

BOOK OF ABSTRACTS

BLUE THINK CONFERENCE

Share Science, Spread Knowledge



Matosinhos, Portugal

17th September, 2020

BLUE THINK CONFERENCE

Share Science, Spread Knowledge

BLUE THINK CONFERENCE 2020

Share Science, Spread Knowledge

BOOK OF ABSTRACTS

ISBN 978-989-54965-0-1

DISCLAIMER

All texts in this document are the sole responsibility of their authors.

BLUE THINK CONFERENCE

Share Science, Spread Knowledge

CONTENT

THE CONFERENCE	<u>3</u>
ABOUT CIIMAR	<u>4</u>
MESSAGE TO PARTICIPANTS	<u>5</u>
ORGANIZING AND SCIENTIFIC COMMITTEES	<u>6</u>
SESSION 1: BIOLOGY, AQUACULTURE AND SEAFOOD QUALITY	<u>7</u>
KEYNOTE SPEAKER – ALICIA TORANZO	<u>8</u>
SESSION 2: MARINE BIOTECHNOLOGY	<u>10</u>
KEYNOTE SPEAKER – RODRIGO COSTA	<u>11</u>
SESSION 3: GLOBAL CHANGES AND ECOSYSTEM SERVICES	<u>13</u>
KEYNOTE SPEAKER – NUNO QUEIROZ	<u>14</u>
ABSTRACTS	
ORAL COMMUNICATIONS	<u>15</u>
POSTER PRESENTATIONS	<u>42</u>
FINAL REMARKS	<u>148</u>
SPONSORS AND CONTACTS	<u>149</u>

Nature-based solutions to support the management of aquatic ecosystems: potential application of floating islands to Fervença river

Ana M. Antão-Geraldes¹, Bruno Nogueira¹, Cristina S.C. Calheiros²

¹Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, Bragança, Portugal

²Interdisciplinary Centre of Marine and Environmental Research (CIIMAR/CIMAR), University of Porto, Matosinhos, Portugal

Presenting author email: brunocalheirosnogueira@gmail.com

Abstract

Accordingly to The United Nations World Water Development Report 2018, “Nature-based solutions (NBS) are inspired and supported by nature and use, or mimic, natural processes to contribute to the improved management of water”. They delivery a wide range of ecosystem services depending on their configurations and purpose of application, being widely applied for ecosystems restoration. The restoration of ecosystems is a top priority has declared by the United Nations General Assembly, being 2021 - 2030 the UN Decade on Ecosystem Restoration. To meet the current challenges, it is thus important to look closely to the threatened ecosystems such the ones found in urban rivers and streams, that are under severe anthropogenic pressures. The Fervença River, located into Portuguese part of the Douro basin (latitude: 41°47'N; longitude 6°46'W), is about 25 km long and it is regarded as an urban river, because flows through the city of Bragança. Along its course it encounters nonpoint sources of pollution, originated by agricultural activities, and point sources of pollution from some villages located in the vicinity. The introduction of nature-based solutions, such floating wetland islands, to support the ecosystem rehabilitation of this heavily arterialized and modified river section, can contribute to (1) reduce nutrient concentrations in the water and thus, the algal blooms; (2) recreation of lost fluvial habitats, contributing to the increase of the biodiversity levels. The objective of the present approach is to evaluate the technical and economic viability of the installation of Floating islands - one of bioengineering technologies considered nature-based - in this highly modified section of the Fervença River. If viable, this solution could assist the improvement of ecological and visual quality of the surrounding urban area.

Acknowledgements – This research was supported by national funds through FCT - Foundation for Science and Technology within the scope of UIDB/04423/2020 and UIDP/04423/2020.

Keywords – ecosystem services; water management; water quality; biodiversity; river restoration; urban river