

# Coral Reef Crime Scene Investigation (CSI) South East Asia And South Pacific

## Final Report

---



**Agreement Number:** S-OES-07-IAA-0010 & S-OES-07-IAA-0015

**Project Duration:** 07/01/07 until 09/30/09

**Region:** South East Asia and South Pacific

**Prepared by:** International Coral Reef Action Network (ICRAN)

**Contact:**

Terri Young  
Programme Officer  
International Coral Reef Action Network  
219 Huntingdon Road  
Cambridge  
CB3 0DL, UK  
tyoung@icran.org



**Coral Reef Crime Scene Investigation (CSI) Project  
South East Asia and South Pacific  
Final Report**

**Summary**

This project has been completed successfully both within the given timeframe and budget. All materials have been produced and the South East Asia (SEA) and South Pacific (SPAC) workshops successfully planned and implemented. Additional interest in the CSI approach and training has been generated in other coral reef regions, resulting in discussions for a Francophone workshop in the near future.

**Performance Achievements Matrix**

The following table provides a performance analysis describing activities undertaken and achievements towards progress from project inception to completion. Performance is measured against milestones as outlined in Attachment B of the Statement of Work (SOW) of each project.

<b>Performance Measure SEA</b>	<b>Progress during this period</b>	<b>Progress %</b>	<b>Comments</b>
Produce draft CSI toolkit and flipbook	Completed	100	Engaged 5 Coral Reef experts and 46 reviewers
Review draft toolkit and flipbook	Completed	100	Reviewed and tested at the pilot WS in Cancun, Mexico, October 2006
Identify workshop coordinator	Completed	100	Ms Karenne Tun – Reef Check Indonesia
Publish/print toolkit and flipbook	Completed	100	Toolkit produced in English and Spanish. Flipbook in English with Spanish/French translation underway.
Solicit workshop invitees	Completed	100	Over 50 applications were received for 18 places
Conduct site visit	Completed	100	Site visits were conducted in Thailand and Malaysia to ID a suitable location for the SEA workshop. Dive locations, control sites, training centres and accommodation were identified.
Organise ICRI presentation	Completed	100	Dave Gulko prepared 2 presentations for ICRI members
Presentation at ICRI, Ft. Lauderdale, Florida	Completed	100	Presentation, discussion and materials dissemination at the ICRI GM in July, 2008

Prepare supplemental regional module	Completed	100	Regional information collated for SEA.
Produce CDs	Completed	100	CDs produced and disseminated with other training materials at the SEA workshop.
Draft layout of website for review	Completed	100	CSI designated section of website completed. Page completed for SEA.
Conduct SEA Field training workshop	Completed	100	1 extra person was able to be accommodated within the funds allocated. 19 people participated in the CSI training workshop in September 2008 from 3 countries.
Workshop evaluation	Completed	100	All participants carried out an evaluation of the workshop in order to help improve future workshops and learn from participant experiences.

<b>Performance Measure SPAC</b>	<b>Progress during this period</b>	<b>Progress %</b>	<b>Comments</b>
Identify workshop coordinator	Completed	100	Prof. Serge Planes / Yannick Chancerelle, CRIOBE
Publish/print toolkit and flipbook	Completed	100	25 Toolkit and flipbook printed in English for this workshop
Solicit workshop invitees	Completed	100	Undertaken in collaboration with CRIOBE and other Pacific based partners reaching 35 stakeholders
Conduct site visit	Completed	100	3 day site visit for SPAC undertaken in collaboration with CRIOBE on the island of Moorea, Tahiti. Dive locations, control sites, training centres and accommodation were identified.
Prepare supplemental regional module	Incomplete	50	A regional emphasis on the training was provided at the workshop, however a printed representation wasn't made available.
Produce CD	Completed	100	15 CD's containing additional materials produced and disseminated with other training materials.
Draft layout of website for review	Completed	100	SPAC page developed and website updated following the training.

Conduct SPAC Field training workshop	Completed	100	12 people participated from 5 countries. Visa issues resulted in a reduced number of participants.
Workshop evaluation	Completed	100	All participants carried out an evaluation of the workshop in order to help improve future workshops, and learn from participant experiences.
Half Yearly Progress Report	Completed	100	Submitted July 30 <sup>th</sup> 2009
Final report	Completed	100	Submitted November 30 <sup>th</sup> 2009

## **Activities**

### Training Materials

A 270-page toolkit was produced principally by Dave Gulko, in collaboration with other key contributors and experts. A draft of the toolkit was circulated for review and editing and comments of the review group incorporated. Sections relevant to the International Coral Reef Initiative (ICRI) were shared with the U.S. Secretariat, as prior co-chairs of ICRI, to ensure accurate representation.

The toolkit was reviewed, finalised and printed, and has now been used for nine workshops, including the SEA and SPAC training workshops.

The field flipbooks were also finalised and produced, making a valuable addition to the practical components of the training.

### CSI Workshops

Taught in, around, and adjacent to, the nearshore coral reef waters of Tioman Island, Malaysia, and Moorea, South Pacific, the workshops involved lectures and demonstrations related to the relatively new field of coral reef forensic investigations, along with hands-on field crime scene investigations guided by international professionals in wildlife enforcement, coral reef ecology, and marine natural resource investigation. The five day training workshops were organized as outlined below:

1. Background talks on investigative strategies, field risk management, ecological risk assessment, coral reef forensic techniques, treating data as evidence, incorporating local reef ecological issues and impacts into an investigation;
2. Practice field investigation sessions with staff evaluation both on dry land and in-water practical sessions and scenarios;
3. Instruction on using various components of the coral reef investigative toolkit.

Regional coordinators were identified to lead the planning and organisation of the CSI SEA and SPAC workshops. Preparatory field visits were conducted to assess potential sites and host venues.

Potential sites for SEA included:

- Phuket, Thailand (Andaman Sea)
- Koh Samui, Thailand (Gulf of Thailand)

- Pulau Redang, Malaysia (Peninsular Malaysia)
- Pulau Tioman, Malaysia (Peninsular Malaysia)
- Sabah, Malaysia (East Malaysia)

Potential sites for SPAC included:

- Moorea, Tahiti

Suitability of each location was assessed based on:

- Cost (workshop cost and cost to participants)
- Safety
- Accessibility
- Meeting facilities
- Diving facilities
- Proximity to dive site

#### CSI South East Asia Workshop

In an effort to sensitize local stakeholders and to introduce them to the objectives and structure of the CSI workshops, and ensure the relevant stakeholders involved in coral reef management and enforcement in SEA were considered, several meetings were held in each of the three participating countries.



The first meeting was held on Monday, 24th March 2008 in Bangkok, Thailand with the UNEP Regional Seas Office COBSEA, (Coordinating Body for the Seas of East Asia), based at the United Nations office. The meeting served to obtain their assistance in identifying potential participants from Thailand for the workshop, and to secure their interest in supporting future regional efforts in establishing and funding a regional CSI team and to continue with targeted regional workshops.

Following the meeting in Thailand, a meeting in Singapore was held at the head office of the National Parks Board (NParks) on Tuesday, 25th March 2008, with the head of the Biodiversity Center and associated legal team.

The third meeting was held in Sabah, Malaysia, at the University of Malaysia, Sabah, (UMS) on Wednesday, 26th March 2008. The meeting included members from various organizations, including Sabah Parks, Sabah Fisheries Department, UMS, WWF and the Semporna project.

During each meeting, Dave Gulko presented on the background and purpose of the Coral Reef CSI workshop, followed by in-depth discussions on the implications of the workshop to each of the participating countries.

Resorts and marine institutes with diving facilities in close proximity to accessible dive sites were identified for each of the locations and enquiries were made as to their availability, costs and facilities. Following the first suitability assessment, Thailand and Pulau Redang in

Malaysia were excluded due to predicted unfavorable weather conditions or high costs. Meetings to sensitize local stakeholders were also conducted during this time.

Nineteen participants received training, eleven from Malaysia, six from Thailand and two from Singapore. This was one more than planned, however funds were available to cover the extra training. In addition, an observer from Indonesia attended in order to become more familiar with the programme in preparation for a CSI workshop planned for 2009. The demographic generally reflected the reef resources in each of the three countries. Of the three countries, Malaysia has the largest reef area located in 2 regions – Peninsula and East Malaysia – which are managed by different resource management agencies. Of the 19 participants, 10 were from academia, 5 from natural resource management agencies and 4 from NGOs. The full list of participants and their contact details are listed in Annex 1.

#### *In-water Training Sessions*

The in-water training exercises were conducted on the house reef of Paya Beach resort, approximately 50m from shore.

The workshop was planned with class-room and dry-run sessions before lunch followed by in-water training after lunch.

A key feature of the Workshop is a number of marine-based “crime scenes” that the participants investigate using the techniques learned. The scenarios took place at the end of each workshop and were made to be as realistic as possible, requiring actual field investigations and analysis by teams of workshop participants.



During the workshop, three in-water crime scenarios were setup:

- Scenario 1. The first scenario involved an existing wooden fish trap that was used to simulate an incident of illegal fishing. The fish trap was newly deployed and full of reef fish.
- Scenario 2. The second scenario was set up to simulate illegal blast fishing using an area of reef with dead coral rubble. The blast kills indiscriminately leaving a crater of dead coral behind.
- Scenario 3. The third scenario was set up to simulate illegal harvesting of giant clams, an issue in Pulau Tioman Marine Park which has led to their protection.



#### *Mock Trial*

The mock prosecution trial was conducted on the last day to provide first-hand experience of the court room and develop understanding of the common shortfalls of natural resource evidence collection and presentation processes. The trial was based on the giant clam poaching crime scenario. An evaluation was conducted following the workshop to structure participant feedback in order to inform the training process.

### CSI South Pacific Workshop

A regional coordinator was identified to lead the planning and organisation of the CSI regional workshop in Moorea, Tahiti. Following the recruitment of Serge Planes, Director of the Centre de Recherches Insulaires Observatoire de l'Environnement (CRIOBE), a preparatory field visit was conducted to assess potential sites as a venue for the regional CSI workshop.

The site visit took place in February 2009 on the island of Moorea, Tahiti. CRIOBE hosted the visit and assisted with site selection and planning. Facilities with dive operations in close proximity to accessible dive sites were identified, resulting in two sites being evaluated for their appropriateness in hosting the workshop: CRIOBE and the Hotel Les Tipaniers Iti. The extensive facilities of the CRIOBE Marine Research Station were selected, with additional accommodation from a nearby hotel.

See Annex 2 for the completed site visit evaluation form.

During the site visit dive training sites were identified and potential injury scenarios suggested based on regionally identified priorities. To simulate prevalent regional issues that impact coral reefs, sites that had some form of degradation were identified and assigned an impact scenario. In some cases existing human impact sites, such as blast fishing or boat groundings, can be used. Suggestions made during the site visit include:

1. Crown of thorns damaged site:
  - Blast fishing
  - Boat grounding
2. Shark feeding damaged site:
  - Blast fishing
  - Boat grounding
3. Mediterranean Holiday Club area:
  - Turtle poaching
  - Clam shell collection
  - Illegal dumping of concrete piles
  - Recreational spear fishing



Twelve participants representing five countries received CSI training, from environmental NGO's and national environmental institutions. French Polynesia was well represented (59%), followed by Palau (17%), and Fiji, New Caledonia and Samoa (8%). Gender ratio was balanced with 50% male and 50% female participants.

The final list of participants and their contact details are listed in Annex 3.

### *Classroom Lectures and Dry Runs*

The workshop was scheduled with class-room and dry-run sessions taking place before lunch followed by in-water training after lunch. All planned training exercises were prepared, carried out, and performed on-site following the relevant theory lectures and on-land practice sessions. See Annex 4 for the workshop schedule.

Classroom lectures provided participants with the background and theoretical knowledge of the international standards and protocols underpinning the CSI programme, and introduced the practical application of the techniques. Following the classroom sessions, participants were separated into groups and guided in 'dry run', on land practice sessions. The role play sessions helped participants to consider the impact scene and the critical attributes needed to effectively apply the investigative techniques in the field.



### *In-water Training Sessions*

#### *Day 1*

- Site 1. Dive 1 - In-water CSI demonstration. Observation of the lead CSI instructor (Dave Gulko) in conducting an assessment of a marine impact event. The purpose of this first dive is two-fold; it provides the participants with an introduction to the training to the week ahead, and allows the CSI dive safety team to assess the skill level and in-water behaviour of each participant. In addition, participants were asked to observe and report on any mistakes they feel were made by the 'investigator' during the impact assessment for discussion during the dive de-brief. This encouraged participants to begin thinking about the purpose of the CSI techniques and protocols from the beginning of the training course.

#### *Day 2*

- Site 1. Dive 2 - Pre-assessment dive. The group was split into two groups of six participants to set the event/impact perimeter, make a general assessment of the area and identify and document the damaged area. The groups worked on two different scenarios carrying out the various techniques they had learnt in the classroom and had practiced on land.

#### *Day 3*

- Site 2. Dive 3 & 4 –Impact assessment dive 1. The teams were split into the same two groups to practice in-water application of impact assessment techniques taught during lectures. Collection of physical evidence, photographs of damage, and data on an impact event are extremely time sensitive procedures in the marine environment. The dive teams had to work quickly and efficiently in order to complete the assessment in hand. During the second dive the teams swapped impact scenarios and conducted the impact assessment again.





**In-water training sites on the north shore of Moorea**

#### Day 4

- Site 2. Dive 5 - Rapid Ecological Assessment dive 1. Scenario: Evaluating damage to a coral reef impacted by a fallen pass marker/buoy. Participants were asked to conduct a full investigation using the procedures they had previously practiced underwater, culminating in the REA. One of the major roles of the REA is to try to determine what biological resources and ecological functions were lost from the impact event and establish the rate of recovery for the habitat. Two groups of 6 participants, subdivided into functional groups of 2, to conduct the techniques learnt in the classroom.
- Site 3. Dive 6 - Rapid Ecological Assessment dive 2. Scenario: Concrete blocks and broken corals. While collecting and documenting evidence, the participants were also asked to reconstruct the events that may have led to the damage based on the evidence found. Teams exchanged scenarios and roles for the second dive.

#### *Mock Trial*

The mock trial scenario was conducted on the last day to provide participants with experience of presenting evidence in a court of law, and to develop understanding of the common shortfalls of natural resource evidence collection and presentation processes, termed the *chain of custody*. The mock trial was based around a scenario that provided context to observations of impacts during the field investigation, and emphasised the importance of adequate maintenance of the chain of custody. Several case scenarios were studied, and participants were taught how easily evidence can be altered or changed, underlining the importance of due diligence in real life cases.

#### Website

The CSI web pages are hosted by ICRAN. The CSI programme has a designated section on the ICRAN website which is updated following each workshop. [www.icran.org/action-csi](http://www.icran.org/action-csi)

#### Presentations

Dave Gulko conducted presentations at the following meetings:

- 8<sup>th</sup> Pacific Islands Congress on Nature Conservation and Protected Areas
- ICRI GM, Ft. Lauderdale, Florida

- ICRI GM, Phuket, Thailand

### **Challenges experienced during project delivery**

#### SEA Workshop

- The proposed workshop schedule was adhered to with only minor changes to accommodate logistical requirements. The workshop coincided with the start of the Muslim fasting season Ramadan. As the workshop required intensive and hands-on participation, the Muslim participants found the schedule a little difficult. They were however very understanding and took the training in their stride. The experience highlighted local sensitivities unique to each region that need to be considered when planning and conducting a workshop.
- Administration and transfer of funds from third parties to the ICRAN Coordinating Unit (ICU) and implementing partners was a challenge and had an effect on the implementation of project activities. This was overcome by the ICU advancing some of its core funds to implementing partners while awaiting the paperwork and funds transfer to be completed. Managing the expectations of partners in these instances is challenging and places both ICRAN and donor organisations in an embarrassing position due to onward impacts to activities.

#### SPAC Workshop

- The participant selection procedure began quite late due to minor problems with schedules of the local coordination team. Several visa issues were experienced by participants leading to some short notice withdrawals from the workshop. While participants were advised to check entry requirements when organizing their travel, some were not aware that Moorea (and Tahiti) is a French overseas territory, requiring an entry visa for many Pacific Island nationals. Three more participants could have been accommodated had a longer timeframe to overcome these obstacles been available and visa requirements clearer.
- The CD distributed at the workshop contained information relevant to the region and a regional focus was maintained throughout the training, however a printed regional module was not produced due to the diversion of energies towards overcoming issues of travel for the Pacific Islanders. The time and effort taken to produce this module was underestimated, therefore in future, additional funds will need to be made available if a regional module is to be included in the training toolkit.

### **Lessons learned in Implementation**

1. The selection of participants local to the host agency could be more targeted in order to maximize coordinated activities following the workshop, thereby increasing the potential for the formation of a CSI team.
2. The selection process should provide adequate time for consideration of difficulties in securing essential travel documentation. Visa requirements for the country should be made more explicit on the application form, and more guidance in the travel process provided to participants.
3. Local application of the Coral Reef CSI techniques and processes in the context of French Polynesia, New Caledonia, Samoa and Palau was considered a challenge. It would have been helpful if further discussion and brainstorming on how to apply the field techniques, while taking into consideration local legal procedures, had been scheduled.

One of the key considerations that arose from the SPAC workshop, that mirrors comments from previous regional workshops, is the disparity in legal systems between different countries within a region such as the South Pacific. This, and financial issues associated with a cross border team, creates difficulties in the capacity of regional teams to respond effectively to impact investigations. The recommendation for future workshops is to conduct national rather than regional trainings, while accommodating individuals from other countries within the region interested in hosting a training in the future, thereby increasing the potential for building national capacity and forming effective national response teams.

### **Budget Narrative**

All project activities have been conducted within budget. Due to the transfer of fund management from NOAA to ICRAN after the project document had been finalised, variations in budget requirements were experienced. To remedy this, a reallocation request was submitted to U.S. Department of State and NOAA, and subsequently agreed. The project expenditure report (Annex 5) reflects this.

#### **SEA**

Summary of expenditure during the reporting period is as follows:

- Travel & Per Diem: US\$24,335 was spent to support the attendance and participation of CSI instructors in relevant international and national meetings; the site visit by CSI instructors to SEA, travel to the workshop, and the Workshop Coordinator in preparation for instructor and participant accommodation.
- Equipment: US\$3517 was spent on printing the CSI toolkits and CDs, and a power point projector for classroom seminars.
- Supplies: US\$2250 for training supplies and materials - flipbooks, underwater slates.
- Workshop: US\$5,600 was allocated to cover diving, equipment, boats and dive support personnel.
- Shipping: US\$1,136 was spent shipping of the CSI Toolkits and training supplies to the workshop.
- Salaries and Benefits: US\$1,000 was allocated to cover staff time for the workshop coordinator.
- ICRAN Grant: US\$3,622 spent on ICRAN staff time to date for support to project coordination.

#### **SPAC**

Summary of expenditure during the reporting period is as follows:

- Travel & Per Diem: US\$29224 for instructors to conduct the site visit, travel to the workshop, and instructor and participant accommodation at the workshop.
- Salaries and Benefits: US\$1991 was allocated to cover staff time for the workshop coordinator, and to the webmaster for updating the ICRAN CSI web pages.
- Equipment: US\$1039 was spent on providing a field laptop computer and case to the local coordinator.
- Supplies: US\$9542 to provide a field investigation kit and cameras for post training activities, consumable training supplies, training materials - flipbooks, underwater slates, and for the updating of computer software.
- Contractual services: US\$10,954 was advanced to the local coordinator to cover diving services and shipping of materials to the project site.
- ICRAN Grant: Following approval from U.S Department of State and NOAA, a reallocation of surplus funds to the value of US\$2,861, was spent on ICRAN staff time to support project coordination.

**Annex 1: South East Asia Workshop Participant List**

First Name	Last Name	Country	Affiliation	Title	Organisation	Primary Email
Ahmad Faizal	bin Abdullah	MALAYSIA	NRT	Fisheries Assistant	Dept of Marine Parks Malaysia	ahmadfaizal@nre.gov.my
Salha	Hassan Alban	MALAYSIA	NGO	Education Coordinator	KK Reef Watch & Reef Guardian	salha.alban@gmail.com
Soo Ling	Aw	MALAYSIA	Academia	Post-Graduate Student	Universiti Malaya	osetsure@yahoo.com
Badrul (Bart)	Huzaimi Bin Tajuddin	MALAYSIA	Academia	Post-Graduate Student	Universiti Malaya	badrul_h@hotmail.com
Zakaria	bin Haji Tayib	MALAYSIA	NRT	Senior Fisheries Assistant	Dept of Marine Parks Malaysia	zakaria@nre.gov.my
Nina	Ho	MALAYSIA	NGO	Marine Biologist	WWF	nho@wwf.org.my
Zarina	Waheed	MALAYSIA	Academia	Lecturer, BMRI	University Malaysia Sabah	zarinah@ums.edu.my
Kee Alfian	Bin Abdul Adzis	MALAYSIA	Academia	Lecturer	National University of Malaysia	alfian@ukm.my
Ludi	Apin	MALAYSIA	NRT	Marine Park Officer	Sabah Parks	apinludi@yahoo.com
Daniel	Lee	MALAYSIA	NGO	Programme Manager	Reef Check Malaysia	daniel@reefcheck.org.my
Abdul	Manap Abdullah	MALAYSIA	NRT	Marine Park Manager	Dept of Marine Parks Malaysia	
Jeffrey	Low	SINGAPORE	NRT	Senior Biodiversity Officer	National Parks Board	jeffrey_low@nparks.gov.sg;
Lionel	Ng	SINGAPORE	Academia	Research Assistant	National University of Singapore	u0402359@alumni.nus.edu.sg
Se	Songpoy	THAILAND	Academia	Researcher	Ramkhamhaeng University	sesongpoy@yahoo.com
Nipat	Somkleeb	THAILAND	Academia	UNEP Site Mgr	Ramkhamhaeng University	somkleebn@hotmail.com
Petchrung (Aey)	Sukpong	THAILAND	NGO	Project Officer	IUCN	<a href="mailto:petchrung@iucnt.org">petchrung@iucnt.org</a>
Voranop	Viyakarn	THAILAND	Academia	Ass't Prof.	Chulalongkorn University	vvoranop@chula.ac.th
Suchai (Yo)	Worachananant	THAILAND	Academia	Phd	Kasetsart University	suchai.yo@gmail.com
Naneng	Setiasih	INDONESIA	NGO	Chairwoman	Reef Check Indonesia	nsetiasih@reefcheck.org

Annex 2

Coral Reef CSI  
Site Visit Form



Site: CRIOBE, MOOREA, FRENCH POLYNESIA

Regional Contacts: Serge Planes and Yannick

\*\*\*\*\*

The Workshop Hotel.

Rate each hotel evaluated:

	Hotel 1: CRIOBE DORMS	Hotel 2: LES TIPANIERS ITI	Hotel 3:	Preferred Hotel
Type of Hotel	<input type="checkbox"/> Beachfront Resort <input type="checkbox"/> Non-Shoreline Hotel <input checked="" type="checkbox"/> Research Lab Dorm <input type="checkbox"/> Other:	<input type="checkbox"/> Beachfront Resort <input type="checkbox"/> Non-Shoreline Hotel <input type="checkbox"/> Research Lab Dorm <input checked="" type="checkbox"/> Other: Bungalows	<input type="checkbox"/> Beachfront Resort <input type="checkbox"/> Non-Shoreline Hotel <input type="checkbox"/> Research Lab Dorm <input type="checkbox"/> Other:	Comments: Housing everybody at CRIOBE will not be advisable, therefore we can rent bungalows at the Hotel 2, 5 min from CRIOBE
Size of Hotel	<input checked="" type="checkbox"/> < 20 rooms <input type="checkbox"/> < 50 rooms <input type="checkbox"/> < 100 rooms <input type="checkbox"/> > 100 rooms	<input checked="" type="checkbox"/> < 20 rooms <input type="checkbox"/> < 50 rooms <input type="checkbox"/> < 100 rooms <input type="checkbox"/> > 100 rooms	<input type="checkbox"/> < 20 rooms <input type="checkbox"/> < 50 rooms <input type="checkbox"/> < 100 rooms <input type="checkbox"/> > 100 rooms	Half the participants can stay at CRIOBE, the others in bungalows for 3 people. No AC, only fan Reg Inst and DMs don't need housing
Cost	Standard Hotel Room Cost: Negotiated Hotel Room Cost: 50 p/p/d	Standard Hotel Room Cost: \$155 USD Negotiated Hotel Room Cost: \$96 USD x 7 days	Standard Hotel Room Cost: Negotiated Hotel Room Cost:	
Site Issues	<input type="checkbox"/> Site Security <input type="checkbox"/> Fresh Water <input type="checkbox"/> Too many kids <input type="checkbox"/> Noise <input type="checkbox"/> Site dangers: <input type="checkbox"/> Other:	<input type="checkbox"/> Site Security <input type="checkbox"/> Fresh Water <input type="checkbox"/> Too many kids <input type="checkbox"/> Noise <input type="checkbox"/> Site dangers: <input type="checkbox"/> Other:	<input type="checkbox"/> Site Security <input type="checkbox"/> Fresh Water <input type="checkbox"/> Too many kids <input type="checkbox"/> Noise <input type="checkbox"/> Site dangers: <input type="checkbox"/> Other:	
Classroom Space	<input checked="" type="checkbox"/> Space, chairs for 25 people <input checked="" type="checkbox"/> AC <input checked="" type="checkbox"/> Tables <input checked="" type="checkbox"/> Secure Room <input checked="" type="checkbox"/> White Board <input checked="" type="checkbox"/> Digital Projector <input checked="" type="checkbox"/> Screen	<input type="checkbox"/> Space, chairs for 25 people <input type="checkbox"/> AC <input type="checkbox"/> Tables <input type="checkbox"/> Secure Room <input type="checkbox"/> White Board <input type="checkbox"/> Digital Projector <input type="checkbox"/> Screen	<input type="checkbox"/> Space, chairs for 25 people <input type="checkbox"/> AC <input type="checkbox"/> Tables <input type="checkbox"/> Secure Room <input type="checkbox"/> White Board <input type="checkbox"/> Digital Projector <input type="checkbox"/> Screen	
Participant Rooms	<input checked="" type="checkbox"/> Distance to classroom: <50m <input checked="" type="checkbox"/> Double occupancy <input checked="" type="checkbox"/> Attached bathroom	Half of the participants and instructors will be housed at the bungalows, distance 2 km		
Instructor Rooms	<input type="checkbox"/> # Electrical Outlets: <input type="checkbox"/> Room Security <input type="checkbox"/> Clean <input type="checkbox"/> In good shape	<input type="checkbox"/> # Electrical Outlets: <input checked="" type="checkbox"/> Room Security <input checked="" type="checkbox"/> Clean <input checked="" type="checkbox"/> In good shape	<input type="checkbox"/> # Electrical Outlets: <input type="checkbox"/> Room Security <input type="checkbox"/> Clean <input type="checkbox"/> In good shape	Many electrical outlets available at CRIOBE, I asked Serge to get many electric converters
Outdoor Training	<input checked="" type="checkbox"/> Large Grassy Area	<input type="checkbox"/> Large Grassy Area	<input type="checkbox"/> Large Grassy Area	

Site	<input checked="" type="checkbox"/> Adequate Shade	<input type="checkbox"/> Adequate Shade	<input type="checkbox"/> Adequate Shade	
Associated Dive Concession	<input type="checkbox"/> On-site dive concession <input checked="" type="checkbox"/> Off-site dive concession	<input type="checkbox"/> On-site dive concession <input type="checkbox"/> Off-site dive concession	<input type="checkbox"/> On-site dive concession <input type="checkbox"/> Off-site dive concession	
Nearby Dive Sites	<input type="checkbox"/> House reef <input checked="" type="checkbox"/> Shore reefs <input type="checkbox"/> Offshore reefs <input type="checkbox"/> MPAs	<input type="checkbox"/> House reef <input type="checkbox"/> Shore reefs <input type="checkbox"/> Offshore reefs <input type="checkbox"/> MPAs	<input type="checkbox"/> House reef <input type="checkbox"/> Shore reefs <input type="checkbox"/> Offshore reefs <input type="checkbox"/> MPAs	
Hotel Food	<input type="checkbox"/> All inclusive meal program <input type="checkbox"/> On-site restaurant <input checked="" type="checkbox"/> Variable menu (vegetarian, etc.) <input type="checkbox"/> Room service	<input type="checkbox"/> All inclusive meal program <input type="checkbox"/> On-site restaurant <input type="checkbox"/> Variable menu (vegetarian, etc.) <input type="checkbox"/> Room service	<input type="checkbox"/> All inclusive meal program <input type="checkbox"/> On-site restaurant <input type="checkbox"/> Variable menu (vegetarian, etc.) <input type="checkbox"/> Room service	All meals will be prepared by a caterer, Serge assures the variety of the menu and the flexibility in schedule
Estimated Cost per meal	\$ 30 (3 meals p/p/d) \$30 (1 rest. Dinner) <input type="checkbox"/> Not applicable – all inclusive. <input type="checkbox"/> All inclusive, but drinks extra.	\$ <input type="checkbox"/> Not applicable – all inclusive. <input type="checkbox"/> All inclusive, but drinks extra.	\$ <input type="checkbox"/> Not applicable – all inclusive. <input type="checkbox"/> All inclusive, but drinks extra.	
Cost per room per day	\$ 100 p/d Includes CRIOBE's facilities (1/2)	\$ 100/n	\$	

Preferred Hotel (and why): CRIOBE dorms and Les Tipaniers bungalows. 2 Bungalows will be rented for instructors for 7 nights and 3 bungalows for 9 participants (3x3) for 5 nights.

Preferred Hotel's Staff Concerns about CR CSI WS: None

CR CSI Staff Concerns about Preferred Hotel: If rooms are in double occupancy, none. The size of the dining room is small for 25 people but alternative eating venue can be arranged. Need to advise participants that they need to bring toiletries and towels (not provided by CRIOBE) as well as a water bottle so they can have water with them at all times.

\*\*\*\*\*

### The Dive Concession.

	Dive Shop 1:	Dive Shop 2:	Dive Shop 3:	Preferred Dive Shop
	CRIOBE	OTHER TopDive Moorea		Comments:
Location	COOK'S BAY	COOK'S BAY		
Number of Boats with Captains	1 X 8	1X 17		
Number of Divemasters	1	1 hired full time 1 extra for diving		
Quality & number of Rental Gear	<input type="checkbox"/> Dive masks: ____ <input type="checkbox"/> Dive Fins ____ <input type="checkbox"/> BC: ____ <input type="checkbox"/> Regs with Guages: ____ <input type="checkbox"/> Tanks: ____	<input checked="" type="checkbox"/> Dive masks: ____ <input checked="" type="checkbox"/> Dive Fins ____ <input checked="" type="checkbox"/> BC: ____ <input checked="" type="checkbox"/> Regs with Guages: ____ <input checked="" type="checkbox"/> Tanks: ____	<input type="checkbox"/> Dive masks: ____ <input type="checkbox"/> Dive Fins ____ <input type="checkbox"/> BC: ____ <input type="checkbox"/> Regs with Guages: ____	

			<input type="checkbox"/> Tanks: _____	
Range of Sizes of rental gear	<input type="checkbox"/> XS: <input type="checkbox"/> Sm <input type="checkbox"/> Med <input type="checkbox"/> Lg <input type="checkbox"/> XL	<input checked="" type="checkbox"/> XS: <input checked="" type="checkbox"/> Sm <input checked="" type="checkbox"/> Med <input checked="" type="checkbox"/> Lg <input checked="" type="checkbox"/> XL	<input type="checkbox"/> XS: <input type="checkbox"/> Sm <input type="checkbox"/> Med <input type="checkbox"/> Lg <input type="checkbox"/> XL	
Cost per person per day for WS:	\$	\$ Serge will negotiate so the price will include boat, equipment and tanks	\$	

Preferred Dive Concession (and why): TopDive Moorea is located nearby CRIOBE, the equipment looks clean and well cared for, all sizes available. Fins are only full feet, tanks are aluminium but have extra weight on the bottom, so less weights may be needed.

Preferred Dive Concession Staff Concerns about CR CSI WS: Need of CC and Medical Certificate

CR CSI Staff Concerns about Preferred Dive Concession: It will be preferable if participants bring their own equipment, so that we only have to rent the instructors equipments and a few more (Serge will budget 16 equipment rentals).

All diving should be finished no later than 5:30 pm, therefore for those days will two dives Serge recommends diving from 10:30 to 13:30 and have late lunch (2 pm)

\*\*\*\*\*

### The Dive Sites.

List each of the dive sites and comment on location, depth, impacts and site concerns to be used:

1. Outer Reef impacted by crown of thorns, depth around 45 ft
2. Outer Reef impacted by shark feeding, depth around 45 ft, presence of small black tip sharks
3. Mediterranean Club, shallow sandy patch with cement blocks and big chains
4. Yacht Parking across from Public Beach, only sand, traffic.
5. Dredged Channel, very shallow and lots of traffic are possible.
6. Maharepa shallows, very good coral quality but only 6 ft deep.

\*\*\*\*\*

### The Injury Scenarios.

List each of the possible dive scenarios and relate to the locations above:

1. Crown of thorns damaged site:
  - Blast fishing,
  - boat grounding
2. Shark feeding damaged site:
  - Blast fishing,
  - boat grounding
3. Mediterranean Club
  - Illegal fishing of turtle
  - Clam shell collection
  - Illegal dumping of piles
  - Fish spearing (fake fish)

What materials are needed for each of these dive scenarios:

- Blast fishing: fake dynamite or fake homemade bomb, artificial fish
- Boat grounding: pieces of concrete with paint
- Illegal fishing of turtle: fake turtle, piece of net
- Clam shell collection: dishes
- Illegal dumping of piles: none
- Fish spearing: fake fish, spear

Which of these materials is available on-site?

We need to check with Yanick what materials may be available, Serge commented that there are people there working with turtles so they may have the fake turtle and the piece of net.

What permits/permissions would be necessary and who to contact: None, CRIOBE has permits and Serge doesn't foresee that our activities may be questioned.

\*\*\*\*\*

## **Getting to the Workshop Site.**

### Logistical Issues:

Arrival of participants. If their flight arrives later than 4:00 pm they will need to stay overnight in Tahiti to flight the next day to Moorea. Transportation from Moorea's airport to CRIOBE will be arranged.

Departure of participants. If their flight is earlier than 9 am they would have to spend one night in Tahiti. If the flight leaves after 9 am, they can leave Moorea in the first flight to Tahiti (6 am). Car rides will be arranged.

All the above will be handled by Serge. In case someone has too much luggage and Air Moorea charges a fee, Serge will reimburse upon arrival to CRIOBE.

### Costs:

Serge wants to know if there could be some support from CR CSI for transportation, specially the arrival and departure of participants, he calculated a cost of \$50.00 USD p/p (2 ways).

\*\*\*\*\*

## **Other Issues.**

Visas: None needed, people will enter Tahiti as tourists.

Customs (for gear): Not a problem, bring a list of everything that's coming in

Other Government Concerns: None

### Other:

Lawyer for the mock trial. Serge will try to get one or somebody with enough knowledge from the Region to function as one.

\*\*\*\*\*



**Annex 3: South Pacific Workshop Participant List**

First Name	Last Name	Country	Affiliation	Title	Organisation	Primary Email
Sylvie	Brasseur	French Polynesia	NGO	General Manager	Dolphin Centre, Moorea	Syl_bra@hotmail.com
Fabien	Tertre	French Polynesia	Gov	-	Service de la Perliculture	Fabien.tertre@perli.gov.pf
Caroline	Vieux	Samoa	IGO	Coral Reef Management Officer	SPREP	<a href="mailto:carolinev@sprep.org">carolinev@sprep.org</a>
Matthieu	Petit	French Polynesia	NGO	Researcher	Te Mana O Te Moana	matoopetit@hotmail.fr
Mista	Moros	Palau	Gov	State Ranger	Koror State Rangers	rica@karorstate.org
Soazig	Le Mouellic	New Caledonia	Academia	Lab technician	University of New Caledonia	moullic@univ-nc.nc
Noelle Wenty	Oldais	Palau	NGO	Researcher	Palau International Coral Reef Centre	noldais@picrc.org
Loraini	Sivo	Fiji	NGO	Programme Coordinator	Conservation International	Isivo@conservation.org
Mathieu	Kerneur	French Polynesia	Private Sector	-	Aquaservices	aquaservices@mail.pf
Frederic	Faana	French Polynesia	Gov	-	Service de la Peche	<a href="mailto:Frederic.faaana@peche.gov.pf">Frederic.faaana@peche.gov.pf</a> Faana.frederic@mail.pf
Yannick	Chancerelle	French Polynesia	Academic	Researcher	CRIOBE	criobe@mail.pf
Elodie	Lagouy	French Polynesia	NGO	Coordinator	Reef Check	Elodie_lagouy@hotmail.com

#### **Annex 4. Workshop Schedule**

##### Day 1 – May 26, 2009

- 6h30 Breakfast
- 8h00 Introductions, Make Gear, Intro to Coral Reef CSI
  - A. Investigating Damage to Coral Reefs: Sections 1 – 4 (A2 through A-32)
- 10h00 Coffee break
- 10h30 Introduction, Make Gear, Intro to Coral Reef CSI
  - A. Investigating Damage to Coral Reefs: Sections 1 – 4 (A2 through A-32)
- 12h00 Lunch
- 13h00 Lecture Regional Issues, Safety Issues
  - Investigating Damage to Coral Reefs: Sections 5 – 7 (A33 through A-48)
  - Dry Run Gear, Safety E. Appendices: Appendix B, Section 3
- 14h00 Dive 1 In-Water Crime Scene Demo
- 16h30 Coffee break
- 18h30 Dinner
- 20h00 Lecture Marine Injury Investigations
  - a. Investigating Damage to Coral Reefs : Section 8 – 10 (A-49 through A-56)
  - b. Basic Marine Investigative Tools: Module I : Section 5, Module II : Section 1

##### Day 2 – May 27, 2009

- 6h30 Breakfast
- 8h00 Lecture Initiating Investigation
  - Basic Marine Investigative Tools: Module I : Section I
- 10h00 Coffee break
- 10h30 Dry Run Initiating Investigation
- 12h00 Lunch
- 13h00 Lecture Pre-Assessment
  - B. Basic Marine Investigative Tools: Module I : Section 2, Module II : Section 1
  - Dry Run Pre-Assessment
- 14h00 Dive 2 Pre-Assessment
- 16h30 Coffee break
- 18h30 Dinner
- 20h00 Lecture Impact Assessment
  - B. Basic Marine Investigative Tools: Module I : Section 2, Module II: Section 1

##### Day 3 – May 28, 2009

- 6h30 Breakfast
- 8h00 Lecture Chain-of-Custody, Lab Sampling, Evidence Issues
  - Basic Marine Investigative Tools: Module II : Sections 1-3
- 10h00 Coffee break
- 10h30 Dry Run Impact Assessment
- 11h30 Lunch
- 12h30 Dive 3 Impact Assessment
  - Dive 4 Impact Assessment
- 18h30 Dinner
- 20h00 Lecture Rapid Ecological Assessments (REAs)

## Basic Marine Investigative Tools : Module I : Section 4

### Day 4 – May 29, 2009

- 6h30 Breakfast
- 8h00 Lecture Quiz / REAs Pt II  
B. Basic Marine Investigative Tools : Module I : Section 4
- 10h00 Coffee break
- 10h30 Dry Run REA
- 11h30 Lunch
- 12h30 Dive 5 REA  
Dive 6 REA  
Activity Coastal Investigation
- 18h30 Dinner
- 20h00 Lecture Data Analysis, Presentation, Courtroom Prep  
B. Basic Marine Investigative Tools : Module I: Section 6, Module II: Section 4  
D. Post-Investigation Tools : Module VIII

### Day 5 – May 30, 2009

- 6h30 Breakfast
- 8h00 Dry Run Data Analysis
- 10h00 Coffee break
- 10h30 Mock Court Mock Trial  
Post-Investigation Tools: Module IX, Module X  
Remise de Diplome
- 12h00 Lunch

**Annex 5. Final Expenditure Report**