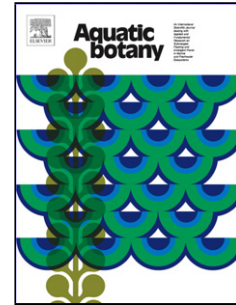


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Authors: Carlota Barañano, Emilio Fernández, Gonzalo Méndez



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Clam harvesting decreases the sedimentary carbon stock of a *Zostera marina* meadow

Carlota Barañano^{a,b}, Emilio Fernández^{a,b}, Gonzalo Méndez^{a,b},

^a *Facultad de Ciencias del Mar, Campus Lagoas Marcosende. Universidade de Vigo. Vigo, Spain*

^b *Estación de Ciencias Mariñas de Toralla, ECIMAT, Universidade de Vigo, Spain*

*Correspondence: Carlota Barañano. Facultad de Ciencias del Mar. Campus Lagoa Marcosende. Universidad de Vigo. 36310 Vigo. Spain.

E-mail: carlota.bcarrión@hotmail.com

Tel: 0034673552608

esuarez@uvigo.es; mendez@uvigo.es

Highlights

- The undisturbed seagrass meadow is a sink of sediment carbon as compared to un-vegetated areas.
- Clam harvesting drove organic carbon content in the seagrass meadow to levels recorded in un-vegetated areas.
- Sequestered organic carbon was dominated by non-seagrass sources
- Bivalves management plans should take into account the ecological integrity of seagrass meadows

1. Introduction

Marine vegetated coastal habitats (mangroves, salt marshes and seagrasses) have been broadly recognised to have a major role on the global carbon cycle (Smith, 1981; Duarte et al., 2005; Nellemann et al., 2009). However, they have been traditionally overlooked from global estimations of the C reservoirs and therefore, from carbon market protocols (Duarte et al., 2010; Pendleton et al., 2012). The oceanic biological carbon pump and the sequestration of organic

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