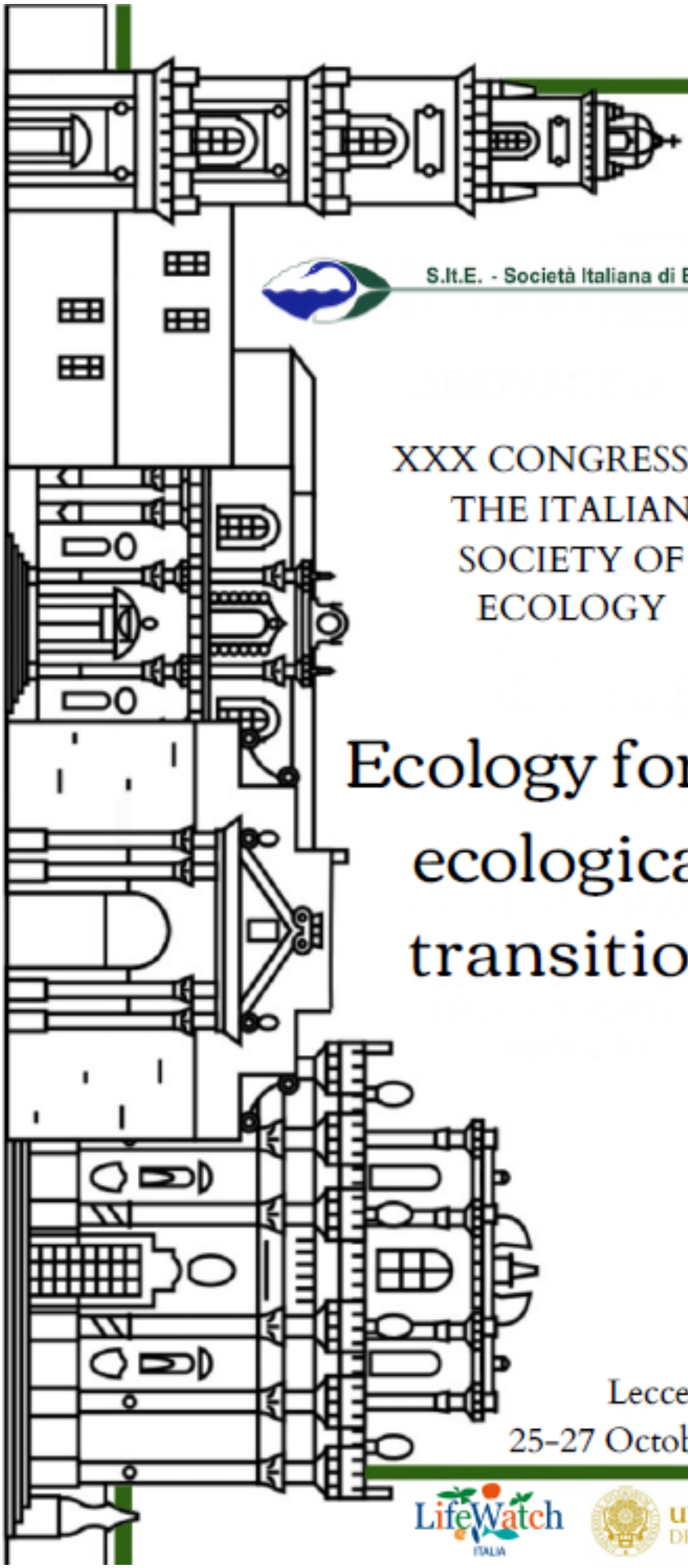

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A spatially explicit food web model for supporting the management of a marine Natura 2000 site: ongoing efforts at the Tegnùe di Chioggia (P)

Donati, E.[1], Fabbri, F.[1], Russo, E.[2], Pranovi, F.[2], Ponti, M.[3], Turicchia E.[4], Airoldi, L.[5], Brigolin, D.[1]*

[1]Università IUAV di Venezia, Dipartimento di Culture del Progetto, Dorsoduro 2196, Cotonificio veneziano, 30123, Venezia

[2]Università Ca' Foscari Venezia, Dipartimento di Scienze Ambientali, Informatica e Statistica, Via Torino, 155, 30172, Venezia Mestre

[3]Università di Bologna, Dipartimento di Scienze Biologiche, Geologiche ed Ambientali, P.za Porta S. Donato, 1, 40126, Bologna

[4]Università di Bologna, CIRI-FRAME (Via Sant'Alberto, 163, Ravenna) Dipartimento di Beni Culturali (Via degli Ariani 1, 48121, Ravenna)

[5]Università di Padova, Dipartimento di Biologia, Viale G.Colombo, 3, 35131, Padova

*e-mail: edonati1@iuav.it

As remarked by the recent European legislation (MSPD), plans managing the interaction between conservation goals and maritime uses should consider the spatial dimension, to be effective and easily applied. In such a context, food web modelling, considering both the structure and functioning of an ecosystem, is increasingly perceived as an important resource informing sea planning, at the different spatial scales. In this preliminary work, an existing food web model (based on Ecopath with Ecosim) of the northern Adriatic Sea was spatialized and downscaled to the 'Tegnùe di Chioggia', for testing different management measures. This area, characterised by the presence of biogenic rocky outcrops and proposed as Site of Community Importance in 2011, is indeed still missing of a management plan. Trophic groups of high naturalistic and socio-economic interest have been distributed by considering different habitats and tolerance to environmental drivers. In the model, four main habitats have been defined (rocky habitat simulating the tegnùe, sandy and muddy habitats and mussel farms) and the trophic groups assigned to each one according to their preferences. Fishing activities are described considering 5 different fleets (including different trawling gears, hydraulic dredge, artisanal and recreational fishery) and their fishing effort have been spatialized based on AIS data. The tool provides output maps of group biomasses, catches, and ecosystem functioning indicators. Preliminary results are discussed in relation to their potential use for comparing the consequences of different management options (for instance the expansion of the current SCI, partial artisanal/recreational fishing openings within the SCI area, and expansion/reallocation of mussel farms and clam fishing areas).