

# **Sea Turtle Assessment Report**

**for the**

## **Island of Anatahan**

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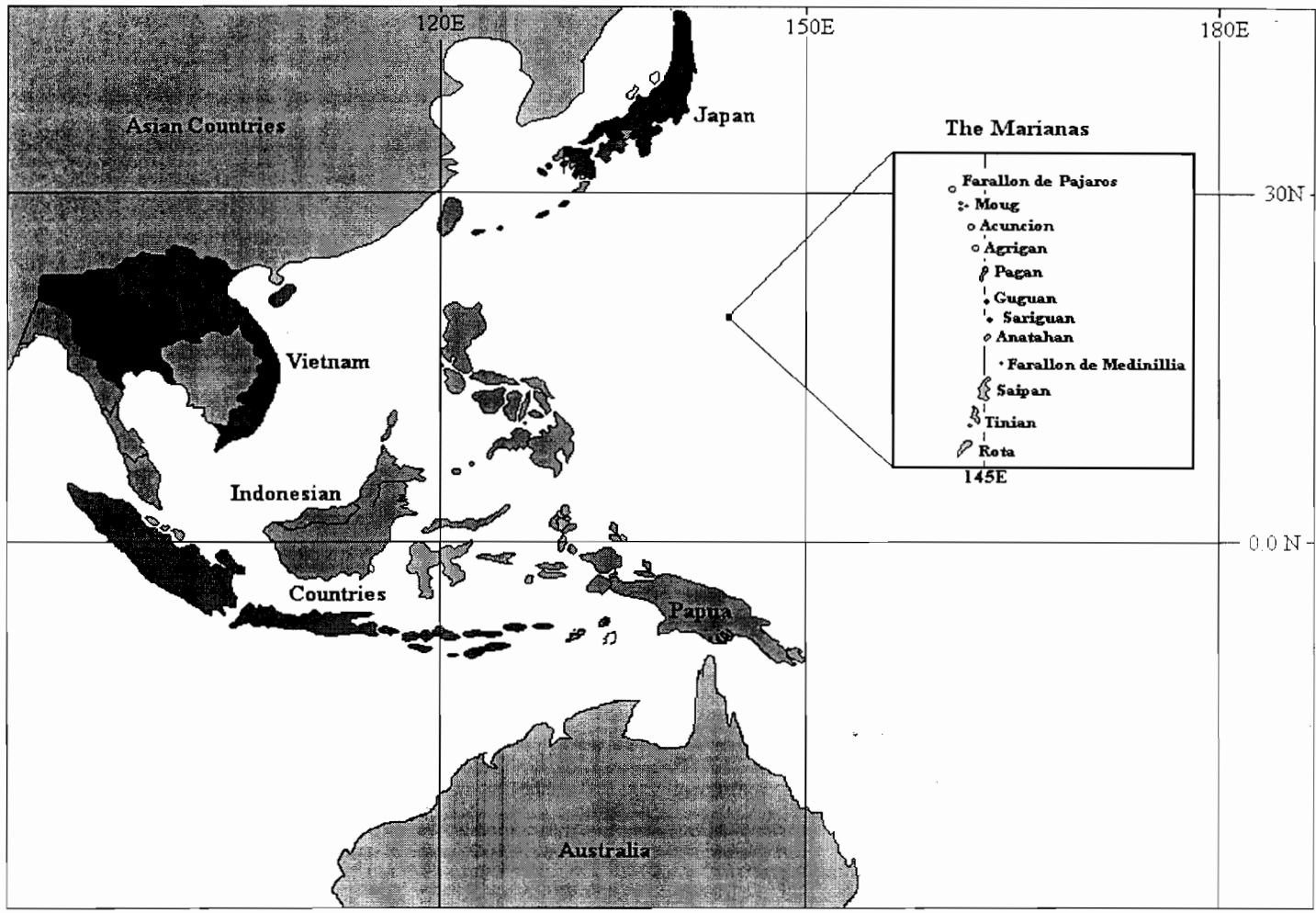
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**Introduction**

Saipan turtle assessment by Steven P. Kolinski et al, published November 1999 and other previous accounts cited four species of sea turtles identified to inhabit and forages nearshore waters of the Northern Marianas. The four sea turtle species identified and reported by fishermen and divers interviewed while doing these assessments are the similar species found foraging around the island of Anatahan. These are *Chelonia mydas*, *Eretmochelys imbricata*, *Dermochelys coriacea*, and the *Lepidochelys olivacea* which are listed endangered worldwide by the International Union for the Conservation of Nature and Natural Resources (Groombridge 1982), and in the Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

**Area Study**

The island of Anatahan is the second closest volcanic island north of Saipan which is about Seventy eight nautical miles and bearing a compass heading of 0.0 plus 05 degrees from Saipan and northwest direction from Farallon De Medinilla in the Commonwealth of the Northern Marianas. Anatahan is located geographically at 16° 21.28" degrees North Latitude and 146° 39.30" degrees' East Longitude. This beautiful remote island is approximately 5.75 miles long and 2 miles wide. Anatahan has an estimated land area of about 12.5 square miles or 3,230 ha, with a maximum elevation of 2,585 feet above sea level. There are two volcanic crater located in the center of the island, and is the six largest island in the Northern Mariana Islands chain.



## Climate

Similar to the rest of its neighboring islands, Anatahan has a very enjoyable tropical climate that is warm and humid throughout the year. Temperatures deviate from 70 to 90 degrees with an average 81° F. The winds vary from 15 to 25 mph mainly from the east direction throughout the year. Anatahan and the rest of the Mariana archipelagos have only two season, rainy and dry season. Dry season is normally January to June, while the rainy season is from July to December.

## Government

The Northern Mariana Islands is governed by a Commonwealth form of government under a political union with the United States through a Covenant Agreement. The island of Anatahan is managed by an elected mayor who also has jurisdiction over other northern islands from Anatahan to the island of Farallon De Pajaros. (See Figure 02)

**The remote Northern Islands under the Jurisdiction of the Northern Island Mayor**

No.	ISLAND & HIGH ELEVATION	GEOGRAPHIC LOCATION	SIZE	DISTANCE FROM SAIPAN	ENDANGERED SPECIES	FERAL SPECIES	RESIDENTS, population, etc.
1	Farallon de Medinilla Is. 266 ft.	16° 00.13 N 146° 00.50 E	0.4 sq mi	58 miles	Marine turtles	none	Reserved, used for Military Target practice.
2	Anatahan Is. 2,585 ft.	16° 21.28 N 145° 39.58 E	12.5 sq mi	78 miles	Marine turtles	Goats, Pigs, & possible Cats	8 people
3	Sarigan Is. 1,801 ft.	17° 36.06 N 145° 15.18 E	1.9 sq mi	101 miles	Marine turtles	Recently eradicated	None
4	Guguan Is. 988 ft.	17° 19.55 N 145° 51.10 E	1.5 sq mi	147 miles	Believed there is turtle, yet no report.	none	None. Reserve Island.
5	Alamagan Is. 2,441 ft.	17° 18.54 N 145° 50.52 E	4.4 sq mi	168 miles	Marine turtles	Cattle, Goats, & Pigs	10 people
6	Pagan Is. 1,870 ft.	18° 08.36 N 145° 49.39 E	18.6 sq mi	195 miles	Marine turtles	Cattle, Goats, Pigs, possible Cats	Evacuated March 1981 due to volcanic eruption
7	Agrigan Is. 3,166 ft.	18° 46.03 N 145° 40.02 E	11.4 sq mi	244 miles	Marine turtles	Cattle, Goats, Pigs, & Cats	15 people
8	Asuncion Is. 2,923 ft.	19° 40.00 N 145° 24.23 E	2.8 sq mi	313 miles	Believed there is turtle, yet no report.	None	None. Reserve Island
9	Muag Is. 746 ft (North Island)	20° 01.24 N 145° 13.21 E	0.8 sq mi.	334 miles	Believed there is turtle, yet no report.	Single report of two goats	None. Reserve Island
10	Uracas Is. 1,047 ft.	20° 30.30 N 144° 50.30 E	1.0 sq mi	399 miles	Believed there is turtle, yet no report.	None	None. Reserve Island

Figure 02

**On file**, is the “April 2001 The Northern Island Development Plan proposal” prepared by the former Mayor of the Northern Island, the Honorable Joseph T. Ogumoro and submitted to the CNMI Government and the Legislature for implementation. This Development Plan is strictly concentrated on the four inhabited islands of Anatahan, Alamagan, Pagan, and Agrigan”. A lot of activities to accommodate this development plan is now underway.

### **Population**

Population of Anatahan is registered at six (6) in the year 2000 CNMI census report. However, recent development has indicated a strong move for additional resettlement, especially with the government recent appropriation of funds for the construction of schools and offices on the island. It is estimated that at least 50 new citizens will be relocating to the island in the near future as soon as this improvement where completed and in operations.

### **Interest**

Fully aware of the pending request to the US Fish and Wildlife Service and the Western Pacific Fishery management council on the limited take of sea turtles for Traditional and Cultural practices submitted by the Carolinian Affairs office, the Anatahan and the CNMI residents are awaiting the disposition of these Agencies on this request. Eventually, the former Mayors, the present Mayor joined with the residents of Anatahan expressing similar interest on matter. The islanders support working with any National government in the enhancement of sea turtle conservation should it be mandated in order to allow this request. The CITES and other organization in charge of sea turtle recovery programs must implement the rehabilitation programs that will escalate the declining sea turtle population and extend to the CNMI.

### **Assessment**

A preliminary assessment of sea turtle and its habitats of the nearshore environments of Anatahan Island was conducted from May 03 to June 17, 2002. This project was in conjunction with the Saipan, Tinian, and Rota assessment that were done previously by the CNMI Division of Fish and Wildlife and the National Marine Fishery Service. A totals, of 43 individual *Chelonia mydas* and 12 *Eretmochelys Imbricata* were observed via 4 different method of assessment. Six shoreline observations covering roughly 15%, one boat tow covering roughly another 15%. Six (6) hours night dive observation of the boat towed section in order to distinguish differences to understand the many report of more turtles sighted at night sleeping at this location than day time. Reports are all cited by the Anatahan residents and fishermen. However, all observations were conducted on the west and northwestern portion of the island except the boat observation which covers 100% around the Island. Of all four species of sea turtle observed nearshore the Marianas, two other species, the *Lepidochelys Olivacea* and *Lepidochelys Doriacea* were not found during this assessment.

Of both species of sea turtle observed, eighty percent (80%) classified as an adults while twenty percent (20%) juveniles. There were seven (7) turtles observed along the east coast of the Island at “Bangko”. Bangko is reported to have the highest number of turtles in any given time whenever visited or observed. According to our observation during this assessment, the information may be convincing as we counted seven in less than an hour in one single spot. The northern and southern coast of the island is un-accessible on foot and could only be reach by boat. Due to this circumstances, the location was unable to be observed as the water condition was rough and preventing us from landing. Even with some restrained, six different species of algae was able to be collected along the transect in order to identify turtle pasture.

Because of the size frequencies of turtles found foraging around this island and lacking information regarding their nesting location, it is very important that further research be done for both resident and foraging turtle in order implement the best conservation management planning. Tagging and DNA samples must be taken in order to understand their migration and genetic background of these population.

### **Nesting and Nesting Habitat**

The Division of Fish and Wildlife is actively monitoring sea turtle nesting throughout the Marianas. This responsibility is assigned to the conservation section under the supervision of the Director. The Division of fish and Wildlife office is centralized on Saipan. Yet, working closely with the Northern Island Mayor on the planning of all conservation on all marine and wildlife species including sea turtle. Anatahan has mostly rugged shoreline with few volcanic black sandy beaches which is not suitable for turtle nesting. Nesting information collected indicate that the number of turtle nesting population yearly in the Marianas is small. Nesting occurs as early as March through August. Therefore, anywhere before this period maybe the best time to start seeing adult turtle nearshore Anatahan returning to mate.

Anatahan inhabited the most adult green turtle and has a fair distributions of Hawksbill. There is an unknown information of where these turtles are nesting except theories that they maybe nesting out in the southern Marianas or other pacific islands. Unless Anatahan turtles are tag and DNA samples these information will be establish. Because of their size frequencies, it suggest that Anatahan maybe a foraging and possibly mating grounds for these turtles.

### **Method of Assessment**

The residents of Anatahan contributed information regarding turtle activities and sighting locations. This information were able to lead this assessment much easier in the short time frame. A hundred percent (100%) boat ride observation around the island and fifteen percent (15%) covered of cliff line and boat tow observation was conducted on the western coastline. The coverage was possible because of calm weather conditions and the support extended by the Norther Island Mayor, his staff and some Anatahan residents. A 14 feet Grumman aluminum boat with 25 horse power engine was use. Two observer towed behind the boat observe turtle and as a turtle is observed, the observer passes the information to a recorder on board. Information recorded are time, species, carapace length, sex, depth, habitats, turtle activity, and other valuable information necessary to be noted, while other observers on the boat looks out for turtles surfacing. A night dive observation of the towed section was also conducted in order to examine differences to understand reported night sighting abundance.

A cliff line assessment was also conducted on the west northwest of the island coast from Ghatisu, Apilóóm, Bras/Aitingasch, Sagua Manglo, over to Saschúghúúl Máál. The observer posted themselves at a selected location and station themselves at one hour and thirty minuets (1.5) counting turtles as they surface. Observation location are sketched out and when possible, underwater submerged formation benthic features are also recorded. Binoculars were used to scan visible range for surfacing turtles. When a turtle is sighted, species, surface time, turtle activity, size, sex (if possible) are recorded. Swimming directions are noted in order to eliminate discrepancies on double counting. **Note:** Because of the none availability of GPS instrument, observation points were unable to pin down on record, but by names.

## **Assessment of Potential Sea Turtle Forage**

Algae samples were collected along the transect to identify potential pasture. The book on Indo-Pacific Coral Reef field guides published by Dr. Gerald R. Allen and Roger Steene 1994, 1995, 1996, & 1998 editions and the algae samples collected and identified by Steve Kolinsky and Dennis Parker of NMFS Honolulu, were used to identify the algae that was collected on Rota turtle assessment.

## **Technical findings**

Based on an interview of an Anatahan resident. This person speculated that an average of fifteen turtles sometimes harvested yearly for consumption when food supplies run out. This individual further stated that "yes" the people of Anatahan are aware of the regulation protecting sea turtles, yet hope that the government would understand the enduring living conditions on these islands. Unlike Saipan, Tinian, Rota, and other places where the luxury of groceries stores, hospitals, schools, and other conveniences are available. Anatahan and the rest of the Northern Islands have nothing of such because of their remote location. Field trips are hardly available and food supplies run out before they can be replenished. These are times when residents harvest turtles to supplement the shortage. He noted their actions and agreed that if they harvest these turtles and transport them off to other places or islands, such actions constitute poaching and smuggling and such actions must not be tolerated and such actions must be prosecuted.

A former Northern Island Mayor from 1989 - 1993 Mr. Ambrosio Satur Ruben maintained that during his term he did not condone such action when he was the mayor. Protection and comprehensive management of Northern Island's natural resources was his number one list of priorities. This was another one of his purposes for seeking the mayoral position. But he shared the similar sentiment the Anatahan residents pose on the supplemental shortage of food supplies. The experience of supplemental shortage and reliable means of assistance or relief to the Northern Island residents relies critically on the assistance the mayor's office could provide and available appropriation funding to the Northern Island Mayor. The former mayor maintains that even as retired, he is still searching for the best solution to solve these problems. He recommended that the Division of Fish and Wildlife should advocate a comprehensive inspection method inspecting fishing vessels fishing the Northern Islands in order to apprehend violators illegally harvesting these resources. Stricter enforcement procedures must be adopted. He articulated that of course the resources belong to the people of the Marianas, but the island residents must be respected because they are the ones who live on these islands and they depend on these resources.

## **Recommendation**

The foraging turtle at Anatahan Island in the Northern Marianas poses the highest interest for further research studies and must be reassessed in order to fully understand this foraging turtles' genetic origin, migration pattern and other necessary information to reach the best constructive management Programme for this population. The US Pacific region's Turtle Recovery Plan must be addressed and jump started in order to save these turtles from further destruction and or extinction. Such programs must be extended to Anatahan and the rest of the remote islands north of Saipan.

**Acknowledgment**

Sincere acknowledgment is extended to the following people and Government agencies for their support in making this turtle assessment successful. Office of the Northern Island Mayor, Division of Fish and Wildlife, CNMI government, NIMO Mayor honorable Valentino Taisacan and his staff, Former NIMO Mayor Joseph Taman Ogomuro, Former NIMO Mayor Ambrosio Satur Ruben, Dr. George Balazs Honolulu NMFS, Dr. Steve Kolinski, Happi Gidion, Cornbine Taisacan, Silverio Motaiso Mettao, Henry Lairopi William, Jesus Lairopi Mettao, Joaquin Igisomar, Eugene Lairopi William, Benedict Pelisamen, Jaime Saures Hermosilla, Buck Motaiso Wabol, Paul Santos, Vicente Jr. Santos, Bill and Susan Macaranas, Jacinto N. Taman DFW, Kurt Kesler USFW, Tina De Cruz DFW, Ben Camacho DFW, Theodoro Rogopes Romolor, and Augustine (Gus) Litulumar Kaipat,



## Joint night free dive turtle observation and fishing trip

A night time free dive fishing trip was conducted on June 06, 2002 from Leischem to Taworuul Aliman started from 19:00 p.m. to 01:00 a.m. by the Anatahan men contributed their report of that event on turtle sightings.

1. Mr. Combiniano Igisaiar Taisakan:

Sighting seven (7) *Chelonia Mydas* (Green Turtle) and three (3) *Eretmochelys Imbricata* (Hawksbill Turtle). Mr. Taisakan claim all turtle he sight as all adults.

2. Mr. Silverio Motaiso Mettao:

Sighting three (3) *Chelonia Mydas* (Green Turtle) and one (1) *Eretmochelys Imbricata* (Hawksbill Turtle). Mr. Mettao claim all Green turtle are adults and the Hawksbill as juvenile.

3. Mr. Jesse Lairopi Mettao:

Sighting one (1) *Chelonia Mydas* (Green Turtle) and none (0) *Eretmochelys Imbricata* (Hawksbill Turtle). Mr. Mettao claim the Green turtle was a juvenile.

4. Mr. Henry Lairopi William:

Sighting eight (8) *Chelonia Mydas* (Green Turtle) and none (0) *Eretmochelys Imbricata* (Hawksbill Turtle). Mr. William claim all Green turtle and all adult and claimed that four out of all eight was spotted by Mr. Taisacan. So he is only claiming four (4) actual count.

An actual night dive assessment to investigate report of turtle abundance night sighting was conducted on May 08, 2002, by Larry Ilo, Combiniano Taisakan, and Jaime Saures Herмосilla. The observation started at Leischem, Bintana, Taworuul Aliman, all the way to Kanat Dalalai. A total of fifteen (15) *Chelonia Mydas* (Green turtles) and four (4) *Eretmochelys Imbricata* (Hawksbill turtles) was sighted.

## Boat Observation around the Island #1

May 04, 2002

Method: Boat observation around the Island

Time 10:43 a.m. to 16:15 p.m.

Starting from Apiloom and ended and the same.

Tide condition: Plus 1.5 feet. Surge condition: Three to five (3 to5) feet.

**Note:** Observation starts from Apiloom proceeding to the southern portion all the way to the back side of the island facing east all the way north and back to Apiloom. All turtles here were observed at Bangko to Ahaaril Mwaal area. As mention, boat ride around the island is the only source of transportation to reach other location on Anatahan. GPS instrument to pin down location of spotted turtles was not available during this assessment but time was noted.

Observation No.	Time:	Species	Sex	Length	Dept	Activity	Location	Comment
1	12:04 p.m.	CM (Green)	unkn	25 cm	70ft	surface 3sc	Bangko	poor underwater visibility due
2	12:12 p.m.	CM (Green)	unkn	35 cm	70ft	" 3sc	Bangko	choppy water condition at
3	12:13 p.m.	CM (Green)	unkn	35 cm	70ft	" 3sc	Taberu	location.
4	12:22 p.m.	CM (Green)	unkn	30 cm	35ft	surface 3sc	Taberu	
5	12:40 p.m.	CM (Green)	unkn	40 cm	100ft	surface 3sc	Arakosin	
6	12:45 p.m.	CM (Green)	Female	60 cm	100ft	surface 4sc	Arakosin	
7	13:10 p.m.	CM (Green)	Female	60 cm	60ft	surface 4sc	Ahaaril Mwaal	

**Side description:** Mostly high volcanic cliff line with rugged benthic and benches feature and rocky volcanic beach.

The rocky beach areas whenever the sea condition is calm are use as landing area on boat. This locations are usually fished during this calm weather. According to Anatahan residents and fishermen, the location here where turtles are observed posses the highest number of foraging turtle.

**Observers:** Happi Gidion Boat operator, John Manglona, Jesse Lairopi Mettao, and Larry Ilo.

## Shoreline Observation #2

May 05, 2002

Method: Cliff line

Time 0930 a.m. to 11:30 a.m.

**Observation location:** Approximately 122 meter north of Hatisu.

**Tide condition:** Plus 1.5 feet. **Surge condition:** Three to five (3 to5) feet.

Observation No.	Time:	Species	Sex	Length	Dept	Activity	Location	Comment
1		No turtle observed						

**Side description:** Fragile volcanic boulders.

The observation spot is at about 15.24 meter high. The spot is enough to able the observation up to about 150 meter distance. Observation spot was not possible to pin down because of no GPS instrument.

**Observer:** Larry Ilo.

### Shoreline Observation #3

May 05, 2002

Method: Cliff line

Time 12:00 p.m. to 14:00 p.m.

**Observation location:** Apiloom (Village) area. Approximately 460 meter north of observation # 1.

: Plus 1.5 feet. **Surge condition:** Three to five (3 to5) feet.

Observation No.	Time:	Species	Sex	Length	Dept	Activity	Location	Comment
1		No turtle observed						

**Side description:** Fragile volcanic solid formations with shallow water pool and combination of rocky boulders.

The observation spot is at about 21.34 meter high. The spot is enough to able the observation up to about 150 meter distance. .  
Observation spot was not possible to pin down because of no GPS instrument.

**Observer:** Larry Ilo.

## Shoreline Observation #4

May 06, 2002

Method: Cliff line

Time 09:30 a.m. to 11:00 a.m.

**Observation location:** Approximately 122 meter north of Hatisu point.

: Plus 1.5 feet. **Surge condition:** Three to five (3 to5) feet.

Observation No.	Time:	Species	Sex	Length	Dept	Activity	Location	Comment
1	09:50	CM green	ukn	60cm	60	surf 2min	Hatisu	
2	10:20	CM green	ukn	70cm	60	surf 3min	Hatisu	

**Side description:** Volcanic boulders.

The observation spot is at about 6.05 meter high. The spot is enough to observer up to about 150 meter distance. Observation spot was not possible to pin down because of no GPS instrument.

**Observer:** Larry Ilo.

## Shoreline Observation #5

May 07, 2002

Method: Cliff line

Time 10:00 a.m. to 11:30 a.m.

**Observation location:** Sagua Manglo.

**Tide condition:** Plus 1.5 feet. **Surge condition:** Three to five (3 to5) feet.

Observation No.	Time:	Species	Sex	Length	Dept	Activity	Location	Comment
1		No turtle observed						

**Side description:** Rugged volcanic cliff line. Ocean water mostly rough.

The observation spot is at about 240 meter high. A very good viewing spot enough to observer up to about 300 meter distance on both side. This observation point is precisely toward the north. From the observation spot Sarigan Island is very visible. Observation spot was not possible to pin down because of no GPS instrument. The location is accessible by trail despite difficulties.

**Observer:** Larry Ilo.

## Shoreline Observation #6

May 07, 2002

Method: Cliff line

Time 13:00 p.m. to 14:15 p.m.

**Observation location:** Saschughul Maar.

**Tide condition:** Plus 1.5 feet. **Surge condition:** Three to five (3 to5) feet.

Observation No.	Time:	Species	Sex	Length	Dept	Activity	Location	Comment
1		No turtle observed						

**Side description:** Rugged volcanic cliff line. Ocean water mostly rough.

The observation spot is at about 320 meter east of observation #4. Observation spot is about 21meter high above sea level. A very good viewing spot enough to observer up to about 300 meter distance on both side. Again, this observation point is precisely toward the north facing Sarigan Island. Observation spot was not possible to pin down because of no GPS instrument. The location is accessible by trail despite difficulties.

**Observer:** Larry Ilo.

## Boat Towing Observation #7

May 13, 2002

Method: Boat towing

Time 09:11 a.m. to 11:00 a.m.

**Observation location:** Starting from Leischem to Apiloom.

**Tide Condition:** Plus 1.5 feet. **Surge condition:** Three to five (3 to5) feet.

This location is directly on western portion of the island facing away from the wind direction, therefore the sea condition is calm at three to four feet surf despite the overall sea condition of the other location which remain rough throughout this assessment project.

Obs No.	Time:	Species	Sex	Length	Dept	Activity	Habitat	Location	Comment
1	09:25	CM green	F	55cm	50ft	Swimming	Hard flat	Leischem	
2	09:45	CM green	F	75cm	60ft	Swimming	Hard plate	Bintana	
3	09:47	Hawksbill	F	68cm	30ft	Swimming	Hard flat	Taworuul Aliman	
4	09:47	Hawksbill	F	55cm	30ft	Resting	Hard bend	Taworuul Aliman	
5	09:49	Hawksbill	ukn	40cm	30ft	Swimming	Hard bend	Taworuul Aliman	
6	09:53	Hawksbill	ukn	60cm	60ft	Swimming	Blank Sand	Taworuul Aliman	
7	10:06	CM green	M	130cm	25ft	Swimming	Hard cracks	Hatisu	
8	10:25	CM green	F	57cm	20ft	Resting	Rky bottom	Apiloom	

**Side description:** Consist hard flat, plate, bend, black sand, cracks, rocky bottom, and boulders.

Method: Two observers are towed on the stern of a 14ft Gruman Aluminum boat powered by a 15 horse Johnson motor and lookout for turtle. As turtles are spotted, information are pass on to a recorder on the boat. Other persons on the boat lookout for surfacing turtle. Locations of turtles observed were unable to pin down because of no GPS instrument.

**Observer:** John Manglona, Silverio Moteisou Mettao, Jesse Lairopi Mettao, and Larry Ilo.