

CAPACITY BUILDING IN THE SOLOMON ISLANDS TO ENHANCE LEATHERBACK SEA TURTLE CONSERVATION

Final Report 2015

Implementing Agency:
Marine Research Foundation (MRF), Malaysia



Funded by:



In association with:



Background

The Solomon Islands are home to nesting leatherback sea turtles (*Dermochelys coriacea*) which are classified as Vulnerable globally and Critically Endangered in the Western Pacific (Wallace et al. 2013). The Solomon Islands leatherbacks are considered significant at a regional level (PLAWG2 meeting, August 2012), and are the subject of intense recovery efforts across all of their Pacific range, and through stringent fishery controls among the Hawaii longline fleets. Additional protection (at an unknown level) is in place in the Solomon Islands at Saakolo and Litogahira by NOAA SWFSC in collaboration with The Nature Conservancy (Solomon Islands) and the Solomon Islands Environment & Conservation Division (ECD). An additional program is in place at Tetepare and Rendova that protects a smaller number of nesting females. Based on the findings of a working group convened in 2005 by the Western Pacific Regional Fishery Management Council (Kinan 2005; Dutton et al. 2007), the second Bellagio workshop convened in Malaysia (Bellagio II proceedings 2007), and the Pacific Leatherback Assessment Working Group (2) meeting held in San Diego in August 2013, the Solomon Islands are more important than previously thought (Dutton et al. 2007).

For management and recovery efforts to be effective, obtaining accurate estimates of current abundance and distribution at critical habitats is essential, and this project investigates a small but an as-yet unstudied segment of the population – the summer nesting turtles.

Objectives

The long-term goals of this project were to enhance leatherback turtle conservation in the Western Pacific in keeping with the US Leatherback Sea Turtle Recovery Plan, and raise local communities' understanding and appreciation of the value of the species. The specific objectives of this project are to

- 1) Collect data on summer nesting leatherbacks at Waisurione, on the island of Malaita (**Figure 1**), building on the results of the 2014 monitoring season; and
- 2) To continue to build capacity amongst community members in sea turtle monitoring and conservation.

Project Implementation

The project relies on a team of rangers led by two coordinators. The community and local stakeholders elect all of the rangers. Logistically the tribal land the beach encompasses is accessible due to a conservational land agreement between the main villages from each of the three tribal lands Wairaha (Ausi), Waisurione (Au'vaura) and Hauhui (Po'otori) (Figure 1). AN agreement was established IN 2010 under the Waihau Foundation which grants freedom to conduct conservational activities along the entire length of the beach.

MRF handles all accounts and finance transactions with the assistance of Waihau's treasurer, chairman and team with regards to local expenditure. MRF also provides the project oversight, science and conservation objectivity, while Waihau helps to maintain on the ground logistics.

MRF's long-term goal is to provide the community with the skills and training needed to run the project via short-term supervision culminating with the community adopting the project as their own, running every aspect of it themselves without the aid of MRF.

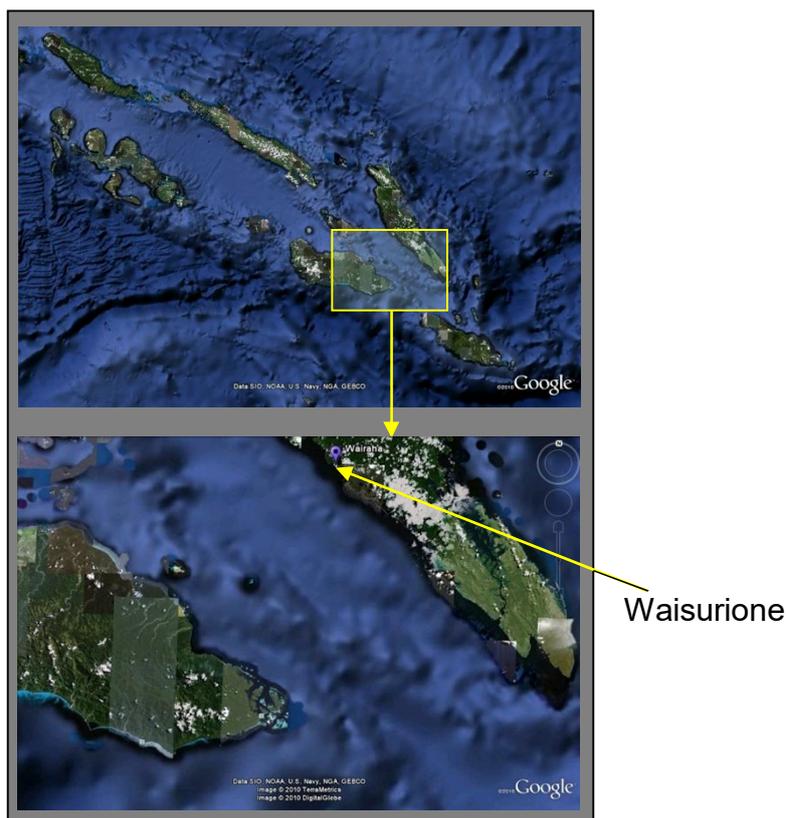


Figure 1. Solomon Islands and the location of the Waisurione village

The number of rangers participating in monitoring the beach during 2015 was 28. They were mainly from Tawamaea, Waisurione, Wairaha, Pauna nu'u and Hauhui villages (Annex I).

Coordinators and experienced rangers conducted a training session for all rangers prior to commencement of nesting and also conducted two refresher trainings during the season to maintain monitoring and data collection standards. An improvement in beach monitoring over 2014 was the nomination of four 'key' rangers, so that one of these would be present in each weekly team of four rangers, ensuring someone experienced and focused was present every night.

While in the village, James conducted two additional training sessions, a "Turtle 101" talk, problem solving meetings and coordinator meetings, as well as the usual organic theatres and supervising the running of each aspect of planning and conducting nightly beach patrols.

Project Results 2015

Turtles

A total of only seven leatherback nests were laid between May and July, of which four were protected with bamboo shields (three nests were laid prior to the 'official' commencement of monitoring and the villagers did think to not protect these (Table I). The community are concerned that the grids attract attention from villagers who are outside of the project and increase the chance of poaching. We are currently investigating solutions to this issue, with the most promising one being burial of the grids to reduce visibility.

Out of the total 7 turtle emergences, 2 were recaptures identified by existing PIT tags (152258657A and 522255721A). Tissue was sampled for the five new turtles for DNA analysis. Two of the nests were relocated due to potential interaction with high tides.

Table I: Nesting records – Waihau 2015

Date	Time	Beach	Pit Tag #	# of Eggs	DNA	DNA Code	Grid	GPS Location	
								Latitude	Longitude
07/5/15	2330	Ausi	152258657A	NA	Yes	WH004	No	-9.24446	160.99638
06/6/15	2215	Ae'aura	152140137A	65	Yes	WH001	Yes	-9.24124	160.98228
26/6/15	1500	Ae'aura	NA	NA	No	NA	No	-9.24180	160.98439
07/8/15	0400	Ae'aura	1522255721A	78	Yes	WH002	Yes	-9.24116	160.98286
08/8/15	0730	Ae'aura	1522264403A	79	Yes	WH005	Yes	-9.24159	160.98378
08/6/15	1420	Ausi	152255721A	0	No	WH002	No	-9.24448	160.99665
15/8/15	1215	Ae'aura	152258657A	62	No	WH004	Yes	-9.24446	160.99638
06/9/15	2245	Ausi	152259465A	0	Yes	WH003	No	-0.92450	160.99374

Erosion

Erosion along the beach was a major concern in 2015. There were severe storms in April and May that removed a significant amount of sand from the beach. As a result, at high tide water reaches the vegetation in most places and during spring tide the wave action takes it ~5m over and into the vegetation. In addition to this there is a large amount of debris on the beach. Large logs physically block access to the beach in many places and driftwood is scattered widely and the wave action has created ~75cm high 'escarpments' in places. Consequently, much of the beach is inaccessible for turtles, and those which do find a nesting site are located where the nest is likely to be inundated.



To address the problems with the erosion, a relocation area was chosen close to the village, which appears to be the least impacted area of the beach. It has both shaded and unshaded sands and the 2015 nests were relocated to this section to ensure they are protected.

The eroded nest and early nests in May that were not checked were used as case studies for 'advanced' training, developing problem solving, thinking and knowledge application –in an effort to help creative solutions when unexpected events happen. The disturbance of the nesting turtles as they attempted to nest was used to emphasize that data collection is important, but secondary to allowing the turtles to nest unhindered. James developed a tag line stating “we can't protect nests if we don't let the turtles make any” and this was clearly taken in by the ranger team.

Problems and Resolution

The misunderstanding during 2014 by a couple of villagers appears to be much less of an issue in 2015. The gentleman in question (representing also his family members) is not an active participant in project activities but did allow monitoring to proceed, albeit on an intermittent basis.

Development of Capacity via Community Development Fund

The Waihau conservation community has grown substantially in the last 12 months. The foundation raised funding to send people to Fiji on exchange visits and training courses, and are starting to accommodate and seek funding for other projects.

The effect of the 0214 and 2015 funding has been notable: The conservation center is much larger; the classroom section is raised off the ground; there is a storage room and a flushing toilet attached to the building; the foundations and a septic tank have been laid

The community development fund in 2015 was spent on mesh screens for the windows, paint, nails, transport expenses (freight), labor, forty (40) chairs and other materials for the interior of the building. Work was completed by the beginning of November, in time for a workshop on Forest and Timber certification organized by SPC and the Ministry of Commerce, which was held over a two-week period in the conservation center.



While James (MRF staff) was in the village three graduate students from Kansas University were also staying in the village, compiling a baseline dataset of bird and reptile species in Malaita. The new conservation centre meant the Waihau Conservation community was able to accommodate all of them comfortably.

2015 Project Successes

1. Increase numbers of turtles captured: During the 2015 season, seven nesting events were recorded and most of them had their DNAs sampled. Out of the 7, 2 were recaptures with Waihau tags. The increase in captures this year also allowed rangers to demonstrate the technical knowledge via their trainings and with less expert supervision. These include tagging, nest protection from predators, use of GIS to locate the exact location of nests and helping hatchlings to the ocean. Although there is always room for improvement, the local rangers have demonstrated improvements and some level of confidence from previous year.

2. DNA Sampling: The increased number of turtles encountered in 2015 meant more samples were taken for DNA analysis.

3. Wai-Hau Assuming Greater Role and Responsibilities: This year Wai-Hau has taken on more responsibilities in terms of the implementation of the project on site. The level of technical expertise on the ground this year was reduced to a one-week visit compared to a month in 2014. The community has appreciated the gradual reduction in capacity development in terms of training, and have taken further responsibilities to implement the project independently. There was empowerment of local people particularly youths and



sense of strong project ownership especially Wai-Hau as an implementing institution despite a number of growth challenges.

4. Expansion with similar community institutions and NGOs: Partnerships have now been established with other local organisations such as the Harisiharai Tribal Land Association, the Hahorarumu Uru forest conservation, the Ministry of Commerce and the Secretariat to Pacific Communities (SPC). The director of Waihau Conservation was part of a team including 3 members of

Harisiharai Tribal lands who went to Fiji in October 2015 for an Agriculture Research extension visit and learning trip sponsored by the SPC. This is part of a larger long term sustainability approach aimed at harmonising Wai-Hau's conservation programs including the leatherback turtle project and organic agriculture.

5. Community Support: This year the Waihau Conservation Foundation supported the Hauhui Clinic with a sum of SBD \$1000 for local community churches including the Baha'i Faith, SSEC, Baptist and the Anglican Church. This support demonstrated Wai-Hau

social responsibility to the communities and to foster support for the turtle project from across a broader range of communities.

6. Improved communication: The logistic support in terms of walkie talkies, medical kits and safety equipment helped improve communication on the beaches in 2015. Rangers and Coordinators were able to communicate effectively. It also boosted the working morale of the rangers and coordinators.



7. Recognised Rangers Association Membership: One of the major successes this year under the project was the recognition of Waihau staff to undertake ranger training facilitated by the University of Queensland Rangers Association, and with the National Geography attended by Max Totorea and Clifford Huta. Through this training Waihau is now working towards being an official member of the Oceania Rangers Association through the Solomon Islands Rangers Association. This will see more protection and empowerment of rangers at the national level and international level and also identify specific training needs under this legal frameworks in the long term.

8. Completion of the conservation center: Through the continued support towards the turtle project this year, the conservation center was completed in 2015. Already there has been significant use of the center in terms of other research programs within Waihau such as the recent study undertaken by the Kansas University in Mid-2015.

2015 Project Challenges

1. Poor Weather: One of the main challenges in 2015 was ongoing unfavorable weather patterns. There was higher rainfall recorded and unusually high tides compared with previous years. The impacts of Cyclone Pam were also evident.



2. Territorial Dispute: The existing beach comprises three tribal lands. A lack of understanding from work in 2014 created an awkward situation for rangers to freely monitor the southern side of the beach towards the end of the season that was home to one of the tribal groups). There do exist cultural interrelationships among people from these tribal lands and we understand that it takes time and will require an awareness-raise process for this group to understand the value of the project, so ongoing consultation is ongoing which, although quite slow, it is gaining some momentum.

3. New Rangers and Training: New rangers require additional training within short timeframes in order to be useful on the beaches. At times new rangers have been drafted into the schedule to cover for others who have other cultural commitments (sometimes for just one or 2 days). This requires more time and effort from experienced rangers and coordinators to train new rangers on a regular basis. To minimise discrepancies new rangers have always been accompanied by one of the experienced rangers, and in the absence of an experienced ranger, one of the coordinators always stepped in.

4. Other Cultural Responsibilities and Location: Most of the rangers are from the outside villages. Like many others, these rangers also have other cultural commitments that are also equally significant as the project. Although there have been some improvements, issues such as punctuality and taking that extra initiative or responsibility beyond expectation, there are still concerns as rangers also have to engage in other commitments and walk more than 3 or 4 km each day to and from Waisurione. This is

quite different from other similar projects undertaken in other parts of the country where rangers and coordinators are based full time on site. Waihaus are planning that rangers on duty will be able to spend the whole two weeks at Waisurione at the conservation center.

5. **Financial Reporting:** Financial reporting at times can also be a challenge due to different Waihaus personnel managing the project from different locations and the lack of proper financial system. Thus, Waihaus are in the process of working with a local MYOB expert to build a proper and understandable financial reporting system so that they can train the local personnel and better manage financial reporting.



Matching Funds

As in 2014, MRF was able to secure matching funds for this project from the Rufford Foundation in the United Kingdom (USD 6,400), which enabled MRF staff member James Williams to travel to Waisurione and stay at the village for two weeks in May/June 2015. The funds also enabled the purchase of an additional PIT tag scanner (as in 2014 it was discovered the beach was too long for a single set of equipment), hand-held radios and medical supplies. This visit provided added training and consultation opportunities, and further cemented linkages between Waisurione village members, the Waihaus Conservation Foundation, and MRF.

Project Expansion

Over 2014 and 2015 the news of the project benefits has spread along the coast attracting the interest of two new villages (Waisisi and Siua). Waisisi's two village chiefs are already involved in the current project at Waisurione, and the village is working together with the Waihaus Conservation community to start their own conservation projects.

Siua (6km south of Waisurione) has reportedly been a nesting sites for the leatherback turtles over the years and as in the case for other sites around Malaita, no research has been conducted and no efforts to manage the turtles have been implemented. During the 2015 season people from Siua registered their interest to extend the current conservation at Wai-hau to their locality. Initial consultation among all of the villagers has already taken place and provided there are (financial) resources in coming years, the project hopes to expand to other areas such as Si'ua and hopefully other parts of Malaita.

In addition, following the widespread awareness of the turtle project, a number of the younger villagers have gone back to high school, college or university in Auki and Honiara to gain further qualifications in their fields of interest. This is an indirect benefit of the conservation work undertaken via this project.

Project Sustainability

MRF worked with the Waihaus Conservation Foundation to jointly submit a grant application for ongoing funding into 2016 through the IUCN Critical Environment Partnership Fund. This has subsequently been accepted and funding is expected to be disbursed by February 2016. Through this funding expansion the project team intends to expand the monitoring to encompass winter nesting season and also develop the first draft of a local management plan in consultation with surrounding villages and the Solomon Islands Department of Environment and Conservation.

Conclusions

This project was a small-scale investigation into the potential for acquiring data sets on summer-nesting leatherback turtles in the Solomon Islands, and an investment into developing a small-scale conservation project run by local communities with limited outside support.

In the first sense, the project demonstrated that indeed a small amount of data could be gathered on summer nesters and subsequent genetic analyses may reveal the need to investigate further. However, the small number of nesting records does not justify substantial investments on the basis of nesting data alone. The nesting information will contribute to local and regional management plans, but the limited number of turtles and nests suggests this is one of the smaller rookeries in the Western Pacific.

From the perspective of developing capacity at the local level to conserve turtles, we feel this project has made substantial forward strides, providing the Waihau Conservation Foundation with the skills to monitor and protect leatherbacks, and to raise funds independently for ongoing support. Given the commitments we have seen and experienced, we believe that the local communities will continue to protect leatherbacks into the future even after a cessation of NOAA support.



Annex I: List of participating rangers during 2015

Name	Village
Max Totorea	Tawamaea
Raymond Hoahania	Waisurione
Charles Oekeni	Waisurione
Clifford Huta	Wairaha
Joe Kaiahuna	Tawamaea
Sandy Pone	Tawamaea
Junior Manero'u	Waisurione
Israel Kionia	Waisurione
Patteson Teoinima	Wairaha
Maeraunia	Hauhui
Trevor Erehau	Hauhui
Brian To'osi	Hauhui
Denton	Wairaha
Fred Anima	Paunanu'u
Charles Anohau	Wairaha
Hady Tohuasi	Wairaha
Robinson Maeboe	Wairaha
Stephen Rioraena	Hauhui
Harrison Taeasi	Hauhui
Newton Watehau	Paunanu'u
Peter Kenitahana	Hauhui
Hurry Manerou	Waisurione
Newton Popotua	Waisurione
Andrew Satau	Hauhui
Aloysio Manerou	Waisurione
Patteson Repii	Wairaha
Alphonsus Repii	Paunanu'u
Hoasipepe	Paunanu'u
Ponioria	Paunanu'u