

# *PESFOR-W User Manual & Action Plan workshop aims & structure & Woodlands for water Payments for Ecosystem Services schemes*

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## 1) User Manual Developing woodlands for water PES

- any refinements/improvements you would suggest?

## 2) Action Plan Developing woodlands for water PES

- to create incentives across Europe for targeted tree planting to reduce agricultural diffuse pollution of watercourses to deliver water quality goals
  - What elements would you suggest including
    - Your own national (e.g. Belgian) contexts?
    - Wider European/international contexts?
  - What are the key barriers?
    - how can they be overcome?

### Next steps:

- Potential location(s) for pilot(s)?
- Research needs, scoping a proposal & funding options?

9h30-9h45	Welcome & Introduction to the aims and structure of the workshop, & examples of existing Woodlands for Water PES schemes (Gregory Valatin)
9h45-10h15	PESFOR-W COST Action User Manual steps & approach (Tom Nisbet)
10h15-11h	Discussion of User Manual & potential refinements (all)
11h-11h10	Coffee break
11h10-11h30	Next steps: approach, potential location(s) for pilot(s), possible research needs - developing an 'Action Plan' (all)
11h30-11h45	Wrap-up

- If you wish to ask a question, use ‘chat’
- If you wish to speak, use ‘raise hand’
- Switch your microphone off when not speaking
- Does anyone object to the workshop being recorded?



Research network (Oct 2016-April 2021) aiming to improve Europe's capacity to use Payments for Ecosystem Services (PES) to achieve Water Framework Directive (WFD) targets & other policy objectives through incentives for planting woodlands to reduce agricultural diffuse pollution to watercourses.





## Economics

Landscape Architecture

## Social science

Geography

## Forestry

## Hydrology

Agriculture

Climatology

Ecology

## Natural science

### Geochemistry

Biochemistry



## Engineering

## COST Countries:

- Bosnia and Herzegovina
- Bulgaria
- Czech Republic
- Croatia
- Estonia
- Hungary
- Latvia
- Lithuania
- Luxembourg
- North Macedonia
- Montenegro
- Poland
- Portugal
- Romania
- Serbia
- Slovakia
- Slovenia
- Turkey
- Austria
- Belgium
- Denmark
- Finland
- France
- Germany
- Greece
- Ireland
- Italy
- The Netherlands
- Norway
- Spain
- Sweden
- Switzerland
- United Kingdom

## Near Neighbour Countries:

- Morocco
- Jordan
- Tunisia
- Ukraine

## International Partner Countries:

- China
- Japan
- New Zealand

## International organisations:

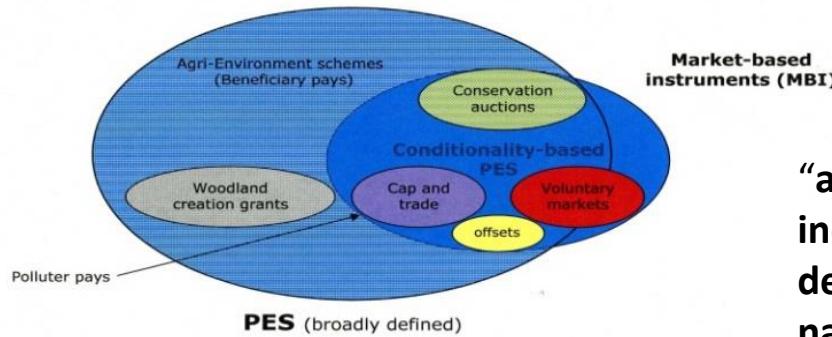
- European Forestry Institute
- UNECE/FAO



- 1) Characterize & evaluate governance models**
- 2) Evaluate environmental effectiveness of targeted woodland planting**
- 3) Forests for water PES Case Study repository**
- 4) User Guidance** on quantifying the effectiveness of tree planting to reduce diffuse pollution



## Payments for Ecosystem Services (PES):



*“a transfer of resources between social actors, creating incentives to align individual and/or collective land use decisions with the social interest in the management of natural resources” (Muradian *et al.*, 2010).*



### Woodland for Water PES defined as:

- (i) **transfer of resources** between at least 2 actors;
- (ii) transaction **explicitly targeted at improving water-related services**;
- (iii) **payment for actions related to trees** either:
  - primarily for water services; or
  - for bundled (including water) services



NB includes land purchase for water protection where tree planting reduces the market value of land

## Denmark: Land purchase & afforestation:

- E.g. Odense municipal water company:
  - reducing risks of future **pesticide contamination of groundwater**
    - targeting protection of most sensitive areas for groundwater recharge
  - purchases nearby **land & swaps with local farmers**
  - secures **permanent land use change to forests** (legal change)
  - **ownership** of protected land **transferred to a partner organisation**
    - for less than **market value** of agricultural land
      - (i) **Municipality** for tree planting as an area for local **recreation**
      - (ii) **Social enterprise for Timber production + recreation access**
        - Lower land cost strengthens business case for afforestation
      - (ii) **State forest agency for Timber, recreation+**
        - Lowers costs of land purchase for afforestation
    - Creating '**water forests**'

## Rennes (local authority), France :

- Purchase & afforestation of 71.5 ha to reduce nitrate pollution
  - costs €6300/ha (€14700/ha including land purchase)
- Comparison over 10 years:
  - Protection costs** (including agricultural measures):
    - €0.16/m<sup>3</sup> (1/4 due to woodland planting)
  - Costs avoided:**
    - €1.50/m<sup>3</sup>



### ➤ Case study of Rennes

An efficiency indicator of this approach:





## Tree planting for water quantity & quality + other benefits (Bosco Limite, Italy):

- Pilot project initiated by Etifor (spin-out company of University of Padua)
- **increasing water infiltration to groundwater**
- landowner paid by multiple organisations for different ecosystem services
  - Including carbon
    - 2.5 ha of woodland planted
    - example of ‘stacking’ & higher farm income than previously under agriculture



## Baden Forest & Müller AG, Switzerland

- after hurricane Lothar (1999) destroyed large areas of a 500 ha forest
- the community made a contract with the local **brewery** Müller AG to restore & manage water protection forest zones
  - payments of about 10000 CHF (€8800) per year
  - five year contracts

## Waidhofen drinking water protection zone (river Ybbs catchment, Austria)

- reducing risks to water quality
  - chemical
  - sediment
- Pilot project:
  - forest owners to be paid annually by the local government for implementing best practices
    - 30 forest owners (1069 ha)
- part of Interreg project PROLINE-CE
  - led by Austrian Federal Ministry of Sustainability & Tourism





**Land Management** (reducing animal stocking density, tree planting, forest management ...):

**Vittel, France** (Nestle Waters):

- local farmers contracted to adopt practices to reduce pollution of groundwater
  - **additional land provided to farm rent free**
- **persuading local farmers to plant trees challenging:**
  - many have devoted much of their working lives to removing trees to increase agricultural production.



## Spatial Repository - Payments for Ecosystem Services (Forests for Water) - COST Action CA15206 PESFOR-W

This database includes interesting case studies on water-related ecosystem services provided by forest- and tree-related ecosystems. Explore case studies by clicking on the dots, or select case studies using the drop-down fields. Clicking on the dot links to a webpage with more information. To return to the full dataset, users have to unselect the selected case, or press ESC.

Case study name in English

(All)

Type of ecosystem/s targeted by the case study

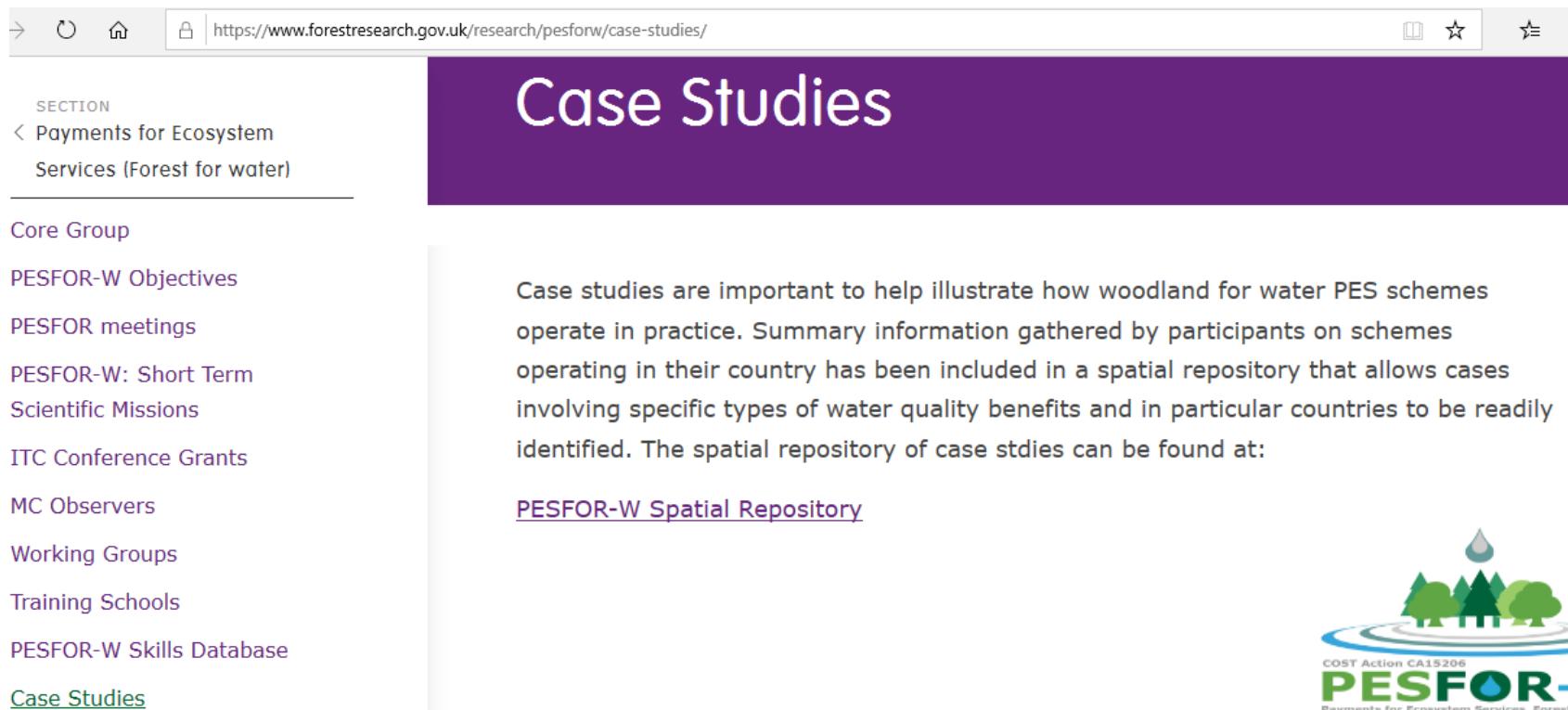
(All)

Specific water benefit/s generated by the case study

(All)



<https://public.tableau.com/profile/rik.de.vreese#!/vizhome/SpatialRepository-PaymentsforEcosystemServicesForestsforWaterCOSTactionCA15206PESFOR-W/Spatialrepository>



The screenshot shows a web browser window with the URL <https://www.forestresearch.gov.uk/research/pesforw/case-studies/>. The page title is "Case Studies". On the left, there is a sidebar with a "SECTION" heading and links to "Payments for Ecosystem Services (Forest for water)" and "Case Studies". The main content area contains text about case studies and a link to the "PESFOR-W Spatial Repository". On the right, there is a logo for COST Action CA15206 PESFOR-W, featuring a stylized forest and water design.

SECTION  
Payments for Ecosystem Services (Forest for water)

Core Group  
PESFOR-W Objectives  
PESFOR meetings  
PESFOR-W: Short Term Scientific Missions  
ITC Conference Grants  
MC Observers  
Working Groups  
Training Schools  
PESFOR-W Skills Database  
[Case Studies](#)

Case studies are important to help illustrate how woodland for water PES schemes operate in practice. Summary information gathered by participants on schemes operating in their country has been included in a spatial repository that allows cases involving specific types of water quality benefits and in particular countries to be readily identified. The spatial repository of case stdies can be found at:

[PESFOR-W Spatial Repository](#)



<https://www.forestresearch.gov.uk/research/pesforw/case-studies/>



## Final months (to mid-April 2021):

- Stakeholder workshops
  - to test the **User Guide** with practitioners prior to launch
  - Suggestions for elements to include in an **Action Plan** on developing woodlands for water PES schemes
    - Submitting journal articles (incl Cost-Effectiveness Analysis)
    - COST Innovators' Grant proposal (to run activities across Europe for further 12 months from Nov 2021)
      - » Towards a **Woodland Water Code?**
  - **Final conference online: 17<sup>th</sup>-18<sup>th</sup> March 2021**



Payment for Ecosystem Services:  
Forest for Water  
Final Conference  
17-18 March 2021  
online

The aim of the PESFOR-W COST Action is to synthesize knowledge, provide guidance and encourage collaborative research to improve Europe's capacity to use Payments for Ecosystem Services (PES) to achieve Water Framework Directive (WFD) targets & other policy objectives through incentives for planting woodlands to reduce agricultural diffuse pollution to watercourses.

17<sup>th</sup>-18<sup>th</sup> March 2021

This event is organized by EFI (European Forest Institute) on behalf of PESFOR-W.  
For further details and registration, contact [rik.devreese+pesfor@gmail.com](mailto:rik.devreese+pesfor@gmail.com)



COST Action CA16208 "Payments for Ecosystem Services (Forests for Water)"

Final Conference (Online)  
Programme 17<sup>th</sup> March 2021

#### Plenary and Management Committee

- 08<sup>00</sup> – 08<sup>30</sup>: Joining & testing out connections  
08<sup>30</sup> – 08<sup>45</sup>: Welcome & Overview by the Action's Chair: Dr. Gregory Valat, Forest Research, UK  
08<sup>45</sup> – 09<sup>00</sup>: Keynote address - Woodlands for water PES: overcoming barriers to their development (Dr. Sven Wunder, European Forestry Institute)  
09<sup>10</sup> – 09<sup>15</sup>: Questions and answers  
09<sup>15</sup> – 09<sup>30</sup>: Virtual field tour  
09<sup>30</sup> – 10<sup>00</sup>: break  
10<sup>00</sup> – 11<sup>00</sup>: User Manual and the finalizing the Action Plan  
11<sup>00</sup> – 11<sup>15</sup>: Tea/coffee break  
11<sup>15</sup> – 13<sup>00</sup>: Management Committee meeting

#### Programme 18<sup>th</sup> March 2021

#### Stakeholder Meeting

- 08<sup>00</sup> – 08<sup>30</sup>: Joining & testing out connections  
Plenary:  
08<sup>30</sup> – 08<sup>45</sup>: Welcome & Overview by the Action's Chair: Dr. Gregory Valat, Forest Research, UK  
08<sup>45</sup> – 09<sup>00</sup>: Keynote address: Woodlands for water PES – a practitioner's perspective (Dr Alessandro Leonardi, Editor, Italy)  
09<sup>00</sup> – 09<sup>15</sup>: Keynote address: Woodlands for water PES – water and forest interactions in Europe (Dr Niels Zel, European Environment Agency)  
09<sup>15</sup> – 10<sup>00</sup>: Keynote address: Woodlands for water PES – a policy perspective (Tomas Izquierdo, DG Agriculture and Rural Development, European Commission)  
10<sup>10</sup> – 10<sup>15</sup>: Questions and answers  
10<sup>15</sup> – 10<sup>30</sup>: Tea/coffee break  
10<sup>30</sup> – 10<sup>45</sup>: Governance & Design of Woodlands for water PES (WG1)  
10<sup>45</sup> – 11<sup>00</sup>: Environmental Effectiveness of Woodlands for water PES (WG2)  
11<sup>00</sup> – 11<sup>15</sup>: Cost-Effectiveness of Woodlands for water PES (WG3)  
11<sup>15</sup> – 11<sup>30</sup>: Communication & Dissemination of Woodlands for water PES (WG4)  
11<sup>30</sup> – 11<sup>45</sup>: User Manual on developing Woodlands for water PES  
11<sup>45</sup> – 12<sup>00</sup>: Action Plan on developing Woodlands for water PES  
Questions and answers + Feedback  
Final words

