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FILE No 7

1. Source: Secrétariat d'Etat auprès du premier ministre
 chargé de l'environnement
 Direction de la Protection de la Nature
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 92524 Neuilly sur Seine Cédex
2. Date: 1 September 1990
3. Name of site: Rives du lac Léman (shores of Lake Geneva)
4. Country: France
5. Ref: 7FR007

6. Date of Ramsar designation: 08/04/1991

7. Geographical coordinates: 46°23'N 06°28'E

8. Location:

The French shores of Lake Geneva are situated in the Alpine arc of the Franco-Swiss border. They are in the department of Haute-Savoie, in the Rhône-Alpes region, and are 140 km to the north-east of Lyon as the crow flies.

IGN map no. 45 (1/100 100)

9. Area: 3,335 ha
10. Altitude: 380 m on average
11. Overview:

Of complex origin, Lake Geneva owes its configuration to erosion, tectonic deformations and the action of glaciers. With 167 km of shoreline and a maximum depth of 309 m, it is a veritable inland sea. It is not surprising, therefore, that its shores should have all the features normally associated with a seashore: yatching harbours and fishing ports, lake dunes, delta, refuge for birds and stopover point for migrating birds.

The Ramsar site comprises a series of ecologically important areas. These are, from north-east to south-west:

- the Dranse delta nature reserve (45 ha);
- the Ripaille estate (grove of ancient oaks, heronry, arboretum - about 250 ha);
- the Excenevex waterfowl reserve, which is closed to hunting and has the lake's largest concentration of wintering birds (920 ha);
- the Coudrée boxwood ('buxaie') and the Sciez lake dunes (about 50 ha in total);
- the Hermance waterfowl reserve (520 ha), which is closed to hunting and includes the St Joseph du lac reed-bed;
- the downstream areas and banks of the rivers Dranse, Redon, Foron and Vion, which flow into Lake Geneva (about 1,550 ha).

12. Physical features:

* **Dranse delta:**

Between Ripaille and Amphion lies a typical delta, created by the Dranse after its descent from the Savoy Chablais mountains. The river is in spate as it crosses the delta, surging round islands of alluvia on its way to the lake. Because of this, lateral erosion and the state of the vegetation, repair and maintenance work must be regularly undertaken to preserve the conditions required for nest-building.

* **Yvoire - Excenevex - Séchex reserve (closed to hunting):**

Hugging the lake for about 9 km, this reserve includes various types of shores. From the market town of Yvoire to the Rovorée headland and as far as the village of Excenevex, high and steeply rising banks tower above an expanse of water strewn with large erratic blocks.

These give way to a stretch of shallow sandy hollows, which in turn gives way to the 2 km stretch of the Excenevex and Coudrée beaches.

Pebbly strands reappear between the port of Sciez and Séchex. Three small rivers, the Vion, the Foron and the Redon, discharge into the 'Grande Conche' bay.

13. Ecological features:

The site is the largest wintering ground for aquatic birds in France, after the Camargue. Between December and April each year, it supports thousands of birds representing a multitude of species, including, on average, 115,000 Anatidae.

The most common species are *Anas platyrhynchos* (mallard), *Fulica atra* (common coot), *Aythya ferina* (pochard), *Aythya fuligula* (tufted duck), *Aythya marila* (greater scaup),

Bucephala clangula (goldeneye), *Melanitta fusca* (velvet scoter) and *Netta rufina* (red-crested pochard).

Nordic species such as *Somateria mollissima* (common eider) and *Gavia arctica* (black-throated diver) may also be present, depending on the severity of the winter.

Some birds of passage stay for a few days, e.g. *Tringa* and *Calidris* (sandpipers), *Charadrius* (plover) and *Limosa limosa* (black-tailed godwit).

The disappearance of the reed-beds is causing a decline in the populations of nest-building species, chief amongst which are *Podiceps cristatus* (great crested grebe), *Mergus merganser* (goosander), *Cygnus olor* (mute swan) and *Ardea cinerea* (grey heron).

*** Dranse delta nature reserve:**

This comprises 45 ha of alluvial terraces, islands and beaches, biotopes especially favoured by *Sterna hirundo* (common tern) - only nesting site of this species in the Rhône-Alpes region - *Larus canus* (common gull) - the most southern location in France for this species - *Charadrius dubius* (little ringed plover), *Actitis hypoleucos* (common sandpiper) and *Larus ridibundus* (black-headed gull).

Of the many passerines, the following are of note: *Hippolais polyglotta* (melodious warbler), a southern warbler of recent appearance, and *Sylvia curruva* (lesser whitethroat).

The most noteworthy mammal is *Castor fiber* (beaver), which has inhabited a backwater of the delta since its reintroduction by the Swiss and French authorities.

The Dranse delta nature reserve was created in 1980 primarily with a view to preserving an archetypal nesting site for a few specific bird species and an important wintering ground and stopover site. Because of the diversity of its biotopes, however, it also supports an impressive range of plants (alpines, southern species, orchids).

*** Ripaille estate (250 ha in total):**

Apart from a magnificent château, this estate has an enchanting forest of ancient oaks and hornbeams (50 ha), an arboretum (20 ha), natural grassland and some cultivated land. The phanerogamic and fungal flora is very varied. As for the fauna, there are large colonies of *Ardea cinerea* (grey heron) and *Milvus migrans* (black kites).

*** Yvoire - Excenevex - Séchex reserve (920 ha):**

Since the middle of the century, the shores of this area have suffered much degradation. The beach at Excenevex and the ancient dunes have been disfigured by developments associated with tourism. Sands and reed-beds have been destroyed by repeated dredging. From Sciez to the Redon, there is an uninterrupted line of villas; the marshes and lagoons have long disappeared.

In spring, however, the drop in the water level at Coudrée is sufficient to expose a vast area of sandbanks and shallow ponds, which is attractive to many passage species: dabbling ducks (*Anatidae*), waders and gulls (*Laridae*), wagtails (*Motacillidae*) and other passerines.

Moreover, in the migration period the area has the largest concentration of wintering birds on Lake Geneva, providing a home for multitudes of pochards (*Aythya*) and other stiff-tails (*Anas*), including *Somateria mollissima* (common eider), *Melanitta fusca* (velvet scoter) and *Clangula hyemalis* (long-tailed duck).

Without reed-beds, the shore is too exposed to the north wind for the nest-builders, the only species present being *Mergus merganser* (goosander).

* **Coudrée boxwood ('buxaie') and Sciez lake dunes**
(50 ha in total):

- **Coudrée boxwood**: unparalleled wood of ancient box-trees, dominated by large old specimens of lime, hornbeam and yew; of interest for its landscape and history; flora: epiphyllous lichens and several species of mushrooms; abundant avifauna, including *Picoides medius* (middle-spotted woodpecker).

- **lake dunes**: site of European importance (apart from Hungary's Lake Balaton dunes, the only lake dunes in Europe), almost totally obliterated by urban and tourist developments; a few uninteresting fragments of dune remain, covered by pines, boxwood and dry grasses; tiny botanical reserve.

* **Tougues shores - Hermance reserve (closed to hunting)**
520 ha):

The St Joseph du lac reed-bed, the last remains of the lake's once thriving aquatic plant communities, lies between the mouth of the Hermance and the Tougues landing-stage.

Much importance attaches to the site as the only remaining stretch of Savoy shore to support an impressive nesting colony of *Podiceps cristatus* (great crested grebe).

* **Downstream area and banks of:**

- **the Basse Dranse**: The downstream area of this river has been degraded ('granulat' [= granulite ?] mining, organic pollution) but continues to be much used by lake trout as a spawning-ground; flora and fauna on the sand- and gravel-banks; artificialized terraces.

Upstream, the Dranse is deeply embanked. Between Bioge and the Pont de la Douceur, it flows through a gorge whose rocky walls differ sharply in terms of vegetation (right side warmed by sun, left side cold and in shadow). Abundant and varied fauna: birds, reptiles and mammals, including *Glis glis* (dormouse); flora includes an abundance of southern species (*Cotinus coggygia*, *Polygala calcarea*) and subalpine plants (*Cyclamen*) on river-banks; geological interest: erosion, caves;

- **the Redon**: of much hydrobiological interest as an ideal

spawning-ground for lake trout;

- **the Vion:** a small watercourse which, like the Redon, is favoured by lake trout for spawning;
- **the Foron:** organic pollution downstream, therefore less spawning.

14. Land tenure/ownership of:

- lake owned by appropriate public authorities;
- shores: private and public ownership.

15. Conservation measures taken:

- A Commission Internationale pour la Protection des Eaux du lac Léman (CIPEL) was set up in 1960 to combat pollution, and a Franco-Swiss agreement came into force on 1 November 1963. Although these initiatives led to the systematic installation of purification plants, the amount of phosphorus deposited in the lake is still too high.

- Existing statutory protective measures:

* creation of two waterfowl reserves which are closed to hunting (see point 13)

* the Dranse delta nature reserve:

In 1982, in implementation of a 'rejuvenation' project, the height of the islands was reduced and their afforestation was prohibited since it was debasing the flora as a whole and forcing out colonies of birds.

* acquisition of land by the Conservatoire de l'Espace Littoral et des Rivages Lacustres

* protection of the lake's vulnerable perimeter pursuant to Art. L. 142 of the Code de l'Urbanisme concernant les Espaces Naturels Sensibles and its implementing decree; the department may designate areas which are to benefit from a policy for preserving and ensuring the quality of sites, the landscape and natural environments; in order to implement this policy on sensitive natural areas, it may introduce an appropriate departmental tax.

16. Conservation measures proposed:

None

17. Land use:

- professional fishing and fish-breeding: most heavily fished species: *Perca fluviatilis* (perch), *Rutilus rutilus* (roach), *Coregonus* (= ?); the lake provides a living for a hundred or so fishermen on the French shore and is the source of supply

for local hotels and fish shops.

- amateur fishing
- agriculture
- urban development
- yachting harbours.

18. Changes in land use and development projects:

None

19. Threats and problems:

- The main threat comes from urban development. Reed-beds are destroyed as a direct consequence of such development. The shores have been disfigured by embankments, walls, building and all manner of works affecting the ports, harbours and beaches.

- Pollution is being spread by massive discharges of fertilisers (phosphorus and nitrogen) from the catchment area and specific forms of pollution (dumping of sewage) are accelerating the natural eutrophication process.

20. Hydrological and biophysical value:

The hydrological role of the shores in the functioning of the lake's ecosystem is all the more important in that the lake itself fulfils a number of crucial hydrological functions: major source of drinking water and food, fish-breeding, and decisive influence on the hydrological regime of the Rhône.

From an ecological viewpoint, the shores are as necessary to birds as the expanse of water that attracts them, providing areas of refuge, nesting sites and places of rest.

21. Social and cultural values:

Because of the climate and the beauty of the lake's setting and its shores, the area is growing in popularity as a holiday destination.

The many classified or listed historic monuments, including the château de Beauregard (12th century) at Chens sur Léman, the church of Sainte-Hippolyte (11th and 12th centuries), the château de Ripaille, built by the Dukes of Savoy in 1434 at Thonon-les-Bains, and the château de Coudrée at Sciez (rebuilt in the 15th century), bear witness to the rich cultural heritage of the area.

22. Noteworthy fauna:

- *Aythya fuligula* (tufted duck)
- *Mergus merganser* (goosander)

- *Anas clypeata* (northern shoveler)
- *Netta rufina* (red-crested pochard)
- *Bucephala clangula* (goldeneye)
- *Sterna albifrons* (little tern)
- *Cygnus cygnus* (Whooper swan)
- *Cygnus columbianus bewickii* (Bewick's swan)
- *Anas querquedula* (garganey)
- *Oxyura leucocephala* (white-headed duck)
- *Larus melanocephalus* (Mediterranean gull)
- *Rissa tridactyla* (kittiwake)

23. Noteworthy flora:

528 species of vascular phanerogams and cryptogams, including 24 *Carex* (sedge), 18 *Ophris* (orchids) and 9 *Salix* (willow), have been counted in the Dranse delta nature reserve.

24. Scientific research and facilities:

The nests of the most noteworthy birds in the Dranse delta nature reserve are checked and counted regularly. Changes in physical conditions and changes affecting the flora are monitored continuously with a view to maintaining the character of the reserve and enhancing its value.

25. Educational value:

The Dranse delta nature reserve is of manifest scientific and educational importance. Small, well-supervised groups should perhaps be allowed in to view the fauna and flora from various carefully chosen spots in spring and summer.

26. Recreation and tourism:

The region is renowned for its very mild climate and magnificent scenery. Tens of thousands of tourists and amateur yachtsmen visit the lake each year. The long-established facilities for taking the waters are attracting more and more visitors to the famous spas of Thonon-les-Bains, Evian-les-Bains, etc.

27. Management authority:

- Communes
- Private landowners, fishing concerns, tourist associations
- Conservatoire de l'Espace Littoral et des Rivages Lacustres, other agencies

28. Jurisdiction:

- Conseil régional de la région Rhône-Alpes, Conseil général du département de la Haute-Savoie
- Government agencies: DRAE, DDAF, DDE, DDAM, DDASS

29. Bibliography:

- GEROUDET P. 1987 - Les Oiseaux du lac Léman - Delachaux et Niestlé,
- COMMISSION INTERNATIONALE DE LA PROTECTION DES EAUX DU LEMAN CONTRE LA POLLUTION. 1984 - Le Léman - Synthèse 1957-1982,
- ASSOCIATION POUR LA SAUVEGARDE DU LEMAN - Revue: Sauvons le Léman - Geneva,
- MINISTERE DE L'ENVIRONNEMENT/DDAF/APEGE. 1985 - Cartes des sensibilités de Haute-Savoie au 1/50 000 (= Maps of the vulnerable areas of Haute-Savoie; scale 1/50 000) - Douvaine, 29 pp. and Thonon-les-Bains, 40 pp.

30. Inclusion criteria:

The site can be included in the list of wetlands of international importance inasmuch as it meets the following criteria, which were approved at the Third Conference of the Contracting Parties:

1a & c: Lake Geneva is a good representative example of a wetland characteristic of the Alpine region. It plays a substantial hydrological role in maintaining the quality of the Rhône, on whose course it lies.

2a & c: It supports an appreciable assemblage of rare species: 18 orchids; it is of special value as a habitat of waterbirds (particularly in the winter season).

3a & b: It regularly supports 20,000 birds in the migration period and/or winter season; it is a site of international importance for *Aythya fuligula* (tufted duck), *Mergus merganser* (goosander) and *Bucephala clangula* (goldeneye).

31. Ecological changes linked to human intervention:

Pollution is accelerating the natural eutrophication process (see point 19).

32. Maps: Attached