Ramsar Information Sheet

Published on 25 July 2022

India

Pala Wetland

Designation date	31 August 2021
Site number	2484
Coordinates	22°11'49"N 92°54'07"E
Area	1 850,00 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

Pala wetland is located at an altitude of 275-589 meters (above mean sea level) in Siaha district, Mizoram. The wetland falls under the Phura forest range of the Mara autonomous district council region. Spreading across 1850 ha., Pala, is the largest natural wetland in the State of Mizoram. The size of the waterbody is roughly about 135 ha with an average depth of about 20 m. The site was declared a wetland reserve in 1998 by the Government of India (Nohro and Jayakumar, 2020). The wetland and its surrounding forest are officially part of the Pala Wetland Reserve Forest, which covers 1850 ha, Including the lake's catchment area (Nohro et al., 2019). Pala wetland is surrounded by hillocks of Xerospermum, Dipterocarpus and Ficus dominated forests, including 227 floral species. The wetland supports several faunal species, including 7 species of mammals, 222 species of birds, some of which are migratory, 11 species of amphibians, 21 species of reptiles, and three known species of fish. Pala wetland also supports globally threatened species such as the endangered hoolock gibbon and slow loris as well as critically endangered species such as elongated tortoise, Asian brown tortoise, and black soft-shelled turtle. Pala wetland is revered by the inhabitants (Mara people) and has a deep connection with their history. The wetland is the major source of freshwater for the fringe villages and plays a vital role in maintaining the hydrological regime of the area.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency: Mara Autonomous District Council (MADC), Environment and Forest Department

Postal address:
Deputy Conservator of Forest,
Mara Autonomous District Council (MADC)
Council Office,
Siaha-796901,
Mizoram, India

National Ramsar Administrative Authority

Institution/agency: Ministry of Environment, Forest & Climate Change, Government of India

Postal address:
Indira Paryavaran Bhawan
Jor Bagh Road
New Delhi-110003

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

From year: 2020

To year: 2021

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish): Pala Wetland

Unofficial name (optional): Palak Wetland

2.2 - Site location

2.2.1 - Defining the Site boundaries

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

Former maps: 0

Boundaries description:
Pala Wetland lies between 92°55'09.32" to 92°53'32.26"E and Lat. 22°10' 8.15" to 22°13'17.18" N. The Ramsar site boundary coincides with Pala wetland Reserve Forest (designated in 1998) boundary. The Ramsar site thus includes the wetland and its surrounding forest which form its catchment. The nearest human settlements are the villages of Phura (6 km) and Tokalo (5 km) in Saiha district. Hillocks of lush semi-evergreen forest surround Pala wetland. The forest follows the Pala stream, which originates from the eastern side of the wetland, flowing downwards to the location where the gorge opens in the shallow valley adjoining Phura village.

2.2.2 - General location

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

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

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): 1850

Area, in hectares (ha) as calculated from GIS boundaries: 1850.973

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Freshwater Ecoregions of the World (FEOW)	Chin Hills - Arakan Coast

Other biogeographic regionalisation scheme

Pala wetland forms a part of the North-East Indian biogeographic region.

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	Pala wetland plays a crucial role in maintaining the hydrological regime of the area. The wetland is the perennial source of water for rivers and streamlets in the surrounding area on which seven villages are dependent for accruing their livelihoods. The wetland has two small outlets, one named Tipo Didao, which converges with the small Pala river. This increases the size of the Pala river, making it the main and constant source of water supply for the two low-lying villages surrounding the wetland's catchment area. Another smaller outlet towards the south-east of Pala wetland also acts as the primary source of water supply for the Salyu river, which runs through five villages before it finally merges with the Chhimtuipui river flowing from Myanmar. River Pala (i.e. outflows of Pala Tipo water) is one of the most important tributaries of the main wetland from an agricultural and horticulture point of view since it has created a vast alluvial flood plain along its course.
Other ecosystem services provided	Pala wetland is intrinsically linked to the lives of the local communities. The local inhabitants (Mara people) revere Pala as it is depply linked with their history. Along with the cultural significance, the wetland is also an important source of natural resource for the local communities. The wetland is the source of fresh water for the fringe villages and also the primary source of irrigation for wet rice cultivation, horticulture and agriculture. Pala wetland also serves as the primary source of fishes for the community. Pala wetland is an important tourist destination and the unique assemblage attracts the scientific community as well, for research and survey work.
Other reasons	The wetland is nestled in a depression between hillocks covered by semi-evergreen forests closely resembling a montane wetland. As the water table remains constant throughout the year, the main hydrological supply to the lake is believed to be ground-water springs with two small streamlets contributing to the wetland.

☑ Criterion 2 : Rare species and threatened ecological communities

☑ Criterion 3 : Biological diversity

Justification	The wetland supports a diverse flora and fauna, including 227 species of flora, 7 species of mammals, 222 species of birds, 21 species of reptiles, 11 species of amphibians and 3 species of fish. The wetland also hosts several globally threatened species, such as sambar deer (Rusa unicolor), Asiatic black bear(Ursus thibetanus), slow loris(Nyctibetus coucang), and Hoolock gibbon (Hoolock hoolock).

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

Optional text box to provide further information	The wetland provides refuge and breeding ground for IUCN red listed critically endangered species of animals including yellow tortoise (Indotestudo elongata), Southeast Asian giant tortoise (Manouria emys) and black soft shell turtle (Nilssonia nigricans). The wetland increases the habitat diversity within a predominantly forested area and along with low human disturbance provides nesting, foraging, and refugia for several species.

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

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Plantae								
TRACHEOPHYTA / MAGNOLIOPSIDA	*Beilschmiedia longifolia*	☑	☑	☐	CR	☐		Criteria 2:IUCN Red list of Threatened species 2021 Criteria 3: Contributes to the biological diversity of the wetland
TRACHEOPHYTA / MAGNOLIOPSIDA	*Callicarpa psilocalyx*	☑	☑	☐	VU	☐		Criteria 2:IUCN Red list of Threatened species 2021 Criteria 3: Contributes to the biological diversity of the wetland
TRACHEOPHYTA / MAGNOLIOPSIDA	*Dipterocarpus retusus*	☑	☑	☐	EN	☐		Criteria 2: IUCN Red list of Threatened Species 2017 Criteria 3: Contributes to the biological diversity of the wetland
TRACHEOPHYTA / MAGNOLIOPSIDA	*Dipterocarpus turbinatus*	☑	☑	☐	VU	☐		Criteria 2: IUCN Red list of Threatened Species 2017 Criteria 3: Contributes to the biological diversity of the wetland.
TRACHEOPHYTA / MAGNOLIOPSIDA	*Dysoxylum malabaricum*	☑	☑	☐	EN	☐		Criteria 2: IUCN Red list of Threatened Species 2014 Criteria 3: Contributes to the biological diversity of the wetland.
TRACHEOPHYTA / MAGNOLIOPSIDA	*Litsea longifolia*	☑	☑	☐	VU	☐		Criteria 2:IUCN Red list of Threatened species 1998 Criteria 3: Contributes to the biological diversity of the wetland
TRACHEOPHYTA / LILIOPSIDA	*Renanthera imschootiana*	☑	☑	☐		☑	Schedule VI species of Indian Wildlife Protection Act, 1972	Criteria 2: CITES appendix-I species, Native to Northeast India Criteria 3: Contributes to the biological diversity of the wetland

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

Phylum	Scientific 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								
Others																	
CHORDATA / REPTILIA	*Amyda cartilaginea*	☑	☑	☐	☐	☐	☐	☐	☐				VU	☐	☐		Criteria 2: IUCN Red List of Threatened Species 2000 Criteria 3: Contributes to the biodiversity of the wetland Criteria 4: Provides habitat and refuge for the species
CHORDATA / MAMMALIA	*Hoolock hoolock*	☑	☑	☐	☐	☑	☐	☐	☐				EN	☐	☐		Criteria 2: IUCN Red List of Threatened Species 2015 Criteria 3: Contributes to the biodiversity of the wetland Criteria 4: Provides habitat and refuge for the species
CHORDATA / REPTILIA	*Indotestudo elongata*	☑	☑	☐	☐	☑	☐	☐	☐				CR	☐	☐	Schedule IV species of Wildlife Protection Act, 1972	Criteria 2: IUCN Red List of Threatened Species 2018 Criteria 3: Contributes to the biodiversity of the wetland Criteria 4: Provides habitat and refuge for the species
CHORDATA / REPTILIA	*Manouria emys*	☑	☑	☐	☐	☑	☐	☐	☐				CR	☐	☐		Criteria 2: IUCN Red List of Threatened Species 2018 Criteria 3: Contributes to the biodiversity of the wetland Criteria 4: Provides habitat and refuge for the species
CHORDATA / REPTILIA	*Nilssonia nigricans*	☑	☑	☐	☐	☑	☐	☐	☐				CR	☐	☐		Criteria 2: IUCN Red List of Threatened Species 2000 Criteria 3: Contributes to the biodiversity of the wetland Criteria 4: Provides habitat and refuge for the species
CHORDATA / MAMMALIA	*Nycticebus coucang*	☑	☑	☐	☐	☑	☐	☐	☐				EN	☑	☐	Schedule I species of Wildlife Protection Act, 1972	Criteria 2: IUCN Red List of Threatened Species 2015 Criteria 3: Contributes to the biodiversity of the wetland Criteria 4: Provides habitat and refuge for the species
CHORDATA / MAMMALIA	*Rusa unicolor*	☑	☑	☐	☐	☐	☐	☐	☐				VU	☐	☐	Schedule III species of Wildlife Protection Act, 1972	Criteria 2: IUCN Red List of Threatened Species 2014 Criteria 4: Provides habitat and refuge for the species
CHORDATA / MAMMALIA	*Trachypithecus phayrei*	☑	☑	☐	☐	☑	☐	☐	☐				EN	☐	☐		Criteria 2: IUCN Red List of Threatened Species 2015 Criteria 3: Contributes to the biodiversity of the wetland Criteria 4: Provides habitat and refuge for the species
CHORDATA / MAMMALIA	*Ursus thibetanus*	☑	☑	☐	☐	☐	☐	☐	☐				VU	☑	☐	Schedule II species of Wildlife Protection Act, 1972	Criteria 2: IUCN Red List of Threatened Species 2014 Criteria 4: Provides habitat and refuge for the species
Birds																	
CHORDATA / AVES	*Gracula religiosa*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	Schedule I species of Wildlife Protection Act, 1972	Criteria 3: Contributes to the biodiversity of the wetland
CHORDATA / AVES	*Lophura leucomelanos*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	Schedule I species of Wildlife Protection Act, 1972	Criteria 3: Contributes to the biodiversity of the wetland

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

Pala wetland (22°10' - 22°12" North and 92°52'- 93°55' East,) is located in Siaha district, Mizoram. The wetland is situated about 6 km from the nearest village called Phura and falls under the Phura forest range of the Mara autonomous district council region. Spread across 1850 ha, Pala, is the largest natural wetland in the state of Mizoram. Oriented in a northwest to southeast direction, the wetland is oval-shaped . The central area of the wetland has a depth of about 18 meters, while the average depth is 16.22 meters. The site is under the direct influence of the southwest monsoon, so it receives heavy rainfall and the average annual rainfall is estimated to be 2540 mm. Pala wetland closely resembles montane wetlands, which are one of the most sensitive ecosystems and prone to climate change. The wetland is a mosaic of freshwater lakes, peat rich marshes, and riparian forests. These assemblages host a variety of unique vegetation, dominated by tall trees (Tetrameles nudiflora, Xerospermum, Ficus), aquatic plants (Nelumbo, Nymphaea, Stuckenia, Trapa, Eichornia, Myriophyllum, Cyperus) ferns(Ceratopteris, Davallia, Gleicheinia, Equisetum, Cyathea, Pteris , Dryopteris) and wild orchids (Aerides, Coelogyne, Symbidium, Dendrobium, Papilionthe, Renanthera, Rhyncostylis) which in turn provides habitat and food for a variety of birds, animals and fishes in the area, creating a niche ecosystem.
The wetland supports a rich diversity of faunal species, including over 7 species of mammals, 222 species of birds and 11 species of amphibians, and 21 species of reptiles. The low-lying marshy areas within the wetland provide excellent habitat for many herbivores such as sambar deer (Cervus unicolor), wild pig (Sus scrofa), and barking deer(Muntiacus muntjak). Various species of primates also inhabit the wetland, such as the highly endangered Hoolock gibbon (Hoolock hoolock) and Phayre's leaf monkey (Trachypithecus phayrei). The notable avifaunal species are oriental pied hornbill (Anthracoceros albitrostis), laughing thrush (Garrulax leucolophus), grey peacock-pheasant (Polyplectron bicalcaratum), little grebe(Tachybaptus ruficollis), red junglefowl(Gallus gallus), Indian pond heron(Ardeola grayii), purple swamp hen (Porphyrio porphyrio), hoopoe(Upupa epops), black capped kingfisher (Halcyon pileata), and oriental darter (Anhinga melanogaster).
The local communities accrue multiple ecosystem services from the wetland. The wetland is the source of freshwater for the fringe villages and also the major source of irrigation for wet rice cultivation, horticulture, and agriculture. Pala wetland is also the major source of fishes for the community. The wetland and forest in the catchment area is an important source of fruits and edible plants for the local communities. Along with the provisioning services, the wetland also plays a crucial role in maintaining the hydrological regime of the area. The wetland is revered by the local inhabitants (Mara people) and is deeply linked with their history. The earliest settlements of the Mara tribe upon immigrating from Myanmar (then Burma) are said to have been around this wetland reserve. Because of its cultural significance among the Mara people, the ecological character of Pala wetland remains near-pristine till date. Owing to its unique assemblage and pristine condition, Pala wetland is also an important tourist destination.

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	Pala Tipo	1	1150	Unique
Fresh water > Marshes on inorganic soils >> Xf: Freshwater, tree-dominated wetlands		2	700	Representative

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/MAGNOLIOPSIDA	*Artocarpus lacucha*	Provides food for birds and other animals
TRACHEOPHYTA/MAGNOLIOPSIDA	*Ficus religiosa*	Provides food for birds and animals
TRACHEOPHYTA/MAGNOLIOPSIDA	*Horsfieldia kingii*	Fruit is consumed by birds and used as substitute for betelnut
TRACHEOPHYTA/MAGNOLIOPSIDA	*Xerospermum noronhianum*	Dominant tree species

Invasive alien plant species

Phylum	Scientific name	Impacts
TRACHEOPHYTA/LILIOPSIDA	*Eichhornia crassipes*	Actual (major impacts)

4.3.2 - Animal species

Invasive alien animal species

Phylum	Scientific name	Impacts
CHORDATA/ACTINOPTERYGII	*Oreochromis mossambicus*	Actual (minor impacts)

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Cwa: Humid subtropical (Mild with dry winter, hot summer)

The climatic conditions in the site is moderate owing to its tropical location. During summer, the temperature rises to a maximum high of 34° Celsius and minimum of 19° Celsius and during winter it has a maximum of 24°Celsius and minimum of 8°Celsius. The temperature starts to decline sharply from the month of November until January. January is the coldest month in the wetland area. The average rainfall is estimated to be 2540 mm per annum.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 274

a) Maximum elevation above sea level (in metres): 589

- 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 ☐

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 ◉

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 groundwater	☑	No change
Water inputs from precipitation	☐	No change
Water inputs from surface water	☐	No change

Water destination

Presence?	
To downstream catchment	No change

Stability of water regime

Presence?	
Water levels largely stable	No change

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 ☑

(ECD) Water temperature: 30.7°C

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 ☑

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 ☐

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)	Medium
Fresh water	Drinking water for humans and/or livestock	High
Fresh water	Water for irrigated agriculture	High
Wetland non-food products	Timber	Medium

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Storage and delivery of water as part of water supply systems for agriculture and industry	High
Erosion protection	Soil, sediment and nutrient retention	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	Medium
Spiritual and inspirational	Cultural heritage (historical and archaeological)	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High

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	High
Pollination	Support for pollinators	High

Within the site: 1000

Outside the site: 5000

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 ☑

Description if applicable

Pala wetland is revered and is deeply linked with the history of Mara people inhabiting the region. According to oral history, Pala wetland is said to have originated after the demise of an ancient humongous snake terrorizing the villagers. This origin story has been passed down through generations instilling a sense of guardianship among the inhabitants towards the wetland and its vegetation. Another important aspect of this wetland is that, the earliest settlements of the Mara tribe upon immigrating from Myanmar (then Burma) is said to have been around this wetland reserve. Historians and anthropologists could study this immigration theory to trace the lineage of Mara people and the people of Mizoram. Its cultural significance among Mara people is one of the most important factors as to why this wetland ecological character remains near-pristine till date.

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

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
Provincial/region/state government	☑	☐

Private ownership

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

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:	Environment and Forest Department, Mara Autonomous District Council region, Siaha, Mizoram, India
Provide the name and/or title of the person or people with responsibility for the wetland:	Thaly T. Azyu, Deputy Conservator of Forest
Postal address:	Environment and Forest Department, Mara Autonomous District Council region, Council Office, Siaha-796901, Mizoram, India
E-mail address:	mafcf12@gmail.com

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
Housing and urban areas	Medium impact		☐	☑

Water regulation

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

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	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	High impact		☑	☐
Logging and wood harvesting	High 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	☑	☐

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Vegetation clearance/ land conversion	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	Medium impact		☑	☐

Geological events

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Earthquakes/tsunamis		Medium 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		Medium impact	☐	☑

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Wetland Reserve	Pala Wetland	http://www.forest.mizoram.gov.in /page/palak-wetland	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 ☐

<no data available>

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Catchment management initiatives/controls	Implemented
Improvement of water quality	Proposed
Hydrology management/restoration	Partially implemented
Re-vegetation	Implemented
Faunal corridors/passage	Proposed

Species

Measures	Status
Threatened/rare species management programmes	Implemented
Reintroductions	Proposed
Control of invasive alien plants	Proposed

Human Activities

Measures	Status
Livestock management/exclusion (excluding fisheries)	Implemented
Fisheries management/regulation	Partially implemented
Harvest controls/poaching enforcement	Implemented
Research	Proposed
Regulation/management of recreational activities	Implemented

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 ◉

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, but a plan is being prepared

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water regime monitoring	Proposed
Water quality	Proposed
Soil quality	Proposed
Plant community	Proposed
Animal community	Proposed
Birds	Proposed

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

1. Birand, A., & Pawar, S. (2004). An ornithological survey in north-east India. Forktail, 20, 15-24.
2. Hussan, A., Chakrabarti, P. P., Sundaray, J. K., Das, A., Mohapatra, B. C., & Ananth, P. N. (2018). Status and future of aquaculture development in Mizoram, India.
International Journal of Fisheries and Aquatic Studies, 6(4), 42-48.
3. Lawlor CJZ, Lalthanzara H, 2021. A review of the diversity of aquatic avifauna in Mizoram, India. Science Vision, issue 1,pp 6-11.
4. Lalmuansangi LH, 2014. Preliminary assessment on water quality and biodiversity in and around Palak Dil in southern Mizoram, India. Science Vision
5. Nohro S, Jayakumar S, 2020. Tree species diversity and composition of the Pala Wetland Reserve Forest, Mizoram, Indo-Burma hotspot, India. Journal of Biocatalysis and Agricultural Biotechnology, 20:101474.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<2 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
<5 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:

picturesque view of Pala wetland (*E&F,MADC, 02-02-2014*)

Pala wetland (*E & F, MADC, 02-02-2014*)

Pala wetland (*E & F, MADC, 10-04-2018*)

Pala wetland reserve (*E & F, MADC, 18-06-2021*)

Pala wetland reserve (*E & F, MADC, 10-02-2021*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation: 2021-08-31