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# Evaluate benefits of wetland protection: application to the Conservatoire du Littoral' sites in the Bay of Arcachon ou Arcachon basin

Ambre Diazabakana\*<sup>1</sup>

<sup>1</sup>Vertigo Lab – Vertigo Lab – 87 quai des queyries, 33000 Bordeaux, France

## Abstract

On its 40th anniversary, the Conservatoire du Littoral wished to highlight the economic value of the natural sites under its protection. This economic valuation has been held through the assessment of the goods and services provided by natural sites on the one hand, and the assessment of economic benefits of its land acquisition policy for the sustainable management of french coastal ecosystems to 2050, on the other hand. Challenges were twofold: first to demonstrate the important contribution of the Conservatoire du Littoral's sites to the local, regional and national economy; and then to reveal net economic benefits generated by the long-term protection policy conducted by the Conservatoire du Littoral. This work constitutes an advocacy tool toward a better coastal areas protection and, more specifically, in favor of the action offered by the Conservatoire du Littoral and its partners. This study also provided guidelines to strengthen the protection of the coastline and guide the management of sites in order to maximize their contribution to the coastal economy.

The study focused on eight case studies in France : in the Arcachon Basin, the South Finistère, the Etang de Thau, the Maures' coastline, Corsica, the estuary of the Orne, the Somme Bay and the Estuary of Charente.

For each of these case studies, prospective scenarios were built modelling evolution in the provision of ecosystem services based 1) on pressures threatening ecosystems and 2) management activities related to the acquisition strategy of the Conservatoire du Littoral. These scenarios influenced the provision of ecosystem services in time and space through:

- A variation of the ecosystems' surface. This first model used cartographic tool;
- A variation of ecosystems' health;
- Variations in surface and health.

Comparing the values of services for each management scenarios with a baseline scenario (without management), we estimated the net benefits of the land acquisition policy led by the Conservatoire du Littoral.

The comparison of scenarios in order to reveal the benefits of management, is still a method rarely used in France. However this valuation method brings relevant economic results for

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\*Speaker

decision makers. These results could motivate future management choices without reinforcing or criticizing past choices. Although it is weakened by a lack of available data and a considerable number of assumptions, this method offers interesting prospects for achieving a sustainable and integrated management of natural sites based on the conservation of ecological functions and ecosystems.

The Conservatoire du Littoral's sites in the Arcachon Basin, former diked areas, will illustrate this study in the context of the French strategy for integrated management of coastline. Indeed, the methodology developed allowed in this specific case study to model the maritime reconnection strategy undertaken by the Conservatoire to manage its coastline.

**Keywords:** prospective, economic valuation of ecosystem services, benefits of the protection, advocacy