

Thailand

Lower Songkhram River Basin

Offline RIS Word form

The purpose of this form is to help in collecting data on a Ramsar Site for the completion of an online Ramsar Information Sheet (RIS) at <https://rsis.ramsar.org>. It can be circulated between the National Focal Point, RIS compilers and other national data collectors. However, it is not accepted by the Ramsar Secretariat for submission of a Site update or new Site designation. The data collected through this form must be transferred to the online form by the National Focal Point or an authorized online RIS compiler.

All fields marked with an asterisk (\*) are required.

 For more information on how to use this form, please refer to the document
 [How to use the offline RIS Word form.](http://www.ramsar.org/document/how-to-use-the-offline-ris-word-form)

Created by RSIS v1.3 on 03 November 2015

Summary

1.1 Summary description

Please provide a short descriptive text summarising the key characteristics and internationally important aspects of the site. You may prefer to complete the four following sections before returning to draft this summary.

Summary (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | The Songkhram River has the second largest basin in Northeast Thailand (after the Mun-Chi River Basin) at 6,473.27 km2 and is an important tributary of the Mekong River, contributing 1.8 % of average annual flows. 54.2 % of the overall Songkhram Basin may be classified as “wetlands”, with the most extensive area being concentrated in the lowland floodplains of the Lower Songkhram River Basin, below about 160 masl. and bordering the lower 300 kms length of the river, where a number of tributaries join the mainstream from north (e.g. Huay Khong, Nam Hi, Nam Mao) and southerly directions (e.g. Nam Yam and Nam Oon). The floodplain wetlands form a complex of wetland types, which include permanent and temporary surface water sources; artificial and natural wetland habitats; and a range of riverine, floodplain, lacustrine, palustrine and salt water wetland features. The outstanding feature of the LSRB is its annual flood event, which is intimately linked to the hydrology of the Mekong mainstream, that can occasionally cause a backflow effect similar to the phenomenon at Tonle Sap, Cambodia. Average annual floods are said to inundate about 80,000 – 96,000 ha of land during the July to September peak flooding period. Perhaps the most important value of the wetland is its significance as a capture fishery, which provides seasonal employment, income and food to many thousands of households, and other products sourced from the wetlands by local people (e.g. mushrooms, bamboo shoots, wild vegetables and reeds), especially from the rare and threatened, but biologically diverse, seasonally flooded forest / shrubs (FRF2a). This category of wetlands was said to cover just 2.03 % of the entire Songkhram Basin a decade ago, although this figure will certainly be less now due to extensive forest clearance and agricultural conversion. |

Data & location

2.1 Formal data

2.1.1 Name and address of the compiler of this RIS

Name\* (This field is mandatory)

|  |  |
| --- | --- |
|  | Yanyong Sricharoen  |

Institution/agency\* (This field is mandatory)

|  |  |
| --- | --- |
|  | WWF Thailand  |

Postal address (This field is limited to 254 characters)

|  |  |
| --- | --- |
|  | 92/2 Soi Paholyothin 5 Pahoyothin Road , Samsen Nai,Phayathai, Bankok 10400 |

E-mail\* (The online RIS only accepts valid e-mail addresses, e.g. example@mail.com ) (This field is mandatory)

|  |  |
| --- | --- |
|  | yanyongs@wwfgreatermekong.org |

Phone\* (The online RIS only accepts valid phone numbers, e.g. +1 41 123 45 67 ) (This field is mandatory)

|  |  |
| --- | --- |
|  | +66 91 362 5536 |

Fax (The online RIS only accepts valid phone numbers, e.g. +1 41 123 45 67 )

|  |  |
| --- | --- |
|  |  |

2.1.2 Period of collection of data and information used to compile the RIS

From year (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | 2015 |

To year (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | 2016 |

2.1.3 Name of the Ramsar Site

Official name (in English, French or Spanish)\* (This field is mandatory)

|  |  |
| --- | --- |
|  | Lower Songkhram River Basin, Nakorn Phanom province, Northeast Thailand. |

Unofficial name (optional)

|  |  |
| --- | --- |
|  |  |

2.2 Site location

2.2.1 Defining the Site boundaries

The site boundaries must be clearly delineated on both: a) a GIS shapefile and b) a digital map/image:

-> To define the site boundaries please complete field 2.2.1 a1), 2.2.1 a2) and 2.2.1 b) via the online form.

Boundaries description (optional) (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | Please find attached the shapefile and digital image. |

2.2.2 General location

a) In which large administrative region does the site lie?

|  |  |
| --- | --- |
|  | Nakhon Phanom Province, Northeast Thailand . |

b) What is the nearest town or population centre?

|  |  |
| --- | --- |
|  | Sri Songkhram District |

2.2.3 For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries?

 [ ] Yes / [x] No

.

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party?

 [ ] Yes / [x] No

.

c) Is the site part of a formal transboundary designation with another Contracting Party?

 [ ] Yes / [x] No

.

d) Transboundary Ramsar Site name:

|  |  |
| --- | --- |
|  |  |

2.2.4 Area of the Site

If you have not established an official area by other means, you can copy the area calculated from the GIS boundaries into the 'official area' box.

Official area, in hectares (ha): (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | 317,099 ha. ( Lower Songkhram River Basin)  |

Area, in hectares (ha) as calculated from GIS boundaries

|  |  |
| --- | --- |
|  | 5,500.96 ha. |

2.2.5 Biogeography

Please provide the biogeographic region(s) encompassing the site and the biogeographic regionalization scheme applied:

Biogeographic regions

|  |  |
| --- | --- |
| **Regionalisation scheme(s)**[[1]](#footnote-1) | **Biogeographic region**  |
| Other scheme | Mekong region |

Other biogeographic regionalisation scheme (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | WWF Ecoregion 14 WWF Freshwater Ecoregion No. 727  |

Why is the Site important?

3.1 Ramsar Criteria and their justification

Tick the box against each criterion applied to the designation of the Ramsar Site. All criteria which apply should be ticked. Please explain why you selected a criterion by filling in the relevant fields on this page, on the three other pages of this section 'Criteria & justification' and on the 'Wetland types' page of the section 'What is the site like?'.

 [✓] Criterion 1: Representative, rare or unique natural or near-natural wetland types

 To justify this Criterion, please select at least one wetland type as representative, rare or unique in the section What is the site like? > Wetland types and provide further details in at least one of the three boxes below.

Hydrological services provided (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | The LSRB contains a relatively significant area of seasonally flooded forest / shrubs (FRF2a), a wetland type much threatened across all of its former range in the Northeast of Thailand and central/southern Lao PDR. Although much reduced in area, degraded and still being cleared for agriculture and other uses on a regular basis, the remaining area is still relatively important for maintaining the productivity of the capture fishery and providing a range of ecosystem functions. The mainstream river, with its meanders, pools and associated floodplain features, is also a good example of a lowland river with gentle gradient, that still enjoys unimpeded access of water and biological material between itself and the mainstream Mekong.  |

Other ecosystem services provided (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  |  |

Other reasons (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  |  |

 [✓] Criterion 2 : Rare species and threatened ecological communities

 To justify this Criterion, please give details below on:

 - relevant plant species in the section Criteria & justification> Plant species (3.2)

 - relevant animal species in the section Criteria & justification> Animal species (3.3)

 - relevant ecological communities in the section Criteria & justification> Ecological communities (3.4)

 [✓] Criterion 3 : Biological diversity

 To justify this Criterion, please give details in the box below. If you want to name any specific species, please give details on:

 - relevant plant species in the section Criteria & justification> Plant species (3.2)

 - relevant animal species in the section Criteria & justification> Animal species (3.3)

Justification (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | The LSRB, because of its unique position of still enjoying dam-free access for fish and living aquatic resources on the mainstream for 300 kms upstream from the Mekong and dependable seasonal flooding over a wide area of the floodplain, could be considered internationally important for supporting a wide range of plant and animal species, dependent on the annual “floodpulse” phenomenon. The fish and living aquatic resources are highly biodiverse (e.g. 192 species of fish alone recorded) and the LSRB is thought to be an important spawning and feeding ground for many of these aquatic fauna. In terms of flora, the seasonally flooded forest is thought to maintain a number of plant communities which are rare or threatened in other river basins of the Lower Mekong Basin. |

 [✓] Criterion 4 : Support during critical life cycle stage or in adverse conditions

 To justify this Criterion, please give details below on:

 - relevant plant species in the section Criteria & justification> Plant species (3.2)

 - relevant animal species in the section Criteria & justification> Animal species (3.3)

 and explain the life cycle stage or nature of adverse conditions in the accompanying 'justification' box.

 [ ] Criterion 5 : >20,000 waterbirds

 To justify this Criterion, please give details below on:- the total number of waterbirds and the period of data collection - relevant waterbird species, and if possible their population size, in the section Criteria & justification> Animal species (3.3)

Overall waterbird numbers\* (This field is mandatory)

|  |  |
| --- | --- |
|  |  |

Start year\* (This field is mandatory)

|  |  |
| --- | --- |
|  |  |

End year\* (This field is mandatory)

|  |  |
| --- | --- |
|  |  |

Source of data:

|  |  |
| --- | --- |
|  |  |

 [ ] Criterion 6 : >1% waterbird population

 To justify this Criterion, please give details on relevant waterbird species and their population size in the section Criteria & justification> Animal species (3.3)

 [✓] Criterion 7 : Significant and representative fish

 To justify this Criterion, please give information in the box below and details of relevant fish species in the section Criteria & justification> Animal species (3.3)

Justification (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | The LSRB wetlands are known to contain a number of indigenous fish species, endemic to the Mekong Basin, which have been found during various Fishery Department surveys over the years. It is thought that the remaining seasonally flooded forest is essential to the life cycles of many fish species for spawning and feeding purposes. Many of the fish species found exhibit specialisation of feeding habits to particular niches in the ecosystem e.g. *Toxotes charaneus* (archer fish which ejects water from its mouth to bring down insects off overhanging vegetation) and *Raiamus guttatus* (a cyprinid trout-like fish, which catches small fish and insects from the surface of clearwater streams and rivers). The breadth of fish biodiversity (192 spp) attests to the variety of wetland habitat types found and the seasonal variations in flow and flooded area. Without a doubt, the LSRB is essential to the maintenance of fish and aquatic biodiversity (including molluscs, crustacean and amphibians) both in-basin and in the wider Lower Mekong Basin, since it has been proven that many fish species undertake long longitudinal migrations from dry season refuges (e.g. deep pools and backwater swamps) to places of feeding and breeding during the wet season, and back again at the start of the dry season. Clearly, and loss of critical habitats or change on hydro-geomorphological flow patterns will have detrimental impacts on aquatic biodiversity, where so many species are inter-dependent. |

 [✓] Criterion 8 : Fish spawning grounds, etc.

 To justify this Criterion, please give information in the box below. Completion of details on relevant fish species in the section Criteria & justification> Animal species (3.3) is optional.

Justification (This field is limited to 3000 characters)

|  |  |
| --- | --- |
|  | Similar to Criteria 4 and 7 above, it is well established that the LSRB wetlands are an internationally important site for a wide range of Mekong mainstream and Songkhram resident fish species, which migrate longitudinally up/down the river and laterally on to and off the floodplain at various times of year for various functions. Feeding, spawning and nursing juveniles are the principle functions that are recognised as being important for life-cycle completion of many species which are adapted to using particular niches in the ecosystem, especially associated with the seasonally flooded forest habitat. The seasonally flooded forest contains many micro-niches (e.g. bamboo clumps and aerial roots) and food types (such as fruits edible to fishes), which are not found elsewhere. While some species can utilise rice fields to spawn, they are fewer in number than the species requiring seasonally flooded forest, and tend to be the more common species. As most of the floodplain has now been converted to rice fields and other agricultural uses, these are now the dominant habitat types found. Migration pathways are still open on the mainstream Songkhram River for 300 kms upstream, but tributary rivers and streams are now mostly blocked by various dams and weirs, obviously affecting fish migratory pathways. |

 [ ] Criterion 9 : >1% non-avian population

 To justify this Criterion, please give details on relevant non-avian species and their population size in the section Criteria & justification> Animal species (3.3)

3.2 Plant species whose presence relates to the international importance of the site

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  **Scientific name**\* | **Common name** | **Criterion 2** | **Criterion 3** | **Criterion 4** | **IUCN Red List**[[2]](#footnote-2) | **CITES Appendix I** | **Other status** | **Justification** |
| *Terminalia alata* | Churk |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Shorea siamensis* Miq. Share | Rung |  [ ]  |  [✓]  |  [ ]  | LC |  [-]  |  |  |
| *Dipterocarpus tuberculatus* Roxb. | Kung |  [ ]  |  [✓]  |  [ ]  | LC |  [-]  |  |  |
| *Shorea obtusa* Wall. ex Blume | Tang |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Syzygium cumini* (L.) Skeels | Wahyaichom-poo |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Dalbergia cochinchinensis* | Pha-yoong |  [✓]  |  [✓]  |  [ ]  | VU | II  |  |  |
| *Psidium guajava* Linn. | Seedapah |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Catunaregam tomentosa* (Blume ex DC.)Triveng | Nahmtang |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Micromelum minutum* (Forst.f.) Wright & Arn. | Muykow |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Buchanania cochinchinensis* (Lour.) M.R.Almeida | Mamuanghuamaengwan |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Strychnos nux-blanda* A.W. Hill | Toomga |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Memecylon edule* Roxb. | Meuadmon |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Anthocephalus chinensis* (Lark ) A.Rich.exwalp | Tomkohk |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Gardenia erythroclada* Kurz. | Muydang |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Dillenia obovata* (Blume) Hoogland | Sain |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Careya sphaerica* Roxb. | Gadon |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Pterocarpus indicus* Willd | Pradoo |  [✓]  |  [ ]  |  [ ]  | VU |  [-]  |  |  |
| *Ochna integerrima* (Lour.) Merr. | Changnaao |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Oxalis corniculata* L. | Somgop |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Canarium sabulatum* Guillaumin | Leuam |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Dolichandrone serrulata* (DC.) Seem. | Kapa |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Cratoxylum formosum* (Jacq.) Benth. & Hook.f. ex Dyer | Tewpa |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Haldina cordifolia* (Roxb.) Ridsdale | Kwey |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Hymenopyramis parvifolia* Moldenke | Kapia |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Xantolis cambodiana* (Pierre ex Dubarb) P.Royen | Nomsaao |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Pterolobium macropterum* Kurz | Naamgrataw |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Bridelia retusa* Spreng. | Rangnaam |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Caesalpinia furfuracea* (Prain) Hattink | Naampong |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Senna siamea* (Lam.) Irwin & Barneby | Keelekpaa |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Syzygium cumini* (L.) Skeels | Waa |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Barringtonia acutangula* (L.) Gaertn.  | Kra Doan Nam |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Gardenia sootepensis* Hutch. | Mook |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Morinda citrifolia* L. | Yorpaa |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Bambusa* sp. | Phai Ka Sa |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Diospyios rhodcalyx* | Tagoh |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Peltophorum dasyrrhachis* (Miq.) | A laang |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Cephalanthus tetrandra* (Roxb.) Ridsd. & Bakh.f. | Chai Wan |  [✓]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Terminalia chebula* Retz. var. chebula | Sommor |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Antidesma puncticulatum* Miq. | Maoyai |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Memecylon edule* Roxb. | Miodae |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Embelia subcoriacea* (C.B. Clarke) Mez | Somkemot |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Nepenthes mirabilis* (Lour.)Druce. | Mor Kao Mor Kaeng Ling |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Kailarsenia lineata* (Craib) Tirveng. | In Tha Wa Nam |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| *Xanthophyllum glaucum* Wall. ex Hassk. | Saeng |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |
| Hydnocarpus anthelminthicus Pierre ex Laness. | Kra Bao |  [ ]  |  [✓]  |  [ ]  |  |  [-]  |  |  |

Optional text box to provide further information on plant species of international importance:

 (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

3.3 Animal species whose presence relates to the international importance of the site

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Phylum** | **Scientific name**\* | **Common name** | **Species qualifies under criterion** | **Species contributes under criterion** | **Pop. Size**[[3]](#footnote-3) | **Period of pop. Est.**3 | **% occurrence**3 | **IUCN Red List**[[4]](#footnote-4) | **CITES Appendix I** | **CMS Appendix I** | **Other Status** | **Justification** |
| **2** | **4** | **6** | **9** | **3** | **5** | **7** | **8** |
|  | **Amphibians** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Order Anura** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Bufonidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Duttaphrynus melanostictus* | Asian common toad |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Family Dicroglossidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Fejervarya limnocharis* | Rice field frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Hoplobatrachus rugulosus* | Chinese edible frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Occidozyga lima* | Puddle frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Occidozyga martensii* | Martens’s puddle frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Family Randiae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Hylarana erythraea* | Green paddy frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Hylarana macrodactyla* | Stripe-backed frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Family Microhylidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Callluella guttulata* | Striped spadefoot frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Glyphoglossus molossus* | Truncate-snouted frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NT |  [-]  |  [-]  | - |  |
| Chordata | *Kaloula pulchra* | Painted burrowing frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Microhyla berdmorei* | Berdmore’s chorus frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Microhyla butleri* | Tubercled pygmy frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Microhyla fissipes* | Ornate chorus frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Microhyla heymonsi* | Dark-sided frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Microhyla pulchra* | Painted chorus frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Micryletta inornata* | Inornate chorus frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Family Rhacophoridae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Chirixalus vittatus* | Burmese bush frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Polypedates leucomystax* | Four-lined tree frog |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Order Gymnophiona** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Icthyophiidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Ichthyophis kohtaoensis* | Koh Tao caecilian |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Order Testudines** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Trionychidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Amyda cartilaginea* | Common Asiatic soft-shell |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | VU | II |  [-]  | PA |  |
|  | **Family Geoemydidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Cuora amboinensis* | Malayan box turtle |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | VU |  II |  [-]  | PA |  |
| Chordata | *Malayemys subtrijuga* | Malayan snail-eating turtle |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | VU | II | [-] | PA |  |
|  | **Reptiles** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Order Squamata** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Suborder Sauria** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Gekkonidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Hemidactylus frenatus* | Common house gecko |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Hemidactylus garnotii* | Indo-Pacific gecko |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | 6. *Hemidactylus platyurus* | Flat-tailed house gecko |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
| Chordata | 7. *Gekko gecko* | Tokay gecko |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
|  | **Family Agamidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Calotes mystaceus* | Blue crested lizard |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | PA |  |
| Chordata | *Calotes versicolor* | Changeable lizard |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | PA |  |
| Chordata | *Leiolepis reevesii* | Eastern butterfly lizard |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
|  | **Family Scincidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Eutropis longicaudata* | Long-tailed skink |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
| Chordata | *Eutropis macularia* | Variable skink |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
| Chordata | *Eutropis multifasciata* | Common sun skink |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
| Chordata | *Riopa bowringii* | Bowring’s slender skink |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
| Chordata | *Scincella melanosticta* | Black-spotted ground skink |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
| Chordata | *Sphenomorphus maculatus* | Common forest skink |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
|  | **Family Varanidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Varanus bengalensis* | Clouded monitor |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC | I | [-] | PA |  |
|  | **Suborder Serpentes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Typhlopidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Suborder Serpentes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Typhlopidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Typhlops diardi* | Diard’s blind snake |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
|  | **Family Pythonidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Broghammerus reticulatus* | Reticulated python |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC | II | [-] | - |  |
|  | **Family Homalopsidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Enhydris enhydris* | Rainbow water snake |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Enhydris plumbea* | Plumbeous water snake |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
|  | **Family Colubridae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Dendrelaphis pictus* | Common bronzeback |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
| Chordata | *Boiga cyanea* | Green cat snake |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | - |  |
| Chordata | *Ptyas korros* | Indochinese rat snake |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  | PA |  |
| Chordata | *Ptyas mucosa* | Oriental rat snake |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Family Natricidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Xenochrophis flavipunctatus* | Common keelback |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Family Elapidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Naja kaouthia* | Monocled cobra |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC | II | [-] | - |  |
| Chordata | *Ophiophagus hannah* | King cobra |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | VU | II | [-] | PA |  |
|  | **Birds** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Order Pelecaniformes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Ardeidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Ardea alba* | Great egret |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
| Chordata | *Ardea purpurea* | Purple heron |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
| Chordata | *Egretta garzetta* | Little egret |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Order Anseriformes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Anatidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Dendrocygna javanica* | Lesser whistling duck |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | *Aythya baeri* | Baer’ Pochard |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | CR |  [-]  |  [-]  | PA |  |
|  | **Order Accipitriformes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Accipitridae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Elanus caeruleus* | Black shouldered kite |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Order Columbiformes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Columbidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Streptopelia chinensis* | Spotted dove |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Order Cuculiformes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Cuculidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Centropus sinensis* | Greater coucal |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Order Coraciformes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Alcedinidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Alcedo atthis* | Common kingfisher |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
| Chordata | *Halcyon smyrnensis* | White-throated kingfisher |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Family Meropidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Merops orientalis* | Green bee-eater |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Family Coraciidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Coracias benghalensis* | Black-billed roller |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Order Piciformes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Megalaimidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Psilopogon lineatus* | Lineated barbet |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Order Passeriformes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Hirundinidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Hirundo rustica* | Barn swallow |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Family Artamidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Artamus fuscus* | Ashy woodswallow |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Family Pycnonotidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Pycnonotus finlaysoni* | Stripe-throated bulbul |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
| Chordata | *Pycnonotus blanfordi* | Streak-eared bulbul |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Family Dicruridae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Dicrurus macrocercus* | Black drongo |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Family Corvidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Corvus macrorhynchos* | Large-billed crow |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Family Laniidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Lanius cristatus* | Brown shrike |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Family Sturnidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Acridotheres javanicus* | Javan myna |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NE |  [-]  |  [-]  | PA |  |
| Chordata | *Acridotheres tristis* | Common myna |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | PA |  |
|  | **Family Passeridae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Passer montanus* | Eurasian tree sparrow |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Mammals** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Order Carnivora** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Canidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Canis aureus* | Asiatic jackal |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC | III | [-] | PA |  |
|  | **Order Rodentia** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Muridae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Rattus tanezumi* | Oriental house rat |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Family Sciuridae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Callosciurus finlaysonii* | Finlayson’s squirrel |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |
|  | **Order Scandentia** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Family Tupaiidae** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chordata | *Tupaia glis* | Common Treeshrew |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  | - |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Family** | **Scientific name**\* | **Common name** | **Species qualifies under criterion** | **Species contributes under criterion** | **Pop. Size**[[5]](#footnote-5) | **Period of pop. Est.**3 | **% occurrence**3 | **IUCN Red List**[[6]](#footnote-6) | **CITES Appendix I** | **CMS Appendix I** | **Other Status** | **Justification** |
| **2** | **4** | **6** | **9** | **3** | **5** | **7** | **8** |
|  | **Fish** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ***Clupeiformes Notopteridae*** | *Chitala orrata* | Clown |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Chitala orrata* | Royal featherback |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NT |  [-]  |  [-]  |  |  |
|  | *Notopterus notopterus* | Bronze featherback |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Tenualosa thibaudeaui* | Mekong herring |  ✓]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | VU |  [-]  |  [-]  |  |  |
| ***Cypriniformes Cyprinidae*** | *Rasbora borapetensis* | Redtail rasbora |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Rasbora trilineata (Steindchner* | Scissortail rasbora |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Labeor ohita* | Rohu |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Barbonymus goniontus* | Silver |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Hampala dispar* | Spotted |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Hampala macrolepidota* | *Hampala* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Thynnichthys hynnoides* | *Lesser* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Labeo chrysophekadion* | *Black sharkminnow* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Cosmochilus harmandi* | *Green giant barb* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Puntius brevis* | *Swamp barb* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Osteochilus vittatus* | *Silver mudminnow* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Osteochilus lini* | *Dusky face carp* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Labeo dyocheilus* | *Brahmaputra labeo* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Cypriniformes Bagridae*** | *Mystus aldolineatus* | *White-lined catfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Mystus multirabiotus* | *Striped mystus* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Kryptopterus cheveyi* | *Sheatfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | DD |  [-]  |  [-]  |  |  |
|  | *Clarias batrachus* | *Walking catfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Syngnathiformes Syrdranchidae*** | *Monopterus albus* | *Swamp eel* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Mastacoembeliformes Mastacoembelidae*** | *Macrograthus siamensis* | *Peacock eel* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
| ***Percilformes Badidae*** | *Badis ruber* | *Badis* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Percilformes Eleotridae*** | *Oxyeleotris marmorata* | *Marble goby* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Nandus nebulosus* | *Bornean leaffish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Pristolepis fasciata* | *Catopra* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Percilformes Osphronemidae*** | *Trichopodus pectoralis* | *Snakeskin gourami* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Percilformes Ambassidae*** | *Parambassis siamensis* | *Giant snakehead* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Pleuronectiformes Channidae*** | *Channa lucius* | *Blotched snakehead* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Channa striata* | *Striped snakehead* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Channa micropeltes* | *Giant snakehead* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Tetraodontifromes Tetraodontidae*** | *Pao palustris* | *Swamp puffer* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Pao suvattii* | *Arrowhead puffer* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
| ***Raiformes Dasyatidae*** | *Dasyatis laosensis* | *Laotian stingray* | [✓]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | EN | III  |  [-]  |  |  |
| ***Clupeiformes Clupeidae*** | *Clupeichthys aesarnensis* | *Thai river sprat* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Clupeiformes Cyprinidae*** | *Paralabuca burroni*  | *Mekong Asiatic minnow* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Paralabuca hormandi* | *Giant Asiatic minnow* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Amblypharyngodon chulabhornae*  | *Princess carplet* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Brachydanio albolineatus* | *Pearl danio* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Luciosoma setigerum* | *Apollo sharkminnow* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | DD |  [-]  |  [-]  |  |  |
|  | *Rosbora rubrodorsalis* | *Red-fins rasbora* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Rosbora daniconius* | *Slenderrasbora* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Rasbosoma spilocerca* | *Dwarf scissortail rasbora* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Cosmochilcus harmandi* | *Greengiant barb* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Cyclocheilichthys repasson* | *White eye barb* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Cyclocheilichthys enoplos* | *Giant barb* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Mystacoleucus marginatus* | *Spiny barb* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Puntioplites falcifer* | *Sicklefin barb* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Barbonymus schwanenfeldii* | *Tinfoil barb* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Catlocarpiosiamensis* | *Giant barb* | [✓]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | CR | I  |  [-]  |  |  |
|  | *Gymnostomus ornatipinnis* | *Red fin mud carp* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Cirrhinus microlepis* | *Small scaled mud carp* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | VU |  [-]  |  [-]  |  |  |
|  | *Labiobarbus leptocheilus* | *Long fin carp* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Osteochilus brachynotopteroides* | *Bony - lippey barb* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | DD |  [-]  |  [-]  |  |  |
| ***Clupeiformes Bagridae*** | *Bagrichthys majusculus* | *Black lancer catfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | DD |  [-]  |  [-]  |  |  |
|  | *Batas iofluviatilis* | *Batashi* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Pseudomys tussiamensis* | *Asian bumblebee catfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Mystus bocourti* | *Flag-finned catfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | VU |  [-]  |  [-]  |  |  |
|  | *Mystus atrifasciatus* | *Stripebmystus* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Hemibagrus spilopterus* | *Yellow catfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Hemibagrus microphthalmus* | *Irrawaddy mystus* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Clupeiformes Siluridae*** | *Belodontichthys truncates* | *Twisted-jaw sheatfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Kryptopterus dissitus* | *Long-barbelsheatfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | DD |  [-]  |  [-]  |  |  |
|  | *Kryptopterus geminus* | *sheatfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Kryptopterus macrocephalus* | *Striped glass catfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Ompok rhadinurus* | *Butter catfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Ompok siluroides* | *Butter catfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Phalacronotus bleekeri* | *Reddish sheatfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Phalacronotus micronemus* | *Giant sheatfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | DD |  [-]  |  [-]  |  |  |
|  | *Wallago attu* | *Great white sheatfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NT |  [-]  |  [-]  |  |  |
|  | *Wallago micropogon* | *Great black sheatfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | DD |  [-]  |  [-]  |  |  |
|  | *Pangasianodon hypophthalmus* | *Sutchi catfish* |  [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | EN |  [-]  |  [-]  |  |  |
|  | *Pangasius macronema* | *PlaSangawadluang* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  I |  [-]  |  |  |
|  | *Pangasius pleurotaenia* | *Sharp-belly catfish* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
| ***Clupeiformes Clariidae*** | *Clarias meladerma* | *Blackskin catfish* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Cypriniformes Cobitidae*** | *Syncrossus berdmorei* | *Blyth’s loach* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NT |  [-]  |  [-]  |  |  |
|  | *Syncrossus helodes* | *Tigerbotia* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Yasuhikotakia caudipunctata* | *Speckletailbotia* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Yasuhikotakia eos* | *Sun loach* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Yasuhikotakia lecontei* | *Yellow loach* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Yasuhikotakia modesta* | *Redtailbotia* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Yasuhikotakia morleti* | *Skunk botia* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Acantopsis sp.* | *Speckled horseface loach* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Acanthopsoides hapalias* | *Dwarf horseface loach* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Lepidocphalichys hasselti* | *Hasselt’s loach* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
|  | *Pangio anguilaris* | *Eel loach* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
| ***Belomiformes Belonidae*** | *Xenentodon cancila* | *Freshwater garfish* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Mastacoemdfliformes Mastacembelidae*** | *Macrognathus tapirus* | *Tapir spiny eel* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Macrognathus circumcinctus* | *Tapir spiny eel* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Macrognathus semiocellatus* | *Black spotted spiny eel* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Macrognathus armatus* | *Zig - zag eel* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Macrognathus favus* | *Tire track eel* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  |  |  [-]  |  [-]  |  |  |
| ***Percilformes Nandidae*** | *Nandus oxyrhynchus* | *Leaffish* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Percilformes Helostomatidae*** | *Helostoma temminkii* | *Kissinggourami* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Percilformes Osphronemidae*** | *Betta prima* | *Three-lined mouthbrooder* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Betta splendens* | *Siamese fighting fish* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | VU |  [-]  |  [-]  |  |  |
|  | *Betta smaragdina* | *Emerald green betta* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | DD |  [-]  |  [-]  |  |  |
|  | *Trichopsis pumila* | *Pygmy gourami* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Trichopsis schalleri* | *Threestripe gourami* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Trichopsis vittata* | *Croaking gourami* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Trichopodus leerii* | *Pearl gourami* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | NT |  [-]  |  [-]  |  |  |
|  | *Trichopodus microlepis* | *Moonlight gourami* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
|  | *Trichopodus trichopterus* | *Three spot gourami* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Pleuronectiformes Channidae*** | *Channa gachua* | *Dwarf snakehead* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Pleuronectiformes Soleidae*** | *Brachirus harmandi* | *Harman’s sole* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |
| ***Tetraodontiformes Tetraodontidae*** | *Auriglobus nefastus* | *Greenbottle pufferfish* | [ ]  |  [ ]  |  [ ]  |  [ ]  |  [✓]  |  [ ]  |  [ ]  |  [ ]  |  |  |  | LC |  [-]  |  [-]  |  |  |

Optional text box to provide further information on animal species of international importance:

 (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | There are fifteen species that requiring pay attention. Three of them are evaluated the conservation status as CR in IUCN Red List including, *Aythya baeri, Catlocarpio siamemensis and Pangasianodon gigas.* Two of them conservation status as EN including, *Dasyatis laosensis* and *Pangasianodon hypophthalmu.* And ten species conservation status as VU including, *Dalbergia cochinchinensis, Pterocarpus indicus, Amyda cartilaginea, Cuora amboinensis, Malayemys subtrijuca, Ophiophagus Hannah, Tenualosa thibaudeaui, Cirrhinus microlepsis, Mystus bocourti and Betta splendens.* Although they also listed as Protected Animals (PA) by Thai’s law but illegal trading in level of local market. For CITES, one species was listed in Appendix I (*Varanus begalensis*), four species were listed in Appendix II (*Malayemys subtrijuga*, *Broghammerus reticulatus*, *Naja kaouthia*, *Ophiophagus hannah*, and one species was listed in Appendix III (*Canis aureus*). Although *Varanus bengalensis* is prohibited for exporting and was protected byThai’s law but the species was consumed and traded in local market but conservation of its habitats, trading for food or consuming are required to pay attention before the species is lost from the area. For the species listed in Appendix II, all are consumed as food exceptional for *Broghammerus reticulatus*. *Canis aureus* is listed in Appendix III in Thailand and its occurrence in the Lower Songkhram River Basin is need to prove because list of this species obtained from secondary data by villager. |

3.4 Ecological communities whose presence relates to the international importance of the site

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of ecological community** | **Community qualifies under Criterion 2?** | **Description** | **Justification** |
| Wetland ecological community |  [✓ ]  | Wetland at the lower stream of Songkhram river which goes towards Mekong river confluence. | Diversity of plants and species are in the same area including seasonal/ intermittent water level ; marshes and freshwater tree-dominated wetland.  |

What is the Site like?

4.1 Ecological character

Please summarize the ecological components, processes and services which are critical to determining the ecological character of the site. Please also summarize any natural variability in the ecological character of the site, and any known past or current

 (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | Summarizing of the factors affecting the ecological components in aspect of occurrence of the species including 1) Habitat destruction, 2) Over-exploitation, 3) Alien species, 4) Chemical pollution, 5) Infectious diseases, 6) Small original range, 7) Habitat change, 8) Others, such as ultraviolet, global warming, etc. Among these threats, the most affective are habitat destruction, over-exploitation and habitat change. Other threats are minor impacts or unknown. |

4.2 What wetland type(s) are in the site?

Please list all wetland types which occur on the site, and for each of them: - rank the four most abundant types by area from 1 (greatest extent) to 4 (least extent) in the third column, - if the information exists, provide the area (in ha) in the fourth column - if this wetland type is used for justifying the application of Criterion 1, indicate if it is representative, rare or unique in the last column - you can give the local name of the wetland type if different from the Ramsar classification system in the second column

Marine or coastal wetlands

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Wetland types (code and name)**[[7]](#footnote-7) | **Local name** | **Ranking of extent (1: greatest - 4: least)** | **Area (ha) of wetland type** | **Justification of Criterion 1**[[8]](#footnote-8) |
| - | - | - | - | - |

Inland wetlands

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Wetland types (code and name)**[[9]](#footnote-9) | **Local name** | **Ranking of extent (1: greatest - 4: least)** | **Area (ha) of wetland type** | **Justification of Criterion 1**6 |
| M: Permanent rivers/streams/creeks; N: Seasonal/ intermittent/ irregular rivers/ streams/ creeks ; O :Permanent freshwater lakes ; Tp : Permanent freshwater marshes/pools ; P :Seasonal intermittent freshwater lakes ; Ts :Seasonal/intermittent freshwater marshes/pools on inorganic soils ; W :Shrub-dominated wetlands ; Xf :Freshwater, tree-dominated wetlands | Nam Songkhram | 2 | - | Unique |

Human-made wetlands

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Wetland types (code and name)**[[10]](#footnote-10) | **Local name** | **Ranking of extent (1: greatest - 4: least)** | **Area (ha) of wetland type** | **Justification of Criterion 1**6 |
| 1 :Aquaculture ponds ; 2 :Ponds ; 3 :Irrigated land ; 4 :Seasonally flooded agricultural land : 5 : Salted exploitation sites ; 6 : Water storage areas/ Reservoirs ; Canals and drainage channels or ditches | N/A | 3 | - | Unique |

What non-wetland habitats are within the site?

Other non-wetland habitat

|  |  |
| --- | --- |
| **Other non-wetland habitats within the site** | **Area (ha) if known** |
|  |  |

Habitat connectivity (ECD)

|  |  |
| --- | --- |
|  |  |

4.3 Biological components

4.3.1 Plant species

Other noteworthy plant species

|  |  |  |
| --- | --- | --- |
| **Scientific name** | **Common name** (optional) |  **Position in range / endemism / other** (optional) |
| Shorea siamensis Miq. Share | Rung |  |
| Dipterocarpus tuberculatus Roxb. | Kung |  |
| Shorea obtusa Wall. ex Blume | Tang |  |
| Buchanania cochinchinensis (Lour.) M.R.Almeida | Mamuanghuamaengwan |  |
| Senna siamea (Lam.) Irwin & Barneby | Keelekpaa |  |
| Syzygium cumini (L.) Skeels | Waa |  |
| Morinda citrifolia (L.) | Yorpaa |  |

Invasive alien plant species

|  |  |  |  |
| --- | --- | --- | --- |
| **Scientific name** | **Common name** | **Impacts**[[11]](#footnote-11) | **Changes at RIS update**[[12]](#footnote-12) |
| *Mimosa pigra* | catclaw mimosa | Destroy biodiversity by replacing wetlands. and is a fast growing weed, but it is difficult to get rid of. Hiding the habitat and food of native plants.  | N/A |
| Salvinia molesta D.S. Mitchell | giant salvinia | Growth Expands the covered area.Quickly replace the original plant. |  |

4.3.2 Animal species

Other noteworthy animal species

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Phylum** | **Scientific name** | **Common name** | **Pop. size** (optional) | **Period of pop. est.** (optional) | **% occurrence** (optional) | **Position in range /endemism/other** (optional) |
| Chordata | *Hoplobatrachus rugulosus* | Chinese edible frog | Unknown | Rainy season | Unknown | Inside the distribution range of the species |
| Chordata | *Amyda cartilaginea* | Common Asiatic soft-shell | Rare | n/a | Unknown | Inside the distribution range of the species |

Invasive alien animal species

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Phylum** | **Scientific name** | **Common name** | **Impacts**9 | **Changes at RIS update**10 |
| Mollusca | *Pomacea canaliculata* | Golden applesnail | Potentially | Increase |
| Chordata | *Canis lupus* | Domestic dog | Actually (minor impacts) | Unknown |
| Chordata | *Felis catus* | Domestic cat | Actually (minor impacts) | Unknown |

4.4 Physical components

4.4.1 Climate

Please indicate the prevailing climate type(s) by selecting below the climatic region(s) and subregion(s), using the Köppen-Gieger Climate Classification System.

|  |  |
| --- | --- |
| **Climatic region**[[13]](#footnote-13) | **Subregion**[[14]](#footnote-14) |
| A: Tropical Humid Climate | Am : Tropical monsoonal  |

If changing climatic conditions are affecting the site, please indicate the nature of these changes:

 (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | No change |

4.4.2 Geomorphic setting

a) Minimum elevation above sea level (in metres) (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | 137 m. MSL |

a) Maximum elevation above sea level (in metres) (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  | 164 m. MSL |

b) Position in landscape/river basin:

 [ ] Entire river basin

 [ ] Upper part of river basin

 [ ] Middle part of river basin

 [✓] Lower part of river basin

 [ ] More than one river basin

 [ ] Not in river basin

 [ ] Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean. (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | Songkhram River Basin ; Greater Mekong River Basin |

4.4.3 Soil

 [ ✓ ] Mineral

 [ ✓ ] Organic

 [ ] No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)?

 [ ✓ ] Yes / [ ] No

.

Please provide further information on the soil (optional) (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | Lower Songkhram River Basin was formed by the geological formation of the Sakon Nakhon Basin. Consists of sandstone. Some areas are rocky and mountainous. Soil types in the watershed are divided into 3 types., 1) flood plains area, Top soil is clayey loam, sandy sediments and clayey loam. The ground floor is clay. 2) river basin area, The top layer consists of loam, sandy loam, clay, sandy soils, and the lower clay is sandy clay, clay and sandy loam. and 3) Plains around the River Basin, The top layer consists of sandy soils. Loamy loam and loamy loam on the ground floor. Sandy loam Clay and clay |

4.4.4 Water regime

Water permanence

|  |  |
| --- | --- |
| **Presence?**[[15]](#footnote-15) | **Changes at RIS update**10 |
| Usually permanent water present | No change |

Source of water that maintains character of the site

|  |  |  |
| --- | --- | --- |
| **Presence?**[[16]](#footnote-16) | **Predominant water source** | **Changes at RIS update**10 |
| Water inputs from rainfall |  [✓] *Surface Water* | No change |

Water destination

|  |  |
| --- | --- |
| **Presence?**[[17]](#footnote-17) | **Changes at RIS update**10 |
| To downstream catchment | Increase |

Stability of water regime

|  |  |
| --- | --- |
| **Presence?**[[18]](#footnote-18) | **Changes at RIS update**10 |
| Water levels fluctuating | Increase |

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology: (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | The average of 30 rainfall stations (TMD) across the Songkhram basin and the periphery shows the Songkhram Basin to receive an annual rainfall of around 1500 mm which has an increasing in the past four decades. The big amount of annual rainfall shows that rainfall water is the primary source of water regime in the river (lower reaches). |

Connectivity of surface waters and of groundwater (ECD)

|  |  |
| --- | --- |
|  |  |

Stratification and mixing regime (ECD)

|  |  |
| --- | --- |
|  | In the tropical climate, it is found that temperature of surface water level is usually higher than deeper level which results in the water condensation at upper level is lower than the deeper one. This can be divided into 3 levels:1. Songkhram River Basin- Epilimnion is the level which air blown on the surface. This made oxygen transfer with mixed of windblow and water wave resulted in aerobic condition and rather constant temperature.
2. Songkhram River Basin- Hypolimnion is the level which lie at the lowest level of the river. This contains much sediments and anaerobic condition.
3. Songkhram River Basin- Metalimnion/ Thermocline is the level which lie between Epilimnion and Hypolimnion. This level is varied in temperature within its level. While low temperature in winter, it affects the Epilimnion temperature decreasing until it becomes lower than the Hypolimnion. The water condensation of Epilimnion then lowers than the Hypolimnion. This effect is defined as Turnover. Once the Epilimnion received the cold from the atmosphere until temperature becomes low enough and water condensation rate is higher than the Hypolimnion again. The Turnover will then occur repetitively further which makes Songkhram River turns turbid during winter.
 |

4.4.5 Sediment regime

 [ ] Significant erosion of sediments occurs on the site

 [ ] Significant accretion or deposition of sediments occurs on the site

 [ ] Significant transportation of sediments occurs on or through the site

 [✓] Sediment regime is highly variable, either seasonally or inter-annually

 [ ] Sediment regime unknown

Please provide further information on sediment (optional): (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | No empirical data is available on suspended sediment load or bed load of the Songkhram River, although it was estimated that 145,473 million tonnes of soil are lost each year from erosion in the entire Songkhram Basin, and that over 945,000 tonnes of suspended solids were assumed to pass the site of the planned Songkhram Dam, with peak sediment levels in August (DEDP, 1997).). It is known that waters from the Mekong sometimes enter the Lower Songkhram River during certain periods of high water in the Mekong. Therefore, it can be reasonably assumed that sediment deposition on parts of the lower floodplain maybe derived from two sources – within basin soil erosion and sediment derived from the Mekong |

Water turbidity and colour (ECD)

|  |  |
| --- | --- |
|  | The average turbidity in five water quality stations (PCD) in the lower reaches of the Songkhram river shows turbidity to be around 27 NTU recently. Average turbidity is seen to decline by a rate of about 2.8 NTU per decade in the region. |

Light - reaching wetland (ECD)

|  |  |
| --- | --- |
|  |  |

Water temperature (ECD)

|  |  |
| --- | --- |
|  | The average water temperature in five water quality stations (PCD) in the lower reaches of the Songkhram river shows temperature to be around 280C recently. Average temperature is seen to slightly decline by a rate of about -0.270C per decade.  |

4.4.6 Water pH

 [ ] Acid (pH<5.5)

 [✓] Circumneutral (pH: 5.5-7.4 )

 [ ] Alkaline (pH>7.4)

 [ ] Unknown

Please provide further information on pH (optional): (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | The average value in five water quality stations (PCD) in the lower reaches of the Songkhram river shows pH to be around 7.2 recently. Average pH is seen to rise slowly across last two decades by a rate of about +0.17units per decade. There is a steep pH increase trend over 2012-2014 time period indicating significant change in the water components and its balance. |

4.4.7 Water salinity

 [✓ ] Fresh (<0.5 g/l)

 [ ] Mixohaline (brackish)/Mixosaline (0.5-30 g/l)

 [ ] Euhaline/Eusaline (30-40 g/l)

 [ ] Hyperhaline/Hypersaline (>40 g/l)

 [ ] Unknown

Please provide further information on salinity (optional): (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | The average value in five water quality stations (PCD) in the lower reaches of the Songkhram river shows salinity to be around 0.4 ppt recently. Average salinity is seen to rise slowly across last two decades by a rate of about +0.17ppt per decade. |

Dissolved gases in water (ECD)

|  |  |
| --- | --- |
|  | Lower Mekong regional water quality monitoring report at Nakhon Phanom station found that average Dissolved Oxygen (DO) was 7.0 mg/l. Minimum DO was 6.1 mg/l and maximum DO was 8.9 mg/l. |

4.4.8 Dissolved or suspended nutrients in water

 [✓] Eutrophic

 [ ] Mesotrophic

 [ ] Oligotrophic

 [ ] Dystrophic

 [ ] Unknown

Please provide further information on dissolved or suspended nutrients (optional): (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | Evidence 1: Ban Had Phaeng, approx. 60 km u/s from Mekong confluence. Extensive blue green bloom. Indicative of major ecological imbalance.Evidence 2: Khan Tha Kla, approx. 120 km u/s from Mekong confluence. Large macrophyte growth, indicative of eutrophic, possibly, hypereutrophic state of river ecosystem.Evidence 3: Ban Muang – Ban Dung Bridge, approx. 300 km u/s from Mekong confluence. Ecologically aggressive tree species at the banks and water fern floating in the river banks, indicative of ecological imbalance. |

Dissolved organic carbon (ECD)

|  |  |
| --- | --- |
|  | Lower Mekong regional water quality monitoring report at Nakhon Phanom station found that average Chemical Oxygen Demand (COD) was 4.2 mg/l. Minimum COD was 1.0 mg/l and maximum was 7.9 mg/l. |

Redox potential of water and sediments (ECD)

|  |  |
| --- | --- |
|  | N/A |

Water conductivity (ECD)

|  |  |
| --- | --- |
|  | Electrical conductivity (EC) found, at Lower Mekong regional water quality monitoring report at Nakhon Phanom station, average was 22.0 mS/m. Minimum EC was 14.0 mS/m and maximum was 29.0 mS/m. |

4.4.9 Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself:

 [ ] i) broadly similar / [✓] ii) significantly different

.

If the surrounding area differs from the Ramsar Site, please indicate how: (Please tick all categories that apply)

 [ ] Surrounding area has greater urbanisation or development

 [ ] Surrounding area has higher human population density

 [✓] Surrounding area has more intensive agricultural use

 [✓] Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different: (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | The surrounding areas of the Lower Songkhram River Basin Wetland. Some of these are agriculture lands (rice field, rubber plantation. |

4.5 Ecosystem services

4.5.1 Ecosystem services/benefits

Please select below all relevant ecosystem services/benefits currently provided by the site and indicate their relative importance in the right-hand column.

Provisioning Services

|  |  |  |
| --- | --- | --- |
| **Ecosystem service**[[19]](#footnote-19) | **Examples**[[20]](#footnote-20) | **Importance/Extent/Significance**[[21]](#footnote-21) |
| Food for human | Sustenance for humans (e.g. fish, mollusc, grains) | High |

Regulating Services

|  |  |  |
| --- | --- | --- |
| **Ecosystem service**[[22]](#footnote-22) | **Examples**[[23]](#footnote-23) | **Importance/Extent/Significance**19 |
| Maintenance of hydrological regimes | Groundwater recharge and discharge | High |

Cultural Services

|  |  |  |
| --- | --- | --- |
| **Ecosystem service**[[24]](#footnote-24) | **Examples**[[25]](#footnote-25) | **Importance/Extent/Significance**19 |
| Spiritual and inspirational | Contemporary cultural significance, including for arts and creative inspiration, and including existence values | Medium |

Supporting Services

|  |  |  |
| --- | --- | --- |
| **Ecosystem service**[[26]](#footnote-26) | **Examples**[[27]](#footnote-27) | **Importance/Extent/Significance**19 |
| Biodiversity | Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part | High |

Other ecosystem service(s) not included above: (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  |  |

Please make a rough estimate of the approximate number of people who directly benefit from the ecological services provided by this site (estimate at least in orders of magnitude: 10s, 100s, 1000s, 10 000s etc.):

Within the site:

|  |  |
| --- | --- |
|  | 1000s |

Outside the site:

|  |  |
| --- | --- |
|  | 10000s |

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site?

 [ ] Yes / [ ] No / [✓] Unknown

.

.

Where economic studies or assessments of economic valuation have been undertaken at the site, it would be helpful to provide information on where the results of such studies may be located (e.g. website links, citation of published literature): (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

4.5.2 Social and cultural values

Is the site considered internationally important 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 so, please describe this importance under one or more of the four following categories. You should not list here any values derived from non-sustainable exploitation or which result in detrimental ecological changes.

 [ ] i) the site provides 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

Description if applicable (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

 [ ] ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland

Description if applicable (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

 [ ✓ ] iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples

Description if applicable (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | The products are extremely diverse and attest to the high value of the ecosystem for biodiversity, supporting local livelihoods and the regional economy. Many plant animal and trees species are commonly harvested from the wetlands for a variety of uses. The following natural wetland products were most commonly harvested from the paa boong paa thaam. More than 500 households in 38 villages near the Songkhram river basin. They go to the paa boong paa thaam and river on a daily basis and that collection of wild products (both terrestrial and aquatic), was a more important component of the livelihoods of many households than agricultural production. Local communities used of vegetation from the paa boong paa thaam. which have catalogued a total of 191 species of plants and 17 species of fungi. Plants obtained from the surrounding natural environment are literally providing a grocery, larder, pharmacy, emergency fund source, construction material supplier and tool shed for villagers to utilize for everyday needs. Some plant types are available year round, while others, especially in the lower paa boong paa thaam, are highly seasonal in their availability. Households have a useful for various aquaculture, including raising fish in ponds, concrete tanks near homes and floating cages in the river. For most households, it is practiced on an extensive or semiintensive level, by stocking purchased fish seed in ponds and giving limited supplementary feed Ecosystem provided a good income to Communities of local villagers. |

 [ ] iv) 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

Description if applicable (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

4.6 Ecological processes

This section is not intended for completion as part of a standard RIS, but is included for completeness as part of the agreed format of a ‘full’ Ecological Character Description (ECD) outlined by Resolution X.15

Primary production (ECD)

|  |  |
| --- | --- |
|  | In LSRB floodplain ecosystem, migrating fishes play a primary production role. They migrate from the Mekong and access to the floodplain and spawn, releasing substantial amount of substrate in the water column, typically in June to July. This connectivity to the Mekong river mainstream allows many fish species to spawn and feed, boosting local biodiversity and bioproductivity (Blake, 2006: The Songkram River wetlands – A critical floodplain ecosystem of the Lower Mekong River). |

Nutrient cycling (ECD)

|  |  |
| --- | --- |
|  | Key carbon source in LSRB food chain is claimed coming from leaf litter and woody debris (especially *Bambusa sp.* leaves) rather than direct consumption of fruits, seeds, arthropods, etc. This litter enters the LSRB through flood-pulse process during the start of flooding in early August, when accumulated litter in levees’ bottom was scoured into the floodplain water column and rapidly incorporated into the aquatic food web by microbial activity (Blake, 2006: The Songkram River wetlands – A critical floodplain ecosystem of the Lower Mekong River). |

Carbon cycling (ECD)

|  |  |
| --- | --- |
|  | Like typical benefits of seasonal flooding, floodplain ecosystem of LSRB plays a crucial role in the maintenance of soil fertility for agricultural and fishery productivities. The flood pulse in LSRB lowland river-flooding systems occurs under high temperature, increasing rate of nutrient cycling and primary production. Furthermore, long drought period promotes oxidation of the soil and stimulate remineralization of nutrients in the following floods. The nutrient is lost to the aquatic food chain, resulting activating primary/secondary productivities and microbial decomposition (Blake, 2006: The Songkram River wetlands – A critical floodplain ecosystem of the Lower Mekong River). |

Animal reproductive productivity (ECD)

|  |  |
| --- | --- |
|  |  |

Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc. (ECD)

|  |  |
| --- | --- |
|  |  |

Notable species interactions, including grazing, predation, competition, diseases and pathogens (ECD)

|  |  |
| --- | --- |
|  |  |

Notable aspects concerning animal and plant dispersal (ECD)

|  |  |
| --- | --- |
|  |  |

Notable aspects concerning migration (ECD)

|  |  |
| --- | --- |
|  |  |

Pressures and trends concerning any of the above, and/or concerning ecosystem integrity (ECD)

|  |  |
| --- | --- |
|  |  |

How is the Site managed?

5.1 Land tenure and responsibilities (Managers)

5.1.1 Land tenure/ownership

Please specify if this category applies to the Ramsar Site, to the surrounding area or to both, by ticking the relevant option(s).

Public ownership

|  |  |  |
| --- | --- | --- |
| **Category**[[28]](#footnote-28) | **Within the Ramsar Site** | **In the surrounding area** |
| Public land |  [✓]  |  [ ]  |

Private ownership

|  |  |  |
| --- | --- | --- |
| **Category**[[29]](#footnote-29) | **Within the Ramsar Site** | **In the surrounding area** |
|  No information available |  [ ]  |  [ ]  |

Other

|  |  |  |
| --- | --- | --- |
| **Category**[[30]](#footnote-30) | **Within the Ramsar Site** | **In the surrounding area** |
| Commoners/customary rights |  [ ]  |  [ ]  |

Provide further information on the land tenure / ownership regime (optional): (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  |  |

5.1.2 Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  | Regional Environmental Office 9 (Udon Thani); Nakhon Phanom Provincial Office of Natural Resource and Environment; Water Resources Regional Office 3; Nakhon Phanom Fisheries Office; Royal Forest Department (RFD); Nakhon Phanom Irrigation Office; Nakhon Phanom Marine Office ; Nakhon Phanom Land office; Nakhon Phanom Local Administration Office; Nakhon Phanom Town and Country Planning Office; Nakhon Phanom Provincial Office; Nakhon Phanom Province; Tourism Authority of Thailand Nakhon Phanom Provincial Office; Nakhon Phanom University. |

Provide the name and title of the person or people with responsibility for the wetland:

|  |  |
| --- | --- |
|  | Mr.Somchai Witdamrong: Nakhon Phanom Provincial Governor; Mr.Prichan Samart: Nakhon Phanom Provincial Office of Natural Resource and Environment; Water Resources Regional Office |

Postal address: (This field is limited to 254 characters)

|  |  |
| --- | --- |
|  | Nakhon Phanom Province City Hall, Apiban Bancha Road, Meuang Nakhon Phanom, Nakhon Phanom Province 48000 |

E-mail address: (The online RIS only accepts valid e-mail addresses, e.g. example@mail.com )

|  |  |
| --- | --- |
|  | nakhonphanom@moi.go.th  |

5.2 Ecological character threats and responses (Management)

5.2.1 Factors (actual or likely) adversely affecting the Site’s ecological character

Please specify if this category applies to the Ramsar Site, to the surrounding area or to both, by ticking the relevant option(s).

Human settlements (non agricultural)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[31]](#footnote-31) | **Actual threat**[[32]](#footnote-32) | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Tourism and recreational areas | Medium impact | High impact |  [✓]  | Increase |  [✓]  | Increase |

Water regulation

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[33]](#footnote-33) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Salinisation | Medium impact | High impact |  [✓]  | Increase |  [✓]  | Increase |

Agriculture and aquaculture

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[34]](#footnote-34) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Marine and freshwater aquaculture | Medium impact | Medium impact |  [✓]  | Increase |  [✓]  | Increase |

Energy production and mining

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[35]](#footnote-35) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Unspecified | Unknown impact | Unknown impact |  [✓]  | Unknown |  [✓]  | Unknown |

Transportation and service corridors

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[36]](#footnote-36) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Roads and railroads | Medium impact | Medium Impact |  [✓]  | Increase |  [✓]  | Increase |

Biological resource use

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[37]](#footnote-37) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Fishing and harvesting aquatic resources | Medium impact | High impact |  [✓]  | Increase |  [✓]  | Increase |

Human intrusions and disturbance

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[38]](#footnote-38) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Unspecified/others | Medium impact | High impact |  [✓]  | Increase |  [✓]  | Increase |

Natural system modifications

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[39]](#footnote-39) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Dams and water management/use | Medium | High impact |  [✓]  | Increase |  [✓]  | Increase |

Invasive and other problematic species and genes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[40]](#footnote-40) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Invasive non-native alien species | High impact | High impact |  [✓]  | Increase |  [✓]  | Increase |

Pollution

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[41]](#footnote-41) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Agricultural and forestry effluents |  Medium impact | High impact |  [✓]  | Increase |  [✓]  | Increase |

Geological events

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[42]](#footnote-42) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Avalanches/landslides | Medium impact | High impact |  [✓]  | Increase |  [ ]  | No change |

Climate change and severe weather

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factors adversely affecting site**[[43]](#footnote-43) | **Actual threat**30 | **Potential threat**30 | **Within the site** | **Changes**10 | **In the surrounding area** |  **Changes**10 |
| Habitat shifting and alteration | High impact | High impact |  [✓]  | Increase |  [✓]  | Increase |

Please describe any other threats (optional): (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | Local in-basin precipitation and occasional backflow from the Mekong River occurring during July – August cause extensive flooding for two to four months a year, forming one massive shallow lake covering an area of about 600,000 rai (96, 000 ha). This is equivalent to 31 % of the entire lower Songkhram River basin area being temporarily under water. The impact of thus the flooding and inundation has been high in past and is the normal trend. However, with climate change dry spells followed by many fold wetter spells, formation of larger storm events is highly likely. This is possible in the Songkhram basin as well as in the u/s catchment of the back flowing Mekong, due to which larger scale effect on the livelihood of people of lower Songkhram in future is almost certain. |

5.2.2 Legal conservation status

Please list any other relevant conservation status, at global, regional or national level and specify the boundary relationships with the Ramsar Site:

Global legal designations

|  |  |  |  |
| --- | --- | --- | --- |
| **Designation type**[[44]](#footnote-44) | **Name of area** | **Online information url** | **Overlap with Ramsar Site**[[45]](#footnote-45) |
| N/A | N/A | N/A | N/A |

Regional (international) legal designations

|  |  |  |  |
| --- | --- | --- | --- |
| **Designation type**[[46]](#footnote-46) | **Name of area** | **Online information url** | **Overlap with Ramsar Site**43 |
| Other international designation | Greater Mekong Region |  | No overlap |

National legal designations

|  |  |  |  |
| --- | --- | --- | --- |
| **Designation type** | **Name of area** | **Online information url** | **Overlap with Ramsar Site**43 |
| N/A |  |  |  |

Non-statutory designations

|  |  |  |  |
| --- | --- | --- | --- |
| **Designation type**[[47]](#footnote-47) | **Name of area** | **Online information url** | **Overlap with Ramsar Site**43 |
| N/A |  |  |  |

5.2.3 IUCN protected areas categories (2008)

 [ ] Ia Strict Nature Reserve

 [ ] Ib Wilderness Area: protected area managed mainly for wilderness protection

 [ ] II National Park: protected area managed mainly for ecosystem protection and recreation

 [ ] III Natural Monument: protected area managed mainly for conservation of specific natural features

 [✓] IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention

 [ ] V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation

 [✓] VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 Key conservation measures

Legal protection

|  |  |
| --- | --- |
| **Measures**[[48]](#footnote-48) | **Status**[[49]](#footnote-49) |
| Legal protection | Partially implemented |

Habitat

|  |  |
| --- | --- |
| **Measures**[[50]](#footnote-50) | **Status**47 |
| Improvement of water quality | Implemented |

Species

|  |  |
| --- | --- |
| **Measures**[[51]](#footnote-51) | **Status**47 |
| Threatened/rare species management programmes | Implemented |

Human Activities

|  |  |
| --- | --- |
| **Measures**[[52]](#footnote-52) | **Status**47 |
| Fisheries management/regulation | Implemented |

Other: (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  |  |

5.2.5 Management planning

Is there a site-specific management plan for the site?

|  |  |
| --- | --- |
|  | [[53]](#footnote-53) No |

Is the management plan/planning implemented?

 [ ] Yes / [✓] No

.

The management plan covers

|  |  |
| --- | --- |
|  | [[54]](#footnote-54)Part of Ramsar Site |

Is the management plan currently subject to review and update?

 [ ] Yes / [✓] No

.

Has a management effectiveness assessment been undertaken for the site?

 [ ] Yes / [✓] No

.

Please give link to site-specific plan or other relevant management plan if this is available via the Internet or upload it in section 'Additional material': (This field is limited to 500 characters)

|  |  |
| --- | --- |
|  |  |

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party?

 [ ] Yes / [✓] No

.

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site: (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  |  |

URL of site-related webpage (if relevant):

|  |  |
| --- | --- |
|  |  |

5.2.6 Planning for restoration

Is there a site-specific restoration plan?

|  |  |
| --- | --- |
|  | [[55]](#footnote-55) Yes ; there is a plan |

Has the plan been implemented?

 [ ] Yes / [✓] No

.

The restoration plan covers:

|  |  |
| --- | --- |
|  | [[56]](#footnote-56) Part of Ramsar site |

Is the plan currently being reviewed and updated?

 [ ] Yes / [✓] No

.

Where the restoration is being undertaken to mitigate or respond to a threat or threats identified in this RIS, please indicate it / them: (This field is limited to 1000 characters)

|  |  |
| --- | --- |
|  |  |

5.2.7 Monitoring implemented or proposed

|  |  |
| --- | --- |
| **Monitoring**[[57]](#footnote-57) | **Status**[[58]](#footnote-58) |
| Water quality | Implemented |

Please indicate other monitoring activities:

 (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | 1. Online water quality monitoring station established in the LSRB
2. Water sampling from selected spots in the LSRB to be sent to the laboratory for water quality analysis.
3. 4 parameters collected including Dissolved Oxygen, pH, Temperature and conductivity.
4. Result processed through computerized system in PCD sent back to Regional Environmental Office.
 |

Additional material

6.1 Additional reports and documents

6.1.1 Bibliographical references

 (This field is limited to 2500 characters)

|  |  |
| --- | --- |
|  | Blake, D., Pitakthepsombut, R., 2006. Situation analysis: Lower Songkhram River Basin, Thailand, Mekong Wetlands Biodiversity Conservation and Sustainably Use Programme, Bangkok, Thailand, 121 pp.Blake, D.J.H., 2008. The three dimensional commons of the Lower Songkhram River Basin Wetlands, Thailand, In Proceedings of The 12th Biennial Conference of the International Association for the Study of Commons, July 14-18, 2008, University of Gloucestershire, United Kingdom.Friend, R.M., Kanprasert, S., Petchkham, S., Blake, D.J.H., 2006. Climate change vulnerability and adaptation in the Songkhram River Basin, NE Thailand: A preliminary assessment, Final Draft (December 20, 2006), Mekong Wetlands Biodiversity Conservation and Sustainably Use Programme.Mekong River Commission, Environment Program, 2016, 2014 Lower Mekong regional water quality monitoring report, June, 2016.Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme, 2015. Songkhram River Basin, Thailand. Acquired from www.mekongwetlands.org on November 27th, 2015Nontananandh, S., Changnoi, B., 2012. Internet GIS, based on USLE modeling, for assessment of soil erosion in Songkhram Watersheds, Northeastern of Thailand, Kasetsart Mankhoksoong, P., 2015. Management of natural resources used in the Lower Songkhram River Basin, PhD Dissertation, Faculty of Humanity and Social Science, Khon Kaen University, Thailand (in Thai), 197 pp.Nelson, J.S. 1994. Fishes of the World. 3rd Ed. John Wiley & Sons, Inc, New York. 600 p.Niyomchart, W., 2014. Pai Kasa…Life style along with the Songkhram River Basin conservation, In “Bamboo and Thai life style: Knowledge mining and local management pattern.” Thaworn, R. and Petchthongma, R. (eds.), Community forestry training center of Asia Pacific Region, Bangkok (in Thai). ONEP, 2007. Biodiversity in Lower Songkhram River Basin Wetlands, Ministry of of Natural Resources and Environment, Bangkok, 68 pp (in Thai).The 3rd Regional Office of Agricultural Economics, 2014. Agricultural Economics Report, Nakorn Panom: Agricultural Economics Situation in Year 2013 and trends in Year 2014. Acquired from www2.oae.go.th/zone/zone3 on November 28th, 2015 (in Thai).Trinetra, K., Trinetra, Y., Mekpruksawong, P., Kwansirikul, K., 2008. Study of rock salt geology and hydrogeology, The Lower Nam Kam Irrigation Project, Nakorn Panom, Food and Agriculture Organization of the United Nations. USAID, International Resource Groups, Rachapaj Sakorn Nakorn, Mekong Wetland Biodiversity and Sustainable Use Programme, 2006. “Draft summary report: A Preliminary study of local knowledge understanding and adaptation to climate issues, events, and variability in the Lower Songkhram River Basin.”Wanthanaphuti, C., Friend, R., Phunthumai, T., 2005. Ecology and History: Pa Buong Pa Time in the Lower Songkhram River Basin, Thai Baan Research Network in the Lower Songkram River Basin, 178 pp (in Thai). |

6.1.2 Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

-UPLOAD via online form-

ii. a detailed Ecological Character Description (ECD) (in a national format)

-UPLOAD via online form-

iii. a description of the site in a national or regional wetland inventory

-UPLOAD via online form-

iv. relevant Article 3.2 reports

-UPLOAD via online form-

v. site management plan

-UPLOAD via online form-

vi. other published literature

-UPLOAD via online form-

Please note that any documents uploaded here will be made publicly available.

6.1.3 Photograph(s) of the Site

Please provide at least one photograph of the site:

|  |  |  |  |
| --- | --- | --- | --- |
| **File** | **Copyright holder** | **Date on which the picture was taken** | **Caption** |
| Lower Songkhram | Arika Briddhikitti |  |  |

 [✓ ] I certify that I am the photographer, the valid holder of rights over the photograph(s), or an authorized representative of the organization which is the valid holder of rights over the photograph(s), and I hereby assign an irrevocable, perpetual and royalty-free right to use, reproduce, edit, display, transmit, prepare derivative works of, modify, publish, affix logos to, and otherwise make use of the submitted photograph(s) in any way, to the Ramsar Convention Secretariat, its affiliates and partners, for non-commercial purposes in conjunction with the mission of the Ramsar Convention. This use includes, but is not limited to, internal and external publication and materials, presentation on the websites of the Ramsar Convention or any affiliated body, and any and all other communication channels with copyright attributed to the holder in all published forms. The full accuracy of all data submitted rests with the submitter, or organization submitting the photograph(s). In submitting, I hereby agree to the aforementioned terms, personally or on behalf of the organization of which I am an authorized official, certifying that the Ramsar Convention Secretariat, its affiliates and partners are explicitly held harmless for any and all costs, expenses, or damages arising from use of the submitted photograph(s) and any additional information provided.

6.1.4 Designation letter and related data

Designation letter\*

-UPLOAD via online form-

Date of Designation

|  |  |
| --- | --- |
|  |  |

Number of certificates wished (The online RIS only accepts numeric values)

|  |  |
| --- | --- |
|  |  |

1. Marine Ecoregions of the World (MEOW) | Udvardy's Biogeographical Provinces | Bailey's Ecoregions | WWF Terrestrial Ecoregions | EU biogeographic regionalization | Freshwater Ecoregions of the World (FEOW) | Other scheme (provide name below) [↑](#footnote-ref-1)
2. | LC | NT | VU | EN | CR | EW | EX [↑](#footnote-ref-2)
3. These fields are only compulsory to justify criteria 6 & 9 [↑](#footnote-ref-3)
4. | LC | NT | VU | EN | CR | EW | EX [↑](#footnote-ref-4)
5. These fields are only compulsory to justify criteria 6 & 9 [↑](#footnote-ref-5)
6. | LC | NT | VU | EN | CR | EW | EX [↑](#footnote-ref-6)
7. A: Permanent shallow marine waters | B: Marine subtidal aquatic beds (Underwater vegetation) | C: Coral reefs | D: Rocky marine shores | E: Sand, shingle or pebble shores | G: Intertidal mud, sand or salt flats | Ga: Bivalve (shell-fish) reefs | H: Intertidal marshes | I: Intertidal forested wetlands | J: Coastal brackish / saline lagoons | F: Estuarine waters | Zk(a): Karst and other subterranean hydrological systems | K: Coastal freshwater lagoons [↑](#footnote-ref-7)
8. | Representative | Rare | Unique [↑](#footnote-ref-8)
9. M: Permanent rivers/ streams/ creeks | L: Permanent inland deltas | Y: Permanent Freshwater springs; oases | N: Seasonal/ intermittent/ irregular rivers/ streams/ creeks | O: Permanent freshwater lakes | Tp: Permanent freshwater marshes/ pools | P: Seasonal/ intermittent freshwater lakes | Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils | Tp: Permanent freshwater marshes/ pools | W: Shrub-dominated wetlands | Xf: Freshwater, tree-dominated wetlands | Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils | U: Permanent Non-forested peatlands | Xp: Permanent Forested peatlands | Va: Montane wetlands | Vt: Tundra wetlands | Q: Permanent saline/ brackish/ alkaline lakes | R: Seasonal/ intermittent saline/ brackish/ alkaline lakes and flats | Sp: Permanent saline/ brackish/ alkaline marshes/ pools | Ss: Seasonal/ intermittent saline/ brackish/ alkaline marshes/ pools | Zg: Geothermal wetlands | Zk(b): Karst and other subterranean hydrological systems [↑](#footnote-ref-9)
10. 1: Aquaculture ponds | 2: Ponds | 3: Irrigated land | 4: Seasonally flooded agricultural land | 5: Salt exploitation sites | 6: Water storage areas/Reservoirs | 7: Excavations | 8: Wastewater treatment areas | 9: Canals and drainage channels or ditches | Zk(c): Man-made subterranean hydrological systems [↑](#footnote-ref-10)
11. No impacts | Potentially | Actually (minor impacts) | Actually (major impacts) [↑](#footnote-ref-11)
12. No change | increase | decrease | unknown [↑](#footnote-ref-12)
13. A. Tropical humid climate | B. Dry climate | C. Moist Mid-Latitude climate with mild winters | D. Moist Mid-Latitude climate with cold winters | E. Polar climate with extremely cold winters and summers | H. Highland [↑](#footnote-ref-13)
14. Af: Tropical wet (No dry season) | Am: Tropical monsoonal (Short dry season; heavy monsoonal rains in other months) | Aw: Tropical savanna (Winter dry season) | BWh: Subtropical desert (Low-latitude desert) | BSh: Subtropical steppe (Low-latitude dry) | BWk: Mid-latitude desert (Mid-latitude desert) | BSk: Mid-latitude steppe (Mid-latitude dry) | Csa: Mediterranean (Mild with dry, hot summer) | Csb: Mediterranean (Mild with dry, warm summer) | Cfa: Humid subtropical (Mild with no dry season, hot summer) | Cwa: Humid subtropical (Mild with dry winter, hot summer) | Cfb: Marine west coast (Mild with no dry season, warm summer) | Cfc: Marine west coast (Mild with no dry season, cool summer) | Dfa: Humid continental (Humid with severe winter, no dry season, hot summer) | Dfb: Humid continental (Humid with severe winter, no dry season, warm summer) | Dwa: Humid continental (Humid with severe, dry winter, hot summer) | Dwb: Humid continental (Humid with severe, dry winter, warm summer) | Dfc: Subarctic (Severe winter, no dry season, cool summer) | Dfd: Subarctic (Severe, very cold winter, no dry season, cool summer) | Dwc: Subarctic (Severe, dry winter, cool summer) | Dwd: Subarctic (Severe, very cold and dry winter, cool summer) | ET: Tundra (Polar tundra, no true summer) | EF: Ice Cap (Perennial ice) | H: Highland (-) [↑](#footnote-ref-14)
15. Usually permanent water present | Usually seasonal, ephemeral or intermittent water present | Unknown [↑](#footnote-ref-15)
16. Water inputs from rainfall | Water inputs from surface water | Water inputs from groundwater | Marine water | Unknown [↑](#footnote-ref-16)
17. Feeds groundwater | To downstream catchment | Marine | Unknown [↑](#footnote-ref-17)
18. Water levels largely stable | Water levels fluctuating (including tidal) | Unknown [↑](#footnote-ref-18)
19. Food for humans | Fresh water | Wetland non-food products | Biochemical products | Genetic materials [↑](#footnote-ref-19)
20. Sustenance for humans (e.g., fish, molluscs, grains) | Drinking water for humans and/or livestock | Water for irrigated agriculture | Water for industry | Water for energy production (hydro-electricity) | Timber | Fuel wood/fibre | Peat | Livestock fodder | Reeds and fibre | Other | Extraction of material from biota | Medicinal products | Genes for tolerance to certain conditions (e.g., salinity) | Genes for resistance to plant pathogens | Ornamental species (live and dead) [↑](#footnote-ref-20)
21. not relevant for site | Low | Medium | High [↑](#footnote-ref-21)
22. Maintenance of hydrological regimes | Erosion protection | Pollution control and detoxification | Climate regulation | Biological control of pests and disease | Hazard reduction [↑](#footnote-ref-22)
23. Groundwater recharge and discharge | Storage and delivery of water as part of water supply systems for agriculture and industry | Soil, sediment and nutrient retention | Water purification/waste treatment or dilution | Local climate regulation/buffering of change | Regulation of greenhouse gases, temperature, precipitation and other climactic processes | Support of predators of agricultural pests (e.g., birds feeding on locusts) | Flood control, flood storage | Coastal shoreline and river bank stabilization and storm protection [↑](#footnote-ref-23)
24. Recreation and tourism | Spiritual and inspirational | Scientific and educational [↑](#footnote-ref-24)
25. Recreational hunting and fishing | Water sports and activities | Picnics, outings, touring | Nature observation and nature-based tourism | Inspiration | Cultural heritage (historical and archaeological) | Contemporary cultural significance, including for arts and creative inspiration, and including existence values | Spiritual and religious values | Aesthetic and sense of place values | Educational activities and opportunities | Important knowledge systems, importance for research (scientific reference area or site) | Long-term monitoring site | Major scientific study site | Type location for a taxon [↑](#footnote-ref-25)
26. Biodiversity | Soil formation | Nutrient cycling | Pollination [↑](#footnote-ref-26)
27. Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part | Sediment retention | Accumulation of organic matter | Storage, recycling, processing and acquisition of nutrients | Carbon storage/sequestration | Support for pollinators [↑](#footnote-ref-27)
28. Public land (unspecified) | National/Federal government | Provincial/region/state government | Local authority, municipality, (sub)district, etc. | Other public ownership [↑](#footnote-ref-28)
29. Cooperative/collective (e.g., farmers cooperative) | Commercial (company) | Foundation/non-governmental organization/trust | Religious body/organization | Other types of private/individual owner(s) [↑](#footnote-ref-29)
30. Unspecified mixed ownership | No information available | Commoners/customary rights [↑](#footnote-ref-30)
31. Housing and urban areas | Commercial and industrial areas | Tourism and recreation areas | Unspecified development [↑](#footnote-ref-31)
32. Low impact | Medium impact | High impact | unknown impact | [↑](#footnote-ref-32)
33. Drainage | Water abstraction | Dredging | Salinisation | Water releases | Canalisation and river regulation [↑](#footnote-ref-33)
34. Annual and perennial non-timber crops | Wood and pulp plantations | Livestock farming and ranching | Marine and freshwater aquaculture | Non specified [↑](#footnote-ref-34)
35. Oil and gas drilling | Mining and quarrying | Renewable energy | Unspecified [↑](#footnote-ref-35)
36. Roads and railroads | Utility and service lines (e.g., pipelines) | Shipping lanes | Aircraft flight paths | Unspecified [↑](#footnote-ref-36)
37. Hunting and collecting terrestrial animals | Gathering terrestrial plants | Logging and wood harvesting | Fishing and harvesting aquatic resources | Unspecified [↑](#footnote-ref-37)
38. Recreational and tourism activities | (Para)military activities | Unspecified/others [↑](#footnote-ref-38)
39. Fire and fire suppression | Dams and water management/use | Vegetation clearance/ land conversion | Unspecified/others [↑](#footnote-ref-39)
40. Invasive non-native/ alien species | Problematic native species | Introduced genetic material | Unspecified [↑](#footnote-ref-40)
41. Household sewage, urban waste water | Industrial and military effluents | Agricultural and forestry effluents | Garbage and solid waste | Air-borne pollutants | Excess heat, sound, light | Unspecified [↑](#footnote-ref-41)
42. Volcanoes | Earthquakes/tsunamis | Avalanches/landslides | Unspecified [↑](#footnote-ref-42)
43. Habitat shifting and alteration | Droughts | Temperature extremes | Storms and flooding | Unspecified [↑](#footnote-ref-43)
44. World Heritage site | UNESCO Biosphere Reserve | Other global designation [↑](#footnote-ref-44)
45. whole | partly [↑](#footnote-ref-45)
46. EU Natura 2000 | Other international designation [↑](#footnote-ref-46)
47. Important Bird Area | Important Plant Area | Other non-statutory designation [↑](#footnote-ref-47)
48. Legal protection [↑](#footnote-ref-48)
49. Proposed | Partially implemented | Implemented [↑](#footnote-ref-49)
50. Catchment management initiatives/controls | Improvement of water quality | Habitat manipulation/enhancement | Hydrology management/restoration | Re-vegetation | Soil management | Land conversion controls | Faunal corridors/passage [↑](#footnote-ref-50)
51. Threatened/rare species management programmes | Reintroductions | Control of invasive alien plants | Control of invasive alien animals [↑](#footnote-ref-51)
52. Management of water abstraction/takes | Regulation/management of wastes | Livestock management/exclusion (excluding fisheries) | Fisheries management/regulation | Harvest controls/poaching enforcement | Regulation/management of recreational activities | Communication, education, and participation and awareness activities | Research [↑](#footnote-ref-52)
53. No | Yes | In preparation [↑](#footnote-ref-53)
54. All of Ramsar Site | Part of Ramsar Site [↑](#footnote-ref-54)
55. Please select a value | No need identified | No; the site has already been restored | No; but restoration is needed | No; but a plan is being prepared | Yes; there is a plan [↑](#footnote-ref-55)
56. All of Ramsar Site | Part of Ramsar Site [↑](#footnote-ref-56)
57. Water regime monitoring | Water quality | Soil quality | Plant community | Plant species | Animal community | Animal species (please specify) | Birds [↑](#footnote-ref-57)
58. | Implemented | Proposed [↑](#footnote-ref-58)