

# ***PESFOR-W final conference: introduction to Day 2***

Gregory Valatin

Centre for Ecosystems, Society & Biosecurity  
Forest Research  
Alice Holt Lodge  
Farnham  
Surrey  
England



Funded by the Horizon 2020 Framework Programme  
of the European Union



## 18<sup>th</sup> March 2021 – Stakeholder Meeting



08<sup>50</sup> – 09<sup>00</sup>: Joining & testing out connections

09<sup>00</sup> – 09<sup>10</sup>: **Welcome & Overview** by the Action's Chair: Dr. **Gregory Valatin**, Forest Research, UK

09<sup>10</sup> – 09<sup>30</sup>: **Keynote address**: Woodlands for water PES – a practitioner's perspective (Dr **Alessandro Leonardi**, Etifor)

09<sup>30</sup> – 09<sup>50</sup>: **Keynote address**: Woodlands for water PES – water and forest interactions in Europe (Dr **Nihat Zal**, *European Environment Agency*)

09<sup>50</sup> – 10<sup>10</sup>: **Keynote address**: Woodlands for water PES – a policy perspective (**Tamas Szedlak**, DG Agriculture and Rural Development, *European Commission*)

10<sup>10</sup> – 10<sup>20</sup>: **Questions and answers**

10<sup>20</sup> - 10<sup>30</sup>: **Tea/coffee break**

10<sup>30</sup> – 10<sup>40</sup>: **Governance & Design of** Woodlands for water PES (Dr Paola Gatto, University of Padova, Italy)

10<sup>40</sup> – 10<sup>50</sup>: **Environmental Effectiveness of** Woodlands for water PES (Dr. **Tom Nisbet**, Forest Research, UK)

10<sup>50</sup> – 11<sup>00</sup>: **Cost-Effectiveness of** Woodlands for water PES (Dr **Alex Chikalanov**, University of Library Studies and Information Technologies, Bulgaria and Dr **Paola Ovando**, James Hutton Institute, UK)

11<sup>00</sup> – 11<sup>10</sup>: **Communication & Dissemination of** Woodlands for water PES (Dr **Lars Högbom**, Skogforsk, Sweden)

11<sup>10</sup> – 11<sup>30</sup>: **User Manual** on developing Woodlands for water PES (Dr. **Tom Nisbet**, Forest Research, UK)

11<sup>30</sup> – 11<sup>40</sup>: **Action Plan** on developing Woodlands for water PES (Dr. **Gregory Valatin**, Forest Research, UK)

11<sup>40</sup> – 12<sup>20</sup>: **Questions and answers + Feedback** (Chaired by Prof. **Gebhard Schueler**, Research Institute for Forest Ecology & Forestry of Rhineland-Palatinate, Germany)

12<sup>20</sup> – 12<sup>30</sup>: **Final words**

- **1. All attendees muted and videos are turned off on joining (with hand-raising also turned off).**
- **2. Any questions can be typed in the Q&A box. Attendees can vote and comment on the questions & the most popular ones will be asked during sessions. (Those not answered during the session will be forwarded to the relevant presenters for subsequent consideration).**
- **4. Use the chat function for any technical questions.**
- **5. There will be a recording made, with presentations also made available after the event.**

Note for Speakers (re time-keeping):

- chat message two minutes ahead
- Rik will turn on his camera one minute ahead
- Rik will let you know verbally of the end of the slot 30 seconds ahead



**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

Ecology

Climatology

**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:

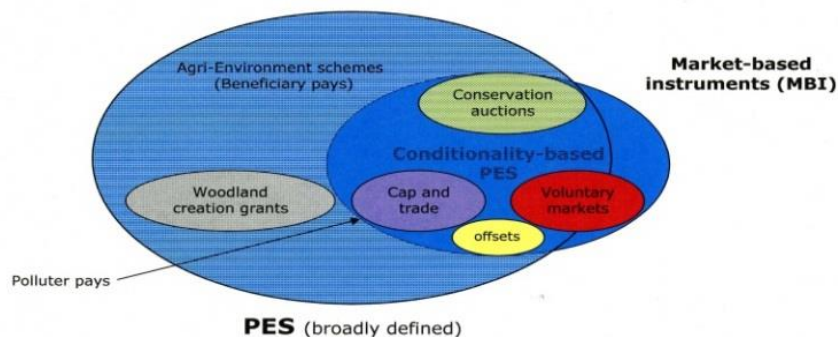
- European Forestry Institute
- UNECE/FAO



- 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:



1/1/2015

## 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 ...):

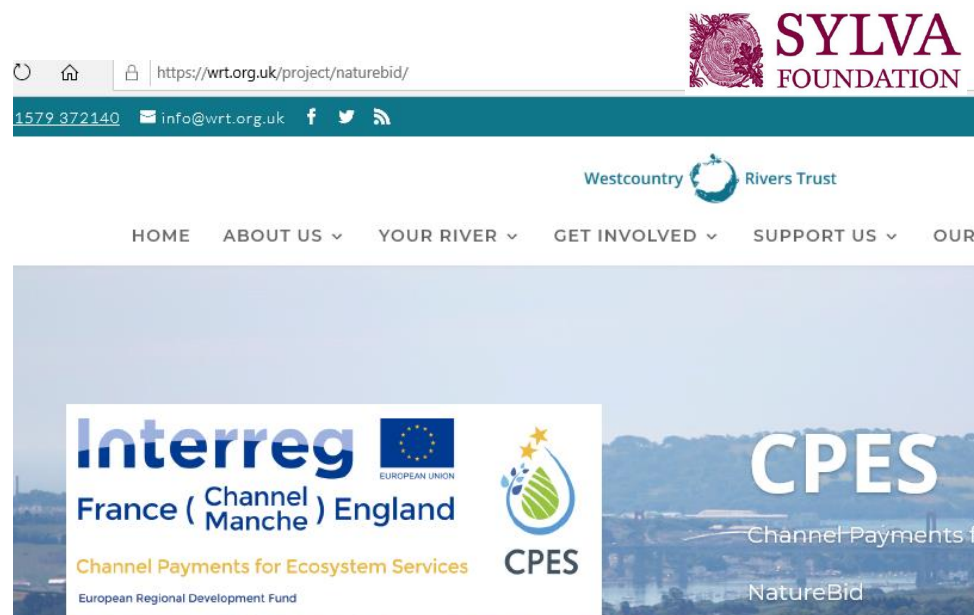
**Vittel, France** (Nestle Waters):

- 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.





- Developed for Environment Agency in 2018
- 9 auctions held to date
- 6 catchment based
- 3 national
- Different outcomes
- Multiple partners



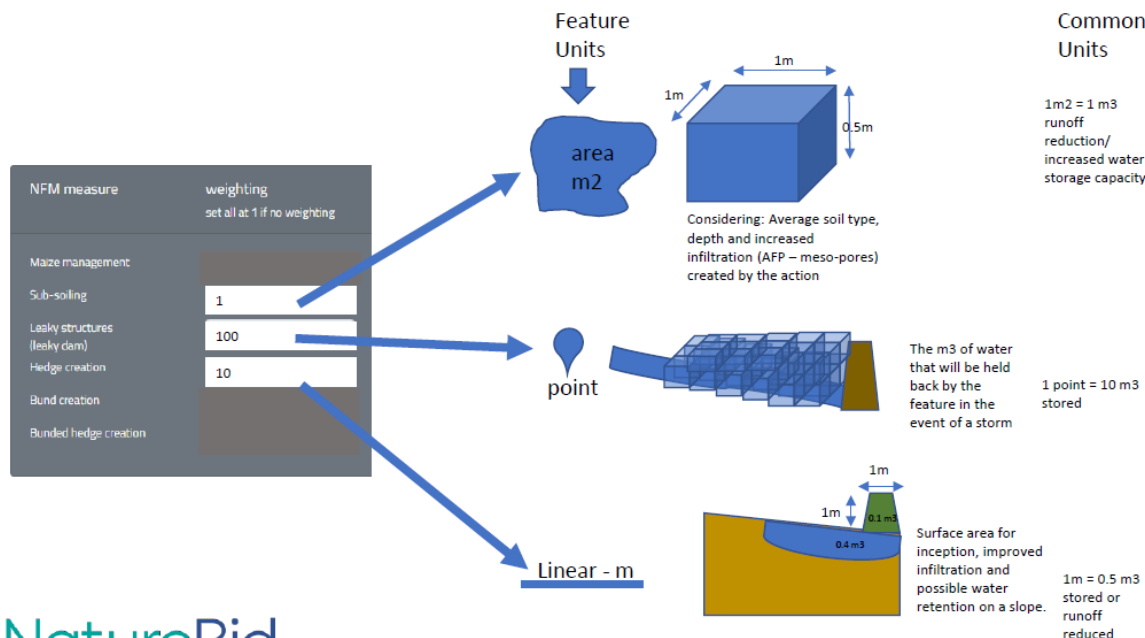
## NatureBid – River Lyd catchment

We are launching an online auction to offer grant funding to Devon-based farmers and landowners today, Monday 2 December.

Several options to help protect water quality through positive changes in land management will be available for bidding in the next three weeks via the Environment Agency's NatureBid scheme.

The auction covers the whole of the River Lyd catchment and is part of the [Channel Payments for Ecosystem Services](#) (CPES) Interreg EU-funded project.

Grants can be made via the Lyd auction to support positive environmental improvement such as woodland planting, aeration or sub-soiling of grassland, cover crops for arable areas, watercourse fencing, field buffer strips, installing ponds or wetland features. <https://tamar.naturebid.org.uk/>



## Measure types and how they relate to outcomes



Linear - m



- > Cover crop
- > Grassland subsoiling
- > Woodland creation

- > Hedge planting
- > Bund creation
- > Fencing

- > Woody dam
- > Check dam

**NFM measure**

weighting  
set all at 1 if no weighting

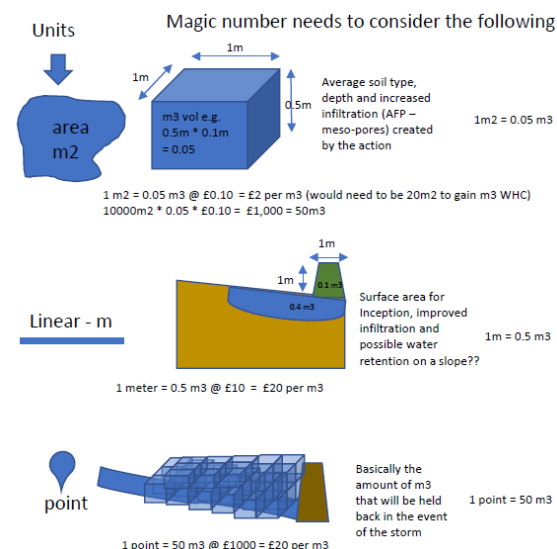
NFM measure	weighting
Maize management	
Sub-soiling	1
Leaky structures (leaky dam)	100
Hedge creation	10
Bund creation	
Bunded hedge creation	

**Auction II**

settings results

**NFM measures**

position	property	type	weighted £/unit	price
1	Glasto	Leaky structures (leaky dam)	£0.25	£1,000
2	Al's Farm	Sub-soiling	£0.35	£28,742
3	Glasto	Maize management	£0.61	£30,226
4	Al's Farm	Hedge creation	£3.22	£12,598
5	Glasto	Bunded hedge creation	£3.26	£21,720







<https://www.forestresearch.gov.uk/research/pesforw/user-manual/>



[About us](#) [Publications & research](#) [Services](#)

## Publications & research

### User Manual

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

Forests for Water Services: A Step-by-Step Guide for Payment Schemes

Lead author - T R Nisbet

Contributing authors - M-B Andreucci, R De Vreese, L Högbom, S Kay, M Kelly-Quinn, A Leonardi, M I Lyubenova, P Ovando Pol, P Quinteiro, I Pérez Silos, G Valatin.

[User Manual 2021](#)