

# COOK ISLANDS TREDS REPORT FOR 2010

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## 1. INTRODUCTION

The purpose of this report is to provide the Cook Islands Environment Service, Ministry of Marine Resources and their partners with a summary of tagging and nesting information that have been submitted to SPREP for incorporation into the regional Turtle Research and Database System (TREDS).

This report also aims to provide information that can be used to assist turtle conservation work carried out in Cook Islands.

The data held in TREDS is from fieldwork carried out in Cook Islands by the Division of Environment, the Fisheries Division and other partners as well as documents listed in the bibliography at the end of Cook Islands TREDS report for 2009 (Trevor, 2009).

This report provides an update of all data and accommodating current data received for 2009-2010 during this reporting period.

## 2. TAG INVENTORY

The tag inventory for Cook Islands records all tags received from SPREP and other agencies. The tag inventory also records all flipper tags used for turtle monitoring in Cook Islands.

### 2.1. Tags distributed by SPREP to COOK ISLANDS

Tags distributed to Environment Service and Ministry of Marine Resources by SPREP now total up to 600 (Table 1). Out of this total, only 20 (3.3%) are recorded in TREDS as used. Trevor (2009) reported 18 (3%) in an earlier report.

**Table 1: Tags series distributed by SPREP to Cook Islands**

Date	Tag Series		No. of Tags	No. of Tags in TREDS	Receiving Agency
	From	To			
28/04/2004	R16551	R16650	100	2	Environment Service
28/04/2004	R26451	R26550	100	18	Environment Service
09/02/2005	R30501	R30700	200		Pacific Expeditions Ltd
09/05/2008	R44301	R44400	100		MMR
09/05/2008	RI00501	RI00600	100		MMR
<b>Total</b>			<b>600</b>	<b>20</b>	

### 2.2 Tags distributed by other agencies

Twenty-two (100%) tags were used by Dr Hoyt Peckham and William Marsters for tagging turtles on Palmerston Atoll in 2000 (Table 2). All tags are recorded in TREDS as used. This is the first report of tags distributed from other agencies to Cook Islands.

**Table 2: Tags series distributed by other agencies**

Date	Tag Series		No. of Tags	No. of tags in TREDS	Receiving Agency
	From	To			
01/11/2000	651-Z	672-Z	22	22	2000 Hoyt Peckham-Palmerston
<b>Total</b>			<b>22</b>	<b>22</b>	

### 2.3 Untagged turtles for Cook Islands in TREDS.

A total of 92 untagged green turtles, 25 untagged hawksbill turtles and three untagged unidentified marine turtle species are recorded in TREDS for Cook Islands. Untagged turtles can also be recorded in TREDS. There were no reports for untagged turtles in 2009 (Trevor, 2009).

### 3. SPECIES NUMBERS BY SITE FOR 1995-2010 IN TREDS FOR COOK ISLANDS.

For Cook Islands, green turtle (*Chelonia mydas*) (n= 113) has the highest number of records in TREDS, followed by hawksbill turtle (*Eretmochelys imbricata*) (n=30) and unidentified marine turtle species (n=5). Out of the total 148 turtles recorded in TREDS for Cook Islands, 92 green turtles, 26 hawksbill turtles and three unidentified marine turtle species were data collected by Dr Michael White during a snorkeling survey of Papua Passage, Pue and Avana passage during the period from 13<sup>th</sup> November 2009 to 5<sup>th</sup> of March 2010 on several occasions (Table 3). The other turtles recorded in TREDS for Cook Islands include:

- Eleven nesting green turtles from a nesting survey by Hoyt Peckham on Palmerston Atoll during the period of 1<sup>st</sup>-24<sup>th</sup> of November 2000;
- Two green turtles encountered in Palmerston Atoll which were post-nesting females that have migrated from a nesting ground in French Polynesia to probably a foraging ground in Palmerston Atoll; (more data is required to establish this).
- Thirteen turtles in Arorangi, Amuri and Oneroa which were held in captivity while they were hatchlings and later tagged and released.
- One green turtle in Suvarrow which was trapped in the sea at depth of one foot and was tagged and released by officers of Cook Islands Environment Service.

In 2009, Trevor (2009) reported only 16 turtles were recorded in TREDS, they are hawksbill turtles (n= 4), green turtles (n=9) and three unidentified marine turtle species.

[Note: Data in Tables 3 do not reflect abundance of foraging and nesting turtles in Cook Islands, but report is based only on data that SPREP receives from Cook Islands and stored in TREDS].

**Table 3: Number of turtle species by site as record in TREDS for 1995-2010 for Cook Islands.**

Location	Island	Species		
		Green	Hawksbill	Unidentified
Amuri	Aitutaki	7		2
Arorangi	Rarotonga		2	
Avana passage	Cook Islands	5		
Oneroa	Mangaia		2	
Palmerston Atoll	Cook islands	13		
Papua Passage	Rarotonga	86	24	3
Pue	Rarotonga	1	2	
Surarrow	Cook Islands	1		
<b>Total</b>		<b>113</b>	<b>30</b>	<b>5</b>

### 4. NESTING TURTLES

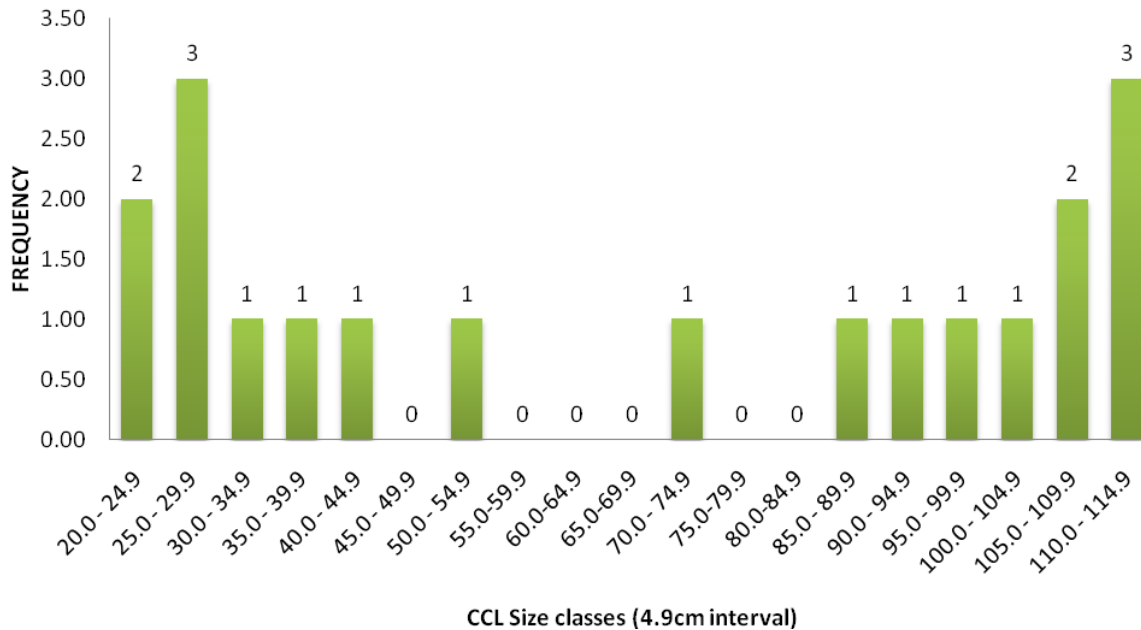
There are 11 green turtles that are recorded in TREDS as nesting on Palmerston Atoll in the Cook Islands. This data was from a survey carried out by Hoyt Peckham and William Marsters on the 1<sup>st</sup>-24<sup>th</sup> of November 2000.

### 5. SIZE FREQUENCY BY SPECIES

#### 5.1 Size Frequency for green turtles

The Size frequency graph for green turtles tagged in Cook Islands during 2000-2009 period shows nine within the juvenile range [curve carapace length (CCL) size class range of 20.0-64.9cm], one within the sub-adult range (CCL size range of 65.0-84.9cm) and nine within the adult turtles range (CCL class range of 85.0-114.9cm). Of the 21 green turtles tagged within the period, only 19 have CCL measurements (Figure 1). Trevor (2009) reported only seven green turtles had CCL measurements in TREDS.

## CCL Size frequency of Green turtles in Cook Islands



**Figure 1: Size frequency for green turtles tagged in Cook Islands during 2000-2009.**

### 5.2 Size Frequency for hawksbill turtles

TREDS recorded only three tagged hawksbill turtles, all with CCL measurements, for the period 2004-2005. All of the three hawksbill turtles are within the juvenile size range of 35.0-49.9cm CCL. Trevor (2009) reported that four CCL measurements for Hawksbill turtles. However there were correctly only three turtles, but one hawksbill had two measurements, making turtle measurement up to four.

## 6. TAG RECOVERIES

Only two tag recoveries have been recorded in TREDS for the Cooks Islands and these were turtles that were tagged initially in Scilly Atoll, French Polynesia (Table 4) and recaptured at Palmerston Atoll. Palmerston Atoll could be a foraging site for green turtles in the Cook Islands, but more data is required to establish this. There are no new updates of tag recoveries for this reporting period (May 2010-May 2011)

**Table 4: Tag recovery of turtles tagged outside Cook Islands**

Tag No.	Species	Sex	Initial Encounter				Other Encounter	
			Date	Location	Activity	Date	Location	Activity
P841	Green	Female	21-Jun-93	Scilly Atoll, French Polynesia	Nesting	14-Oct-94	Palmerston Atoll	Unknown
S757	Green	Female	01-Oct-93	Scilly Atoll, French Polynesia	In captivity	11-Sep-95	Palmerston Atoll	Unknown

## **7. RECOMMENDATION**

- Update tag inventory records to make sure that distribution, loss or damaged tags are reported back to SPREP on their usage for easier verification of tags.
- The Government and NGOS should make public awareness on the report of tag recoveries by fishers who catch tagged turtles or the general public. This is to give us more information on the migration of turtles and other information.
- Regular flow of information between the Government and its partners with SPREP should be encouraged. This will facilitate informative and useful reporting of tag recoveries back to the Cook Islands Environment Service and the Ministry of Marine Resources.
- There is a need for Cook Islands to be more active in the turtle tagging programme as more data on turtle is required for informative decision making on all levels of sea turtle conservation, management and recovery. Given the migratory nature of turtles to their foraging and nesting grounds around the Pacific Islands.

## **8. BIBLIOGRAPHY**

Trevor, A. 2009. TREDIS report for Cook Islands. Report prepared for the Secretariat of the Pacific Regional Environment Program Apia, Samoa.