

WATERCARE PROJECT

INTRODUCTION

The vulnerability of the Adriatic area to the climate changes, in particular of the Italian territory but also Croatian, and its natural resources, is very high. Massive rainy events are causing floods of rivers and streams with relevant consequences on environment.


These events significantly affect the quality of bathing and coastal water.


WATERCARE aims to improve the quality of the microbial and environment and resource efficiency in bathing and coastal waters reducing the microbial contamination by using innovative tools in waste management and treatment WATERCARE will: develop an innovative Water Quality Integrated System (WQIS) composed by a real-time hydro-meteorological monitoring network; realize an ad-hoc infrastructure for bathing waters management in a pilot site through a forecast operational model; realize feasibility studies in other 4 target sites to improve planning and management of environmental problems of the marine system; develop a real-time alert system able to preventively identify the potential ecological risk from focal contamination of bathing waters and to support governance decision and processes in bathing water management.


PROJECT PARTNERS

CNR IRBIM, Aset Spa, Marche Region, Abruzzo Region, University of Urbino, Split-Dalmatia County, Dubrovnik-Neretva Region, University of Split, Istrian University of Applied Sciences (former Metris), Croatian Water Agency



 **PROJECT DURATION**
1.1.2019.-31.12.2021.

 **ERDF**
2.408.066,49 €

 **TOTAL BUDGET**
2.833.019,40 €

 **CNR IRBIM**
ISTITUTO PER LE
RISORSE BIOLOGICHE
E LE BIOTECNOLOGIE
MARINE

 **ASET**

 **REGIONE MARCHE**

 **REGIONE ABRUZZO**

 **1506 UNIVERSITÀ DEGLI STUDI DI URBINO CARLO BO**

 **SPLITSKO DALMATINSKA ŽUPANIJA**

 **DUBROVAČKO-NERETVANSKA ŽUPANIJA**

 **Istarsko veleučilište**
Università Istriana di scienze applicate

 **HRVATSKE VODE**



www.italy-croatia.eu/watercare
European Regional Development Fund

 **Interreg**
Italy - Croatia
WATERCARE


EUROPEAN UNION

CMYK

CMYK

RAŠA

Equipment for WQIS is installed on Pump station Štalije in River Raša site. It will test microbiological (Escherichia coli and Enterococci) and chemical parameters of river water polluted with sewage waters of Krapan stream depending on meteorological conditions, especially quantity of rain. In addition, parallel METRIS team will analyze sea water on the nearest beaches and transitional water to gain more information of pollution spreading in Raša bay during sunny weather conditions and heavy rain weather.

CETINA

In order to enable the fulfillment of the objectives of the WATERCARE project, which is the development of an integrated water quality system (WQIS) to connect meteorological events and the response of the drainage system in relation to the microbiological impact on bathing water, measuring equipment was installed in the Cetina River in Split Dalmatia County. The installed equipment will measure meteorological, hydrological and bacteriological data to better understand how to assess sea quality at different distances from the coast to recreational waters and highlight current urban wastewater and the health status of the coastal system.

NERETVA

Dubrovnik Neretva Region installed the specialized equipment on their site, the mouth of river Neretva. After a careful review and analysis of potential locations in cooperation with stakeholders and experts, the location on Neretva was selected and the equipment was installed. Equipment will measure meteorological, hydrological and bacteriological data and will take samples of water at weather-adjusted intervals.

PESCARA

Equipment is installed on Pescara river. The box is located within a fenced area close to the north quay along the Pescara river, flowing out the Adriatic Sea. Like on other project sites, specialized equipment will measure and chemical parameters of river water polluted with sewage waters of Pescara.



Arzilla



Raša



Neretva



Cetina



Pescara

ARZILLA

Project partner ASET is building a sewage storage tank in order to definitely eliminate faecal impact of wastewater discharge in bathing waters. Although the execution of the works has been delayed due to the pandemic, the works are about to be completed.

A storage tank will be at the service of the spillway of urban waste water site on the right bank of the stream Arzilla in Fano, a few hundred meters upstream from the mouth of the creek, together with the construction of a pumping plant and electrical, control and monitoring accessory works.

The storage tank for excess stormwater will have a detention volume of 1.600 cubic meters with a return time equal to ten years. The waters accumulated will be pumped to existing sewage system and then to the municipal waste water treatment plant with a delay time variable between 24 and 48 hours. The development and execution of an ad-hoc infrastructure tank will result in positive effects in terms of environmental, health and hygiene and with a significant improvement of water quality at the mouth of the stream Arzilla and bathing water surroundings.

In the pilot site Arzilla stream in Fano, CNR has installed the downstream water sampling system at the Arzilla mouth, the weather station in a position free from obstacles, the level sensor and the second sampling station located upstream the Arzilla river. These two sampling stations are equipped each with an automatic sampler positioned into an adapted box to protect the instrument. The upstream station is located 7 meters higher from the river level making more complicated to suck the water from the Arzilla. For this reason an efficient pump system was realized to carry the water from the river to the automatic sampler. The entire sampling system to monitor the rainfall events along the Arzilla stream is completed.