Emergency Response Plan on

Coconut Rhinoceros Beetle

Pohnpei

May 13, 2014

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Acronyms

AC	Advisory Committee
AG	Attorney General
CFC	Caroline Fisheries Corporation
COM FSM-CES	College of Micronesia, FSM, Cooperative Extension Services
CRB	Coconut Rhinoceros Beetle
CRE	Cooperate Research and Extension
CSP	Conservation Society of Pohnpei
DLNR	Department of Land and Natural Resources
ERP	Emergency Response Plan
EPA	Environmental Protection Agency
FSCO	Federated Shipping Corporation
FSM	Federated States of Micronesia
GPS	Global Position System
GIS	Geographical Global Information System
HSA	Health & Social Affairs
HQ	Headquarter
iSTOP	Invasive Species Task Force of Pohnpei
NRCS	Natural Resource Conservation Service
OEA-Ag	Pohnpei State Office of Economic Affairs –Agriculture
OEA	Pohnpei Office Economic Affairs (Administrator)
PILN	Pacific Invasive Species Network
PPA	Pohnpei Port Authority
PWC	Pohnpei Women's Council
SPC	Secretariat of the Pacific Community
UOG	University of Guam

1. Introduction:

Pohnpei and their outer islands are very vulnerable to the introduction of Coconut Rhinoceros Beetle (CRB) because the CRB is present in Guam, Palau, Hawaii and South Pacific. Pohnpei is located near to Guam, Palau and Hawaii and there is regular traffic by air and sea. For this reason it is very important that Pohnpei has a good Emergency Response Plan (ERP) in place not only for control/eradication but also for prevention and spread to other Islands.

A good ERP should allow for an immediate response for the control and eradication of the CRB.

2. Goal

Protecting the well-being of the people of Pohnpei

3. Objectives

To allow for an immediate response to control and eradicate the Coconut Rhinoceros Beetle.

To minimize the negative impact on the economy and Food Security.

4. General Information on CRB

Information on biology, damage, and control can be obtained from several websites. Some of the websites are listed under Appendix: No. 3

5. Development and Maintenance of the ERP Team Capability

Administrator Office of Economic Affairs plays a leading role in the activation of the Emergency Response Plan (ERP).

The Governor may declare a State of Emergency. The Governor may initiate the necessary Emergency Acts.

The Advisory Committee under the chairmanship of the Administrator of OEA is activated upon the declaration of a response. Members of the committee are listed in Figure 1: Management Structure.

At the declaration of a response, the Chief of Agriculture is appointed by the Administrator of OEA as the Operational Manager/HQ Controller to implement the ERP.

Figure 1: Management Structure

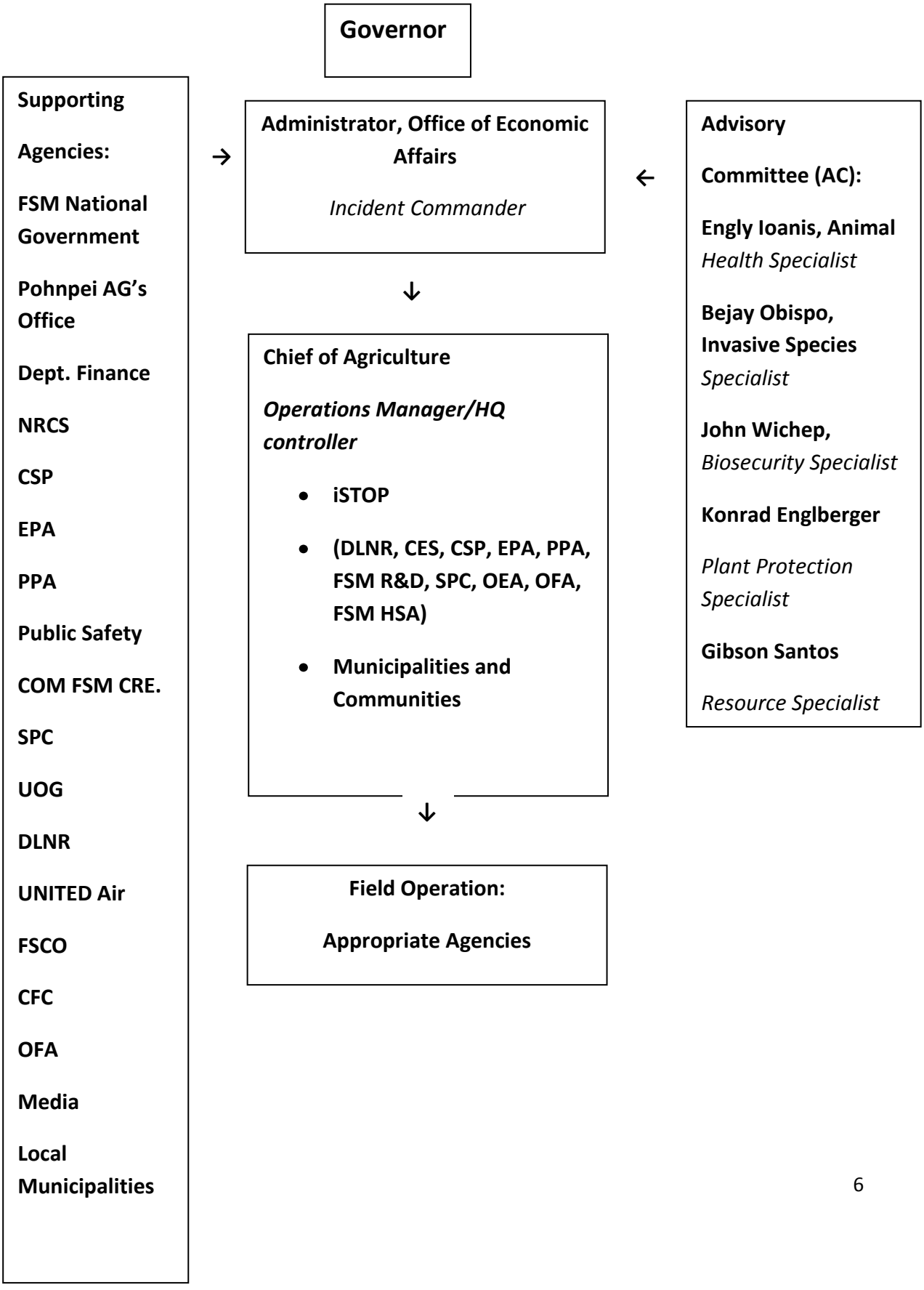


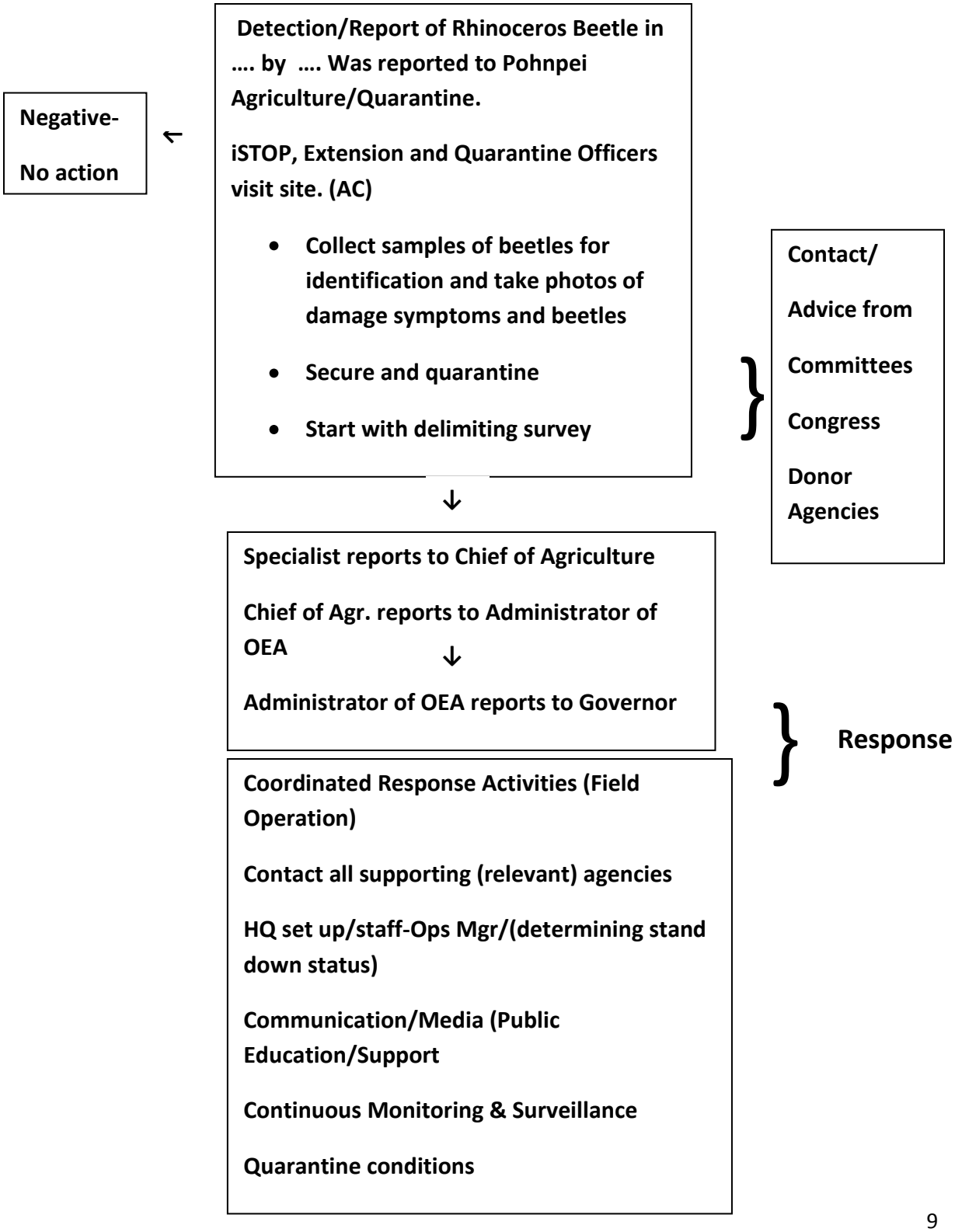
Table 1: Role specification and appointment criteria

POSITION	FUNCTIONS AND RESPONSIBILITIES
Governor	Declares State emergency. Provides State resources. Approves external resources. Initiates necessary Act(s)
Administrator OEA Incident Commander	Reports to Governor. Supports activities by liaising between the Chief of Agriculture, the Governor, other Government Offices including National Government The Administrator OEA designates the chairperson of the Advisory Committee, who immediately activates the Advisory Committee (AC).
Chief of Agriculture Adelino Lorens Operations Manager/HQ	Direct field operation by managing appropriate response groups.
Support Agencies: Composition of this group is listed in Figure 1.	Responds to requests to provide assistance.
Advisory Committee: Engly Ioanis Konrad Englberger Bejay Obispo John Wichep Gibson Santos	Reports to Administrator OEA through Chief of Agriculture. Makes **recommendations** on plan of actions. Advises on operations of field teams (role holders). Support field operation
Implementing Lead Agency Chief of Agriculture, with iSTOP (DLNR, CES, CSP, EPA, PPA, FSM R&D, SPC,	Mobilize/implement field operations. Supports field operation by managing appropriate response group. Liaise with Advisory Committee. Reports to appropriate authorities. Support response activities with the state agencies/stakeholders/community/leaders.

OEA, OFA, FSM HSA) Municipalities and Communities	

3.0 THE TECHNICAL PROCESS

The technical process consists of 3 stages as indicated in Figure 2 below:



1.1 Initial Response

Once the Rhinoceros Beetle is detected at the site, it should be reported to the Agriculture and or Quarantine Office in Kolonia. The Advisory Committee (AC) listed under Figure 1

Scenario:

> PPA, FSCO or United Air cargo/luggage handling staff came across a CRB during their normal routine work. Who do they contact first (via phone or physically).My answer will be – the quarantine officer on duty at the airport who will then immediately alert Pohnpei Chief of Agriculture.

Visits the site and make a preliminary diagnosis of the problem, collect beetles if possible and take photos of damage and symptoms.

If the detection is positive, the Chief of Agriculture is informed immediately (on the same day). A delimiting survey is conducted by Advisory Committee to determine the extent of the infestation. GPS way points of CRB infested sites are taken.

The Chief of Agriculture convenes a meeting of the Advisory Committee to determine the appropriate response. The Chief of Agriculture reports to OEA Administrator to advise that a response operation may be required/not required. Other departments, support agencies, will be notified accordingly once the Chief of Agriculture and the Advisory Committee has made a decision.

1.2 Response

If the response is positive the Advisory Committee informs the Chief of Agriculture, the Chief of Agriculture report to the OEA Administrator who then informs the Governor. The Incident Commander activates the emergency response. The Chief of Agriculture is the Operations Manager/HQ Controller who will mobilize field teams according to set procedures. Operations will be conducted according to the advice of the Advisory Committee. Response operations will be divided into the following areas of activities as necessary.

- Operations / HQ management
- Logistics / Administration
- Mapping (GIS)
- Surveillance/ trapping/ ground service

- Tracing
- CRB management / control/eradication

The results of these operations will include whether the CRB can be eradicated or not.

Stand-down procedures shall be implemented based on the Advisory Committee's recommendations.

2. MANAGEMENT PROCEDURES – (See Figure 1: Management Structure generic to both animal and plant outbreaks.)

2.1 Overview of the management system

The management system should follow the incident command system.

2.2 Chief of Agriculture (see Figure1)

Will be responsible for the entire operation, as he/she is the Operations Manager/HQ Controller.

2.3 Operations Manager / HQ Controller

The operations manager /HQ Controller is required to:

- Manage and oversee the program and entire operation (incl. expenditure).
- Will provide feedback to the AC on progress of the program.
- Notify other government agencies, non-government organizations and stakeholders, on implications of action taken such as social and economic issues.
- Responsible to administer restriction (quarantine area) on the movement of host material, machinery, plant or plant product, and the sale of such products according to appropriate legislation. The Operations Manager should liaise with relevant partners.

2.4 Mapping Group and GIS

DLNR, CSP, NRCS and COM-FSM will provide the maps required for the emergency response program. Field teams will collect GPS waypoints from CRB infested sites.

2.5 Logistics and Administration Group

Within the Field Operation Team, this group shall be responsible for the supply of the resources and the provision of budget, which may include but not limited to the following:

- Salaries and contractual wages
- Overtime payments
- Meal allowances
- Accommodation
- Hiring of boat
- Hiring labor
- Transport including the hire of transport to mobilize staff
- The appropriate Fuel and spare parts
- Equipment as required for the response type
- Safety equipment and first aid, e.g. Traps
- Stationery
- Compensation – appropriate compensation payment for destroyed hosts (palms)

All Health and Safety regulations must be adhered to.

4.4 Media and Community Liaison

The Chief of Agriculture and the Advisory Committee (AC) is responsible for releasing official information relating to the Emergency Response through a designated Media Liaison Officer.

4.5 Information Management

The Chief of Agriculture or his assigned staff is responsible for compilation and storage of all records, data and information on the outbreak for further reference.

4.6 Monitoring and surveillance

In the event of a stand-down, the Chief of Agriculture and FSM R&D and his staff will continue to operate an ongoing monitoring and surveillance program.

4.7 Quarantine

Under the state of emergency, Senior Quarantine Officer will enforce that ships leaving Pohnpei main dock for the Pohnpei outer islands are not loaded at night, hatches must be closed at night. He/she will also enforce that no untreated wooden components or host plants and materials are moved from CRB infested areas and it's surrounding.

The Operations Manager/HQ Controller with the advice of the Advisory Committee will recommend if quarantine is still be enforced or lifted in an area.

3. FIELD TEAM ROLES

3.1 Overview of the field operations systems

After a response is declared, the Operations Manager/HQ Controller shall inform the Field Team Manager to implement the appropriate action. This area of responsibility will involve day-to-day implementation of the operation. The operation will manage the containment and eradication activities within the response zone.

3.2 Field Team Manger responsibilities

State Forester shall report to the Operations Manager/HQ Controller, Chief of Agriculture. Duties will include:

- Deliver field response operations as specified by the Operations Manager/HQ Controller and AC
- Assessing personal requirements of the established support team.
- Liaising and coordinating activities with the Operations Manager.
- Carry out contingency plans for the specified outbreak.
- If necessary, request recruitment of causal labor, keep records of all field staff employed in the operation, submit pay sheets to the administration group.
- Suggest improvement to the Operational Manager and technical advisors.
- Compiling reports as required.

3.3 Field Team Leaders responsibilities

If Field Team Leaders are required, Field Team Manager(s) may be engaged.

These person(s) shall report to the Field Team Manager and ensure that:

- Appropriate procedures are followed.
- Treatments are applied correctly and safely.
- Forward resource requirements to the Team Leader.

Actions: Immediate

Collect and identification of beetle

Delimiting Survey including but not limited to GPS mapping and site description

Notify regional partners, e.g. SPC, PILN, PestNet

Press Release

Local area, community meetings

Develop, print, and distribute flyers in local communities

Pest Alert SPC and ask for assistance

Development of budget for emergency response action

Define quarantine zone and know who will enforce and how it will be enforced

Get pheromone from SPC or UOG

Make traps and conduct trapping

Incident command headquarters to be established

Implement sanitation for both, immediate area and of an outside perimeter to slow down spread (this is a key item) to destroy breeding sites for multiplication.

Long Term (these are items that would be started if immediate attempts at eradication failed):

Biocontrol (SPC and/or UOG for assistance)

Sanitation, increase efforts of destroying all possible breeding sites

Continue trappings and other affordable and sustainable management measures

Continuous monitoring and evaluation, e.g. GIS map

Outreach and awareness increased

Secure funding for more long term efforts

Appendix No.1

List of people involved in the ER operation:

Name	**Role in CRB Control/eradication**	**Department/ Agency**	**Contact**
Gov. John Ehsa	Support activity and mobilize funds	Governor Pohnpei State	320 2235
Kadalino Lorens	Reports to Governor and media. He is chairperson of **Advisory Committee**	Administrator OEA	320 2712
Adelino Lorens	Reports to Administrator OEA He is the **Operations Manager** /Headquarter Controller	Chief of Agriculture	320-2400
Gibson Santos Konrad Englberger Bejay Obisbo John Wichep Engly Ioanis	**Advisory Committee** members. Reports to Chief of Agriculture and Operations Manager H/Q		320 5893 320 8639 320 5409 320 5133 320 5731

Mayoriko Victor Bejay Obispo Renwick Weilbacher Danny Ludwig Joe Victor Tony Pernet	**Field Team Manager,** reports to Operational Manager H/Q Delimiting survey Trapping Clean-up campaign	Forestry CSP Quarantine PPA EPA Fish and Wildlife	320 7457 320 5409 320 4969 320 2028 320 1780 320 8151
Adelino Lorens Francisca Obispo Gibson Santos Saimon Lihpai	**Logistics and Administration** Salaries & wages overtime and allowances. Transportation and equipment	Agriculture CSP NRCS Forestry	320 2400 320 5409 320 5893 320 7457
Francisca Obispo Hainrick Stevenson	**Media** Inform public and ask for cooperation and to follow recommendation	CSP Public Affairs	320 5409 320 8686
Rudy Andreas Benly Lucios	**Mapping** Mapping of sites, GIS map	CSP DLNR	320 5409 320 2715
John Wichep Perting Albert Renwick Weilbacher	**Quarantine** Prevention of movement and/or spread of CRB	Quarantine Office	320 5133 320 4969 320 4969

Attachment No. 2: Contact of people who can provide technical advice:

SPC Plant Protection:

Maclean Vaqalo, SPC Entomologist, macleanv@spc.int

Tony Gunua, SPC Pathologist, tonyg@spc.int

Takaniko Ruabete, Nematologist, takanikor@spc.int

Mr Gerald Zackios, SPC NPRO Director, geraldz@spc.int

University of Guam

Dr. Aubrey Moore, Entomologist UOG, amoore@uguam.uog.edu

Guam Agriculture

Dr. Russell Campbel, Entomologist Guam Inspection Station, guamnet@teleguam.net

PestNet.com

Within FSM

Konrad Englberger, Plant Protection Specialist, konrad.englberger@gmail.com

John P. Wichep, Plant Protection and Quarantine, jwichep@fsmrd.fm

Attachment No. 3: Technical Information on Coconut Rhinoceros Beetle

- Coconut Rhinoceros Beetle Pest and Diseases of American Samoa Number 8

http://www.ctahr.hawaii.edu/adap/ASCC_Landgrant/Dr_Brooks/BrochureNo8.pdf

- Early Detection Pest Risk Assessment, Coconut Rhinoceros Beetle, Guam 2007

  http:www.fs.fed.us/rs/sot/fhp/International?CRP_IRRA_6_Mar_08.pdf

- Pest Alert No. 38 Rhinoceros Beetle pest found in Guam and Saipan, ISSN 1727-8473

  http://www.guaminsects.net/uogces/kbwik/index.php?title=Oryctes_rhinoceros

- Surveillance of the coconut rhinoceros beetle , *oryctes rhinoceros*, on Guam, by Dr. Aubrey Moore, UOG, June 2008.

  http://www.guaminsect.net/uogces/kbwiki/images/e/eg/CAPS_Semiannual_Report.pdf

- Pheromone for Rhinoceros Beetle, Russell IPM

  C:\User\Owner\Desktop\Oryctes rhinoceros pheromone trap.mht

- Biological Control of Rhinoceros Beetle in the Pacific using oryctes virus, April 2010

  http://www.spc.int/lrd

Attachment No 4: Where to obtain Pheromones

For small quantities and for an immediate response SPC Plant Protection, see contacts in Attachment No. 2.

For larger quantities Pheromones can be ordered from Russell IPM:

Aggregation Pheromone

P046-Lure

Chem Tica. International S.A.

San Jose, Costa Rica

tere@pheroshop.com

Or from ChemTica International Mexico,

info@pheroshop.com

Russell IPM Ltd.	Contact: Dr. M.N. Hassan
Unit 68 Third Avenue	Tel: + 44 (0)1244 281333
Deeside Industrial Park	Fax: + 44(0)1244 281878
DEESIDE, Fintshire, CH5 2LA	E-Mail: nayem@russellipm.net
Uunted Kingdom	Web Site: www.russellipm.com

Where to get oryctes virus

SPC LRD may have small quantities

Commercial quantities can be obtained from

Attachment 5: Equipment and Material required for the CRB ERP

CRB ER equipment (much of this stuff is probably already available from Agriculture or other local departments)

Coolers

Chainsaw, extra chains, gas, oil, file, etc

Vehicle/boats

Camera

GPS unit and other GIS items (maps and compasses) Garmin Oregon 550 (waterproof; high sensitivity

Batteries and flash lights

Computer

Containers for specimens (adult beetles will eat through plastic)

Safety equipment

Binoculars

Field tools (shovels, branch trimmers, knives, picks, machetes, etc)

Traps: buckets

Pheromones

Signs and flagging

Heavy equipment: bucket truck, back hoe, disc chipper including extra blades and diesel to run it! (Cost about $37k)

Tree spikes (climbing equipment)

Communication system (field radios)

Ladder