STRATEGIES FOR MANAGING MARINE SITES & ATTRACTIONS

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PRESENTATION OUTLINE

• Marine Sites & Attractions Status
• Non-protected Areas
• Protected Areas
• Regional Protected Areas Distribution
• Examples of Management Areas
• Management Strategies
• Major Threats
• Conclusions
MARINE SITES & ATTRACTIONS STATUS

• Marine Sites and Attractions can be either: protected or non-protected areas
NON-PROTECTED AREAS

• There is not much information on visitation in non-protected areas
• This lack of information includes # of visitors and environmental impacts
• Visitation to non-protected sites is driven by non-payment of visitation fees
• In some countries there are no or few protected areas
PROTECTED AREAS

- MPAs have existed for over 200 years
- Various categories exist for different objectives e.g. protection of unique sites, turtle nesting sites, Nassau Grouper Aggregation Sites, West Indian Manatee Nursery Areas etc.
PROTECTED AREA - SPECIES PROTECTION

*Epinephelus straitus*

*Manatus trichechus*
PROTECTED AREA - SPECIE PROTECTION

Marine Turtles
Exotic Specie
PROTECTED AREA - BIODIVERSITY PROTECTION
PROTECTED AREA - RECREATION
PROTECTED AREAS - CATEGORIES

Under the World Conservation Union (IUCN) classifications:

1. Strict Nature Reserve/Scientific Reserve
2. National Park
3. Natural Monument/Natural Landmark
4. Managed Nature Reserve/Wildlife Sanctuary
5. Protected Landscapes and Seascapes
6. Resource Reserve
7. Anthropological Reserve/Natural Biotic Area
8. Multiple Use Management Area/Managed Resource Area
CATEGORY 1

Strict Nature Reserve/Scientific Reserve

• To protect nature and maintain natural processes in an natural state in order to have ecologically representative examples of the natural environment available for scientific study, environmental monitoring, education, and for the maintenance of genetic resources in a dynamic and evolutionary state.
CATEGORY 2

National Park

• To protect outstanding natural and scenic areas of national or international significance for scientific, educational, and recreational use. These are relatively large natural areas not materially altered by human activity where extractive resources uses are not allowed.
CATEGORY 3

Natural Monument/Natural Landmark

• To protect and preserve nationally significant natural features because of their special interest or unique characteristics. These are relatively small areas focused on protection of specific features.
Managed Nature Reserve/Wildlife Sanctuary

• To assure the natural conditions necessary to protect nationally significant species, groups of species, biotic communities, or physical features of the environment where these may require specific human manipulations for their perpetuation. Controlled harvesting of some resources can be permitted.
CATEGORY 5

Protected Landscapes and Seascapes

• To maintain nationally significant natural landscapes which are characteristic of the harmonious interaction of man and land while providing opportunities for public enjoyment through recreation and tourism within the normal life style and economic activity of these areas. These are mixed cultural/natural landscapes of high scenic value where traditional land uses are maintained.
CATEGORY 6

Resource Reserve

• To protect the natural resources of the area for future use and prevent or contain development activities that could affect the resources pending the establishment of objectives which are based upon appropriate knowledge and planning. This is a ‘holding’ category used until a permanent classification can be determined.
CATEGORY 7

Anthropological Reserve/Natural Biotic Area

• To allow the way of life of societies living in harmony with the environment to continue undisturbed by modern technology. This category is appropriate where resources extraction by indigenous people is conducted in a traditional manner.
CATEGORIES 8

Multiple Use Management Area/Managed Resource Area

• To provide for the sustained production of water, timber, wildlife, pasture and tourism, with the conservation of nature primarily oriented to the support of the economic activities (although specific zones may also be designated within these areas to achieve specific conservation objectives).
REGIONAL PROTECTED AREAS DISTRIBUTION - Caribbean
REGIONAL PROTECTED AREAS – MESOAMERICAN BARRIER REEF

Protected Area Status - 2000

- Biosphere Reserves
- Strict Conservation (National Parks, Nature Reserves)
- Private Reserves
- Extractive or Multiple Use (Wildlife Refuges, Forest Reserves)
- Buffer Zones
- Proposed Protected Areas
- Unknown status
EXAMPLES OF MANAGEMENT AREAS

• National Marine Sanctuary Program – USA

• Great Barrier Reef Marine Park – Australia

• Belize Marine Protected Areas Network
The National Marine Sanctuary Program is under the National Oceanic and Atmospheric Administration’s (NOAA) National Ocean Services

NOAA is under the United States Department of Commerce
National Marine Sanctuary Program - USA

NOAA Organizations

Line Offices

• National Environmental Satellite, Data, and Information Service
• National Marine Fisheries Service
• National Ocean Service
• National Weather Service
• Office of Marine and Aviation Operations
• Office of Oceanic and Atmospheric Research
• Program Planning and Integration
Great Barrier Reef Marine Park - Australia

- The **Great Barrier Reef** is undisputed as one of the world’s most important natural assets. It is the largest natural feature on earth stretching more than 2,300km along the northeast coast of Australia from the northern tip of Queensland to just north of Bundaberg.

Great Barrier Reef Marine Park - Australia

Other Management Organizations

• Queensland Parks and Wildlife Service
• Queensland Boating and Fisheries Patrols
• Queensland Water Police
• Coastwatch
• Australian Safety Authority

www.gbrmpa.gov.au
Marine Protected Areas Network - Belize

- Marine Protected Areas in Belize consist of marine reserves, natural monuments, national parks and sanctuaries
- MPAs are declared by various line ministries
- Government & NGOs manage these MPAs
LEGISLATIVE AUTHORITIES TO DECLARE MPAs IN BELIZE

- MINISTRY OF NATURAL RESOURCES & ENVIRONMENT
  - FOREST DEPARTMENT
  - PARK SYSTEMS ACT
  - FOREST ACT
- MINISTRY OF AGRICULTURE AND FISHERIES
  - FISHERIES DEPARTMENT
  - FISHERIES ACT
- MINISTRY OF TOURISM
  - ARCHEOLOGY DEPARTMENT
  - ANTIQUITIES ACT
- NATIONAL PARKS
- NATURAL MONUMENTS
- SANTUARIES
- RESERVES
- MARINE RESERVES
Management Strategies

MPAs are declare under 3 models
1. Extension of forestry laws
2. Extension of fishery laws
3. New multiple use legislation
Recent Strategies focus on Ecosystems Base Management

- EBM needs capabilities of people and institutions
- Need necessary human, financial and informational resources
- Short, medium and long-term planning
- Capacity building
- Strategic investments
- Leadership
- Adopt regional frameworks
Management Strategies

- Fisheries Management Tool for Sustainable Fisheries
- Enhancement of Biodiversity
- Recreation
- Research & Monitoring
- Environmental Education
- Bioprospecting
Management Strategies—Recreation

- Policies and guidelines for tourism and recreation use
- Management arrangements for tourism operations
- Indigenous participation in tourism
- Enforcement and Management
- Funding
- Legislation
- Overall management arrangements
- Site-specific management arrangements
- Management and Operational Plans
- Zoning Plans
Policies & Guidelines

Policies provide guidance
• Cruise Shipping Policy
• Managing Tourism Permissions to Operate in a protected area Policy
• Policy on Managing Bareboat Operations
• Policy on Moorings
• Policy on Environmental Impact Management

Guidelines provide a working framework
• Guidelines for commercial jet ski operations
• Guidelines for visitation to seabird nesting areas
• Guidelines for emergency response
• Guidelines for usage of artificial reefs
Management Arrangements

Various categories exist

- Management in Partnership – Tourism industry, recreational users & government agencies
- Community Engagement – advisory committees
- Co-management agreements – government agencies (federal/state/local), NGOs & CBOs
- Special Tourism Permits – e.g. Whale watching cruises, motorized waters sports, floating platforms
Enforcement

- Site specific enforcement (Rangers)
- Joint enforcement (Customs, Immigration, Defence Force)
- Assistance enforcement (Navy, Coastguard, marine police)
- Security Firm
Funding

Essential for all management strategies

- Environmental Management Charges
- Concession Fees
- Admission Fees
- Endowments
- Trust Funds
- Government Subventions
- Grants
- Debt for Nature Swap
Legislation

• Stakeholders’ consultation on legislation needed
• Drafting of legislation
• Presenting of final draft
• Legislation enactment
Legislation can be site specific

- Number of vessels at a given site at one time
- Time allowed for vessel visitation
- Number of tourists per vessel
- Number of tourists per guide
- Number of divers per guide
- No gloves allowed
Management Plans

Various sizes, formats & volumes

- First prepare Management Plan then declare an area protected
- Stakeholders participation is via community involvement
- General public forums should be held to present draft plan
- Draft plan should be deposited at public places (Town Halls, Libraries, Village Councils) for public viewing and comments
- Management Plan adoption should be published
Zoning

Various categories exist

- No-take zone
- Conservation zone
- General Use zone
- Preservation zone
- Recreational zone

Zoning Maps with different scales
Zoning Maps with Rules & regulations
Overview/detailed maps
Major Threats

- Increase in unregulated cruise tourism (carrying capacity/levels of acceptable changes)
- Unregulated coastal development
- Illegal fishing and over fishing
- Land based sources of pollution
- Climate change
- Globalization
Unregulated Tourism

- Anchor damage
- Physical damage to ecosystems (corals)
- Garbage production
- Specimen collections
Unregulated Coastal Development

- Illegal dredging
- Coastal erosion
- Illegal cutting of mangroves
- Destruction of habitats
Illegal Fishing/Overfishing

- Illegal fishing by fishers from other countries undermines landing data
- Lower marine species make areas less attractive
- Overfishing shifts targets to other species
- Overfishing of algae grazers severely impacts coral reefs
Land Based Sources of Pollution

Point & Non-point Sources

- Sewerage
- Nitrates from fertilizers
- Toxins from pesticides
- Chemicals from agricultural practices
- Sedimentation from land use practices
Climate Change

- Climate Change is real
- Rising temperature is causing ice deposits to melt thus increasing sea level
- Rise in sea level will result in coastal flooding, salt water intrusion in aquifers & displacements of species
- Rising carbon dioxide levels cause marine acidification
- Rising temperatures increase the incidents of hurricanes
Climate Change

- Rising temperatures cause coral bleaching
- Rising temperatures promote coral disease
Globalization

• “The growing integration of economies and societies around the world”
• It has been one of the most hotly-debated topics in international economics over the past few years.
• Economical recessions can have great impacts on visitations
• Security issues can also have big implications.
• Health issues can also have implications.
Conclusions

• No one organization can manage all the marine protected areas alone
• Need co-management agreements with NGOs and CBOs (MOUs)
• Need for assistance from governments, funding agencies, programs and projects for long-term & sustainable funding
• Need to make strategic & adaptive decisions
• Need for proper monitoring to detect changes & rely on scientific information
• Need to invest in individuals & institutions to develop leadership
Regional & Global Connectivity

Legend

- Prevailing current. Size of arrow indicates strength of current. Broken arrows indicate a constancy of <25%.
- Mean wind direction. Boldness of arrows = constancy of direction. Number of strokes on arrow = mean wind force on Beaufort scale.
- Upwelling area
- Zone of convergence
HOLISTIC APPROACH TO TOURISM MANAGEMENT
Regional Management - SPAW

- The Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (the Cartagena Convention) is a legally binding environmental treaty for the Wider Caribbean Region.
- The Convention and its Protocols constitute a legal commitment by the participating governments to protect, develop and manage their common waters individually or jointly.
- The Protocol Concerning Specially Protected Areas and Wildlife (the SPAW Protocol) has been internationally recognised as the most comprehensive treaty of its kind.
- Adopted in Kingston, Jamaica by the member governments of the Caribbean Environment Programme on 18 January 1990, the SPAW Protocol preceded other international environmental agreements in utilising an ecosystem approach to conservation.

SPAW Ratification

- Barbados, Colombia, Cuba, Dominican Republic, France, Netherlands, Panama, Saint Lucia, St. Vincent & the Grenadines, Trinidad & Tobago, USA & Venezuela
Environmental Education Campaign

- Sensitize stakeholders
- Involve youths
- Mass produce booklets, leaflets, maps and brochures
- Use public ads
- Conduct special events during the IYOR 2008
Adoptive Management is necessary for specific tourism activities – SPAGS Diving
Functional Protected Areas

- Connectivity – larval dispersal
- Representative habitats / communities
- Long-term effective management
  (Management of Marine Sites & Attractions)
• CHARACTERIZATION OF CARIBBEAN MARINE PROTECTED AREAS: AN ANALYSIS OF ECOLOGICAL, ORGANIZATIONAL, AND SOCIO-ECONOMIC FACTORS By Tighe Geoghegan, Allan H. Smith, and Katy Thacker
• Visit Virtual Libraries: Management of marine sites & attractions
• Search the Web: Management of marine sites & attractions (www.google.com)
THANK YOU

Questions?