

# An example of cooperation between scientists and managers : The Mediterranean Lagoon Monitoring Network (Languedoc-Roussillon, France)

Thierry Laugier<sup>1</sup>, Nathalie Malet<sup>1</sup>, Dominique Munaron<sup>1</sup>, Valérie Derolez<sup>1</sup>, Annie Fiandrino<sup>1</sup>, Marc Barral<sup>2</sup>, Laurent Moragues<sup>3</sup>, Nabila Mazouni<sup>4</sup>, Chantal Graille<sup>3</sup>

<sup>1</sup> Ifremer LERLR, Laboratoire Environnement Ressources du Languedoc Roussillon, Bd Jean Monnet, BP 171, 34203 Sète, France

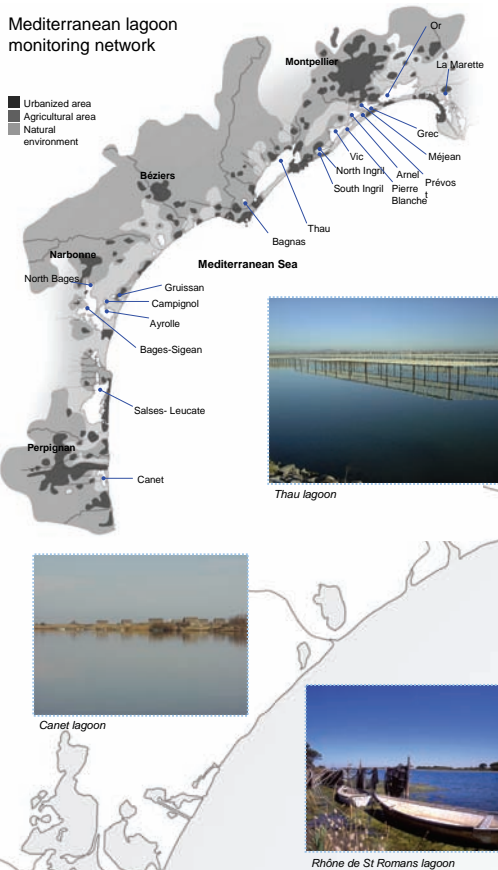
<sup>2</sup> Région Languedoc-Roussillon, Direction Économie Rurale, Littorale et Touristique, 201 avenue de la Pompignane, 34000 Montpellier, France

<sup>3</sup> Agence de l'Eau Rhône - Méditerranée et Corse, Immeuble le Mondial, 284 Chemin du mas de Carbonnier, 34000 Montpellier, France

<sup>4</sup> Cépralmar, Stratégie Concept Bat 1, 1300 Ave Albert Einstein, 34000 Montpellier, France



## Mediterranean lagoon monitoring network



## THE BIRTH : a response to local needs but within a broader context

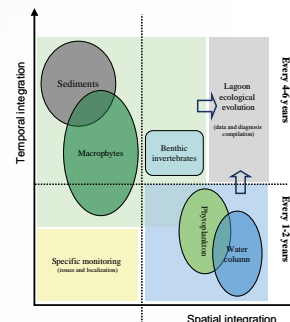
The establishment of the **Mediterranean Lagoon Monitoring Network (LMN)** of Languedoc-Roussillon in 2000 has resulted in both from reflections and recommendations from documents written at the scale of Mediterranean basin, but also of Europe :

- the coastal lagoons Life program which has identified 2 major issues on the lagoons of Languedoc-Roussillon: sediment filling and eutrophication,
- the Master Plan for Land and Water Management of the Rhône-Mediterranean & Corsica Basin has identified 3 needs: strengthening the network of observation and measurement of environmental quality of Mediterranean coast, improving the knowledge on the eutrophication process in marine and brackish waters in order to accelerate research and action to fight against eutrophication,
- the wishes expressed by local stakeholders, managers and users for a better dissemination of regular information on environmental quality,
- the results of a study conducted by a group of scientists led by Ifremer that identified eutrophication indicators of mediterranean coastal lagoons. **It was the first step in creating the LMN.**

## THE CORE OF THE NETWORK : monitoring eutrophication

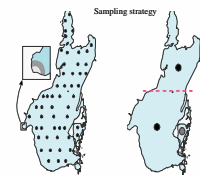
Since the beginning, the monitoring was based on a set of indicators to diagnose the different ecological compartments of lagoon ecosystem (water column, phytoplankton, macrophytes, sediments, benthic invertebrates) that are applied samely in the 23 lagoons of the region. Each compartment is surveyed at different time and space scales according to their own dynamics. Field campaigns are generally carried out in spring and summer by both scientists and local managers.

For each compartment as well as for the whole lagoon, the level of disturbance due to eutrophication is delivered in the form of five states, symbolized by color, ranging from very good/blue (not eutrophicated at all) to bad/red (heavily eutrophicated).

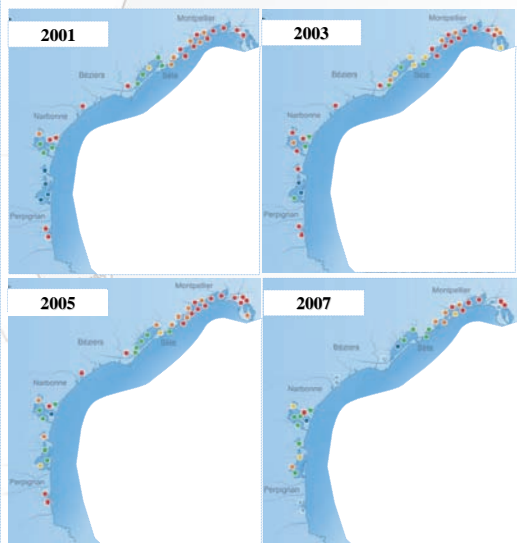


## FURTHER DIAGNOSIS : the specific monitorings

These specific monitoring were established to provide for lagoon local managers the opportunity to ask the LMN some support complementary actions. These additional measures may be linked to eutrophication (to a particular part of the lagoon, ...) or to other issues (chemical contaminants, impact of sewage treatment plant, ...). This « à la carte » component was essential as it allows the network to adapt to local contexts and provide information that meets the needs of managers.



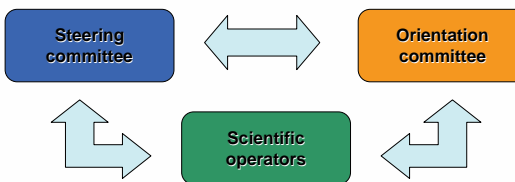
## SOME RESULTS



## THE GOVERNANCE OF THE NETWORK : mixing managers and scientists

In the first phase of the network (2000-2006), a steering committee was established. His missions were the definition of annual action plans, the monitoring campaigns implementation, the evaluation of actions , ... Each year, the steering committee determined the agenda for the year n +1. The content, cost and funding of the annual action program was specified within an annual agreement . In addition to representatives of the LMN financial partners (Regional Council of Languedoc-Roussillon, Rhône-Méditerranée & Corsica Waer Agency, Ifremer And Cépralmar), the Steering Committee is also composed with representatives of the local authorities and administrations (DIREN, DRAM, DRE).

For the second phase (2006-2009), the governance network has been amended so as to better integrate expectations of local actors and stakeholders. An Orientation committee has been created including the local management structures, representatives of fishermen, shellfish farmers, county councils, etc. ... This committee functions as a force of proposal.



## CONCLUSION

After nearly 10 years of operation, it appears that cooperation between science and management is possible and potentially fruitful for the conservation of coastal lagoons. However, its success is subject to the establishment of a perennial frame such as the Coastal Lagoon Monitoring Network of Languedoc-Roussillon, a major effort in dissemination at different levels and obviously, the whole requires perennial significant financial resources.