Pacific oyster proliferation on the French Atlantic and channel coasts: statement, dynamics, ecological and socio-economical consequences - FR

1. Policy Objective & Theme

- ADAPTATION TO RISK: Preventing and managing natural hazards and technological (human-made) hazards

2. Key Approaches

- Knowledge-based
- Ecosystems based approach
- Socio-economic

3. Experiences that can be exchanged

An oyster proliferation observatory along the coast of Brittany and a dedicated website.

4. Overview of the case

An integrated initiative on a management issue (biological invasion) that involved scientists, users (oyster farmers), and decision-makers.

5. Context and Objectives

a) Context

Introduced in the early seventies in French oyster farms, the oyster species Crassostrea gigas produced rapid spatfall which settles outside the farms and has resulted in natural populations beds in many sites south to the Loire estuary. Twenty years later, it extended to the North, along Brittany and the Channel coastlines. The consequences of such an expansion were never taken into account and have remained largely unknown.

b) Objectives

The objectives were to make an assessment and understanding of the dynamics of expansion in regard to natural or human-made causes; to understand some of the interactions between the colonising oyster and other species and analyse the oysters biological activity (filtration, bio-deposition, bio-calcification) in relation to the impact on the ecosystem functioning; to look at the socio-economic impact in regard to oyster farmers and tourism activities, and to propose a tool adapted to the monitoring and management of the oyster expansion.

6. Implementation of the ICZM Approach (i.e. management, tools, resources)

a) Management

The oyster farmers and local decision-makers, like the mayors, were involved right from the preparation of the project. The collaborative effort was more particularly focused in a pilot area which was the semi-closed bay of Brest.

b) ICZM tools

Two main approaches: a global one, at the scale of a bay or a marine protected area, destined to managers and decision-makers of a group of municipalities, and a more local approach for the mayor of a single municipality to give him/her the tools to observe and to decide the kind of mitigation or eradication measures that should be implemented.

7. Cost and resources

The project was funded by the LITEAU national programme for a cost of €120,000 and had a duration of 3 years (2006-2009).

8. Effectiveness (i.e. were the foreseen goals/objectives of the work reached?)

- Assessment of the sites concerned by the proliferation on the French Atlantic and Channel coastlines including the dynamic expansion and the main triggering factors;
- The calcareous production from oyster shell could increase the global rate of biogenic fraction of sandy beaches and consequently could limit locally coastal erosion;
- On the other hand, interactions with human activities (oyster farming, hand fishing, boating, seaside resort) are mostly negative;
- Management should be at local level maintaining Special Areas of Conservation as reference areas.

The objectives were fully achieved with a good timing, particularly in regard to the users.

9. Success and Fail factors

Good communication of the project.

10. Unforeseen outcomes

Sustainability through the co-maintenance of a website and a GIS supported model.

11. Prepared by

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12. Verified by

X. Lafon, LITEAU programme Officer, Ministry of Ecology and Sustainable Development

13. Sources

- http://www.progig.frest/
- EDD LITEAU 2 Final report. 2009 - Christian Hily, LEMAR, University of Western Brittany, Brest, France

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