



Ponderful

Pond Ecosystems for Resilient Future Landscapes in a Changing Climate

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Deliverable 5.8: Programme for interactions with scientific networks, policy networks and practical networks to communicate and disseminate project outputs.



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Summary

This report summarises the programme of scientific, policy maker and practitioner interactions currently arranged or planned for the PONDERFUL project.

This report is part of the project's PEDR and Communications Plan and is a working draft which will be updated continuously and republished annually as conference, meetings and other engagement dates are confirmed.

During the first year of the project PONDERFUL has engaged with a full range of European scientific networks. In particular, members of the PONDERFUL team have co-organised and are running a session on small waters (both ponds and streams) in the annual SEFS meeting (Symposium of European Freshwater Sciences).

Presentations have also been made or are already scheduled for a number of other national and pan-European meetings.

Clustering work with other EU funded projects has started. The development of policy maker networks is developing well with up to c.500 national contacts identified for some partners. We are currently completing this network of contacts for all partners as far as resources are available.

Deliverable 5.8: Programme for interactions with scientific networks, policy networks and practical networks to communicate and disseminate project outputs.

1. Scientific communication

Following a planned schedule, project teams are making at least one annual scientific presentation at national and international conferences of relevant scientific societies (e.g. Symposium for European Freshwater Sciences, Society of Wetland Scientists, European Geosciences Union).

The initial conference schedule is shown in Table 2. Planning is in progress for 2021, with the first conferences now agreed.

Members of the PONDERFUL team are working closely with the organisers of the European Ponds Conservation Network (EPCN) whose biannual conference takes place in May 2021. We also expect to host the next EPCN conference in 2023.

We have started planning or are contributing to partner countries national freshwater science meetings for the next two years (2021-22). A PONDERFUL presence will also be established at subsequent year's meetings as these are announced. We also expect to participate in non-partner countries national meetings (e.g. Ireland in later years of the project).

The PONDERFUL main conference (Year 4) in Turkey or Spain, will provide additional awareness raising.

As part of the scientific programme we have also started to establish inter-continental connections with North American colleagues by inviting internationally renowned Prof. Lenore Fahrig as a guest speaker at the formal launch of PONDERFUL in June 2021.

Professor Fahrig has an outstanding record as a conservation scientist with a special interest in small habitats, including ponds (she is a co-author of a global pond conservation policy paper with co-authors from the PONDERFUL project team, and others).

For 2021 we have already established a special presence at the European Pond Conservation Network's bi-annual conference where WP2 and WP5 leads Beat Oertli and Jeremy Biggs are keynote speakers (see Appendix Table 1).

We have helped to organise a special small waters sessions at the annual Symposium for European Freshwater Sciences meeting where European freshwater specialists meet. At present the programme of talks stimulated by PONDERFUL team members working with other partners includes:

- Pond ecosystems for resilient future landscapes in a changing climate: PONDERFUL project
- Demonstrating the role of ponds in increasing freshwater biodiversity
- Environmental correlates of macroinvertebrate biodiversity in garden ponds: implications for pond management
- Developing the UK Freshwater Network: an evidence-based approach to freshwater biodiversity conservation

Table 1. Symposium of European Freshwater Sciences 2021

SS3 The role of small water bodies in the landscape

Papers highlighted in bold will be given by members of the PONDERFUL TEAM.

Paper No.	Title of presentation
470	The influence of sampling effort on assessing small pond biodiversity
37	Temperate ponds and their potential importance in the carbon cycle
127	Pond ecosystems for resilient future landscapes in a changing climate: PONDERFUL project
147	Dietary nutrient export from hypereutrophic fish ponds via emerging insects
249	Blue roofs as nature-based solutions: A characterization of rooftop ponds in Switzerland
386	Not all fish are bad – in ponds containing great crested newts
407	Preliminary results of EUROPONDS: early researchers shedding light on overlooked water bodies
417	Differential effect of organic and conventional agriculture on pond biodiversity
447	Demonstrating the role of ponds in increasing freshwater biodiversity
469	Motorway attenuation ponds as new habitats for mobile aquatic insects in Ireland
475	Environmental correlates of macroinvertebrate biodiversity in garden ponds: implications for pond management
18	How hydrological and landscape features shape Odonata communities in man-made aquatic ecosystems
110	Diatom diversity and community composition along an elevational gradient in subarctic ponds
145	Land use changes seasonal biomass patterns of aquatic emergent insects
151	Consequences of riparian deforestation on detritus-based food-webs in streams
231	Biodiversity in a pondscape: relative roles of environmental filtering and network position
348	Macroinvertebrate communities of small, lowland peat-bottomed streams
355	Diversity and structure of macroinvertebrate communities in permanent rivers in 7th Ecoregion
454	Developing the UK Freshwater Network: an evidence-based approach to freshwater biodiversity conservation
377	The importance of freshwater connectivity on total phosphorus and chlorophyll-a in lakes
158	Hydrochemical characteristics of the small stream network in Ireland
403	Peatland degradation and water quality impacts in Ireland

Joint seminars with the European Pond Conservation Network

In the second half of 2021 we will be piloting a new series of monthly seminars with the European Pond Conservation Network.

These are a new activity, not originally included in the project proposal, but the opportunity has arisen to test this approach for more rapid and regular communication between European researchers interested in small water bodies.

We have provisionally proposed this as a monthly series throughout PONDERFUL although timings may be adjusted in the light of experience in 2021.

Clustering activities

Project clustering activities have started and PONDERFUL team members have started to interact with other Horizon 2020 and BioDiversa funded projects relevant to the work of PONDERFUL.

The first presentations were made in May 2021 and we expect to continue engaging with this processes.

We have started to participate in **NetworkNature NBS Task Force** meetings and will schedule these into our programme as more information becomes available.

2. Policymaker communication:

It is our plan that all participants will make at least one presentation annually to policy makers focusing on the practical benefits of small waters.

We have started this work by identifying policymaker groups (see working list in Deliverable 5.3).

We will also work with Ramsar to promote the Small Waters Recommendation and will develop a communications plan in the second half of 2021.

We are working with members of the IPBES Scenarios and Models Task Force, and our pondscape scenarios will directly benefit from and contribute to the ongoing development of future generations of scenarios based on the Nature Futures Framework. In particular, Dr Laura Pereira (member of the Task Force) will help co-organise the scenario component of the stakeholder workshops. Dr Jan Kuiper (also part of the task force) has invited Isabel Rosa (Bangor University) to participate in the Freshwater case study that is currently under development to operationalise IPBES' Nature Futures Framework.

Working closely with the EPCN we are supporting a new Hungarian translation of the Pond Manifesto, currently available in English, Spanish, French German, Italian and Serbo-Croat. The Pond Manifesto can be seen here: http://www.europeanponds.org/wp-content/uploads/2014/12/EPCN-manifesto_english.pdf.

We will build on earlier discussions on small waters with the EU, and will include meetings with European networks (e.g. Network of European Nature Conservation Agencies (ENCA) and three European Topic Centres on Biological Diversity, Inland, Coastal and Marine Waters (ICM), and Climate Change Impacts, Vulnerability and Adaptation), the EU Water and Habitats directorates, the EU climate directorate, and NGOs with international water programmes (e.g. WWF, IUCN). Links with the European Environment Agency are

established through the participation of Peter Kristensen, EEA project manager, in the PONDERFUL advisory board. PONDERFUL partner, Ecologic, is part of the ICM Topic centre. We have a contact within the Joint Research Centre who we can communicate with regarding PONDERFUL findings and we will be invited to present at the working groups.

Policy briefings (four documents) will provide policy and business leaders with summaries of project results covering freshwater biodiversity, benefits of NBS, the role of ponds in climate change and new business opportunities (especially CLIMA-Ponds), available in 12 languages for wide accessibility. We expect most of this work to begin once the Project Launch has been completed and there is basic awareness of the project amongst policy makers.

3. Practitioner communication:

In each of the participant states we are identifying networks of regional and national practitioners which the project needs to interact with. The first draft of these lists has been summarised in Deliverable 5.3, but this process will continue throughout the project.

Currently numbers of contacts per partner state range from around 500 in Portugal (towards the upper end of our expected totals) to smaller numbers where work is still in the early stages and practitioners are less familiar with the importance of small waterbodies.

We have started the development of the practitioner networks in each of the partner states.

The objective will be to make potential users aware of discussions about Case Study sites (WP2), DEMO sites (WP4), the Technical Handbook, the Policy Guidance Document and applications for practitioners.

Further activities which are planned for later stages of the project are to create a small series of 6-8 information posters, modelled on posters produced by FHT for the UK, to convey the main findings of the project covering each main climate region and farmed, semi-natural and urban environments.

To support the project legacy we will develop post-project relationships with national and pan-European activities that continue after the project (e.g. River Basin Management Plans). Implementation of the Communication Plan will be led by FHT with a 0.4 FTE international coordinator with time allocated to regional lead participants for a daily, weekly, monthly and annual communication programme, adapted to regional, national, European and global timetables.

We are piloting this work in the United Kingdom where work undertaken by the PONDERFUL partner Freshwater Habitats Trust, to identify Important Freshwater Areas (which incorporate ponds into 'standard' water management planning) is being built into catchment management planning advice developed as part of the Catchment-based Approach.

		Annual National River Restoration Centre meeting 2022	Annual national River Restoration Centre meeting 2023	Annual national River Restoration Centre meeting 2024
Switzerland	Swiss societies (ecology, biodiversity, natural sciences,)	Swiss societies (ecology, biodiversity, natural sciences,)	TBC	TBC
Activity	2021	2022	2023	2024
Scientific Communication				
United Kingdom (continued)		Nature-based Solutions in a Changing Climate 2022		
France	-	Journée Internationale de Limnologie (JIL)	-	Journée Internationale de Limnologie (JIL)
Portugal	-	Iberian Association for Limnology - AIL	-	Iberian Association for Limnology - AIL
Switzerland	Presentations at the Society for Wetland Science (European Chapter) 2021 annual meeting Presentation of PONDERFUL at the Swiss Society of Hydrology and Limnology	INTECOL 2022 (Geneva)	TBC	TBC
Spain	TBC	Iberian Association for Limnology - AIL	TBC	Iberian Association for Limnology - AIL
Turkey	TBC	TBC	TBC	TBC
Uruguay				
Ireland (optional extra as Ireland not Project team member)	Joint programme with colleagues in Ireland has been created for SEFS (see Table 1 above).	Annual Meeting of Irish Freshwater Association	No meeting planned	Annual Meeting of Irish Freshwater Association

Activity	2021	2022	2023	2024
Policymaker communication				
Biodiversa	Attending 'BioDivClim' workshops	TBC	TBC	TBC
Ramsar		Annual review meeting	Annual review meeting	Annual review meeting
EC Water Framework Directive Unit	TBC	TBC	TBC	TBC
These programmes are still in development and will be updated as part of the review of annual review of the PEDR and Communications Plan. In particular, we are making extensive communications with policy makers as part of the Project Launch event and expect to make a range of connections with policy makers after this event.				
Practitioner communication				
These programmes are still in development and will be updated as part of the review of annual review of the PEDR and Communications Plan.				
DEMO site meetings	All partners have annual DEMO site meetings with practitioners	All partners have annual DEMO site meetings with practitioners	All partners have annual DEMO site meetings with practitioners	All partners have annual DEMO site meetings with practitioners

Appendix TABLE 1. Programme of the European Pond Conservation Network

Note that two plenary speakers (highlighted in yellow) are PONDERFUL project leads (Oertli, Biggs) and Bruçet, the PONDERFUL project director introduced the project to this audience. Other PONDEFUL project speakers are also shown in yellow.

25th May 10:00-12:00: Session 1 Patterns & Processes in Pondsapes

CHAIR: Matt Hill

10:00-10:30: PLENARY TALK: Nigel Willby (University of Stirling, UK).

The Hydroscape project: determining the importance of connectivity in aquatic biological landscapes.

10:30-10:45: Alan Law (University of Stirling, UK).

Quantity, quality or connectivity; what matters most for freshwater biodiversity?-

10:45-11:00: Andrea Francesca (University of Malta, Malta).

Rigorous rockpool recolonisation, or hitting rock bottom?

11:15-11:30: Erika Lorencová (Masaryk Univerzity, Czech Republic).

What determines the mollusc diversity in the isolated karstic lakes of central Albania?

11:30-11:45: Włodzimierz Golus (University of Gdańsk, Poland).

Water balance of ponds and a growing agglomeration: An example from Gdańsk, Poland.

11:45-12:00: Charl Deacon (Stellenbosch University, South Africa).

Pond insect responses to drought in the Cape Floristic Region, South Africa.

12:00-12:15: Pedro Segurado (Universidade de Lisboa, Portugal).

Effects of landscape connectivity on movement and survival of a pond-dwelling freshwater turtle.

12:15-12:30: GENERAL DISCUSSION

25th May 14:00-16:00: Session 2 Advances in Pond Monitoring–

CHAIR: Helen Greaves

14:00-14:30: PLENARY TALK: Marlene Pätzig (Brandenburg University of Technology, Germany).

High resolution remote sensing for the efficient research and monitoring of ponds and pondsapes.

14:30-14:45: Marie Lamouille-Hébert (HEPIA, HES-SO, Switzerland)

Improving the detectability of Dragonflies species in alpine ponds: with larvae, exuviae, adults or metabarcoding from environmental DNA?

14:45-15:00: Phil Davidson (Centre for Environment, Fisheries and Aquaculture Science (Cefas), UK).

Developments in environmental DNA (eDNA) monitoring approaches to inform non-native pond conservation management decisions

Practicing Professional

15:00-15:15: Jack Greenhalgh (University of Bristol, UK).

Ecoacoustics: A novel tool for assessing pond restoration success?

15:30-15:45: Geert De Knijf (Research Institute for Nature and Forest, Belgium).

Species monitoring of ponds in Flanders: Odonata as an example

15:45-16:00: Lynsey Harper (University of Illinois at Urbana-Champaign, USA).

Generating and testing ecological hypotheses at the pondscape with environmental DNA metabarcoding: a case study on a threatened amphibian.

16:00-16:15: Zarah Pattison (Newcastle University, UK). Faecal pollution

hotspots in urban lakes and ponds: causes of high spatial heterogeneity

16:15-16:30: GENERAL DISCUSSION

26th May 10:00-12:00: Session 3 Urban and artificial ponds

CHAIR: Richard Walton-10:00-10:30:

PLENARY TALK: Beat Oertli (HEPIA, HES-SO, University of Applied Sciences and Arts Western Switzerland, Switzerland)

Urban ponds and their multiple ecosystem services: is biodiversity forgotten?-

10:30-10:45: Matt Hill (University of Huddersfield, UK).

Garden pond diversity: opportunities for urban freshwater conservation-

10:45-11:00: Sally Waring (Earlham Institute, UK).

Pondlife: Documenting the unicellular life of New York City

11:15-11:30: Jose Manuel Zamora Marín (University of Murcia, Spain). **(Co-author Beat Oertli (HEPIA, HES-SO))**

Artificial ponds can contribute to biodiversity conservation. Part 1: the local approach (alpha and beta diversities)

11:30-11:45: Rob Briers (Edinburgh Napier University, UK).

Sound of the suburbs: exploring riparian soundscapes and conservation value of urban ponds.

11:45-12:00: Marine Decrey (HEPIA, HES-SO, University of Applied Sciences and Arts Western Switzerland, Switzerland).

Urban ponds and their multiple ecosystem services: is biodiversity also taken into account?

12:00-12:15: Wenfei Liao (University of Helsinki, Finland).

Diving beetle (Coleoptera: Dytiscidae) diversity decreases with increasing urbanisation

26th May 14:00-16:00: Session 4 Pond conservation and management–CHAIR: Alan Law-

**14:00-14:30: PLENARY TALK: Jeremy Biggs (Freshwater Habitats Trust, UK).
Making and managing ponds to protect freshwater biodiversity**

14:30-14:45: Richard Walton (UCL/Newcastle University, UK).
Once a pond in time: palaeoecological analysis of pond sediment aids in conservation efforts

14:45-15:00: Coraline Domingues (Le Conservatoire d'espaces naturels de Normandie, France)
The Normandy's action programme for ponds conservation (PRAM): knowledge enhancement, actions in the field and partnership with local stakeholders.

15:00-15:15: Ben Siggery (Surrey Wildlife Trust, UK)
"Variety is the Spice of Life": Restoring farmland ponds enhances landscape-scale aquatic diversity.

15:30-15:45: Camille Musseau (Freie Universität Berlin, Germany).
Abiotic and anthropogenic effects on macroinvertebrate biodiversity in an agricultural pondscape.

15:45-16:00: Janusz Kloskowski (University of Life Sciences, Poland).
Patterns of amphibian abundance and species richness in temporary ponds in agricultural landscapes.

**16:00-16:15: Maria Peso (KU Leuven, Belgium).
Community assembly of cladoceran zooplankton in relation to pond age: an interplay of dispersal and the establishment of macrophytes and fish.**

16:45-17:15: Final Thoughts, Thankyous and Introduction to follow-up
EPCN-Hydroscape-Ponderful monthly seminars in 2021

Appendix Table 2. Society of Wetland Scientists Europe chapter Annual Meeting: extract of PONDERFUL-related presentations



**Society of Wetland Scientists
Europe chapter Annual Meeting**



16th SWS Europe Chapter conference | on line
*“Connecting wetlands functioning and biodiversity
 Towards nature-based solutions”*
June 15th – 17th 2021

Highlighted presentation are given by members of the Ponderful team

Wednesday 16th June 2021

14.00-14.15	Introduction to the meeting (Jos Verhoeven, Utrecht University)	
14.15 – 14.45	Connecting young wetland scientists with other professionals	Tobias Salathé (Ramsar Secretariat, Switzerland)
14.45 – 15.15	Rights of Wetlands: A Paradigm Shift to Meet Global Challenges	Gillian Davies (BSC Group, USA)
15.15 – 15.30	Safeguarding success: Exploring community engagement strategies that support long-term restoration success in European wetlands	Stijn den Haan, Laszlo Pinter
15.30 – 15.45	Machine learning classification and accuracy assessment from high-resolution images of coastal wetlands	Ricardo Martinez Prentice, Miguel Villoslada Peciña, Kalev Sepp, Raymond D. Ward
15.45 – 16.00	Contribution of remote sensing to an overview of the heritage coastal system of a Ramsar site: case of the Kerkennah archipelago (Tunisia)	Syrine Souissi, Balkis Chaabene, Faiza Khebour
16.00 – 16.15	Discussion (15min)	
16.15 – 16.30	The habitats of Gallocanta Lake (NE Spain) as viewed by Sentinel-1	J. Sanz-Cano, B. Latorre, C. Castañeda
16.30 – 16.45	Analysis of the changes in Lake Prespa and its surroundings over the last 4 decades by remote sensing methodology	Nadezda Apostolova, Juan M. Soria
16.45 – 17.00	Developing DEMO-sites to highlight the efficiency of Pondscares as Nature Based solution for adaptation and mitigation to changing climate (H2020 Ponderful project)	Boissezon Aurélie, Cuenca-Cambronero Maria, Bartrons Mireia, Benejam Lluís, Beklioğlu Meryem, Brucet Sandra, Davidson Thomas, Lemmens Peter, Meerhoff Mariana, Mehner Thomas, Quintana Xavier, Nicolet Pascale, Oertli Beat
17.00 – 17.15	Studying ponds ecosystems for climate changes mitigation: H2020 PONDERFUL project	Maria Cuenca-Cambronero
17.15 – 17.30	Discussion (15min)	
17.30	End of the second day	