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University of Santiago de Compostela

Nationality: Spanish

Date doctoral degree: 12/02/2016

Orientation: Integrated Management of the Sea

Specialization Area: Coastal Planning

Research Area: 3.10 Coastal zone planning. Comprehensive planning of coastal zones

**PhD project: Towards the integration of the natural capital in marine-coastal planning by participatory processes: the case of seagrass meadows**



**Supervisors:** Dr. Sebastian Villasante Larramendi (University of Santiago de Compostela)  
Dr. Jesús Souza Troncoso (University of Vigo)

**Summary:** This study research investigates the ecological, social and institutional dimensions of the synergies and trade-offs between seagrasses and human activities operating in the Natura 2000 protected site of San Simón Bay (Galicia, NW Spain). By means of a multidisciplinary approach that brings together the development of a biological inventory combined with participatory processes we get key spatial and contextual understanding regarding how, where and why marine users interact with seagrasses and how seagrasses are considered in policymaking.

Interactions between seagrasses and human activities involve a wide range of synergies and trade-offs. Seagrass meadows have been shown to support commercial fishing activities and consequently the wellbeing of local populations. However, there are conflicting accounts of the effects of shellfisheries. On the one hand, seagrasses can contribute positively to the productivity of shellfish beds, but on the other hand a model based on the exploitation of cultured bivalves threatens their preservation and survival. Regarding the institutional dimension, the compatibility between management plans and regulations in the area revealed also unresolved conflicts among conservation goals and other policy objectives and generally, seagrasses fall outside the decision making processes.

The participatory mapping of seagrass resources and human activities shows how the synergies and trade-offs among human uses and seagrasses vary depending on their distribution. Understanding the spatial dynamics in the use of the seascape is key not only in locating problems and resources but also in setting up realistic and holistic management initiatives. To achieve a more sustainable resource management system this research shows the importance of exploratory participatory processes for identifying the multifunctional nature of seagrass meadows. This will favour the development of measures made to cater to the complexity of the interactions that humans have with seagrass.



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**PhD project: A social-ecological approach to integrate the role of intertidal sea grass in coastal planning**

**Supervisors:** Dr. Sebastian Villasante Larramendi (University of Santiago de Compostela)  
Dr. Jesús Souza Troncoso (University of Vigo)

Foto doctoranda

**Summary:** This study research will be focus on the seascape of San Simón Bay (inner part of the Ría de Vigo), apart from its remarkable representation of marine flowering plants, *Zostera noltii* (dwarf eelgrass) and *Zostera marina* (common eelgrass), because the nearshore and inter-tidal location of seagrasses generally enables easy human access and multiple uses as well as exposing seagrass meadows to both terrestrial and marine based. From the perspective of policy, the interest of San Simón Bay stems from the many management actions operating simultaneously in this marine area. We can find restrictions due to its status as Site of Community Importance (SCI), catches shares regarding shellfish exploitation planning or controls of pollutant discharge.

The overall objective of this thesis is to integrate the social-ecological role of intertidal seagrass in decision making process of marine coastal planning. This general objective is divided in the following particular objectives:

- a. Characterizing social-ecological system to understand the functioning of the coastal environment.
- b. Understanding the interactions between coastal-marine users and seagrass meadows through participatory mapping processes.
- c. Identifying, classifying and valuing the ecosystem services provided or supported by seagrass meadows by a participatory approach.
- d. Analyzing the existent management measures and government structure with competences in the coastal marine environment.
- e. Integrated analysis: building the socio-ecological system of seagrass meadows to check its contribution to the application of the ACE (Análise da Compatibilidade Estratégica).

Foto relacionada  
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