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5th International Conference

Water resources and wetlands

Programme and Book of Abstracts

8-12 September, 2021 Tulcea (Romania)

Editors: Petre Gâstescu, Petre Bretcan

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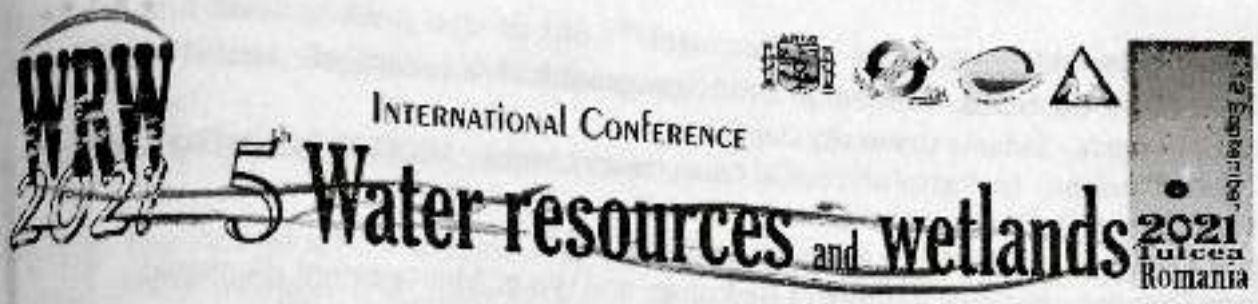

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INTEGRATED ECOSYSTEM ECOLOGY (CHLOROPHYLL-A) OF EYDAP'S RESERVOIRS PROFILES BY USING ROBOTIC BOATS

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Abstract

The Research and Development Department of EYDAP (R&D) is responsible for the operation of two autonomous robotic boats as a result of participation in the EU funded INTCATCH project. The autonomous boats operated in 2020 in all four Reservoirs of EYDAP (Yliki, Marathon, Mornos and Evinos) and with their integrated sensors (chl-a, dissolved oxygen, conductivity, pH, temperature, total nitrogen and phosphorus) collected more than 290,000 data along the perimeter of the Reservoirs, covering more than 90 kilometers. The data appeared in real time in the field and in the headquarters office via tablet, mobile and PC through appropriate applications, providing at the same time a safer working environment against COVID-19. The aim of the present study is to investigate the trophic state of EYDAP's reservoirs assessing chlorophyll-a concentrations. The robotic boats scanned a far greater area of all catchments and the results proved the oligotrophic state of Mornos and Evinos reservoirs while the state of Yliki and Marathon ranges between oligotrophic to mesotrophic. By using the continuous monitoring system, potential sources and pathways of nutrients inputs could be identified and the results provided EYDAP the opportunity to have a more comprehensive picture of the trophic state and the water quality of the catchments in real time and take immediate countermeasures if necessary.

Keywords: Robotic boats, Greek Catchments, Monitoring Strategy, Real-time, Trophic State, Chlorophyll-a.

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