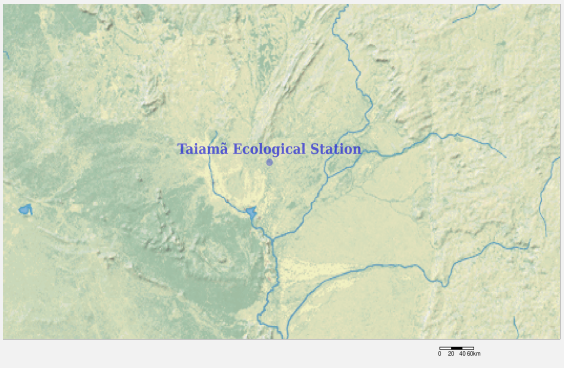
Ramsar Information Sheet

Published on 18 December 2018

Brazil

Taiamã Ecological Station



Designation date	21 October 2018
Site number	2363
Coordinates	16°51'32"S 57°30'37"W
Area	11 555,00 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 Ramsar site Taiamã Ecological Station (Taiamã) is a protected area located in one of the largest wetlands on the planet, the Pantanal, which is largely known worldwide for its extraordinary wildlife, and mammal species in particular, that interact in complex ecological communities (ALHO, 2011). The Pantanal is an area of great global significance, and its vulnerability means it is a high priority for conservation. The site presents high levels of biodiversity (especially fish and bird species), high rates of fishing productivity and the occurrence of populations of vulnerable or endangered species. One hundred and thirty-one species of fish have been identified in the rivers that border the Taiamã site and its surroundings, which represents 48.33% of the total species found in the Pantanal biome (ICMBio, 2017). The Taiamã site is also characterized by a great abundance of bird species, and 237 species have been identified - or 51.18% of the total bird species already described for the Pantanal biome (ICMBio, 2017). In addition, of the 80 prevailing aquatic bird species in the Pantanal, 45 have been observed at the station. Considering the small size of this protected area, these are significant numbers. Located in the center of the area with the largest concentration of jaguars in the Pantanal (QUIGLEY; CRAWSHAW, 1992), the Taiamã site plays an important role in the conservation of this feline considered to be Near Threatened (IUCN, 2015). Other large mammal species considered vulnerable are present in this CU, such as the pteronura (Pteronura brasiliensis) and the marsh deer (Blastocerus dichotomus). Another important component of the Taiamã site is the monodominant plant formation popularly known as Abobral, composed of individuals of Erythrina fusca. Only two of these have been identified in the Pantanal, and that located at the Taiamã Ramsar site is considerably larger than the other. Finally, due to its favourable environmental conditions for the reproduction and development of fish of commercial value, this protected area contributes to the maintenance of the region's fish stock.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Name: Daniel Luis Zanella Kantek

Institution/agency: Chico Mendes Institute for Biodiversity Conservation (ICMBio)

Postal address: Rua Generoso Marques Leite, 20, C.O.C., Cáceres – MT. CEP: 78200-000.

E-mail: daniel.kantek@icmbio.gov.br

Phone: +55 65 3223 2676

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

From year: 2017

To year: 2018

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish): Taiamã Ecological Station

Unofficial name (optional): Taiamã

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 Ramsar site corresponds to the Conservation Unit Taiamã Ecological Station, that is delimited by the Paraguay River, which forks into two distributaries in the region of the Conservation Unit, one called Bracinho and the other more southerly channel known as the Paraguay. The area of the site is delimited by the point at which these meet again.

2.2.2 - General location

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

b) What is the nearest town or population centre? Cáceres

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): 11555

Area, in hectares (ha) as calculated from GIS boundaries: 11554.9

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
WWF Terrestrial Ecoregions	Pantanal

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 selected area is a representative sample of the Pantanal of Tuiuiú, one of the eighteen sub-regions recognized by MIOTO ET AL., 2012. The Taiamã Ecological Station Ramsar site is inside a region that plays an important role in flood control and sediment deposition processes in the north Pantanal. This region is characterized by the overflow of waters from the Paraguay River and is flooded for most of the year. (ASSINE; SILVA, 2009).

☑ Criterion 2 : Rare species and threatened ecological communities

☑ Criterion 3 : Biological diversity

Justification	131 fish species have been identified in the rivers that border the Taiamã site and its surrounding areas (ICMBio, 2017). The site is also characterized by its large abundance of bird species, and 237 species have been identified, or 51.18% of the total birds already identified in the Pantanal biome (ICMBio, 2017). In addition, of the total of 80 prevalent aquatic bird species in the Pantanal, 45 have been observed at the site. Considering the small size of this protected area, these are very significant numbers. The most representative birdlife at the Ecological Station are waterbirds, such as the neotropic Cormorant (Nannopterum brasilianus); the anhinga (Anhinga anhinga); the cocoi heron (Ardea cocoi); the striated heron (Butorides striata); the great egret (Ardea alba); the snowy egret (Egretta thula); the rufescent tiger-heron (Tigrisoma lineatum); the jabiru (Jabiru mycteria); the wood stork (Mycteria americana); the bare-faced ibis (Phimosus infuscatus); the yellow-billed tern (Sterna superciliaris); the large-billed tern (Phaetusa simplex); the green ibis (Mesembrinibis cayennensis); the limpkin (Aramus guarauna); the wattled jacana (Jacana jacana); the plumbeous ibis (Theristicus caerulescens); the buff-necked ibis (Theristicus caudatus); the snail kite (Rosthramus sociabilis); the chaco chachalaca (Ortalis canicollis); the southern screamer (Chauna torquata); the black-bellied whistling-duck (Dendrocygna autumnalis) and the muscovy duck (Cairina moschata). Many of these species feed on fish from bays and shallow lagoons in the dry season (ICMBio, 2017). In sporadic studies of plant species collected in the Taiamã site, 48 aquatic macrophyte species, 126 angiosperm species and 17 bryophyte and pteridophyte species were identified. Many aquatic macrophyte species occur at the station, such as the water hyacinth (Eichornia crassipes). Next to this species occurs the Eichornia azurea, which occupies a greater area than the first and is also known as the water hyacinth. There are also santa cruz water lilies (Victoria cruziana), water cabbages (Pistia stratiotes), water lilies (Nymphaeas sp.), piripiri (Cyperus giganteus), Equinodorus macrophylus, Sagittaria guyanensis and Pontederia lanceolata in the flooded areas, among other species. Another important plant component at the site is the monodominant plant formation popularly known as “Abobral”, which is composed of individuals of Erythrina fusca. Only two of these have been identified in the Pantanal, but that located at the station is considerably larger than the other. Other tree species observed include the canela jacu (Nectandra mollis), the tarumã (Vitex cymosa); the jatobá (Hymenaea stigonocarpa); the manduvi (Sterculia apetala); the aroeiro (Astronium sp.), the guatambu (Apidosperma sp.), the angico vermelho (Piptadenia sp.), the angelim (Andira sp.); the ipê (Tabebuia sp.), the cambará (Vochysia divergens) and the gig tree (Ficus trigona) (ICMBio,2017).

☑ Criterion 4 : Support during critical life cycle stage or in adverse conditions

☑ Criterion 7 : Significant and representative fish

Justification

To date, 131 species of fish have been identified at the Taiamã Ecological Station, demonstrating their important role in the conservation of ichthyofauna in the northern Pantanal, which represents 48.33% of the total species in the Pantanal biome (ICMBio, 2017).
The fishery in the site region focuses on fish of commercial value, such as the spotted sorubim (Pseudoplatystoma corruscans), the pacú (Piaractus mesopotamicus), the piranha (Serralmus sp.), the barred sorubim (Pseudoplatystoma fasciatum), the jaw characin (Salminus maxillosus), the flatwhiskered catfish (Pinirampus pirinamou), the pacupeva (Mylossoma orbignyanum), the piraputanga (Brycon hilarii), the palmito (Ageneiosus inermis) and the porthole shovelnose catfish (Hemisorubim platyrhyncos), among others. Every week, hundreds of amateur and professional fishermen (from several states in Brazil) sail to the station region to fish, indicating that the area has considerable populations of these species and plays an important role in maintaining the region's fish stocks. Within the site and its adjacent areas, fishing is prohibited by law because is a protected area with restricted use of resources. The Taiamã site area and its surrounding areas are considered to be optimal for some fish species due to the availability of food (FURLAN et al., 2017) and its favorable environmental conditions (MUNIZ et al., 2016).

☑ Criterion 8 : Fish spawning grounds, etc.

Justification

In addition, many migratory species such as the spotted sorubim, the pacú, the barred sorubim and the jaw characin reproduce in the site region, as specimens with mature gonads are collected during their reproductive periods at the station and its surrounding areas (ARENHAR, MUNIZ, 2011). It is important to emphasize that the large migratory catfish (spotted and barred sorubim) feed mainly on species of the order Characiformes (RESENDE et al., 1996; GALLETTI, 2010) and that this taxonomic group is more diverse in the site region (ICMBIO, 2017). Many other species of non-migratory fish, such as the pacupeva, the sardine and the piau, use the region for breeding.

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
Erythrina fusca	Abobreiro	☐	☐	☐		☐		Registered as monodominant, as an almost pure stand, in the Pantanal. Only two of these are known in the Pantanal, and that located at the station is considerably larger than the other.

Monodominant stands, known locally as Abobral, consist of Erythrina fusca, which is a deciduous species that blooms from May to September with intense fructification in November (POTT, POTT, 1994; LORENZI, 2002). Its seeds fall into the river and are largely ingested by migratory fish of high commercial value (FURLAN et al., 2017). Flowers are visited by birds and pollinators and are an important food source for the birds of the Pantanal during the dry season (POTT, POTT, 1994; PARRINI, RAPOSO, 2010).

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	*Actitis macularius*	Spotted Sandpiper	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
CHORDATA/ AVES	*Amazona aestiva*	Turquoise-fronted Amazon	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	

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								
CHORDATA/ AVES	*Brotogeris chiriri*	Yellow-chevroned Parakeet	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	
CHORDATA/ AVES	*Bubo virginianus*	Great Horned Owl	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	
CHORDATA/ AVES	*Busarellus nigricollis*	Black-collared Hawk	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	
CHORDATA/ AVES	*Calidris fuscicollis*	White-rumped Sandpiper	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
CHORDATA/ AVES	*Calidris melanotos*	Pectoral Sandpiper	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
CHORDATA/ AVES	*Caracara plancus*	Southern Crested Caracara	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	
CHORDATA/ AVES	*Crax fasciolata*	Bare-faced Curassow	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐		
CHORDATA/ AVES	*Hirundo rustica*	Barn Swallow	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
CHORDATA/ AVES	*Hylocharis chrysura*	Gilded Sapphire; Gilded Hummingbird	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	
CHORDATA/ AVES	*Ictinia mississippiensis*	Mississippi Kite	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
CHORDATA/ AVES	*Jabiru mycteria*	Jabiru	☑	☐	☐	☐	☐	☐	☐	☐				LC	☑	☐		
CHORDATA/ AVES	*Pandion haliaetus*	Western Osprey; Osprey	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
CHORDATA/ AVES	*Penelope ochrogaster*	Chestnut-bellied Guan	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐		
CHORDATA/ AVES	*Petrochelidon pyrrhonota*	Cliff Swallow; American Cliff Swallow	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
CHORDATA/ AVES	*Polytmus guainumbi*	White-tailed Goldenthroat	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	
CHORDATA/ AVES	*Progne subis*	Purple Martin	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
CHORDATA/ AVES	*Ramphastos toco*	Toco Toucan	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	
CHORDATA/ AVES	*Riparia riparia*	Sand Martin	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
CHORDATA/ AVES	*Rostrhamus sociabilis*	Snail Kite	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	
CHORDATA/ AVES	*Rupornis magnirostris*		☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	
CHORDATA/ AVES	*Tringa flavipes*	Lesser Yellowlegs	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
CHORDATA/ AVES	*Tringa solitaria*	Solitary Sandpiper	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant

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								
CHORDATA/ AVES	*Tyrannus tyrannus*	Eastern Kingbird	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Neartic migrant
Fish, Mollusc and Crustacea																		
CHORDATA/ ACTINOPTERYGII	*Ageneiosus inermis*		☐	☐	☐	☐	☐	☐	☑	☐					☐	☐		
CHORDATA/ ACTINOPTERYGII	*Brycon hilarii*		☐	☐	☐	☐	☐	☐	☑	☐					☐	☐		
CHORDATA/ ACTINOPTERYGII	*Hemisorubim platyrhynchos*	Porthole shovelnose catfish; Porthole shovelnose catfish	☐	☐	☐	☐	☐	☐	☑	☐					☐	☐		
CHORDATA/ ACTINOPTERYGII	*Mylossoma duriventre*		☐	☐	☐	☐	☐	☐	☑	☐					☐	☐		
CHORDATA/ ACTINOPTERYGII	*Piaractus mesopotamicus*	Pacú	☐	☑	☐	☐	☐	☐	☐	☐					☐	☐		Migrant - fish with commercial value
CHORDATA/ ACTINOPTERYGII	*Pinirampus pirinampu*	Flatwhiskered catfish; Flatwhiskered catfish	☐	☐	☐	☐	☐	☐	☑	☐					☐	☐		
CHORDATA/ ACTINOPTERYGII	*Prochilodus lineatus*	Curimbata	☐	☑	☐	☐	☐	☐	☐	☐					☐	☐		Migrant - fish with commercial value
CHORDATA/ ACTINOPTERYGII	*Pseudoplatystoma corruscans*	Spotted sorubim; Spotted sorubim	☐	☑	☐	☐	☐	☐	☑	☐					☐	☐		Migrant - fish with commercial value
CHORDATA/ ACTINOPTERYGII	*Pseudoplatystoma fasciatum*	Barred sorubim; Barred sorubim	☐	☑	☐	☐	☐	☐	☑	☐					☐	☐		Migrant - fish with commercial value
CHORDATA/ ACTINOPTERYGII	*Salminus brasiliensis*		☐	☑	☐	☐	☐	☐	☐	☐					☐	☐		Migrant - fish with commercial value
Others																		
CHORDATA/ MAMMALIA	*Alouatta caraya*	Black Howler; Paraguayan Howler	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Cites appendix II	
CHORDATA/ MAMMALIA	*Blastocerus dichotomus*	marsh deer	☑	☐	☐	☐	☐	☐	☐	☐				VU	☑	☐		
CHORDATA/ REPTILIA	*Caiman yacare*		☑	☐	☐	☐	☐	☐	☐	☐					☐	☐	Cites appendix II	
CHORDATA/ MAMMALIA	*Leopardus pardalis*	Ocelot	☑	☐	☐	☐	☐	☐	☐	☐				LC	☑	☐		
CHORDATA/ REPTILIA	*Paleosuchus palpebrosus*		☑	☐	☐	☐	☐	☐	☐	☐					☐	☐	Cites appendix II	
CHORDATA/ MAMMALIA	*Pteronura brasiliensis*	Giant Otter	☑	☐	☐	☐	☐	☐	☐	☐				EN	☑	☐		

1) Percentage of the total biogeographic population at the site

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

<no data available>

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

4.1 - Ecological character

The main factor that determines patterns and processes in the site region is the flood pulse (JUNK; SILVA, 1999), which follows an annual, monomodal cycle with an amplitude of 2 to 3 meters and a duration of more than 6 months. Although species diversity is not particularly high and endemism is practically absent (probably related to the geomorphological youth of the floodplain), the region is notable for its extraordinary concentration and abundance of wildlife.

According to the Brazilian Wetlands System Classification, the categories of functional units that dominate the site in the dry season are Pantanal Areas (48%), Areas of Water and Earth Transition (AWET) (47%) and Permanently Aquatic Areas (5%) (FROTA et al., 2017). AWET are very common in the Pantanal biome and only 20-30% of habitats are permanently covered by water or soaked, and the whole of the remaining area is composed of transition zones (NUNES DA CUNHA, JUNK, 2009). At the Ramsar site, there is a greater dominance of wetter habitat areas. This is due to a drastic decrease in the topographic gradient of this segment of the Paraguay River (SILVA et al., 2006), thus making the area of the TES very dynamic in terms of its flooding processes.

The distinct annual tides of the Paraguay river that cause the wet and dry seasons result in hydrological seasonality producing feeding and breeding grounds for wildlife subject to biochemical cycles (ALHO et al. 2011). These habitats change as a function of the water discharge carrying nutrients and sediments, depositing inorganic and organic matter that enriches microhabitats, favoring the proliferation of microorganisms, invertebrates, fish, and so on. Many endangered species still occur in conditions of healthy populations, including the jaguar (Panthera onca).

In addition, the conservation unit is a core zone of the Pantanal Biosphere Reserve, one of the world's most extensive wetland complexes, internationally known for its large bird, mammal, reptile, fish, insect and amphibian populations (Man and the Biospheres Program - UNESCO). Large wetlands such as the Pantanal perform many essential ecosystem services including the maintenance of biodiversity, carbon storage, flood control, fish production, and aquifer recharging, among others, which are of global importance (KEDDY et al., 2009).

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 > Lakes and pools >> O: Permanent freshwater lakes		4	462.6	
Fresh water > Marshes on inorganic soils >> Tp: Permanent freshwater marshes/ pools		1	5503.1	Representative
Fresh water > Lakes and pools >> Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils		2	2685.7	Representative
Fresh water > Marshes on inorganic soils >> Xf: Freshwater, tree-dominated wetlands		3	2773.2	Rare

4.3 - Biological components

4.3.1 - Plant species

Invasive alien plant species

Scientific name	Common name	IUCN Red List	Changes at RIS update
Psidium guajava			No change

4.3.2 - Animal species

<no data available>

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
A: Tropical humid climate	Aw: Tropical savanna (Winter dry season)

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 90

a) Maximum elevation above sea level (in metres): 120

- 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.

Paraguay 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)

Planosoil is the only soil type at the Taiamã Ecological Station. This class comprises mineral soils, which are generally hydromorphic, with a textural B horizon and a marked abrupt textural change which in the dry soil forms a fracture of separation from horizon A, or more typically E. In the B horizon of relatively high density, the drainage is bad or imperfect (CAMARGO et al., 2007).

4.4.4 - Water regime

Water permanence

Presence?
Usually permanent water present

Source of water that maintains character of the site

Presence?	Predominant water source
Water inputs from surface water	☑

Water destination

Presence?
To downstream catchment

Stability of water regime

Presence?
Water levels fluctuating (including tidal)

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

In the Pantanal, the flood regime determines the main biotic and abiotic processes, as well as the specific compositions of the landscape (ADAMOLI, 1995). The whole biome is influenced by changes in the flood regime in order to cause changes in vegetation cover.
The bodies of water at the Taiamã Ecological Station are isolated from other bodies of water during the dry season. During the flood season, almost the entire site area is flooded due to water overflowing from the Paraguay River Basin and its tributaries in the region.

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):

The biogeochemistry of the rivers of the Upper Paraguay Basin in its flat portions is influenced by the soil / water interaction in contact with the floodplain. This results in retention of sediment and particulate organic matter, and in processes of transformation and incorporation of nutrients (production) and decomposition (with consumption of dissolved oxygen and release of CO2).

(ECD) Water turbidity and colour	The waters that cover the fields are shallow and transparent and eventually form shallow lagoons.

4.4.6 - Water pH

- Acid (pH<5.5) ☐
- Circumneutral (pH: 5.5-7.4) ☑
- Alkaline (pH>7.4) ☐
- Unknown ☐

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 ☐

4.4.8 - Dissolved or suspended nutrients in water

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

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

During the floods, the phenomenon known as "Dequada" occurs. This phenomenon is associated with the decomposition of submerged plant biomass at the beginning of the flood, which causes very large and rapid variations in parameters such as conductivity, alkalinity and especially respiratory gas concentrations.
Therefore, anoxic environments with high levels of carbon dioxide (reaching values higher than 100mg / l of free CO2), lethal to practically all species of fish, are generated. This can cause a natural fish mortality in the order of thousands of tons. This phenomenon, without comparison with the planet's other wetlands, from its magnitude and extent alone can be considered to be a natural regulating factor of the structure and dynamics of the diverse biotic communities (CALHEIROS, FERREIRA, 1997; HAMILTON et al., 1997).

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 ○

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
Recreation and tourism	Recreational hunting and fishing	High
Recreation and tourism	Nature observation and nature-based tourism	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
Scientific and educational	Long-term monitoring site	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
Nutrient cycling	Carbon storage/sequestration	Medium
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	High

Within the site: 0

Outside the site: 2000

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 economic valuation study of the site is being carried out by the Long-Term Ecological Research team mentioned in Item 5.2.4. The results for this are not yet available.

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

There are rules for the environment surrounding the Taiamã Ecological Station that were developed democratically with the participation of the users of the region/river. One of the main rules is the fishing restriction in areas adjacent to the station. These rules are essential for the conservation of the site.

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
National/Federal government	☑	☑

Private ownership

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

Provide further information on the land tenure / ownership regime (optional):

The site is in the public domain. In the area surrounding the site there are (1) private properties, (2) a private reserve officially recognized by the federal government and (3) an island adjoining the site that is owned by the federal government. These areas (excluding the private reserve) are included in the proposal to expand the Taiamã Ecological Station.

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:	ICMBio/MMA
Provide the name and title of the person or people with responsibility for the wetland:	Daniel Luis Zanella Kantek / Environmental Analyst / Analista Ambiental da Estação Ecológica de Taiamã / Taiamã Ecological Station
Postal address:	Taiamã Ecological Station Rua Generoso Marques Leite, 20, C.O.C., Cáceres – MT. CEP: 78200-000. Brasil
E-mail address:	daniel.kantek@icmbio.gov.br

5.2 - Ecological character threats and responses (Management)

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

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Canalisation and river regulation	Low impact	Medium impact	☐	☑

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Livestock farming and ranching	Low impact	Low impact	☐	☑

Energy production and mining

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Renewable energy	Low impact	Medium impact	☐	☑

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified	Low impact	High impact	☐	☑

Biological resource use

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

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Low impact	Low impact	☐	☑

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Fire and fire suppression	Low impact	High impact	☑	☑
Dams and water management/use	Low impact	High impact	☐	☑

5.2.2 - Legal conservation status

Global legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
UNESCO Biosphere Reserve	The Taiamã Ecological Station is a core area of the Pantanal UNESCO Biosphere Reserve	http://www.unesco.org/mabdb/br/brdir/directory/biores.asp?mode=gen&code=BRA+03	whole

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Federal Conservation Unit of Integral Protection (Decree n° Nº 86.061/81)	Taiamã Ecological Station	http://www.icmbio.gov.br/esectai ama	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	Implemented

Habitat

Measures	Status
Faunal corridors/passage	Implemented

Species

Measures	Status
Threatened/rare species management programmes	Implemented

Human Activities

Measures	Status
Research	Implemented
Fisheries management/regulation	Implemented

Other:

In 2017, the Taiamã Ecological Station was chosen as a study area for the implementation of the Long-Term Ecological Study (Peld), entitled “Ecological Dynamics in the Upper Paraguay Flood Plain” (Darp). It is the only long-term project currently in progress in the Pantanal biome. The site was considered ideal due to its location, environmental characteristics and high degree of conservation.

5.2.5 - Management planning

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

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 ◉

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

The University of the State of Mato Grosso (UNEMAT) carries out environmental education activities at an undergraduate and postgraduate level in the site area. These activities are related to the disciplines of ecology and/or biodiversity assessment so that conservation alternatives for the site region are discussed. There is also a Cooperation Agreement between the institution that manages the station and UNEMAT.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No need identified

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Animal community	Implemented
Water quality	Implemented
Plant community	Implemented
Plant species	Implemented
Animal species (please specify)	Implemented
Birds	Implemented

The main species being monitored are fish species with economic value (ARENHART, N.; MUNIZ, C.C. 2011), some migratory and aquatic bird species (FROTA, A.V.B. 2017.) and tree communities (monospecific and polyspecific) (GRIS et al 2016a,b). There is also a monitoring plan for the jaguar population (KANTEK, ONUMA; 2013.; MORATO et al., 2016; MIYAZAKI et al. 2016, among others).

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

The biblioographic references are in 6.1.2 / vi item

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<no file available>

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:

Taiamã Ecological Station (
Daniel Kantek, 2018)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation 2018-10-21