

| Site Nomination for Peat Site Profiles in Southeast Asia |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <b>Category:</b>                                         | Protected Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Name of Site:</b>                                     | Inle Lake                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Country:</b>                                          | Myanmar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>GPS Point:</b>                                        | Latitude: 20° 39.573' N Longitude: 96° 55.136' E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Location &amp; Access:</b>                            | On the Shan plateau of east Myanmar, in Thanlwin River Basin. Located more than 2950 feet (884m) above sea level, Inle Lake is situated between two limestone mountain ranges over 5000 feet (1500m) high.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Total Area:</b>                                       | 9105.94 hectare(s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Background of Site:</b>                               | Inlay Lake, the second largest freshwater lake in Myanmar. The major inflows are Nanlit Chaung from north; Thanduang and Balu Chaungs from west, Ye Pe Chaung from the northwest. The major outflow is Balu Chaung at the southern end of the lake. It is linked to Thazi Kan and Nedi Kan to the north via Nanlit Chuang; and to Sagar Lake and Moby Dam to the south via Balu Chaung. Flow is from north to south.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Significant Value of Site:</b>                        | <ul style="list-style-type: none"> <li>- Biodiversity</li> <li>- Hydrology</li> <li>- Soil/Carbon</li> <li>- Cultural &amp; Historical Value</li> <li>- Socio-economic</li> </ul> <p>Notes:</p> <p>The lake combines rich historic and cultural values with significant environmental values due to its high biodiversity and invaluable ecosystem services. It has been listed as an important heritage area for South-East Asia and would qualify as a wetland of international importance for migratory water birds</p> <p>The lake and its watershed provide essential resources to the local and regional populations through food, fuel, shelter and water for drinking, cooking and livelihoods.</p> <p>As a permanent water body in an area which undergoes a prolonged dry season, the groundwater recharge function is thought to be important. The very high biomass of water plants in and around the lake probably play an important role in absorbing nutrients flowing in and by trapping sediment and maintaining the water clarity of the lake.</p> <p>Sediment from the lakebed are used to construct floating gardens by spreading them on top of portions of floating mats of vegetation. Floating gardens are found around the lake margins, tomatoes being a major crop.</p> <p>Submerged plants are also used for fertilizer after burning. Lake sediment is also used for spreading on potato fields next to the lake.</p> <p>Habitats: Much of the lake is covered with a luxuriant growth of submerged and floating-leaved macrophytes. In addition, there are floating mats composed mainly of grasses with Eichhornia and Polygonum. There are extensive areas of anchored mats and herbaceous marsh, especially around the northern end of the lake. Much of the lake-associated herbaceous marsh has been converted to rice fields and to water gardens. Some inflows flow underground for some distance and so provide an unusual habitat.</p> <p>Flora: The flora of the lake is very diverse and has a very high biomass. Much of the lake bottom is covered by water plants due to the clarity of the water. The most common types are:</p> <ol style="list-style-type: none"> <li>1. Amphibious: Marsilea, Colocasia, Polygonum spp., Alternanthera sp. (possibly the introduced A. philoxeroides).</li> <li>2. Creeping: Ludwigia adscendens, Ipomea aquatica, grasses cf. Echinochloa.</li> <li>3. Emergent: Phragmites sp., Typha sp., Nelumbo nucifera, Sagittaria sp., Saccharum sp.</li> <li>4. Free-floating: Eichhornia crassipes, Salvinia sp., Pistia stratiotes.</li> <li>5. Floating-leaved: Two species of Potamogeton, Nymphoides sp., two colour variants of Nymphaea spp.,</li> <li>6. Submerged rooted: Najas sp., Chara, Nitella, (often encrusted with calcium)</li> <li>7. Submerged, non-rooted: Elodea sp., Hydrilla verticillata, two species of Utricularia</li> </ol> <p>Plankton:</p> <p>Phytoplankton: Dominated by Ceratium, with a mixture of Microcystis, Dinobryon and Botryococcus.</p> <p>Zooplankton: Dominated by Heliopantomus cinctus (62%), with Moina micrura subdominant (34%); Daphnia lumholtzi, Moina micrura and Bosminopsis deitersi rather sparse.</p> |

Rotifers dominated by Polyarthra (61%), but in a second sample, taken over macrophytes, Ascomorpha was dominant (80%). Twenty-one species were found overall.

Fauna:

Avifauna:

Waterbirds: Great Cormorant, Little Cormorant, Purple Heron, Great Egret, Intermediate Egret, Cattle Egret, Indian Pond-Heron, Black-crowned Night Heron, Lesser Whistling Duck, Ruddy Shelduck, Common Shelduck, Eurasian Wigeon, Spot-billed Duck, Northern Pintail, Garganey, Common Teal, Ferruginous Pochard, Purple Swampphen, Common Moorhen, Common Coot, Pheasant-tailed Jacana, Common Sandpiper, Herring Gull, Black-headed Gull, Brown-headed Gull. Total aggregate of two counts of 2,288, 31 species on 6 and 7/12/01. Roost of Black-crowned Night Heron on low shrubby vegetation at lake's edge. One of five sites with Common Shelduck (1 bird). Largest count for Brown-headed Gull (928 birds). Inle and Indawgyi (647 birds) were the only two lakes with large concentrations of Brown-headed Gulls in Myanmar. Other birds: Eastern Marsh Harrier, Black-winged Kite, Black Kite, Steppe Eagle, Common Kingfisher, White-throated Kingfisher, Black-capped Kingfisher, House Crow, Magpie Robin, Brown Shrike, Long-tailed Shrike, Stonechat, Baya Weaver, White-vented Myna, Black-collared Starling, Vinous-breasted Starling, Asian Pied Starling, Collared Myna, Yellow-bellied Prinia, Lesser Coucal, Greater Coucal, Little Green Bee-eater, Black Drongo, Red-rumped Swallow, Arctic Warbler, White Wagtail, Citrine Wagtail.

Fishes: Estimates of the fish diversity range from 23 to 42 species. Latest research indicates that there are around 36 species (Kullander 1994), although fish species which occur only in the inflows and outflows may be included in this figure. These include two endemic cyprinid genera, Inlecypris and Sawbwa.

There are 16 endemic species, 12 of which are Cyprinidae. Thus, there is c.50% specific endemism in Inle Lake, making it one of the most important lakes in SE Asia for fish endemism. There are around seven introduced species.

Ctenopharyngodon idellus and Labeo rohita are regularly stocked by the Fisheries Department for control of water plants. The African catfish, Clarias garipinus, has also been introduced to the lake and its surroundings for culture.

#### CULTURAL, HISTORICAL & SPIRITUAL VALUES

The Shan Plateau and the Nyaung Shwe basin are of very high scenic value. The natural beauty of the lake attracts many tourists, the unique way of life of the Inthas, the community which is found around Inle Lake: Water gardens are made from masses of floating vegetation and are used to grow vegetables in a form of hydroponic culture. Leg rowers and the method of fishing using large traps are also unique to Inle Lake. 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.

#### Tourism

There has been substantial tourism development around the north of the lake with many hotels in Nyaung Shwe. Resorts have also been developed on the shores of the lake. At present, tourists are not permitted to travel beyond the Southern end of the lake. There are many motorized boats based in Nyaung Shwe to take tourists around the lake.

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| <p><b>Designated use (status/legal classification):</b></p> | <p>- National Park/State Park International recognition (e.g RAMSAR  Man &amp; Biosphere Reserve (MBR) etc.) HCVF Watershed/Water Catchment Wildlife Reserve Community Conservation Area/Forest</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>Major Issues:</b></p>                                 | <p>Sustaining the lake is essential to sustaining local communities livelihoods and sources of incomes, as well as maintaining a national asset.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p><b>Site Jurisdiction &amp; Administration:</b></p>       | <p>The lake forms part of the Inle Lake Wildlife Sanctuary, declared in 1985, primarily for the protection of the bird fauna. There is a committee to oversee developments around the lake: The environmental and rural development plan for Inle Lake and the catchment area has been developed by the divisional management committee (main committee). Under that committee, 11 township wise management committees have been formed. Each management committee consists of representatives from General Administration Department, Forest Department, Irrigation Department, Myanmar Agriculture Enterprise, Fishery Department, Land Settlement and Land Record Department, Department of Agriculture Mechanization, Basic Education Department, People Health Department, and NGOs.</p> |

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| <b>Peatland Type:</b>                                 | Lowland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Management activities:</b>                         | <p>a) Past</p> <p>b) Current<br/> The slopes surrounding the lake are covered with grassland and scattered trees which is very susceptible to fire, being burnt every year. The development of water gardens is a form of reclamation, with areas of open water being lost around the margins. Use of fertilizers and pesticides on the water gardens may also present a threat. Eutrophication from domestic effluent and from fertilizers is an ever-present threat.</p> <p>Tourism results in some disturbance through boat trips on the lake and through the development of resorts on the shores of the lake which may cause an increase in the inflow of domestic effluent into the lake.</p> <p>c) Potential</p> |
| <b>Facilities &amp; Activities Available on Site:</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Institution Responsible for the Site:</b>          | <p><b>Name of Organization:</b> Inle Lake Wildlife Conservation Department</p> <p><b>Postal Address:</b> Nyaung Shwe Township, Shan State<br/>Myanmar</p> <p><b>Phone:</b> +95 67 405002</p> <p><b>Fax:</b> +95 67 405397</p> <p><b>Website:</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Nominated by:</b>                                  | <p><b>Name:</b> Forest Resource Environment Development and Conservation Association (FREDA)</p> <p><b>Organization:</b> FREDA</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |