Ramsar Information Sheet

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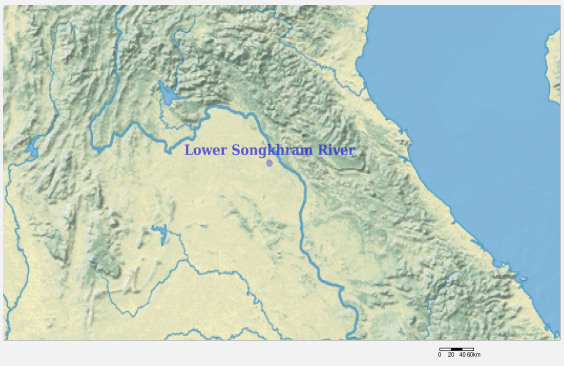
Thailand

Lower Songkhram River



Designation date	15 May 2019
Site number	2420
Coordinates	17°40'36"N 104°15'E
Area	5 504,54 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

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. Approximately 54.2 % of the overall Songkhram Basin may be classified as "wetlands". The most extensive area being concentrated in the lowland floodplains of the Lower Songkhram River Basin, below 160 m a.s.l., and that which borders the lower 300 km length of the river. This is where a number of tributaries join the main stream 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 Lower Songkhram River Basin (LSRB) is its annual flood event, which is intimately linked to the hydrology of the Mekong mainstream, which 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. This provides seasonal employment, income and food to many thousands of households. Other products are also 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. This category of wetlands was estimated 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.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

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Compiler 2

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

From year	2015
To year	2016

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Lower Songkhram River

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<1 file(s) uploaded>

Former maps	0

Boundaries description

The boundaries of Lower Songkhram River Ramsar Site are located in government administrative boundaries of the Tha Uthen district and Si Songkhram District, Nakhon Phanom Province, in the northeast of Thailand. Located between UTM/WGS84 zone 48N (coordinates 402121 / 1958264 and 443155 / 1951695) the Site covers the water body of the Lower Songkram River for a length of 92 kilometres from estuary of the Mekong River. The boundary details are as follows: North- Boundaries of Sam Phong sub-district and Had Paeng sub-district of Sri Songkhram District.
South- Boundaries of Ban Kha sub-district, Tha Bor sub-district, Sri Songkhram sub-district and Na Kham sub-district of Sri Songkhram District.
East- Boundaries of Chai Buri sub-district of Tha Uthen District.
West- Boundaries of Ban Kha sub-district of Sri Songkhram District.

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 ○ No ◉

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes ○ No ◉

2.2.4 - Area of the Site

Official area, in hectares (ha): 5504.542

Area, in hectares (ha) as calculated from GIS boundaries: 5504.543

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Mekong region

Other biogeographic regionalisation scheme

WWF Ecoregion 14
WWF Freshwater Ecoregion No. 727

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

☑ Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided	The Lower Songkhram River Basin contains a relatively significant area of seasonally flooded forest / shrubs, a wetland type much threatened across all of its former range in the northeast of Thailand and central/southern Lao People's Democratic Republic (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.

☑ Criterion 2 : Rare species and threatened ecological communities

☑ Criterion 3 : Biological diversity

Justification	The Lower Songkhram River Basin (LSRB), because of its unique position of still enjoying dam-free access for fish and living aquatic resources on the mainstream for 300 km 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

☑ Criterion 7 : Significant and representative fish

Justification	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.

☑ Criterion 8 : Fish spawning grounds, etc.

Justification

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 onto 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.

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	CITES Appendix I	Other status	Justification
Dalbergia cochinchinensis	Pha-yoong	☑	☑	☐	VU	☐		

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	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
Birds																		
CHORDATA/ AVES	*Aythya baeri*	Baer's Pochard	☑	☐	☐	☐	☐	☐	☐	☐				CR	☐	☑		
Fish, Mollusc and Crustacea																		
CHORDATA/ ACTINOPTERYGII	*Betta splendens*	Siamese fightingfish	☑	☑	☐	☐	☑	☐	☑	☑				VU	☐	☐		Spawning ground in the rainy season.
CHORDATA/ ACTINOPTERYGII	*Catlocarpio siamensis*	Catla	☑	☑	☐	☐	☑	☐	☑	☑				CR	☐	☐		Spawning ground in the rainy season.
CHORDATA/ ACTINOPTERYGII	*Cirrhinus microlepis*	Small scale mud carp; Small scale mud carp	☑	☑	☐	☐	☑	☐	☑	☑				VU	☐	☐		Spawning ground in the rainy season.
CHORDATA/ ACTINOPTERYGII	*Mystus bocourti*	Flag-finned catfish	☑	☑	☐	☐	☑	☐	☑	☑				VU	☐	☐		Spawning ground in the rainy season.
CHORDATA/ ACTINOPTERYGII	*Pangasianodon hypophthalmus*	Sutchi catfish	☑	☑	☐	☐	☑	☐	☑	☑				EN	☐	☐		Spawning ground in the rainy season.
CHORDATA/ ACTINOPTERYGII	*Tenualosa thibaudeaui*	Laotian shad; Laotian shad; Laotian shad	☑	☑	☐	☐	☑	☐	☑	☑				VU	☐	☐		Spawning ground in the rainy season.
Others																		
CHORDATA/ REPTILIA	*Amyda cartilaginea*	Common Asiatic soft-shell turtle	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐		
CHORDATA/ REPTILIA	*Cuora amboinensis*	Malayan box turtle	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐		
CHORDATA/ REPTILIA	*Malayemys subtrijuga*	Malayan snail-eating turtle	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐		
CHORDATA/ REPTILIA	*Ophiophagus hannah*	King cobra	☑	☐	☐	☐	☑	☐	☐	☐				VU	☐	☐		

1) Percentage of the total biogeographic population at the site

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
Seasonal Flood Forest or Lowland Flood Forest	☑	The Seasonal Flood Forest consists mainly of vegetation withstand flooding during 3-4 months including: Bamboo, shrubs, herbs	Dominant species is Bamboo (Bambusa sp.) which is a habitat for breeding, laying shelter for fish and aquatic animals.

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

A number of critical components, processes and services defines the ecological character at the Site. The hydrology of the Lower Songkram River (LSR) and its annual flood event, are 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. The LSR forest structure of plants differs with the changing condition of the terrain. Different plants species can be found within the floodplain compared to higher ground. Each species in the lowland floodplain area can be divided into two sub-plant communities, pond vegetation and lowland floodplain forest. The terrestrial plant varieties found in flood plains include dry evergreen forest and dry dipterocarp forest, mixed deciduous forest may also be found. Across LSR at least 232 species of plants, in 175 genera and 79 families can be found. This includes 55 species of trees, 73 species of shrubs, 26 species of vines and 38 species of water plants. There is great diversity of fish within the site with 192 fish species having been recorded. These include resident and migratory fish from Mekong River. A total of 150 bird species have been recorded within the LSR, 80 species of which are resident birds and the other 70 species being migratory birds. Aythya baeri is one of the threatened species that utilises the Site. Factors, which may influence the ecological character of the Site, include habitat destruction, over-exploitation, alien species, chemical pollution, infectious diseases, small original range, habitat change and others, such as ultraviolet, global warming, etc. Among these threats, those with the greatest impact are habitat destruction, over-exploitation and habitat change. Other threats have the potential for minor or unknown impacts.

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

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Flowing water >> M: Permanent rivers/ streams/ creeks	Nam Songkhram	1		Representative

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
1: Aquaculture ponds		0		Unique

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
Ardisia aprica	Teen Jam	endemic species of Northeastern Thailand
Cynometra craibii	Hae Noi	Rare species
Dioscorea oryzetorum	Mun Saeng	endemic species of Northeastern Thailand
Kailarsenia lineata	Inthawa Noi	endemic species of Northeastern Thailand
Lagerstroemia spireana	Puey Nam Songkhram	endemic species of Northeastern Thailand
Morinda nana	Yo Phaya Mai	Rare species

Invasive alien plant species

Scientific name	Common name	Impacts	
Mimosa pigra	catclaw mimosa	Actually (minor impacts)	No change
Salvinia molesta	giant salvinia	Actually (minor impacts)	No change

Optional text box to provide further information

Mimosa pigra (catclaw mimosa) destroys biodiversity by replacing wetlands and is an especially fast growing weed. It is also difficult to remove. It competes for the habitat and nutrients of native plants species. Salvinia molesta (giant salvinia) another invasive plant spreads quickly in new areas. It will quickly replace the native plants.

4.3.2 - Animal species

Invasive alien animal species

Phylum	Scientific name	Common name	Impacts	
MOLLUSCA/GASTROPODA	*Pomacea canaliculata*	golden kuhol snail;golden applesnail;golden apple snail;channeled applesnail;channeled apple snail	Potentially	No change

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
A: Tropical humid climate	Am: Tropical monsoonal (Short dry season; heavy monsoonal rains in other months)

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 137

a) Maximum elevation above sea level (in metres): 164

- 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.

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)

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. 3) Plains around the River Basin, The top layer consists of sandy soils. Loam and loamy sand on the ground floor. Sandy loam Clay and clay

4.4.4 - Water regime

Water permanence

Presence?	
Usually permanent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	
Water inputs from rainfall	☑	No change

Water destination

Presence?	
To downstream catchment	No change

Stability of water regime

Presence?	
Water levels fluctuating (including tidal)	No change

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

The average of 30 rainfall stations (TMD) across the Songkhram basin and the periphery shows the Songkhram Basin receive's an annual rainfall total of around 1500 mm. This trend has been increasing in the past four decades. The large annual rainfall shows that rainfall water is the primary source of water in the rivers lower reaches.

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):

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.

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):

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 +0.17 units 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):

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

4.4.8 - Dissolved or suspended nutrients in water

- Eutrophic ☑
- Mesotrophic ☐
- Oligotrophic ☐
- Dystrophic ☐
- Unknown ☐

Please provide further information on dissolved or suspended nutrients (optional):

Evidence 1: Ban Had Phaeng, approx. 60 km upstream from Mekong confluence. Extensive blue green algae bloom. Indicative of major ecological imbalance.
Evidence 2: Khan Tha Kla, approx. 120 km upstream 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 upstream from Mekong confluence. Ecologically aggressive tree species at the banks and water fern floating in the river banks, indicative of ecological imbalance.

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 ◉

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:

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

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Spiritual and inspirational	Contemporary cultural significance, including for arts and creative inspiration, and including existence values	Medium

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High
Soil formation	Accumulation of organic matter	High
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	High

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 ◉

4.5.2 - Social and cultural values

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 ☐

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

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

Description if applicable

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 and animal species are commonly harvested from the wetlands for a variety of uses. More than 500 households in 38 villages are present near the Songkhram River Basin. They go to the Paa Boong Paa Thaam and river on a daily basis and the collection of wild products (both terrestrial and aquatic), was found to be a more important component of the livelihoods of many households than agricultural production. Local communities utilise 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 utilise 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 also engage in various aquaculture practices, including raising fish in ponds, concrete tanks near homes and floating cages in the river. For most households, it is practised on an intensive or semi intensive level, by stocking purchased fish in ponds and giving limited supplementary feed. Overall, the ecosystem provides 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 ☐

4.6 - Ecological processes

<no data available>

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Public land (unspecified)	☑	☐

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	☑	☐

Other

Category	Within the Ramsar Site	In the surrounding area
Commoners/customary rights	☑	☑

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:	1. Regional Environmental Office 9 (Udon Thani) 2. Nakhon Phanom Provincial Office of Natural Resource and Environment 3. Water Resources Regional Office 3 4. Nakhon Phanom Fisheries Office 5. Royal Forest Department (RFD)
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:	Nakhon Phanom Province City Hall, Apiban Bancha Road, Meuang Nakhon Phanom, Nakhon Phanom Province 48000
E-mail address:	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

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Tourism and recreation areas	Medium impact		☑	☑

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Salinisation	Medium impact		☑	☑

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Marine and freshwater aquaculture	Medium impact		☑	☑

Energy production and mining

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified	unknown impact		☑	☑

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	Medium impact		☑	☑

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Fishing and harvesting aquatic resources	Medium impact	Low impact	☑	☑

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified/others	Medium impact	High impact	☑	☑

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Dams and water management/use	Medium impact	High impact	☑	☑

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	High impact		☑	☑

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Agricultural and forestry effluents	Medium impact	High impact	☑	☑

Geological events

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Avalanches/landslides	Medium impact	High impact	☑	☑

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Habitat shifting and alteration	High impact		☑	☑

Please describe any other threats (optional):

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 96,000 ha (600,000 rai). This is equivalent to 31 % of the entire lower Songkhram River basin area being temporarily under water. The impact of the flooding and inundation has been high in past and is the normal trend. However, with climate change dry spells followed by much wetter spells and the 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. This almost certainly will have larger scale effects on the livelihoods of people of the Lower Songkhram in future.

5.2.2 - Legal conservation status

Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Other international designation	Greater Mekong Region		whole

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	Status
Legal protection	Partially implemented

Habitat

Measures	Status
Improvement of water quality	Implemented

Species

Measures	Status
Threatened/rare species management programmes	Implemented

Human Activities

Measures	Status
Fisheries management/regulation	Implemented

5.2.5 - Management planning

Is there a site-specific management plan for the site? No

Has a management effectiveness assessment been undertaken for the site? Yes ○ No ◉

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 ◉

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water quality	Implemented

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

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, 2015

Nontananandh, 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)
<1 file(s) uploaded>

ii. a detailed Ecological Character Description (ECD) (in a national format)
<no file available>

iii. a description of the site in a national or regional wetland inventory
<no file available>

iv. relevant Article 3.2 reports
<no file available>

v. site management plan
<1 file(s) uploaded>

vi. other published literature
<1 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:

Lower Songkram River (*Arika Briddhikitti, 21-06-2017*)

Fish of Songkhram River (*Yanyong Srijarern, 01-03-2020*)

Lower Songkram River (*Yanyong Srijarern, 01-03-2020*)

Fish from Songkhram river at the local marketplace. (*Yanyong Srijarern, 01-03-2020*)

Fish from Songkhram river at the local marketplace. (*Yanyong Srijarern, 01-03-2020*)

Lower Songkram river. (*Yanyong Srijarern, 01-03-2020*)

Lower Songkram river. (*Yanyong Srijarern, 01-03-2020*)

Life of locals at the river. (*Yanyong Srijarern, 01-03-2020*)

Life of locals at the river. (*Yanyong Srijarern, 01-03-2020*)

Life of locals at the river. (*Yanyong Srijarern, 01-03-2020*)

flooded forest of Songkram river. (*Yanyong Srijarern, 01-03-2020*)

Lower Songkram river. (*Yanyong Srijarern, 01-03-2020*)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation: 2019-05-15