

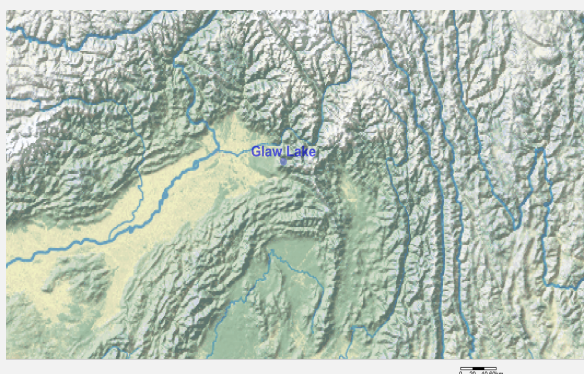


# Ramsar Information Sheet

Published on 3 August 2026

## India

### Glaw Lake



|                  |                       |
|------------------|-----------------------|
| Designation date | 21 January 2026       |
| Site number      | 2597                  |
| Coordinates      | 27°41'47"N 96°27'11"E |
| Area             | 128,98 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Glaw Tuwi, also known as Glaw Lake (located at 27.69N & 96.45E), is a natural freshwater wetland situated at an elevation of 1168m. The foot-shaped wetland is 18km away from the nearest settlement, Wakro, and has a perimeter of 5.12 km spanning over an area of 128.98 ha. The wetland sustains significant populations of floral species like Dalbergia sissoo, Duabanga grandiflora, Pterospermum acerifolium, Actinodaphne obovate, Adina cordifolia, Ailanthus excelsa, Bombax ceiba, etc and faunal speceis like clouded leopard (Neofelis nebulosa), Eastern hoolock gibbon (Hoolock hoolock), red goral (Naemorhedus baiyell), Asiatic black bear (Ursus thibetanus), golden cat (Catopuma temminckii), and sun bear (Helarctos malayanus). Several of these species are globally threatened, including clouded leopard (VU), Eastern hoolock gibbon (EN), red goral (VU), Asiatic black bear (VU), and sun bear (VU). It is a sacred lake, especially revered by the Mishmi tribe of Arunachal Pradesh. The wetland buffers water received from rainfall and inflowing streams and contributes to the regime of the Kamlang River. |

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

##### Responsible compiler

|                    |                                                                                                       |
|--------------------|-------------------------------------------------------------------------------------------------------|
| Institution/agency | Kamlang Tiger Reserve & Wildlife Sanctuary, Govt. of Arunachal Pradesh                                |
| Postal address     | Office of Divisional Forest Officer, Kamlang Tiger Reserve & WLS Division, Wakro, Dist Lohit - 792102 |

##### National Ramsar Administrative Authority

|                    |                                                                                                                                                                          |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Institution/agency | Ministry of Environment, Forest and Climate Change, Government of India                                                                                                  |
| Postal address     | Office of the Secretary, Ministry of Environment, Forest and Climate Change, Government of India, Indira Paryavaran Bhavan, Jorbagh Road,<br>New Delhi - 110 003<br>INDI |

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

|           |      |
|-----------|------|
| From year | 2022 |
| To year   | 2025 |

#### 2.1.3 - Name of the Ramsar Site

|                                               |           |
|-----------------------------------------------|-----------|
| Official name (in English, French or Spanish) | Glaw Lake |
| Unofficial name (optional)                    | Glaw Lake |

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

#### b) Digital map/image

&lt;2 file(s) uploaded&gt;

|             |   |
|-------------|---|
| Former maps | 0 |
|-------------|---|

#### Boundaries description

Glaw lake is a 128 ha freshwater lake located near Wakro town in Lohit district of Arunachal Pradesh and is situated within the Kamlang Wildlife Sanctuary and Tiger Reserve (established in 2017). The catchment area of the Lake is nearly 700 ha. The boundary of the Glaw lake Ramsar Site corresponds exactly to the maximum water spread of the Glaw Lake, which was determined based on Google Earth imagery (2024) and Field Assessments (2025). To the north of the Lake lies the Kamlang River, separated by a hillock. The lake has one outlet in the southeast direction in the form of a small stream, which later joins the Kamlang River. The Kamlang River in the north is separated by a hillock and there are marshes located towards the south-east direction.

Apart from the main water body, the surrounding landscape of Glaw Lake is extensively covered by marshy wetlands interspersed with forested patches. These marshlands play a crucial ecological role in maintaining the environmental balance of the lake ecosystem. Although the surface area and volume of the lake remain relatively stable throughout the year, the adjoining marshy zones undergo seasonal variations that support rich nutrient cycling and hydrological functions. The combined ecosystem of the lake, marshes, and surrounding forests represents a highly sensitive and valuable natural habitat.

### 2.2.2 - General location

|                                                            |                                          |
|------------------------------------------------------------|------------------------------------------|
| a) In which large administrative region does the site lie? | Lohit district, Arunachal Pradesh, India |
| b) What is the nearest town or population centre?          | Wakro                                    |

### 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): 128.98

Area, in hectares (ha) as calculated from GIS boundaries 128.284

## 2.2.5 - Biogeography

### Biogeographic regions

| Regionalisation scheme(s)                 | Biogeographic region |
|-------------------------------------------|----------------------|
| Freshwater Ecoregions of the World (FEOW) | Middle Brahmaputra   |

### Other biogeographic regionalisation scheme

-

### 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

Glaw Lake functions as a deep-water mesotrophic lake, storing water and releasing it throughout the year, either through runoff or subsurface drainage. The catchment area of the wetland is nearly 700 ha and the wetland stores water received from rainfall and inflowing streams from the catchment that also contributes to the water regime of the Kamlang River. This river originates at an elevation 2900 m and travels for a distance of ~54 km, eventually draining into the Brahmaputra. Several smaller tributaries contribute to the river, providing water to the wetland throughout the year. The hydrology of Glaw is influenced by seasonal rainfall, which is a key source of water for the wetland and its catchment. During the monsoon, surface runoff increases significantly, replenishing the wetland and supporting its ecological functions. Natural drainage channels within the catchment help maintain the connectivity between the wetland and the surrounding hydrological system. The wetland does not have any major inlet and the outlet of the wetland is a small stream in the south-east direction which joins the Kamlang River. The Kamlang River in the north is separated by a hillock and there are marshes located towards the south-east direction. Kamlang Tiger Reserve (KTR) is the catchment area of other important rivers like Lang and Lati that are tributaries of the Brahmaputra River system. The maximum depth of the lake is likely to be greater than 30m in its deepest parts. The depth is measured to be 12m at 30m from the inlet and 16m at 50m from the inlet. Geomorphologically, the wetland catchment is characterized by presence of structural hills (consist of valleys and ridges of definite trend lines). These moderate and high-top mountains are formed of bedded sandstone, fractured quartzite & phyllites, mica-schists and gneiss occurring in the thrust zone. In the wetland catchment, the soil generally contains high humus (organic content) and nitrogen due to extensive cover of the vegetation cover (CGWB, 2013).

Other ecosystem services provided

Glaw Lake, located at an elevation of 1168 m within the Kamlang Tiger Reserve (KTR), serves as an important ecological refuge supporting high biodiversity. The reserve itself harbors four big cat species — tiger (*Panthera tigris*), leopard (*Panthera pardus*), clouded leopard (*Neofelis nebulosa*), and snow leopard (*Panthera uncia*). The area around the lake supports diverse fauna, including the Great Cormorant (*Phalacrocorax carbo*), Citrine Wagtail (*Motacilla citreola*), and Osprey (*Pandion haliaetus*), as well as mammals such as the Clouded Leopard (*Neofelis nebulosa*), Hoolock gibbon (*Hoolock hoolock*), Red goral (*Naemorhedus baileyi*), Asian Golden Cat (*Catopuma temminckii*), Asiatic Black Bear (*Ursus thibetanus*), Sun Bear (*Helarctos malayanus*), and Barking Deer (*Muntiacus muntjak*), among others. A total of 40 mammalian species (TCP 2021-31) and 68 bird species have been recorded (Biju et al., 2023), including the Critically Endangered White-bellied Heron (*Ardea insignis*) (Habung et al., 2019; Menzies et al., 2021), along with 20 reptile species (TCP 2021-31) and several amphibians. Vegetation ranges from tropical wet evergreen forests to alpine forests in the upper regions of Dapha Bum Peak, with the reserve largely falling within a subtropical climatic zone. The highly productive forests provide food sources such as leaves, grasses, and fruits, supporting seasonal migrations of large mammals in response to vegetation changes and food availability. Floral diversity around the wetland and its catchment includes 79 plant species, 150 tree species (including 10 shrubs and 21 herbs), and 49 orchid species, with *Dalbergia sissoo* and *Duabanga grandiflora* being dominant. The area has been designated an Important Bird and Biodiversity Area (IBA), further reinforcing its ecological significance.

Other reasons

KTR contains a network of riverine wetlands associated with the Lohit and Dibang river systems, including perennial rivers, mountain streams, floodplain wetlands, and associated riparian habitats. These wetlands are characteristic of the eastern Himalayan foothill landscape and represent typical hydrological and ecological conditions of riverine systems in Arunachal Pradesh. The combination of steep montane catchments, high rainfall, and intact forest cover supports dynamic river channels, seasonal inundation areas, and diverse freshwater habitats. These wetland systems are representative of natural riverine wetlands of the eastern Himalayan biogeographic region and contribute to maintaining regional hydrological processes and aquatic biodiversity. Due to its hilly terrain and remoteness, Glaw Lake and its surroundings are left out of significant human interference, and the site remains a typical example of a natural wetland of the region.

☒ **Criterion 2 : Rare species and threatened ecological communities**

Optional text box to provide further information

Glaw Lake, a high-altitude freshwater wetland within Kamlang Tiger Reserve, Arunachal Pradesh, is ecologically significant as it supports a rich assemblage of threatened and ecologically important flora and fauna characteristic of the Eastern Himalayan biodiversity hotspot. The surrounding forests and wetland fringes harbour plant species such as *Paris polyphylla* (Vulnerable, VU), *Piper pedicellatum* (Vulnerable, VU), and *Sapria himalayana* (Endangered, EN). The threatened animals include Red Panda (*Ailurus fulgens*, Endangered), Snow Leopard (*Uncia uncia*, Endangered) and Red Goral (*Naemorhedus baiyell*, Vulnerable), along with other ecologically important species. Glaw Lake also serves as an important habitat for avifauna, including the White-bellied Heron (*Ardea insignis*, Critically Endangered)—one of the rarest herons globally and a strong indicator of undisturbed wetland systems—as well as the Great Hornbill (*Buceros bicornis*, Vulnerable). Altogether, the coexistence of threatened plants, apex predators, large frugivorous birds and rare wetland specialists underscores Glaw Lake's role in supporting rare and threatened species within Kamlang Tiger Reserve.

☒ **Criterion 3 : Biological diversity**

Justification

The wetland system associated with Glaw Lake in Kamlang Tiger Reserve holds outstanding conservation importance due to its high endemism, rarity, and ecological significance within the Eastern Himalayan biodiversity hotspot. Floral diversity around the wetland and its catchment includes 79 plant species, 150 tree species (including 10 shrubs and 21 herbs), and 49 orchid species. The presence of rare and regionally restricted flora such as *Sapria himalayana* (rare; endemic to the Eastern Himalaya and Southeast Asia; EN in the IUCN Red List), along with ecologically dominant forest trees including *Duabanga grandiflora* (Least Concern), *Actinodaphne obovata* (Least Concern), *Adina cordifolia* (Least Concern), *Bombax ceiba* (Least Concern), and *Dalbergia sissoo* (Least Concern but locally declining), reflects an intact forest–wetland continuum characteristic of Kamlang. Although globally listed as Least Concern, these tree species are biogeographically significant as representatives of tropical to subtropical riverine and moist forest ecosystems at the Indo-Malayan–Himalayan transition, playing key roles in forest structure, riparian stability, and habitat heterogeneity, with the local decline of *Dalbergia sissoo* highlighting regional conservation concerns. The wetland and its surrounding forests support several important mammal species, including the Clouded Leopard (*Neofelis nebulosa*, Vulnerable), Hoolock Gibbon (*Hoolock hoolock*, Endangered), Himalayan Serow (*Capricornis thar*), Near Threatened, Red Goral (*Naemorhedus baileyi*, Near Threatened), Himalayan Musk Deer (*Moschus chrysogaster*, Endangered), Asiatic Golden Cat (*Catopuma temminckii*, Vulnerable), Asiatic Black Bear (*Ursus thibetanus*, Vulnerable), Sun Bear (*Helarctos malayanus*, Vulnerable), and the apex predator Tiger (*Panthera tigris*, Endangered), underscoring the role of the Glaw Lake landscape as a critical refuge, foraging ground, and movement corridor for large and threatened mammals. Together, the coexistence of rare plants, threatened mammals, and specialist avifauna establishes the Glaw Lake wetland as a keystone ecosystem essential for sustaining biodiversity, ecological processes, and long-term conservation integrity of Kamlang Tiger Reserve.

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

Optional text box to provide further information

Among mammals, the reported list includes regional endemics like the Tiger (*Panthera Tigris*), Clouded Leopard (*Neofelis nebulosa*), Stumped Tailed Macaque (*Macaca arctoides*)-(VU), Red Panda (*Ailurus fulgens*)-(EN) and Red Goral (*Naemorhedus baiyeli*)-(VU). These mammals depend on this site for food and habitat during most part of their life cycle.

End year

0

☒ **Criterion 7 : Significant and representative fish**

Justification

The occurrence and consideration of fish species such as Chocolate Mahseer (*Neolissochilus hexagonolepis*), Common Snow Trout (*Schizothorax richardsonii*), Golden Mahseer (*Tor putitora*), Giant Danio (*Devario spp.*), Gangetic Latia (*Tarilabeo latius*), Dinnawah Snow Trout (*Schizothorax progastus*), Vagra Baril (*Barilius vagra*) in the context of Kamlang Tiger Reserve and Glaw Lake is justified by the diverse and largely undisturbed freshwater habitats present within the reserve, which form part of the Brahmaputra river basin. Kamlang's network of perennial rivers, fast-flowing hill streams, and cold, well-oxygenated waters, together with the high-altitude Glaw Lake and its feeder streams, provide suitable ecological conditions for both cold-water species such as snow trouts and mahseers, as well as warm-water and mid-stream cyprinids like danios and barils. Several of these species are endemic and characteristic of the Brahmaputra River basin, highlighting the importance of the site in supporting the regional diversity of freshwater fishes. Collectively, the presence or potential occurrence of these fishes highlights the high aquatic biodiversity value of Kamlang Tiger Reserve and Glaw Lake and underscores the importance of conserving these freshwater ecosystems alongside terrestrial wildlife.

### 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                                                                                                     |
|---------------------------------|------------------------------|--------------------------|-------------------------------------|--------------------------|---------------|--------------------------|--------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Plantae</b>                  |                              |                          |                                     |                          |               |                          |              |                                                                                                                   |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Acer oblongum</i>         | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | LC            | <input type="checkbox"/> |              | The wetland supports this plant during the entire life                                                            |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Actinodaphne obovata</i>  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | LC            | <input type="checkbox"/> |              | This species is an important for forest regeneration.                                                             |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Adina cordifolia</i>      | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | LC            | <input type="checkbox"/> |              | This species helps in forest regeneration.                                                                        |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Ailanthus excelsa</i>     | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | DD            | <input type="checkbox"/> |              | This species is an important for forest regeneration.                                                             |
| TRACHEOPHYTA/<br>POLYPODIOPSIDA | <i>Asplenium prolongatum</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | NE            | <input type="checkbox"/> |              | The wetland supports this plant as it can be beneficial for the species growth and other ecological factors.      |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Balanophora elongata</i>  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | NE            | <input type="checkbox"/> |              | This species has good presence in the wetland and helps in ecological growth of the other species simultaneously. |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Bombax ceiba</i>          | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | LC            | <input type="checkbox"/> |              | This species serves as very good feeding species for several birds and ground dwelling herbivores.                |
| TRACHEOPHYTA/<br>LILIOPSIDA     | <i>Caryota urens</i>         | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | LC            | <input type="checkbox"/> |              | The wetland supports this plant as also acts as an edible source for many species.                                |

| Phylum                          | Scientific name                 | Criterion 2                         | Criterion 3                         | Criterion 4                         | IUCN Red List | CITES Appendix I         | Other status | Justification                                                                                                                                                                                               |
|---------------------------------|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------|--------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Castanopsis indica</i>       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | LC            | <input type="checkbox"/> |              | The wetland supports this plant and helps as feeding plant species for several ground dwelling species like squirells, rats etc. as a source of nutrients.                                                  |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Castanopsis tribuloides</i>  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | LC            | <input type="checkbox"/> |              | The species in the wetlands helps maintaining the ecological biomass and mainataining the niche.                                                                                                            |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Dalbergia sissoo</i>         | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | LC            | <input type="checkbox"/> |              | This species is an very important timber species and also helps in forest regeneration.                                                                                                                     |
| TRACHEOPHYTA/<br>POLYPODIOPSIDA | <i>Diplazium esculentum</i>     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | LC            | <input type="checkbox"/> |              | This species is also used by several species as source of food and helps in pollination for many insects.                                                                                                   |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Duabanga grandiflora</i>     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | LC            | <input type="checkbox"/> |              | This species serves as an important food species form many birds and several ungulate species.                                                                                                              |
| TRACHEOPHYTA/<br>LILIOPSIDA     | <i>Paris polyphylla</i>         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | VU            | <input type="checkbox"/> |              | The wetland supports this rare endemic species of Arunachal Pradesh, which is found in the nearby habitats surrounding the lake.                                                                            |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Piper pedicellatum</i>       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | VU            | <input type="checkbox"/> |              | The species is useful as it helps in maintaining the ecological balanace in the proximity of the wetland areas.,.                                                                                           |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Pterospermum acerifolium</i> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | LC            | <input type="checkbox"/> |              | This speceis is an important for forest regeneration.                                                                                                                                                       |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA  | <i>Sapria himalayana</i>        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | EN            | <input type="checkbox"/> |              | This species is a very rare plant which also belongs to the rafflesia family. This species can usually be found on ground as it also serves as a rich source of nutrients fro many ground dwelling animals. |

The species Paris polyphylla is VU in the IUCN Red List and hence is applicable for Criterion 4.

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/<br>MAMMALIA | <i>Ailurus fulgens</i> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | EN            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Schedule I of IWPA,1972 | The biodiversity of Glaw Lake supports essential ecological processes such as hydrological regulation, soil stabilization, nutrient cycling, and habitat provision. The presence of diverse plant and animal species reflects the wetland's ecological integrity and highlights its importance in maintaining overall ecosystem stability within the surrounding landscape. |

| 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                        |           |                     |                 |               |                                     |                          |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CHORDATA/<br>ACTINOPTERYGII | <i>Barilius vagra</i>          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |              | The diverse assemblage of this species of flora supports essential ecological processes such as nutrient cycling, energy flow, and natural regeneration within the lake environment. The aquatic and terrestrial species associated with the lake contribute significantly to different stages of the life cycle of many faunal species by providing food, shelter, breeding grounds. .                                                                                                   |
| CHORDATA/<br>MAMMALIA       | <i>Capricornis thar</i>        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | NT            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |              | This species is an near threatened species that regulates the prey-predator relations in the pa and also sighted among the habitats of the Galw Lake.                                                                                                                                                                                                                                                                                                                                     |
| CHORDATA/<br>MAMMALIA       | <i>Catopuma temminckii</i>     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | VU            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |              | One of the important small cat species recorded from the tiger reserve, this vulnerable species plays a significant role in maintaining ecological balance and habitat management. It is commonly found in the forested habitats adjoining the lake area, where it contributes to the stability of the local ecosystem and food chain dynamics.                                                                                                                                           |
| CHORDATA/                   | <i>Devario aequipinnatus</i>   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |              | It plays a vital role in maintaining wetland habitat regulation by supporting the aquatic food chain, controlling insect populations, and contributing to nutrient cycling, thereby helping sustain the ecological balance of the lake ecosystem.                                                                                                                                                                                                                                         |
| CHORDATA/<br>MAMMALIA       | <i>Helarctos malayanus</i>     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | VU            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |              | he Sun Bear is an important vulnerable omnivorous species found in the habitats surrounding the lake area. It plays a significant ecological role in maintaining prey-predator balance, seed dispersal, and overall ecosystem stability within the forest and wetland habitats associated with the lake.                                                                                                                                                                                  |
| CHORDATA/<br>MAMMALIA       | <i>Hoolock hoolock hoolock</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | VU            | <input type="checkbox"/>            | <input type="checkbox"/> |              | This is an very important arboreal primate species of the tiger reserve and can be found all around the periphery of the wetland. This is the only ape species found in india and can be seen brachiating with loud howls in the periphery of the lake. They are also monogamous for life. They have maximum 3-4 individuals in one single troop.                                                                                                                                         |
| CHORDATA/<br>MAMMALIA       | <i>Macaca arctoides</i>        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | VU            | <input type="checkbox"/>            | <input type="checkbox"/> |              | This species frequently observed within the habitats of the protected area as well as in the peripheral forest regions surrounding the lake. Classified as a vulnerable species, it plays an important ecological role in maintaining the forest food chain and ecosystem dynamics. The species contributes significantly to seed dispersal, forest regeneration, and nutrient cycling, thereby supporting the overall ecological stability of the lake-associated habitat.               |
| CHORDATA/<br>MAMMALIA       | <i>Martes flavigula</i>        | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |              | This species is one of the most commonly observed mammalian species within the lake habitat and surrounding forest areas. Known for its highly adaptive and versatile nature, the species occupies a wide range of ecological niches and contributes significantly to the biodiversity of the habitat. As an opportunistic predator and scavenger, it plays an important role in maintaining ecological balance and supporting the stability of the food chain within the lake ecosystem. |
| CHORDATA/<br>MAMMALIA       | <i>Moschus chrysogaster</i>    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | EN            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |              | This is an high altitude species also an endangered species that is found in the higher elevations of the lake habitat area. Very rarely seen in these habitat are still understudied and needs more exploration.                                                                                                                                                                                                                                                                         |

| 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                        |           |                     |                 |               |                                     |                          |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CHORDATA/<br>MAMMALIA       | <i>Naemorhedus baileyi</i>          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | VU            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                         | This is an important ungulate species of the tiger reserve that plays a significant role in maintaining the ecological balance of the forest ecosystem. The species contributes to vegetation regulation, nutrient cycling, and habitat dynamics, thereby supporting the stability of the ecosystem. As a key herbivorous species, it also helps sustain the predator–prey relationship and maintains the continuity and health of the ungulate population within the landscape surrounding the lake habitat.                                                                                                                                                                                                                |
| CHORDATA/<br>MAMMALIA       | <i>Naemorhedus goral</i>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | NT            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                         | The is an abudant species that is found in the habitats of the Glaw Lake area and largely contribute to the biological diversity of the lake floral and faunal diversities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CHORDATA/<br>MAMMALIA       | <i>Neofelis nebulosa</i>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | VU            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                         | Classified as Vulnerable under the International Union for Conservation of Nature (IUCN) Red List, is one of the most important carnivorous species of the forest ecosystem surrounding the lake habitat. As a flagship and umbrella species, it supports the conservation of extensive forest habitats within which numerous other flora and fauna species can survive and thrive. Being an apex predator of the ecosystem, the species plays a crucial role in maintaining prey population dynamics, ecological balance, and the overall health of the tiger reserve habitat. Its presence is considered an indicator of a healthy and well-connected forest ecosystem with rich biodiversity and intact habitat condition |
| CHORDATA/<br>ACTINOPTERYGII | <i>Neolissochilus hexagonolepis</i> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | NT            | <input type="checkbox"/>            | <input type="checkbox"/> |                         | Mahseer species contribute significantly to wetland habitat regulation by maintaining aquatic ecological balance, supporting nutrient cycling, and sustaining the food chain. The presence of diverse Mahseer species in and around the lake also reflects the ecological health and connectivity of the wetland ecosystem, highlighting its importance for freshwater biodiversity conservation.                                                                                                                                                                                                                                                                                                                            |
| CHORDATA/<br>MAMMALIA       | <i>Panthera tigris</i>              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | EN            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Schedule I of IWPA,1972 | cClassified as Endangered under the International Union for Conservation of Nature (IUCN) Red List, is an important umbrella species of the tiger reserve ecosystem. The conservation of this species supports the protection of vast forest and wetland habitats, within which numerous other species of flora and fauna can survive and thrive. As an apex predator, the tiger plays a crucial role in maintaining ecological balance by regulating herbivore populations and sustaining the predator–prey relationship within the ecosystem. Its presence is also considered an indicator of a healthy, biodiverse, and ecologically stable habitat surrounding the lake and adjoining forest areas.                      |
| CHORDATA/<br>MAMMALIA       | <i>Pardofelis marmorata</i>         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | NT            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                         | A very important small cat species of the tiger reserve that is classified as Near Threatened helps in as ecological indicators for a healthy ecosystem.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CHORDATA/                   | <i>Ptychobarbus conirostris</i>     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |                         | This species are an important component of the aquatic ecosystem and serve as key indicators of healthy freshwater habitats. As an important aquatic species, trout contributes significantly to the food chain dynamics of the lake ecosystem by supporting predator–prey interactions and maintaining aquatic biodiversity. The species also plays a role in nutrient cycling and helps sustain the ecological productivity of the lake habitat, thereby supporting the survival and growth of several other aquatic organisms.                                                                                                                                                                                            |

| 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                        |           |                     |                 |               |                                     |                          |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CHORDATA/                | <i>Schizothorax progastus</i>    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |                         | This species are an important component of the aquatic ecosystem and serve as key indicators of healthy freshwater habitats.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CHORDATA/ ACTINOPTERYGII | <i>Schizothorax richardsonii</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | VU            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                         | This species are an important component of the aquatic ecosystem and serve as key indicators of healthy freshwater habitats.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CHORDATA/ MAMMALIA       | <i>Sus scrofa</i>                | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |                         | The species plays a significant ecological role in maintaining forest dynamics through soil turnover, seed dispersal, and nutrient recycling. As an integral component of the food chain, wild boar also supports predator populations by serving as an important prey species for large carnivores within the tiger reserve ecosystem. Its adaptability and ecological functions contribute to habitat productivity, biodiversity maintenance, and the overall stability of the lake-associated forest ecosystem.                                                                                                 |
| CHORDATA/ TELEOSTEI      | <i>Tariqilabeo latius</i>        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |                         | The fish species are important source of food and helps in wetland habiatat management and in wetland food web system.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CHORDATA/ ACTINOPTERYGII | <i>Tor putitora</i>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | EN            | <input type="checkbox"/>            | <input type="checkbox"/> |                         | Mahseer species contribute significantly to wetland habitat regulation by maintaining aquatic ecological balance, supporting nutrient cycling, and sustaining the food chain. The presence of diverse Mahseer species in and around the lake also reflects the ecological health and connectivity of the wetland ecosystem, highlighting its importance for freshwater biodiversity conservation.                                                                                                                                                                                                                  |
| CHORDATA/ MAMMALIA       | <i>Uncia uncia</i>               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | EN            | <input type="checkbox"/>            | <input type="checkbox"/> | Schedule I of IWPA,1972 | he Snow Leopard (Panthera uncia) is a flagship species of high-altitude ecosystems, often found in rugged mountain landscapes. It plays a crucial role in maintaining the balance of the alpine food web by regulating populations of herbivores such as bharal and ibex. Its presence is also an important indicator of healthy, intact mountain habitats and overall ecosystem stability.                                                                                                                                                                                                                        |
| CHORDATA/ MAMMALIA       | <i>Ursus thibetanus</i>          | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | VU            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Schedule I of IWPA,1972 | It plays a significant ecological role in maintaining prey–predator balance, seed dispersal, and overall ecosystem stability within the forest and wetland habitats associated with the lake.                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Birds                    |                                  |                                     |                                     |                          |                          |                                     |                          |                                     |                          |           |                     |                 |               |                                     |                          |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CHORDATA/ AVES           | <i>Anthracoeros albirostris</i>  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |                         | As keystone avifaunal species, hornbills support the continuity and stability of tropical forest habitats within the tiger reserve and adjoining lake ecosystems. Their presence reflects the availability of mature forest cover, suitable nesting habitats, and rich biodiversity. In addition, hornbills contribute to maintaining the ecological integrity of the habitat, thereby supporting several other flora and fauna species that depend upon the same forest ecosystem for survival and growth.                                                                                                        |
| CHORDATA/ AVES           | <i>Ardea insignis</i>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |           |                     |                 | CR            | <input type="checkbox"/>            | <input type="checkbox"/> | Schedule I of IWPA,1972 | The species serves as an important indicator of healthy aquatic habitats and undisturbed wetland ecosystems. Its presence reflects good water quality, availability of aquatic prey, and ecological stability within the habitat surrounding the lake and adjoining forest areas. As a top wetland bird species, the White-bellied Heron contributes to maintaining aquatic food chain dynamics and highlights the conservation significance of the wetland ecosystem. The protection of its habitat also supports the survival of several other aquatic and semi-aquatic species dependent on the same ecosystem. |

| 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                        |           |                     |                 |               |                                     |                          |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CHORDATA/ AVES | <i>Buceros bicornis</i>             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | VU            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |              | The biodiversity of Glaw Lake supports essential ecological processes such as hydrological regulation, soil stabilization, nutrient cycling, and habitat provision. The presence of diverse plant and animal species reflects the wetland's ecological integrity and highlights its importance in maintaining overall ecosystem stability within the surrounding landscape.                                                                                                                                                                                                                                                                                 |
| CHORDATA/ AVES | <i>Cinclus pallasi</i>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |              | A bird species usually seen alongside the waterbodies feeding on the small insects and algae.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CHORDATA/ AVES | <i>Mergus merganser</i>             | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |              | This species is present where it plays an important role in maintaining the ecological productivity and biodiversity of the wetland ecosystem. The species contributes to various stages of the aquatic food chain and supports the ecological balance and sustainability of the lake habitat.                                                                                                                                                                                                                                                                                                                                                              |
| CHORDATA/ AVES | <i>Podiceps cristatus cristatus</i> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |              | A commonly seen bird species in the lake or a resident bird that helps in maintaining the ecological food chain of the lake habitat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CHORDATA/ AVES | <i>Tadorna ferruginea</i>           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/> |              | This is one of the notable migratory waterbird species observed in the habitat of Glaw Lake. The species utilizes the lake and adjoining marshy wetlands as an important feeding and resting ground during migration periods. Its presence indicates the ecological health and productivity of the wetland ecosystem. As an aquatic bird species, the Ruddy Shelduck contributes to nutrient cycling, seed dispersal, and maintenance of aquatic food chain dynamics within the lake habitat. The occurrence of this species further highlights the importance of Glaw Lake as a significant wetland refuge for migratory and resident avifaunal diversity. |

1) Percentage of the total biogeographic population at the site

The major feline species of the wildlife sanctuary includes The Royal Bengal Tiger, Clouded leopard, Common leopard, Marbled cat & Leopard cat. Other notable animal species recorded in the tiger reserve are Wild boar, Sambar, Barking deer, Malayan Giant Squirrel and Red Giant Flying Squirrel. Approximately 50 species of birds and more than 150 species of butterflies have been recorded from Kamlang Tiger Reserve by the forest department. Two herpetofauna species have also been newly discovered by a team of scientists from NCBS and BNHS from Kamlang Tiger Reserve.

The primates found in the park are Stump-tailed macaque (*Macaca arctoides*), Assamese macaque (*Macaca assamensis*), Western hoolock gibbon (*Hoolock hoolock*), Bengal slow loris (*Nycticebus bengalensis*) and Common langur (*Semnopithecus entellus*).

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 wetland system associated with Glaw Lake in Kamlang Tiger Reserve holds outstanding conservation importance due to its high endemism, rarity, and ecological significance within the Eastern Himalayan biodiversity hotspot. The presence of rare and regionally restricted flora such as *Sapria himalayana* (rare; endemic to the Eastern Himalaya and Southeast Asia; not formally assessed by IUCN) along with ecologically dominant forest trees including *Duabanga grandiflora* (Least Concern), *Actinodaphne obovata* (Least Concern), *Adina cordifolia* (Least Concern), *Bombax ceiba* (Least Concern), and *Dalbergia sissoo* (Least Concern but locally declining) reflects an intact forest–wetland continuum characteristic of Kamlang. *Sapria himalayana*, a rare holoparasitic plant, depends entirely on host lianas for nutrients, and its presence indicates undisturbed forest understories with high host diversity. The canopy-forming trees like *Duabanga grandiflora* and *Bombax ceiba* provide essential structural habitat for arboreal mammals, nesting sites for birds, and contribute to riparian stabilization, while species such as *Dalbergia sissoo* support nitrogen fixation and soil fertility, enhancing ecosystem productivity despite its local decline. Collectively, these plants maintain forest heterogeneity, nutrient cycling, and microhabitat availability that underpin the wetland's biodiversity. The wetland and surrounding forests support several important mammal species that play critical ecological roles. Apex predators such as the Tiger (*Panthera tigris*, Endangered) regulate herbivore populations and maintain trophic balance, while mesopredators like the Clouded Leopard (*Neofelis nebulosa*, Vulnerable), Marbled Cat (*Pardofelis marmorata*, Near Threatened), and Leopard Cat (*Prionailurus bengalensis*, Least Concern) help control smaller prey populations and contribute to ecosystem stability. Arboreal primates such as the Hoolock Gibbon (*Hoolock hoolock*, Endangered) act as key seed dispersers, facilitating forest regeneration across the altitudinal gradient. Ungulates like the Himalayan Serow (*Naemorhedus sumatraensis*, Vulnerable) and Red Goral (*Naemorhedus baileyi*, Near Threatened) influence vegetation structure through selective foraging, while the Himalayan Musk Deer (*Moschus chrysogaster*, Endangered) and large carnivores like the Asiatic Golden Cat (*Catopuma temminckii*, Near Threatened), Asiatic Black Bear (*Ursus thibetanus*, Vulnerable), and Sun Bear (*Helarctos malayanus*, Vulnerable) contribute to seed dispersal and nutrient redistribution. Together, these mammals form interconnected networks that maintain the integrity of both forest and wetland habitats. Avian species in Glaw Lake further reflect the wetland's ecological health and habitat diversity. Habitat-specialist riverine birds such as *Rhyacornis fuliginosa*, *Chaimarornis leucocephalus*, *Cinclus pallasii*, and *Enicurus schistaceus* (all Least Concern but highly sensitive to habitat disturbance) are indicators of clean, fast-flowing streams and perennial water availability. Large frugivores like the Great Hornbill (*Buceros bicornis*, Vulnerable) act as long-distance seed dispersers, supporting forest regeneration and maintaining plant diversity across the wetland and adjoining slopes. The presence of waterbirds such as the Great Crested Grebe (*Podiceps cristatus*, Least Concern) highlights the importance of the wetland's aquatic habitats for breeding and foraging. These avifaunal communities, along with the mammalian and plant assemblages, illustrate the strong ecological connectivity of Glaw Lake and its role as a keystone wetland within the Eastern Himalayan landscape. Together, the coexistence of rare plants, threatened mammals, and specialist avifauna, along with their unique ecological roles, underscores the Glaw Lake wetland as an essential ecosystem for sustaining biodiversity, ecological processes, and long-term conservation integrity of Kamlang Tiger Reserve.

### 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<br>>> O: Permanent freshwater lakes       | Glaw Lake  | 1                                          |                           | Representative               |
| Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/pools | Glaw Lake  | 2                                          |                           | Representative               |

#### Other non-wetland habitat

| Other non-wetland habitats within the site | Area (ha) if known |
|--------------------------------------------|--------------------|
| Warm moist tropical forest                 |                    |

#### (ECD) Habitat connectivity

The habitat of proposed site including the wetland and its non-wetland habitat are fully connected without any break or disturbance. Further, the proposed site is also fully connected with the surrounding reserve forest without any break.

### 4.3 - Biological components

#### 4.3.1 - Plant species

##### Other noteworthy plant species

| Phylum                     | Scientific name                  | Position in range / endemism / other |
|----------------------------|----------------------------------|--------------------------------------|
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Achyrosperrum densiflorum</i> |                                      |
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Urtica ardens</i>             |                                      |

##### Invasive alien plant species

| Phylum                     | Scientific name           | Impacts   |
|----------------------------|---------------------------|-----------|
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Acmella paniculata</i> | Potential |
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Mikania acuminata</i>  | Potential |
| TRACHEOPHYTA/LILIOPSIDA    | <i>Phragmites karka</i>   | Potential |

Optional text box to provide further information

A total of 79 plant species (48 trees, 10 shrubs and 21 herbs) belonging to 62 genera (40 trees, 7 shrubs and 15 herbs) are found in Glaw Lake and its surrounding catchment. The number of tree, shrub, and herb species is 34, 6, and 13 families, respectively. *Dalbergia sissoo* and *Duabanga grandiflora* are the most dominant tree species in the area.

### 4.3.2 - Animal species

Other noteworthy animal species

| Phylum            | Scientific name                    | Pop. size | Period of pop. est. | % occurrence | Position in range /endemism/other |
|-------------------|------------------------------------|-----------|---------------------|--------------|-----------------------------------|
| CHORDATA/MAMMALIA | <i>Bos frontalis</i>               |           |                     |              |                                   |
| CHORDATA/AVES     | <i>Chaimarrornis leucocephalus</i> |           |                     |              |                                   |
| CHORDATA/AVES     | <i>Enicurus schistaceus</i>        |           |                     |              |                                   |
| CHORDATA/MAMMALIA | <i>Macaca assamensis</i>           |           |                     |              |                                   |
| CHORDATA/AVES     | <i>Rhyacornis fuliginosa</i>       |           |                     |              |                                   |

## 4.4 - Physical components

### 4.4.1 - Climate

| Climatic region           | Subregion                        |
|---------------------------|----------------------------------|
| A: Tropical humid climate | Af: Tropical wet (No dry season) |

The wetland experiences a tropical humid climate, with an average annual rainfall of 3107 mm and an average annual temperature of 21.1°C.

### 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

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 precipitation | <input checked="" type="checkbox"/> | No change |
| Water inputs from surface water | <input checked="" type="checkbox"/> | No change |
| Water inputs from groundwater   | <input type="checkbox"/>            | No change |

Water destination

| Presence?               |           |
|-------------------------|-----------|
| To downstream catchment | No change |
| Feeds groundwater       | No change |

## Stability of water regime

| Presence?                   |           |
|-----------------------------|-----------|
| Water levels largely stable | 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 lake is mainly fed by rainfall and surface runoff from seasonal inlets and springs in the catchment areas. The surplus water drains out from the lake outlet as surface flow.

(ECD) Connectivity of surface waters and of groundwater

The lake is mainly fed by rainfall and surface runoff from seasonal inlets and springs in the catchment areas. The surplus water drains out from the lake outlet as surface flow.

## 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 turbidity and colour

Low, Clear

(ECD) Light - reaching wetland

Light reaches the wetland as the lake lies in open area.

(ECD) Water temperature

15 degree centigrade (seasonal and diurnal variability is there)

## 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 pH of the water is alkaline.

## 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 ☐

(ECD) Dissolved gases in water

Dissolved oxygen percentage- 6.8

## 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 ☒

Please describe other ways in which the surrounding area is different:

The surrounding area has dense tropical and evergreen forests and grassland, and is a part of the Kamlang Tiger Reserve.

## 4.5 - Ecosystem services

### 4.5.1 - Ecosystem services/benefits

#### Provisioning Services

| Ecosystem service         | Examples                                   | Importance/Extent/Significance |
|---------------------------|--------------------------------------------|--------------------------------|
| Fresh water               | Water for irrigated agriculture            | High                           |
| Fresh water               | Drinking water for humans and/or livestock | High                           |
| Wetland non-food products | Peat                                       | High                           |
| Biochemical products      | Extraction of material from biota          | Low                            |
| Genetic materials         | Medicinal products                         | 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                           |
| Maintenance of hydrological regimes  | Groundwater recharge and discharge                                                         | High                           |
| Erosion protection                   | Soil, sediment and nutrient retention                                                      | High                           |
| Pollution control and detoxification | Water purification/waste treatment or dilution                                             | High                           |
| Climate regulation                   | Local climate regulation/buffering of change                                               | High                           |
| Climate regulation                   | Regulation of greenhouse gases, temperature, precipitation and other climatic processes    | High                           |
| Hazard reduction                     | Flood control, flood storage                                                               | High                           |

#### Cultural Services

| Ecosystem service           | Examples                                                                                                        | Importance/Extent/Significance |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------|
| Recreation and tourism      | Nature observation and nature-based tourism                                                                     | High                           |
| Spiritual and inspirational | Contemporary cultural significance, including for arts and creative inspiration, and including existence values | High                           |
| Spiritual and inspirational | Spiritual and religious values                                                                                  | High                           |
| Spiritual and inspirational | Inspiration                                                                                                     | High                           |
| Scientific and educational  | Educational activities and opportunities                                                                        | High                           |
| Scientific and educational  | Important knowledge systems, importance for research (scientific reference area or site)                        | High                           |
| Scientific and educational  | Long-term monitoring site                                                                                       | High                           |
| Scientific and educational  | Major scientific study site                                                                                     | High                           |
| Scientific and educational  | Type location for a taxon                                                                                       | High                           |

#### Supporting Services

| Ecosystem service | Examples                                                                                                                                                | Importance/Extent/Significance |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Biodiversity      | Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part | High                           |
| Soil formation    | Sediment retention                                                                                                                                      | High                           |
| Soil formation    | Accumulation of organic matter                                                                                                                          | High                           |
| Nutrient cycling  | Storage, recycling, processing and acquisition of nutrients                                                                                             | High                           |
| Nutrient cycling  | Carbon storage/sequestration                                                                                                                            | High                           |
| Pollination       | Support for pollinators                                                                                                                                 | High                           |

Other ecosystem service(s) not included above:

Habitat for wild animals and birds including the migratory birds.

Within the site: 100 to 300/yr

Outside the site: 500 to 1000 approx

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 ☒

Description if applicable

The indigenous communities around Kamlang Tiger Reserve belong to the Mishmi ethnic group, comprising the Miju (Kaman) and Digaru (Taraon) tribes. Animistic in belief, they worship natural elements and regard forests and wildlife as spiritually significant. Traditionally practising shifting agriculture, weaving, and bamboo-cane handicrafts, the Mishmi maintain strong cultural systems such as the Miju panchayat (Kabai). Their mythology views humans and tigers as siblings, fostering taboos against killing tigers and other sacred species like hoolock gibbons. This deep cultural relationship with nature underpins a place-based, community-led conservation ethic, now reinforced through collaboration with the Forest Department, highlighting the Mishmi's vital role in long-term biodiversity conservation.

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

Description if applicable

The area surrounding Kamlang Tiger Reserve represents an exceptional example of living cultural traditions that have profoundly influenced its ecological character. The indigenous Mishmi communities—comprising the Miju (Kaman) and Digaru (Taraon) tribes—maintain animistic belief systems that venerate forests, wildlife, and natural elements as spiritually significant. Their mythology, which views humans and tigers as siblings, has established enduring taboos against harming tigers and other sacred species such as hoolock gibbons, directly contributing to wildlife protection. Traditional practices, including shifting cultivation, weaving, and bamboo-cane craftsmanship, are governed by customary institutions such as the Miju panchayat (Kabai), which regulate resource use and reinforce respect for nature. These long-standing cultural traditions have shaped land-use patterns, fostered community-led conservation, and sustained the ecological integrity of the landscape, demonstrating how indigenous cultural heritage continues to influence and protect the site's natural environment.

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

Description if applicable

The ecological character of the wetland is closely shaped by its long-standing interaction with local indigenous communities. Through customary beliefs, traditional livelihoods, and culturally embedded stewardship practices, these communities regulate resource use in ways that maintain ecological balance. Sacred values associated with water bodies, forests, and wildlife discourage overexploitation, while traditional practices such as seasonal harvesting, shifting cultivation, and the use of locally adapted techniques support habitat diversity and species resilience. Community institutions and customary norms further guide collective decision-making and conflict resolution related to natural resource use. As a result, the wetland's biodiversity, hydrological functioning, and overall ecological integrity are sustained through a dynamic, place-based relationship between people and nature, demonstrating the critical role of indigenous knowledge systems in maintaining the wetland's ecological character.

- iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland ☒

Description if applicable

Relevant non-material values are deeply embedded in the landscape surrounding Kamlang Tiger Reserve, where indigenous Mishmi communities attribute sacred significance to forests, wildlife, and natural elements. Sacred sites, culturally protected species, and animistic belief systems—such as the perception of tigers as kin and taboos against harming species like hoolock gibbons—play a central role in regulating human–nature interactions. These cultural and spiritual values directly contribute to the maintenance of the area's ecological character by reinforcing sustainable resource use, biodiversity protection, and long-term stewardship. The continued practice of traditional governance systems and community-led conservation, in collaboration with the Forest Department, further ensures that these non-material values remain integral to the wetland and the surrounding ecosystem's ecological integrity.

#### 4.6 - Ecological processes

&lt;no data available&gt;

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

### 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

<no data available>

#### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Office of DFO, Kamlang Tiger Reserve & WLS Division, Govt of Arunachal Pradesh

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

Divisional Forest Officer, Kamlang Tiger Reserve & WLS

Postal address:

Office of DFO, Kamlang Tiger Reserve & WLS Division, Wakro, Dist Lohit - 792102

E-mail address:

dfokamlang@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             |
|----------------------------------|---------------|------------------|-------------------------------------|-------------------------------------|
| Tourism and recreation areas     | Low impact    | Low impact       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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 | Low impact    | Low impact       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Climate change and severe weather

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | In the surrounding area             |
|----------------------------------|---------------|------------------|-------------------------------------|-------------------------------------|
| Temperature extremes             | Low impact    | Low impact       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

#### 5.2.2 - Legal conservation status

Global legal designations

| Designation type         | Name of area          | Online information url                                                                    | Overlap with Ramsar Site |
|--------------------------|-----------------------|-------------------------------------------------------------------------------------------|--------------------------|
| Other global designation | Kamlang Tiger Reserve | <a href="https://share.google/DpMbdlSB33iEX7Or">https://share.google/DpMbdlSB33iEX7Or</a> | partly                   |

National legal designations

| Designation type | Name of area          | Online information url                                                                    | Overlap with Ramsar Site |
|------------------|-----------------------|-------------------------------------------------------------------------------------------|--------------------------|
| Wetland          | Kamlang Tiger Reserve | <a href="https://share.google/DpMbdlSB33iEX7Or">https://share.google/DpMbdlSB33iEX7Or</a> | 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      |
|-------------------------------------------|-------------|
| Land conversion controls                  | Implemented |
| Improvement of water quality              | Implemented |
| Habitat manipulation/enhancement          | Implemented |
| Catchment management initiatives/controls | Implemented |
| Soil management                           | Implemented |
| Re-vegetation                             | Implemented |
| Faunal corridors/passage                  | Implemented |
| Hydrology management/restoration          | Implemented |

### Species

| Measures                         | Status      |
|----------------------------------|-------------|
| Control of invasive alien plants | Implemented |

### Human Activities

| Measures                                                             | Status                |
|----------------------------------------------------------------------|-----------------------|
| Livestock management/exclusion (excluding fisheries)                 | Implemented           |
| Harvest controls/poaching enforcement                                | Implemented           |
| Regulation/management of recreational activities                     | Implemented           |
| Research                                                             | Partially implemented |
| Fisheries management/regulation                                      | Implemented           |
| Communication, education, and participation and awareness activities | Implemented           |
| Management of water abstraction/takes                                | Implemented           |
| Regulation/management of wastes                                      | Implemented           |

### Other:

Felling or clearing of surrounding forest and vegetation is strictly prohibited in accordance with the Arunachal Pradesh Forest Act, 2014, the Indian Forest Act, 1927 (as applicable), and the Forest (Conservation) Act, 1980, along with relevant rules and guidelines. Pollution of wetlands and their surrounding areas is prohibited under state forest policies and the Wetlands (Conservation and Management) Rules, 2017. Adequate measures for solid waste management are mandated to safeguard wetland ecosystems and ensure sustainable conservation of forest and water resources in Arunachal Pradesh.

## 5.2.5 - Management planning

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

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 ☒

URL of site-related webpage (if relevant):

## 5.2.6 - Planning for restoration

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

Further information

The proposal envisages comprehensive measures for protection, soil and moisture conservation, afforestation and natural regeneration, joint forest management, wildlife management, and regulated ecotourism across the entire catchment area of Arunachal Pradesh, with specific reference to Kamlang Tiger Reserve. A dedicated conservation plan is proposed for Glaw Lake, focusing on the protection and sustainable management of the wetland through active participation of local Mishmi communities, in alignment with Arunachal Pradesh forest policies and wildlife conservation objectives.

### 5.2.7 - Monitoring implemented or proposed

| Monitoring                      | Status      |
|---------------------------------|-------------|
| Plant community                 | Implemented |
| Animal community                | Implemented |
| Birds                           | Proposed    |
| Water regime monitoring         | Proposed    |
| Water quality                   | Proposed    |
| Plant species                   | Implemented |
| Soil quality                    | Proposed    |
| Animal species (please specify) | Proposed    |

Forest and Environment Department, Government of Arunachal Pradesh, shall be responsible for monitoring and overseeing the implementation of all activities within the proposed site. At Glaw Lake in Kamlang Tiger Reserve, situated within a rugged landscape ranging from 400 to 4,500 meters in altitude, conservation and monitoring efforts are designed to address the ecological complexity and seasonal variability of this high-altitude wetland. Plant species and plant community assessments have been implemented, with a particular focus on the identification and eradication of invasive weeds such as *Mikania micrantha* to protect native vegetation and forest integrity. Animal community surveys are implemented to monitor key target species, including big cats such as Tiger (*Panthera tigris*, Endangered), Clouded Leopard (*Neofelis nebulosa*, Vulnerable), Marbled Cat (*Pardofelis marmorata*, Near Threatened), and Leopard Cat (*Prionailurus bengalensis*, Least Concern), as well as ungulates like Himalayan Serow (*Naemorhedus sumatraensis*, Vulnerable) and Red Goral (*Naemorhedus baileyi*, Near Threatened), to evaluate population trends, predator-prey dynamics, and habitat use across different elevation zones. Monitoring of birds is proposed, focusing on habitat specialists such as the Great Hornbill (*Buceros bicornis*, Vulnerable) and the Great Crested Grebe (*Podiceps cristatus*, Least Concern), to assess breeding, foraging, and seasonal habitat use. Water regime and water quality monitoring are also proposed, with fish diversity included to ensure the wetland supports a resilient aquatic ecosystem. Soil quality, hydrology, and seasonal variations in water levels, streamflow, and nutrient dynamics are similarly proposed for monitoring. Together, these integrated measures aim to conserve native biodiversity, manage invasive species, and maintain the ecological integrity of Glaw Lake across its full altitudinal and seasonal range.

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

Bam, M., & Manpoong, C. (2022). Plant Community Structure in the Parshuram Kund Area of Kamlang Wildlife Sanctuary, Arunachal Pradesh. *Environment and Ecology*, 40(4B), 2514-2521.

Krishna, C. M., Sarma, K., & Kumar, A. (2015). Microhabitat use and activity budget of four Himalayan river-birds, India. *Taprobanica*, 7(4), 246-249.

Aiyadurai, A. 2016. 'Tigers are Our Brothers': Understanding Human-Nature Relations in the Mishmi Hills, Northeast India. Department of Humanities and Social Sciences, Indian Institute of Technology – Gandhinagar, Gujarat, India . *Conservation and Society* 14(4): 305-316, 2016.

Nijhawan, Sahil et. al. 2020. Relations of Blood: Hunting Taboos and Wildlife Conservation in the Idu Mishmi of Northeast India .Published By: Society of Ethnobiology. *Journal of Ethnobiology*. URL: <https://doi.org/10.2993/0278-0771-40.2.149>

Grimmett, R ,Inskipp, C & Inskipp, T (2016) *Birds of the Indian Subcontinent- Second Edition*. Christopher Helm London.

Kehimkar, I. (2008). *The Book of Indian Butterflies*. Bombay Natural History Society and Oxford University Press, Mumbai, India, 497pp.

Kehimkar, I. (2016): *Butterflies of India*. Bombay Natural History Society, Mumbai, xii-528pp

Menon, Vivek. (2003). *Indian Mammals- A Field Guide*, Hachette India Publication.

#### 6.1.2 - Additional reports and documents

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

<4 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

<no file available>

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:



Aerial View of Glaw Lake ( *Kamlang Tiger Reserve*, 24-11-2025 )



Glaw Lake View Point ( *Kamlang Tiger Reserve*, 01-01-2024 )



Glaw Lake View Point through Watch tower ( *Kamlang Tiger Reserve*, 01-01-2024 )



Asiatic Golden Cat ( *Kamlang Tiger Reserve*, 12-04-2018 )



Himalayan Black Bear ( *Kamlang Tiger Reserve*, 20-12-2018 )



Barking Deer ( *Kamlang Tiger Reserve*, 08-12-2018 )



Clouded Leopard ( *Kamlang Tiger Reserve*, 18-12-2018 )

#### 6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation 2026-01-21