

Information Sheet on Ramsar Wetlands (RIS) – 2006-2008 version

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Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

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Designation date

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Site Reference Number

WWF Greater Mekong-Thailand
2549/45 Paholyothin Rd. Bangkok 10110
Thailand

2. Date this sheet was completed:

November 2007

3. Country:

Thailand

4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Kut Ting Marshland

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

a) Designation of a new Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ; or
- ii) the boundary has been extended ; or
- iii) the boundary has been restricted**

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
- ii) the area has been extended ; or
- iii) the area has been reduced**

** **Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) a **hard copy** (required for inclusion of site in the Ramsar List): ; *in separated postage of printed out*
- ii) an **electronic format** (e.g. a JPEG or ArcView image) ; *UTM gooting.doc; goot ting topo map.doc*
- iii) a **GIS file providing geo-referenced site boundary vectors and attribute tables** . *Kutting UTM.xls*

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The highest level of water body perimeters of the Kut Ting Public land, Bueng Kan District, including Nong Fangdaeng reservoir. The area surrounded by the 212, 222 and 3043 Public Route.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

18°18'19.41"N 103°40'27.85"E

9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

Four kilometres southeast of Buengkan District, Nongkhai Province in between the Highway 212 and 222 which skirts the northern and south-western periphery.

10. Elevation: (in metres: average and/or maximum & minimum)
180 mMSL

11. Area: (in hectares)
2,200 ha

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The oxbow lake is a “H” shape. The site is an extensive water storage reservoir on the site of a marsh which connect and drain north into the Mekong. Although the reservoir is thought to be shallow, with maximum depths of two to five metres, there is always a considerable expanse of water even at the height of the dry season.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1 • 2 • 3 • 4 • 5 • 6 • 7 8 • 9

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Fit to Ramsar Site Criteria (by CoP 9)

Criteria 1: Rare representative of wetland type,

Only few sites of this wetland type are still intact in the Mekong Ecoregion. Most of this type of wetland (marshland with seasonal flooding and comprises with mosaic aquatic vegetation types) within the region (Thai and Laos) are degraded and have disappeared. Kut Ting is only the largest area existing and nearly intact.

Criteria 2: Threatened species

The site supports threatened species such as: Baer’s Pochard (*Aythya baeri*)- EN (IUCN Redlist 2009) Isok barb (*Probarbus jullieni*) EN, CITES I, since 1.7.75). Five locally Vulnerable (VU, ONEPP, 2006) fishes are Dwarf minnow *Boraras micros*, 2 walking catfishes *Clarias batrachus* and *C. macrocephalus*; pike stickleback *Indostomus spinosus* and Mekong sleeper *Neodontobutis aurarmus*.

English Name	Scientific Name	IUCN Status	CMS Status	CITES Appendix	National Status
Birds					
Baer’s Pochard	<i>Aythya baeri</i>	EN	Appendix I	-	EN
Fish					
Isok barb	<i>Probarbus jullieni</i>	EN	-	Appendix I	VU
Dwarf minnow	<i>Boraras micros</i>	-	-	-	VU
Walking catfish	<i>Clarias batrachus</i>	-	-	-	VU
Bighead walking catfish	<i>C. macrocephalus</i>	-	-	-	VU
Pike Stickleback	<i>Indostomus spinosus</i>	-	-	-	VU

English Name	Scientific Name	IUCN Status	CMS Status	CITES Appendix	National Status
Mekong sleeper	<i>Neodontobutis aurarmus</i>	-	-	-	VU

Criteria 3: Flora and fauna diversity

The site supports 60 waterplant and over 150 forest plant species, 113 fishes (9 Mekong endemic fishes: *Clupeichthys aesarnensis*, Dwarf minnow (*Boraras micros*), *Rasbora spilocerca*, Zeppelin's guitar loach *Lepidocephalichthys* n. sp. (Havird *et al.* in press), Mekong ricefish (*Oryzias mekongensis*) Mekong bumblebee goby (*Brachygobius mekongensis*), Mekong sleeper (*Neodontobutis aurarmus*), Suvatti's puffer (*Monotretes suvattii*), 54 bird species, 3 species of common shrimps (Talerngkietleela, 2004); *Caridina laevis*, *Macrobrachium lanchesteri* including Mekong endemic *M. thai* and over 10 macro-invertebrates. Over 140 rotiferan (over 40% of total Thai taxa) and 70 cladoceran plankton occurred, with many unknown species from survey by Faculty of Sciences, Khon Kaen University (Saengarun, J and L. Sanoamuang, 2002; Sanoamuang, L. & S. Savatentalinton, 2000).

For a list of the fauna and flora see the appendix section

Criteria 4: Migratory birds

The site is important for migratory route of waterbirds, including a large number (number is high for Thailand), 41 Wigeon (*Anas Penelope*), the highest number (5) of Falcated Duck (*Anas falcata*) recorded from a single site in Thailand (Wolstencroft, Parr and Goodey, 1993) and 20 Baer's Pochard (*Aythya baeri*).

Criteria 7: Fish diversity and fisheries

At least 113 fishes occur in the area and the adjacent wetland. Thirty species are so call "whitefishes" moving in and out during the seasonal change of Mekong mainstreams. Up to 5 trophic levels occur including; larger and smaller piscivore, insectivore, planktivore, benthivore, detritivore and herbivore.

Criteria 8:

The area seasonally supports nursing and spawning grounds of 80 economic species. Forty tonnes annually of fishes, 20 tonnes of shrimps and 5 tonnes of non-fishes aquatic fauna supported 153 fishing households, based on 18 artisanal fishing methods. Several types of marine species move into the marshland for spawning and nursing during the flood season, then migrate back to the Mekong River when water recedes, i.e. abramines *Paralauca* spp. mud carps (*Henicorhynchus* spp.), Yellow catfish (*Pangasius macronema*), Sheatfishes (*Micronema* spp), *Kryptopterus* spp., and narrow ranged/Mekong endemic fishes; Dwarf minnow (*Boraras micros*) and Mekong sleeper (*Neodontobutis aurarmus*).

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Indomalaya

(Mekong basin, the middle reaches of the basin)

b) biogeographic regionalisation scheme (include reference citation):

WWF Ecoregion 14, covering by Mekong Dry Forest Ecoregion

(Udvardy, M. D. F. (1975). *A classification of the biogeographical provinces of the world*. IUCN Occasional Paper no. 18. Morges, Switzerland: IUCN)

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Oxbow lake which is seasonally flooded in rainy season and shrinks in summer. The water level is retained by two weirs in the Huay Kampaeng stream, adjunct to the Mekong mainstream. The marshland of sandy alluvial soil, receive water from rainfed and Mekong inundation from August-October. Water turbid in rainy season and pH 8.3, in summer with few acidic, pH 7.5

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

Oxbow lake on sandy alluvial soils, and quaternary sedimentation. Dry monsoon climate, and rainfed land.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The wetland play important role in flood control and supply water to locals in the dry season. It provides natural fertile sediment from the Mekong, providing arable land for farmers.

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va •
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

N Seasonal/intermittent/streams and creeks.

O Permanent freshwater lakes (over 8 ha); large oxbow lakes.

P Seasonal/intermittent freshwater lakes (over 8 ha); includes floodplain lakes

Ts Seasonal/intermittent freshwater marshes

And 4 --Seasonally flooded agricultural land by 2 small weir in the adjacent stream.

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The surrounding land is primarily devoted to rain-fed rice cultivation. There is an extensive area of marsh pasture, covering some 500 ha, to the southwest and patches of drowned scrub along the northern and western shore.

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Aquatic vegetation of this wetland was studied by Udomsri (2002) reported totally 59 species of waterplants found, including undescribed species of *Caldesia* (see table 4). Four types of aquatic vegetations; marginal and shrub 37 species, floating 11 species, submerge 11 species and emergent 6 species.

The dominant covering area of submerge species is tape grass *Vallisneria spiralis* and *Utricularia auria*. At the mid-eastern side of the area, only a relict patch of lowland dry-evergreen forest, covered 20,000 m², including 225 terrestrial flora previously known.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

113 fish species have been found in this wetland, including migratory species to and from the Mekong and residents, up to 56 species. The site has two newly discovered loaches of the genus *Lepidocephalichthys* (Havird et al.; Havird & Page, in press). The shrimp species found are caridian shrimp *C. laevis* and small freshwater shrimp *M. lanchesteri*. Kut Ting locals smoke dry and ferment (Pla daek) these species for preservation.

There are over 100 shorebirds. A variety of resident and migrant open-country species have been recorded, at least 60 species of waterbirds and wetland dependent species occur here.

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values

Fishery production assessment in detail has started in 2006. At least 370 fishermen from 19 villages and some from adjacent areas depend on this wetland, the waterbody feed to cash crops of tomato 488 ha, rice 6792 ha or over 7000 ha of croplands, the wetland also provides water supply for Bueng Kan District, where over 1,000 households.

At least 22 species of waterplants are utilised by the local for vegetable, fodder and handicraft. About 56 fish species are used economic purpose and fished for household consumption and markets.

Shrimps are important for local fisheries in Kut Ting and endemic fishes are consumed and sold to the adjacent markets. The most shrimp abundant period is March. *C. laevis ovigereous* peak during March to June, but *M. lanchesteri* peak from May to June. In July, shrimp abundance is the less than in other period of the year.

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box and describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

a) within the Ramsar site:

Public land

b) in the surrounding area:

Public land

25. Current land (including water) use:

a) within the Ramsar site:

Fishing by locals all year round, but active in the early rainy season, cash crops of watermelon, tomato and rice paddy in dry season.

b) in the surroundings/catchment:

Rice paddy, rubber tree plantation and settlements. There are two educational campuses and one correction. The surrounding area is used for grazing, seasonal cash crops. Some claimed for crop land title.

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

a) within the Ramsar site:

Overfishing, has been managed recently through WWF Thailand Community Wetland Project. Weathering of cash-crop pesticides, mainly organophosphate and herbicides from rubber plantation. Land use delineation are partially unclear in the riparian areas. Overgrazing by buffalos may. Sporadic hunting of waterbirds occur, but one wintering area is protected by locals.

b) in the surrounding area:

Unclear land use delineation, governmental centre and new province are proposing in the near future. Pesticide from surrounding farmland may washed in rainy season to the water body. Some domestic waste in the western tip of the wetland.

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?:

The Governor of Nongkhai Province approved for conservation plans proposed by WWF Wetland Project and local stakeholder. The Provincial Wetland Committee was established and it being implemented now.

d) Describe any other current management practices:

Conduct in-depth, collaborative, baseline biological and socio-economic surveys at the site. Prepare training manuals for implementing wetland use planning and wetland allocation activities. Train staff and officials from key government agencies for implementing wetland use planning and wetland allocation activities. Village committees (Community Wetland Committees). Promotion of Community Participation Activities among key stakeholders.

Wetland demarcation was carried out, and 7 fish sanctuaries were designated based on approval of local stakeholders.

Community wetland regulation have been supported by WWF, including awareness raising to multi-stakeholders around the site. The regulation including sustainable fishing rules, based on local and scientific research from the WWF project staff and Thai Department of Fisheries.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

Local participatory conservation will be implemented by WWF Thailand coordinating with Government and Local Administration Organisations. A local peoples network is in the initiating phase.

There is a national level advocacy for driving of Community Wetland Legislation

There is knowledge exchange on wetland management issues among Greater Mekong regional stakeholders.

29. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Fish diversity survey was done since 1995, fishery assessment is carried out by a WWF Project. Three biodiversity relevant research were published, on waterplants, shrimps and zooplankton in a Masters theses. Thai Department of Fisheries and Provincial Natural Resource and Environment are going to carry ecological survey in the wetland, with local participation. World Waterbird Count was carried out in 2005-2006.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Local curriculum on wetland is developed in 10 wetland surrounding schools, capacity building for the teachers and main stakeholders was carried out, including schools on lesson document publication and student activities.

The area's biodiversity and WWF conservation activities were announced in several mass communication media during 2005-2007.

A school kids bird conservation group was founded. Local school curriculum for 8 primary and secondary schools around the area, including training for teachers

More CEPA activities are on going by WWF Thailand

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Occasional tourism use by the local communities and some adjacent people. The wetland has potential as a bird watching site.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

Thai Department of Fisheries, Provincial Natural Resource and Environment Office, including Office of Natural Resource and Environmental Policy and Planning. Provincial Wetland Committee is established to manage this wetland and adjacent areas.

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Wetland Unit in the Bureau of Biodiversity, Office of Natural Resources and Environmental Policy and Planning, Min. of Natural Resources and Environment.

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

- Cai, Y., Naiyanetr, P. and Ng, PKL. 2004. The freshwater prawns of the genus *Macrobrachium* Bate, 1868, of Thailand (Crustacea: Decapoda: Palaemonidae). *Journ. Nat. Hist.* 38, 581-649.
- Havird, J. C., Page L.M., Tangitjaroen W., Vidthayanon, C., Grudpan, C., and Udduang, S. 2009. A new species of *Lepidocephalichthys* with a highly distinctive *lamina circularis* and comments on sexual dimorphism and relationships in southern lineages of Cobitidae. Copies in press.
- Havird, J. C. and Page L.M. 2009. A Revision of *Lepidocephalichthys* (Teleostei: Cobitidae) with Descriptions of Two New Species from Thailand and Myanmar. Copies in press.
- Kottelat, M. and Vidthayanon, C. 1993. *Boraras micros*, a new genus and species of minute freshwater fish from Thailand (Teleostei: Cyprinidae). *Ichtyol. Explor. Freshwaters.* 4(2): 161-176.
- Larson, K. H. and Vidthayanon, C. 2000. A new species of the bumble-bee goby *Brachygobius mekongensis* (Teleostei: Gobiidae) from the Mekong River System *Ichtyol. Explor. Freshwaters.* 11 (1): 1-6.
- Ng, H.H., Vidthayanon, C. and Ng, PKL. 1996. *Nandus oxyrhynchus* a new species of leaf fish (Teleostei: Nandidae) from the Mekong Basin. *Bull. Raffle Mus.* 44(1): 11-19.

- Sanoamuang, L. & S. Savatentalinton, 2000. The rotifer fauna of Lake Kud Thing, a shallow lake in Nong Khai province, northeast Thailand. The 9th International Rotifer Symposium, Hotel Sofitel Raja Orchid, Khon Kaen, Thailand, January 16-23, 2000.
- Saengarun, J and L. Sanoamuang, 2002. Diversity and abundance of Cladoceran plankton in Kut Ting Marsh, Nongkhai. Research Journal of Khon Kaen Univ. 7(1): 14-25. (Thai with Eng. Abstract)
- Suksri, S. 2002. Ethnobotany in Bung Khong Long non-Hunting Area, Changwat Nongkhai. Master thesis Graduate School Kasetsart University, 132 pp.
- Thalerngkietleela, T. 2004. Diversity and some biological aspects of freshwater prawn in Kud Ting Yai, Nongkhai Province. Master Thesis, Graduate School Khon Kaen University, 122 pp.
- Udomsri, C. 2002. Community structure of aquatic plants in Bung Khong Long and Kut Thing, Changwat Nongkhai. Master thesis Graduate School Kasetsart University, 194 pp.
- Vidthayanon, C. 1995. *Odontobutis aurarmus* a new species of odontobutid goby from wetlands of the Mekong basin. Ichthyological Exploration of Freshwaters. 6(3): 235-242.
- Vidthayanon, C. 2006. Red data fishes of Thailand. Office of Natural resources and Environmental Planning, Bureau of Biodiversity.
- Wolstencroft, J., Parr, J., Goodey, M. 1993. Survey of wetlands in North-East Thailand. Asian Wetland Bureau/ Royal Forest Department: 63pp.
- <http://en.wikipedia.org/wiki/Ecozone>

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Appendix 1:

Fish Species of Kut Ting Marshland

No.	Family Name	Thai and Scientific name	Economic	Endemic
1	Family Notopteridae	ดอง <i>Notopterus notopterus</i>	x	
2		กราย <i>Chitala ornata</i>	x	
3	Family Clupeidae	ชีวก้าว <i>Clupeichthys aesarnensis</i>		en
4	Family Cyprinidae	แปบหางดอก <i>Parachela maculicauda</i>		
5	Family Cyprinidae	แปบ <i>P. williamainae</i>		
6	Family Cyprinidae	แปบ <i>P. siamensis</i>		
7	Family Cyprinidae	แปบใส <i>Parachela</i> sp.		
8	Family Cyprinidae	แปบ <i>Paralaubuca typus</i>	x	
9	Family Cyprinidae	แปบควาย <i>Paralaubuca harmandi</i>		
10	Family Cyprinidae	แปบ <i>Paralaubuca barroni</i>		
11	Family Cyprinidae	ชีวก้าวฟ้าจฟ้าภรณ์ <i>Amblypharyngodon chulabhornae</i>		
12	Family Cyprinidae	ชีวก้าวยาว <i>Esomus longimanus</i>		
13	Family Cyprinidae	ชีวก้าวสามจุด <i>Boraras micros</i>		en
14	Family Cyprinidae	ชีวก้าวแดง <i>Rasbora rubrodorsalis</i>		
15	Family Cyprinidae	ชีวก้าวแดง <i>R. borapetensis</i>		
16	Family Cyprinidae	ชีวก้าว <i>R. palustris</i>		

17	Family Cyprinidae	ชีวกวาย <i>R. aurotaeniata</i>		
18	Family Cyprinidae	ชีวกบดดำ <i>R. paviei</i>		
19	Family Cyprinidae	ชีวกหางกรรไกร <i>R. trilineata</i>		
20	Family Cyprinidae	ชีวกหางกรรไกรเล็ก <i>R. spilocerca</i>		en
21	Family Cyprinidae	ชีวก้าว <i>Luciosoma bleekeri</i>		
22	Family Cyprinidae	ตะโกก <i>Cylocheilichthys enoplos</i>	x	
23	Family Cyprinidae	กะแตง <i>C. apogon</i>	x	
24	Family Cyprinidae	ไส้ตันตาขาว <i>C. armatus</i>	x	
25	Family Cyprinidae	ไส้ตันตาขาว <i>C. repasson</i>	x	
26	Family Cyprinidae	ดาโบ <i>Amblyrinichthys micracanthus</i>		
27	Family Cyprinidae	<i>Sikukia gudgeri</i>		
28	Family Cyprinidae	เกล็ดถี่ กุ่ม <i>Thynnichthys thynnoides</i>	x	
29	Family Cyprinidae	ตะเพียนทราย <i>Puntius spilopterus</i>		
30	Family Cyprinidae	ตะเพียนทราย <i>P. brevis</i>		
31	Family Cyprinidae	เสือข้างลาย <i>Systemus partipentasona</i>		
32	Family Cyprinidae	ตะเพียนทราย <i>S. leiacanthus</i>		
33	Family Cyprinidae	แก้มขี้ <i>S. orphoides</i>		
34	Family Cyprinidae	ตะเพียนทราย <i>S. aurotaenia</i>		
35	Family Cyprinidae	ตะเพียนขาว <i>Barbonymys gonionotus</i>	x	
36	Family Cyprinidae	ตะเพียนทอง <i>B. altus</i>	x	
37	Family Cyprinidae	ปากหนวด <i>Hypsibarbus vernayi</i>		
38	Family Cyprinidae	กะมั่ง <i>Puntioplites proctozysron</i>	x	
39	Family Cyprinidae	แก้ง <i>Puntioplites falcifer</i>	x	
40	Family Cyprinidae	เอน <i>Probarbus jullieni</i>		
41	Family Cyprinidae	สร้อยขาว <i>Henicorhynchus siamensis</i>	x	
42	Family Cyprinidae	สร้อยหลอด <i>H. lobatus</i>	x	
43	Family Cyprinidae	สร้อยปีกแดง <i>H. ornatipinnis</i>	x	
44	Family Cyprinidae	กระสุนจุด <i>Hampala macrolepidota</i>	x	
45	Family Cyprinidae	กระสุนขีด <i>H. dispar</i>	x	
46	Family Cyprinidae	ซ่า, คยราม <i>Labiobarbus siamensis</i>	x	
	Family Cyprinidae	ซ่า, คยราม <i>Labiobarbus leptopogon</i>		
47	Family Cyprinidae	ขาวอีไท <i>Osteochilus hasselti</i>	x	
48	Family Cyprinidae	หน้าหมอง <i>O. lini</i>	x	
49	Family Cyprinidae	นกเขา <i>O. melanopleura</i>	x	
50	Family Cyprinidae	สร้อยดอกยาง <i>Crossocheilus reticulatus</i>		
51	Family Cyprinidae	สร้อยดอกยาง <i>Crossocheilus atrilimes</i>		

52	Family Cyprinidae	<i>Morulus chrysophekadion</i>		
53	Family Balitoridae	<i>Nemacheilus pallidus</i>		
54	Family Cobitidae	อี๊ด <i>Lepidocephalichthys hasselti</i>		
55	Family Cobitidae	อี๊ด <i>Lepidocephalichthys sp.</i>		
56	Family Cobitidae	สายทอง <i>Pungio anguillaris</i>		
57	Family Cobitidae	รากกล้วย <i>Acanthopsis sp.</i>		
58	Family Cobitidae	หมูข้างลาย <i>Botia belodes</i>	x	
59	Family Cobitidae	หมูล็ก <i>B. lecontei</i>	x	
60	Family Cobitidae	หมู <i>B. modesta</i>	x	
61	Family Bagridae	แขยงข้างลาย <i>Mystus mysticaetus</i>	x	
62	Family Bagridae	แขยงข้างลาย <i>M. multiradiatus</i>	x	
63	Family Bagridae	แขยงข้างลาย <i>M. atrifasciatus</i>	x	
64	Family Bagridae	แขยงใบข้าว <i>M. singaringan</i>	x	
65	Family Bagridae	แขยงใบข้าวแถบขาว <i>M. albolineatus</i>	x	
66	Family Bagridae	แขยงธง <i>Heterobagrus bocourti</i>	x	
67	Family Bagridae	ซีเหี้ย <i>Pseudomystus siamensis</i>		
68	Family Bagridae	กตเหลือ้ง <i>Hemibagrus nemurus</i>	x	
	Family Bagridae	กตเหลือ้ง <i>Hemibagrus filamentus</i>		
69	Family Bagridae	กตคัง <i>Hemibagrus wickioides</i>		
70	Family Siluridae	เข็ม <i>Ompok krattensis</i>	x	
71	Family Siluridae	เค้าขาว <i>Wallago attu</i>	x	
72	Family Siluridae	แดง <i>Micronema bleekeri</i>	x	
73	Family Siluridae	ขาไก่ <i>Kryptopterus kryptopterus</i>	x	
74	Family Siluridae	ปีกไก่ <i>K. cheveyi</i>	x	
75	Family Siluridae	ปีกไก่ <i>K. palembangensis</i>		
76	Family Pangasiidae	สังกะวาด <i>Pangasius macronema</i>	x	
77	Family Pangasiidae	สวาย <i>Pangasianodon hypophthalmus</i>		
78	Family Clariidae	ดุกดาน <i>Clarias batrachus</i>	x	
79	Family Clariidae	ดุกอญ <i>C. macrocephalus</i>	x	
80	Family Clariidae	ดัก <i>Clarias meladerma</i>	x	
81	Family Clariidae	ดุกเอ็น <i>Clarias sp.</i>	x	
82	Family Hemiramphidae	เข็ม <i>Dermogenys siamensis</i>		
83	Family Belontiidae	สบโทง <i>Xenentodon cancella</i>	x	
84	Family Oryziidae	ข้าวสารแม่น้ำโขง <i>Oryzias mekongensis</i>		en
85	Family Oryziidae	ข้าวสาร <i>O. pectoralis</i>		
86	Family Indostomidae	จัมพินจระเข้แคระ <i>Indostomus spinosus</i>		

87	Family Syngnathidae	เหล็กไน <i>Doreichthys contiguus</i>		
88	Family Ambassidae	คาบของ <i>Parambassis siamensis</i>		
89	Family Nandidae	ดุมซี <i>Nandus oxyrhynchus</i>		
90	Family Pristolepidae	หมอข้างเหยียบ <i>Pristolepis fasciatus</i>	x	
91	Family Toxotidae	หม่อง <i>Toxotes chatareus</i>		
92	Family Gobiidae	ปูแคะ <i>Brachygobius mekongensis</i>		en
93	Family Eleotridae	ปูทราย <i>Oxyeleotris marmoratus</i>	x	
94	Family Odontobutidae	ปูกุดทิ้ง <i>Neodontobutis aurarmus</i>	x	en
95	Family Anabantidae	หมอ <i>Anabas testudineus</i>	x	
96	Family Osphronemidae	สลิด <i>Trichogaster pectoralis</i>	x	
97	Family Osphronemidae	กระดี่หม้อ <i>T. trichopterus</i>	x	
98	Family Osphronemidae	หมัด <i>Trichopsis vittatus</i>	x	
99	Family Osphronemidae	กริมอีसान <i>T. schalleri</i>	x	
100	Family Osphronemidae	กริมลี <i>T. pumilus</i>	x	
101	Family Osphronemidae	กัดเขียว <i>Betta smaragdina</i>	x	
102	Family Channidae	ช่อน <i>Channa striatus</i>	x	
103	Family Channidae	กั้ง <i>C. limbata</i>		
104	Family Channidae	กะสง <i>C. lucius</i>	x	
105	Family Channidae	ชะโด <i>C. micropeltes</i>	x	
106	Family Mastacembelidae	หลด <i>Macrognathus siamensis</i>	x	
107	Family Mastacembelidae	หลดลาย <i>Macrognathus semiocellatus</i>	x	
108	Family Mastacembelidae	หลด <i>Mastacembelus armatus</i>	x	
109	Family Synbranchidae	ไหล, เอียน <i>Monopterus albus</i>	x	
110	Family Chaudhuriidae	หลดแคะ <i>Chaudburia caudata</i>		
111	Family Tetraodontidae	ปักเป้าควาย <i>Monotretes suvattii</i>		en
112	Family Tetraodontidae	ปักเป้าหน้ายาว <i>M. cochinchinensis</i>	x	
113	Family Tetraodontidae	ปักเป้า <i>M. cambodgiensis</i>	x	
114	Family Tetraodontidae	ปักเป้า <i>M. fangi</i>		
		Alien species		
1	Family Cichlidae	<i>Oreochromis niloticus</i>	x	
2	Family Cichlidae	<i>Tilapia rendalli</i>	x	
3	Family Cyprinidae	<i>Robita robita</i>	x	
4	Family Cyprinidae	<i>Cirrhinus cirrhosus</i>	x	
5	Family Cyprinidae	<i>Cyprinus carpio</i>	x	
6	Family Cyprinidae	<i>Ctenopharyngodon idellus</i>	x	

7	Family Cyprinidae	<i>Hypophthalmichthys molitrix</i>	x	
8	Family Cyprinidae	<i>Hypophthalmichthys nobilis</i>	x	
9	Family Clariidae	<i>Clarias gariepinus</i>	x	
10	Family Loricaridae	<i>Pterygoplichthys leopardus</i>		

Appendix 2

Bird Species of Kut Ting Marshland

	Common Name (Eng)	Scientific Names	ชื่อไทย (Thai)
1	Little Grebe	<i>Tachybaptus ruficollis</i>	นกเป็ดผีเล็ก
3	Grey Heron	<i>Ardea cinerea</i>	นกกระสาขาว
4	Purple Heron	<i>Ardea purpurea</i>	นกกระสาแดง
5	Chinese Pond-Heron	<i>Ardeola bacchus</i>	นกยางกรอกพันธุ์จีน
6	Javan Pond-Heron	<i>Ardeola speciosa</i>	นกยางกรอกพันธุ์ชวา
7	Cattle Egret	<i>Bubulcus ibis</i>	นกยางควาย
8	Great Egret	<i>Casmerodius alba</i>	นกยางโทนใหญ่
9	Intermediate Egret	<i>Mesophoyx intermedia</i>	นกยางโทนน้อย
10	Little Egret	<i>Egretta garzetta</i>	นกยางเบียว
11	Little Heron	<i>Butorides striatus</i>	นกยางเขียว
12	Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	นกแขวก
13	Yellow Bittern	<i>Ixobrychus sinensis</i>	นกยางไฟหัวดำ
14	Cinnamon Bittern	<i>Ixobrychus cinnamomeus</i>	นกยางไฟธรรมดา
15	Spot-billed pelican	<i>Pelecanus philippensis</i>	นกกระทง
16	Northern Pintail	<i>Anas acuta</i>	เป็ดหางแหลม
17	Common Teal	<i>Anas crecca</i>	เป็ดปีกเขียว
18	Spotted billed duck	<i>Anas poecilorhynca</i>	เป็ดเทา
19	Eurasian wigeon	<i>Anas penelope</i>	นกเป็ดปีกเขียว
20	Garganey	<i>Anas querquedula</i>	เป็ดลาย

21	Falcated teal	<i>Anas falcata</i>	
22	Northern Shoveler	<i>Anas chyeata</i>	เปิดปากพลั่ว
23	Ferruginous Pochard	<i>Aythya nyroca</i>	เปิดตาหัวสีน้ำตาล
24	Baer's Pochard	<i>Aythya baeri</i>	เปิดตาหัวดำ
25	Cotton pigmy-goose	<i>Nettapus coromendellianus</i>	เปิดค้ำแค
26	Ruddy Shelduck	<i>Tadorna ferrunginea</i>	เปิดพมา
27	Lesser whistling teal	<i>Dendrocygna javanica</i>	เปิดแดง
28	Greylag goose	<i>Anser anser</i>	ห่านป่า
29	Osprey	<i>Pandion haliaetus</i>	เหยี่ยวออสเปร
30	Black-shouldered Kite	<i>Elanus caeruleus</i>	เหยี่ยวขาว
31	Black Kite	<i>Milvus migrans</i>	เหยี่ยวดำ
32	Brahminy Kite	<i>Haliastur indus</i>	เหยี่ยวแดง
33	Kestrel	<i>Falco tinnunculus</i>	
36	Hen Harrier	<i>Circus cyaneus</i>	
37	Eastern marsh Harrier	<i>Circus spilonotus</i>	เหยี่ยวทุ่ง
38	Northern marsh Harrier		
39	Barred Buttonquail	<i>Turnix suscitator</i>	นกคุ้มอกลาย
40	Slaty-breasted Rail	<i>Rallus striatus</i>	นกอีลุ้มชันนอกเทา
41	Ruddy-breasted Crake	<i>Porzana fusca</i>	นกหนูแดง
42	Baillon's Crake	<i>Porzana pusilla</i>	นกอีลุ้มชันคิ้วขาว
43	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	นกกวัก
44	Common Moorhen	<i>Gallinula chloropus</i>	นกอีล้ำ
45	Blackwing stilt		
46	Grey-headed Lapwing	<i>Vanellus cinereus</i>	นกกระแตหัวเทา
47	Red-wattled Lapwing	<i>Vanellus indicus</i>	นกกระแตแต่แ้วัด
48	Grey Plover	<i>Pluvialis squatarola</i>	นกหัวโตสีเทา
49	Little Ringed Plover	<i>Charadrius dubius</i>	นกหัวโตเล็กขาเหลือง
50	Kentish Plover	<i>Charadrius alexandrinus</i>	นกหัวโตขาดำ
51	Lesser Sand-Plover	<i>Charadrius mongolus</i>	นกหัวโตทรายเล็ก
52	Greater Sand-Plover	<i>Charadrius leschenaultii</i>	นกหัวโตทรายใหญ่
53	Common Sandpiper	<i>Actitis hypoleucos</i>	นกเต้าดิน
54	Pintail Snipe	<i>Gallinago stenura</i>	นกปากซ่อมหางเข็ม
55	Common Snipe	<i>Gallinago gallinago</i>	นกปากซ่อมหางพัด
56	Oriental Pratincole	<i>Glareola maldivarum</i>	นกแอ่นทุ่งใหญ่
57	Small Pratincole	<i>Glareola lactea</i>	นกแอ่นทุ่งเล็ก
58	Common Kingfisher	<i>Alcedo atthis</i>	นกกระเด็นน้อยธรรมดา
59	White-throated Kingfisher	<i>Halycon smyrnensis</i>	นกกระเด็นนอกขาว

60	Black-capped Kingfisher	<i>Halycon pileata</i>	นกระเด็นหัวดำ
61	Black Drongo	<i>Dicrurus macrocercus</i>	นกแขงแขวหางปลา
62	Great Reed-Warbler	<i>Acrocephalus arundinaceus</i>	นกพงใหญ่พันธุ์ญี่ปุ่น
63	Black-browed Reed-Warbler	<i>Acrocephalus bistrigiceps</i>	นกพงคิ้วดำ
64	Pallas's Grasshopper-Warbler	<i>Locustella certhiola</i>	นกพงตักแดนท้ายทอยสีเทา
65	Lanceolated Warbler	<i>Locustella lanceolata</i>	นกพงตักแดนอกลาย
66	Yellow-bellied Prinia	<i>Prinia flaviventris</i>	นกระจิบหญ้าท้องเหลือง
67	Plain Prinia	<i>Prinia inornata</i>	นกระจิบหญ้าสีเรียบ