

CEPF SMALL GRANT FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	Palau Animal Welfare Society
Project Title:	Spay/Neuter Clinic to Prevent the Spread of Crab-eating Macaques in the Republic of Palau
Date of Report:	14 April 2010
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CEPF Region: Polynesia-Micronesia

Strategic Direction: 1. Prevent, control and eradicate invasive species in key biodiversity areas

Grant Amount: \$20,000

Project Dates: 1 August 2009 – 31 July 2010.

Implementation Partners for this Project (please explain the level of involvement for each partner):

1. Koror State Government Animal Shelter and Veterinary Clinic- KSG employees, including the veterinarian, veterinary assistant and para-vets, assisted in all aspects of the macaque spay/neuter clinic through hands-on participation and assistance with animal collection, handling and surgeries to logistics. Medical procedures took place at the KSG vet clinic.
2. National Invasive Species Committee (NISC), Bureau of Agriculture (BOA), Palau- Through the NISC, the BOA issued the “Order of Removal/Destruction/Treatment” of all captive macaque monkeys in Palau. NISC also assisted the Project Coordinator in publicity and awareness for the sterilization clinic, in addition to hosting a post-clinic interview with the visiting vets regarding the non-native macaques and their effects on Palau’s environment.
3. Dr. Paolo Martelli (Ocean Park, Hong Kong), Dr. Karthi Martelli (RSPCA, Hong Kong), and Dr. Karmele Llano Sanchez (International Animal Rescue, Indonesia)- The spay/neuter surgeries were performed by 2 volunteer visiting vets from Hong Kong and one volunteer visiting vet from Indonesia, assisted by the local Koror State veterinarian.

Conservation Impacts

Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.

This project works towards CEPF Strategic Direction 1 for the Polynesia-Micronesia Biodiversity Hotspot: Prevent, control and eradicate invasive species in key biodiversity areas. In particular, the proposed project focused on the control and prevention of a breeding population of a potentially devastating introduction of the alien invasive crab-eating macaques to the upland forests of Babeldaob Island, identified as a priority for site-level investment (site #144) in the CEPF Ecosystem Profile of Polynesia-Micronesia.

Please summarize the overall results/impact of your project against the expected results detailed in the approved proposal.

Introduction:

Macaque monkeys have caused severe socio-economic and environmental damage to the people and island of Angaur State, Republic of Palau. They cause problems to plants, animals, and people. They are a threat to agriculture in Angaur. A 2005 survey of forest birds showed that Angaur has the lowest bird population of any island in Palau, while the nearby island of Peleliu has the greatest diversity and number of birds. Macaques also impose a serious threat to human health. Part of macaque behavior is to bite and scratch, and owners are often victims of their own pets. In addition to physical injury, there is a high risk of infection. Macaques are carriers and transmitters of several serious human diseases, including Herpes B-virus, which is lethal to humans in approximately 80 percent of cases. The spread of macaques is a significant threat to the biodiversity of all of the Republic of Palau, and this project is the first step of a longer-term control program.

It is the goal of the National Invasive Species Committee (NISC) to control and eventually eradicate the macaque monkey population in the Palau Islands. The Palau Animal Welfare Society (PAWS) is committed to assisting in this project to ensure the overall animal health in Palau is met. Macaque control/eradication in Palau will require careful planning and must be implemented in several steps or phases. Macaques are much more intelligent than other animals, and any attempt to eradicate them must be thoroughly planned and adequately funded. The National Invasive Species Committee (NISC) is working with the Angaur State Government, PAWS and several local agencies and organizations, and has requested the support of Island Conservation, a non-governmental organization (NGO) which specializes in restoration of island ecosystems, to conduct a feasibility study for the complete eradication of macaques from Angaur. Once this study has been completed, we will develop an eradication plan, and begin to seek the funding that will be necessary to successfully implement the plan.

In the meantime, the rest of Palau is at risk of the same damage that is already happening on Angaur. A national law prohibiting transport of macaques outside of Angaur to the other islands in the Palau archipelago (PNC 34-2311) was enacted in 1972, but has not been consistently enforced, and over the years numerous captive macaques have been brought as pets to Koror, where the majority of Palau's residents live. We must act now to completely stop the movement of macaques from Angaur to the rest of Palau, and to ensure that those already outside of Angaur cannot reproduce. This can only be done by first sterilizing all pet macaques (captive macaques), to be followed by strict enforcement of PNC 34-2311, which prohibits the transport of macaques from one island to another within the Republic, and then trapping pet macaques that have escaped into the forests of Babeldaob, Koror and Peleliu.

A census of captive (pet) macaque monkeys and other household animals was conducted from March through July 2009 in the Republic of Palau with the support of CEPF through a grant to the Palau Conservation Society (PCS). All households, businesses, and government offices were surveyed. PCS has the results of this survey. Contact information for macaque owners was gathered in preparation for the sterilization project.

Methods and Implementation of the Sterilization Program:

The Sterilization Clinic Project was held from November 9-17, 2009. The purpose of this sterilization project was to ensure that the macaques will not be able to reproduce if they escape from their owners. This will prevent the spread of macaques throughout Palau, where they can cause significant

economic and environmental harm. It is part of a long term project to entirely remove the threat of macaques to the Republic.

The Clinic was held at the Koror State Animal Shelter and Veterinary Clinic, with the assistance of three veterinarians from Hong Kong and Indonesia, Dr. Paolo Martelli, Dr. Karthi Martelli, and Dr. Karmele Llano Sanchez. These three veterinarians have extensive experience handling and sterilizing macaque monkeys in Hong Kong and throughout Southeast Asia. They brought specialized medical equipment with them for use in surgery, and shared their expertise with the staff of the Animal Shelter.

To organize the sterilization project, PAWS hired Mr. Ngirbechat Arsenio as the coordinator for the sterilization clinic. Mr. Arsenio was supervised by then NISC coordinator Dr. Joel Miles, to ensure the success of the sterilization clinic. Mr. Arsenio's duties are detailed in the attached Job Description (Attachment 1).

Six weeks prior to the clinic, the macaque sterilization order issued by the Palau Bureau of Agriculture was distributed to owners of pet macaques in all parts of Palau, excluding macaques resident on Angaur and the Southwest Islands. (See Order, Attachment 2). At the same time Mr. Arsenio worked closely with the NISC Dr Joel Miles on public awareness activities prior to the spay-neuter clinic, including preparation, printing, and posting of flyers, printing the sterilization order in local newspapers, appearance in radio talk shows, and other awareness activities and related activities.

Results of the Sterilization Clinic:

A total of 27 pet macaques were brought to the macaque spay/neuter clinic (See Table of Macaque Sterilizations, Attachment 3). This included 23 macaques recorded in the animal survey, and 4 walk-ins. During the clinic there were 4 macaques that were sterilized that had not been recorded in the previous animal census. These pet owners responded to the public awareness campaign and called the clinic to have their animal scheduled for surgery. Because it is not illegal to own macaques in Angaur, the sterilization project determined that it would be waste of time, money, and medical supplies to sterilize the 4 pet macaques on Angaur at this time.

Several of the pet macaques had serious health problems, and 27% tested positive for Herpes B-Virus (n=26). Due to poor health, or for other reasons, 11 pet macaques were euthanized at the request of their owners (7 before and 4 after the sterilization surgery), 10 females and 1 male (see Euthanized Table, Attachment 4). A total of 16 pet macaques (11 females, 5 males) were sterilized, using laparoscopic techniques, and returned to their owners in Koror and Babeldaob, including one female that was already sterile due to a uterine tumor. Of these, 3 tested positive for B-Virus (20%). The macaques were also dewormed, inserted with microchips, and their blood was checked for other diseases that could be transmitted to humans. Once the pet macaques were sterilized and had a full medical check-up, a Macaque Sterilization Certificate was issued to the owners. Information on the disease status of the macaques has been provided to the Ministry of Health for appropriate action. Owners of diseased macaques were also informed. Macaque data from the clinic is held by both the National Invasive Species Committee and the Koror State Animal Shelter.

An added bonus to the project was a site visit by the team, including the three experienced macaque handlers and veterinarians, to the field sites of Peleliu State and Angaur State on 16 Nov 2009. This allowed a comparison between the two island states. They were able to evaluate the problems faced by the Angaur community due to the macaque overpopulation, and also got a good visual contrast of the unaffected, but at-risk island of Peleliu. These experts then communicated some of their thoughts and concerns via public radio on the following day, and also met with Governor Salii of Angaur state with recommendations for protecting farms on Angaur.

ATTACHMENT 1:

Coordinator Duties for Macaque Spay/Neuter Clinic

The Coordinator for the Macaque Spay/Neuter Clinic agrees to work on a collaborative project between the Palau Animal Welfare Society, The Palau Bureau of Agriculture and the Koror State Animal Shelter. The Coordinator will assist in the long-term control of macaques in Palau by coordinating a spay/neuter clinic for macaques to be held between 9 – 20 November 2009 and will coordinate activities as listed below. This position will begin on 1 October and last for approximately two months, depending on submission and acceptance of final report.

The Coordinator will have the following duties:

1. Distribute macaque sterilization order issued by the Palau Bureau of Agriculture to owners of pet macaques in all parts of Palau, excluding macaques resident in Angaur and the Southwest Islands.
2. Work closely with the National Invasive Species Coordinator on public awareness activities prior to the spay-neuter clinic, including
 - Preparation, printing, and posting of flyers
 - Printing the sterilization order in local newspapers
 - Appearance in radio talk shows
 - Any other awareness activities.
3. Schedule (date/time/pick up) spay/neuter surgeries for pet macaques with owners.
4. Organize transportation for pick up of pet macaques and other clinic needs.
5. Organize or assist with:
 - Any donations associated with clinic and veterinarians
 - Accommodation for veterinarians
 - Transportation for veterinarians
 - Lunches during clinic
5. Remain in constant communication with clinic organizers (PAWS/BOA/KSG) by insuring available air time for cell phone and checking email daily.
6. Be available for unforeseen tasks, especially as clinic date approaches.
7. Produce and submit a report summarizing the sterilization project.

ATTACHMENT 2:

ORDER OF REMOVAL/DESTRUCTION/TREATMENT

Pursuant to his authority under 34 PNC §2003, and Part 5.1(b) of the Quarantine Rules and Regulations, the Director of the Bureau of Agriculture hereby **ORDERS** that all monkeys (*Macaca fascicularis*) within your control or possession shall be destroyed, removed, or otherwise treated as set forth below.

The intentional or accidental release of a monkey within your control or possession will be considered a violation of this order, and will be subject to the same penalties as any other violation of this order.

Monkeys carry and spread diseases which can harm humans and other species. Monkeys also cause serious harm to agriculture and other economic sectors. In addition, monkeys are non-native species that can cause damage to Palau's fragile ecosystem. This Order is made in the interests of protecting the people, economy, and environment of Palau.

You can comply with this Order by one of the following methods:

1. Within 30 days, providing proof to the Director of the Bureau of Agriculture that all monkeys in your possession have been spayed or neutered, and are certified disease-free by a licensed veterinarian, OR
2. Within 30 days, destroying all monkeys in your possession under the supervision of an officer of the Bureau of Agriculture;
3. Within 30 days, handing over all monkeys in your possession to an officer of the Bureau of Agriculture.

THIS ORDER WILL BECOME EFFECTIVE ON JUNE 30, 2009.

YOUR FAILURE TO COMPLY WITH THIS ORDER MAY SUBJECT YOU TO CRIMINAL AND/OR CIVIL PENALTIES UNDER LAW.

SO ORDERED this _____ day of _____, 2009.

ATTACHMENT 3:

Table of Macaque Sterilizations

State	Gender	Sterilization Date	Microchip number	STERILIZED	Comments**	B-VIRUS	OWNER
KOROR	F	11/9/2009	042-086-563	YES	PTS	NEG	AIKO ARMALUUK
KOROR	F	11/9/2009	042-079-290	YES	RETURNED	POSITIVE	RICHARD NGIRNGERAK
KOROR	F	11/9/2009	042-115-023	YES	RETURNED	NEG	BITK RECHULD
KOROR	F	11/9/2009	042-106-282	STERILE- UTERINE TUMOR	RETURNED	NEG	MARGARET NGOTEL
AIRAI	M	11/10/2009	042-110-079	YES	PTS	POSITIVE	DELLA DELMEL
AIRAI	F	11/10/2009	042-072-060	YES	RETURNED		NGIRCHOCHIT RENGUUL
AIRAI	F	11/10/2009	042-071-090	YES	RETURNED	NEG	DAREK OLKERIIL
AIRAI	F	11/10/2009	042-106-121	YES	RETURNED	NEG	DAREK OLKERIIL
AIRAI	F	11/10/2009	042-083-271	YES	RETURNED	NEG	DELLA DELMEL
KOROR	M	11/10/2009	042-083-286	YES	PTS	NEG	BENITO MULEI
KOROR	F	11/10/2009	NO MICROCHIP	NO	PTS		MOSES YOBECH
KOROR	F	11/10/2009	NO MICROCHIP	NO	PTS		MOSES YOBECH
KOROR	F	11/10/2009	042-080-047	YES	RETURNED	NEG	YUMIKO SUGAWARA
KOROR	M	11/10/2009	042-094-570	YES	RETURNED	NEG	MIKEAS ISIDORO
KOROR	M	11/10/2009	042-105-302	YES	RETURNED	NEG	MARTHA RECHUCHER
KOROR	F	11/10/2009	042-086-883	YES	RETURNED	POSITIVE	ROLAND NGIRNGKOI
AIMELIIK	F	11/11/2009	NO MICROCHIP	NO	PTS	NEG	PAUL REKLAI
AIMELIIK	F	11/11/2009	NO MICROCHIP	NO	PTS	POSITIVE	NINO ERIICH/BABY NINO
KOROR	F	11/11/2009	NO MICROCHIP	NO	PTS	POSITIVE	NERY KADOI
KOROR	M	11/11/2009	NO MICROCHIP	NO	PTS	NEG	NERY KADOI
KOROR	M	11/11/2009	042-108-277	YES	RETURNED	NEG	JOSHUA EBERDONG
NGARCHELONG	F	11/11/2009	042-095-532	YES	RETURNED	NEG	MATTHEW TEBENGEL
NGATPANG	F	11/11/2009	042-091-816	YES	PTS	POSITIVE	SISIOR NGIRAREMIANG
NGATPANG	M	11/11/2009	042-097-054	YES	RETURNED	POSITIVE	IRENE MIRA
PELELIU	F	11/11/2009	NO MICROCHIP	NO	PTS	NEG	NOBORU MADRIS
KOROR	F	11/12/2009	042-085-265	YES	RETURNED	NEG	QUINTA PASQUAL
KOROR	M	11/12/2009	421-115-639	YES	RETURNED	NEG	ALU CHAN
ANGAUR	M	B-test 11/15/2009	NO MICROCHIP	NO	collected blood only	NEG	
ANGAUR	M	B-test 11/15/2009	NO MICROCHIP	NO	collected blood only	NEG	

** PTS = Put to Sleep (euthanized); RETURNED= Returned to owner

ATTACHMENT 4:

Table of Euthanized Macaques

State	Hamlet	Gender	Euthanized Date
KOROR	IYEBUKEL	F	11/9/2009
KOROR	MADALAI	F	11/10/2009
KOROR	MADALAI	F	11/10/2009
KOROR	MADALAI	M	11/10/2009
KOROR	MADALAI	F	11/10/2009
KOROR	NGERBODEL	F	11/11/2009
AIRAI	KED	F	11/11/2009
AIMELIK	IMULL	F	11/12/2009
AIMELIK	SECHERSOI	F	11/12/2009
NGATPANG		F	11/12/2009
PELELIU	KOSKA	F	11/11/2009

Please provide the following information where relevant:

Hectares Protected: N/A
Species Conserved: N/A
Corridors Created: N/A

Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives.

The project was very successful in identifying, tagging and sterilizing all captive macaques outside the island of Angaur in Palau. This accomplishment is essential to preventing the spread of macaques outside of Angaur to other areas of Palau, thereby contributing to the long-term objective of protecting the biodiversity of 13 states in Palau (excepting Angaur and the SW Island states).

Were there any unexpected impacts (positive or negative)?

There were no unexpected impacts.

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

Project Design Process: (aspects of the project design that contributed to its success/shortcomings)

The success of sterilizing the breeding population of captive macaques in Palau outside of Angaur state was highly dependent upon the prior survey of existing macaques conducted in 2009 by the Palau Conservation Society. The thoroughness of the sterilization process was therefore highly dependent on several factors, some of which were not directly done by this project.

The initial macaque survey of captive animals needed to be accurate; otherwise confusion would arise during scheduling and implementation. Information from this prior macaque survey was successfully used to locate most captive macaques. The community also needed to be well-informed through public education before and at the time of surgeries so that any animals missed in the initial survey would be made available for surgery.

Project Implementation: (aspects of the project execution that contributed to its success/shortcomings)

While support by individuals with pet macaques regarding their sterilization ranged from indifferent to positive, the existence of the Sterilization Order with penalties for non-compliance was critical to insure participation. A voluntary system without penalties would have been much less thorough. At the same time, the public awareness before and during the clinic did locate four additional macaques that had been missed during the prior year's survey.

Having knowledgeable veterinarians, experienced in all aspects of macaque behavior and medical care, was essential to the project's success, as it allowed rapid and effective processing of animals. The vets participated in the collection of most macaques from the owner's homes and they were able to provide significant comment and owner education on the need to sterilize the animals, in addition to providing help with the health and welfare of these captive animals.

All sterilized macaques were microchipped with a unique identification number, and all owners were given a Sterilization Certificate to document compliance with the BOA Sterilization Order. If follow-up to the sterilization clinic is undertaken by BOA, the spay/neuter certificate and microchip for each sterilized monkey will allow any new migration of monkeys from Angaur to be detected.

Other lessons learned relevant to conservation community:

ADDITIONAL FUNDING

Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.

Donor	Type of Funding*	Amount	Notes
NONE			

***Additional funding should be reported using the following categories:**

- A** *Project co-financing (Other donors contribute to the direct costs of this CEPF project)*
- B** *Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF project.)*
- C** *Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results.

To our knowledge, all macaques outside of Angaur have been sterilized. This status is sustainable as long as new individuals are not transported outside of Angaur into other states of Palau. The prevention of introductions of unsterilized animals will only be feasible through coordinated actions between the Bureau of Agriculture and the Angaur state government.

It is important to remind the community regularly of the importance of not transporting these animals outside of Angaur. This requires a coordinator for the Palau BOA National Invasive Species Committee, a position currently not filled.

Summarize any unplanned sustainability or replicability achieved.

Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project. **N/A**

Performance Tracking Report Addendum

CEPF Global Targets

(Enter Grant Term)

Provide a numerical amount and brief description of the results achieved by your grant.
Please respond to only those questions that are relevant to your project.

Project Results	Is this question relevant?	If yes, provide your numerical response for results achieved during the annual period.	Provide your numerical response for project from inception of CEPF support to date.	Describe the principal results achieved from July 1, 2007 to June 30, 2008. (Attach annexes if necessary)
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.	N/A			Please also include name of the protected area(s). If more than one, please include the number of hectares strengthened for each one.
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?	N/A			Please also include name of the protected area. If more than one, please include the number of hectares strengthened for each one.
3. Did your project strengthen biodiversity conservation and/or natural resources management inside a key biodiversity area identified in the CEPF ecosystem profile? If so, please indicate how many hectares.	N/A			
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.	N/A			
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1 below.	N/A			

If you answered yes to question 5, please complete the following table.

Additional Comments/Recommendations

This project was a necessary first step that was successful in achieving its goals to sterilize the captive macaques in Palau outside of Angaur state. The follow-on activities, ie. the control of macaques on Angaur Island, is of course a much more difficult goal. It will require careful planning with regard to the methods used to carry out the work, and regular adaptive review of progress and adjustment of methods as needed. There is a strong need for knowledgeable, experienced upper management based in Palau, such as the coordinator position for the National Invasive Species Committee (NISC) which is presently an unfilled position.

Public awareness during this project was a success, to the credit of Dr. Joel Miles. The momentum of his program, thru the Palau National Invasive Species Committee, should not be lost.

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

Please include your full contact details below:

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