

2TH001

INFORMATION SHEET ON RAMSAR WETLANDS
KUAN KI SIAN OF THE
THALE NOI NON-HUNTING AREA WETLANDS

1. COUNTRY

- Thailand

2. DATE OF COMPILATION

- October, 1997

3. REFERENCE NUMBER

2TH001

(Thailand 32, See Scott, D.A. (Ed.) 1989. A Directory of Asian Wetlands. IUCN.)

4. CONTACT

- Royal Forest Department, Ministry of Agriculture and Cooperatives

5. NAME OF WETLAND

- Kuan Ki Sian of the Thale Noi Non-Hunting Area.

6. DATE OF RAMSAR DESIGNATION

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7. GEOGRAPHICAL COORDINATIONS

- Latitude 7 Degrees 49 Minutes to 7 Degrees 51 Minutes North and Longitude 100 Degrees 07 Minutes to 100 Degrees 09 Minutes East.

8. GENERAL LOCATION

- At the intersection of three southern provinces of Thailand : Phatthalung, Songkhla, and Nakorn Srithammarat. 22 kilometers inland from the Gulf of Thailand.

9. AREA

- The proposed Kuan Ki Sian has 493.6 ha. It is a knoll within the Thale Noi Non-Hunting area wetlands (457 sq. km.).

10. WETLANDS TYPES

- Lake 30 sq. km., Marsh 109 sq. km., *Melaleuca* Swamp Forest 42 sq. km., Paddy fields 66 sq. km. and the rest are the swamp grass lands.

11. ALTITUDE

- 0-2 m. above the mean sea level.



22 JUN 1998

12. DESCRIPTION OF SITE

- A roughly circular lake, 5 km by 6 km, situated about 1 km. to the north of the main part of Lake Songkla (Thale Luang). It is surrounded on three sides by areas of open swamp vegetation, sedge beds and rice paddies. An extensive area of *Melaleuca swamp* forest (4,220 ha) extends to the north. The village of Thale Noi western shore. The open water area occupies approx. 2,800 ha., roughly 60 % of which is covered in floating or shallow rooted vegetation. Grasslands and sedge bed cover 10,870 ha. and paddies 6,640 ha. The principle inflow to the lake is the runoff from the steep slopes of the forested Banthad mountain range to the west. Outflow is via the Klong Nang Riam and Klong Yuan into Thale Luang, Lake Songkla. While the lake is permanent, there may be fluctuations of up to 1.0 m. in depth, water levels usually reaching there minimum in August. The average depth during most of the year is 1.2 m.; this declines to less than 1.0 m. during the driest months. The lake is normally fresh to slightly saline (1.48 ppt). At times of low water level during the driest months, some saline water enters the lake from Lake Songkla and the salinity may rise to 3.5 ppt. The pH varies spatially and seasonally from 1.2-8.1 (average 4.4). The northern end, which lies in proximity to the *Melaleuca* swamp forest, is more acid than the south. The acidity increases during the rainy season as organic matter from acid humus leaches into the lake. (Scott, 1989 p.714)

13. PHYSICAL FEATURES

- Physically the entire area is characterized by inundation, permanent or annual. Kuans are islands free of water most of the year, located in the *Melaleuca* swamp forest. In the northern section of the Non-Hunting Area there are six limestone outcrops rising to a maximum of 142 meters, covered with bamboo and evergreen forest, partly replanted with rubber. Most of these outcrops are settled and do not flood.

The *Melaleuca* swamp forest to the north of the lake is crisscrossed by small canals, usually not more than a boat width (about one meter) wide. Two sizable canals connect the lake to Thale Luang.

14. ECOLOGICAL FEATURES

- Wide diversity of freshwater habitats. The most unique feature of Thale Noi non-hunting area is the large and diverse aggregation of waterbirds on the lake and in the surrounding forests, swamps, and fields, indicating one of the few surviving intact freshwater wetland ecosystems in Thailand. Two nesting areas are found in this protected area, one of which may contain up to ten thousand birds. The site has considerable significance migratory bird species.

15. LAND TENURE

- Most of the wetlands area is state owned and open to public and communal use. Surrounding areas are mainly privately owned.



16. CONSERVATION MEASURES TAKEN

- Established as the first Non-Hunting Area in Thailand 29th April 1975.
- * Five sub-stations to enforce the non-hunting measurement has been established by 1983 , enforcement of hunting ban seen to be effective. (Parr 1994).
- * A Wildlife preservation zone established to exclude disturbance to main nesting site demarcated by 1992.
- * A fish preservation zone was established in 1990 to try to ameliorate the overfishing of the lake. An effective fire fighting system is in place.

17. CONSERVATION MEASURES PROPOSED

- Three additional substations have been proposed :
- * At Thale Laung to protect the second largest bird nesting area.
- * At Samet Ngam to control access to *Melaleuca* forest containing macaques.
- * At Nang Wen to monitor concentrations of waterbirds.

18. LAND USE

- Various areas at the site currently are used for fishing , cattle grazing , rice , rubber , orchard and krajoot (*Lepironia articulata*) cultivation.

19. DISTURBANCE / THREATS

- Intensified use of the area has been partly offset by the conservation measures taken. Overfishing and encroachment remain the most serious problems , followed by uncontrolled grazing. Irrigation projects may have a serious effect on the wetland. Clearance continues of *Melaleuca* for krajoot cultivation and burning or clearance of swamp vegetation for pasturage . Illegal hunting of wildlife consists of opportunistic waterbird egg collection for personal consumption , killing and capture of otters and squirrels , incidental snaring of birds and fishing cats. Pesticide levels in the lake are reportedly high although the reliability of the data is questionable (Sinclair et. al. , 1985 , quoted in Scott , 1989). The domestic pollution leads from the scattered surrounding low density communities of the non-hunting area remains untreated and results in overgrowth of the aquatic weeds and algae in the waterways and lake area. Decomposition of the aquatic weeds and algae threaten to the life of fishes and aquatic life. Pollution abatement program with the natural resource recycle is currently studied for the action plan.

20. HYDROLOGICAL / PHYSICAL VALUES

- The climate is tropical monsoon with an average annual rainfall of 2,208 mm. . The average annual mean pan evaporation rate is 1,753 mm. The water level fluctuates to a monthly maximum peak at 0.86 m. in December and a lowest monthly maximum of -0.21 m. in July and August (Parr 1994)



21. ECONOMIC / SOCIAL / CULTURAL VALUES

- The Thale Noi non-hunting area is home to 37 villages containing at least 5,000 families. Almost all these families rely on some extraction or land use within the area. Mat making from krajoot (*Lepironia articulata*) grown in the wetlands is a major industry. Tourism is an important resource to specific localities. (Parr, 1994). Other occupations include fishing and agricultural farming.

22. NOTEWORTHY FAUNA

- One hundred and fifty-seven confirmed species of birds are listed for Thale Noi according to Mahidol University Conservation Database. The lake and its marshes are the most important area within the entire Lake Songkhla basin for waterfowl. They supports a small number of the last *Mycteria leucocephala* in Thailand. *Leptoptilos javanicus* is a rare visitor and flocks of up to 10 *Theskiornis melanocephalus* have been recently recorded. The lake is also one of very few breeding sites in Thailand for *Ardea purpurea* with more than 100 breeding pairs. Concentrations of up to 1,000 birds have been claimed in 1981. Up to five thousand *Egretta spp.* occur in winter, and an unknown number of resident birds breed. Both *Dendrocygna javanica* and *Nettapus coromandelianus* breed in the area, and concentrations of up to 10,000 and 20,000 respectively have been reported in 1981. Several species occur which are primarily associated with habitats and which are of particular conservation significance; these include *Ichthyophaga ichthyaetus*, *Treron fulvicollis* and *Ketupa ketupu*. One otter species and possibly two are present and the Fishing cat *Prionailurus viverrinus* represented the southern most record for Thailand. An isolated population of the rare Tentacled snake *Erpeton tentaculatum* occurs at Thale Noi.

23. NOTEWORTHY FLORA

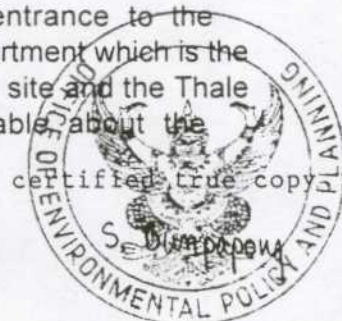
- Probably Largest *Melaleuca* forest remaining in Thailand. (Scott, 1989)

24. SCIENTIFIC RESEARCH / FACILITIES

- Some aspects of the Thale Noi ecosystem have been investigated over the last twenty five years, with a preponderance of attention to birds. Informal surveys have noted other fauna and flora and species lists appear in a Management Plan RFD 2540. Two volumes of Ecological Studies For Conservation of Shore Birds of Songkhla Lake, ASRCT, (1982). Current plans for bird counts five days/month will be carried on. In 1997, a list of the zooplankton (Rotifera, Cladocera and Copepoda) was reported from Thale-Noi.

25. CONSERVATION EDUCATION

- A visitors center with extensive displays locates at the entrance to the office of the Thale Noi non-hunting area, the Royal Forest Department which is the starting point of the tour to the bird sanctuary of Kuan Ki Sian site and the Thale Noi lake tour. The boatman service is reasonably knowledgeable about the common waterbird species.



- The Thailand Tourism Authorities (Region 2 , Southern Thailand) published a tour-guide manual for Thale-Noi in September 1997. This tour manual is a well eo-tourism manual to the visitors.

26. RECREATION / TOURISM

- Over 200,000 visitors come to Thale Noi per year . Foreigners arrive by tour bus and locals by private and public transport. Boat tours around the lake are available daily , operated by local boat owners. Future plans include a boardwalk and viewing tower to provide quiet access at the Kuan Ki Sian nesting area. Further small scale facilities and activities could be provided.

27. MANAGEMENT AUTHORITY

- The Royal Forest Department , Bangkok , Thailand 10900.
- Phatthalung Provincial Authority

28. JURISDICTION

- The Royal Forest Department , Bangkok , Thailand 10900.

29. REFERENCES

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30. REASONS FOR RAMSARS INCLUSION

1b , 1e , 2a , 2b , 3a , 3b

- The Kuan Ki Sian of Thale Noi non-Hunting Area is a good candidate for inclusion under the Ramsar Convention because of its intact diversity of freshwater habitats which support a rich community of resident and migratory waterbirds and other wildlife.

