Caribbean Day

ICRI General Meeting Monaco

Wednesday 13 January 2010
The Wider Caribbean – ICRI General Meeting Special Session
The Wider Caribbean – includes Brazil for ICRI
Wednesday January 13th - Caribbean day

• 08:30 - Presentation of the reefs in the region

• 09:00 - Monitoring, Status and threats to reefs, Clive Wilkinson (GCRMN)

• 09:30 - Economic valuation of coral reefs, Lauretta Burke (WRI)

• 10:00 - Coffee Break
Wednesday January 13th - Caribbean day

10:30 - Major projects in the region
   Caribbean Challenge, The Nature Conservancy
   Caribbean Environment Programme (CEP) / UNEP
   Centres d'Activités Régionaux (CAR) / SPAW (Specially Protected Areas and Wildlife) Hélène Souan (CAR SPAW)
   Fonds Français pour l'Environnement Mondial (FFEM) / Agence Française de Développement (AFD), Julien Calas (FFEM)
   Initiative française pour les récifs coralliens (IFRECOR)
   U.S. Coral Reef Task Force

Discussion
   • 12:30 - Lunch
Wednesday January 13th - Caribbean day

13:30 - Discussions on the following themes:

Invasive Alien Species (discussion about the need of a region wide strategy for control)

Marine Protected Areas (discussion about management plans, regional indicators and socio-economics aspects)

Tourism

17:30 - Conclusions
• 08:30 - Presentation of the reefs in the region
  - Nelson Andrade (UNEP CEP)

• 09:00 - Monitoring, Status and threats to reefs, Clive Wilkinson (GCRMN)

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**Threats to Caribbean Coral Reefs**

**Global Change Threats:**
- Coral bleaching
- Rising levels of CO$_2$
- Diseases, Plagues and Invasives

**Direct Human Pressures:**
- Over-fishing (& destructive fishing)
- Sediments
- Nutrients
- Development

**Governance, Awareness and Political Will:**
- Poor management capacity
- Rising poverty & growing populations
- Low Political Will
**Threats to Caribbean Coral Reefs**

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**Probably the major ‘natural’ threats**

**Coral bleaching** has devastated reefs since ~ 1980 with major losses in 1982-82, 1987, 1990, 1997-98 & 2005

**Diseases of corals**, especially *Acropora* spp. Devastated by White Band Disease and many others

**Invasive or Disease** - 95% death of long-spined sea urchin, *Diadema antillarum* in 1983-84.
Panama Canal Entry for Invasive Species?
**Threats to Caribbean Coral Reefs**

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**Human pressures major threat - all of the above!!**
- Many reefs have few or ‘no’ fish

- Sediment covers many reefs especially high volcanic islands; poor land use, agriculture, animal raising

- Nutrients from sewage threatens reefs in most countries

- Development – populations growing rapidly, tourism development can be damaging
Example: Threats to Reefs in Haiti

The Current Situation

- No MPAs
- No government unit
- No human resources in government
- Few human resources outside government

One major NGO FoProBiM - *Fondation pour la Protection de la Biodiversité Marine*, Jean Wiener, Director
Example: Threats to Reefs in Haiti

- Over-fishing
- Sedimentation
- Mangrove exploitation
- Coral harvesting (export)
- Marine turtle exploitation
- Marine/coastal Pollution
Mangrove Cutting
Mangrove Charcoal Production
Coral Harvesting
Marine Turtle Exploitation
Potential MPA Sites for Haïti
Example: La Gonâve - North
Needs in Haiti

- Increase local human resources
- Increase local monitoring
- Better international surveillance (if no demand - no export incentive for coral)
- Financial resources
The Wider Caribbean – ICRI General Meeting Special Session
Monitoring and Status of Jamaican Reefs

ECOSYSTEMS MANAGEMENT BRANCH
NATIONAL ENVIRONMENT AND PLANNING AGENCY

- Integrated Coastal Management etc.
- Environmental Education and Awareness.
- Co-management of Coastal Resources.
- Control of Marine Pollution.
- Research and Monitoring for Management
Monitoring and Status of Jamaican Reefs

- Baseline fish surveys in sanctuaries
- Fisheries Bill (draft)- better fisheries, aquaculture management.
- Aim - improve protected area management via zoning & enforcing regulations
- Mandate & enforce *no net loss policy* for all coasts.
Monitoring and Status of Jamaican Reefs

- **Coral Reefs** – databases, assessment via Video, Reef Check & Rapid Assessment (20 sites instead of 36)
  - *Fish abundance low, lionfish invading.*

- **Mangroves** - map areas remotely & manage impacts via permits and licenses

- **Seagrass beds** - better mapping & Inform the development applications
Mean Hard Coral % cover
2008-09 mean - 13.7% (36 sites)
2001-07 mean – 14.8% (54 sites)
Summary of reef status

- Live coral cover loss from 50% to 10% in 25 yr
Example from Guadeloupe
**Threats to Caribbean Coral Reefs**

**Governance, Awareness and Political Will:**
- Poor management capacity
- Rising poverty & growing populations
- Low Political Will

This is major future problem for SIDS –

**Poor management capacity** – few trained personnel & equipment to manage, raise awareness, enforce & monitoring; few MPAs managed effectively

**Rising poverty & growing populations** – negate efforts at conservation, resource use increasing beyond sustainability

**Low Political Will** – need strong political will & governance of resources;
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Importance of Monitoring:

– First activity in any project
– Involve all in team (ranger to Minister)
– Gather data – (or work in the dark)
– Determine what is to be managed
– Assess value of resources ($)
– Raise awareness in team
– Inform the public to gain support
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CURRENT NODE STRUCTURE

• **Southern Tropical America** - Colombia, Brazil, Costa Rica, Panama, Venezuela

• **Mesoamerican Barrier Reef** – Belize, Guatemala, Honduras, Mexico and Pacific side

• **US Caribbean reefs** – Florida, Flower Garden Banks, Puerto Rico, USVI, Navassa
CURRENT NODE STRUCTURE

• **Lesser Antilles** – the Organisation of Eastern Caribbean States (OECS) from British Virgin Islands through Barbados, Trinidad and Tobago including French and Netherlands Antilles,

• **Northern Caribbean and Western Atlantic** - Jamaica, The Bahamas, Bermuda, Cayman Islands, Cuba, Dominican Republic, Haiti, & Turks and Caicos Islands
• 2005 was exceptional because:
  – Hottest year on record
  – Most severe coral bleaching in the Caribbean
  – Most active hurricane season
    • 26 tropical storms
    • 13 hurricanes
    • 5 very severe (Dennis, Emily, Katrina, Rita & Wilma)
No hurricanes through Lesser Antilles.
- Coral Bleaching & Mortality in much of Caribbean:
  - Florida, Cuba, Jamaica, USVI, Bahamas,
  - Colombia, Venezuela, Mexico, Belize etc.
  - And the Lesser Antilles
• Bleaching of 50% - 90% of corals in:
  – Florida - Barbados
  – Puerto Rico - North coast of Jamaica
  – Cayman Islands - Cuba
  – Northern Dutch Antilles (St. Maarten, Saba, St. Eustatius)
  – Guadeloupe, Martinique, St. Barthelemy
• Coral mortality worst recorded
  – Barbados - 17% - 20%; French Caribbean -11% - 30% **Guadeloupe, Martinique, St. Barthelemy**
  – Dutch Caribbean - 18%
  – US Virgin Islands - 51% loss of coral cover from bleaching & disease
SUMMARY CARIBBEAN REEFS

• From Status 2008:
  – 12% to 21% reefs ‘destroyed’
  – 13% to 31% at critical stage
  – Only 30% to 45% considered healthy

• Best reefs – those remote from humans & land masses (except Cuba);

• Reefs damaged at different times:
  – Florida in early 1980s
  – Mesoamerica – from 1980s to 2005;
  – Big events – Diadema loss; white band diseases; bleaching especially 1997/98 & 2005
SUMMARY CARIBBEAN REEFS

• Major coral mortality since 1980
• Causes – mix of disease, bleaching and direct human damage
• Probable losses in best areas from >50% coral cover to <15%;
• Fish and mollusc resources seriously over fished
• Tourism – part problem, part solution
• Awareness is increasing
• Some major initiatives commencing e.g. Caribbean Challenge