

1. Location of the study site



2. Background information

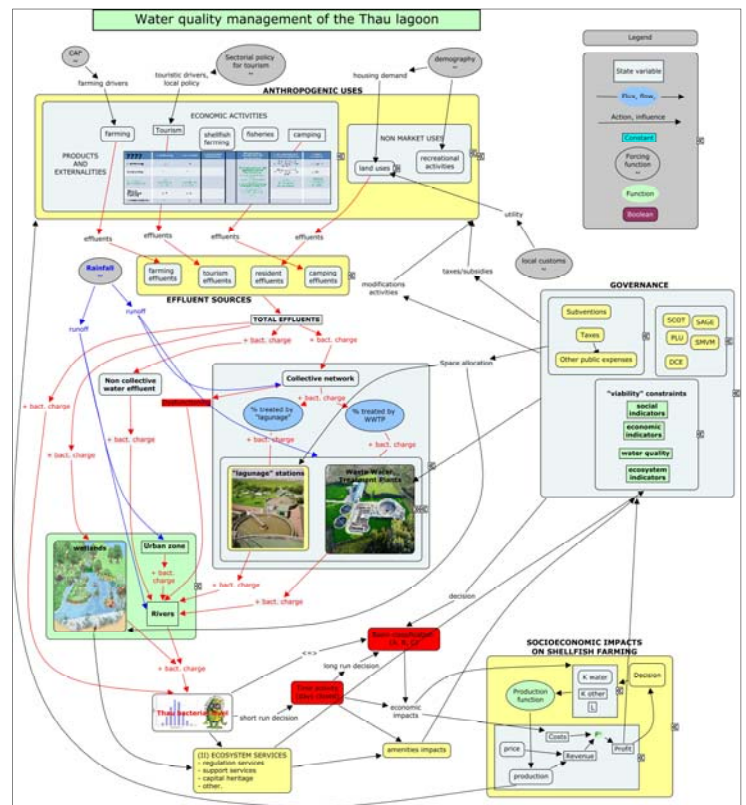
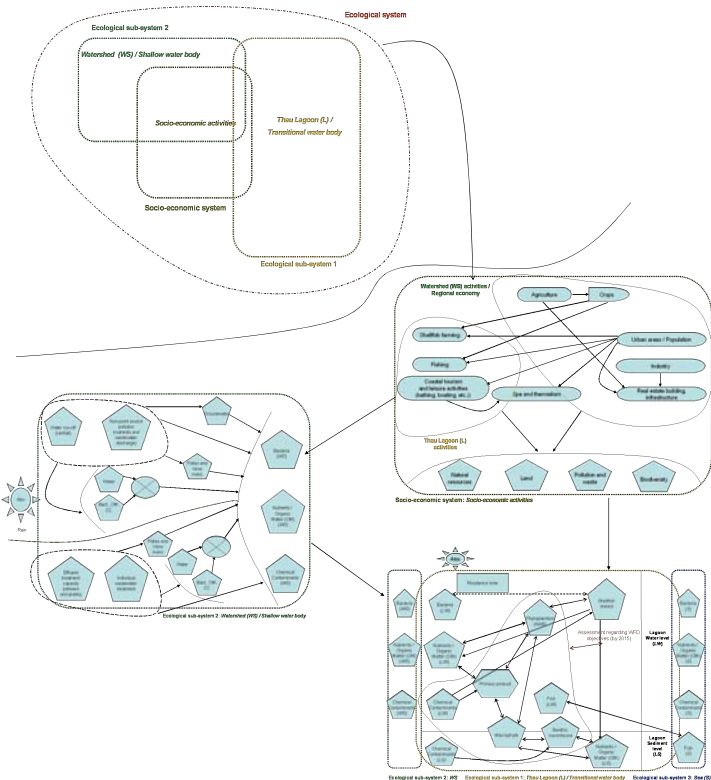
Over the past thirty years, the rate of population increase has been +40% to reach approximately 130,000 inhabitants. The average density is about 268 inhab/km². Local municipalities consist of 22 municipalities. The Thau lagoon coastal area illustrates issues and the needs for practical tools for coastal decision-makers and authorities. Institutional arrangements regarding environmental and coastal management have been running for about 20 years. These arrangements however were mainly sectoral and directed by solely spatial delimitation in order to resolve user conflicts. Over the past three years, a concerted land planning process has been launched on the Thau lagoon coastal area by a local public coastal manager called "Syndicat Mixte du Bassin de Thau (SMBT)" for the joint implementation of a Territorial Management Plan ("Schéma de Cohérence Territoriale (SCoT)", French "Solidarité et Renouveau Urbains (SRU)" law (2000)) involving 14 municipalities and a Water Management Plan ("Schéma d'Aménagement et de Gestion des Eaux (SAGE)", French Water Law (1992, 2003) and "Schéma Directeur d'Aménagement et de Gestion des Eaux (SDAGE Rhône Méditerranée)" (1996 – Current)) as a local RBMP involving 22 municipalities regarding the WFD (2000).

3. Policy issues and the conceptual model

Our framework lies on how eutrophication and contamination (*forcings*) due to local population and urban waste recreational activities and tourism, primary sector activities as agriculture (wine growing), fishing and shell-farming (*Human Activities (HAs)*) drive to change of trophic structure, anoxia, sediment organic enrichment, change in micro and macro flora composition and abundance as well as benthic organisms and nurseries and perceived environmental quality change by users (*impacts*). Furthermore, these *forcings* may also lead to shellfish and fish mortality, sanitary restrictions (shell-farming and bathing), decrease of traditional activities productivity and loss of jobs in traditional activities (shell-farming and local fisheries), limitation of recreational activities, as well as user conflict (*impacts*). As a result, our policy issue can be characterized as "how can we cope with eutrophication and contamination within the lagoon with regards to institutional arrangements?", and "how can bring together differing water use and quality perception by stakeholders?".

4. From system design to system formulation: the water bacterial contamination issue

For the purpose of the formulation step, the models will first address separately the main issues (eutrophication of the lagoon and water bacterial contamination) of the water management problem, before an integrated two-issues model may be built. In a first step, the system representation of water quality management in the Thau Lagoon is refined as regards the issue of bacterial contamination. This is illustrated in the functional scheme below, which tries to combine physical processes (water contamination and water treatment) and social processes (economic impacts at the sectorial and regional level, and governance system).



THE SSA TEAM:

The Thau Lagoon SPICOSA partnership embraces 3 main partners:

1. IFREMER (scientific partner)
2. GEYSER (private society partner)
3. Syndicat Mixte du Bassin de Thau (SMBT) (public coastal manager partner)

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