

WATERCARE Project – Minutes of the V° Steering Committee Meeting

On-line via Microsoft Teams | 24th November 2020

Title	Minutes of the V° Steering Committee of WATERCARE Project
Date/Time:	24th November 2020 - Time 10:00 AM
Place:	On-line Meeting via Microsoft Teams
Subjects:	<ul style="list-style-type: none"> - Welcome - WP's presentations (progress and next steps) - Questions & Answers
Attendees:	<ul style="list-style-type: none"> - LP – CNR-IRBIM (IT): Federica Grilli, Elena Manini, Alessandra Campanelli, Pierluigi Penna, Fabrizio Moro, Christian Ferrarin, Elia Rosetti; - PP1 – ASET Spa (IT): Marco Romei, Gloria Giacomini, Enrico Esposto Renzoni, Andrea Marinelli; - PP2 – Marche Region (IT): Luigi Bolognini, Antonella Galli, Sara Giorgetti, Ilaria Montoni (External Assistance); - PP3 – Abruzzo Region (IT): Luca Iagnemma, Giovanna Marrama, Lorenzo Rossi (External Assistance); - PP4 – University of Urbino (IT): Antonella Penna, Silvia Casabianca, Samuela Cappellacci, Fabio Ricci, Nadia Marinchel; - PP5 – Split-Dalmatia County (HR): Martin Bucan, Katarina Suta, Igor Ujevic (External Assistance); - PP6 – Dubrovnik-Neretva Region (HR): Ivo Duracic, Ivana Kristovic; - PP7 – University of Split (HR): Maja Krzelj, Marin Ordulj, Nikola Bejo, Mateja Baranovic; - PP8 – METRIS (HR): Vedrana Spada, Josipa Bilic; - PP9 – Croatian Waters (HR): Marija Sikoronja, Jasmina Antolic, Dorda Medic;
Absences	/////

V° Steering Committee Meeting of WATERCARE Project was held on-line on 24th November 2020 and not in Split (as it was agreed during the 4th STC Online Meeting) due to the persisting COVID-19 emergency and the interdiction of travelling abroad for many partners, if not strictly necessary.

The “attendance list” of the meeting was filled-in by the Lead partner both at the beginning of morning and afternoon sessions and can be found in the file attached named “V STC On-line Meeting Attendance list_WATERCARE_24112020”. The entire STC Meeting was also recorded so the verification of who was participating at the on-line conference can be made listening those records. Representatives from all partners joined the V STC meeting and there were no absences.

All the presentations prepared by WP Leaders and partners (which are mentioned beneath) shall be considered attachments to this document too. (Also, PPTs and Minutes will be uploaded in WATERCARE cloud).

Welcome & Project Overview

As WATERCARE deputy project manager, Ms. Federica Grilli welcomed all participants and transmitted the greetings from Mr. Mauro Marini (WATERCARE PM) who couldn't join the meeting due to an unexpected commitment.

Then, Ms. Grilli made a brief introduction on the WATERCARE implementation status and the possible links the we could have/establish with another IT-HR project (ADSWIM).

Also, considering that we overcame the half of the project duration, first analysis/results are allowing PPs to start to draft technical papers/publications and that this is the case of LP-CNR-IRBIM that is finalizing one of them and that probably it will be published within the end of 2020 in the “JOURNAL OF ENVIRONMENTAL MANAGEMENT”.

WPs presentations

Work Package 3 - Implementation and monitoring of the WATERCARE Water Quality Integrated System (WQIS)

WATERCARE_V STC On-line Meeting_WP3_PP4-UNIURB_LP-CNR-IRBIM

WATERCARE_V STC On-line Meeting_WP3_PP8-METRIS

WATERCARE_V STC On-line Meeting_WP3_PP9-CW

WATERCARE_V STC On-line Meeting_WP3_PP3-ABRUZZO

WATERCARE_V STC On-line Meeting_WP3_PP7-UNIST

Antonella Penna (UNIURB) described the activities. The sampling sites were again described, both at the riverine and sea environment. It was described the sampling station before the discharge along the Arzilla river; it is the Arzilla up-stream that worked this summer 2020 together with the Arzilla CSO located after the discharge. The first microbial and chemical results were illustrated for the river and seawaters. The temporal trend of the entire rain event duration in September 2020 in Arzilla River was shown. The rain event was characterized by a sequence of rain steps and non-rain intervals followed by two CSO (combined sewer outflow) events. The microbial contamination was detected after the maximal rain event (17 mm h^{-1}). *E. coli* and enterococci increased after 12 h from CSO events and finished after 24 h. The maximum concentration of enterococci ($2.4 \times 10^4 \text{ CFU } 100 \text{ ml}^{-1}$) was observed after the second CSO event, while the maximum concentration of *E. coli* was registered after a delay of 24 h ($2.5 \times 10^4 \text{ CFU } 100 \text{ ml}^{-1}$). The most representative nutrients of sewage outflows were N-NH_3 and P-TOT that were highly correlated with microbial loads ($p < 0.001$). The nutrient concentration reached the highest levels after the second CSO event with values of 49.8 and $7.5 \mu\text{M}$, respectively. Nutrients, such as N and P, can help to understand the fecal contamination origin due to the CSO events at the Arzilla mouth and to other widespread sources that may be present upstream of the CSO. In particular, N-NH_3 was initially detected for a longer time than P-TOT, which decayed more rapidly. The N-NH_3 is the most representative of sewage outflow than P-TOT that can include different origins. Results of the seawater samples collected after CSO events reflected the overloads of the domestic wastewater of the Arzilla River. The wastewater discharge contained high levels of microbial contamination and nutrients that were highly correlated ($p < 0.001$). The microbial fecal

contamination showed a high dispersion along the transects in front of Arzilla river with values from 0 to 450 CFU 100 ml⁻¹ for *E. coli* and from 0 to 375 CFU 100 ml⁻¹ for enterococci. The nutrient concentrations showed the highest concentrations at the Arzilla mouth (up to 3.83 µM, 136 µM, 212.5 µM and 2.96 µM, for N-NH₃, N-NO₃, TN and TP, respectively). The nutrient distribution along the three transects showed a dispersion associated to the salinity from the mouth to offshore with consequent dilution.

Pierluigi Penna (CNR-IRBIM) described the activities concerning the last few months. In particular, the Integration of river level sensor (Arzilla Outfall) and weather station at Arzilla Outfall. Furthermore, a 2nd station of pilot site (Arzilla Upstream) has been installed. During the sampling of the summer period, some functions of the alert tool were created and tested which allowed to send notifications automatically during some selected events. Furthermore, an Operational manual of the WQIS (draft version) has been created and it will also be optimized by all involved partners. The software development and maintenance activity has foreseen a Remote support for Metris (Rasa River), an Upgrade of Sample Analysis script and Grafana sites and the datalogger firmware maintenance.

Christian Ferrarin (CNR-ISMAR) illustrated the state of the art of the FOM modelling system. The numerical model has been implemented in the Fano, Rasa and Cetina sites, where bathymetry, coastline and forcing data are available. The model grid has been determined for the Pescara and Neretva sites, but bathymetry is still not available for these locations. The numerical model has been validated for the Fano site and results have been presented. Further numerical experiments (for years 2018 and 2019) have been carried out for the Rasa site and model validation is ongoing. A prototype version of the forecasting system for the three mentioned sites has been implemented and it will be further developed once the data flow from the monitoring network will be activated.

METRIS representative has given a presentation on the latest development in the WP3 regarding the sampling of Raša pilot site in season 2020. In addition, Metris gave chronologically retrospective from installation of the equipment, software adjustment, testing, alert system, and troubleshooting, so it could be of help as an experience for other partners to easier overcome some possible issues during preparing of the WQIS.

Marija Šikoronja, representative of PP9-Croatian Waters, gave a presentation on the latest development in the WP3 regarding the sampling of pilot sites. After the public procurement in August 2020, offers were received only for Neretva and Raša pilot sites; therefore, the public procurement for Cetina pilot site will be repeated in December 2020. In September 2020, first samplings were conducted at Raša pilot site (one during rain event and one during normal weather), exact coordinates of the stations were recorded and all analyses entered into the database.

Giovanna Marrama. As regards the progress of the activities related to the implementation of the WQIS Model, the Abruzzo Region has defined the Monitoring Plan, with the identification of the withdrawal points and sampling frequencies. A total of 3 monitoring points have been identified along the course of the Pescara river and 9 points near the mouth, where sampling will be carried out along five transects: at the discharge, at 200, 400, 600, 1000 m from the coast. An agreement has been signed with the ACA - Acquedottistica District Company - for the support in the activities of WP3. The Company will build the structure for automatic sampling and it will carry out the sampling in the stations identified for the monitoring. It will then proceed with the analysis of the samples carried out following the Project parameters identified in order to develop the WQIS Model.

The Department of Marine Studies at the University of Split presented the first results of sampling campaigns in 2020. The sampling planned to assess the potential health risk of bathers by monitoring the concentration of indicator microorganisms *Escherichia coli* and intestinal enterococci, which are determined by the EU Bathing Water Directive (Directive, 2006/7/EC), and by the Croatian Regulation on the quality of bathing water (NN 73/2008) during the bathing season. Special attention is given to the effect of rain events on the concentration of indicator bacteria in the bathing waters. A total of 18 sampling campaigns were organized between June and October 2020 at 11 sampling sites and the analyses for the determination of indicator bacteria (*E. coli* and intestinal enterococci) in 198 water samples were performed. It was sampled after four rain events and six standard monitoring campaigns were done. It was not found a correlation between the precipitation and short-term increase in the number of bacteria indicators. The plan for future activities will be to continue sampling campaigns in 2021 for the period between April and November and to focus on rain events with precipitation higher than

30 mm to better assess its effect on the bathing water quality in target sampling stations; a scientific paper based on the collected Watercare project data will be written.

Work Package 1 - Project management and coordination of activities

WATERCARE_V STC On-line Meeting_WP1_LP-CNR-IRBIM

Elia Rosetti started his presentation with a brief summary of WP1 activities and what was already realized within the end of Reporting Period 3 (June 2020).

In the framework of Act. 1.2 – Day to day management, a focus on the project duration extension and the concerned administrative procedure was made as it will be our intention to add other topic to the same major modification procedure.

We will proceed with the request for a major modification within the end of the current reporting period (December 2020).

Concerning Act. 1.3 – Steering and Monitoring, it was reminded that Minutes (and all annexes) of previous STC Meetings have been uploaded in the WATERCARE cloud. Then, following the approval by the IT-HR Authorities of our request of project duration extension, it has been reminded that we would revise the number and the schedule of next STC Meetings, in other words, we would postpone by six months the original STC Meeting foreseen in AF, so the current will be considered the 5th STC (On-line) Meeting (replacing the one that was in charge of PP5-SDC in Split in the second half of 2020), the 6th should be organized by the LP-CNR-IRBIM in Ancona in the first half of 2021 and new one (the 7th) should be organized by PP6-DNR in Dubrovnik at the (new) end of the project and probably jointly with the project final conference.

In the framework of Act. 1.4 – Financial Management different points were treated. First of all, PPs were informed on the final submission of Progress Report 3 with just one round of clarifications and on the submission of the related 3rd Application for reimbursement.

A focus on how to draft Progress Reports and on what kind of support is requested by WP Leaders was made. More detailed information and instructions on how to fill-in all Progress Report's

sections were provided to WP Leaders as well as to PPs that have to provide contributions to them.

Then, Mr. Rosetti showed the amount certified per each PP within the PR2 and already transferred in September 2020. The rule for the recovery of advance payment is still valid and it foresees that the Advance payment will be recovered starting from the 3rd Progress Report. As a consequence, the amount that will be transferred to PPs in relation to the 3rd Reporting Period will correspond to the difference between the amount certified in the same period (only ERDF fund for Croatian PPs) and the advance payment amount already transferred.

This meeting has been the occasion for showing main dates and main steps to respect for a proper reporting activity of period 4, even if it has been underlined that deadlines and the timing of the reporting activity could change on the base of the major modification procedure.

Like previous times, at the end of the reporting period 4, the template to use for drafting the Activity report 4 will be sent by the LP, in this case Mr. Rosetti reminded again to all PPs to be very precise when they report target groups (like they did in the PR3) as double counting of TGs between partners and among reporting periods must be avoided. The same is for proofs demonstrating to have actually reached TGs, in this case has been re-shown a list of proofs already sent to all PPs in November 2019.

Then, it was also recommended to constantly check IT-HR website as new useful factsheets and information can be published by IT-HR Programme Authorities.

Concerning the level of expenditures, certified expenditures (PR1+PR2+PR3) and RP4 foreseen expenditures were also analyzed both at project level (it has been reached the 49% in comparison with the spending forecast) and at PP level, also highlighting large differences between partners, from those ones that are almost in line with the AF spending forecast to those ones that did not reached the 30% of expenditures within June 2020. Also, like during the 4th STC Meeting, it was reminded the De-commitment rule by which it is required to each PP to spend at least the 80% of the own budget in order to not be considered “Under risk” and that it should apply per each Reporting period.

Some days before the meeting, a budget tool for major budget modification was sent to PPs and during the V STC it was asked if there was any doubt or need of clarifications on how that budget tool works.

Last, it was communicated to PPs the rule by which the thematic equipment can be purchased in accordance with project activities but in any case, not later than 6 months before the project end.

Work Package 2 - Communication activities

WATERCARE_V STC On-line Meeting_WP2_PP6-DNR

Ivana Kristović (PP6-Dubrovnik-Neretva Region), as a leader of WP2 presented activities done within Work package 2 as well as other obligations needed to be done by each partner.

At the start of the presentation WATERCARE labelling within project infrastructure, equipment (project and office) was again explained and used as a reminder to whole partnership about the importance of using Programme and project visibility correctly. Most importantly the partnership was again reminded that in case of infrastructure where the total public support for a project carrying out infrastructure and/or construction works exceeds EUR 500.000, it is obligatory to establish temporary billboards during their implementation. No later than three months after completion of the infrastructure, projects have to put up a permanent plaque or billboard of significant size on the infrastructure or construction, or (if not possible) at a place nearby, readily visible to the public. In case of several infrastructure or construction measures carried out within one project, billboards or permanent plaques have to be placed on all of them. Where it is not possible to place a billboard or permanent plaque on an infrastructure or construction, other appropriate branding measures have to be taken in order to display the public support. Where the total public support for a project with infrastructure or construction measures does not exceed EUR 500.000, at least one poster (minimum size A3) has to be placed on the infrastructure or construction, or (if not possible) at a place nearby readily visible to the public. The poster has to include information about the project. The temporary billboards/permanent plaques have

been provided by the Programme in every project specific Communication kit, therefore the partners planning small-scale infrastructures in their budget can download project Temporary Billboard and later permanent plaque, fill out the required information and place it on a visible place.

Also, it was again reminded that all equipment, promotional material, gadgets etc... should be marked with a label of the project and all other Programme visibility parts as well as ERDF reference. After clarification of rules of labelling, rules of publications were discussed. PP6 explained that any radio/audio-spots should be marked and indicate that they are co-financed by the European Union (radio/tv). Also, PP6 again mentioned that all project publications, including brochures, newsletters, studies, articles and others must include the project logo and the reference to the EU co-financing. When this is not possible, for example, in articles, conference proceedings or other publications, projects should explicitly mention the contribution from the EU co-financing and the Interreg Italy-Croatia CBC Programme.

Then, publications were shown (by now) as screenshots and links and as well as reached target groups.

Watercare partnership reached a lot of the target groups by now but we decided to not create a new number of TG target value but to leave it this way with directions to still communicate with all TG's by the end of the project lifetime even though they are already reached.

We also communicated about decreasing the number of target value for General public from 10.000.000,00 to less since we think the number is too high to reach and compared to another project almost impossible and the difference is too high.

Afterwards, we went through activities and concluded what was done and which activities we still need to do. PP6 highlighted that it was important to have at least 1 publication in media and as well 1 publication in selected journals by each PP.

At the end of the WP2 PPT we have talked about additional Communication activities and suggested joint tentative communication with JS in initiative Adriatic NexGen and to include in the Application Form new deliverables like interview with experts (2 Croatian and 2 Italian) and overall project video (each pilot site) and no one had argued against it.

Work Package 4 - WATERCARE Pilot realization

WATERCARE_V STC On-line Meeting_WP4_PP1-ASET

During the V steering committee meeting session, ASET presented the actual status of the Project: the execution works was not interrupted during the bathing season (as otherwise planned at the beginning) but some activities were postponed due to logistic reason.

ASET showed the physical progress of the works providing also the detailed plan of the foreseen activities: the concrete works have a percentage of completion equal to 80% while the laying of the sewer system is around 75% of completion.

Additional information on the Activity 4.3 - Feasibility studies to implement innovative solutions in the WATERCARE sites – has been provided. ASET informed PPs that in the month of March 2021 the guideline for Feasibility studies will be issued. Moreover, in the month of January 2021 an official request of a set of information useful for the drafting of the guideline will be sent by ASET to all PP involved in the Feasibility studies to carry out.

Work Package 5 - Smart system to support governance decision processes in Water Management of Adriatic basin

WATERCARE_V STC On-line Meeting_WP5_PP5-SDC

Martin Bucan from SDC started his presentation with an overview of WP5 objective and goals. After that Bucan introduced activities needed to create smart system to support governance decision processes in Water Management of Adriatic basin. Dependency of WP5 on work of other activities, primarily Activity 3.2 - Sampling of WATERCARE sites, Activity 3.3 - Implementation of WATERCARE WQIS and WP 4 WATERCARE Pilot realization, was discussed. It was stressed that real-time Alert system is dependent on database which will be filled with data collected during previous activities. Bucan also talked about responsibilities for the implementation of WP 5 activities, how is responsibility split between SDC, CNR, UNIURB and MARCHE, and timeline for activities.

Afterwards, working of Alert Tool was described. When a trigger threshold of the Real-time Water Monitoring system is triggered, the Alert Tool is activated. CNR is working on the development of the centralized Water Monitoring System database which will contain all collected data. That data will be used by The Forecast Operational Model. WIQS actors (alert tool receivers) are: Stakeholders, Public water manager, Scientific site manager, Technical site manager, Sample manager, Specialized laboratory analyst and Public users. An example of correspondence between a general event and actors who receive the notification through a communication channel was given. It was agreed that **all partners should provide a table of matching between a general event** (precipitation rate, spillover, sampling site start/stop) **and actors** (stakeholder and public water, scientific, technical and sample manager) who receive the notification through a communication channel.

The Alert Tool will be validated with simulations that force the crossing of the threshold limits to verify that the correct response was produced. Martin Bucan also talked about current state of implementation and showed example of web page that will be developed for Alert Tool.

For Activity 5.3 Bucan gave overview of EU legislation with respect to Water Framework Directive and Marine Strategy Framework Directive and stressed the need for governance guidelines in order achieve better management of water treatment and water courses. This activity is primarily responsibility of MARCHE. **Partners should identify an index of topics to be developed in the guidelines through a comparison between the PPs and define a time schedule** for drafting the topics to be covered in the guidelines.

Last point presented was cost structure of WP 5 activities. Overview was given for staff and office costs, travel and accommodation costs, external expertise and services costs and equipment expenditure.

Final conclusions and next steps

At the end of the meeting, Ms. Federica Grilli as deputy WATERCARE project manager thanked all project partners' representatives for having joined the V STC On-line Meeting and for the good job done up to now.

It has been agreed to fix the VI STC Meeting the third week of May 2021 in Ancona, hoping that COVID-19 pandemic could let travel abroad and organize face-to-face meeting that for that time; while concerning project administrative procedures, PPs will be kept updated during the entire phase of major modification.