

Comparative analysis of ephemeral river ecosystem services in agricultural and natural landscapes in Mediterranean environments. A Practical Approach to Caia River

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Aim of study

- a comparison study between agricultural and natural Mediterranean environments landscapes

Materials and Methods

- exploratory tools has been used – i.e. case study research method; site analysis; GIS tools and methods; experts and locals’ interviews; Corine Land Cover (CLC)
- locations: A) into the river mouth, near the Spanish-Portuguese side; B) in the middle of the river - near Portalegre; C) at the beginning of the river – into S. Mamede National Park
- Caia River** (about 850 km²) an intermittent transboundary river between Portugal and Spain divided it into two parts: (i) higher part – above the Caia dam, the landscape is much rougher – forest and bushes; (ii) lower part – *post*-Caia River dam, the landscape is plain and agricultural landscapes, mainly, the irrigated ones

Final Remarks

Through the benefits above-mentioned it is possible to understand the complexity and the strict interaction among agriculture landscapes, natural landscapes and rivers as well as the ES that they provideAs final remarks, is possible to say that Caia River is the resource that not only presents ecological benefits but also social and economic, increasing the relevance of the IRES for the entire region.



Outcomes

Benefits and services provided by Caia River to Agricultural Landscapes

- Cultivated crops
- Reared animals and their outputs
- Surface and ground water for non-drinking purpose
- Fibers and other materials from plants, *algae* and animals
- Plant and animal-based resource of energy
- Hydrological cycle and water flow maintenance
- Ventilation and transpiration
- Climate control
- Pollination and seed spread
- Maintenance of nursery populations and habitats
- Chemical condition of freshwater
- Experimental use of plants, animal and landscape
- Physical use of landscape
- Science and education

Benefits and services provided Caia River to Natural Landscapes

- Native plants and animals
- Ground water - drinking and non-drinking
- Hydrological cycle and water flow maintenance
- Natural pest and disease control
- Genetic materials from all *biota*
- Mass stabilization and control of erosion rates
- Ventilation and transpiration
- Mediation of smell and noise, visual impacts
- Climate regulation
- Scientific studies and education
- Heritage and culture
- Entertainment
- Aesthetic (photos, visitors) and symbolic (trees, species)
- Sacred and/or religious (pilgrim paths, chapels)
- Protected areas (Natura 2000, UNESCO)

SAMPLE POINTS

- A – Lower part of the River, post-Caia Dam
- B – Half-High part of the River, pre-Caia Dam
- C – Higher part ot the River

