

Diffuse phosphorus input to surface waters

- new concepts in removal, recycling and management -

D7.1 – EPQ Requirement No.1

Lead author

Dr. Sylvia Walter

Utrecht University, Faculty of Geosciences

Princetonlaan 8a
3584CC Utrecht
The Netherlands

Telephone: +31 30 253 3167

Email: s.walter@uu.nl

Deliverable D7.1

Delivery month Annex I

12

Actual delivery month

12

Lead participant: UU

Work package: 7

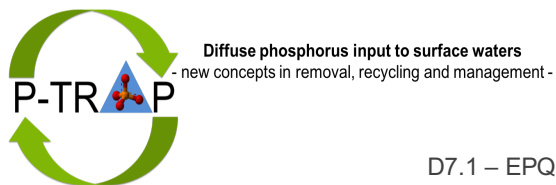
Nature: Ethics

Dissemination level: CO

Version: 1



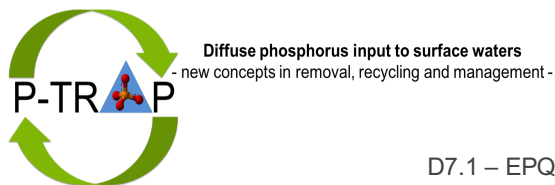
This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 813438.



D7.1 – EPQ Requirement No.1

Table of contents

1. Executive Summary	3
2. Related activities	3
3. Implementation	3
3.1 General implementation.....	3
3.2 Individual implementation	4
4. History of the document	5



D7.1 – EPQ Requirement No.1

1. Executive Summary

Aim of this report on EQP requirement No.1 is to confirm, that the consortium ensures and follows appropriate procedures relevant to environment protection, health and safety procedures. This has been described in the Grant Agreement. By signing the Grant Agreement and the Consortium Agreement, the involved beneficiaries agreed on the compilation with national and EU legislation on e.g. nature conservation and pollution control, safety and health of employees.

2. Related activities

P-TRAP includes the collection of samples as well as the performance of experiments in natural environments. All manipulations of natural environments will follow the principle: maximise benefits – minimise risks/harm. It is one of the major goals of P-TRAP to develop minimum-invasive remediation technologies and to mitigate negative human impact on natural environments.

The following collection of samples and / or the performance of experiments in the natural environment is planned:

- ③ Investigation of long-term binding of P in lake sediments
- ③ Investigation of P export from drained agricultural watersheds
- ③ Proof of principles of P-TRAP systems operating under field conditions
- ③ Measuring the bioavailability of P and Fe in soils
- ③ Study the effect of Fe addition to lake sediments
- ③ Monitor lake restoration measures based on Fe addition
- ③ Plant growth experiments for fertilizer response

Experiments include e.g. water and soil sampling, and water treatment such as Fe addition. P-TRAP also includes the performance of biogeochemical experiments and chemical analyses in laboratories.

3. Implementation

3.1 General implementation

The responsible PIs will ensure to obtain all necessary authorisations for sampling and performing experiments in natural environments, and report on this on request. The PI is also responsible for compliance of all activities with the national and EU legislation on nature conservation and pollution control including

- ③ the EU Habitats Directive 92/43/EEC,
- ③ the EU Wild Birds Directive 79/409/EEC, EU Regulation (EC) No 338/97 on protection of wild fauna,
- ③ the EU GMO Directive 2009/41/EC and
- ③ the Cartagena Protocol on Biosafety.

Experiments in natural environments should be preceded by a risk-benefit analysis. The lead beneficiaries of a planned experiment are responsible for the risk-benefit analysis which should be documented and reported on request to the management. Risks of applying innovative P-TRAP technologies should be minimized by testing all methods at pilot scale before upscaling to larger systems.

For the research in the field all involved beneficiaries and partner organisations should have established recognised procedures to help / keep researchers and subjects safe. These procedures should have been developed in view of the risk assessment of the fieldwork. Regarding P-TRAP it should include:

keeping careful notes of all research engagements, ensuring projects are adequately staffed, using mobile phones to keep in touch with the research base, conducting full risk assessments of fieldwork sites, formally notifying authorities of research being conducted in an area, carrying authorised identification, researcher preparation & training covering techniques for handling conflict, threats, abuse or compromising situations, debriefing after field research with an assessment of fieldwork safety, and reporting any health & safety incidents. In the case that the current procedures do not include the listed points; the missing points should be added for performing research within P-TRAP. It is in the responsibility of the beneficiaries to develop and establish such procedures where necessary.

Furthermore, beneficiaries are responsible to provide training before using special field equipment such as devices for taking soil samples, or in case that research will be performed from or on a boat or any other floating object.

Regarding health and safety for working in a laboratory all beneficiaries and partner organisations have established safety procedures and already confirmed this by signing the Grant Agreement and the Consortium Agreement. The procedures should include a safety training before starting to work in the laboratory, tailored to the activities in the laboratory. It in general should involve an overview about potential risks related to the planned activities in the laboratory, chemical hazards, emergency procedures, personal protection, and good laboratory practice. The training should also include guidelines for storing, handling and disposing of chemicals which are of potential harm for humans or the environment.

3.2 Individual implementation

Several beneficiaries will take samples in the field and perform experiments in the environment. Each beneficiary is solely responsible for the implementation of national and international rules. Most of them will take place close to the host institutions within Europe and do not need official authorisation except for arrangements with local authorities. Samples are soil, water and/or sediment samples on which topic related measurements and experiments will be executed.

In the Netherlands several lakes have been selected for sampling activities (water/sediment). All selected lakes fall into the administration of water boards, the responsible water authorities in the Netherlands. Waternet is one of these authorities and is also partner organisation of P-TRAP. Sampling campaigns, in which are mainly the ESRs of the UU, Deltares, and UBT involved, will be performed in close collaboration with the water boards. The water boards also arrange permission from private land owners if this is necessary. If possible, field campaigns will be combined with the regular monitoring campaigns of the water boards. Experiments in the environment are not yet planned, but it is likely that Fe oxide amendments on selected lakes will be performed. In case such experiments will be performed, this will be done under the lead of the responsible water board, which will also be responsible for additional authorization going beyond the official powers of the water board. The situation in Germany or Spain is equal to the Netherlands, and involves there also the ESR of GEOS and US.

KULeuven plans to take soil samples from not only inside Europe, but also outside, i.e. from Madagascar and the Philippines to investigate fertiliser response of rice paddy soils in plant growth experiments. This requires import permissions for soil from a non-European country such as a letter of origin (LOO, statement of collaborating research group in the country of origin of the soil on the conditions of the soil and the origin of the soil) and a letter of authority (LOA, for introduction into the Union of pests, plants, plant products and other objects for scientific or educational purposes, trials, varietal selection or breeding, referred to in Article 6(3) of Commission Delegated Regulation (EU) 2019/829).

All beneficiaries are responsible for the necessary implementation of procedures and request of official documents needed, and to report on request to the coordinator.



Diffuse phosphorus input to surface waters
- new concepts in removal, recycling and management -

D7.1 – EPQ Requirement No.1

4. History of the document

Version	Author(s)	Date	Changes
1	S. Walter	6 February 2020	Initial draft
	S. Walter	6 February 2020	Additional input asked from beneficiaries
	S. Walter	19 June 2020	Finalisation