ground Boa, Lazy snake |
| | Little Cayman endemic | *Tropidophis caymanensis parkeri* | Little Cayman Ground Boa, Wood snake |
| | Cayman Brac endemic | *Tropidophis caymanensis schwartzi* | Cayman Brac Ground Boa, Lazy snake |
| | Cayman Brac endemic | *Typhlops biminiensis epactia* | Cayman Brac Blind Snake |
| | Grand Cayman endemic | *Typhlops caymanensis* | Grand Cayman Blind Snake |
| Lizards | | *Anolis conspersus* | Western Grand Cayman |

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| and geckos | | *conspersus* | Blue-Throated anole |
| | | *Anolis conspersus lewisi* | Eastern Grand Cayman Blue-Throated anole |
| | | *Anolis maynardi* | Little Cayman Green anole |
| | | *Anolis sagrei luteosignifer* | Bush Lizard, Cayman Brac Brown anole |
| | | *Celestus crusculus maculatus* | Yellow Galliwasp |
| | | *Leiocephalus carinatus granti* | Lesser Cayman Islands Curly-tailed lizard |
| | | *Leiocephalus carinatus varius* | Grand Cayman Curly-tailed lizard |
| | | *Sphaerodactylus argivus argivus* | Cayman Brac Ground gecko |
| | | *Sphaerodactylus argivus bartschi* | Little Cayman Ground gecko |
| | | *Sphaerodactylus argivus lewisi* | Grand Cayman Ground gecko |
| Brackish water fishes | | *Gambusia xanthosoma* | Mosquitofish |
| | | *Limia caymanensis* | Mosquitofish |
| Crabs | | *Cardisoma guanhumi* | Land crab |
| | | *Coenobita clypeatus* | Soldier crab, Hermit crab |
| Scorpions | Cayman Islands endemic | *Heteronebo caymanensis* | Grand Cayman scorpion |
| Centipedes | Endemic to Little Cayman and Swan Is. | *Leptophilus caribeanus* | Centipede |
| Copepods | Grand Cayman *unident.* | *Longipedia americana* | *none* |
| | Grand Cayman endemic | *Tisbe caymanensis* | *none* |

| Terrestrial Animals *cont* | Details | Scientific Name | Common Name |
|---|---|---|---|
| Insects | | *Callida caymanensis* | Beetle |
| | | *Carpelimus sordidus* | Beetle |
| | | *Danaus plexippus* | Monarch butterfly |
| | | *Derancistrus (Elateropsis) caymanensis* | Beetle |
| | | *Derancistrus (Elateropsis) nigricornis* | Beetle |
| | | *Derancistrus (Elateropsis) nigripes* | Beetle |
| | | *Diastolinus caymanensis* | Beetle |
| | | *Diastolinus dentipes* | Beetle |
| | | *Diastolinus diformis* | Beetle |
| | | *Diastolinus inflatitibia* | Beetle |
| | | *Diastolinus minor* | Beetle |
| | | *Diceroprocta caymanensis* | Little Cayman cicada |
| | | *Diceroprocta cleavesi* | Grand Cayman cicada |
| | | *Diceroprocta ovata* | Cayman Brac cicada |
| | | *Dyscinetus imitator* | Beetle |
| | | *Eburia caymanensis* | Beetle |
| | | *Eburia concisispinis* | Beetle |
| | | *Eburia lewisi* | Beetle |
| | | *Elaphidion lewisis* | Beetle |
| | | *Elaphidion thompsoni* | Beetle |
| | | *Elaphidion truncatipenne* | Beetle |
| | | *Leptostylus lewisi* | Beetle |
| | | *Leptostylus thompsoni* | Beetle |
| | | *Lutzomyia caymanensis braci* | Fly |
| | | *Ochrostethus nigriceps* | Bug |
| | | *Osorius lewisi* | Beetle |
| | | *Ozophora fuscifemur* | Bug |
| | | *Ozophora minuscula* | Bug |
| | | *Ozophora pallidifemur* | Bug |
| | | *Phaleria caymanensis* | Beetle |

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|---|---|---|---|
| | | *Phyllophaga caymanensis* | Beetle |
| | | *Protosphaerion caymanensis* | Beetle |
| | | *Psammoleon reductus* | Ant Lion |
| | | *Stizocera caymanensis* | Beetle |
| | | *Trientoma kochi* | Beetle |
| | | *Anopsilana crenata* | Isopod |
| Slugs | Possible endemic | *Veronicella laevis* | Slug |

| Terrestrial Animals *cont* | Details | Scientific Name | Common Name |
|---|---|---|---|
| Snails | Endemic land snails | *Alcadia lewisi* | *none* |
| | | *Brachypodella caymanensis* | |
| | | *Cerion martinianum* | |
| | | *Cerion pannosum* | |
| | | *Choanopoma caymanense* | |
| | | *Chondropoma caymanbracense* | |
| | | *Chondropoma caymanbracense parvicaymanense* | |
| | | *Chondropoma caymanense* | |
| | | *Cyclopilsbrya fonticula* | |
| | | *Eutrochatella fisheri* | |
| | | *Geomelania alemon* | |
| | | *Hemitrochus lewisiana* | |
| | | *Hemitrochus streatori* | |
| | | *Lacteoluna caymanbracensis* | |
| | | *Lacteoluna caymanensis* | |
| | | *Lacteoluna steveni* | |
| | | *Lacteoluna summa* | |
| | | *Lacteoluna trochella* | |
| | | *Lucidella caymanensis* | |
| | | *Microceramus caymanensis* | |
| | | *Pineria perpusillus* | |
| | | *Proserpinula lewisi* | |
| | | *Spiraxis caymanensis* | |
| | | *Spiraxis subrectaxis* | |
| | | *Stoastoma atomus* | |
| | | *Strobilops wenziana* | |

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|---|---|---|---|
| | | *Tudora rosenbergiana* | |
| | | *Varicella adolescentia* | |
| | | *Varicella caymanensis* | |
| | | *Varicella infantia* | |
| | | *Varicella pinchoti* | |

| Terrestrial Plants | Details | Scientific Name | Common Name |
|---|---|---|---|
| Plants | | *Allophylus cominia* var. *caymanensis* | Turkey berry |
| | | *Argythamnia proctorii* | |
| | | *Avicennia germinans (= nitida)* | Black Mangrove |
| | | *Beloglottis costaricensis* | |
| | | *Buxus bahamensis* | |
| | | *Caesalpinia bonduc* var. *caymanensis* | |
| | | *Catalpa longissima* | |
| | | *Cedrela odorata* | Cedar |
| | | *Celtis trinervia* | |
| | Endemic | *Chionanthus caymanensis caymanensis* | Sister Islands Ironwood |
| | Endemic | *Chionanthus caymanensis longipetala* | Grand Cayman Ironwood |
| | | *Chrysobalanus icaco* | Cocoplum |
| | | *Colubrina arborescens* | |
| | | *Coccothrinax proctorii* | Silver Thatch Palm |
| | | *Conocarpus erectus* | Buttonwood |
| | | *Cordia laevigata* | |
| | Cayman Islands endemic variety | *Cordia sebestena* var. *caymanensis* | Broadleaf |
| | | *Crossopetalum caymanense* | |
| | | *Daphnopsis americana* | |
| | | *Dendropanax arboreus* | |
| | | *Drypetes sp.* | |
| | | *Encyclia cochleata* | |
| | | *Erythrina velutina* | |
| | | *Erythroxylum* | Smokewood |

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|---|---|---|---|
| | | *confusum* | |
| | | *Euphorbia cassythoides* | |
| | Host to *Cerion nanus* | *Evolvulus squamosus* | |
| | | *Faramea occidentalis* | |
| | | *Iva imbricata* | |
| | | *Jatropha divaricata* | |
| | | *Jaquinia keyensis* | Washwood |
| | | *Laguncularia racemosa* | White Mangrove |
| | | *Licaria triandra* | |
| | | *Guaiacum officinale* | Lignum Vitae |
| | | *Margaritaria nobilis* | |
| | | *Myrmecophila thomsoniana minor* | Little Cayman & Cayman Brac Banana Orchid |
| | | *Myrmecophila thomsoniana thomsoniana* | Grand Cayman Banana Orchid |
| | | *Oeceoclades maculata* | Orchid |
| | | *Phyllanthus caymanensis* | |
| | | *Pilostyles globosa* var. *caymanensis* | Cayman Islands endemic |
| | | *Rauvolfia nitida* | |
| | | *Rhizophora mangle* | Red Mangrove |
| | | *Ruppia martima* | |
| | | Salicornia species | Glassworts |
| | | *Scaevola plumieri* | Inkberry |
| | | *Scolosanthus roulstonii* | Grand Cayman endemic |
| | | *Sophora tomentosa* | |
| | | *Tillandsia festucoides* | |
| | | *Trichilia havanensis* | |
| | | *Turnera triglandulosa* | |
| | | *Zanthoxylum coraceum* | |
| | | *Zamia integrifolia* | |
| | | *Zanthoxylum flavum* | |

## APPENDIX 7: THREATS TO BIODIVERSITY

There are many threats to biodiversity in the Cayman Islands. The potency of all threats is exacerbated by a lack of appropriate protection. The major threats, in order of significance are:

1. **Legislation:** Lack of any appropriate legislation that enables a comprehensive approach to the preservation of biodiversity is the single most detrimental element to the future maintenance of biodiversity in the Cayman Islands. The (draft) National Conservation Law has been under consideration by successive governments for the past eight years, however, to date this crucial legislation has not been enacted. An "Environmental Protection Fund" collects some four-five million dollars per year for the purposes of preserving the natural environments of the Cayman Islands – funds sufficient to incur significant environmental benefits. However, in the absence of appropriate regulations for the disbursement of these funds, only a small proportion have been spent on the purposes for which the fund was originally established.

2. **Developmental impact:** As the population of the Cayman Islands grows, commercial and residential development combined with associated infrastructure (particularly roads) bring increasing pressure to bear on the finite landscape as well as on marine resources. Due to a lack of legislation / appropriate regulation and an economy dependent in large part on development, ongoing development in the Cayman Islands proceeds with little consideration for environmental impact, or the implementation of potential mechanisms to reduce / mitigate impacts. Weak planning laws, poor enforcement of existing planning legislation, lack of requirement for EIA (even for major projects), speculative land clearance, exemption of roads construction from basic planning permission, and reliance by developments on exotic landscaping exacerbate environmental impacts of new projects. The role of the Department of Environment in determining best practice in both the marine and terrestrial environment is constrained to one of recommendation. As a footnote, in the wake of uncontrolled development and associated economic instability, immediate social issues such as crime and employment traditionally take precedence above long-term sustainability in both the political and public consciousness, and so it may be expected that existing regulations may be relaxed in the immediate future, in an attempt to further encourage economic growth.

3. **Invasive species:** shifting baselines, a propensity towards landscaping with exotic species from Florida, and limited capacity / resources to deal with IAS have resulted in the introduction and establishment of many invasive species into the Cayman Islands. Most impactful animals (in order of impact) are likely rats, cats, green iguanas, and dogs. For plants *Casuarina equisetifolia* and *Scaevola sericea* exact most significant impact, especially in coastal regions. All are beyond reasonable scope for eradication. Brazilian Pepper is newly established in Cayman Brac and spreading rapidly. In the marine environment, Red lionfish *Pterois volitans* are likely to cause extreme impact to reef biodiversity, despite the plethora of control measures currently being exacted by Government, private sector and volunteers.

4. **Climate Change:** the local long range implications of climate change remain largely unknown but elevated sea temperatures over the past 2 decades have resulted in significant increases in major coral bleaching episodes and subsequent rise in coral disease and mortality in the Cayman Islands. Major storms have also resulted in substantial impacts to the shallow and fringing reef environments.