

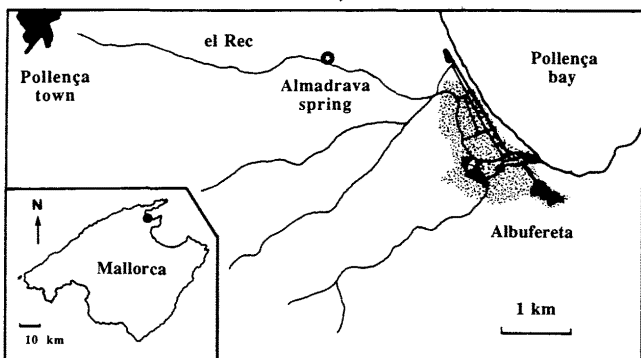
The unusual nature of the water supplying a coastal wetland (La Albufereta de Pollença, Mallorca, Balearic Islands)

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La Albufereta de Pollença is a wetland coastal zone located in the North of Mallorca (see figure). It is separated from the sea by a narrow (50-100 m) belt of dunes which is traversed by a road (12 m wide). By area (approximately 150 Ha), La Albufereta is the second largest wetland of the island. In common both with the most Mediterranean coastal wetlands, the zone experience constant environmental pressures (VELEZ, 1979).

Three main areas may be distinguished in La Albufereta: small shallow lakes, channels which are mostly artificial and a vegetated zone (represented mostly by the *Phragmition australis* and *Arthrocnemion fruticosi* alliance). General characteristics of the zone (including flora, fauna and human influence) are described by CERDA *et al.*, (1986).



The most distinctive feature is the contribution made by water, mostly by "torrentes" (temporal streams) as in the rest of the island. The average annual volume of water which flows through the zone amounts to some 24 Hm³; although the Torrente el Rec with less than a third part of the catchment area, alone supplies around 75% of the total inflow. This is due to a spring (Almadrava) which contributes 17 Hm³ annually, the outflow from which varies from 20 and 30 l s⁻¹ during the summer months to a maximum of 5 m³ s⁻¹ (SERVEI HIDRAULIC, 1987). The continual presence of water throughout the year in el Rec between Almadrava and La Albufereta means that it is covered almost throughout its whole length by macrophytes: *Potamogeton pectinatus*, *Zanichellia palustris*, *Zanichellia palustris* var. *gramen*, *Ruppia maritima*, *Enteromorpha intestinalis*, *Chaetomorpha capilaris*, *Ulva curvata* and *Cladophora* sp. are the most prominent species.

From 1987, samples of the torrent water have been taken at irregular intervals from between the environs of Pollença to La Albufereta. The monitoring of the chemical parameters has been carried out using standard methods (GOLTERMAN *et al.*, 1978; APHA, 1981). Maximum, average and minimum values for ten locations between Almadrava and La Albufereta (A), and for four locations between Pollença and Almadrava spring (B) are presented in the table.

	A			B		
pH	8.11	7.27	6.55	8.25	7.80	6.59
CONDUCTIVITY (mS cm ⁻¹ 20°)	20.00	10.82	2.00	5.52	1.35	0.72
ALKALINITY (meq l ⁻¹)	6.70	3.63	0.60	12.60	5.15	1.45
CHLORIDE (g l ⁻¹)	9.33	3.73	0.82	0.18	0.12	0.04
SULPHATE (mg l ⁻¹)	978.50	635.83	273.90	224.63	97.07	52.21
CALCIUM (mg.l ⁻¹)	400.00	277.05	160.00	232.00	156.00	72.00
MAGNESIUM (mg l ⁻¹)	447.00	220.20	72.90	38.80	12.29	4.86
PHOSPHATES (µg-at l ⁻¹)	2.53	0.62	0	165.74	83.32	8.81
SILICATES (µg-at l ⁻¹)	154.17	82.38	32.29	289.58	152.78	38.40

In group B most of the samples are from water left in hollows in el Rec since there is only occasional water flow. The results show the water to be fresh with high phosphate content, reflecting human influences. The major alkalinity variations result from either production or consumption of oxygen which depends on the sample point locations and time of the year.

The Torrente el Rec water from La Almadrava (A) is supplied by the spring and is brackish. It has a high chloride, sulphate and magnesium concentration. Although the aquifer supplying the spring is still not properly understood (SERVEI HIDRAULIC, 1987), the absence of gypsum in the rocks of the catchment and the continuity of flow of the spring throughout the year suggests a clear marine influence.

La Almadrava spring, due both to its outflow volume and its chemical make up, is unusual and unique in Mallorca.

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