Restoration and sustainability: key concepts for the integration of human activities in the conservation objectives of the Natura 2000 Network

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Estuaries are under the negative influence of several anthropogenic activities, which have lead to an unacceptable level of ecological impairment. In this context, restoration emerges as an important discipline in order to reverse this situation and recover the ecosystem services provided by these environments. Hydrodynamic alterations, invasive species and eutrophication are three remarkable pressures that affect estuaries around the world.

In 2009, two restoration actions were carried out in the Oyambre estuary (Northern Spain), in order to recover the natural tidal regime after removing a dike and to remove the extended populations of the invasive shrub *B. halimifolia* that had colonized many estuarine areas. Since then, an adaptive monitoring program was implemented in order to study the evolution in the physic-chemical and biological conditions of the estuary. Results reveal significant changes in the ecosystem, which has achieved an stable state, and the decisive role of tidal flows restoration on the control of the distribution and coverage of *B. halimifolia*.

Based on this study, a large scale and integrative restoration project supported by the LIFE Programme is been developing in other estuaries along the cost of Cantabria. Design of restoration actions were performed in order to promote the sustainability of productive, educational, cultural and touristic activities within Sites of Community Importance (SCIs). As a result, an improvement of both the connectivity along those estuaries and the conservation status of some protected habitats are expected. In this presentation, a summary of the 8-years monitoring program will be presented as the basis for the design of the new restoration proposals included in the CONVIVE-LIFE project (LIFE14 NAT/ES/001213).