

Brief Survey of the Thung Kha Estuary, Chumpon Province

Important numbers of waterbirds, particularly waders and herons, were recorded utilizing the mudflat and adjacent mangrove forests at the previously unsurveyed Thung Kha Estuary from 7–9 February, 1994. Although observations were restricted to <25% of the estuary, the results show that out of the total of 15 wetlands surveyed during the 1994 Winter Waterfowl Count in Thailand, Thung Kha held the eighth highest number of wintering waterbirds, and the third highest number of species of waterbirds.

The Thung Kha Forest Reserve, Chumpon Province, covers an area of approximately 60 km² of which 36 km² is mangroves (2% of Thailand's mangrove area), and is the third largest stand on the eastern coast of peninsular Thailand (AKSORNKOAE, 1993) (Fig. 1). The landward side of the reserve has been designated a commercial zone (approximately 20–25% of the reserve area) where a joint Thai–Japanese company has an intensive prawn farm to produce tiger prawns *Penaeus monodon* for export. Much of the mangrove forest in the commercial zone was felled during construction of the prawn ponds. The seaward side of the reserve has been designated a conservation zone where good stands of mangroves (*Avicennia maritima*, *Rhizophora mucronata*, *Ceriops* sp., *Exococca* sp.) and mangrove associates still occur but felling has taken place in the past.

Although there is an extensive area of mudflat in the Thung Kha Estuary, it is not included in the current reserve forest. The estuary is used by locals to catch fish using traditional cast-nets as well as for growing shellfish, particularly *Perna viridis* for the market. Disturbance by these fishermen appears to be minimal and there were no signs or reports of hunting. The Forest Department has a mangrove planting programme on the mudflat using local species, and the young seedlings are protected from wave action and fishermen activity by lines of bamboo inserted into the mudflat seaward of the seedlings. Further information on Thung Kha is given by JINTANUGOOL & ROUND (1989).

There had been no previous bird surveys at Thung Kha prior to this work and although surveys were restricted to <25% of the area, 2,015 waterbirds from 30 species were counted (Appendices 1 and 2). The inter-tidal mudflat was found to be particularly important for feeding waders, with 594 individuals recorded, accounting for 29.5% of all waterbirds seen during the survey. In addition, a night roost with at least 1,320 Little Cormorants *Phalacrocorax niger*, Great Egrets *Egretta alba* and Little Egrets *E. garzetta* was found at a site along the seaward fringe of mangroves. A single Black-headed Ibis *Threskiornis melanocephalus* was also recorded flying into this roost which is of note since the species is a uncommon winter visitor in Thailand (LEKAGUL & ROUND, 1991).

If the birds counted at Thung Kha Estuary counted during this survey had been obtained during the 1994 January waterfowl census, then this would make Thung Kha the site with the 8th highest number of waterbirds, and 3rd highest number of species recorded out of 15 sites counted throughout Thailand that year. If a more extensive survey had been conducted, then a greater number and diversity of waterbirds would no doubt have been recorded. Therefore, although this survey was very short, it has shown that the mudflat in the Thung Kha Estuary is potentially a very important feeding area for migratory wading birds.

Invertebrates were collected opportunistically from the mudflat and the most abundant species were the gastropods *Assiminea* sp., *Cerithidea cingulata*, *Cerithidea djadjariensis* and the bivalves *Musculista senhausia* and *Polymesoda erosa*. polychaete worms were also found but were not collected.

Although the level of direct disturbance by fishermen in the estuary appears to be low, illegal mangrove felling for the construction of prawn ponds does seem to occur. At Ban Sai Tu for example (Fig. 1), a large number of recently created prawn ponds was found abutting onto a narrow band of coastal mangroves.

Increasing water pollution in the Thung Kha Estuary could become another cause for concern. Staff at the prawn farm reported that production had dropped in recent years due to a deterioration in water quality of the estuary. This problem is probably partly due to the release of polluted waste water from the farm into the estuary, but the situation should be monitored to identify the source of the pollution so that attempts can be made to reduce the problem before the ecology of the estuary is adversely affected.

Invaluable help was given by the management of the prawn farm during this survey and the relation with them should be cultivated because apart from the help they can give future survey teams, the management of the prawn farm can potentially have major impacts on the conservation value of the estuary, e.g., release of polluted water from the ponds into the Bay and felling of mangrove trees for the construction of more prawn ponds, etc.

There is a proposal to merge the Thung Kha Forest Reserve with the adjacent Haad Sai Re Marine National Park in the near future. This will upgrade the conservation status of the reserve but the boundary of the extended national park apparently will not include the mudflat in the Thung Kha Estuary. Inclusion of this mudflat will be critical if this important habitat for waterbirds is to be adequately protected for the future.

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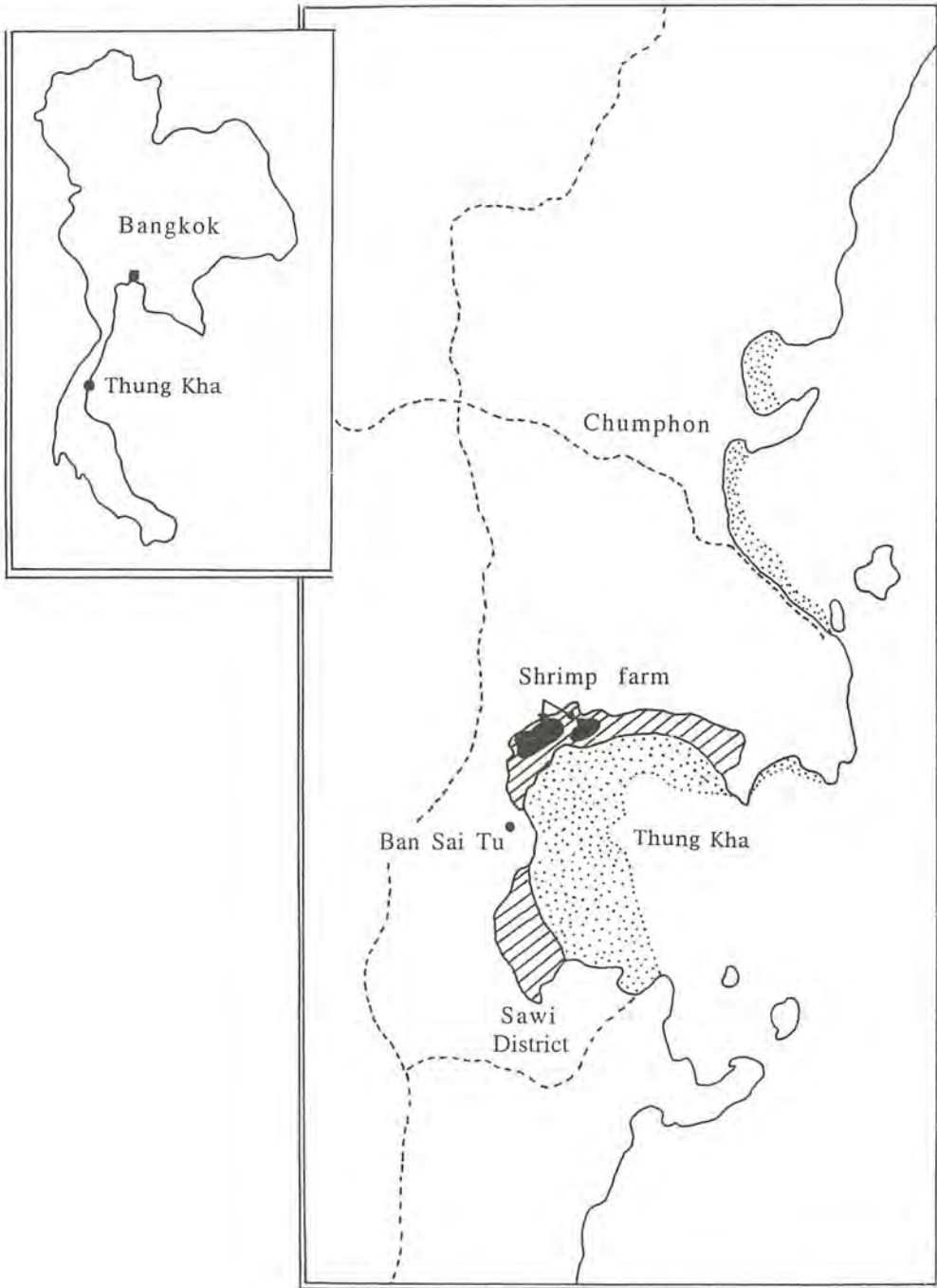


Figure 1. Map showing the location of the Thung Kha Estuary in Thailand ([: : :] mudflat/sandflats; [/ / / /] mangrove forests; [-----] road).

Appendix 1. Waterbirds recorded during the survey at the Thung Kha Estuary.

Name	Scientific name	Total number
Little Cormorant	<i>Phalacrocorax niger</i>	580
Grey Heron	<i>Ardea cinerea</i>	3
Pond Heron	<i>Ardeola</i> sp.	15
Cattle Egret	<i>Bubulcus ibis</i>	10
Great Egret	<i>Egretta alba</i>	640
Intermediate Egret	<i>Egretta intermedia</i>	6
Little Egret	<i>Egretta garzetta</i>	100
Little Heron	<i>Butorides striatus</i>	2
Black-headed Ibis	<i>Threskiornis melanocephalus</i>	1
Lesser Whistling Duck	<i>Dendrocygna javanica</i>	24
Osprey	<i>Pandion haliaetus</i>	2
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	2
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	2
Red-wattled Lapwing	<i>Vanellus indicus</i>	2
Pacific Golden Plover	<i>Pluvialis fulva</i>	212
Lesser Sand Plover	<i>Charadrius mongolus</i>	314
Eurasian Curlew	<i>Numenius arquata</i>	42
Whimbrel	<i>Numenius phaeopus</i>	6
Common Redshank	<i>Tringa totanus</i>	6
Common Greenshank	<i>Tringa nebularia</i>	9
Green Sandpiper	<i>Tringa ochropus</i>	4
Wood Sandpiper	<i>Tringa glareola</i>	9
Common Sandpiper	<i>Actitis hypoleucos</i>	2
Common Kingfisher	<i>Alcedo atthis</i>	4
Stork-billed Kingfisher	<i>Halycon capensis</i>	1
White-throated Kingfisher	<i>Halcyon smyrensis</i>	2
Black-capped Kingfisher	<i>Halcyon pileata</i>	10
Collared Kingfisher	<i>Halcyon chloris</i>	1

Appendix 2. Summary of the waterbirds counted during the survey.

	species	individuals
Waders	11	594
Hérons	7	776
Kingfishers	5	18
Cormorants	1	580
Others	6	47
TOTAL	30	2015