



**Inlay Lake Wildlife Sanctuary**  
**Myanmar**

EAAF NETWORK SITE CODE FOR OFFICE USE ONLY:

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**Site Information Sheet on**  
**East Asian-Australasian Flyway Network Sites**  
**(SIS) – 2017 version**

Available for download from <http://www.eaaflyway.net/about/the-flyway/flyway-site-network/>

**Notes for compilers:**

1. The management body intending to nominate a site for inclusion in the East Asian - Australasian Flyway Site Network is requested to complete a Site Information Sheet. The Site Information Sheet will provide the basic information of the site and detail how the site meets the criteria for inclusion in the Flyway Site Network. When there is a new nomination or an SIS update, the following sections with an asterisk (\*), from Questions 1-14 and Question 30, must be filled or updated at least so that it can justify the international importance of the habitat for migratory waterbirds.
2. The Site Information Sheet is based on the Ramsar Information Sheet. If the site proposed for the Flyway Site Network is an existing Ramsar site then the documentation process can be simplified.
3. Once completed, the Site Information Sheet (and accompanying map(s)) should be submitted to the Secretariat. Compilers should provide an electronic (MS Word) copy of the Information Sheet and, where possible, digital versions (e.g. shapefile) of all maps.

**1. Name and contact details of the compiler of this form \*:**

**Compiler 1**

Full name:

Dr. Naing Zaw Htun

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**2. Date this sheet was completed \*:**

DD/MM/YYYY

10/01/2019

**3. Country \*:**

The Republic of the Union of Myanmar

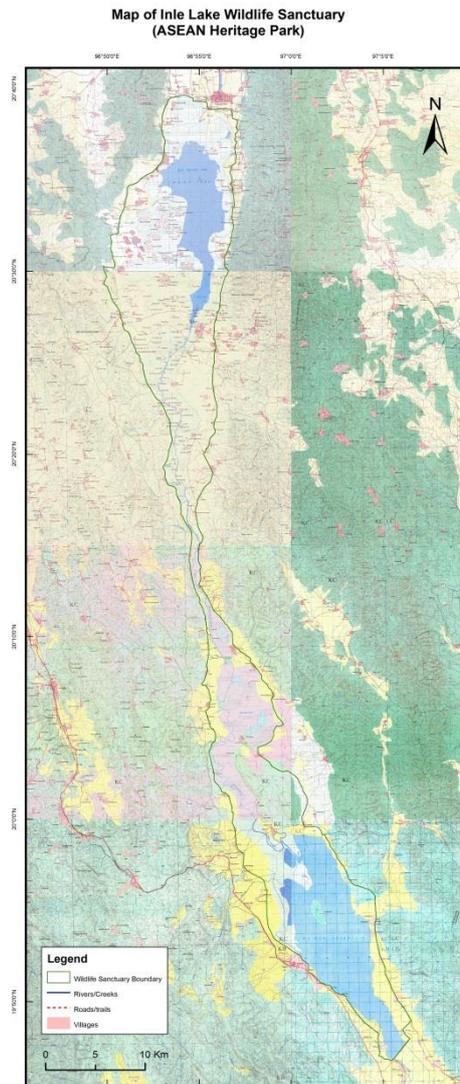
**4. Name of the Flyway Network site \*:**

Accepted English transcription of the Site's name.

Inlay Lake Wildlife Sanctuary

**5. Map of site \*:**

The most up-to-date available and suitable map of the wetland should also be appended to the SIS (only in digital format and shape file). The map must clearly show the boundary of the site. Please refer to the “Digitising Site Boundaries in Google Earth” file linked [here](#).



**6. Geographical coordinates (latitude/longitude, in decimal degrees) \*:**

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

N 20° 39' 573 " and E 96° 55' 136"(N 20.65955, E 96.91893)

**7. Elevation \*:** (in metres: average and/or maximum & minimum)

900 meters above sea level

## 8. Area \*:

The total area of the site, in hectares. If the areas of discrete site units are known, please also list each of these together with the names (or labels) used to identify and differentiate these units.

Total area of the site is 640908.745 hectares and included by Inlay Lake, Sakar Inn and Moebye Reservoir.

## 9. General overview of the site \*:

A brief (two sentences) summary of the site, mentioning principal physical and ecological functions, and its importance for migratory waterbirds.

Inlay lake was formed more than 1.5 million years ago, it's a freshwater lake resides on the Shan Plateau of Eastern Myanmar also the second largest inland lake in Myanmar and has biological and cultural diversity of National and International significance. In order to protect and conserve the rich biodiversity of the wetland ecosystem, Inlay Lake Wildlife Sanctuary was established in 1985. It is an important wetland wildlife habitat due to its strategic position of wetland ecosystems and biodiversity. It was designated as the first Man and Biosphere Reserve (MAB) of Myanmar in 2015. It is called Inlay lake Biosphere Reserve, ASEAN Heritage Parks in 2013 and also designated as 5<sup>th</sup> Ramsar Site of Myanmar in 2018. Inlay Lake Wildlife Sanctuary is an ideal home to several endangered and vulnerable species of migratory birds and their habitats. There is a high endemic fish species diversity especially, Inlay Carp (*Cyprinus intha*) locally called Nga-phein is a kind of culturally symbolic and important food fish for consumption and household income, some of these like the silver-blue scaleless *Sawbwa resplenden*, the *Celestichthys erythromicron*, and the *Microrasbora rubescens*, are of commercial importance for the aquarium trade. It is home to over 20000 individuals of migratory water birds and resident birds, aquatic fauna and flora, medicinal plants, bamboo, mammals, herptofauna and local people (called Intha). Inlay Lake Wetland Wildlife Sanctuary is associated with 3 major types of forest in the Sanctuary, tropical Forests, hill and temperate evergreen forest, wetlands as large area of water bodies adjoining the vegetation shore lines of marsh land, Peat lands, grass land, agricultural lands and others.

## 10. Justification of Flyway Site Network criteria \*:

Please provide waterbird count information (with year of latest count) that demonstrates that the site meets the criteria of the Flyway Site Network (Annex 1). That is:

- it regularly supports > 20 000 migratory waterbirds; or,
- it regularly supports > 1 % of the individuals in a population of one species or subspecies of migratory waterbird; or,
- it supports appreciable numbers of an endangered or vulnerable population of migratory waterbird
- it is a "staging site" supporting > 5 000 waterbirds, or > 0.25% of a population stage at the site.

A listing of the populations of migratory waterbirds covered by the East Asian – Australasian Flyway Partnership and the 1% thresholds is attached (Annex 3).

The “staging site” criterion is particularly difficult to apply and application of this should be discussed with the Secretariat. Also note that some species have several populations that are very difficult to distinguish in the field.

- It supports appreciable numbers of endangered and vulnerable population of migratory water bird.
- The habitats of resident and migratory birds of Inlay Lake.
- Provides shelters, breeding, nursery and nesting sites for avian fauna and aquatic fauna.
- Regularly support 1% of the individuals in a population of one species or subspecies of water birds. Total of 12531 Black Coot *Fulica atra* was recorded in annual budget year of 2016-2017, 2017-2018, and 2018, October to 2019.
- It regularly supports nearly 1% of the individuals in a population of two species of migratory water birds (Baer’s Pochard, Ferruginous Pochard) and sub species of resident water birds (Eastern Sarus Crane).
- Inlay Lake is the home for 5 species of water birds which are the Little Cormorant, total of 6441 individuals, Glossy Ibis, total of 7622 individuals, Black-winged Stilt, total of 4253 individuals, Asian Openbill, total of 6906 individuals and Brown-headed Gull, total of 3468 individuals were recorded in years of 2016 to 2019 March count which exceeded 1% of the flyway population.

Species	Biogeographic population	Estimated total at ILWS and around the Lake area	1% threshold (WPE5)	% * supported at the site
Baer’s Pochard <i>Aythya baeri</i>	250-10,000	4(7.12.2018, recorded by ILWS’s Staffs at location of N 20° 36' 534 " and E 96° 53' 27.3" near the bird watching center.	5	1%
Ferruginous Pochard <i>Aythya nyroca</i>	10,000-10,000	661 (2016-2017, 2017-2018,2018-2019 March)	1000	0.6%
Eastern Sarus Crane <i>Grus antigone sharpii</i>	500-800	4 (Resident bird of Inlay lake Wildlife Sanctuary)	6	0.5%
Common Coot/ Black Coot <i>Fulica atra</i>	1,500,000 - 1,500,000	12531 (2016 to 2019, March)	15000	1%
Little Cormorant <i>Phalacrocorax niger</i>	250,000 - 250,000	6441 (2016 to 2019, Maech)	2500	2.5%
Glossy Ibis <i>Plegadis falcinellus</i>	10,000 - 25,000	7622 (2016 to 2019, March)	250	30%
Asian Openbill <i>Anastomus oscitans</i>	300,000 - 300,000	6906 (2016 to 2019, March)	3000	1%
Black-winged Stilt <i>Himantopus himantopus</i>	25,000 - 100,000	4253 (2016 to 2019, March)	1000	4%

Brown-headed Gull <i>Chroicocephalus brunnicephalus</i>	10,000-20,000	3468 (2016 to 2019 March)	1400	25%
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### 11. Wetland Types \*:

List the wetland types present (see Annex 2). List the wetland types in order of their area in the Flyway Network site, starting with the wetland type with the largest area.

Natural freshwater lake habitat transformed from Tectonic Lake to solution Lake between 65 million and 1.6 million years.  
M, O, P, Tp, Ts, W, Xp, Y, Zg, Zk(b)  
1,2,3,4,6,Zk(c)

### 12. Jurisdiction \*:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Ministry of Agriculture/Dept. of Environment, etc.

Inlay Lake Wildlife Sanctuary in Shan State, Nature and Wildlife Conservation Division, Forest Department, Ministry of Natural Resources and Environmental Conservation, Myanmar

### 13. Management authority \*:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland and the title and/or name and email address/phone number of the person or persons in this office with direct responsibility for managing the wetland.

Inlay lake Wildlife Sanctuary is managed by the Nature and Wildlife Conservation Division, Forest Department, Ministry of Natural Resources and Environmental Conservation.

### 14. Bibliographical references \*:

A list of key technical references relevant to the wetland, including management plans, major scientific reports, and bibliographies, if such exist. Please list Web site addresses dedicated to the site or which prominently feature the site, and include the date that the Web site was most recently updated. When a large body of published material is available about the site, only the most important references need be cited, with priority being given to recent literature containing extensive bibliographies.

- A Wetland Inventory for Myanmar (Davies,J.,SEBASTIAN.A.C.&CHAN,S.(EDITORS), 2004
- Nomination Dossiers of Inlay lake Biosphere Reserve
- General Information of Inlay lake Wildlife Sanctuary
- Survey and census record of Inlay Lake Wildlife Sanctuary
- Birds of South-East Asia (Crag Robson)
- A data set of fishes in and around Inle(Inlay), an ancient lake of Myanmar with several CT/ 3D models
- CITES appendix 2017-10-4
- IUCN RED List 2018

### 15. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Basic rocks that can be found in some areas of the Shan plateau are limestone, granite, and shale. Types of soil found in the catchments are mainly mountainous brown and yellow brown, classified as Cambisol and Ferrasols as per FAO classification. The watershed area in close proximity of the lake is mostly rugged with minimal flat land, the soil is composed of easily erodible types namely, red earth loose sandy soil covering porous lime stone rocks, shale and clay. Inlay Lake with its associated wetlands supports a wealth of biodiversity and provides important habitats for Migratory birds.

### 16. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

Inlay Lake region is tropical humid climate, therefore, abroad summation of temperature humidity, rainfall, and wind velocity. The annual average temperature of the warmest month is 26.5 °C and coldest month is 18.5 °C. Basic rocks that can be found in some areas of the Shan Plateau are limestone, granite, and shale. Types of soil found in the catchments are mainly mountainous brown and yellow brown, classified as Cambisol and Ferrasols as per FAO classification. The watershed area in close proximity of the lake is mostly rugged with minimal flat land, the soil is composed of easily erodible types namely, red earth, loose sandy soil covering porous lime stone rocks, shale and clay.

### 17. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Inlay lake Area is high-land natural freshwater lake of Inlay Region. There are many peat lands within the lake. Peat lands are very beneficial for local communities and they provide the following benefits for local communities such as reproductive zone of fish species, the habitats of resident and migratory birds of Inlay lake, especially high water and carbon storage. In addition, Inlay Lake supply drinking water, water for daily usage for agriculture, irrigation and ecotourism development. About 284 villages with 20,0000 people rely on the water supply of the Inlay lake. Balu Chaung which initiated from Inlay lake is the source of hydro power plant for kayah State. The Lake is flooded during water discharge, have a direct influence on stream flow, underground water recharged through wetlands, plays an important role in water supply. Besides, Inlay lake is also the main water resource of Law Pi Ta hydro power station, the biggest plant of Myanmar. The site plays an important role in flood control and sediment trapping of Inlay region.

### 18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Flyway Network site, and the ecosystem services of the site and the benefits derived from them.

Vegetation type includes open water body, extensive area of submerged saprophytes, free floating, floating leaved, emergent's beds, itch bank colonizers. Inlay Lake supports a wealth of biodiversity and provides important habitats for the various flora and fauna. These are about 108 species of trees, 527 medicinal plants, 183 orchids, 11 bamboos and 12 angiosperms in the lake watershed area. The site provides water for domestic use, irrigation and also serve as the main source of water for the biggest hydropower plant of Myanmar, Law Pi Ta hydropower station. The wetland is one of the most important lakes in Southeast Asia as its supports a rich biodiversity of endemic freshwater fish species. Recent survey on fish diversity indicates the presence of about 60 fish species in the lake. More than 25% of endemic fish of Myanmar are found in Inlay Lake. The Lake is the main protein source from fish resources and fishing is also an important livelihood for local communities as well as the people in the surrounding area, and important prey for many aquatic or aquatic associates such as birds, mammals, reptiles, and small fishes. Besides, various ecosystem services that the site provides, it also supports more than 180,000 local people by providing food and livelihood sources. Considering the scenic beauty and the associated local culture, the lake also serves as a prime ecotourism destinations.

Plant Species in Table.1  
 Bird Species in Table.2  
 Fish Species in Table.3

**19. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the SIS.*

(Please add here the species which do not come under sec no 14)

Scientific name	Common name (optional)	Position in range / endemism / other (optional)
<i>Tectona grandis</i>	Burmese Teak	
<i>Albizia lebbeck</i>	Seris	
<i>Vitex lmonifolia</i> <i>Vitexagnus-castus</i> var. <i>latifolia</i>	Chaste tree	
<i>Erythrina crista</i>	Cockspur coral tree	G4
<i>Pajanelia longifolia</i>	Tender wild jack	
<i>Oraxylum indicum</i>	Indian trumpet flower	

<i>Schleichera oleosa</i>	Kusum Ceylon oak/ <u>Kusum oil</u>	
<i>Ficus cunia</i>	Fig tree	
<i>Diospyros brandisiana</i>	Persimmon trees	
<i>Premna tomentosa</i>	Bastard Teak	
<i>Premna latifolia</i>	Dusky fire brand mark-	
<i>Garuga pinnata</i>	Curvamboogum	
<i>Crataeva religiosa</i>	Sacred garlic pear or temple plant	
<i>Bauhinia malabarica</i>	Orchid tree	
<i>Strychnos potatorum</i>	Clearing-nut tree	
<i>Cassia fistula</i>	Golden rain tree	
<i>Cassia renigera</i>	Cassias	
<i>Bauhinia acuminata</i>	Dwarf white bauhinia	
<i>Lagerstroemia villosa</i>	Crape myrtle	
<i>Bridelia retusa</i>	Spinous Kino Tree	
<i>Phyllanthus emblica</i>	Indian gooseberry	
<i>Ficus Sp</i>	Banyan	
<i>Ficus obtusifolius</i>	Broad-leaved Dock	
<i>Ficus affinis</i>	Banyan	
<i>Ficus infectoria</i>	Banyan	
<i>Artocarpus calophylla</i>	Chapalish	
<i>Azadirachta indica</i>	Indian lilac	
<i>Alstonia scholaris</i>	Blackboard tree	

<i>Swintonia floribunda</i>	Civit	
<i>Grewia tiliaefolia</i>	Common Indian Linden	
<i>Eriolobus indica</i>	Crab Apple	
<i>Mangifera caloneura</i>	Mango	
<i>Pinanga gracilis</i>	Golden Palm	
<i>Diospyros burmanica</i>	Persimmon	
<i>Tristania burmanica</i>	Water gum	
<i>Dalbergia oliveri Gamble</i>	Tamalan	EN
<i>Terminalia alata</i>	Rokfa	
<i>Mitragyna parvifolia</i>	Kaim	
<i>Pinus spp</i>	Pine	
<i>Bauhina racemosa</i>	Bidi leaf tree-	
<i>Salmalia insignis</i>	White Silk Cotton Tree	
<i>Symplocos sps</i>	-	
<i>Adina cordifolia</i>	-	
<i>Lannea grandis</i>	Indian ash tree	
<i>Sapindus rarak</i>	Soapberrie	
<i>Butea letrasperma</i>	Bastand teak /Beangal kono	
<i>Pterocarpus macrocarpus</i>	Burma padauk	
<i>Xylia dolabriformis</i>	Burmese iron wood	
<i>Lagerstroemia speciosa</i>	Pride of India-	
<i>Morus indica</i>	White mulberry	

<i>Sesbania grandiflora</i>	Hummingbird tree	
<i>Sesbania bispinosa</i>	Prisky Sesban	
<i>Murraya koenigii</i>	Curry Leaf Tree	
<i>Cassia spectabilis</i>	Spectacular cassia	LC
<i>Terminalia paniculata</i>	Flowering Murdah	
<i>Holoptelea integrifolia</i>	Elm of India	
<i>Eriobotrya bengalensis</i>	Evergreenshrubs	
<i>Terminalia chebula</i>	Black- or chebulic myrobalan	
<i>Leucaena glauca</i>	White leadtree	
<i>Caryota urens</i>	Solitary fishtail palm	
<i>Anthocephalus cadamba</i>	Burflower-tree	
<i>Tamarindus indica</i>	Tamarind tee	
<i>Markhamia stipulata</i>	-	
<i>Pittosporum napaulensis</i>	Ginger Tree/ Golden Fragrance	
<i>Lophopetalum wallichii</i>	-	
<i>Salix tetrasperma</i>	Indian willow	
<i>Gmelina arborea</i>	Beechwood	
<i>Chukrasia tabularis</i>	Indian mahogany	
<i>Ostodes paniculata</i>	-	
<i>Anogeissus acuminata</i>	Axlewood	
<i>Adenanthera pavonina</i>	Red Lucky Seed	
<i>Acrocarpus fraxinifolius</i>	Pink cedar	

<i>Ficus lanceolata</i>	Fig	
<i>Schima wallichii</i>	Teaplant	
<i>Salmalia malabarica</i>	Silk cotton tree	
<i>Pterygota alata</i>	Buddha's Coconut Tree	
<i>Dillenia Parviflora</i>	-	
<i>Holarrhena antidysenterica</i>	Coral swirl	
<i>Syzygium fruticosum</i>	Eugenia	
<i>Wendlandia glabrata</i>	Smooth Wend	
<i>Eugenia kurzii</i>	Eugenia.sp	
<i>Albizia odoratissima</i>	Black siris /kalasiris	
<i>Terminalia bellirica</i>	Bastard myrobalan	
<i>Broussonetia pandurata</i>	Wild sweet potato	
<i>Mallotus philippensis</i>	Kamala tree	
<i>Cordia dichotoma</i>	Pink pearl	
<i>Dolichandrone spathacea</i>	Mangrove trumpet tree	
<i>Sideroxylon tomentosum</i>	-	
<i>Protium serratum</i>	-	
<i>Croton oblongifolius</i>	-	
<i>Croton Joufra</i>	-	
<i>Stereospermum personatum</i>	-	
<i>Shorea oblongifolia</i>	Myanmar sal	CR
<i>Sapiuminsigne pandurata</i>	-	

<i>Phyllanthus albizzioides</i>	-	
<i>Dolichandrone</i>	-	
<i>Streblus asper</i>	Siamese rough bush	
<i>Dipterocarpus tuberculatus</i>		
<i>Amoora wallichii</i>	-	
<i>Shorea siamensis</i>	Dark red meranti	
<i>Litsea glutinosa</i>	Brown Bollywood	
<i>Millingtonia hortensis</i>	Indian cork tree	
<i>Aegle marmelos</i>	Bael-fruit/ bael tree	

## 20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 10. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the SIS.*

(Please add here the species which do not come under sec no 14)

Species	Scientific name	IUCN Category	Max No observed in any period	Remark
Baer's Pochard	<i>Aythya baeri</i>	CR	4	(7.12.2018 , recorded by ILWS's Staffs at location of 20° 36' 534 " and E 96° 53' 27.3" near the bird watching center.
White-rumped Vulture	<i>Gyps bengalensis</i>	CR		Not Observed in ILWS but bird watchers from Kalaw found a group of <i>Gyps bengalensis</i> in and around the Kalaw Region round about 15 years ago .It is situated within the Inlay lake Biosphere Reserve.
Sarus Crane	<i>Grus antigone</i>	VU	4	
Indian Skimmer	<i>Rynchops albicollis</i>	VU	2	
Greater Spotted Eagle	<i>Aquila clanga</i>	VU	3	
Yellow-breasted Bunting	<i>Emberiza aureola</i>	VU	450	
Flacated Duck	<i>Anas falcata</i>	NT	50	
Ferruginous Pochard	<i>Aythya nyrca</i>	NT	661	2016 to 2019 March
Black-headed Ibis	<i>Threskiornis melanocephalus</i>	NT	120	
Oriental Dater	<i>Anhinga melanogaster</i>	NT	1	
Eurasian Curlew	<i>Numenius arquata</i>	NT	5	
Black-bellied Tern	<i>Sterna acuticauda</i>	NT	5	
Blyth's Kingfisher	<i>Alcedo hercules</i>	NT	1	
Rufous-rumped Grass-Babbler	<i>Graminicola bengalensis</i>	NT	5	

Current Bird Census Record of Inlay lake(2016-2017)						
Phylum	Scientific name	Common name	Pop. size (optional)		Period of pop. est. (optional)	% occurrence (optional)
Chordata	<i>Tachybaptus ruficollis</i>	Little Grebe	3	R	2016-2017	
Chordata	<i>Podiceps cristatus</i>	Great crested Grebe	1	M	2016-2017	
Chordata	<i>Phalacrocorax fuscicollis</i>	Indian Cormorant	8	R	2016-2017	
Chordata	<i>Phalacrocorax niger</i>	Little Cormorant	829	R	2016-2017	
Chordata	<i>Phalacrocorax carbo</i>	Great Cormorant	55	R	2016-2017	
Chordata	<i>Ardea cinerea</i>	Grey Heron	16	M	2016-2017	
Chordata	<i>Ardea purpurea</i>	Purple Heron	15	R	2016-2017	
Chordata	<i>Ardea alba</i>	Great Egret	70	R	2016-2017	
Chordata	<i>Mesophoyx intermedia</i>	Intermediate Egret	390	R	2016-2017	
Chordata	<i>Egretta garzetta</i>	Little Egret	322	R	2016-2017	
Chordata	<i>Bubulcus ibis</i>	Cattle Egret	670		2016-2017	
Chordata	<i>Nycticorax nycticorax</i>	Black-Crowned Night Heron	50	R	2016-2017	
Chordata	<i>Ardeola grayii</i>	Indian Pond Heron	80	R	2016-2017	
Chordata	<i>Ardeola bacchus</i>	Chinese Pond Heron	15	M	2016-2017	
Chordata	<i>Ixobrychus sinensis</i>	Yellow Bittern	5	M	2016-2017	
Chordata	<i>Ixobrychus cinnamomeus</i>	Cinnamon Bittern	2	R	2016-2017	
Chordata	<i>Anastomus oscitans</i>	Asian Openbill	927	R	2016-2017	
Chordata	<i>Threskiornis melanocephalus</i>	Black-headed ibis	2		2016-2017	
Chordata	<i>Plegadis falcinellus</i>	Glossy Ibis	980	R	2016-2017	
Chordata	<i>Dendrocygna javanica</i>	Lesser Whistling Duck	350	R/M	2016-2017	

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Chordata	<i>Tadorna ferruginea</i>	Ruddy Shelduck	31	M	2016-2017	
Chordata	<i>Nettapus coromandelianus</i>	Cotton Pygmy Goose	25	R	2016-2017	
Chordata	<i>Anas querquedula</i>	Garganey	75	M	2016-2017	
Chordata	<i>Anas poecilorhyncha</i>	Indian Spot-billed Duck	123	R/M	2016-2017	
Chordata	<i>Anas acuta</i>	Northern Pintail	23	M	2016-2017	
Chordata	<i>Anas strepera</i>	Gadwall	15		2016-2017	
Chordata	<i>Netta rufina</i>	Red-crested Pochard	6	M	2016-2017	
Chordata	<i>Aythya ferina</i>	Common Pochard	6	M	2016-2017	
Chordata	<i>Aythya nyroca</i>	Ferruginous Pochard	521	M	2016-2017	
Chordata	<i>Aythya fuligula</i>	Tufted Duck	54	M	2016-2017	
Chordata	<i>Grus antigone sharpii</i>	Eastern Sarus Crane	3	R	2016-2017	
Chordata	<i>Porzana fusca</i>	Ruddy-breasted Crake	1	R	2016-2017	
Chordata	<i>Porzana akool</i>	Brown Crake	1	R	2016-2017	
Chordata	<i>Amaurornis phoenicurus</i>	White-breasted Waterhen	2	R	2016-2017	
Chordata	<i>Gallicrex cinerea</i>	Watercock	3	R	2016-2017	
Chordata	<i>Gallinula chloropus</i>	Common Moorhen	21	R	2016-2017	
	<i>Porphyrio porphyrio</i>	Purpel Swamphen	38		2016-2017	
Chordata	<i>Fulica atra</i>	Common Coot	4054	M	2016-2017	
Chordata	<i>Hydrophasianus chirurgus</i>	Pheasant-tailed Jacana	177	R	2016-2017	
Chordata	<i>Himantopus himantopus</i>	Black-winged Stilt	1648	M	2016-2017	
Chordata	<i>Himantopus leucocephalus</i>	White-winged Stilt	2		2016-2017	
Chordata	<i>Glareola maldivarum</i>	Oriental Prantincole	23		2016-2017	
Chordata	<i>Vanellus indicus</i>	Red-wattled Lapwing	17	R	2016-2017	
Chordata	<i>Vanellus cinereus</i>	Grey-headed Lapwing	20	M	2016-2017	
Chordata	<i>Charadrius dubius</i>	Little Ringed Plover	13	M	2016-2017	
Chordata	<i>Tringa totanus</i>	Common Redshank	2	M	2016-2017	
Chordata	<i>Tringa ochropus</i>	Green Sandpiper	4	M	2016-2017	
Chordata	<i>Tringa glareola</i>	Wood Sandpiper	4	M	2016-2017	
Chordata	<i>Actitis hypoleucos</i>	Common Sandpiper	30	M	2016-2017	

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Chordata	<i>Gallinago stenura</i>	Pintail Snipe	1	M	2016-2017	
Chordata	<i>Gallinago gallinago</i>	Common Snipe	5	M	2016-2017	
Chordata	<i>Larus brunnicephalus</i>	Brown- headed Gull	530	M	2016-2017	
Chordata	<i>Larus ridibundus</i>	Black- headed Gull	411		2016-2017	
Chordata	<i>Larus genei</i>	Slender-billed Gull	6		2016-2017	
Chordata	<i>Larus heugilini</i>	Heuglin's Gull	4		2016-2017	
Chordata	<i>Chlidonias hybrida</i>	Whiskered Tern	16	Ra/Un	2016-2017	

<b>Total</b>			<b>12705</b>				
<b>Current Bird Census Record of Inlay lake (2016-2017)</b>							
<b>Phylum</b>	<b>Scientific name</b>	<b>Common name</b>	<b>Pop. size</b> (optional)		<b>Period of pop. est.</b> (optional)	<b>% occurrence</b> (optional)	
Chordata	<i>Tachybaptus ruficollis</i>	Little Grebe	58	R	2017-2018		
Chordata	<i>Phalacrocorax fuscicollis</i>	Indian Cormorant	7	R	2017-2018		
Chordata	<i>Phalacrocorax niger</i>	Little Cormorant	1502	R	2017-2018		
Chordata	<i>Phalacrocorax carbo</i>	Great Cormorant	35	R	2017-2018		
Chordata	<i>Ardea cinerea</i>	Grey Heron	19	M	2017-2018		
Chordata	<i>Ardea purpurea</i>	Purple Heron	15	R	2017-2018		
Chordata	<i>Ardea alba</i>	Great Egret	31	R	2017-2018		
Chordata	<i>Mesophoyx intermedia</i>	Intermediate Egret	522	R	2017-2018		
Chordata	<i>Egretta garzetta</i>	Little Egret	417	R	2017-2018		
Chordata	<i>Bubulcus coromandus</i>	Eastern Cattle Egret	289	R	2017-2018		
Chordata	<i>Nycticorax nycticorax</i>	Black-Crowned Night Heron	19	R	2017-2018		
Chordata	<i>Butorides striata</i>	Little Heron	141	R	2017-2018		
Chordata	<i>Ardeola grayii</i>	Indian Pond Heron	58	R	2017-2018		
Chordata	<i>Ardeola bacchus</i>	Chinese Pond Heron	18	M	2017-2018		
Chordata	<i>Ixobrychus sinensis</i>	Yellow Bittern	3	M	2017-2018		
Chordata	<i>Ixobrychus cinnamomeus</i>	Cinnamon Bittern	1	R	2017-2018		
Chordata	<i>Dupetor flavicollis</i>	Black Bittern	1	R	2017-2018		

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Chordata	<i>Anastomus oscitans</i>	Asian Openbill	2667	R	2017-2018		
Chordata	<i>Plegadis falcinellus</i>	Glossy Ibis	2051	R	2017-2018		
Chordata	<i>Dendrocygna javanica</i>	Lesser Whistling Duck	1626	R/M	2017-2018		
Chordata	<i>Anser anser</i>	Greylag Goose	1	M	2017-2018		
Chordata	<i>Tadorna ferruginea</i>	Ruddy Shelduck	31	M	2017-2018		
Chordata	<i>Nettapus coromandelianus</i>	Cotton Pygmy Goose	9	R	2017-2018		
Chordata	<i>Anas querquedula</i>	Garganey	216	M	2017-2018		
Chordata	<i>Anas poecilorhyncha</i>	Indian Spot-billed Duck	94	R/M	2017-2018		
Chordata	<i>Anas zonorhyncha</i>	Chinese Spot-billed Duck	10	R/M	2017-2018		
Chordata	<i>Anas acuta</i>	Northern Pintail	55	M	2017-2018		
Chordata	<i>Anas strepera</i>	Gadwall	4	M	2017-2018		
Chordata	<i>Aythya nyroca</i>	Ferruginous Pochard	88	M	2017-2018		
Chordata	<i>Aythya fuligula</i>	Tufted Duck	3	M	2017-2018		
Chordata	<i>Grus antigone</i>	Sarus Crane	3	R	2017-2018		
Chordata	<i>Porzana fusca</i>	Ruddy-breasted Crake	1	R	2017-2018		
Chordata	<i>Amaurornis phoenicurus</i>	White-breasted Waterhen	1	R	2017-2018		
Chordata	<i>Gallicrex cinerea</i>	Watercock	2	R	2017-2018		
Chordata	<i>Gallinula chloropus</i>	Common Moorhen	9	R	2017-2018		
Chordata	<i>Porphyrio poliocephalus</i>	Grey-headed Swamphen	36	R	2017-2018		
Chordata	<i>Fulica atra</i>	Common Coot/ Black Coot	2146	M	2017-2018		
Chordata	<i>Hydrophasianus chirurgus</i>	Pheasant-tailed Jacana	276	R	2017-2018		
Chordata	<i>Himantopus himantopus</i>	Black-winged Stilt	678	M	2017-2018		
Chordata	<i>Glareola maldivarum</i>	Oriental Pratincole	17	M	2017-2018		
Chordata	<i>Vanellus indicus</i>	Red-wattled Lapwing	18	R	2017-2018		
Chordata	<i>Vanellus cinereus</i>	Grey-headed Lapwing	26	M	2017-2018		

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Chordata	<i>Tringa totanus</i>	Common Redshank	1	M	2017-2018	
Chordata	<i>Tringa ochropus</i>	Green Sandpiper	3	M	2017-2018	
Chordata	<i>Tringa glareola</i>	Wood Sandpiper	2	M	2017-2018	
Chordata	<i>Actitis hypoleucos</i>	Common Sandpiper	9	M	2017-2018	
Chordata	<i>Gallinago gallinago</i>	Common Snipe	20	M	2017-2018	
Chordata	<i>Larus argentatus</i>	Herring Gull	1	M	2017-2018	
Chordata	<i>Rissa tridactyla</i>	Black Legged Kittiwake	1	M	2017-2018	
Chordata	<i>Chroicocephalus brunnicephalus</i>	Brown-headed Gull	1115	M	2017-2018	
Chordata	<i>Chroicocephalus ridibundus</i>	Black-headed Gull	792	M	2017-2018	
Chordata	<i>Chroicocephalus genei</i>	Slender-billed Gull	30	M	2017-2018	
Chordata	<i>Chlidonias hybrida</i>	Whiskered Tern	10	Ra/Un	2017-2018	
Chordata	<i>Chlidoniasleucopterus</i>	White-winged Tern	1	M	2017-2018	
<b>Total</b>			<b>15189</b>			

**Current Bird Census Record of Inlay lake( 2018. October to 2019 March)**

Phylum	Scientific name	Common name	Pop. size (optional)		Period of pop. est. (optional)	% occur (opti)
Chordata	<i>Tachybaptus ruficollis</i>	Little Grebe	26	R	2018-2019	
Chordata	<i>Phalacrocorax fuscicollis</i>	Indian Cormorant	2	R	2018-2019	
Chordata	<i>Phalacrocorax niger</i>	Little Cormorant	4110	R	2018-2019	
Chordata	<i>Phalacrocorax carbo</i>	Great Cormorant	114	R	2018-2019	
Chordata	<i>Anhinga melanogaster</i>	Oriental Darter	2	R	2018-2019	
Chordata	<i>Ardea cinerea</i>	Grey Heron	16	M	2018-2019	
Chordata	<i>Ardea purpurea</i>	Purple Heron	20	R	2018-2019	
Chordata	<i>Ardea alba</i>	Great Egret	42	R	2018-2019	
Chordata	<i>Mesophoyx intermedia</i>	Intermediate Egret	504	R	2018-2019	
Chordata	<i>Egretta garzetta</i>	Little Egret	396	R	2018-2019	
Chordata	<i>Bubulcus coromandus</i>	Eastern Cattle Egret	313	R	2018-2019	
Chordata	<i>Nycticorax nycticorax</i>	Black-Crowned Night Heron	18	R	2018-2019	
Chordata	<i>Ardeola grayii</i>	Indian Pond Heron	195	R	2018-2019	
Chordata	<i>Ardeola bacchus</i>	Chinese Pond Heron	3	M	2018-2019	
Chordata	<i>Ixobrychus sinensis</i>	Yellow Bittern	4	M	2018-2019	

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Chordata	<i>Ixobrychus cinnamomeus</i>	Cinnamon Bittern	3	R	2018-2019		
Chordata	<i>Dupetor flavicollis</i>	Black Bittern	1	R	2018-2019		
Chordata	<i>Anastomus oscitans</i>	Asian Openbill	3312	R	2018-2019		
Chordata	<i>Plegadis falcinellus</i>	Glossy Ibis	4591	R	2018-2019		
Chordata	<i>Dendrocygna javanica</i>	Lesser Whistling Duck	357	R/M	2018-2019		
Chordata	<i>Tadorna ferruginea</i>	Ruddy Shelduck	17	M	2018-2019		
Chordata	<i>Nettapus coromandelianus</i>	Cotton Pygmy Goose	52	R	2018-2019		
Chordata	<i>Anas querquedula</i>	Garganey	330	M	2018-2019		
Chordata	<i>Anas poecilorhyncha</i>	Indian Spot-billed Duck	104	R/M	2018-2019		
Chordata	<i>Anas acuta</i>	Northern Pintail	41	M	2018-2019		
Chordata	<i>Netta rufina</i>	Red-crested Pochard	6	M	2018-2019		
Chordata	<i>Aythya ferina</i>	Common Pochard	2	M	2018-2019		
Chordata	<i>Aythya baeri</i>	Baer's Pochard	4	M	2018-2019		
Chordata	<i>Aythya nyroca</i>	Ferruginous Pochard	72	M	2018-2019		
Chordata	<i>Aythya fuligula</i>	Tufted Duck	1	M	2018-2019		
Chordata	<i>Grus antigone</i>	Sarus Crane	4	R	2018-2019		
Chordata	<i>Porzana fusca</i>	Ruddy-breasted Crake	1	R	2018-2019		
Chordata	<i>Porzana akool</i>	Brown Crake	2	R	2018-2019		
Chordata	<i>Amaurornis phoenicurus</i>	White-breasted Waterhen	4	R	2018-2019		
Chordata	<i>Gallinula cinerea</i>	Watercock	1	R	2018-2019		
Chordata	<i>Gallinula chloropus</i>	Common Moorhen	31	R	2018-2019		
Chordata	<i>Porphyrio poliocephalus</i>	Grey-headed Swampphen	30	R	2018-2019		
Chordata	<i>Fulica atra</i>	Common Coot/ Black Coot	6331	M	2018-2019		
Chordata	<i>Hydrophasianus chirurgus</i>	Pheasant-tailed Jacana	430	R	2018-2019		
Chordata	<i>Metopidius indicus</i>	Bronze-winged Jacana	3	R	2018-2019		
Chordata	<i>Himantopus himantopus</i>	Black-winged Stilt	1927	M	2018-2019		
Chordata	<i>Himantopus Leucocephalus</i>	White-headed Stilt	2	M	2018-2019		<b>1.4.2016, New Record of ILWS by ILWS's Staffs</b>
Chordata	<i>Vanellus indicus</i>	Red-wattled Lapwing	20	R	2018-2019		
Chordata	<i>Vanellus cinereus</i>	Grey-headed Lapwing	61	M	2018-2019		
Chordata	<i>Charadrius dubius</i>	Little Ringed Plover	14	M	2018-2019		
Chordata	<i>Tringa erythropus</i>	Spotted Redshank	7	M	2018-2019		

Chordata	<i>Tringa totanus</i>	Common Redshank	3	M	2018-2019		
Chordata	<i>Tringa ochropus</i>	Green Sandpiper	2	M	2018-2019		
Chordata	<i>Tringa glareola</i>	Wood Sandpiper	1	M	2018-2019		
Chordata	<i>Actitis hypoleucos</i>	Common Sandpiper	45	M	2018-2019		
Chordata	<i>Gallinago stenura</i>	Pintail Snipe	1	M	2018-2019		
Chordata	<i>Gallinago gallinago</i>	Common Snipe	5	M	2018-2019		
Chordata	<i>Larus argentatus</i>	Herring Gull	3	M	2018-2019		
Chordata	<i>Chroicocephalus brunnicephalus</i>	Brown-headed Gull	1823	M	2018-2019		
Chordata	<i>Chroicocephalus ridibundus</i>	Black-headed Gull	1690	M	2018-2019		
Chordata	<i>Chlidonias hybrida</i>	Whiskered Tern	1	Ra/Un	2018-2019		
Chordata	<i>Xema sabini</i>	Sabine's Gull	1	M	2018-2019		<b>8.10.2018 New Record of ILWS by ILWS's Staffs</b>
<b>Total</b>			<b>27101</b>				

**Table 3 : Fish Species in Inlay Lake**

Current Recorded species of Inlay endemic fish						
No	Family	Common Name	Scientific Name	Status	IUCN , Red List, 2018	Remark
1	Cyprinidae	Emerald Dwarf Rasbora	<i>Celestichthys erythromicron</i> (Annandale,1918)	Endemic	EN	Synonums of <i>Microresbora erythromicron</i> , <i>D. erythromicron</i>
2	Cyprinidae	Inlay Carp	<i>Cyprinus intha</i>	Endemic	EN	
3	Cyprinidae	-	<i>Gymnostomus horai</i>	Endemic	EN	
4	Cyprinidae	-	<i>Inlecypris auropurpurea</i> (Annandale,1918)	Endemic	EN	Synonums of <i>Devario auropurpureus</i> , <i>Barilius auropurpureus</i> , <i>Inlecypris auropurpureus</i>
5	Cyprinidae	Red Dwarf Rasbora	<i>Microrasbora rubescens</i>	Endemic	EN	
6	Cyprinidae		<i>Neolissochilus nigrovittatus</i>	Endemic	DD	
7	Cyprinidae	Sawbwa Barb	<i>Sawbwa resplendens</i>	Endemic	EN	

8	Nemacheilidae	Inle Loach	<i>Petruichthys brevis</i> (Boulenger, 1893)	Endemic	Not yet been assessed	Synonyms of <i>Nemachilus brevis</i> , <i>Eonemachilus brevis</i> , <i>Nemacheilus brevis</i> , <i>Yunnanilus brevis</i>
9	Channidae	Snake-headed Fish	<i>Channa harcourtbutleri</i>	Endemic	NT	
10	Mastacembelidae	Inle Spiny Eel	<i>Macrognathus caudocellatus</i>	Endemic	Not yet been assessed	
11	Mastacembelidae	Spiny eel	<i>Mastacembelus oatesii</i>	Endemic	EN	
12	Nemacheilidae	Loach	<i>Physoschistura shanensis</i>	Endemic	NT	
13	Cyprinidae	Shan Barb	<i>Poropuntius schanicus</i>	Endemic	Not yet been assessed	Endemic Species of Inlay lake by A wetland Inventory for Myanmar, Biodiversity Data Journal4:e10539

## 21. Social, economic and cultural values:

a) Describe if the site has any general social, economic and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

The Shan Plateau and the Inlay Lake basins are very high scenic value. The natural beauty of the lake attracts many tourists and local visitors as does the unique way of life of the Inthas, the local community which is inhabiting around Inlay lake. Floating gardens are made from masses of floating vegetation and are used to grow vegetables, particularly tomatoes, in a form of hydroponic culture. Fishing is an essential livelihood activity for many local fishermen community conducts a traditional standing technique, called “leg rowing” that allows solitary fishermen to cast nets or place large basket traps while still being able manoeuvring their small wooden craft. There are ancient pagodas, such as Phaung Daw Oo, Alodaw Pauk, Shwe In Daing, Taung Do around the lake and other pagodas in the surrounding hills. There are also some particularly important Shan Temples around Mobyse reservoir.

**b)** Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? (Double-click the checkbox to check and choose "Checked" under "Default Value" from "Check Box Form Field Options" window)

If yes, tick the box  and describe this importance under one or more of the following categories:

- I. Sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- II. Sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- III. Sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- IV. Sites where 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:

**22. Land tenure/ownership:**

a) Within the Flyway Network site:

Inlay lake is under management of the Nature and Wildlife Conservation Division, Forest Department. Other land tenure are under the management of the Department of Agriculture, Fisheries, Irrigation and General Administrative Department and Department of agriculture, land management statistics and Inlay Lake Authority respectively.

b) In the surrounding area:

Surrounding the catchment areas are situated in the Reserve Forest and those are under the management of the Forest Department. Other land tenure are under the management of the Department of Agriculture, Fisheries, Irrigation and General Administrative Department and Department of agriculture, land management statistics and Inlay Lake Authority respectively.

**23. Current land (including water) use:**

a) Within the Flyway Network site:

Inlay Lake is designated as Wildlife Sanctuary and managed by the Nature and Wildlife Conservation, Forest Department. Other land tenures are under the management of the Department of Agriculture, Fisheries, Irrigation and General Administrative Department and Department of agriculture, land management statistics and Inlay Lake Authority respectively.

b) In the surroundings/catchment:

Surrounding the catchment areas are situated in the Reserve Forest and those are under the management of the Forest Department. Other land tenures are under the management of the Department of Agriculture, Fisheries, Irrigation and General Administrative Department and Department of agriculture, land management statistics and Inlay Lake Authority respectively.

**24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:**

a) Within the Flyway Network site:

N/A

b) In the surrounding area:

N/A

## 25. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Flyway Network site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

Wildlife Sanctuary, ASEAN Heritage Park, Inlay Lake Biosphere Reserve and RAMSAR Site.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate, see Annex 3):

Ia ; Ib ; II ; III ; IV ; V ; VI ; N/A

c) Does an officially approved management plan exist; and is it being implemented?:

No, it is still lacking the Management Plan for PAs. However, the management plan for the Wildlife Sanctuary will be developed under Myanmar-Norway Biodiversity Project.

If yes, is it being implemented?: If no, is one being planned?

The management plan for Inlay Lake Wildlife Sanctuary is being planned.

d) Describe any other current management practices:

Nature and Wildlife Conservation Division is managing this area according to conservation of biodiversity and protected areas law (2018). Not only that, as this area is ASEAN Heritage Park, Biosphere Reserves and Ramsar Site, NWCD follows and implement AHP Guidelines, Lima Action Plan for Biosphere Reserves and Ramsar Strategic Plan (2016-2024).

## 26. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

Ongoing process of habitat restoration plan and just planning to prepare the Park Management Plan for proposed Inlay lake Wildlife Sanctuary.

## 27. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Norwegian Environment Agency (NEA) from Norway facilitated and provided field equipments to Inlay Lake Wildlife Sanctuary for the purpose of effective conservation, SMART patrolling, bird, fish, regular water Depth Measurement survey and CEPA Programme. Besides, Inlay lake Wildlife Sanctuary and Fish Team of Kyoto University operated under a Record of Discussion (RoD) and conducted to the freshwater fish and endemic species research in Inlay Lake and surrounding the streams.

**28. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:**

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

- Inlay lake Biosphere Reserve Education Center(EEC) has been established for visitors at the Shwe Yan Pyae Guard Post and to show interpretation materials in 2017
- Inlay lake Wildlife Sanctuary Field Staffs conducted regular awareness raising activities 2 times per month and special event days in and around the PAs .
- Provides to local guide training of the conservation and information of Inlay lake Biodiversity especially birds for sustainable tourism development programme.
- Awareness and extension activities have been conducted by Inlay Lake Wildlife Sanctuary Field Staffs in collaboration with International Researchers, particularly on fish, Birds, water samples and other aquatic species.

**29. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Inlay Lake is one of the key tourism destinations in Myanmar. It is increasingly popular as a tourism destination for foreign tourists for its high cultural and biodiversity values and also a major destination and the most popular time for Buddhist pilgrims and religious purposes being the Hpaung Daw Oo pagoda festival in the month of October for both local and international visitors. Recreation opportunities for birds watching, angling, boat riding, tracking , research, museums, MAB- EEC, Information Centres, and key attractions are the Intha culture such as leg rowers, floating gardens, floating markets, traditional and livelihoods of local people of fishing styles, cloth woven from lotus stalks and silk. Other craft that attract tourists include goldsmiths, silversmiths, weaving of Shan traditional clothes and other handicrafts.

In 2017-2018 Budget Year, 204594 of Foreigner Visitors in number visited Inlay Lake. International visitors are charged a fee for entering the Inlay Lake area. Tourism related fees are not collected by Inlay Lake Wildlife Sanctuary. However, "Local Tourism Management Committee" set up a tour gate that collects zoning fees with the rate of 10 USD per tourist, in accordance with rules and regulations prescribed by the Shan State Government. Identified taxes are charged and gathered by Department of Hotels and Tourism, General Administration Department and Local Municipality respectively, from business men such as hotels, restaurants. All in all, such fees are conveyed to the State Government with a purpose of regional development. There is no contribution to the protected area and its environs.

**30. Threats \*:**

Which of the following threats is present historically – when the threat stopped but the effects are still there (H), currently (C) or potentially (P)?

	Historically	Currently	Potentially
<b>Residential and commercial development</b>			
housing and urban areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
commercial and industrial areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
tourism and recreation areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<b>Agriculture and aquaculture</b>			
annual and perennial non-timber crops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wood and pulp plantations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
livestock farming and ranching	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
marine and freshwater aquaculture	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Energy production and mining</b>			
oil and gas drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mining and quarrying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
renewable energy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Transportation and service corridors</b>			
roads and railroads	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
utility and service lines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
shipping lanes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
flight paths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Biological resource use</b>			
hunting and collecting terrestrial animals	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
gathering terrestrial plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
logging and wood harvesting	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
fishing and harvesting aquatic resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Human intrusions and disturbance</b>			
recreational activities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
war, civil unrest and military exercises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
work and other activities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Natural system modifications</b>			
fire and fire suppression	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
dams and water management/use	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
other ecosystem modifications	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Invasive and other problematic species and genes</b>			
invasive non-native/alien species	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
problematic native species	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

introduced genetic material

**Pollution**

household sewage and urban waste water

industrial and military effluents

agricultural and forestry effluents

garbage and solid waste

air-borne pollutants

excess energy

**Geological events**

volcanoes

earthquakes/tsunamis

avalanches/landslides

**Climate change and severe weather**

habitat shifting and alteration

droughts

temperature extremes

storms and flooding

**Please write here any additional threats and comments/queries you have on the threats.**

N/A

## **Annex 1: Criteria for the inclusion of sites in the Flyway Site Network**

(From the Partnership Text)

To be considered for inclusion in the Flyway Site Network, this Partnership adopts the following criteria:

- a. Convention on Wetlands (Ramsar, Iran, 1971) criteria for internationally important sites for migratory waterbirds. That is:
  - Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.
  - Criterion 5: A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.
  - Criterion 6: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.
  
- b. The staging criteria as applied under the Asia - Pacific Migratory Waterbird Conservation Strategy. That is:
  - i. A staging site should be considered internationally important if it regularly supports 0.25% of individuals in a population of one species or subspecies of waterbirds on migration.
  - ii. A staging site should be considered internationally important if it regularly supports 5,000 or more waterbirds at one time during migration.
  
- c. Under exceptional circumstances a site can be nominated if it supports migratory waterbirds at a level or stage of their life cycle important to the maintenance of flyway populations. Justification of such nominations will be considered by the Partnership on a case by case basis.

## Annex 2: Ramsar Classification System for Wetland Type

The codes are based upon the Ramsar Classification System for Wetland Type as approved by Recommendation 4.7 and amended by Resolutions VI.5 and VII.11 of the Conference of the Contracting Parties. The categories listed herein are intended to provide only a very broad framework to aid rapid identification of the main wetland habitats represented at each site.

To assist in identification of the correct Wetland Types to list in section 19 of the RIS, the Secretariat has provided below tabulations for Marine/Coastal Wetlands and Inland Wetlands of some of the characteristics of each Wetland Type.

### Marine/Coastal Wetlands

- A -- **Permanent shallow marine waters** in most cases less than six metres deep at low tide; includes sea bays and straits.
- B -- **Marine subtidal aquatic beds**; includes kelp beds, sea-grass beds, tropical marine meadows.
- C -- **Coral reefs.**
- D -- **Rocky marine shores**; includes rocky offshore islands, sea cliffs.
- E -- **Sand, shingle or pebble shores**; includes sand bars, spits and sandy islets; includes dune systems and humid dune slacks.
- F -- **Estuarine waters**; permanent water of estuaries and estuarine systems of deltas.
- G -- **Intertidal mud, sand or salt flats.**
- H -- **Intertidal marshes**; includes salt marshes, salt meadows, saltings, raised salt marshes; includes tidal brackish and freshwater marshes.
- I -- **Intertidal forested wetlands**; includes mangrove swamps, nipah swamps and tidal freshwater swamp forests.
- J -- **Coastal brackish/saline lagoons**; brackish to saline lagoons with at least one relatively narrow connection to the sea.
- K -- **Coastal freshwater lagoons**; includes freshwater delta lagoons.
- Zk(a) – **Karst and other subterranean hydrological systems**, marine/coastal

### Inland Wetlands

- L -- **Permanent inland deltas.**
- M -- **Permanent rivers/streams/creeks**; includes waterfalls.
- N -- **Seasonal/intermittent/irregular rivers/streams/creeks.**
- O -- **Permanent freshwater lakes** (over 8 ha); includes large oxbow lakes.
- P -- **Seasonal/intermittent freshwater lakes** (over 8 ha); includes floodplain lakes.
- Q -- **Permanent saline/brackish/alkaline lakes.**

- R -- **Seasonal/intermittent saline/brackish/alkaline lakes and flats.**
- Sp -- **Permanent saline/brackish/alkaline marshes/pools.**
- Ss -- **Seasonal/intermittent saline/brackish/alkaline marshes/pools.**
- Tp -- **Permanent freshwater marshes/pools;** ponds (below 8 ha), marshes and swamps on inorganic soils; with emergent vegetation water-logged for at least most of the growing season.
- Ts -- **Seasonal/intermittent freshwater marshes/pools on inorganic soils;** includes sloughs, potholes, seasonally flooded meadows, sedge marshes.
- U -- **Non-forested peatlands;** includes shrub or open bogs, swamps, fens.
- Va -- **Alpine wetlands;** includes alpine meadows, temporary waters from snowmelt.
- Vt -- **Tundra wetlands;** includes tundra pools, temporary waters from snowmelt.
- W -- **Shrub-dominated wetlands;** shrub swamps, shrub-dominated freshwater marshes, shrub carr, alder thicket on inorganic soils.
- Xf -- **Freshwater, tree-dominated wetlands;** includes freshwater swamp forests, seasonally flooded forests, wooded swamps on inorganic soils.
- Xp -- **Forested peatlands;** peatswamp forests.
- Y -- **Freshwater springs; oases.**
- Zg -- **Geothermal wetlands**
- Zk(b) – **Karst and other subterranean hydrological systems, inland**

Note: “**floodplain**” is a broad term used to refer to one or more wetland types, which may include examples from the R, Ss, Ts, W, Xf, Xp, or other wetland types. Some examples of floodplain wetlands are seasonally inundated grassland (including natural wet meadows), shrublands, woodlands and forests. Floodplain wetlands are not listed as a specific wetland type herein.

#### **Human-made wetlands**

- 1 -- **Aquaculture** (e.g., fish/shrimp) **ponds**
- 2 -- **Ponds;** includes farm ponds, stock ponds, small tanks; (generally below 8 ha).
- 3 -- **Irrigated land;** includes irrigation channels and rice fields.
- 4 -- **Seasonally flooded agricultural land** (including intensively managed or grazed wet meadow or pasture).
- 5 -- **Salt exploitation sites;** salt pans, salines, etc.
- 6 -- **Water storage areas;** reservoirs/barrages/dams/impoundments (generally over 8 ha).
- 7 -- **Excavations;** gravel/brick/clay pits; borrow pits, mining pools.
- 8 -- **Wastewater treatment areas;** sewage farms, settling ponds, oxidation basins, etc.
- 9 -- **Canals and drainage channels, ditches.**
- Zk(c) -- **Karst and other subterranean hydrological systems, human-made**

## **Annex 3: IUCN Protected Areas Categories System**

IUCN protected area management categories classify protected areas according to their management objectives. The categories are recognized by international bodies such as the United Nations and by many national governments as the global standard for defining and recording protected areas and as such are increasingly being incorporated into government legislation.

### **Ia Strict Nature Reserve**

Category Ia are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphical features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values.

### **Ib Wilderness Area**

Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.

### **II National Park**

Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities.

### **III Natural Monument or Feature**

Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.

### **IV Habitat/Species Management Area**

Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.

### **V Protected Landscape/ Seascape**

A protected area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

### **VI Protected area with sustainable use of natural resources**

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Category VI protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems.