

Bermuda

Protected Species, Protected Areas & Climate Change





Lagoon is
approximately
 750 km^2

Islands are 54 km^2



1997 Aerial Photos
© Bermuda Zoological Society

Population 64,237 (2010 census)
Giving a population density of 1,190
people per km²



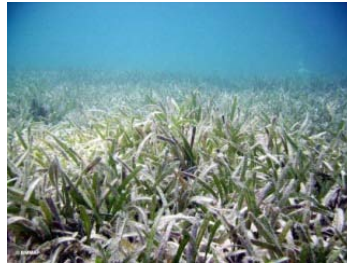
Biodiversity Framework in Bermuda



- Various government departments
- Active community of local ENGOs
- Collaborations with HMG and other UKOTs
- Key Documents:
 - Biodiversity Country Study (2001),
 - Biodiversity Strategy and Action Plan (2003)
 - Report: The impacts of climate change on Bermuda
- Key Legislation:
 - Fisheries Act (1972),
 - Protection of Birds Act (1975),
 - Parks Act (1986),
 - Protected Species Act (2003)
- MEAs: CITES, CMS, Ramsar, WHC, UNFCCC

Bermuda's Biodiversity

- Bermuda has at least 8,299 species
 - 4,597 marine
 - 3,702 terrestrial
- 3% of these species are endemic.



Threatened Species

- Bermuda's Protected Species Act lists 82 species.
- Species status range from 'Vulnerable' to 'Extinct in the Wild'.
- Management of our threatened species and their habitats is a top priority of many government programmes.



Queen Conch:
Endangered



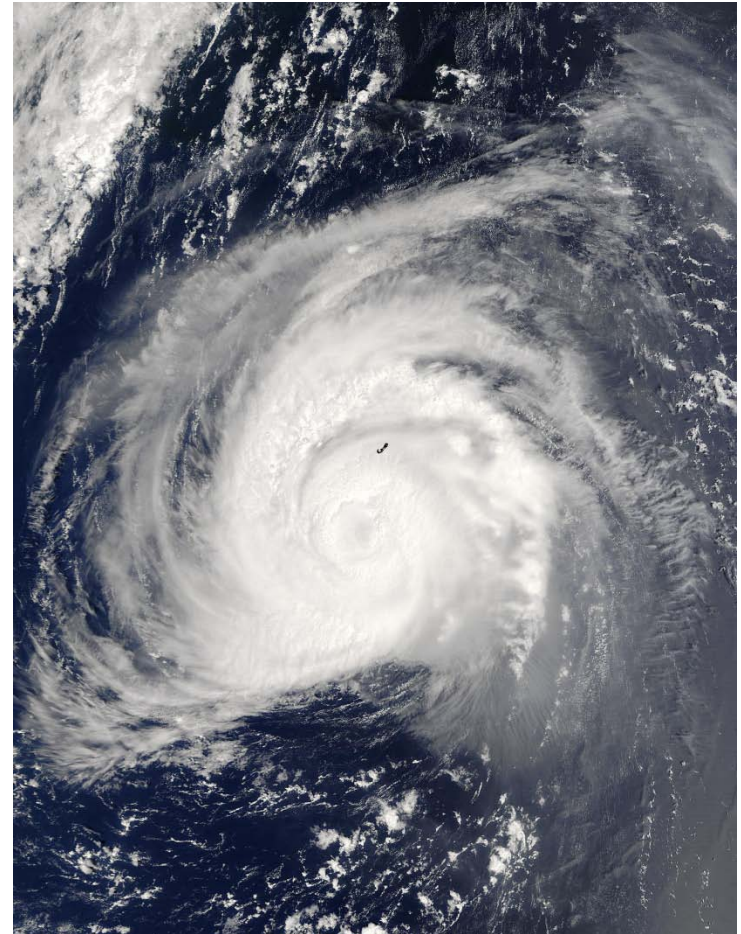
Bermuda Skink:
Critically Endangered



Governor Laffan's Fern:
Extinct in the Wild

Climate-related Threats to Biodiversity

- Rising Sea Level
- Rising temperatures
- Increasingly intense hurricanes
- Increasing CO₂
- Greater variability in global rainfall



Threatened Species & Climate Change: Cahow Translocation Project



Bermuda Petrel (*Pterodroma cahow*)

Aerial Image of Cahow Nests with a Projected Sea Level Rise of 0.59 Metres

- Active Cahow Nest
- Land Below 0.59m Sea Level Rise

8 active cahow nests would be
impacted by a sea level rise of 0.59m

1997 Aerial Photo
(c) Bermuda Zoological
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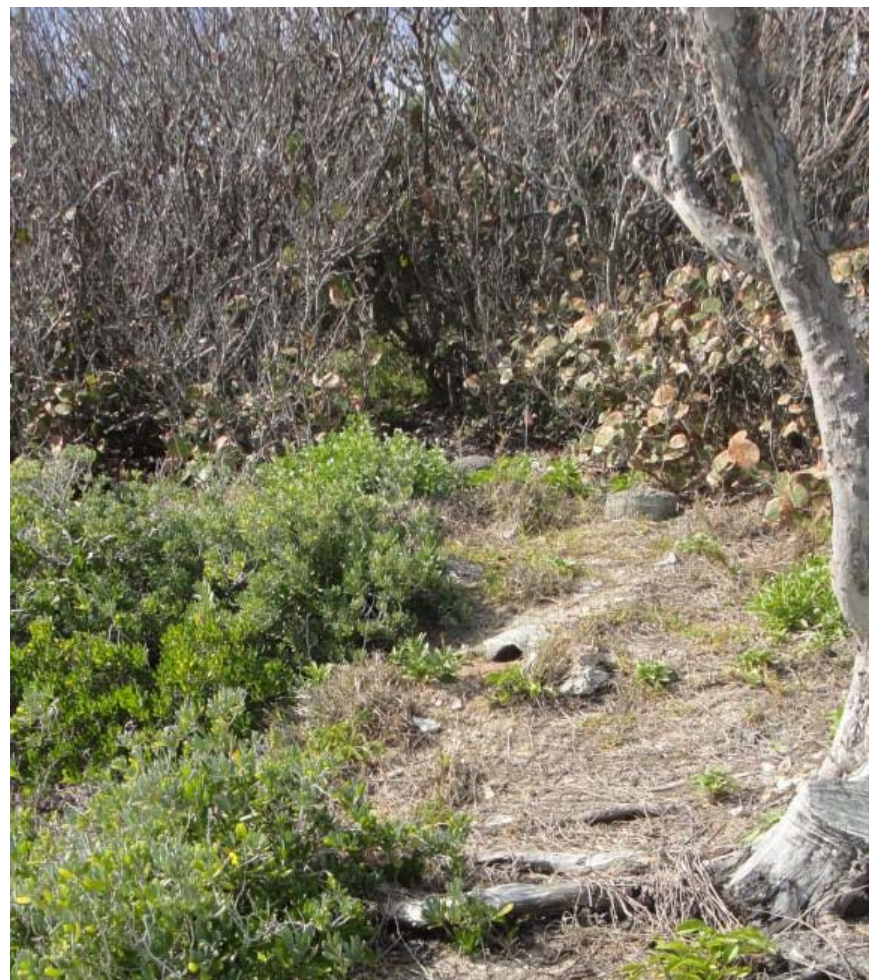


Meters
0 100 200 400









Interspecific competition



- Trying to increase populations of both birds while avoiding conflict.
- These two birds are flagship species for coastal areas – but there are many more protected species that share the habitat.



Artificial Longtail 'igloo' nest

Ex Situ Conservation: Endemic Lifeboat Projects



Climate Change and Critically Endangered Plants

- Unknown relationship with calcium carbonate rock and critically endangered ferns – threatened by acidification and unreliable rainfall.
- Invasives – already a very acute problem in terrestrial habitats
- How will climate change alter the survival and reproductive cycles of indigenous ferns and flowering plants?



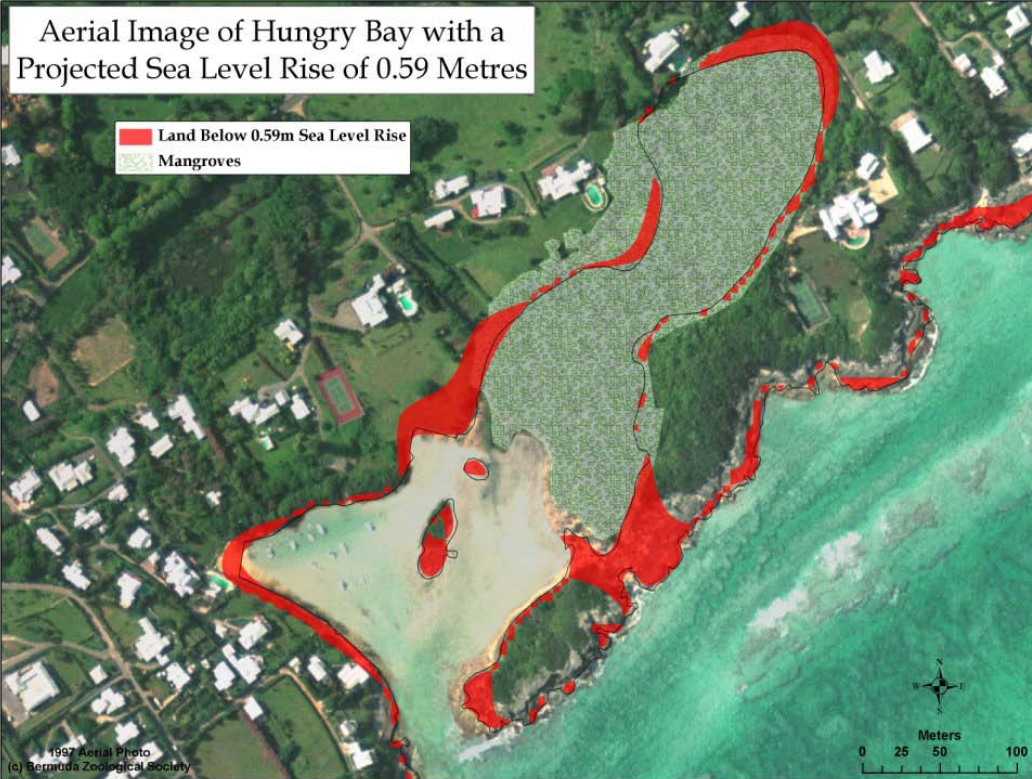
Climate Change Impacts on Protected Wetlands

- Bermuda has 7 Ramsar sites
- Need to prepare to manage climate change impacts:
 - storm damage
 - coastal erosion
 - invasives
 - salinity variation
 - sea level rise
 - species composition change
 - rainfall variation
- Engineering a solution to save it for now vs. letting nature take its course and probably lose it.



Hungry Bay Case Study





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