

**GOVERNMENT OF THE UNION OF MYANMAR
MINISTRY OF LIVESTOCK AND FISHERIES
DEPARTMENT OF FISHERIES**

SEA TURTLE CONSERVATION AND PROTECTION ACTIVITIES IN MYANMAR

INTRODUCTION

In the past, four types of sea turtles were found along the Myanmar Coast.i.e,

- (a) Green turtle (*Chelonia mydas*),
- (b) Logger head (*Caretta caretta*),
- (c) Hawksbill (*Eretmochelys imbricata*),
- (d) Leatherback (*Dermochely coriacea*).

At present only green turtles and loggerheads remain. The other are almost extinct to undisciplined poaching and killing of sea turtles by poachers.

In Myanmar marine waters there are many islands and sandy banks where a lot of sea turtles come and lay their eggs. It was reported that two or three decade 21 turtle banks were established along the Myanmar coast. Due to the various effect only few banks are under operation.

In Tanintaryi Division:

- 1. Pulaw
- 2. Shinmaw
- 3. Pa Nyit
- 4. Launglon Bok
- 5. Maunmagan Bok South Island
- 6. Maunmagan Bok North Island
- 7. Phaungtaw
- 8. Pyingyi
- 9. Bawar
- 10. Byaik
- 11. Myauk Moscos

In Mon State:

- 12. Bi Gi
- 13. Hnetpyawdaw
- 14. Thahtayma Wei Island

In Ayeyarwaddy Division

- 15. Thameehla Kyun
- 16. Kai Thaung
- 17. Yebu Thaung
- 18. Pyisalu
- 19. Hteikwetgalay
- 20. Gayetgyi

In Yakhine State

21. Inbari

Thameehla Kyun turtle Island of Ngapudaw township, Ayeyawaddy division is the year round hatching ground for sea turtles. Turtles lay eggs also in Gayetgyi Island and Hteikwetgalay island of Bogalay township from August to April every year. Sometimes few clutches were laid in other months of the year.

Hatching area of Thameehla Island is one mile in length and half mile in breadth. Gayetgyi Island is one and half mile in length and half mile in breadth and Hteikwetgalay Island is two miles in length and three quarters mile in breadth.

Integrated Management for sustainable sea turtle population

Since 1963, Department of Fisheries has taken up a project to breed and protect sea turtles on Thameehla Island, in Ngaputaw Township. A total of 110,000 turtles have been released in the Ocean. After 1970 as the focus shifted to the expansion of fisheries, the staff strength was such that the sea turtle breeding programme could no longer be strongly properly implemented. Then in 1986-87, the programme was fully revived and young sea turtles are being released as below (Table 1, 2, 3 & 4):-

**Table 1: Chart showing number of Green turtles hatchling released annually
(Thameehla Island)**

No.	Year	No of eggs laid	No of hatchling released
1.	1991-92	34,334	26,939
2.	1992-93	28,354	21,073
3.	1993-94	48,588	38,437
4.	1994-95	34,979	29,262
5.	1995-96	40,811	33,446
6.	1996-97	45,999	32,321
7.	1997-98	37,600	34,778
8.	1998-99	45,673	43,472

**Table 2: Chart showing number of loggerhead hatchling released annually
(Thameehla Island)**

No.	Year	No of eggs laid	No of hatchling released
1.	1991-92	20,239	13,809
2.	1992-93	18,502	13,342
3.	1993-94	15,739	12,856
4.	1994-95	16,611	13,467
5.	1995-96	208,061	16,752
6.	1996-97	6,832	7,171
7.	1997-98	9,951	5,735
8.	1998-99	8,179	7,876

Table 3: Chart showing number of Olive ridley hatchling released annually (Gayetgyi Island)

No.	Year	Clutches	No of eggs laid	No of hatchling released	Remark
1.	1997-98	73	7,560	5,601	New project
2.	1998-99	161	17,237	12,733	

Table 4: Chart showing number of Olive ridley hatchling released annually (Hteikwet Galay Island)

No.	Year	Clutches	No of eggs laid	No of hatchling released	Remark
1.	1998-99	171	19,330	14,017	New project

Equipment with methodology and information from Regional Training Course on Sea Turtles Research and Conservation (Malaysia, 1998). U Cho Hla Aung a trainee initiated conservation and identification of marine turtles in Ayeyarwaddy Delta.

He venture to find out potential remote turtle bank and improve them in accordance with training guidelines. It is his achievement that he collected and hatched eggs and released 32,551 hatchling back into the sea at Gayetgyi and Hteikwet Galay Islands.

He also found out that most of the turtles are *Lepidochelys olivacea* and his finding add one more species to our natural resources.

Sea turtle breeding and releasing young sea turtles into the ocean have raised their population. However, only traditional methods can at present be employed and assistance is needed to acquire modern scientific methods and training.

Causes for the extinction of sea turtles

Sea turtle population in the world today has been dwindling gradually until the population of leatherback and hawksbill has now been driven to brink of extinction. In Myanmar waters, the sea turtle population is decreasing due to reasons mentioned below:

- (a) human habitation in turtle hatching areas
- (b) hunting sea turtles in the open sea
- (c) destruction of routes to hatching areas and hatching places
- (d) poaching of turtle eggs without consideration for the continuation of turtle life
- (e) other constructions on hatching areas leading to destruction of eggs.

Once upon a time in the open seas as well as in the vicinity of turtle islands, there were fishing operations during which there were turtles among those that were caught. Today all fishing operations have been banned. Sea turtles are very often caught as by catch in trawlers which became one of the causes of its extinction. In Thameehla Turtle Island in 1935, although 900,000 turtle eggs were collected, in 1967, only 200,000 eggs were collected and in 1986 the number decreased to 50,000 eggs.

Nesting habits of Myanmar turtles

Sea turtles have the habit of coming ashore to lay their eggs at night during the time when the reefs surrounding their breeding island is covered with the rising tide. A female turtle come ashore from 5 to 7 times annually to lay their eggs. The number of eggs they lay is always greater at the first time. The

number of later decreases in later trips. Laying giant turtles have to crawl inland to places where the tide cannot reach them and they have to dig holes from 1 to 2 feet deep in order to lay their eggs.

After laying their eggs, the sea turtles covered their nest with sand in its original condition in order that they won't be easily discovered before returning back to the sea. Green turtles are found to come to Thameehla Island annually to lay their eggs during August and February. They frequent the beaches most in the month of November. A female green turtle lays from 65 to 120 eggs per batch.

Loggerheads come during November and February to lay their eggs. Their peak laying period is during December January. A female loggerhead lays from 70 to 100. No sign of hawksbill and leatherback was found.

In Gayetgyi Island and Hteikwet Galay Island olive ridleys come during September or March to lay their eggs. Their peak laying period is November a females olive ridleys lays from 65 to 130.

Conservation and Management

The Department of Fisheries in conducting turtle hatching in two ways:

- Hatching in their original natural hatching holes
- Hatching in prepared hatch holes by transferring the eggs after they are laid.

Hatching in their original hatching places consists of marking the exact spots where female turtles had laid their eggs and letting the eggs hatch in natural conditions. Hatching this way has the danger of having too much rains and the rising tide which leads to rotting of eggs and leaving the eggs to the mercy of scavengers. During their dangerous journey when hatchling start to leave their nest for the open sea, they are usually picked as food by crows and other carnivorous birds.

Transferring the eggs to prepare hatcheries consists of moving the newly laid eggs by digging them up from their natural hatch holes and transferring them to a safe place from natural weather conditions. The hatchling are protected and reared from 15 to 30 days until they are strong enough to overcome the tough natural conditions and predators before they are released to sea. Incubation period in a hatch hole takes from 45-50 days.

Research and Monitoring

Sea turtle conservation started in Myanmar a long time ago. In the previous Fisheries act (Burma Act 111,1905) there are paragraphs mentioned to give protection to sea turtles, their eggs and the beaches where they live. Then with the Fishery Department Notification No.1, protection was extended to sea turtles within 3 miles off the coast.

Moreover, Thameehla Beaches were declared as a restricted area with the intention of preserving sea turtles and helping them to multiply. The Ministry of Forest then declared Thameehla Island as a game sanctuary and the Ministry of Livestock and Fisheries declared it as off limits to all fishing vessel.

The government has amended the old laws that are no longer in line with the modern conditions and promulgated new laws. The Fisheries act promulgated more than 80 years ago was replaced with the Fresh Water Fisheries Law and the Myanmar Marine Fisheries Law. These new laws include clauses and articles for the protection of sea turtles, their habitat and the beaches where they live.

However, due to various circumstances, research on sea turtles has yet to be carried out. For research, assistance in the form of technical know-how and research equipments are needed.

Funding for sea turtle conservation, research and training

Sea turtle conservation, research and training are in fact necessary for the preservation and multiplication of sea turtles that are one of Myanmar's biological resources. In Myanmar, sea turtle conservation has been carried out since 1963. Moreover, Plans have been drawn up and arrangements are being

made to extend the sea turtle preservation work to sites at Kaing Beach, Ye Phyu Beach and Pyin Salu in Lupputta Township in Ayeyarwaddy Division, Thoung Ga Done, Hteik Wet Kalay and Gayetgyi in Bogalay Township, Ayeyarwaddy Division.

Research on sea turtles has not been carried out yet in Myanmar. Assistance in the form of technical know-how and equipment is urgently needed to carry out research. Such assistance would contribute significantly to sea turtle conservation not in Myanmar but in ASEAN region.

Training courses on sea turtle conservation have never been conducted. However fishermen and fisher folks have been requested to release sea turtles alive if they were caught accidentally and not to approach or enter sea turtle beaches. Directives have also been promulgated for the protection of sea turtles, their eggs and their habitat.

However, training courses should be conducted so that fishery workers know how to preserve and protect sea turtles. Training instructors from ASEAN countries may be invited for this purpose.

Funds will be required for the conservation, research and training of sea turtles. While the state funding of reasonable proportions can be expected, additional funding and other suitable assistance from ASEAN member countries, FAO and UNDP etc, will certainly contribute to the repaid expansion and development of sea turtle conservation.

Building capacity for conservation, research and management

Camp and buildings will be needed for conservation, research and management of sea turtles. On Thameehla Island, a number of building and brick ponds for sea turtles breeding have already been constructed. Similar facilities will be required for the planned sea turtle conservation sites. While state funding and assistance can be expected, expertise from ASEAN member countries will be helpful in the form of technical know-how and designs for buildings and ponds for breeding sea turtles.

Public awareness, information and education

The public need to be widely educated and informed concerning the conservation and protection of sea turtles. For this purpose the Ministry of Livestock and Fisheries is distribute pamphlets, inserting educational programmes in newspapers and magazines, radio and television programmes.

Moreover, necessary arrangements have been taken to work together with the Ministry of Education to include educational material on sea turtles in the school curriculum in order to foster an interest in the sea turtle conservation on the part of students. The Ministry has provided the necessary assistance.

Community participation in conservation

Preservation of sea turtles in Myanmar waters and their prosperity depend on the interest and the participation of the people.

Educational programmes have been initiated targeting the fishery workers and the population along the Myanmar coast line. For more effective conservation work, the Ministry of Livestock and Fisheries has prohibited the capture, killing and any other forms of harmful behaviour towards green turtles, loggerheads, hawksbills and leatherbacks not only on Thameehla Island but also along the whole length of the Myanmar coast line. In addition a notification has been issued on 28.2.1986 prohibiting the digging, transferring, carrying, or otherwise disturbing the turtle eggs from their underground nest. The majority of fishery workers and the population as a whole respect and observe the prohibition.

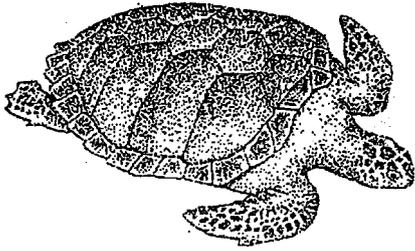
Moreover, fishery workers have been instructed to release sea turtles unharmed if they are accidentally caught in their fishing gear. Department of Fisheries has also prohibited the use of fishing gear especially harmful to sea turtles and the digging of shell powder on beaches inhabited by sea turtles. Both points are being well observed.

It is important that fishery workers invented and learnt to use a type of fishing gear which will be effective in catching fish but harmless for turtles. By systematically promoting the use of such fishing gear in South East Asia, the ASEAN member countries may taken the lead in the conservation effects for the long-term benefit of the sea turtles. Thus, it may be of great benefit of the experts in ASEAN countries conducts training courses in ASEAN member countries so that the trainees can conduct multiplier courses for the fishery workers, ensuring their participation. This would be an important step towards providing effective protection for sea turtles against extinction.

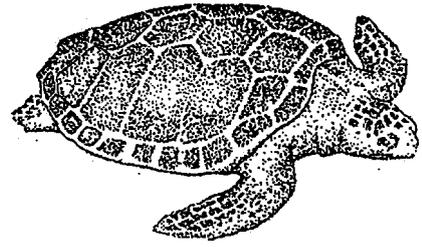
CONCLUSION

Out of five general of sea turtles in the world, Myanmar had four, for those turtles to continue to exist and for them to maintain their number is very crucial. Thus the Ministry of Livestock and Fisheries, Department of Fisheries is exerting their best effort in conservation of the sea turtles. However, lacks of expertise equipment, one of the major constraints in implementing the projects. Should the above mentioned issues be solved, we will once again see our natural resources and our pride; marine turtles thrive in Myanmar waters happily and lavishly.

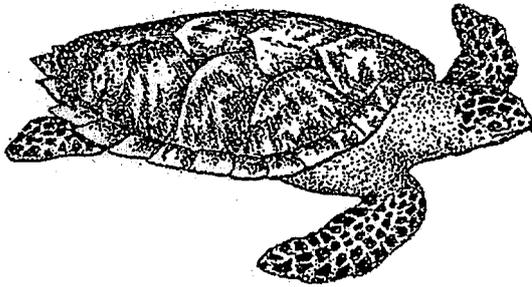
SEA TURTLES IN MYANMAR



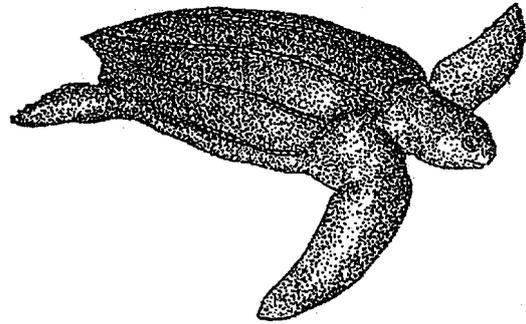
Green turtle (*Chelonia mydas*)



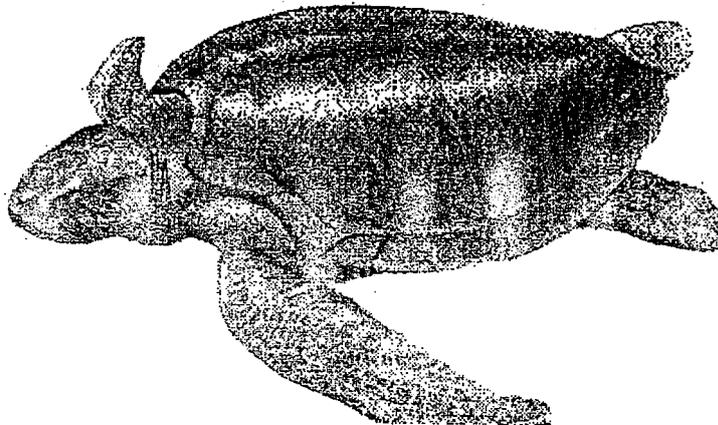
Loggerhead (*Caretta caretta*)



Hawksbill (*Erethrochelys imbricata*)



Leatherback (*Dermochelys coriacea*)



Oliveridley (*Lepidochelys olivacea*)

**TURTLE DISTRIBUTION AND TURTLE BANK AREA
IN MYANMAR COASTAL LINE**

