

## Information Sheet on Ramsar Wetlands

1. **Country:** France
2. **Date:** [not supplied] 1994?
3. **Ref no:** FR012
4. **Name and address of compiler:** *see original*
5. **Name of wetland:** BAIE DU MONT SAINT-MICHEL (Mont Saint-Michel Bay)
6. **Date of Ramsar designation:** *not supplied* [but =14 Oct 1994 on Ramsar list]
7. **Geographical coordinates:** *see original*
8. **General location:** Basse-Normandie Region - Bretagne Region. 110 km from Caen. 60 km from Rennes.
9. **Area:** 62,000 ha of which 48,000 are marine and littoral, and 14,000 terrestrial.
10. **Type of wetland:** A, D, E, F, G, M, S, T. [*see Database coding sheet*]
11. **Altitude:** From 10 m below to 70 m above "NGF" sea level [=Nivellement général de la France: the reference is the sea level in Marseille].
12. **Description:** The Baie du Mont Saint-Michel occupies the bed of the normano-breton gulf, in the angle formed by Bretagne and le Cotentin. The exceptional tidal range (13 metres) uncovers each day a beach whose area can reach 30,000 ha.
13. **Physical features:** The deep substrate of the bay is made up of schists covered by 15 m of movable [unconsolidated] sediments. The morphology of the bay is very diversified: plateau, cliffs, dunes, strand [foreshore/beach]. There are three rivers, with low discharges: Sée, Sélune, Couesnon. The entire watershed of the bay is 3,389 km<sup>2</sup>. The water temperature varies from 7°C to 18°C, the salinity from 33 to 35 parts per 1000. The turbidity is high, with the sea depositing 3000 tonnes of sediments on the bed of the bay each tide. The bay is ranked fifth in the world for its exceptional tidal range. The climate of the region is temperate oceanic: annual temperature of 11.5°C, frequent and regular rains (600 to 800 mm/year). Dominant winds come from the SW and NW.
14. **Ecological features:** The Baie de Mont Saint-Michel features a great number of habitats whose peculiarities and continual exchanges determine the current biological richness.
  - sand/gravel beds of bivalves, reefs of "*Hermelles*" [*Sabellaria alveolata*] (the top community of these in western Europe), shore (4000 ha), dune systems (300 ha), rocky islets and cliffs, "behind-shore" wetlands.
  - wintering ground of waders (100,000), flatfish nursery (Sole), marine mammal haven [or haul-out], marine shellfish farming: oysters and "mytiliculture" [mussels?]
15. **Land tenure/ownership of:**
  - (a) site: maritime inland waters, maritime public property, fluvial public property, un-owned watercourse, property of land collectives, private property, coast Conservancy acquisition programme.
  - (b) surrounding area: *no info supplied*
16. **Conservation measures taken:**
  - UNESCO World Heritage site
  - EEC Special Protection Area: 18,000 ha
  - site classified in title [or chapter] of the 1930 law: 18,000 ha
  - association reserves
  - maritime hunting reserve: 4,000 ha
17. **Conservation measures proposed but not yet implemented:**

- protection under title [or chapter] of the January 1986 coastal law, as areas of outstanding interest [see original for details]
- district government biotopes protection decree being drafted
- drafting of charter for grassy areas and operation "grand site"

### 18. Current land use: principal human activities in:

(a) site: Maritime environment: fishing by boat ("*seiche*", shellfish, flatfish), fishing "on foot" [presumably= from the shore"], "mytiliculture" [mussels?], oyster farming, hunting "*gibier d'eau*" [=aquatic "game" =?waterbirds only, or more?], sheep herding, extraction of *tangue* [slimy sand used as manure], tourism activities.  
Terrestrial environment: intensive agriculture (cereals, maize, vegetables), semi-extensive herding of cattle and geese.

(b) surroundings/catchment: *no information supplied under this heading*

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

(a) at the site:

- drying-up and modification of the status of peripheral wetlands (drainage, pumping, plantations of poplars)
- land use in the watershed: development of major "*hors-sol*" ["off-land" i.e. indoor] livestock rearing units
- human pressure on the natural areas

It is important to emphasize that the natural evolution of the Bay (processes of sedimentation) will inescapably modify the current limits of the strand. The works envisaged for retarding this evolution are liable to have repercussions on the bay complex.

(b) in the surroundings/catchment: *no information supplied under this heading but see (a)*

### 20. Hydrological and physical values:

The hydrological value of the Baie du Mont Saint-Michel is intimately linked with the sea and to the phenomenon of the tide, since it is estimated for example, that the volumes coming in to the estuarine area at each high tide are close to 100 million m<sup>3</sup>. Part of this saline water goes up the rivers Sée and Sélune, largely modifying their functioning and morphology.

On the hundred or so linear kilometres of coast of the Bay, nearly half features sea defence barrages (protection of road system, dwellings, agricultural land). Nevertheless, the presence of grassbeds and rivers contributes to the preservation of the countryside in a very natural appearance.

### 21. Social and cultural values:

The heritage and social value of the Bay is linked to 5 concepts intimately dependent upon one another:

- Landscape: the Bay should be considered as the maritime treasure chest of Mont Saint-Michel "Marvel of the West"
- architectural heritage: Mont Saint-Michel, on the UNESCO world heritage list, has been classed as a historical monument since 1870. Legally it is "*l'élément fédérateur des lieux*".
- biological interest: the great richness resting on the very high productivity of this coastal wetland, on the diversity of habitats and the number of plant and animal species present.
- geological history: the Bay constitutes one of the best examples of quaternary sedimentation in the world.
- economic: see #18

### 22. Noteworthy fauna:

-Wintering Avifauna: *Anser albifrons* (0-50 individuals), *Branta bernicla* (2,000-3,000), *Anas penelope* (50-250,000[quoted in original, but this appears to be an error: 25,000 is more probable]), *Haematopus ostralegus* (10,000 - 20,000), *Calidris canutus* (3,000 - 7,000), *Calidris alpina* (22,000 - 35,000), *Numenius arquata* (2,000 - 5,000).

-Reefs of "*Hermelles*" (*Sabellaria alveolata*)

-Marine mammals: "great" dolphins (60-70 indivs), "grey" dolphins, seals.

-Migratory fish: Atlantic salmon, 200 salmon caught by line in the Sée and Sélune rivers.

**23. Noteworthy flora:** The Baie du Mont Saint-Michel represents the largest area of saltmarshes of the French coast. These are also the richest from the "biocoenotic" point of view. The presence of 8 rare and/or threatened "phytocoenoses" (J.M. GEHU 1991 - Red Book of terrestrial phytocoenoses French coast).

The best French site for *Haliomine pedunculata*, one of the most interesting and rare species of European saline

grasslands.

**24. Research and scientific facilities:**

The Bay constitutes a permanent natural laboratory for the Universities of Rennes (Bretagne) and Caen (Low-Normandy).

Research programme under the auspices of MA-France.

International research programme "land-sea transfer of organic material".

**25. Education and information:**

A variety of local bodies offer their own [or *appropriate*] specific products for ensuring a dynamic discovery and understanding of the Bay: the Bay company, shore-fishing and saltmarsh company, boat trips, nature excursions organised by the nature protection organisations.

**26. Recreation and tourism:**

Mont Saint-Michel attracts 2.5 million visitors each year.

**27. Management authority:**

The Bay is "managed" by a multitude of administrative bodies (professional, local collectives, associations...)

This exceptional environment suffers from the absence of a federal management structure.

**28. Jurisdiction:**

- National: ministries of the sea, agriculture, environment...
- Regional: Basse-Normandie and Bretagne regions
- Departmental (town/county level): Ille-et-Vilaine and Manche departments
- Local: community level

**29. References:** *see original*

**30. Reasons for inclusion:** Criteria 1b, 2a, 2b, 2c, 3a, 3b, 3c.

**31. Map of site:** *[colour photocopy included]*