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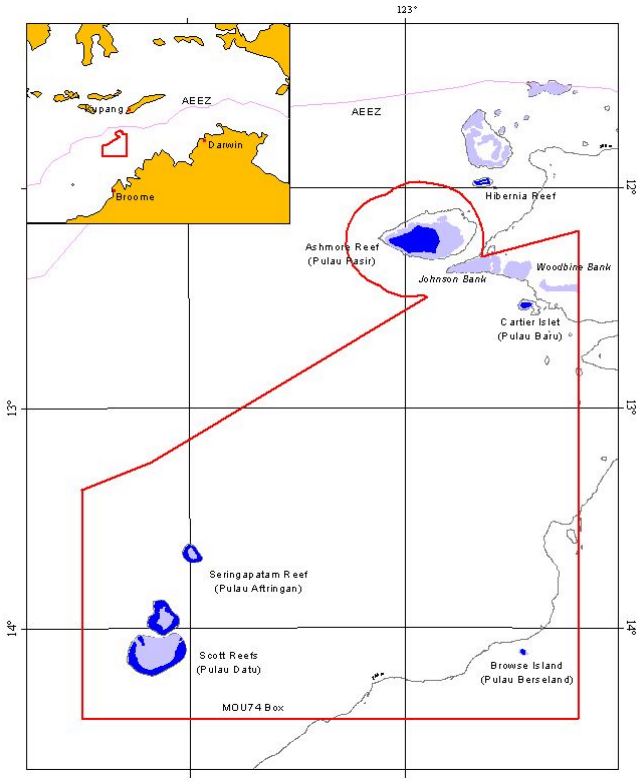
MARINE RESEARCH

SURVEY AND STOCK SIZE ESTIMATES OF THE SHALLOW REEF (0-15 M DEEP) AND SHOAL AREA (15-50 M DEEP) MARINE RESOURCES AND HABITAT MAPPING WITHIN THE TIMOR SEA MOU74 BOX

VOLUME 3: SEABIRDS AND SHOREBIRDS OF ASHMORE REEF

D.A. Milton



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July 1999

This report is part of a series produced by the CSIRO Division of Marine Research from a survey of the shallow reef and shoal fishery resources and habitat mapping of the MOU74 Box off northwestern Australia. The series includes; Volume 1: Stock survey and stock status, and Volume 2: Habitat Mapping and Coral Dieback. The analysis contained in the reports is based on information collected in the MOU74 Box in September and October 1998. The study was funded by the FRRF and Environment Australia.

I thank my CSIRO Marine Research colleagues for allowing me the time to go birding when everyone else was working on fisheries-related research.

1 SEABIRDS AND SHOREBIRDS OF ASHMORE REEF

1.1 Summary

Ashmore Reef was supporting over 10,000 seabirds of nine species during the visit in October 1998. There were large breeding colonies of Common Noddy and Sooty Tern. Crested Terns and Intermediate Egrets were breeding on East Island, and Reef Egrets were breeding in the *Poisonia* trees on West Island. Thirteen species of shorebird were identified, including internationally significant numbers of Grey-tailed Tattler. These birds are probably only present during migratory stop-overs on their way between eastern Asia and Australia. However, these results highlight the importance of Ashmore Reef to a variety of bird species.

1.1.1 Seabirds

Ashmore Reef national park is an uplifted coral platform 400 km off the northwestern Australian coast, almost half way between Australia and Timor in Indonesia (12° 17' S, 123° 02' E). It consists of three low coral sand islands of about 15 ha each. Only West Island is vegetated, with fringing *Argusia argentea* and several coconut trees and an extensive grass cover. I visited West and East Islands between 07:30 and 09:30 on 4 and 5 October 1998, respectively. Middle Island was not visited due to time constraints. The tide was rising on both days and all shorebirds were roosting on one of the three islands. Counts were made of the seabirds and shorebirds on both islands with the aid of 10 x 40 binoculars and shorebirds were carefully examined for any leg flags. Nests of all species were counted and the stage of development of chicks was also recorded.

Over 10,000 seabirds of nine species were seen during the survey (Table 1). Except for a small Crested Tern colony on West Island, the seabird colonies were on East Island. All the Crested Tern nests visited contained a single egg except for one recently-hatched chick in the colony on the south-west of East Island (Figs. 1 and 4).

Five species of seabird were nesting on East Island; Common Noddy and Sooty Tern were the most abundant (Table 1; Figs. 1, 2 and 3). The Common Noddies were in the early stages of nesting and most had recently-laid eggs or were still building their nests. This contrasted with the Sooty Tern colony, where most nests contained chicks or fledglings. I counted 152 late-stage fledglings that had probably died of starvation. Similar chick mortality of Roseate Terns has been recorded on the northern Great Barrier Reef (Milton et al. 1996).

The other species breeding on East Island were Brown and Masked Boobies and Intermediate Egret (*Egretta intermedia*). There were only a few late-stage booby chicks in the centre of the East Island, but there appeared to have been a substantial egret colony. Most of the egret chicks had fledged but were still present on the island.

Table 1. Counts of seabirds on West and East Islands, Ashmore Reef, 4 and 5 October, 1998, and other species seen at sea within the Timor MOU 74 Box during September and Ocotber (* = estimates).

Common name	Scientific name	West Island	East Island	At sea
Crested Tern	*Sterna bergii*	83	300	20
Sooty Tern	*Sterna fuscata*	-	6,000*	900
Roseate Tern	*Sterna dougalli*	-	84	-
Common Noddy	*Anous stolidus*	-	14,000*	600
Brown Booby	*Sula leucogaster*	-	8	25
Masked Booby	*Sula dactylatra*	-	5	2
Bulwer's Petrel	*Bulweria bulwerii*	-	-	5
Matsudaira's Storm-Petrel	*Oceanodroma matsudairae*	-	-	3
Leach's Storm-Petrel	*Oceanodroma leucorhoa*	-	-	2
TOTAL		**83**	**17,313**	**1,557**

Sooty Terns and Common Noddies are well known to breed at Ashmore Reef (Higgins and Davies 1996); 10,000 to 50,000 pairs of Sooty Terns were recorded breeding during visits between 1983 and 1988. This makes Ashmore Reef the largest breeding colony of Sooty Terns in Western Australia. My estimate of 3,000 pairs (6,000 birds) was lower than expected and could (1) be an underestimate, (2) reflect a decline in the breeding population or, more likely, (3) represent interannual variation similar to that found in Great Barrier Reef colonies (summarised in Higgins and Davies 1996).

Common Noddies have been recorded breeding on all three islands at Ashmore Reef (Higgins and Davies 1996). The total estimated number of breeding pairs varied between 13,000 and 35,000 during the 1983-1988 surveys. There were no Noddies breeding on West Island in October 1998. I did not visit Middle Island and saw few birds when I passed nearby. My estimate of 14,000 birds is probably a reasonable estimate of the number of nests on East Island, as October-November is the peak breeding season for many colonies (Higgins and Davies 1996; Dunlop and Goldberg 1999). This estimate makes the Ashmore Reef Common Noddy colony the second largest in Australia, after the Abrolhos Islands populations.

1.1.2 Shorebirds

Table 2. Counts of shorebirds on West and East Islands, Ashmore Reef, 4 and 5 October, 1998.

Common name	Scientific name	West Island	East Island
Little Curlew	*Numenius minutus*	50	-
Whimbrel	*Numenius phaeopus*	10	-
Common Greenshank	*Tringa stagnatilis*	9	31
Grey-tailed Tattler	*Heteroscelus brevipes*	131	1 500
Wandering Tattler	*Heteroscelus incanus*	2	3
Ruddy Turnstone	*Arenaria interpres*	65	242
Sanderling	*Calidris alba*	4	-
Red-necked Stint	*Calidris ruficollis*	-	46
Curlew Sandpiper	*Calidris ferruginea*	-	252
Pacific Golden Plover	*Pluvialis fulva*	32	20
Lesser Sand Plover	*Charadrius mongolus*	-	30
Greater Sand Plover	*Charadrius leschenaultii*	83	10
Australian Pratincole	*Stiltia isabella*	2	-
TOTAL		**388**	**2 124**

These counts are the minimum number of each species present at the time, as most birds were in tight bunches and difficult to count accurately without a telescope. Additionally, the Middle Island was not visited and although no waders were seen around its shore when passing nearby, it is likely that some waders were roosting there during the survey period.

How long each species spends at Ashmore Reef is unknown. All species were still present two weeks later when a commercial bird tour group visited West Island (S. Keates, personal communication). This suggests that at least some birds stop for several weeks, presumably enroute to the Australian mainland; all species recorded are relatively abundant in at least some region of Australia. The large number of Grey-tailed Tattlers present is an important record, making Ashmore Reef internationally significant for this species (Watkins 1993). The estimated count of 1,500 represents approximately 3 percent of the Flyway population (50,000 birds). Ashmore Reef is probably used by the Grey-tailed Tattlers that form the large population at Eighty Mile beach, NW Australia (Lane 1987). The coralline sandflats and seagrass meadows cover most of the eastern half of Ashmore Reef and appear capable of supporting waders that feed in this habitat for an extended period. However, the feeding habitat of the Little Curlew (open terrestrial grassy areas) is more restricted and was found only on West Island, suggesting that larger numbers of this species are unlikely to roost here for more than a few days.

All shorebird species seen during this survey have previously been recorded at Ashmore Reef (see species list in ANPWS 1989), but several species that have been recorded were not recorded during this survey. The summary of ANCA bird surveys at Ashmore on the website notes that large flocks of several species of wader are found during October-November and March-April. My survey suggests that, for most of the year, the number of birds on Ashmore Reef is probably quite small.

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Figure 1. East and West Island on Ashmore Reef. Extent of seabird colonies during a survey in October 1998.

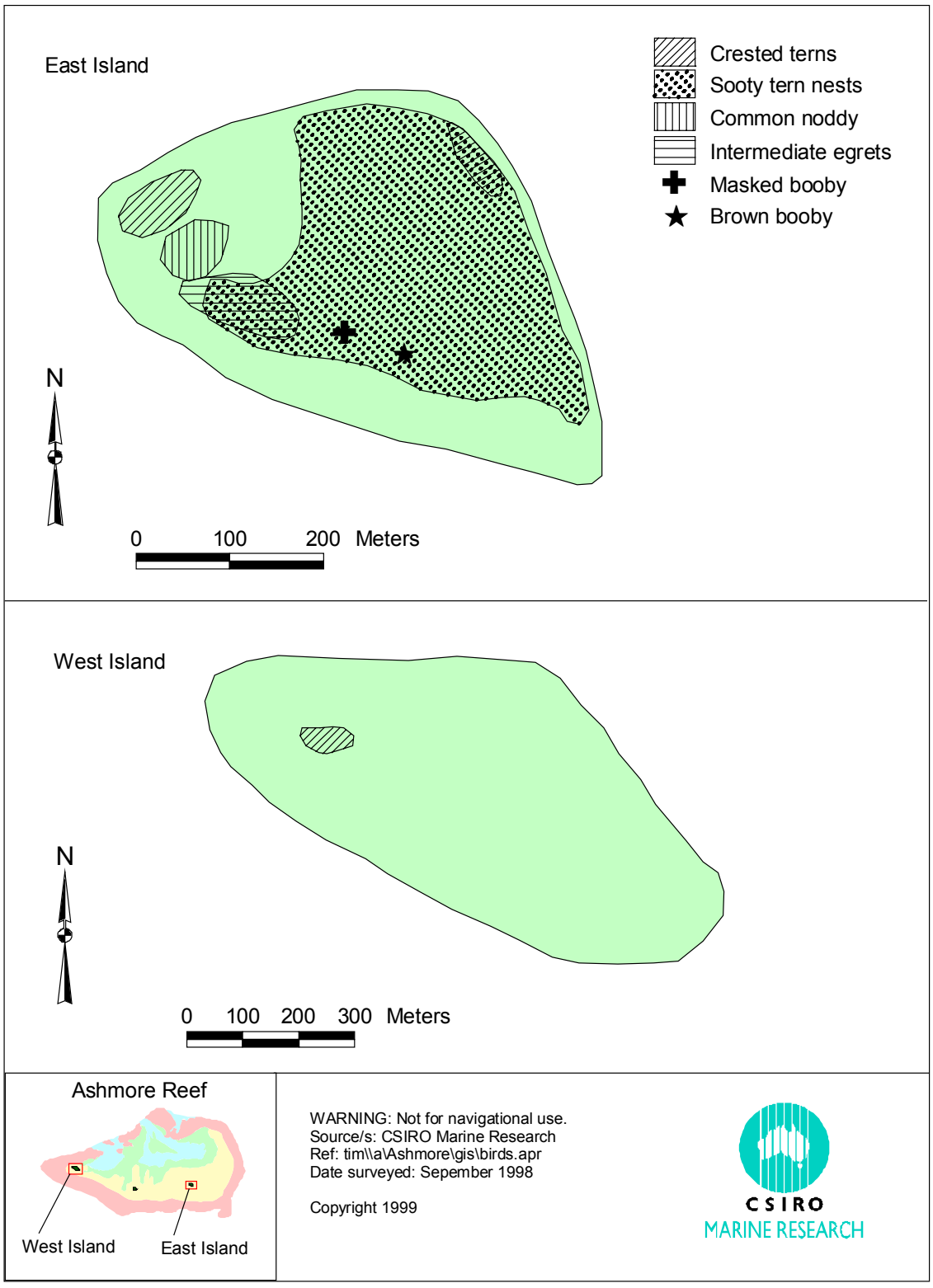

Figure 2. Common Noddies (*A. stolidus*) nesting on East Island at Ashmore Reef.

Figure 3. View of East Island from the south-east corner showing vegetation in October 1998 and nesting Sooty terns (*S. fuscata*) and Common Noddies (*A. stolidus*).

Figure 4. Crested tern (*S. bergii*) nests in the large colony on East Island at Ashmore Reef