State of Marine & Coastal Environments of the Western Indian Ocean

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WCS Marine Programs

1. New York
2. Belize: Glovers Reef
3. Argentina: Patagonia
4. Congo Basin Coast
5. Kenya
6. Antongil Bay
7. Southwest coast
8. Aceh-Weh
9. Karimunjawa
10. North Sulawesi
11. PNG: New Ireland
12. Fiji: Vatu-i-Ra
13. US/Russia: Beringia (planning stages)

Nicaragua: Sea turtles
Bangladesh, Myanmar: Coastal cetaceans
Where we work

Somalia
Kenya
Tanzania
Seychelles
Madagascar
Mauritius
Reunion
Mozambique
South Africa
Maldives
What we do

Kenya

Mozambique

Madagascar

WIO region
Human Marine Footprint

From Halpern et al., A Global Map of Human Impact on Marine Ecosystems. 2008
Marine environmental issues

- Fisheries harvest and methods
- Enforcement, capacity for management
- Urbanization, solid waste, pollution
- Oil & gas exploration
- Climate change
Fisheries shifts

Increasing fishing pressure

Overexploitation
Destructive or unselective gear
Climate change impacts

Increased temperature → bleaching
Ocean acidification
Increased storm events
Sea level rise

Average, minimum, and maximum seawater temperatures increasing in the WIO over past 50 years

1983, 1987, and 1998 were unusually warm years
More than ½ MPAs in areas of moderate - high susceptibility to bleaching
Resilience to climate change
Customizing management responses

Social adaptive capacity and environmental vulnerability model

- Kenya
- Tanzania
- Seychelles
- Mauritius
- E. Madagascar
- W. Madagascar

Social adaptive capacity

Environmental susceptibility

Relief & reorganization

Adopt & transform

Capacity building

Protect & preserve
Thank you!

www.wcs.org/marine