

CSO IMPACT ON SAR RIVER. A FIRST APPROACH.

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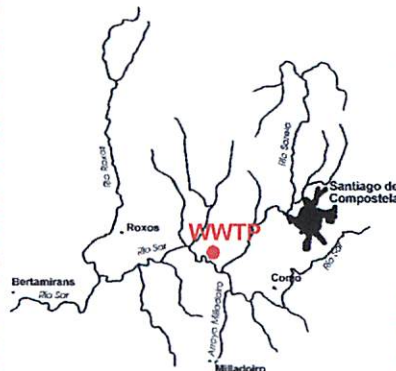
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Objectives:

To Know the influence of storm water on the Sar River (Galicia, north-west of Spain).
The influence of WWTP (activated sludge) is very strong.
The main objective is to reach the A2 in the river and the fulfillment of Directive 91/271.

The Catchment:

The main characteristics of this river is its steep gradient and short length. The lowest flow occurs in the summer (below 1 m³/s). The average WWTP effluent flow is above 0,4 m³/s.

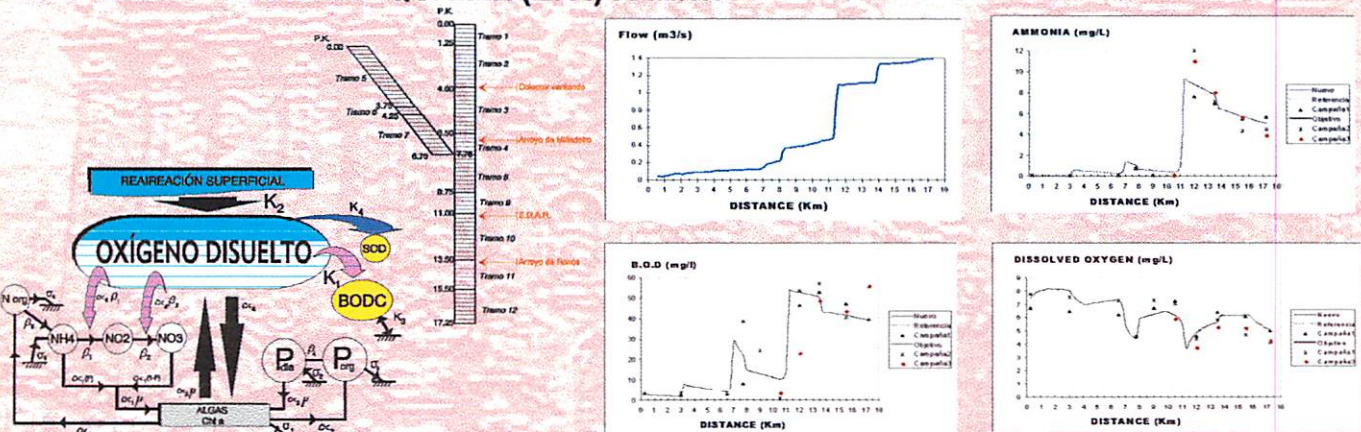


The catchment area has 6324 Ha. and 110.000 equivalent-inhabitants with a combined sewer network.

Its anual rainfall amount is about 2000 mm, one of the highest in Spain. Wastewater is carried by a main pipe to WWTP. The pipe is 11 Km long. It has several spillways but there is no overflow control neither treatment systems over CSO's.

First steps of this project: the setup of water quality monitoring systems (on line systems and fields studies), and to develop a steady state model (premodel with QUAL2E).

Fields studies values and QUAL2E (EPA) results.

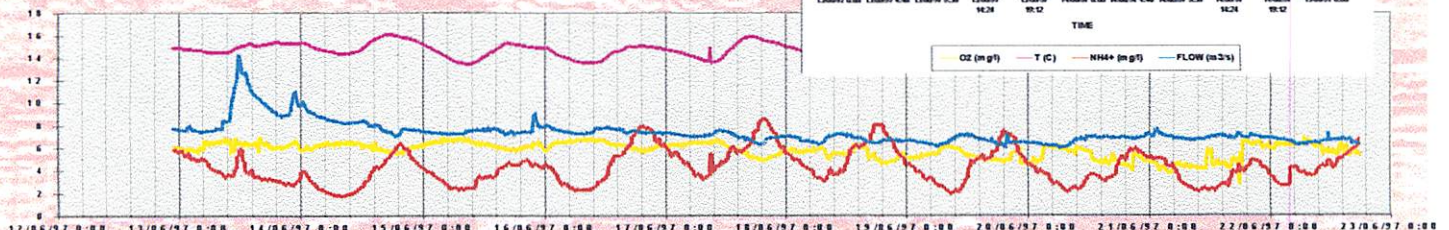
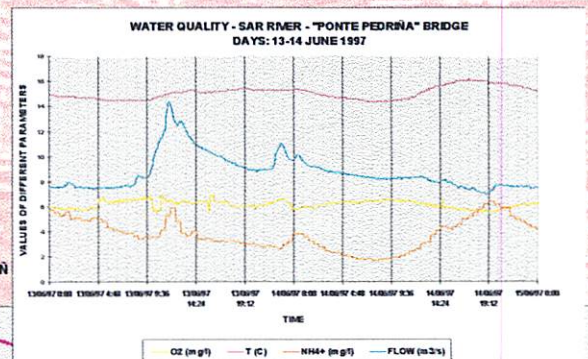


On line monitoring systems:

The following parameters are measured: pH, temperature, dissolved oxygen, conductivity, turbidness and ammonia. Flow is continuously measured.



WATER QUALITY - SAR RIVER - "PONTE PEDRÍN"



Future developments:

In a near future a dynamic model will be performed and it will be possible to study transitory pollution phenomena. The model will be used to obtain the black points in the Sar river and as a tool to plan the new sewer system, to design overflow control systems, an also wastewater treatment processes needed to reach the water quality specified by the "Proxecto de Directrices do Plan Hidrolóxico das Concas de Galicia Costa".