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TURTLE ISLANDS PARK, SABAH, MALAYSIA: POPULATION STATISTICS OF SEA TURTLES¹

By

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1. INTRODUCTION

The Turtle Islands Park, located some 40km north of Sandakan in the Sulu Sea, is the most important turtle rookery in Sabah. The park consists of three islands namely Selingaan (8.1 ha.), Bakkungaan Kechil (8.5 ha.) and Gulisaan (1.6 ha.). Two species of sea turtles - the green (*Chelonia mydas*) and the hawksbill turtles (*Eretomohelys imbricata*) - nest on these islands. About 50 percent of the green turtle nestings occur at Selingaan, while about 30 percent nestings happen at Bakkungaan Kechil, and about 20 percent nesting take place at Gulisaan. On the other hand, Gulisaan accounts for about 80 percent nesting of hawksbill turtle.

This report on sea turtle population statistics covers the period from 1998 to October 2000.

2. ANNUAL LANDING AND NESTING**2.1 Green Turtle**

Island	Year					
	1998		1999		2000 (up to Oct.)	
	Landing	Nesting	Landing	Nesting	Landing	Nesting
Selingaan	2,578	2,575	5,700	5,689	4,315	4,315
Bakkungaan Kechil	1,835	1,835	3,523	3,523	2,593	2,593
Gulisaan	1,422	1,422	2,160	2,149	1,596	1,596
Total	5,835	5,832	11,383	11,361	8,504	8,504



For the year 1998, Selinggaan recorded the highest monthly landings in August with 393 landings. Other high monthly landings were also observed during July at Selinggaan and Bakkungaan Kechil with 363 and 279 landings respectively. For Gulisaan, the highest monthly landings at 245 occurred in July.

For the year 1999, Selinggaan again recorded the highest monthly landing at 863 that occurred in May. Other high monthly landings also took place at Selinggaan in June and July with 753 and 638 landings respectively. For Bakkungaan Kechil the highest monthly landings at 565 happened in July. Other high monthly landings were 532 in May and 520 in June. For Gulisaan, the highest monthly landings were recorded in July with 346 landings.

For year 2000, the highest monthly landings at 796 occurred at Selinggaan in April. For Bakkungaan Kechil, it was in April with 428 landings while in Gulisaan it also happened the same month with 251 landings.

2.2 Hawksbill Turtle

Island	Year					
	1998		1999		2000 (up to Oct.)	
	Landing	Nesting	Landing	Nesting	Landing	Nesting
Selinggaan	40	38	51	51	41	41
Bakkungaan Kechil	26	26	50	50	31	31
Gulisaan	313	313	388	386	244	244
Total	379	377	489	487	316	316

For the year 1998, Gulisaan recorded the highest monthly landings for the hawksbill in July with 47 landings. Selinggaan and Bakkungaan Kechil recorded 7 landings each that occurred in March and July respectively.

For the year 1999, Gulisaan again recorded the highest monthly landings at 58 in March. Twelve landings happened in Selinggaan during March, and 11 landings occurred in April for Bakkungaan kechil.

For year 2000, the highest monthly landings in Gulisaan happened in January, February and March with 33 landings each. For Selinggaan, the highest monthly landings occurred in March with 8 landings, while for Bakkungaan Kechil it was in February with 5 landings.



3. GREEN AND HAWKSBILL TURTLE: ANNUAL EGG PRODUCTION, INCUBATION AND HATCHLING

3.1 Year 1998

Island	Egg Production		Egg Incubation		Hatchling	
	Green	Hawksbill	Green	Hawksbill	Green	Hawksbill
Selingaan	224,973	3,274	224,593	3,249	108,724	1,437
Bakkungaan Kechil	175,059	2,791	175,059	2,791	110,374	1,978
Gulisaan	127,508	33,995	127,508	33,995	61,292	11,983
Total	527,540	40,060	527,160	40,035	280,390	15,398

3.2 Year 1999

Island	Egg Production		Egg Incubation		Hatchling	
	Green	Hawksbill	Green	Hawksbill	Green	Hawksbill
Selingaan	482,628	4,791	481,756	4,635	363,215	3,364
Bakkungaan Kechil	326,663	5,682	326,553	5,679	243,441	4,519
Gulisaan	188,430	43,975	188,430	43,955	116,684	24,713
Total	997,721	54,448	996,739	54,269	723,340	32,596

3.3 Year 2000

Island	Egg Production*		Egg Incubation*		Hatchling**	
	Green	Hawksbill	Green	Hawksbill	Green	Hawksbill
Selingaan	355,146	3,847	354,730	3,768	227,850	2,306
Bakkungaan Kechil	237,948	3,335	237,948	3,335	140,027	1,805
Gulisaan	130,661	28,235	130,637	28,230	66,138	13,439
Total	723,755	35,417	723,315	35,333	434,015	17,550

*up to October only

**up to July only

For the period from 1998 to year 2000, egg production for the year 1999 was the highest with 1,052,169 eggs of which 997,721 green turtle eggs and 54,448 hawksbill turtle eggs. When compared to previous years, this figure is higher than the egg produced in 1997 (1,047,007 eggs) but lower than the figure for 1991 (1,156,677 eggs).



In the Turtle Islands Park, all eggs gathered are transplanted into hatcheries. The hatcheries are partially shaded in order to lower the incubation temperature. The average incubation temperature for shaded hatcheries is about 29.8 °C.

4. TURTLE MORTALITY

For the year 1998, one green turtle carcass was found on 25 July at Selinggaan Island. It was not possible to determine the cause of the death because of the advanced stage of decomposition.

Ten green turtles and one hawksbill turtle were recorded dead within the park during 1999. Two deaths were reported May and August, three deaths in September and October, and one in November. Four of the dead green turtles bore the Turtle Islands Park's tags, while the rest were untagged. Fish trawling activities might be the cause of most of the deaths.

5. HIGH TIDE

A phenomenal high tide occurred on 23rd December 1999. The hatchery at Selinggaan was partially submerged, but the hatchery at Gulisaan was totally drowned. However, hatchery operations were not affected and the year 1999 recorded the highest number of hatchlings produced (755,936 hatchlings) breaking the record set in 1991 (736,098 hatchlings).

6. CONCLUSIONS

The general trend of nesting for the period from 1998 to 2000 reveals a continuation of the gradual increase observed since 1988. Green turtle nesting contributes to the maintenance of this pattern although its annual nesting fluctuates. In the case of hawksbill turtle, however, the nesting trend displays a decreasing pattern noted since 1994.