

INFORMATION SHEET ON RAMSAR WETLANDS

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5. Name of wetland: Mühlenberger Loch
6. Date of Ramsar designation: 9 June 1992
7. Geographical coordinates: 53°32'N 09°48'E
8. General location:
River Elbe, western edge of Hamburg
9. Area: 675 ha
10. Wetland type: F G S (Freshwater mudflat)
11. Altitude: Sea level
12. Overview:
A large bay in the tidal range of the Elbe, some 35 km upstream from the brackish water limit. One-third of the area is dry at ebb tide and forms a freshwater mudflat. A rich feeding-ground for wading birds and ducks.
13. Physical features:
The Mühlenberger Loch is a bay on the left bank of the Elbe which discharges into the Este. The Alte Südelbe also flowed out in this area until 1962, when it was cut off by a dyke to

protect the residential areas lying behind from tidal flooding.

Until the 1930s, sandbanks covered the site of the present bay. These were removed to allow for the construction of a marine airport.

Following the damming of the Südelbe, the bay silted heavily to form an extremely rare biotope, a freshwater mudflat, which is steadily growing larger.

The water depth varies according to the amplitude of the Elbe's tides. In the area in question, it is about 3.50 metres. The flats begin to emerge about 4½ hours before low tide and are submerged again one hour after low tide.

The Ramsar wetland also incorporates part of the protected nature reserve of Neßsand, an artificial island in the Elbe. This comprises mudflats, reed-beds and a bush-covered sand-hook.

14. Ecological features:

The ecological value of the Mühlenberger Loch derives from its rich primary and secondary bio-production. This makes a vital contribution to the mineralization processes of the organically rich waters of the Elbe.

Small algae and animal organisms constitute a dense biomass that inevitably entails the presence of a multiplicity of secondary consumers.

The abundance of fish is a striking feature, as is the great number of wading birds and other waterbirds, especially at times of migration and in winter.

More than 10,000 waterbirds are regularly counted, with the duck species being the most numerous. The most common of these are the Green-winged Teal, Shelduck, Tufted Duck, Pochard, Northern Shoveler and Goldeneye - migrating birds whose number frequently exceeds 1% of the North Sea-Baltic population. For the Northern Shoveler, the Mühlenberger Loch must be one of the most important stopover points and feeding-grounds in northern Europe. Large migrating flocks of Smew and Goosander are also to be seen and the Cormorant population climbs steadily to reach a total of 600 specimens.

During the migration, large flocks of Little Gulls, 'Trauerschwalben' [= Black Scoters ?] and Common Terns also gather on the water.

The land fauna is even more abundant than the avifauna. The most prolific species are the *Oligochaeta*, with 350,000 individuals per square metre. These, together with the *Naidida* (95,000 individuals per m²), *Bivalvia*, *Crustacea*, *Coelenterata*, *Diptera* and *Turbellaria*, form a mutually beneficial partnership of organisms which contribute significantly towards cleaning the Elbe's heavily polluted waters. Indeed, this wetland symbiosis works like a huge natural purification plant.

A dense belt of plants on the banks and the island of Neßsand also enhances the river's self-cleansing capacity. There are also a few plant species that are only to be found in the freshwater area of the Elbe's tidal range. These are *Denanthe conivides*, *Reschampsia wibeliana*, *Xanthium albinum* and *Rumex triangulivalis*.

15. Land tenure/ownership of:

(a) site:

As a federal waterway, the expanse of water constituting the Mühlenberger Loch is owned by the Federal Republic. Otherwise, it comes under the jurisdiction of the Free and Hanseatic City of Hamburg.

(b) surrounding area:

To the east, the area borders on land owned by the MBB Aircraft Works.

16. Conservation measures taken:

The Mühlenberger Loch has been a protected area since 25 May 1982. In 1952, the island of Neßsand was made a protected nature reserve. The area is used solely for watersports in the summer months, and then only at high water.

17. Conservation measures proposed but not yet implemented:

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18. Current land use: principal human activities in:

(a) site:

Restricted to watersports and a ferry link

(b) surroundings/catchment: -

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

(a) at the site:

Threats include the heavily polluted state of the Elbe and the possibility of oil spills from ships involved in a collision.

(b) in the surroundings/catchment:

It is planned to open the Alte Südelbe. This would have to be considered a positive development from an ecological viewpoint.

20. Hydrological and physical values:

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21. Social and cultural values:

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22. Noteworthy fauna:

The following birds are of particular numerical importance among the migrating species:

Green-winged Teal	<i>Anas crecca</i>	up to 8,000	specimens
Tufted Duck	<i>Aythya fuligula</i>	up to 8,000	"
Pochard	<i>Aythya ferina</i>	up to 4,500	"
Wigeon	<i>Anas penelopa</i>	up to 2,000	"
Goldeneye	<i>Bucephala clangula</i>	up to 2,000	"
Northern Shoveler	<i>Anas clypeata</i>	up to 1,200	"
Shelduck	<i>Tadorna tadorna</i>	up to 3,000	"
Great Cormorant	<i>Phalacrocorax carbo</i>	up to 600	"
Little Gull	<i>Larus minutus</i>	up to 1,300	"
Smew	<i>Mergellus albellus</i>	up to 2,000	"

23. Noteworthy flora:

Four extremely rare plant species grow around the banks and in the Neßsand nature reserve. Restricted to the freshwater area of the Elbe's tidal reach, they are *Deschampsia wibeliana*, *Denanthe conivides*, *Xanthium albinum* and *Rumex trianulivalis*.

24. Current scientific research and facilities:

Biannual checks of migrating birds to establish the following: phenology in course of year; distribution of birds in relation to tide and water levels; use of area at night for feeding and roosting purposes.

25. Current conservation education:

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26. Current recreation and tourism:

The only recreational activity is sailing. The disturbance this causes is slight, as it is restricted to the summer months, i.e. a time when there are scarcely any birds in the area.

27. Management authority:

Umweltbehörde - Naturschutzamt -, Steindamm 22,

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28. Jurisdiction:

Territorial jurisdiction lies with the federal authorities and the Hanseatic City of Hamburg.
Functional jurisdiction lies with the Naturschutzamt and the Naturschutzreferat, Hamburg-Mitte.

29. Bibliographical references:

- Gewässerökologische Studie der Elbe von Schnackenburg bis zur Mündung - Arbeitsgemeinschaft für die Reinhaltung der Elbe (1984) (= Water ecology study on the Elbe from Schnackenburg to the mouth - Working party on keeping the Elbe clean (1984))
- Eine Elbbucht mit Süßwasserwatten (= A bay of the Elbe with freshwater mudflats), Dörges, J. and Reineck, H.-E., Natur und Museum 111 (9) 1981, pp. 275-285

30. Reasons for inclusion:

- 1 (d)
- 2 (d)
- 3 (c)