

# Wetlands

Wetlands are transition zones, boundary areas between the terrestrial «environment» and the aquatic environment. This interface status means there are constant variations in time and space in these zones, and a very wide variety of terrestrial and aquatic environments are found. Their main characteristics are the presence of water at least part of the year, the presence of hydromorphic soils, and the presence of hydrophilic vegetation, adapted to submersion or to soils saturated in water. There are numerous classifications of wetlands.

They have been an increasing focus of attention since the second half of the 20th century, in particular on account of their great biodiversity. Although they cover only 6.4% of the continental surface area, they are the habitat for 12 to 15% of world fauna. In France, accounting for 3% of the overall territory, they harbour around 30% of special interest and protected plants, and half the protected bird species. In addition to strictly physical descriptions, wetlands have been the subject of a series of evolving qualifications. Wetlands were initially defined at world level in the Ramsar International Convention in 1971. This first definition, with its naturalist orientation, mainly focused on bird life frequenting these areas. In France it was not until 1992 that any explicit reference to wetlands was made, with legislation on water that defined them, and provided partial protection against drainage and drying-out operations. A first inventory in 12 types was drawn up within SDAGE (Schéma Directeur d'Aménagement et de Gestion des Eaux) &#8211; a water management directive. A more recent classification by IFEN (French environment institute) and the national wetlands Observatory proposes 11 types of wetlands in freshwater environments and 6 in salty or brackish zones. Former wetlands that have been reclaimed, such as the Dutch polders, are not considered to be wetlands.

It was only at the start of the 21st century that the status of these zones was clarified in France: the legislation on the development of rural territories (Loi sur le Développement des Territoires Ruraux &#8211; LDTR) in 2005 recognised the preservation and sustainable management of wetlands as an issue of general interest, allocating them several functions: heritage aspects (biodiversity), «landscape» aspects, hydrology issues (prevention of flood risk and preservation of water quality), and economic aspects (the wealth of their animal, plant and mineral resources). In addition, the LDTR sets out criteria for better application of the legislation on water, in relation to the presence of hydromorphic soils, hydrophilic plants and submersion levels. Along the same lines, LEMA (legislation on water and aquatic environments) has since 2006 been encouraging the preservation, the improvement and the management of aquatic and wetland environments. Thus in the space of 35 years there has been a transition from a recognition of the ecological value of wetlands &#8211; as a habitat for water birds &#8211; to a recognition of their general value, and consequently of the plurality of their functions. This shift from a nature-centred definition to a more anthropo-centred view can be thought to be liable to promote more operational preservation measures.

Since the 1960s and 1970s, scientists have been closely monitoring these zones across the world, and they point to a generalised regression, in particular as a result of human action. Wetlands are thought to have decreased by half in the course of the 20th century. In France, scientists launched an alert in 1990, showing how 9 out of 10 wetland areas had been damaged or destroyed since 1960. This led the French State to act, at once in the scientific field (national plan for wetland research), in the area of legislation (progress in legislation mentioned above) and in practical terms (creating of "relay poles" for study and monitoring). Following this, damage to wetland areas decreased somewhat, with losses and damage concerning 56% of surface areas between 1990 and 2000 and 48% from 2000 to 2010, according to national expert assessment. Nevertheless, in 2000 it was still observed that the pressure brought to bear on wetlands by human activities and occupation remained strong to very strong in half of the instances, in particular in wetland zones in the Mediterranean area, where tourism is very active, as well as in alluvial valley wetlands subjected to urbanisation. Generally speaking, in 2000, freshwater wetlands were in a poorer state than salt or brackish zones, as a result of drainage operations, alterations to water management systems, and changes in water quality. In the decade 2000-2010, the Atlantic coastline was rendered particularly vulnerable as a result of agricultural intensification, urbanisation, and the numerous storms and floods.

In response to these losses and on-going damage to wetlands, and alongside evolving legislation on the subject, 70% of the wetland surface areas in France are now protected. Alluvial valley wetlands are still the least well protected, unlike the coastal wetlands, in particular along the Mediterranean. The protection measures at international level (see the Ramsar website) or European level (the Natura 2000 SPA and SAC) cover larger areas than do measures at national level (areas owned by the Conservatoire du Littoral, natural parks and reserves at regional and national level). Contractual protection of wetlands covers larger areas than do regulatory and land-use protective measures. Overall, there are weak points in the protection of these environments: the contract-based approach by Natura 2000 is not the most favourable, nor is the insufficiently binding application of the Ramsar convention; and there

is the weight of major economic stakes (extensions of port zones for instance), even in special Protection Areas (Birds Directive in 1979). The latest "national action plan" towards wetlands considered that in 2010 they were still among the most threatened and damaged natural environments in France.

Today the protection of wetlands is increasingly implemented within general policy on «sustainable development», biodiversity, the blue-green infrastructure, or global change. It is for instance as "ecosystem providers" that wetlands are now studied. The acquisition and maintenance of 20 000 hectares of new wetland areas proposed by the experts in the Grenelle de l'Environnement (open multi-party debate in France launched in 2007) is thus justified by the value of their "services" and benefits, estimated at 2 to 4.5 times greater than the cost of their purchase. From the economic standpoint, views have changed: for instance coastal wetlands are being reshaped far less than in the past, while at the same time operations of valorisation are developing, via the rehabilitation of salt production or hardy livestock production, the development of "nature" tourism, or heritage tourism. This change in viewpoint is partly the result of the numerous economic assessments of these environments. On world scale, the highest values have been allocated to wetland areas for their recreational and protective functions, and more generally to coastal wetlands (mud flats, mangrove swamps, salt marshes).

Thus, after centuries of negative representations, views of wetland today have radically altered since the 1970s, first from an ecological viewpoint, but increasingly today from a societal viewpoint: what were previously specific environments have become territories.

## **Bibliographie**