

# **D.I.I “Project Quality Assurance, Risk Contingency and Data Management Plan, with templates for reporting”**

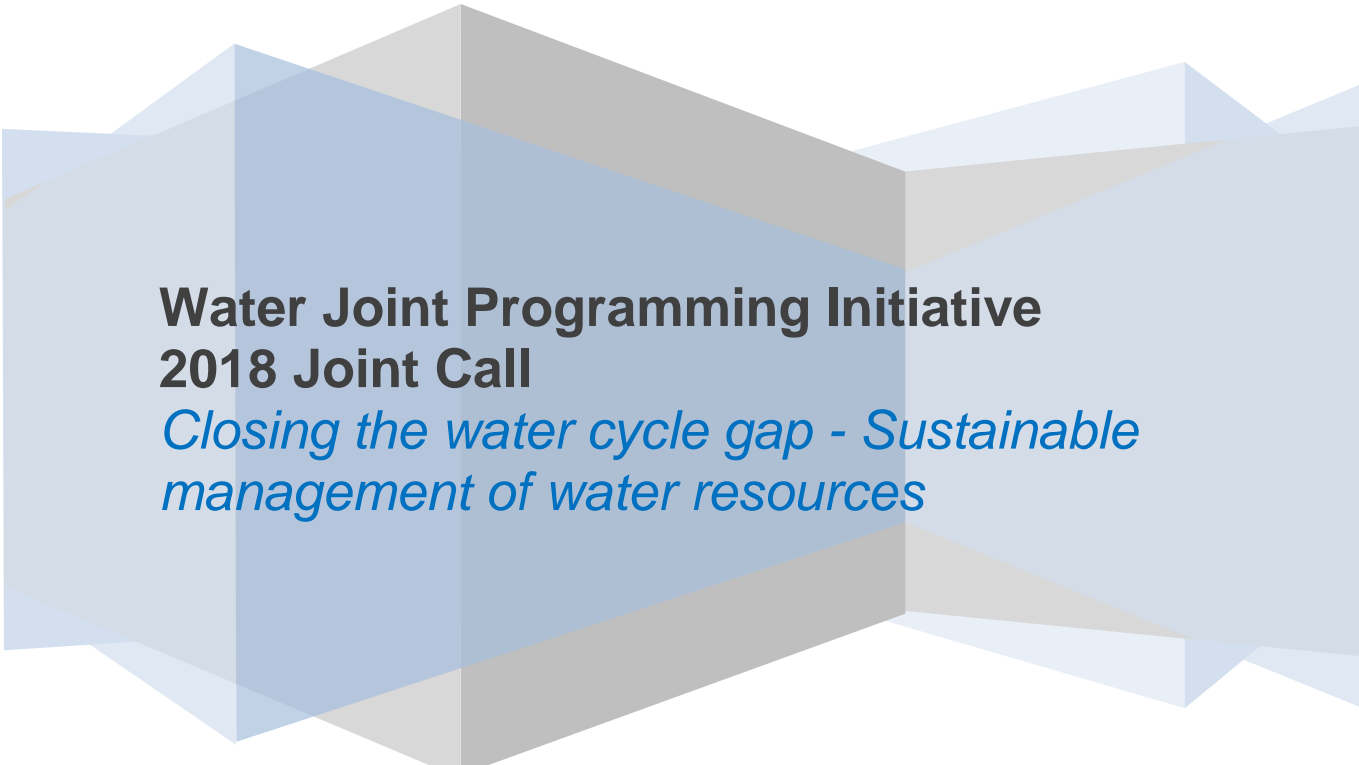
**PROJECT: “Sustainable technology for the staged recovery of an agricultural water from high moisture fermentation products”**

**Acronym: RECOWATDIG**

## **AUTHORS:**

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A large, abstract graphic composed of overlapping, semi-transparent geometric shapes in shades of blue and grey, resembling a stylized map or a network of connections. It serves as a background for the text in the lower half of the page.

**Water Joint Programming Initiative  
2018 Joint Call**

*Closing the water cycle gap - Sustainable  
management of water resources*

## 1. Project Quality Assurance through best management practices

Fundamentally, quality assurance is based on two pillars:

A) The first pillar is the pro-quality research practices, promoting research excellence within the organisational structure of each of the academic partners. The use of appropriate standards for calibration of the analytical equipment, being used by experienced staff, is an important mean for achieving high quality of the obtained results. E.g. in case of Wrocław University of Technology quality of the staff is certified by European Commission by means of HR Excellence in Research award. This certifies that the University organises standards and provides a friendly working environment for research. The prestigious “HR Excellence in Research” logo is conferred to institutions which apply the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers<sup>1,2</sup> (Fig.1).

B) Second pillar is maximisation of the exposure of the results to external, third party assessment, by peer review procedure. This is achieved by submission of publications to high quality, world renown journals, with high-impact factor and good recognition in the field.



### HR EXCELLENCE IN RESEARCH

*Figure 1: HR Excellence in Research logo – which WUST is entitled to use*

RECOATDIG partners were selected on the basis of their high skill, their experience to cooperate at international level. The consortium of partners is strongly motivated in achieving the project targets. The Consortium is constituted by 6 partners and a suitable organisational structure and a decision making mechanism is implemented to match the scale of the project (Figure 2). The roles and responsibilities of the Coordinator and the consortium bodies will be defined in the Grant Agreement and the Consortium Agreement. The management structure of RECOATDIG is designed to be simple, flexible and efficient in achieving its aims: to process knowledge and information fast and to ensure implementation of objectives. The Project Coordination Office consists of Project Coordinator (PC) and Technical Manager (TM) and Partner Leaders. The Project Coordination Office will have the overall technical responsibility of the project. Progress monitoring will be implemented using deliverables and project meetings as monitoring tools. Management of

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<sup>1</sup> <https://pwr.edu.pl/en/university/news/hr-excellence-in-research-stays-at-wroclaw-university-of-science-and-technology-10325.html>

<sup>2</sup>

[https://pwr.edu.pl/fcp/xGBUKOQtTKIQhbx08SlkTUhZeUTgtCgg9ACFDC0RDSHRBG1gnBVcoFW8SETZKHg/\\_use/rs/code\\_BAlkUKkpKNVI\\_VBV9XFNBFEZcFiw5Qx00/europejska\\_karta\\_naukowca/the\\_european\\_charter\\_for\\_researchers\\_and\\_the\\_code\\_of\\_conduct\\_for\\_the\\_recruitment\\_of\\_researchers.pdf](https://pwr.edu.pl/fcp/xGBUKOQtTKIQhbx08SlkTUhZeUTgtCgg9ACFDC0RDSHRBG1gnBVcoFW8SETZKHg/_use/rs/code_BAlkUKkpKNVI_VBV9XFNBFEZcFiw5Qx00/europejska_karta_naukowca/the_european_charter_for_researchers_and_the_code_of_conduct_for_the_recruitment_of_researchers.pdf)

knowledge, intellectual property and other innovative activities arising in the project will be supported by a set of procedures.

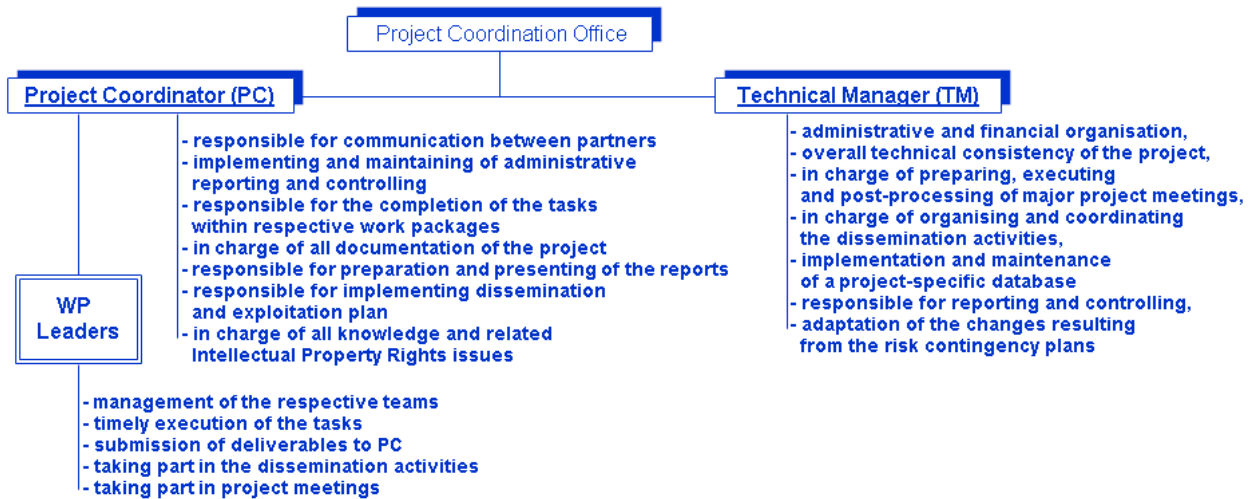


Figure 2: Simple, flexible and efficient management structure of the project

## 2. Risk Contingency

To minimize technical and non-technical risks, a project risk management process will be implemented. It shall identify and analyse possible risks and contain a contingency planning. WUST will be in charge of this continuous management task. Risk management will be performed throughout the project by the Project Coordinator with help of Technical Manager and Partner Leaders. Progress Monitoring will be performed by communication with WP Leaders and regular reporting during project meetings. In case of risks, contingency plan will be developed in close collaboration between PC and WP leaders. After accepting the contingency plan will be implemented and an appropriate update will be communicated by TM. The mitigation of technical and scientific risks is based on proven methodologies, the involvement of participants with relevant expertise, and the setting of well-defined goals and deliverables on a realistic timescale.

## 3. Data Management Plan

A) The way in which new data is obtained and processed and / or the available data is reused.

Different data will be obtained from listed below measuring equipment:

Elemental analyses is going to be done using PerkinElmer 2400 Series II CHNS/O analyser. The content of moisture, volatiles, ash, and fixed carbon are going to be determined using TGA (Perkin Elmer Pyris Diamond). Evolved gas will be measured using Fourier transform infrared spectrometer - Gasmet CX4000 and also using nondispersive infrared techniques. Another techniques that are going to be incorporated for research purposes, for example tar analysis, are: gas chromatograph Agilent 7820-A and mass spectrometer Agilent 5977B MSD. Oxide analysis are going to be performed using Atomic Absorption Spectrometry - flame method, with Perkin Elmer AAnalyst 400 analyser. The high resolution images of processed materials is planned to be done by Scanning Electron Microscope (SEM) - Thermo Scientific Prisma E.

All above mentioned analysers use different data type format, appropriate for the acquisition software.

The data will be exported from the software to formats commonly accepted in the field, e.g. csv table data, tiff image data, txt. data, and off course formatted and well described data documents - pdf.

B) Acquired or processed data (e.g. type, format, quantity).

High-resolution SEM microscope photographs in files named according to the sample coding convention, in the JPEG and TIFF formats with the total size of 1 TB.

The rest of results (from point 1.1.) will be collected as per the sample coding convention. Results in the form exported to formats csv and charts to PNG image files - total size 2 GB. Visualization results in graphic formats png, jpg, tiff - size 1 GB. Data from forms - related tables for individual forms documenting the course of the research process saved in xls or related csv files – 500 MB.

C) Metadata and documents accompanying the data.

Services made available as part of the E-SCIENCE.PL<sup>3</sup> platform maintained by the Wrocław Network and Supercomputing Center, WUST. The files will be placed on a shared network resource available via the cifs, nfs, sftp, https protocols. For the purposes of sharing data sets, schema.org, DublinCore and azonOntology ontologies will be used to describe metadata in json-ld, rdf/xml, turtle, etc.

D) Data quality control measures in place.

For data processed with calculation software, validation procedures are assumed at the stage of pre-processing and post-processing. The data will be protected against unauthorized access and modification.

E) Store and backup data and metadata during research.

The data will be stored in the E-DRIVE<sup>4</sup> service of the E-SCIENCE.PL platform. It provides an appropriate level of technical and physical security: placing the infrastructure in constantly monitored and protected WCSS server rooms. The model of entitlements to individual disk spaces is based on the mechanism of groups mapping teams in a project. The groups are managed by the project manager.

F) A method of ensuring data security and protection of sensitive data during research.

Access to data will be subject to control in accordance with defined access control lists (ACLs) based on project groups or individual users. In the event of a failure of the storage system, the data will be recovered from backups carried out by WCSS. Authentication and access operations are logged at the central login point maintained by WCSS.

G) Ensuring compliance with the provisions on personal data and data security in the case of personal data processing.

Wrocław University of Technology adopted in 2017 the "Personal Data Security Policy", updates the rules to ensure compliance of processing with regulations, has appointed the DPO with whom data processing agreements are consulted. The university maintains registers of activities and categories of processing activities and a register of persons authorized to process.

H) Managing other legal issues, such as intellectual property rights or property. Applicable rules.

The owner of generated data, intellectual property rights will be the Applicant, Copyright for individual scientific works may be vested in the authors of the publication, possibly open. Data or results from their processing will be made available, unless there are reasons for their protection. The procedure is set out in the Rules of the intellectual property management of the WUST.

I) The method and date of making the data available. Possible data sharing restrictions or reasons embargo.

For the purposes of the project, data will be made available through the mechanisms of sharing the EDRIVE service. The data intended for open access will be deposited within the E-REPO repository (part of E-SCIENCE.PL platform) along with the description and file formats required by the service. The type of open license will be selected with preference for CC-BY-SA.

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<sup>3</sup> <https://e-science.pl/>

<sup>4</sup> <https://e-science.pl/offer/e-drive>

J) Data selection method intended for storage and a place of long-term storage data (e.g. repository or data archive).

The data will be made available as part of the the E-REPO repository (part of E-SCIENCE.PL platform), which applies the principles of FAIR Data and the Frictionless data approach. All project data will also be deposited as part of the archiving service maintained by WCSS for a minimum period of 10 years.

K) Software methods or tools that enable data access and use.

For short term data storage and access with e-drive platform. For long term archiving of data Open Access repositories, such as the E-REPO repository (part of E-SCIENCE.PL platform), will be used. Moreover, data published in the scientific journal articles, using Green Open Access and Gold Open Access routes, will be available through the systems of the publishers.

L) A method of ensuring that a unique and permanent identifier is used.

The E-REPO repository (part of E-SCIENCE.PL platform), as well as renown scientific journals, support assignment of DOI numbers.

M) Person responsible for data management.

The project manager is responsible for implementing the data management policy. Technical and substantive assistance in the field of data management is provided by the Wroclaw Supercomputing and Networking Center - WCSS.

N) Means dedicated to data management and capability discovery, access, interoperability and re-use of data.

The IT infrastructure necessary to manage data and make it available during the project is provided by WCSS. WCSS also provides technical care and expert knowledge in the field of acquisition, storage, preparation of metadata profiles, format conversions, long-term archiving, ensuring interoperability and data processing ensuring their re-use as part of a service specified in other costs.

O) Management and protection of Intellectual Property

Details of the ownership of the intellectual property will be outlined in the consortium agreement. Industrial partners will be included in dissemination activities and any sensitive information, such as specific know-how and technical details of the devices will be excluded from the dissemination.

#### **4. Mid-term report template**

Mid-term report template is given below. This template was supplied by the Water JPI project manager and subsequently forwarded to all the partners, to make them aware of the data, that would be needed from them, apart of any regulations at national funding agency level, that each partner has to comply with.

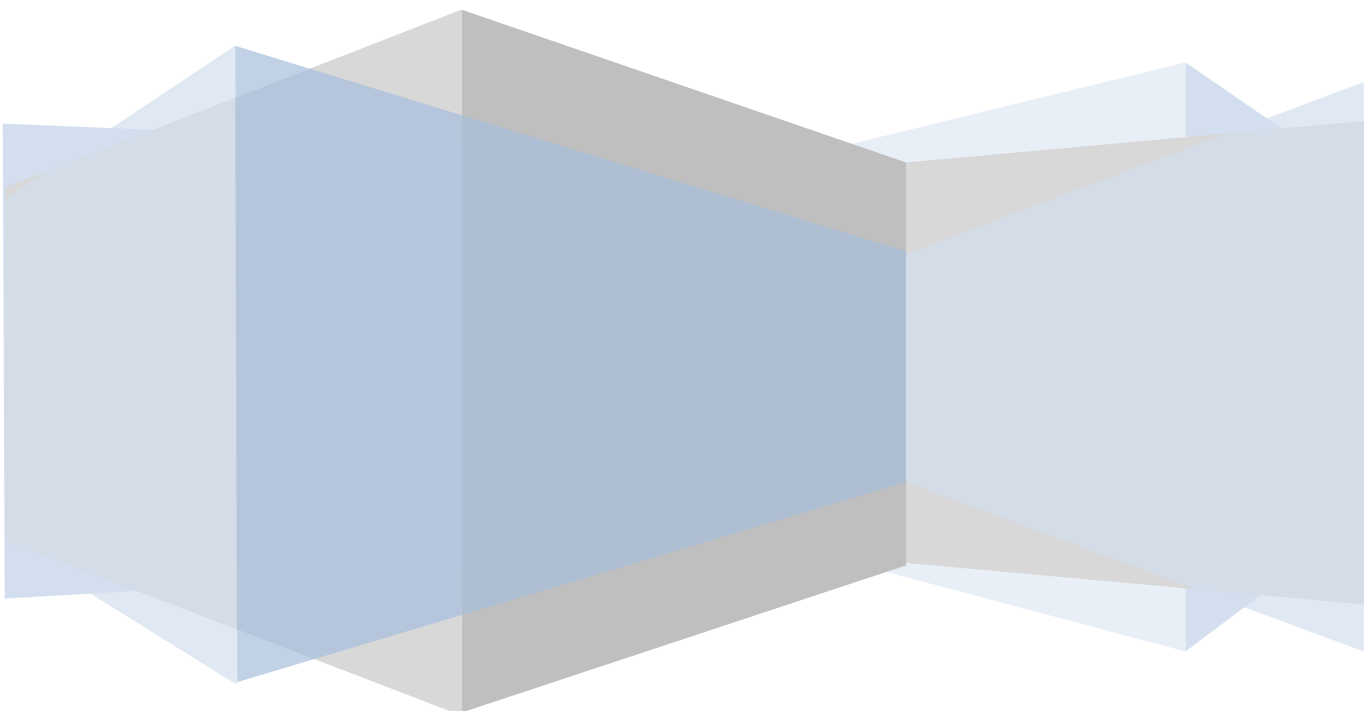
# Template of Mid-Term Progress Report

## Water Joint Programming Initiative 2018 Joint Call

### *Closing the water cycle gap - Sustainable management of water resources*

This Template should be used by the Project Coordinator for the reporting of the project.

**This template does not substitute national regulations**

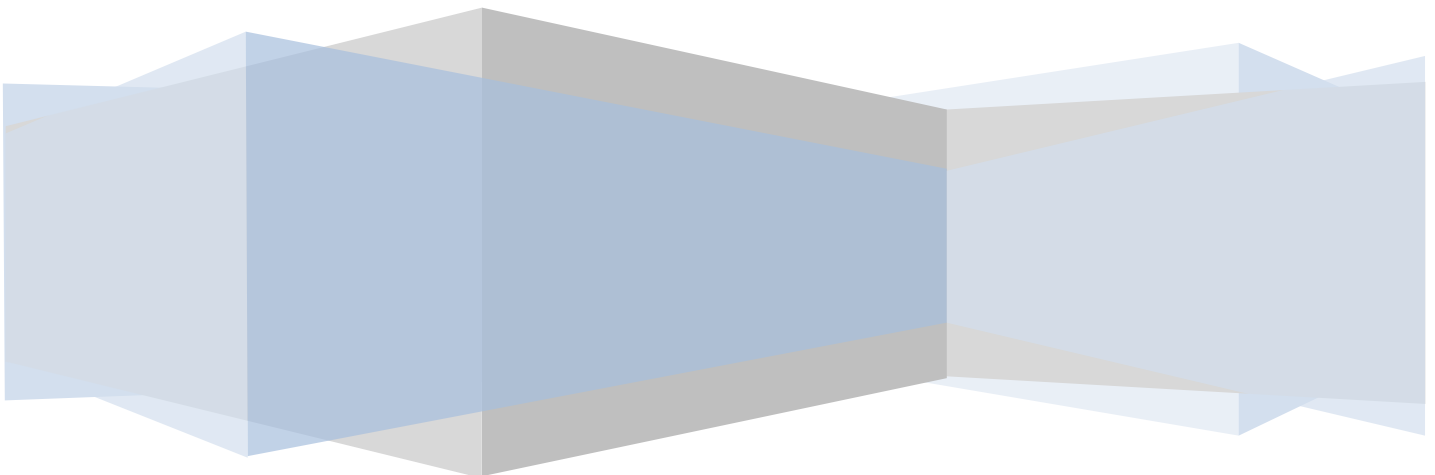


# 2018 Joint Call Mid-Term Progress Report Closing the water cycle gap - Sustainable management of water resources

## Project Title & Acronym

This document must be filled in by the project coordinator with the help of its project partners and must be sent to the WaterWorks2017 Follow-up Secretariat by **xxxxxxx** (for Consortium **XXX**).

The WaterWorks2017 Follow-Up Secretariat will ensure distribution to the concerned national funding agencies. The project coordinator is responsible for sending a copy of the report to its partners.





<b>PROJECT TITLE AND ACRONYM</b>
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Author of this report (Coordinator): \_\_\_\_\_ Date of submission: \_\_\_\_\_

E-mail: \_\_\_\_\_

Project Website: \_\_\_\_\_

Project code: WaterWorks2017-**CONSORTIUM ACRONYM**

Duration of project: \_\_\_\_\_

Start date: \_\_\_\_\_

End date: \_\_\_\_\_

Period covered by this report: \_\_\_\_\_



## 1. Publishable Summary

*Maximum 1 page*

The content of this section is intended for communication by the Water JPI on the project, mainly through its website. The style should be adapted to communicate to a wide audience (**non-technical** English) and the quality of the data must enable direct publication.

The authors authorise the publication of information about this project by the Water JPI.

The publishable summary should provide the following information:

- *The project context and objectives;*
- *The main results achieved so far;*
- *The expected final results and their potential impact and use (including the socio-economic impact and the wider societal implications of the project so far); and*
- *The address of the project's public website, if applicable.*

## 2. Work Performed and the Results achieved during the reporting period

*Maximum 10 pages.*

Please attach any deliverables produced and information on milestones achieved during the reporting period of this report.

### **a. Scientific and technological progress**

*Please describe the work performed and the results obtained during the period concerned, and the conformity of the work progress within the initial schedule.*

*Take into account the following aspects:*

- *Has progress been made towards progressing the project objectives according to the original description and milestones? If not, please, explain the deviation.*
- *Detailed update on methodology & results*
- *How has the progress of the project promoted multi-disciplinary work?*

### **b. Collaboration, coordination and mobility**

- *Is the collaboration between partners effective? Is the contribution of each partner clearly identifiable? Does the project still meet the transnational nature?*
- *Please, indicate clearly those who performed the work (incl. also in-kind partners).*
- *Are the coordination and organisation of the project efficient?*
- *Please, describe the mobility of the researchers within the Consortium.*
- *Please indicate coordination with other projects funded in the 2018 Joint Call or national and international projects funded by other instruments*

**c. Impact and knowledge output**

- Are the main impacts achieved?
- Are there any unexpected impacts?
- Where do the results of the project impact? (e.g. industry, end users, policy, etc.)
- Have the partners identified exploitable results?
- Has intellectual property protection been considered?

**3. Table of Deliverables**

Please indicate whether the planned deliverables are completed, delayed or readjusted. Explain any changes/difficulties encountered and solutions adopted. Please add/delete rows, as necessary in the table below.

Deliverable name	Lead partner (country)	Date of delivery (dd/mm/yyyy)	Changes, difficulties encountered and new solutions adopted
<b>WPI</b>			
<b>WP2</b>			
<b>WPX</b>			

**4. Budget review**

Please include a budget breakdown here, i.e. how the funding has been used so far.

## 5. Consortium Meetings

Please list below the Consortium meetings which took place during the reporting period, by filling in the table below. Add/delete rows as necessary in the table below.

N°	Date	Location	Attending partners	Purpose/ main issues/main decisions?
1				
2				
3				
.				

## 6. Stakeholder/Industry Engagement

Maximum 1 page

- Please indicate how stakeholders/industry were involved in the project during the reporting period:
- *Has the project succeeded to engage with stakeholders/industry? If Yes, how? If No – why?*
- *If applicable, please, describe the provision of data by stakeholders/involvement of industry and dialogue between the project and stakeholders/industry.*
- *Has the cooperation between the Consortium and industry/stakeholder partners influenced the project outcome(s) to date? If Yes, How? If No, why?*
- *Outline the progress made towards achieving the project expected impacts.*
- *Were there unexpected impacts to date?*

## 7. List of Publications produced by the Project - Open Access

- List all presentations, posters, and publications in scientific, peer-reviewed journals derived from this project, separating those in preparation, those in review and those accepted or in press.
- Provide websites and/or electronic copies of the key ones.
- Indicate all the co-authors for each publication.
- Order publications per date (chronologically) and for each year by alphabetical order.

Metadata on all project publications are required to be submitted as part of the final reporting. This will be done via the **Open Data & Open Access platform**, available at: <http://opendata.waterjpi.eu/> (also accessible from the bar menu of the Water JPI website).

International	Peer-reviewed journals	1. 2. 3.
	Books or chapters in books	1. 2. 3.
	Communications (presentations, posters)	1. 2. 3.
National (separate lists for each nationality)	Peer-reviewed journals	1. 2. 3.
	Books or chapters in books	1. 2. 3.
	Communications (presentations, posters)	1. 2. 3.
Dissemination initiatives	Popular articles	1. 2. 3.
	Popular conferences	1. 2. 3.
	Others	1. 2. 3.

## 8. Knowledge output transfer

For each of the Knowledge Output arising from the project so far, please complete the following table.

<b>Short Title</b> <i>Please provide a short and concise title to describe the Knowledge Output</i>	
<b>Knowledge Output Description</b> <i>Please only include generated Knowledge Outputs, not those that are expected. Note: Knowledge Outputs can be non-deliverables, milestones or 'grey knowledge'. Also, multiple Knowledge Outputs could exist within one deliverable, and should be separated.</i>	

<p>Try to give a comprehensive description, making the Knowledge Output fully understandable to a non-expert. If relevant please provide detail of where the Knowledge Output differs from its equivalent, e.g. What are the key characteristics of the Knowledge Output? What research is it adding to and what is innovative about the Knowledge Output? (Max 500 characters).</p>	
<p>Knowledge Type</p>	<p>Please choose one option – delete the rest:</p> <ul style="list-style-type: none"> <li>* exploitable scientific result</li> <li>* scientific publication</li> <li>* report</li> <li>* book/review</li> <li>* RTD protocol/technical manual</li> <li>* guidelines/standards</li> <li>* training activity/learning module</li> <li>* software/modelling tools</li> <li>* product</li> <li>* prototype</li> <li>* services/tools</li> <li>* multimedia</li> <li>* data</li> <li>* other</li> </ul>
<p>Link to Knowledge Output If you can provide a link to the Knowledge Output then please do so, e.g. digital object identifier (DOI), web address, download, research paper. If the Knowledge Output is not publicly available currently but will be in the future, please provide details. Also, if it is available but only upon request, please state this. If the Knowledge Output is not planned to be publicly available, please state "Not available for public".</p>	
<p>Sectors &amp; Subsectors Choose as many options as required from the list. Pick those sectors that you think would benefit from the application of this Knowledge Output.</p>	<ul style="list-style-type: none"> <li>• Basin Management</li> <li>• Flood Risk Management</li> <li>• Water Scarcity and Droughts</li> <li>• Drinking Water</li> <li>• Bathing Water</li> <li>• Emissions and Water Reuse</li> <li>• Adaptation to Global Change</li> <li>• Others             <ul style="list-style-type: none"> <li>○ Other General</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Agriculture</li> <li>○ Governance</li> <li>○ Consumer Health &amp; Welfare</li> <li>○ Finance</li> <li>○ Modelling &amp; Prediction</li> <li>○ Socio-Economics</li> <li>○ Stakeholder Involvement</li> </ul>
<p><b>End User</b>  <i>Choose as many options as required  Per identified End User, please identify possible applications of the Knowledge Output.</i></p>	<ul style="list-style-type: none"> <li>○ Education &amp; Training</li> <li>○ Environmental Managers &amp; Monitoring</li> <li>○ Industry</li> <li>○ Policy Makers / Decision Makers</li> <li>○ Scientific Community</li> <li>○ Civil Society</li> <li>○ Other</li> </ul>
<p><b>IPR</b>  <i>Please indicate whether IPR has been applied to this Knowledge Output (applied for a patent, copyright etc), or not.  Please insert "n/a" if no IPR has been applied.</i></p>	
<p><b>Policy-Relevance</b>  If the Knowledge Output is relevant to the WFD or any other related Directives, please list and explain why</p>	
<p><b>Status</b>  <i>Please identify whether the Knowledge Output is finalised, is still being generated or whose status/future is unknown. Consider:</i></p> <ul style="list-style-type: none"> <li>• <i>Is your knowledge conclusive enough that it provides sufficient evidence to make an impact on, or be applied by, an End User?</i></li> <li>• <i>Is there a corroborating body of evidence, or are contradictory results, available?</i></li> <li>• <i>Does your knowledge progress beyond the current state-of-the-art / evidence base?</i></li> <li>• <i>Is more research or demonstration needed to validate the results?</i></li> </ul>	

## 9. Open Data

In relation to Open Data, the funded projects will be requested to submit metadata on all the resources directly generated by the project, as well as additional information on how these data will



be exploited, if and how data will be made accessible for verification and re-use, and how it will be curated and preserved. Metadata on all project resources are required to be submitted as part of the final reporting. This will be done via the **Open Data & Open Access platform**, available at: <http://opendata.waterjpi.eu/> (also accessible from the bar menu of the Water JPI website).

#### 10. Problems Encountered during Project Implementation

- Please indicate if any problems were encountered during the Project Implementation.
- Did any of the partners find difficulties related to the grant agreement, the availability of funds at national level or other similar issues not specifically related to the technical part of the project?

#### 11. Suggestions for improvement regarding project implementation?