

Information Sheet on Ramsar Wetlands

As approved by Rec. C. 4.7 of the Conference of the Contracting Parties, Montreux, Switzerland - July 1990

1. **Country:** Iceland

2. **Date:** 19 November 1992

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5. **Name of wetland:** Mývatn-Laxá

6. **Date of Ramsar designation:** 2 December 1977

7. **Geographical coordinates:** 65°36'N, 17°00'W

8. **General location:** NE-Iceland.

9. **Area:** c. 20.000 ha (lake area c. 4000 ha).

10. **Wetland type:** M, O, Y, Z.

11. **Altitude:** 0 m to 277 m

12. **Overview:** a productive lake and a productive river with rich aquatic fauna and richest waterfowl site in Iceland, both in number of species and number of birds

13. Physical features:

(a) **water regime:** spring fed (cold and thermal springs) lake, and river.

(b) **water depth:** northern basin less than 1.5 m mean, southern basin max 4 m, mean 2.2 m.

(c) **salinity/acidity:** fresh, pH 8.0-10.4.

(d) **fluctuations/permanence:** permanent.

(e) **climatic conditions:** subarctic, average annual precipitation 350 mm, marshes and most of lake frozen over in winter.

14. Ecological features:

(a) aquatic vegetation:

Macrophytes: *Cladophora aegagropila*, *Carex lyngbeyi*, *Myriophyllum spicatum*, *M. alterniflorum*, *Potamogeton filiformis*, *Ranunculus trichophyllus*.

Algae: *Anabaena flos-aquae* (Cyanobacteria); *Rhodomonas minuta* (Cryptophyceae), *Dinobryon* sp, *Uroglena* sp, *Chrysochromulina parva* (Chrysophyceae); *Chlamydomonas* sp, *Oocystis*, *Pediastrum kawraiskyi* (Chlorophyta); *Fragillaria construens*, *F. pinnata*, *F. brevistriata* (Diatoma). Jdl

(b) **plant communities in adjacent areas:** the vegetation around Mývatn is both luxuriant and varied. Birch (*Betula pubescens*) woodlands are most conspicuous on the northern and eastern side, whereas bogs and moors lie towards the west and south. The

bottle sedge (*Carex rostrata*) forms reed beds around the ponds. The string sedge (*C. chordorrhiza*) dominates in marshy areas between lava knolls overgrown with various types of dwarf shrubs (*Empetrum*, *Vaccinium*, *Arctostaphylos*), dwarf birch (*Betula nana*), tea-leaved willows (*Salix phylicifolia*) and birch. The islands and islets, and some coastal stretches of the lake are grown with birch, willow, angelica (*Angelica archangelica*), meadow buttercup (*Ranunculus acris*) and *Erysimum hieraciifolium*. The islets in Laxá are dominated by tea-leaved willow, angelica, marsh marigold (*Caltha palustris*), meadow buttercup and the wood cranesbill (*Geranium silvaticum*). Lichens are very prominent, in particular the brightly orange *Xanthoria elegans* and *X. candelaria* and the almost white *Cetraria nivalis* and *C. cucullata*. The greenish-yellow *Alectoria ochroleuca* colours the tops of many of the pseudocraters.

(c) **aquatic fauna:** rich aquatic life, notably chironomid midges and blackflies (Simuliidae), as well as cladocerans.

(d) **wildlife:**

- **fish:** Arctic Charr, Brown Trout, Three-spined Stickle-back, Atlantic Salmon.

- **waterfowl:** an important breeding site particularly for Barrow's Goldeneye (2000 birds, at least 98% of the total European breeding population) and Harlequin Duck (200 pairs). In addition, the lake supports a large number of other breeding species including Red-throated Diver, Great Northern Diver, Slavonian Grebe (250 pairs) and a variety of ducks (16 species, totalling about 10,000 pairs), notably Tufted Duck (3800 pairs), Scaup (1800 pairs), Wigeon (1100 pairs), Common Scoter (300 pairs), Red-breasted Merganser (420 pairs), and waders, notably Golden Plover and Red-necked Phalarope (thousands of pairs). Gyrfalcon and Merlin (5-10 pairs each) also occur and Whooper Swan (500-700) gather to moult, stage and winter. Barrow's Goldeneye remain in the area during the winter. Moulting ducks include Wigeon (up to 3000), Scaup (3000), Tufted Duck (2000), Barrow's Goldeneye and Red-breasted Merganser.

15. Land tenure/ownership of:

(a) **site:** mostly private

(b) **surrounding area:** mostly private

16. Conservation measures taken: protected by law since 1974 (Act no. 36/1974). The jurisdiction of the act extends over all of Skútustadir district, the whole River Laxá, down to its estuary in Skjalfanda bay, and a 200 m wide border on both sides of the river. Size of protected area is 440,000 ha.

17. Conservation measures proposed but not implemented: general plan for future management and land use is in preparation, which is based on environmental impact assessment of different activities. The NCC which is responsible for the protection of the area has advised the Government to discontinue the sediment dredging for diatomite extraction. Dredging activities are limited to one area while waiting for the results of current research into the impact of dredging.

18. Current land use: principal human activities:

(a) **site:** farming, fishing, mining for diatomite from the bottom sediments, production of hydro- and geothermal energy, tourism.

(b) **surrounding areas/catchment:** grazing free-range sheep.

19. Disturbances/threats, including changes in land use and proposed development projects:

(a) **at the site:** sediment dredging for diatomite extraction, increased tourism, farming becoming less important, waterfowl drowning in fishing nets, salmon release in the upper part of the river, now only harbouring brown trout.

(b) **in the surroundings/catchment:** tourism and volcanism.

20. Hydrological and physical values: stable permanent discharge ($33 \text{ m}^3 \text{ s}^{-1}$) from subterranean springs on the lake shore, which makes the river discharge very stable and suitable for hydroelectric production (22 MW). Dams at the outlet for regulation of water and ice management in winter.

21. Social and cultural values: educational, recreational and scientific values, sport fishing and traditions associated with fishing and harvesting of duck eggs.

22. Noteworthy fauna:

(a) **wildlife:**

- **waterfowl:** 1) unique species composition, 2) American, European, arctic and boreal elements, 3) main strongholds of Barrow's Goldeneye, Common Scoter, Harlequin Duck, Gadwall and Slavonian Grebe in Iceland.

- **other fauna:** rich aquatic life, notably chironomid midges and blackflies (Simuliidae), as well as cladocerans, extreme production in terms of chironomids and blackflies.

23. Noteworthy flora: varied flora

24. Current scientific research and facilities: Permanent research station (Mývatn Research Station) does extensive monitoring of populations of midges (Chironomidae and Simuliidae), benthic crustaceans, waterfowl, fish and primary production in cooperation with the Institute of Biology, University of Iceland. It provides facilities for scientists, mainly from the Institute of Biology, University of Iceland, Icelandic Freshwater Fisheries Institute and others. Research activity around 10 man-years per year.

25. Current conservation education: During tourist season (June-August) four wardens employed by the Nature Conservation Council (NCC) contact tourists. Occasional public meetings of scientists and NCC with local inhabitants on the ecology of the lake and the river, fisheries management and conservation. Proposed establishment of education centre in near future.

26. Current recreation and tourism: over 100 thousand tourists visit the area in summer. Sport fishing in the River Laxá.

27. Management authority: conservation management by NCC, river ice and water management by Landsvirkjun (Hydroelectric company), fisheries management by local fishing societies, one for the lake and two for the river (one for the upper part of the river regarding brown trout fisheries and one for the lower part for the salmon fisheries).

28. Jurisdiction: Skútustadir district council is the local authority. Conservation is under the Ministry of the Environment.

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30. Reasons for inclusions: 1a, 1b, 1c, 2a, 2b, 2c, 3a, 3b, 3c

31. Map of site