

World Heritage Sites

Protected Areas and World Heritage



LAKE MALAWI NATIONAL PARK MALAWI

Located on a peninsula between distant mountains at the southern end of Lake Malawi, this National Park with its deep clear waters and varied habitats, is home to over six hundred species of cichlid fish, nearly all endemic. Their importance for the study of evolution by adaptive radiation is comparable with that of the Galapagos Islands finches.

COUNTRY

Malawi

NAME

Lake Malawi National Park

NATURAL WORLD HERITAGE SERIAL SITE

1984: Inscribed on the World Heritage List under Natural Criteria vii, ix and x.

IUCN MANAGEMENT CATEGORY

II National Park

BIOGEOGRAPHICAL PROVINCE

Lake Malawi (3.29.14)

GEOGRAPHICAL LOCATION

The Park is at the southern end of Lake Malawi (L.Nyasa) on and around the Nankumba Peninsula. The Park includes the separate Mwenya Hills, Nkhudzi Hills and Nkhudzi Point at the eastern base of the peninsula, also Boadzulu Island, Mpande Island, the Maleri Islands with seven other offshore islets, and an aquatic zone which extends 100m offshore of all these areas. Location: 14° 02'S by 34° 53'E.

DATES AND HISTORY OF ESTABLISHMENT

1934: Forest Reserves on some of the islands protected;

1972: Forest protection extended to the hills of Cape Maclear, Mwenya and Nkhudzi;

1980: The National Park established under the National Parks Act NP (Est) Order 1980, Government Notice 205.

LAND TENURE

State, in Mangochi District, Southern Region, and Salima District, Central Region. Administered by the Department of National Parks & Wildlife (DNPW).

AREA

9,400 ha

ALTITUDE

474m (lake surface) to 1140m (Nkunguni Mountain).

PHYSICAL FEATURES

The National Park is on the very scenic northern tip of the Nankhumba peninsula which divides the southern end of Lake Malawi. The lake, lying within the Western Rift Valley, formed during Miocene tectonic activity, is a unique inland sea 584 kilometers long and is very deep. It forms a separate biogeographical province. The lake's water is permanently surface water temperatures range between 23° and 28°C, and are quite alkaline, with a pH of 7.8 to 8.5. There are marked seasonal variations in wind, temperature and rainfall. The water level fluctuates according to season with a long-term cycle of fluctuation over years. Recent years have seen increases to the highest levels since recording began, probably due to increased rainfall and to forest clearing on the high plateau above.

In general, the hills of the Nankhumba peninsula are wooded and rise steeply from the lakeshore. Cape Maclear at the north end is rocky, predominantly biotite-granite. In general the soils are poor, rocky and very susceptible to erosion. There are a number of sandy bays including a fine beach near Chembe and Otter Point. The islands are mainly or entirely rocky, separated from each other and from the mainland by sandy flats and deep water. Habitat types vary from cliffs and bouldery shores to pebbly and sandy beaches and from wooded hillsides to occasional swamps and lagoons. There is a range of underwater habitats: sandy, weedy, rocky, the rock-sand interface and reed beds which has encouraged the unusually high degree of speciation among the lake's fishes.

CLIMATE

The mean annual temperature is 22.7°C. The annual rainfall averages 766mm, falling in December to March, but is very variable. During the dry season from May to September, the south-easterly prevailing wind causes upwelling of lower waters.

VEGETATION

The terrestrial areas of the park, except for the smallest islands, were once heavily wooded. Originally, this community comprised baobab *Adansonia digitata* and several species of *Ficus*, *Sterculia*, *Khaya*, and *Albizia*. The ground flora has not been studied in depth. Through clearing of the forest, many woodland areas have been altered to shrubby vegetation and cultivation. The upper slopes are dominated by mountain acacia *Brachystegia glaucescens*. The underwater rocks are densely coated with algae which sustain much of the large population of fish.

FAUNA

The Park was established primarily to protect Lake Malawi's very rich aquatic life, especially the small brightly coloured rocky-shore tilapiine cichlids known as *mbuna* (rockfish) and the larger haplochromine cichlids which being more plentiful, provide most of the food fish. The lake contains the largest number of fish species of any lake in the world: 3,000 in all with more than 800 species of *Cichlidae* of which the lake contains 30% of all known species (Ribbink *et al.*, 1983; PPF, 2003; Thieme *et al.*, 2005). Of these, all but five species are endemic to the lake: the endemism exceeds 99% and the degree of adaptive radiation and the explosiveness of the speciation is remarkable and not yet wholly explained. More than 70% of these fish are not described and the taxonomic affinities of many of them are uncertain. *Mbuna* are tolerant of relatively high and fluctuating pH levels, and are very specialised in their habitats, highly territorial, and most species of the dominant Haplochromines are mouth-brooders. They are not much eaten, being relatively difficult to catch among the rocks, but being beautifully coloured are targeted by the aquarium trade. The diversity of mollusc species and other invertebrates is also very high.

Mammals include chacma baboon *Papio ursinus*, blue monkey *Cercopithecus mitis*, vervet monkey *Chlorocebus aethiops*, spotted hyena *Crocuta crocuta*, African clawless otter *Aonyx capensis*, spotted-necked otter *Lutra maculicollis*, leopard *Panthera pardus*, rock hyrax *Procavia capensis*, yellow-spotted hyrax *Heterohyrax brucei*, elephant *Loxodonta africana* (VU (which occasionally come down to the lake between the Mwenya and Nkhudzi Hills), red river hog *Potamochoerus porcus*, hippopotamus *Hippopotamus amphibius* (VU), greater kudu *Tragelaphus strepsiceros*, bushbuck *T. scriptus*, plains zebra *Equus quagga*, klipspringer *Oreotragus oreotragus*, impala *Aepyceros melampus*, Cape grysbok *Raphicerus melanotis* and grey duiker *Sylvicapra grimmia*. The varied birdlife includes black eagle *Aquila verreauxii*, African fish eagle *Haliaeetus vocifer* along the shoreline and many waders. The islands, especially Mumbo and Boadzulu, are important nesting sites for several thousand white-breasted cormorant *Phalacrocorax lucidus*. Reptiles include a few African python *Python sebae sebae* and crocodile *Crocodylus niloticus* and abundant water monitor lizards *Varanus niloticus* especially on Boadzulu Island. A list of snakes is given in Tweddle (1984).

CULTURAL HERITAGE

Fourth century Iron Age sites have been found in areas of the Park.

LOCAL HUMAN POPULATION

Much of the lakeshore is heavily populated. Five shoreline villages, Chembe, Masaka, Mvunguti, Zambo and Chidzale, are included within enclaves, cut off by Park and lake. Their numbers were about 5,400 in 1977 but the country's population has increased greatly since then. As the soil of the peninsula is poor and crops fail about 50% of the time, local people are dependent on fishing for a livelihood. Some 40,000 people make a living directly from the lake in offshore fisheries, catching 70% of the country's animal protein intake (PPF, 2003): tens of thousands of tonnes of fish are taken from the lake. The Park has been zoned to allow traditional seine fishing methods aimed at catching migratory fish in limited areas, although in most of the Park the resident fish are completely protected. However, overfishing remains a threat.

VISITORS AND VISITOR FACILITIES

There is some tourist development within the boundaries. There are several small hotels designed to blend in with the environment. The recreation site at Cape Maclear is heavily used and includes a resthouse, bar, caravan and camping site. The World Wide Fund for Nature sponsored the development of an environmental education complex located within the Park boundaries at Cape Maclear, the Lake Malawi National Park Museum and Aquarium. The complex comprises an environmental interpretation centre, an aquarium, and a research library/conference area which became operational in 1990. Additional developments have included a youth hostel and glass-bottomed boat for aquatic interpretation. The centre aims to educate local people, as well as foreign visitors. Exhibits range from the formation of the Rift Valley to the historical and cultural heritage, the creation of the Park, and World Heritage designation, and the importance of protecting it (DNPW, pers.comm.1995). Being without marine hazards, the lake is a most attractive site for learning to dive, and freshwater scuba diving is a growing sport. Other activities are snorkelling, kayaking, hill-walking and swimming (though still waters may harbor bilharzia). There is an airstrip at Makokala to the southwest.

SCIENTIFIC RESEARCH AND FACILITIES

There is a research station at Monkey Bay owned by the Department of Fisheries and a Research Sub-unit runs research and monitoring programs. Most research has concentrated on fish, conducted mainly by overseas scientists and latterly, by Malawian graduate students (DNPW, pers.comm.1995).

CONSERVATION VALUE

Lake Malawi National Park is the only lacustrine park in Africa, protecting several hundred species of fish, most of which are endemic. Lake Malawi's importance in the study of evolution by adaptive radiation is comparable to that of the Galapagos Islands and their finches. It lies within a WWF Global 200 Freshwater Eco-region.

CONSERVATION MANAGEMENT

This was the world's first freshwater underwater Park. Its aim is to protect examples of Lake Malawi's aquatic communities so the steep hills immediately behind the shoreline are protected to prevent eroded sediments polluting the lake. A management plan is being implemented. A managed fishing zone is designated just offshore incorporating some islands within the park, but trawling is prohibited. Other fishing methods such as gill netting, long line and trapping are prohibited within the 100m aquatic zone of the Park. The management plan details four conservation zones within the Park: Special zone, Wilderness zone, Natural zone and General zone. Most of the terrestrial area is in the Natural or Wilderness zones; the lake habitats are in the Special zone. Reforestation of the peninsula is a critical part of protecting the water quality. There are plans to plant trees in a 1,200ha section in the south of the peninsula to supply fuelwood and poles to local people. A forestry nursery has been started in the Park to begin reforestation of the peninsula. The goal is to plant 30,000 seedlings annually both in the Park and in nearby village enclaves for future firewood and building purposes. A small demonstration plot adjacent to junior staff housing should provide fuelwood to staff members. In 1999 the Lake Malawi/Niassa Transfrontier Conservation Area was proposed by the Peace Parks Foundation of southern Africa. It will include other parks in Malawi, Lago Niassa Reserve in Mozambique, the Selous Reserve and a corridor to the sea in Tanzania (PPF,2003).

MANAGEMENT CONSTRAINTS

Although there are no human settlements within the Park boundaries, much of the lakeshore is heavily populated and local people depend on fishing for a livelihood. Overfishing and pollution threaten the lake's fish, especially the cichlids for which the Park is the only refuge in the country. The brightly-coloured *mbuna* also provide a substantial export trade to collectors. The Park was threatened by a \$15 million luxury resort development at Cape Maclear (J.Thorsell,pers.comm.,1993) the water around which is already polluted by powerboats. Clearing of timber for building, firewood and cultivation has increased, particularly on Nankoma Island, part of Mumbo Island, around Chembe village and in the Mwenya and Nkhudzi Hills. Because of the limnological characteristics of the lake, should it be contaminated, the renewal time would be some 1,700 years. Effective protection of the water zones of the Park (only 0.04% of the lake's area) can only be ensured by proper management of the whole lake. A threat may come from overfishing of commercially valuable species: the African Development Fund granted US\$10 million to promote fisheries in the lake in 2003.

STAFF

20 full-time and 33 temporary workers (DNPW, pers.comm.,1995).

BUDGET

Annual budget of US\$ 50,000 (undated information). Between 1987 and 1990 the WWF granted US\$ 109,000 for improvements in the management, infrastructure, recreational facilities and for local education and awareness programs.

LOCAL ADDRESSES

The Director, Department of Parks and Wildlife, P.O.Box 30131, Lilongwe, Malawi.

The Parks and Wildlife Officer, Lake Malawi National Park, PO Box 48, Monkey Bay, Malawi.

REFERENCES

The principal source for the above information was the original nomination for World Heritage status.

Clarke, J. (1983). *Protected Areas Masterplan for the Southern Region*. Department of National Parks and Wildlife, Lilongwe.

Croft, T. (1981). Lake Malawi: a case study in conservation planning. *Parks* 6 (3):7-11.

Glenfell, S. (1993). *Lake Malawi National Park Management and Development Plan*. Department of National Parks and Wildlife, Lilongwe.

Hough, J. (1989). *Malawi's National Parks and Game Reserves*. Wildlife Society of Malawi, Blantyre.

IUCN (2007). *The Red List of Threatened Species*. IUCN, Gland, Switzerland / Cambridge,UK.

Lewis, P.,Reinthal, P. & Trendall, J. (1986). *A Guide to the Fishes of Lake Malawi National Park*. WWF, Gland, Switzerland. 71 pp.

Mbanefo, S. (1992). Lake Malawi National Park. *Our Living World*. July: 10-11.

Nyambose, J. (1997). Preserving the future for Lake Malawi. *Cichlid Forum*.

Peace Parks Foundation (PPF) (2003). *Lake Malawi / Nyassa / Niassa Transfrontier Conservation Area*. South Africa.

Ribbink, A. Marsh, A., Ribbinck, A & Sharp, B. (1983). A preliminary survey of the cichlid fish of the rocky habitats of Malawi. *African Journal of Zoology* 18(3): 149-310.

Thieme, M., Abell, R., Stiassny, M., Skelton, P. *et al.* (2005). *Freshwater Ecoregions of Africa and Madagascar. A Conservation Assessment*. WWF, Island Press, Washington, U.S.A. 431 pp.

Tudge, C. (1992). All fish bright and beautiful. *New Scientist*. 8 February 1992.

Tweddle, D. (1984). Snakes of the Lake Malawi National Park. *Nyala* 10(1): 43-44.

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