



International Tropical Marine Ecosystems Management Symposium 3

Global Problems, Local Solutions

Enforcement and Investigation Theme

Abstracts for session 1: Creating International Standards for Coral Reef Investigations

CSI ON CORAL REEFS: THE ICRI COMMITTEE ON CORAL REEF ENFORCEMENT AND INVESTIGATION

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The primary objectives of the ICRI Committee on Coral Reef Enforcement and Investigation are to (1) to develop a training program on conducting coral reef enforcement and natural resource investigations, which can be adapted for use in any major coral reef region; (2) organize and run a pilot training workshop as part of the upcoming International Tropical Marine Ecosystems Management Symposium (ITMEMS), to train coral reef resource managers, environmental assessment specialists, forensic investigators and litigators on conducting coral reef enforcement and natural resource investigations; and (3) to use the results of the training workshop to produce a multi-layered toolkit for use by coral reef resource managers, environmental assessment specialists, forensic investigators and litigators throughout the Pacific, Indian and Atlantic coral reef regions to conduct field investigations to support mediation, mitigation, restoration, litigation or prosecution. Types of investigation training will include vessel groundings; destructive fishing, illegal take, oil, chemical & sediment spills; pollution events including eutrophication; aquatic invasive species; and chronic sublethal events.

Once the toolkit is available in 2007, we envision conducting 12 regional workshops between 2007 and 2010 to train coral reef resource managers and enforcement personnel on its use, and on using both the toolkit and the website to better coordinate and communicate their investigative and enforcement actions in such a manner as to increase their individual successes as they relate to coral reef cases. The workshops will result in regional rapid response investigative kits and capacity being available for coordinated regional response efforts by resource

managers who have gone through the regional training workshops.

The results of these efforts will be in the short term, the training of key individuals within each coral reef country in the international standards and protocols being developed for conducting defensible investigations of marine natural resource impacts on coral reefs to determine responsible parties, mitigative strategies and gather evidence for decision-making specifically tailored to their regional coral reef issues and concerns. Over the long term we expect to see increased capacity within each country's marine resource management and enforcement efforts, specifically as it relates to improved investigative capacity leading to increased success in prosecution, mediation, mitigation, restoration or litigation; along with greater public education and support resulting from these successes. We also envision greater regional multi-country cooperation involving investigations and rapid response capabilities, including formation of regional rapid response teams to deal with large-scale and multi-country marine natural resource impact investigations.

ADAPTING TERRESTRIAL POLICE & WILDLIFE FORENSIC TECHNIQUES TO CORAL REEF IMPACT INVESTIGATIONS

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If the individuals and corporations that cause damage to coral reefs are to be brought to the mitigation table, or to court, evidence of their misconduct must be collected in a manner that meets international forensic standards; but is, at the same time, independent of any specific national legal system. Fortunately, such standards exist in the international forensic science community, and have long been applied to terrestrial police and wildlife crime scenes throughout the world.

But in the process of modifying these standard Crime Scene Investigation (or CSI) protocols to work on coral reef crime or impact scenes, it becomes immediately obvious that virtually every technique routinely employed at a typical terrestrial homicide or wildlife crime scene simply doesn't work well (if at all) in the marine environment. Among many other issues: a protective scene perimeter cannot be easily established with lengths of rope or tape underwater; scene notes cannot be written in ink; and the 'body' --- the reef itself, which may or may not be dead or dying, depending on any number of definitions --- cannot be moved for eventual autopsy.

In order to work damaged coral reefs as "crime" scenes [which is to say: determine the cause-of-death, collect relevant evidence, and to eventually link suspect (responsible party), victim (the reef resources and/or reef user groups), and crime scene (primary and secondary impact event)], standard CSI techniques

have to be adapted to the realities of the marine environment. These realities specifically include the unforgiving limits of SCUBA diving; the unrelenting force of escalator-speed currents; daily tidal changes; multiple user groups transversing through or using the impacted resources; and the all-too-efficient efforts of numerous predators (large and small) to clean up all of the edible evidence before the investigators arrive.

CHANGING COMPLIANCE BEHAVIOR: MOVING BEYOND THE CLASSIC DETERRENCE AND ENFORCEMENT MODEL

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The classic model of regulatory enforcement of marine resource and conservation laws involves intensive at sea patrols and stiff penalties coupled with the efficient administration of justice in the post apprehension phase to serve as deterrence to illegal behavior. While this system is relatively effective in high income “developed” nations, there are substantive challenges to making this form of enforcement system effective for influencing compliance behavior in low income or “developing” country contexts. Many of these nations have extensive coastlines and EEZ space as well as hundreds to thousands of boat landing sites and tens to hundreds of thousands of fishers operating from small-scale vessels. In addition to these geographic and logistical challenges, institutional capacities of enforcement agencies are often weak in terms of personnel skills for marine enforcement, resources to support at-sea patrols and high tech surveillance systems as a well as post apprehension actions through to the successful prosecution of offenders. In this context, illegal and destructive fishing practices that have significant impacts on coral reef habitat, such as bomb fishing and use of cyanide, and illegal collection of prohibited and rare or threatened species are often rampant. A critical challenge in such places is how best to build effective institutions that promote high voluntary compliance with rules that conserve and protect coral reef ecosystems and associated flora and fauna from wanton destruction. While these nations need to build the capacity of their classic enforcement systems, not enough attention is being provided to supplementing the classic enforcement system with a more comprehensive socio-economic approach to influencing compliance behavior. This involves building social institutions through greater stakeholder participation in fashioning regulations and associated penalties to improve perceptions of fairness and legitimacy. It also requires creating social capital, changing community norms and working within traditional community institutions to internalize certain aspects of enforcement functions to improve the level of voluntary compliance. The socio-economic theory of compliance behavior is reviewed. Examples from several developing nation contexts concerning classic enforcement challenges and emerging solutions to more fully influence compliance behavior are discussed.