



## Ad-Hoc Committee on Enforcement & Investigation report on activities to ICRI

Presented by Dave Gulko

### Reporting period

*Please note that the purpose of this report is to help you share information about your activities within the ICRI community to allow discussion at the next ICRI General Meeting. The report will be made available on the ICRIForum prior to the meeting, and a question and answer session held at the meeting. The ICRI secretariat is well aware of your busy schedule, thus don't hesitate to submit incomplete report.*

### 1. General Information

<i>Representation to ICRI (Country / Organization):</i>	ICRI Committee on Enforcement & Investigation
<i>Focal Point 1:</i>	
<i>Focal point 2:</i>	
<i>Last meeting attended:</i>	Cozumel, Mexico, October 2006
<i>How do you circulate ICRI information with your country and/or organization?</i>	Email
<i>Budget allocated for coral reefs (please mention for year/period):</i>	\$180,000 USD for '07 – '08 Enforcement & Investigation Training Activities

*For countries only: NOT APPLICABLE*

<b>National Action Plan / Initiative</b>	
<i>Do you have a National Coral Reef actions plan?</i>	
<i>Date of publication:</i>	
<i>Do you have a National Coral Reef Initiative?</i>	
<i>Relevance to regional program / initiative:</i>	
<i>How and where to obtain more information:</i>	
<b>Monitoring</b>	
<i>Is there a national monitoring programme for your country?</i>	
<i>Date of the last assessment?</i>	
<i>How and where to obtain more information:</i>	
<b>Marine Protected Areas</b>	
<i>How many MPA(s) with coral reefs?</i>	
<i>What is the percentage of coral reef MPA(s) to the (coastal zone / marine area)?</i>	
<i>Number of sites (with coral reefs) under the World Heritage Convention?</i>	
<i>Number of wetland sites (with coral reefs) under the Ramsar Convention?</i>	
<i>Number of Biosphere Reserves (with coral reefs) under UNESCO's MAB Programme?</i>	

## **2. Report**

### **A. Specific requests / questions for the next ICRI General Meeting**

#### International Year of the Reef (IYOR) 2008

Do you have a committee/focal point for IYOR 2008? Yes

If yes, contact information:

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ICRI Ad-Hoc Committee on Coral Reef Enforcement & Investigation  
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If available, brief description of what has been done so far:

- Creation of pilot training materials used in Post-ITMEMS Cozumel Field Training Workshop.
- Four ITMEMS Sessions on Coral Reef Enforcement & Investigation. Listed below are the findings of the ITMEMS3 Enforcement Sessions that went forward in the final ITMEMS document (\* identifies ITMEMS recommendations in direct support of toolkit and/or training component activities on-going by the ICRI Ad-Hoc Committee):
  - Resource management agencies involve enforcement expertise to ensure active and early consideration of enforcement issues during planning processes\*.
  - Resource management agencies provide awareness and education for the public on laws, regulations and consequences of violations including publicising the outcomes of prosecutions to promote deterrence and improve\*.
  - Donor organizations, NGOs and governments should not focus only on science and planning but support the development and maintenance of enforcement capacity to ensure that management strategies succeed.
  - Incorporate Ecological Risk Assessment (ERAs) to focus compliance and impact mitigation planning\*.
  - Nations should take actions against illegal activities by their citizens overseas.
  - Professional fora and networks be developed for investigators and enforcement personnel to promote regional and international exchange of expertise\*.
  - Where the legal framework allows, community-based initiatives be promoted and supported to strengthen compliance and foster community stewardship.
  - Formal local, national and international interagency mechanisms be developed to ensure coordinated response capacity for enforcement and investigation\*.
  - Guidance be provided to resource managers regarding the entire investigation and enforcement process\*.
  - Enhance the direct application of research and monitoring into assisting

enforcement and investigation\*.

- Five day post-ITMEMS pilot Field Training Workshop held in October 2006 and attended by 24 international natural resource managers, enforcement officials, scientists, MPA managers, planners and lawyers from 14 countries and islands.
- Revised Draft Field Investigative Protocol (See overview below)
- Initiation of Training Toolkit (the toolkit will be composed of a series of modules which can be periodically updated as needed. The outline of the toolkit modules is attached to the end of this document as an appendix.

One of the primary accomplishments has been the creation of a draft set of injury investigative protocols that can be used for a wide variety of marine impact investigations across broad regional boundaries:

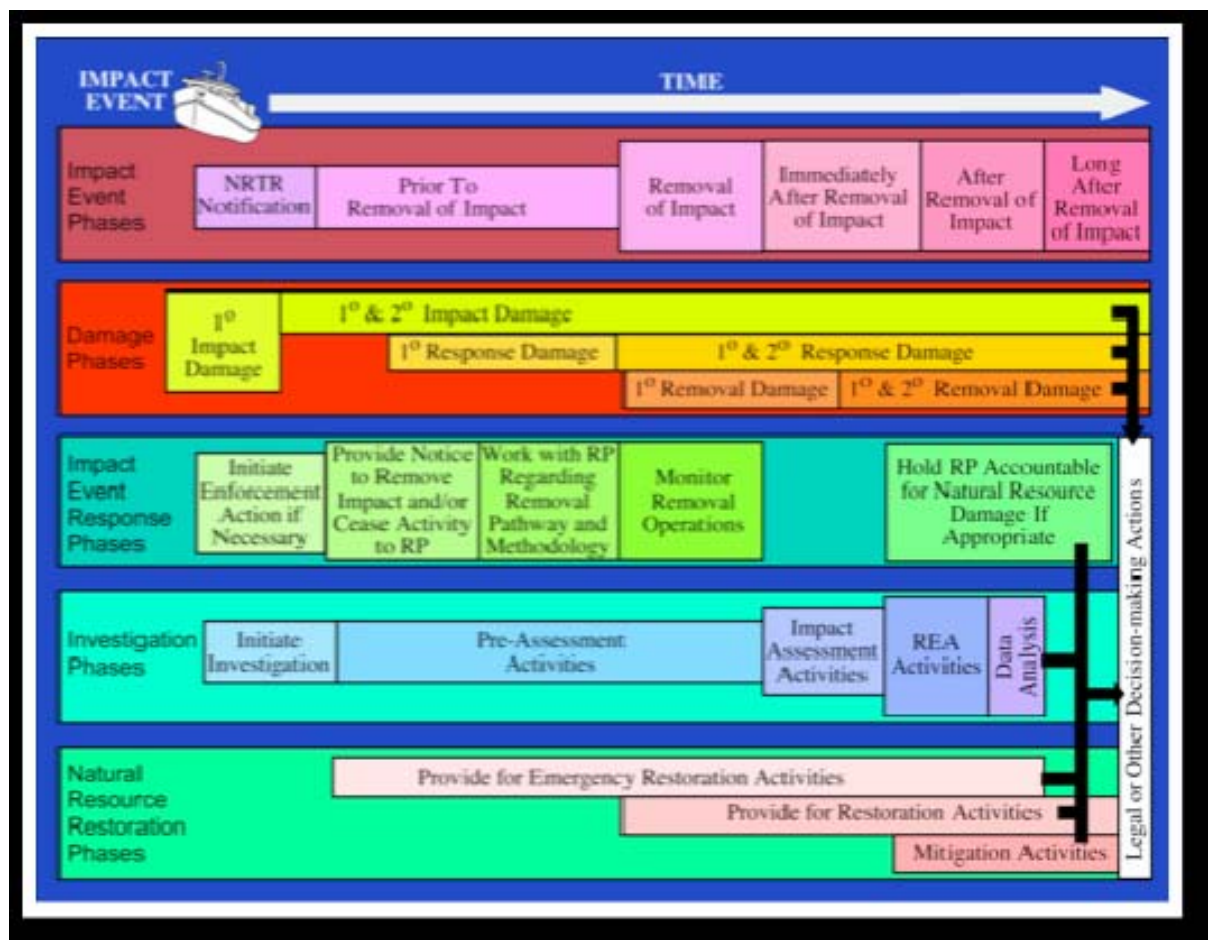
Stages of a Coral Reef CSI Field Investigation:

STAGES OF FIELD INVESTIGATION	PRIMARY ACTIVITIES	TIMELINE RELATIVE TO IMPACT	DAMAGE TIMELINE
Initiate Investigation	<ul style="list-style-type: none"> <li>• Collect Incident Location and Other Parameters Information</li> <li>• Deploy Field Team</li> </ul>	Immediately After Impact is Reported	1 <sup>o</sup> Impact Damage and Peripheral
The Pre-Assessment	<ul style="list-style-type: none"> <li>• Set Event Perimeter</li> <li>• Set Impact Perimeter</li> <li>• Define Habitats &amp; Subhabitats</li> <li>• Identify &amp; Document Damage Pathways</li> </ul>	Prior to Impact Source Removal/Cessation  (pending safety/field logistics concerns)	1 <sup>o</sup> & 2 <sup>o</sup> Impact Damage and Peripheral  1 <sup>o</sup> Response Damage
The Impact Assessment	<ul style="list-style-type: none"> <li>• Document Specific Damage to Habitats, Subhabitats, Key Species</li> <li>• Collect Physical &amp; Other Evidence</li> <li>• Identify Impacts to Users</li> </ul>	Immediately After Impact is Removed/Ceases  (pending safety/field logistics concerns)	1 <sup>o</sup> & 2 <sup>o</sup> Impact Damage and Peripheral  1 <sup>o</sup> & 2 <sup>o</sup> Response Damage  1 <sup>o</sup> Removal/Cessation Damage
The Rapid Ecological Assessment (REA)	<ul style="list-style-type: none"> <li>• Document Biomass, Biodiversity Impacts Relative to Control Sites</li> <li>• Identify Ecological Functions</li> </ul>	Post-Removal or Cessation  (pending safety/field logistics concerns)	1 <sup>o</sup> & 2 <sup>o</sup> Impact Damage and Peripheral  1 <sup>o</sup> & 2 <sup>o</sup> Response Damage

			1° & 2° Removal/Cessation Damage
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Note that as an investigation proceeds, additional forms of impact need to be incorporated into the data gathering (see the damage timelines). Also note that during the REA phase, fieldwork occurs not only on the impact site, but also on appropriate reference sites in order to quantify probable loss and establish estimates of recovery. The REA phase is critical to an investigation for mitigation and restoration decision-making.

How The Stages Of A Coral Reef CSI Field Investigation Fit In To A Generalized Impact Event:



*If available, brief description of near future plans:*

- Completion of Coral Reef CSI Training Toolkit (Fall '07)
- Translation of Training Toolkit into Spanish (Winter '07)
- Central America Field Training Workshop (Spr '08)
- ICRS Field Training Workshop (Summer '08) [Tentative]
- SE Asia Field Training Workshop (Fall '08)
- S Pacific Field Training Workshop (Spr '09)

*Relevance to mangrove ecosystems - Please give details of activities pertaining to mangroves, particularly where mangroves are associated with coral reefs.*

The Investigative Toolkits and Trainings can be used in mangrove and seagrass ecosystems with very minor adjustments.

### **B. Summary of activities and pertinent points**

1. Brief summary of major coral reef activities/projects:

<i>Activity / Project Title</i>	<i>Location</i>	<i>Amount</i>	<i>duration</i>	<i>major activities</i>	<i>for more info (web site / email)</i>
1. ITMEMS Coral Reef Enforcement Sessions	Cozumel, Mexico		October, 2006	4 International Sessions on various aspects of issues related to coral reef enforcement, compliance & investigation	
2. ITMEMS Coral Reef CSI Pilot Field Training Workshop (October '06)	Cozumel, Mexico	\$25,000 USD (NOAA)	April '06 – October '06	Initial design of training materials and training workshop. Pilot workshop for 24 international natural resource managers, enforcement officials, scientists, MPA managers, planners and lawyers from 14 countries and islands.	
3. Development of Coral Reef Injury Investigation Toolkit		\$20,000 USD (US DoS)	Nov '07	Develop training guide on how to conduct coral reef injury investigations underwater	
4. Translation of Toolkit into Spanish		\$8,000 USD (US DoS)	Jan '08		
5. Central America Coral Reef CSI Field Training Workshop	Costa Rica, Honduras, or Dominican Republic	\$75,000 USD (US DoS)	Feb '08	International field training course for coral reef managers, enforcement	

				officers, investigators, planners and litigators. Run through ICRAN.	
6. ICRS Coral Reef CSI Field Training Workshop (Tentative)	Florida, US		July '08	International field training course for coral reef managers, enforcement officers, investigators, planners and litigators. Run through ICRS as a post-meeting activity.	
7. SE Asia Coral Reef CSI Field Training Workshop	Singapore, Thailand, or Malaysia	\$44,700 USD (US DoS)	Oct '08	International field training course for coral reef managers, enforcement officers, investigators, planners and litigators. Run through NOAA Coral Reef Conservation Program.	
8. South Pacific Coral Reef CSI Field Training Workshop	Fiji, Samoa, Tahiti, Belau, or FSM	\$62,000 USD (US DoS)	Mar '09	International field training course for coral reef managers, enforcement officers, investigators, planners and litigators. Run through NOAA Coral Reef Conservation Program.	

2. Please list:

- *Key activities of the member since last report relating to coral reefs and associated ecosystems*

See above.

- *Identify points of relevance to other ICRI members, or the secretariat (eg points of particular concern; questions to ask of ICRI; information requested; assistance sought; lessons learned)*

At this point the Committee is well on its way towards meeting the original goals established during its creation relative to facilitating a coordinated and standardized approach towards coral reef injury investigation.

- *Identify forthcoming activities that might be of interest to other members in terms of funding; partnership; uptake.*

We currently have funding for workshops in SE Asia, Central America, & the South Pacific. Interested parties have contacted us about holding training workshops in Indonesia, the Philippines, India, the Caribbean, and Brazil. We could put ICRI members who might be interested in partnering in contact with these parties to work with us on facilitating additional training workshops.

In addition, we are proposing that the ICRI Ad-Hoc Committee on Coral Reef Enforcement and Investigation continue through the development and publication of the toolkit and the initial regional workshops over the next two years, during which time various ICRI members would have ample opportunity to be exposed to the products of the Committee and help in refining them for use in their regions.

## APPENDIX I: Draft Toolkit Outline

### **A. Investigating Damage To Coral Reefs**

- SECTION 1: INTRODUCTION
- SECTION 2: CSI: WHAT DOES IT MEAN ON CORAL REEFS
- SECTION 3: TYPES OF IMPACT EVENTS
- SECTION 4: TYPES OF MARINE INVESTIGATORS
- SECTION 5: THE NEED FOR IN-WATER INVESTIGATIVE TEAMS
- SECTION 6: THE NEED FOR TRAINING
- SECTION 7: ENHANCING NOTIFICATION OF AN IMPACT EVENT
- SECTION 8: CONDUCTING AN UNDERWATER FIELD INVESTIGATION
- SECTION 9: THE GENERAL MARINE INVESTIGATIVE PROCESS
- SECTION 10: THE GENERAL CORAL REEF CSI PROCESS
- SECTION 11: MITIGATION VS RESTORATION VS PENALTY

### **B. Basic Marine Investigative Tools**

#### **MODULE I: THE MARINE IN-WATER INVESTIGATIVE PROCESS IN-DEPTH**

- SECTION 1: USE OF ECOLOGICAL RISK ANALYSIS (ERA)
- SECTION 2: PRE-ASSESSMENTS & SETTING AN EVENT PERIMETER
- SECTION 3: IMPACT ASSESSMENTS
- SECTION 4: CONDUCTING RAPID ECOLOGICAL ASSESSMENTS (REAS)
- SECTION 5: THE ROLE OF THE CORAL REEF ON-SCENE COORDINATOR (THE CROC)
- SECTION 6: MINIMIZING INVESTIGATOR DAMAGE TO THE IMPACT SCENE

#### **MODULE II: THE CORAL REEF CSI PROCESS IN-DEPTH**

- SECTION 1: ARRIVAL AT, & PRESERVATION OF, THE SCENE
- SECTION 2: INITIAL SEARCH FOR EVIDENCE AT RISK
- SECTION 3: DOCUMENTATION OF THE SCENE
- SECTION 5: COLLECTION OF EVIDENCE
- SECTION 6: PRESERVATION & PACKAGING OF EVIDENCE, CHAIN-OF-CUSTODY
- SECTION 7: ANALYSIS OF EVIDENCE

### **C. Advanced Marine Investigative Tools (Note: Will Be Developed Later)**

#### **MODULE III: MARINE EVIDENCE COLLECTION**

- SECTION 1: THE PHYSICAL SCENE
- SECTION 2: BIOLOGICAL ORGANISMS AT THE IMPACT SCENE
- SECTION 3: DESCRIBING DAMAGED MARINE LIFE
- SECTION 4: DOCUMENTING EFFECTS TO ECOLOGICAL FUNCTION
- SECTION 5: MARINE SEDIMENTS
- SECTION 6: TOOL, BOAT & GEAR MARKS
- SECTION 7: PAINT CHIPS, REEF FRAGMENTS AND TORN PAPER
- SECTION 8: DOCUMENTS
- SECTION 9: CHEMICALS & POLLUTANTS
- SECTION 10: DISEASES & ENVIRONMENTAL HEALTH
- SECTION 11: DIGITAL DATA

#### **MODULE IV: VESSEL IMPACT EVENTS**

- SECTION 1: VESSEL GROUNDINGS
- SECTION 2: OTHER VESSEL IMPACTS



**MODULE V: EXTRACTION IMPACT EVENTS**

SECTION 1: DESTRUCTIVE FISHING

SECTION 2: GEAR IMPACTS

SECTION 3: OTHER TAKE

**MODULE VI: POLLUTION IMPACT EVENTS**

SECTION 1: OIL SPILLS

SECTION 2: LAND-BASED SOURCES

SECTION 3: DUMPING

SECTION 4: COASTAL CONSTRUCTION

SECTION 5: OCEAN-BASED SOURCE POLLUTION

**MODULE VII: INVASIVE SPECIES EVENTS**

SECTION 1: AQUATIC INVASIVE SPECIES

**D. Post-Investigation Tools**

**MODULE VIII: APPLYING IN-WATER INVESTIGATIVE TOOLS TO PROPOSED DEVELOPMENT PROJECTS**

**MODULE IX: FROM CRIME SCENE TO COURT: THE HANDLING OF DATA AS EVIDENCE**

SECTION 1: STATISTICAL ANALYSIS FOR MARINE INVESTIGATORS

SECTION 2: THE USES AND MISUSES OF STATISTICAL POWER

**MODULE X: PROVIDING ECOLOGICAL & RESOURCE IMPACT ANALYSES TO SUPPORT PROSECUTION**

SECTION 1: PROVIDING BACKGROUND ANALYSES

SECTION 2: THE ROLE OF AN EXPERT WITNESS

SECTION 3: GRAPHIC PRESENTATIONS FOR COURT

SECTION 4: DOCUMENTATION OF EFFORT FOR REIMBURSEMENT

**MODULE Xi: ADVERTISING ENFORCEMENT & INVESTIGATIVE SUCCESSES**

SECTION 1: GETTING THE WORD OUT TO DECISION MAKERS & TO THE MEDIA

SECTION 2: AVOIDING MEDIA PITFALLS

**MODULE Xii: JUDICIAL & DECISION MAKER EDUCATION**

SECTION 1: THE NEED FOR EFFECTIVE LAWS/RULES /POLICIES

SECTION 2: PENALTIES VS COST OF DOING BUSINESS

SECTION 3: VALUATION STRATEGIES

**E. Appendices**

**Appendix A: SAMPLE FIELD & DATA FORMS**

**Appendix B: OTHER TOOLS**

SECTION 1: UNDERWATER PHOTOGRAPHY

SECTION 2: PERCENT COVER ESTIMATION TOOL

SECTION 2: OUTFITTING A FIELD CORAL REEF CSI KIT

SECTION 3: MAKING YOUR OWN CORAL REEF CSI GEAR

SECTION 4: CORAL REEF CSI GEAR MANUFACTURERS

**Appendix C: ADDITIONAL SUPPORT**

SECTION 1: INTERNATIONAL EXPERT MATRIX

SECTION 2: ADDITIONAL REFERENCES

SECTION 3: RELATED WEB SITES

**Appendix D: ENFORCEMENT/INVESTIGATIVE OFFICE REALITIES**

**SECTION 1: BUDGET NEEDS**

**SECTION 2: TECHNICAL SKILLS AND KNOWLEDGE NEEDED**

**Appendix E: GLOSSARY**

**Appendix F: INDEX**