

ICRAN MAR Sustainable Marine Recreation workshop in Roatan, Honduras

Threats and Solutions for Sustainable Business Practices

Exercise #1 – Brainstorming group views on threats to reefs in Roatan

- Coastal development
- Deforestation (loss of mangroves)
- Lack of experienced tour guides
- Inexperienced divers and snorkelers
- Pollution (gasoline; maintenance of vessels on beach; suntan oil; use of two-stroke instead of four-stroke engines; trash disposal)
- Lack of environmental briefings
- Lack of enforcement
- Creation of artificial beaches
- Dredging
- Lack of mooring buoys
- Private yachts (anchor damage; pollution)
- Souvenir harvesting
- Improper septic systems
- Overcrowding/carrying capacity (cruise ship tourism)
- Fish feeding
- Overfishing/spear fishing/harvesting
- Teaching/diving on or near fragile reefs
- Lack of education, awareness, and accountability (staff, company owners, tourists)
- Lack of zoning for marine recreation activities
- Seafood consumption

Exercise #2 – Break out groups ranking marine recreation threats to reefs in southern Belize (based on area, intensity and urgency of threat)

Overall scores from all participants

- | | | |
|--------------------------------|---|-----------|
| 1. Pollution | = | 54 points |
| 2. Lack of education/awareness | = | 52 points |
| 3. Lack of enforcement | = | 51 points |
| 4. Spear fishing/harvesting | = | 47 points |
| 5. Lack of mooring buoys | = | 21 points |

Group #1

- | | | |
|-----------------------------|---|-----------|
| 1. Pollution | = | 12 points |
| 2. Spear fishing/harvesting | = | 11 points |
| 3. Lack of enforcement | = | 10 points |
| 4. Lack of education | = | 9 points |
| 5. Lack of moorings | = | 3 points |

Group #2

- | | | |
|------------------------|---|-----------|
| 1. Lack of enforcement | = | 14 points |
| 2. Pollution | = | 12 points |

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- | | | |
|-----------------------------|---|-----------|
| 3. Lack of education | = | 10 points |
| 4. Spear fishing/harvesting | = | 6 points |
| 5. Lack of mooring buoys | = | 3 points |

Group #3

- | | | |
|-----------------------------|---|-----------|
| 1. Pollution | = | 15 points |
| 2. Spear fishing/harvesting | = | 9 points |
| 3. Lack of education | = | 9 points |
| 4. Lack of enforcement | = | 7 points |
| 5. Lack of mooring buoys | = | 5 points |

Group #4

- | | | |
|--------------------------------|---|-----------|
| 1. Spear fishing/harvesting | = | 12 points |
| 2. Lack of enforcement | = | 10 points |
| 3. Lack of education/awareness | = | 9 points |
| 4. Pollution | = | 7 points |
| 5. Lack of mooring buoys | = | 7 points |

Group #5

- | | | |
|-----------------------------|---|-----------|
| 1. Lack of education | = | 15 points |
| 2. Lack of enforcement | = | 10 points |
| 3. Spear fishing/harvesting | = | 9 points |
| 4. Pollution | = | 8 points |
| 5. Lack of mooring buoys | = | 3 points |

Exercise #3 – Threats reduction: examining root causes for top three threats; informing potential solutions for sustainable business practices

POLLUTION

- Scarcity of income/poverty
- Unregulated development/landfills
- Agricultural run-off
- Dredging
- Poor vessel maintenance (repairing boats on water; fiberglass work; lack of catchment facilities)
- Intensive coastal development
- Lack of sewage systems
- Mangrove loss/deforestation
- Use of two-stroke versus four-stroke engines
- Vehicles on beaches
- Lack of recycling facilities (batteries and other items)
- Lack of pump out stations
- Lack of disposal facilities
- Lack of infrastructure for the amount of tourists

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LACK OF EDUCATION AND AWARENESS

- Lack of interest on the part of the government
- No funding for educational programs
- Cultural
- Lack of engagement on the part of cruise ships and guides
- Lack of awareness on the part of tourists
- Lack of information available to tourists
- Lack of motivation by everyone involved
- Lack of motivation on the part of guides

LACK OF ENFORCEMENT

- Corruption
- Lack of education
- Lack of resources
- Lack of functional Marine Protected Area (MPA)
- Lack of well defined laws in MPAs
- Lack of laws listed in Roatan brochure
- Lack of motivation and interest on the part of the tour guide
- Political leaders opposed to environmental considerations

Exercise # 4 – Developing solutions for sustainable marine recreation

POLLUTION

1. What is the activity/solution?

- Trash pick up and recycling program

2. Who will be involved?

- Employ locals; create a micro-enterprise for recycling. Community-based laws created and enforced (give locals power to issue fines)

3. Resources Needed

- Grants
- Municipal support
- Machinery (private investment/grants)
- Shipping (tax-cut for environmental shipping, paid by municipality)
- Tourism tax (transparently managed)

4. Next Step

- To start – get money from grants
- Link actual recycling (metal and glass) to include plastic
- Give out free chairs (200 bottles = 1 chair)

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- Approach Delsie Rosales (Vice-Mayor)
- Approach embassies
- Create and patent “The magik plastic machine”
- Polluter of the day – Roatan Bruce show

HARVESTING OF MARINE SPECIES

1. What is the activity/solution?

- Signs in dive shops and hotels telling customers what seafood to avoid and why
- Information for cruise ships on what not to purchase
- Scientific study on endangered areas (what to protect and when)

2. Who will be involved and what role will they play?

- Dive operations and affiliated hotels; snorkel and kayak operators; marine park and patrol
- Coral Reef Alliance and marine park; municipality (signs)
- Steve Box; Reef Check; volunteer instructors; media/luncheons

3. Resources needed

- Money
- Volunteers
- Supplies

4. Next Steps

- Make signs
- Make signs and have CORAL contact cruise ships and network
- Brochures for cruise ships from USAID-MIRA
- Marine park representative to visit cruise ship dock to look at existing resources
- Mass mail universities (liaison with Steve Box)

LACK OF EDUCATION AND AWARENESS

1. What is the activity/solution?

- Create free, easily accessible, easily understandable informational material in all streams of media (internet, signs, DVD, pamphlet, posters, radio, newspapers, magazines – all multilingual)
- Must be multi-leveled (reach children, locals, marine recreation providers/users, developers, real estate agents, advertisers, etc.)
- Monthly information workshops with “certificates of completion”

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2. Who will be involved and what role will they play?

- All marine recreation users/providers must be involved
- Children in public and private schools (hence teachers)
- Transportation providers: water/car taxis, bus drivers
- Municipality
- Sandy Bay and West End Marine Reserve (provide informational meetings for taxi drivers, tour guides, other marine recreation providers)
- Hotel owners – post pamphlets
- Glass bottom boat tours

3. Resources Needed

- Money
- Government interest and involvement
- Time
- Volunteers

4. Next Step

- Propaganda!
- Identify definite participants: get commitments
- Roatan Bruce – “The Reef Minute” pitch (Five 2 minute announcements)
- Attack plan: Approaching schools (2 classes per month)
- Posting signs in each dive shop, airport, ferry, etc.
- Education/communication committee (centralized effort of outreach)

LACK OF ENFORCEMENT

1. What is the activity/solution?

- Identify the actual laws and regulations of the area and simplify procedures to make them understandable at all levels (municipality, community, tourism industry)

2. Who will be involved and what role will they play?

- Associations will be involved: BICA, UMA, teachers, patrol rangers, judges, police

3. Resources Needed

- Radio, tv, internet, newspapers, Bay Islands Voice, Eastwind, presentations

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4. Next Step

- Carry out the action plan