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## The Flatback Turtle (*Natator Depressus*) in Western Australia: New Information From The Western Australian Marine Turtle Project

**Robert I. T. Prince**
**Wildlife Research Centre, Department of Conservation and Land Management, WA**

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The cover illustration by Samantha Usback shows a mature female green turtle, *Chelonia mydas*, being recorded on its journey to lay eggs on a beach in north Queensland.



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# The Flatback Turtle *(Natator Depressus)* in Western Australia: New Information from the Western Australian Marine Turtle Project

Robert I. T. Prince
Wildlife Research Centre, Department of Conservation and Land Management, WA

**Abstract**
Further information on the flatback turtle *(Natator depressus)* in Western Australia shows that it occurs as a nesting species off the south-western Pilbara coast, but there is no substantial evidence of its occurrence in Exmouth Gulf, or further southward.

A number of local rookeries attended by relatively large numbers of turtles have been identified, but the more common pattern of nesting appears to be widely dispersed use by smaller numbers of turtles of a range of mainland and offshore island beaches from the Pilbara northwards. The flatback may nest alone, or in mixed species groups. Seasonal nesting patterns have not been fully documented.

This turtle also appears to have been an important provider of eggs for coastal Aboriginal people in northern Western Australia, with minimal harvest of adults.

**Introduction**
At the time Limpus (1982) reported on the status of Australian sea turtles, very little was known of the distribution and abundance of the flatback turtle in Western Australia. In this paper I summarise further information obtained from continuing work within the Western Australian Marine Turtle Project (see Prince, this workshop) suggesting that the flatback turtle is reasonably abundant and widespread as a nesting species within Western Australian waters.

**Methods**
New observational data have been obtained by participants in the Western Australian Marine Turtle Project. Most of this information has been obtained from a combination of work at turtle rookeries during the seasonal nesting period, and by reporters participating in our developing volunteer observer network. Photographs to confirm correct species identification have been requested and obtained when required.

**Results**
Very few observations have been reported at sea. Those made have generally been associated with nearby nesting areas. Presently, we have no evidence of the occurrence of the flatback turtle in the Exmouth Gulf area, or further down the west coast. A reported occurrence in Shark Bay attributed to Parmenter (see Zangerl et al. 1988, p.53, and Appendix 1) is erroneous, resulting from misunderstanding of a conversation as later reported by a student journalist (Parmenter, in litt., 1989). The species using some mainland nesting locations reported in the Onslow district may be flatbacks, but this has yet to be determined.

Flatback turtles have been recorded nesting on beaches used also by other turtles, and on beaches where they have exclusive use. Mainland and insular beaches are used.

The southernmost presently known rookeries are in the Pilbara region, on Barrow Island, the Lowendal Islands, and within the Dampier Archipelago. There is also an important mainland rookery located near Cape Thouin (Oliver, unpubl. data). Less intensive nesting has been observed elsewhere in the Port Hedland district, including one beach within the town itself (Oliver, pers. comm.; D. Robinson, in litt., 1989). Nesting has also been reported from the south-western end of the Eighty Mile Beach (Oliver, pers. comm.; Guinea, pers. comm.).

Crawls made by nesting turtles have been detected by aerial inspections (Coastwatch) at many places along the Eighty Mile Beach, but necessary on-site inspections have yet to be made. It seems likely that some at least of the turtles using other parts of this beach will prove to be flatbacks.

In the west Kimberley region, occasional flatback turtle nesting has been observed at the Lacepede Islands in association with the green turtle - Estimated frequency of flatbacks < < 1 % of total Nesting turtles in peak green turtle years. Small Flatback rookeries have been located on the northern-most of the Helpman Islands (Janawan = Bardi Aboriginal locality name) inside King Sound, and on the outer-most of the Slate Islands group south from Camden Sound. Nesting occurrences have also been reported and recorded from a number of other west Kimberley locations.

North Kimberley data are few, but what appears to be perhaps the most important flatback turtle rookery in the Western Australian region on present information is located on the mainland near Cape Domett, and on the adjacent Lacrosse

Island. Nesting has also been observed near Cape St. Lambert (Black, pers. comm.).

Apart from the specific observations made of flatbacks nesting in association with green turtles and other species at our main study sites at Barrow Island and the Lacepede Islands (above, and unpubl. data), we have few good quantitative data on intensity of rookery use. Apparent peak use of the main exclusive flatback turtle rookeries we have located is of the order:-

| | | |
|---|---|---|
| Barrow Island (east coast )[1] | 25 - 30 per night | Jan, 1990 |
| Cape Thouin (Cowrie Beach)[2] | 15 - 25 per night | Nov - Dec, 1989 |
| Cape Domett area[3] | 30 - 50 per night | Jun - Jul, 1987 |

[1] Prince - observation, and return track counts
[2] Oliver - observation, and return track counts
[3] Osborn - observations, reported in litt., 1987

Other flatback rookeries we have recorded appear to be used regularly by smaller numbers of turtles (e.g. 5-15 per night at peak), with continuing occasional, or perhaps consistent, use of a much wider range of sites (Aboriginal informants; pers. observations).

Known rookery locations are shown in Figure 1.

The seasonal nesting patterns of flatbacks using Western Australian sites have not yet been fully investigated. The Cape Domett observations presently fit other northern Australian locations (eg. Guinea, unpubl. data), but our observations there have not yet been extended into the wet season. Regular flatback turtle nesting has also been recorded in the King Sound area during the July-August period. Observations made at the Lacepede Islands to date have been restricted to the summer period when green turtle work is in progress. The peak nesting activity at the Pilbara rookeries occurs in summer.

To date, we have no specific habitat usage data for flatback turtles in Western Australian waters. Pearl industry sources (Arrow, pers. comm.) suggest that the turtles may be seen quite commonly on grounds fished for the pearl shell *(Pinctada maxima)* off the Eighty Mile Beach. We also have no by-catch data applicable to any of the northern Western Australian trawl fisheries (cf. Poiner et al. 1990), and have not yet been able to do any field work directed at discovery of flatback habitat relationships.

Traditional Aboriginal exploitation of adult flatback turtles in northern Western Australia was apparently uncommon, but eggs appear to have been an important resource for coastal people.

**Discussion**

The information now available for the flatback turtle in Western Australia suggests that the species is relatively widespread from the southern Pilbara coast northwards, and, in comparison with the other hard-shelled turtles apart from the green turtle, it appears to be relatively abundant as a nesting species.

A number of significant rookeries used exclusively by the flatback turtle have been identified. More detailed data are needed, but these rookeries appear likely to be of similar importance to some of those reported for north-eastern Australia (Limpus et al. 1981, Limpus et al. 1983). However, the more common pattern of nesting occurrence appears to be widespread use of scattered beaches on both near-shore and off-shore islands, and on the mainland.

The seasonal incidence of nesting activity throughout the breeding range in Western Australia has not yet been fully documented, but the most southerly sites known are only used during summer.

**Acknowledgements**

New data summarized here have largely been obtained during work within the framework of the Western Australian Marine Turtle Project. These generally await more formal publication. Special thanks are due to my CALM colleagues Keith Morris and Greg Oliver, and to Tanny Robinson, a volunteer based on Varanus Island, for making their information available for this report. The assistance provided by people from the Bardi Aborigines Association Inc community in obtaining detailed information on flatback turtles in their area is also noted.

Andy Williams provided the Figure.

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**Figure 1. Flatback Turtle Rookeries in Western Australia**