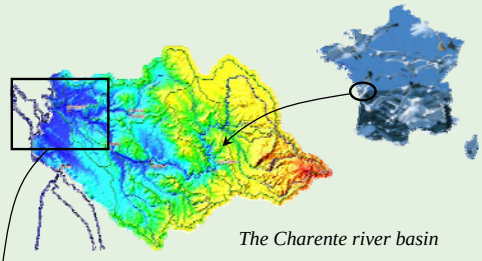



SPICOSA

SCIENCE AND POLICY INTEGRATION FOR COASTAL SYSTEM ASSESSMENT

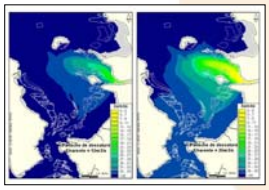
SSA n°10 – PERTUIS CHARENTAIS

WATER MANAGEMENT OF THE CHARENTE RIVER ON ITS COASTAL ZONE



The Charente river basin

Salt dilution plume for 2 river discharges



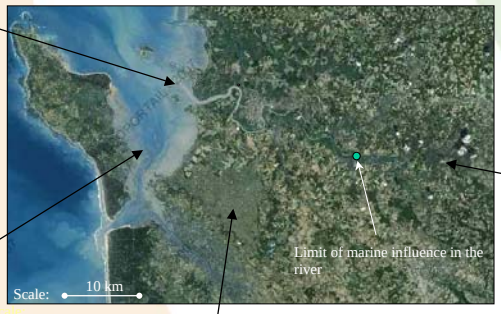
Freshening of marine water:

Mixing between fresh and marine water has created over centuries original ecosystem conditions. These conditions have shaped human activities and influence greatly the local identity.

Coastal Zone Aquatic Environment:

The lower Charente shows a risk of failing WFD objectives, due in particular to agriculture diffuse pollution and water shortage recurrent events during summer.

Major Stakeholders: Agence de l'Eau, Forum des Marais Atlantiques



Agriculture & Urban Water:

Because of an important increase of irrigated area since the 70s, Charente river basin face important imbalance between the available water resources and uses.

Irrigated crops sales: 63 M€/yr. 2100 farmers, 54 000 ha. 85% of yearly net water consumption.

Drinking water: 15% of yearly net water consumption. The Charente river is a strategic resource for the whole region. Consumption peak due to tourism during summer on the coastal zone.

Global average water deficit : 30 Mm3/yr (average potential demand = 125 Mm3)

Agriculture & Industry pollution (nitrates, phosphorus, pesticides, chemicals…)

Major Stakeholders: EPTB Charente, Agence de l'Eau, Conseil Général 17, DRE, Ministry of Agriculture local authorities

Oyster production:
(regional figures)

Sales: 200 M€/yr
1200 enterprises, 9000 employments

Fresh water progressive mixing with marine water provides a brackish environment that benefits trophic resources and spat* production during summer. However, too much fresh water can also affect adults mortality.

Major Stakeholders: SRC, IFREMER

* Young oysters

Wetlands:

Cattle breeding is a traditional activity in fresh water wetlands, while brackish water wetlands are more particularly used for oyster production. Both contribute to the local identity and landscapes. They require a very demanding management of water.

Major Stakeholders: UNIMA, SRC

Tourism & Leisure:

1250 M€ (regional figure)

Recreative fishery, beaches, tourism, sailing

The freshwater management of the Charente river basin and its coastal zone focuses on the satisfaction of the needs in drinkable water and the restoration of the good ecological functioning of aquatic ecosystems.
In this way, good monitoring indicators are the measurement of the mean daily discharge for surface waters and the measurement of the groundwater level for aquifers at different points of the river basin and its sub-basins.
The Master Water Management Plan (SDAGE) defines threshold values for each sub-basin in order to meet these objectives.
During low-flow periods, the real values are compared weekly to the threshold values at the sub-basin level and determine the management decision: adopting restrictive measures or a ban of the uptakes for different uses (domestic, agriculture, industries…). Agriculture and irrigated areas are particularly concerned. A 4 year participatory Drought Management Plan (PGE) aim to manage water shortage situations at the level of hydrographical units defined by the SDAGE in order to reach a good balance of the different uses of water and the preservation of aquatic ecosystems during the low-flow period.

Each year, the allowed irrigation volumes, determined at the "Département" level, are decreasing. A downstream integrative control point is monitored to estimate the minimum freshwater discharge needed to maintain a level of freshening in order to preserve shell farming uses and the quality of coastal ecosystem. These priority objectives could also be addressed with water saving measures and with seasonal storage (dams, water towers).

« Simple views & discussions »

« Open boxes »

« More detailed views & discussions »

Partners of Study Site n°10 – Pertuis Charentais:

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