DEPT CONSERVATION AND LAND MANAGEMENT

An inspection of Sea-turtle nesting activity, Cape Preston, December 2000.

File 22.04.1

Introduction.
In December 2000, Halpern Glick and Maunsell contact CALM (Karratha) with a request that they assist with a component of the biological survey of Cape Preston, associated with an industrial development proposal for the area. CALM agreed to undertake a reconnaissance of sea turtle activity on the beaches of Cape Preston, and to report back to HGM.

Methodology.
Inspection was made by low level helicopter flight on the morning of December 28, 2000, between 0630h and 0845h. Low tide occurred at approximately at 0625h, (0.65m). Conditions were good for observation of tracks. Observers were Dr Peter Kendrick (CALM Karratha Regional Ecologist), and Mr Geoff Kregor (CALM Karratha Ranger in Charge, Dampier Archipelago).

An initial survey of the entire beach of Cape Preston was first undertaken, flying at between 50 and 100 feet altitude, approximately 50m seaward of the beach. This gave a good view of turtle tracks and older nests and excavations, and allowed positions to both to be plotted on aerial photos.

Following the initial mapping of tracks, a closer inspection at lower altitude of each track was undertaken, from about 20 feet. This would determine what type of track, and whether other features of the site were worth noting. Tracks were scored as either 'opposite' (indicating green or flatback turtle), or 'alternate' (indicating hawksbill or loggerhead), based on the arrangement of flipper marks. Confirmed specific identifications were impossible, as only tracks were observed.

Any sign of hatchlings, predator activity and dead turtles was also noted.

Ground inspection of a dead turtle and of some tracks was possible.

Results.
No live sea turtles were observed at Cape Preston. Fresh tracks, probably resulting from nesting activity during the previous night, were found scattered along the length of both the eastern and southern beaches of Cape Preston (see Figure 1). At several sites, fox tracks were observed around or near turtle nest excavations.

1. Eastern Beach.
Most activity (5 tracks, 2 older nests) was at the eastern end of the beach (see below). Of the five tracks, three were 'opposite' (flatback or green turtles), and one was 'alternate' (loggerhead or hawksbill). One track was too eroded to be determined. Two old nest excavations were also present. A dead mature male green turtle was washed up on the beach near the nests (carapace length approx 800mm).

In the central part of the beach, two older nest excavations were present.

At the western end, two tracks were found, one 'opposite' and one 'alternate'. Two old nest excavations were observed.

No hatchling activity was observed. Fox activity was obvious around nests.

2. Southern Beach.
Nesting activity occurred all along the beach, but was concentrated at the southern end.

At the northern end, three 'alternate' and a single 'opposite' track were observed, with two old nesting excavations. In the central part of the southern beach, one 'opposite' track was seen, with two older nesting excavations. At the southern point of the beach, eleven 'opposite' tracks were observed.

Eastern Beach

	greens / flatbacks	hawksbills / loggerheads	old nests
East	3	1	3
Central	0	0	2
West	1	1	2

Southern Beach

	greens / flatbacks	hawksbills / loggerheads	old nests
North	1	3	2
Central	1	0	1
South	11	0	2

Discussion.
The only turtle positively identified from Cape Preston on this occasion was a dead mature green turtle (male) on the western beach. It's presence in the area may or may not have been associated with breeding activity in the area.

Low densities of nesting activity were encountered (22 tracks and 12 older nests, over 7.5 km of suitable beach). However, considering the low level of nesting activity associated with green turtles this season throughout Australian waters (RIT Prince, pers. comm.), it is likely that turtle activity in this area could be much higher during an average year.

At least two, and probably three species appear to be nesting on Cape Preston this season. The two forms ('opposite', flatback or green turtles, and 'alternate', hawksbills or loggerheads) of turtle track seen on the beach indicate at least one of each pair of species. However, two distinct types of 'opposite' track were observed. One of these was broader, and the flipper marks closer together than the other, resulting in a track of 'finer' appearance. This finer track contrasted with the other form of 'opposite' type track, that appeared to be much coarser. Many tracks were

eroded to a degree that made scoring them as either fine or course impossible. However, in the absence of other evidence, we believe that both green and flatback turtles, as well as one of either hawksbill or loggerhead turtles are currently nesting on Cape Preston.

Nesting activity appeared to be concentrated at the eastern and southern ends of the Cape Preston beaches. Green and/or flatback turtles appear to be the most common users of these beaches this season (17 tracks), compared to hawksbill and/or loggerhead turtles (6 tracks).

Recommendation.
It is our opinion that the beaches of Cape Preston may represent a significant sea turtle nesting resource, particularly given that green turtle activity is very low this season.

We recommend that the specific identities of turtles using Cape Preston be determined by longer visits to the locality, particularly the western and southern parts of the beaches. Survey should also be undertaken during a year of more normal green turtle activity.