



# Forests and Water: Valuation and Payments for Forests Ecosystem Services

a study paper



FORESTS



Presentation for the Workshop of the COST Action Payments for Ecosystem Services (Forests for Water)  
Wednesday 18 October 2017, Opatija, Croatia



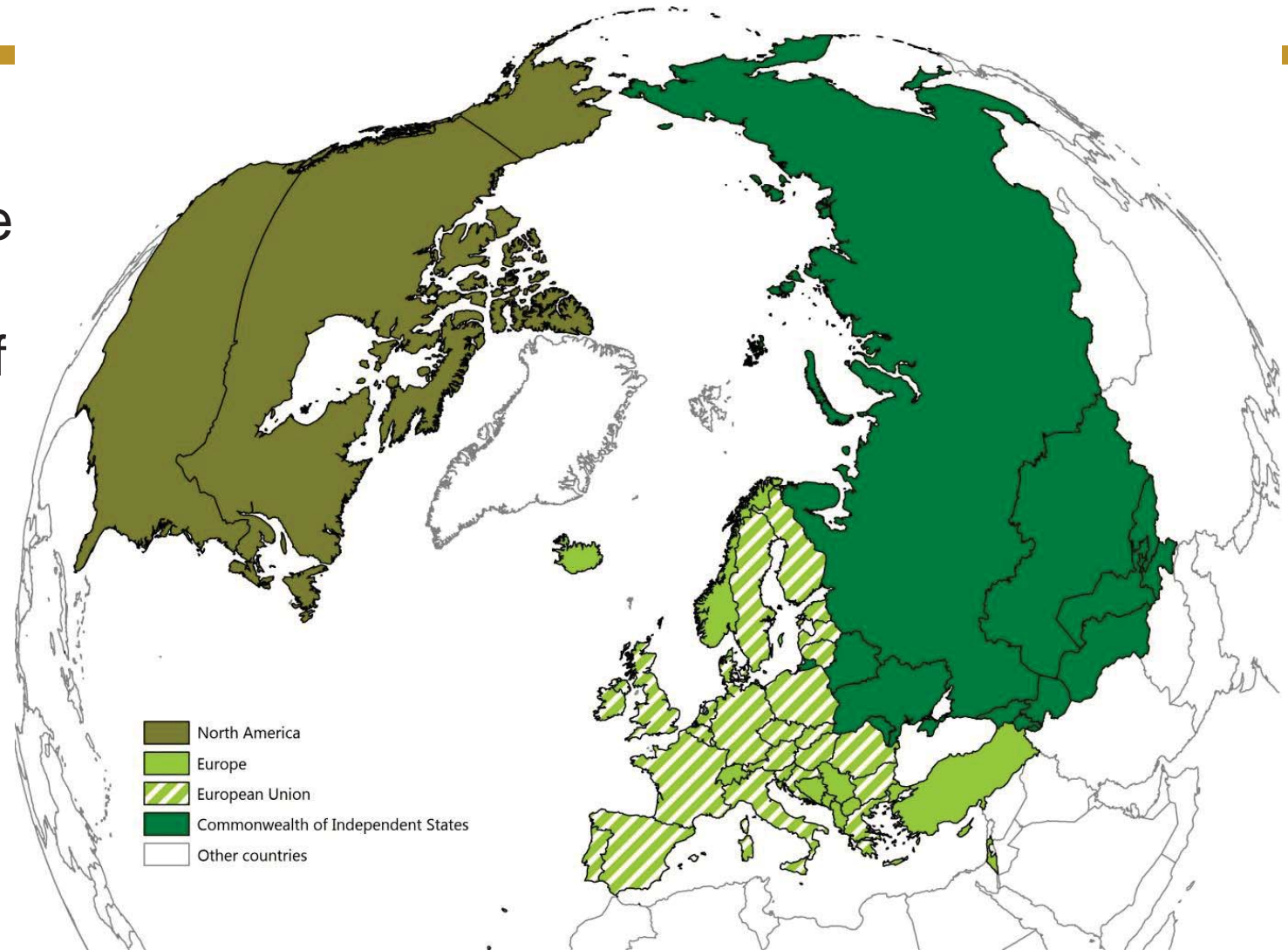
# Regional Scope

## UNECE/FAO Forestry and Timber Section

FORESTS



The forest in the UNECE region has an extent of 1.89 billion ha which is more than 41% of the global total



# Objectives and Coverage

of the study paper

FORESTS



**Objective:** The forests-water connection as it is relevant for Payment for Ecosystem Services schemes

## Coverage

1. Forest-water regulatory framework
2. Valuation of and payment for water related forest ecosystem services
3. Database and exchange of experiences and best practices in the UNECE region

Pre-release of the database on forest-related PES schemes is published here: <http://www.unece.org/forests/areas-of-work/policy-dialogue-and-advice/ecosystem-services/table-of-case-studies.html>

# Regulative Frameworks

In the UNECE region, some examples

FORESTS



## ■ Global

- 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals
- UN Forum on Forests – Strategic Plan for Forests 2017-2030
- Shiga Declaration on Forests and Water
- Ramsar Convention; Conv. on Biological Diversity; UNECE Water Conv.

## ■ Regional

- EU Water Framework Directive
- Danube/Rhine/Alpine Convention

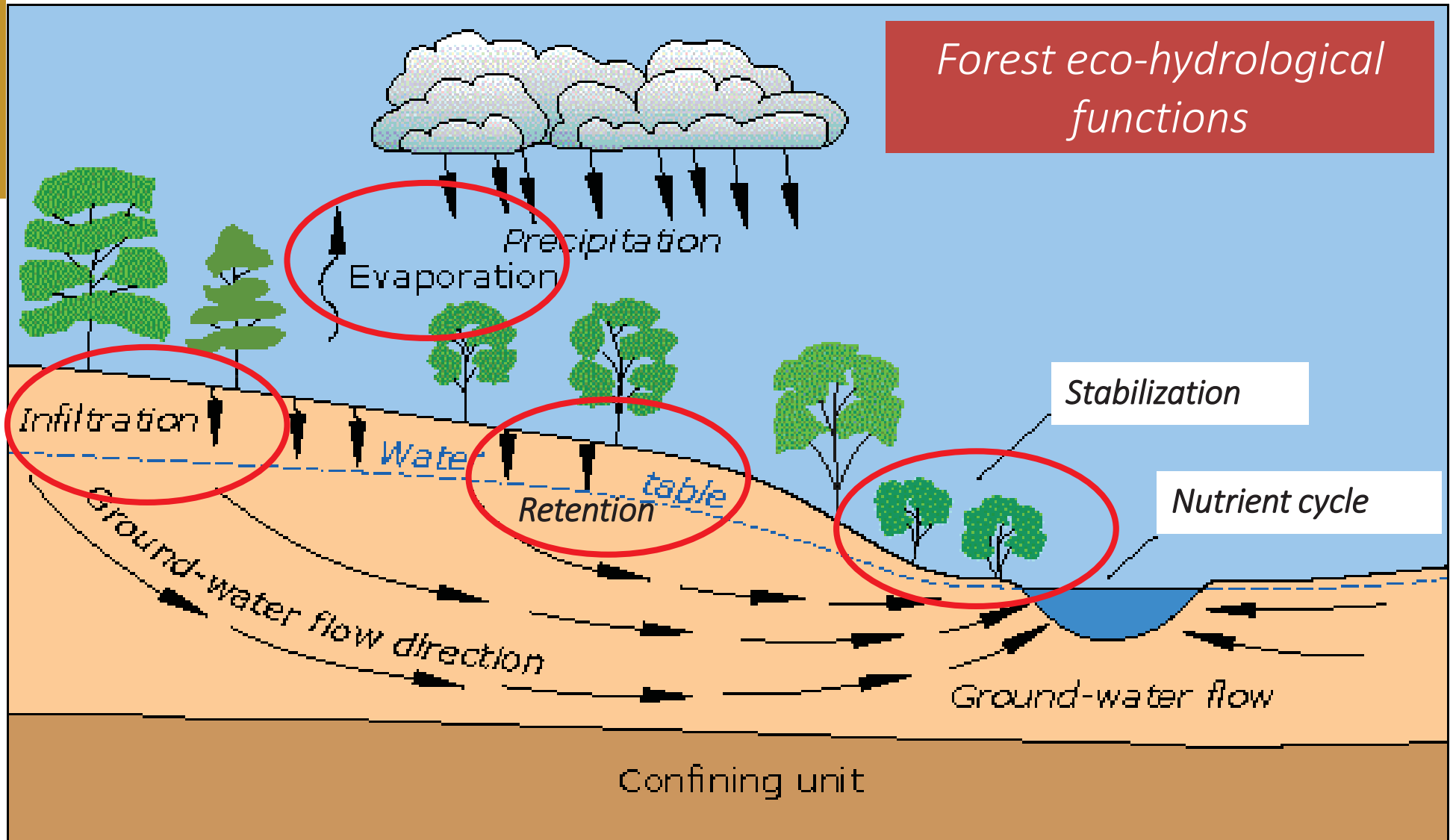
## ■ National

- A selection of examples is described in the study paper

# Forest and Water interrelations

a mutual interdependency

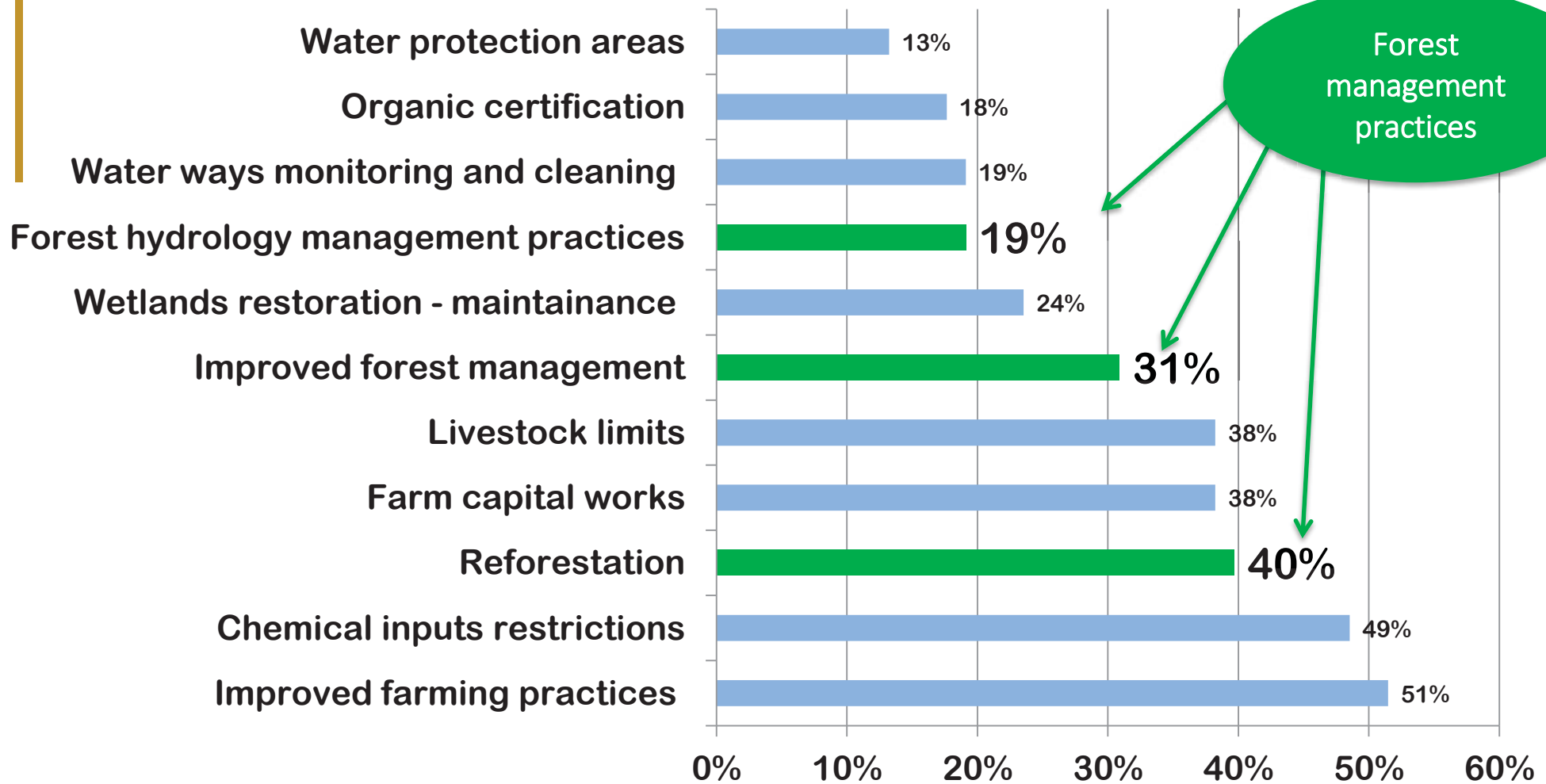
FORESTS



# Payments for?

Frequency of types of management practices among 68 Water Payments schemes in EU

FORESTS



# Database of case studies

177 active water-related PFES schemes in 33 countries

FORESTS



Inventory of the 56 UNECE member States was carried out based on previous work by ETIFOR Srl (for European region) and Ecosystem Marketplace (for North America).

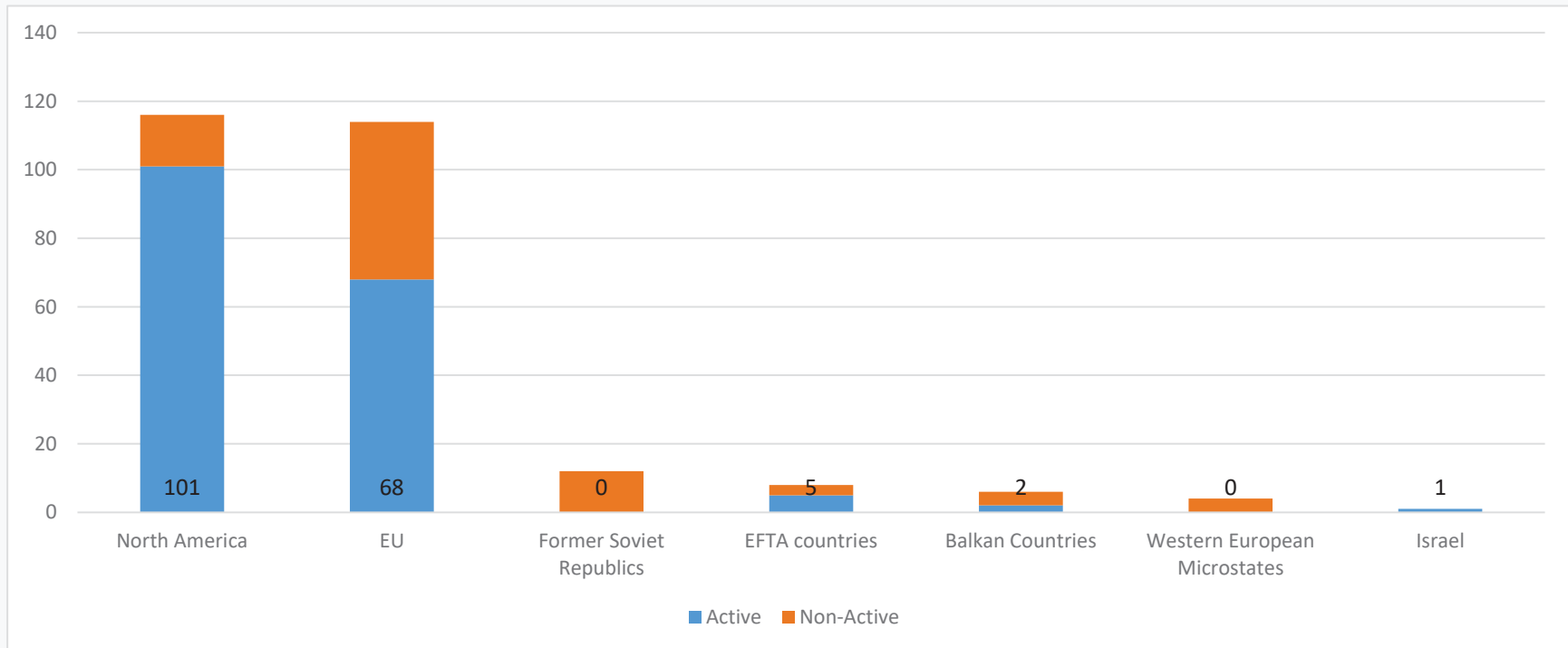
## Results

- **33** countries with a total of **238** schemes; these were further broken into two main categories; “Active” schemes and “Non-active” (including pilot, design phase, and unknown) > resulted in a total number of **177 active schemes**
- 23 member States have no reference to any forest and water ecosystem services schemes (Andorra, Belarus, Bosnia, Cyprus, Czech Republic, Estonia, Greece, Iceland, Ireland, Kazakhstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Norway, Russia, San Marino, Slovakia, Turkmenistan and Vatican City)

# Database of case studies

177 active water-related PFES schemes in 33 countries

FORESTS





# Why are there no active water-related PFES schemes in former Soviet countries?

## FORESTS



- **Command and control policy**
  - Authorities have limited interest for PES approaches and economic instruments in general
- Unwillingness (especially on central levels of the governments) to institute separate financial flows that may lend themselves to **corruption**
  - limited willingness of various stakeholders and sectors to pay for ecosystem services
- **Low political priority** of environmental protection and weak institutions in limits the enforceability of legislation
- **Public ownership** of forests
- **Lack of integrated policy** making in former Soviet Union
  - Weakly involved finance and tax authorities
  - Separation between policy making for forestry and water management
  - Lack of formal frameworks
  - Water management policies are generally weak
- **Limited understanding** of the principles and practice of payment for ecosystem services

# Database of case studies

177 active water-related PFES schemes in 33 countries



## FORESTS

N°	Code	Scheme name	Governance Model	Funding type*	Programme administrator	Region	Country	Location	Reference
1	AU1	Austrian Agri-environmental program ÖPUL	Agro-environmental scheme	U/PBA and AESP	Austrian Rural Development Programme	EU	Austria	State-wide	<a href="#">UNECE Report, 2005</a>
2	AU2	Vienna Source Water Protection	Avoid impacts, bilateral agreements	U/PBA and AESP	City of Vienna	EU	Austria	Vienna	<a href="#">Vienna Water Protection</a>
3	AU3	WWF Danube-Carpathian Programme	Multiple partnerships benefits	I/N/EU F	WWF Danube-Carpathian Programme	EU	Austria	Danube areas	<a href="#">WWF Danube Basin</a>
4	BE1	Fagne Catchment/Spa Watersource Protected Area	Avoid impacts, bilateral agreements	PBA	SPADEL water company	EU	Belgium	Walloon Region	<a href="#">Watersource ES, Belgium</a>
5	BG1	WWF Danube-Carpathian Programme	Multiple partnerships benefits	I/N/EU F	WWF Danube-Carpathian Programme	EU	Bulgaria	Carpathian-danube watershed	<a href="#">WWF Danube Basin</a>
6	HR1	Strengthening the Institutional and Financial Sustainability of the National Protected Area System – PARCS project	Compensation for legal restrictions	I/N/EU F	Government-initiative (Public and private partnership)	EU	Croatia	State-wide	<a href="#">PARCS mid-term report</a> <a href="#">PARCS initiative</a>

# Challenges related to water-related PFES

a selection

## FORESTS



- Defining and measuring ecosystem services
- Legal and regulative framework
- Effective/efficient/equity payment mechanisms
- Monitoring
- Commoditization
- Communication

# Conclusions

## FORESTS



- Water related co-benefits are site and human specific > **need for local research, monitoring and evaluation**
- Payment schemes may help **local partnership for forest-water win-win solutions**
- **Understanding the wide range of values** related to the water from forests is essential to promote responsible decision-making
- There is a growing interest to understand how **new economic opportunities** can emerge from ecosystem services
- PES schemes and new local ventures emerge and contribute to long term economic development and livelihoods in a particular area. **This development is not only a problem of science but also of government and administration.**
- More bottom-up initiatives and reflective governmental actions are needed in the face of entrepreneurial initiatives
- **Strong need to spread best practices**

# Contributors

FORESTS



- European Environment Agency (EEA)
- Western University
- Etifor
- Ecosystem Marketplace
- FAO Mountain and Watershed Team



Thank you!



FORESTS



Theresa Loeffler,  
theresa.loeffler@unece.org

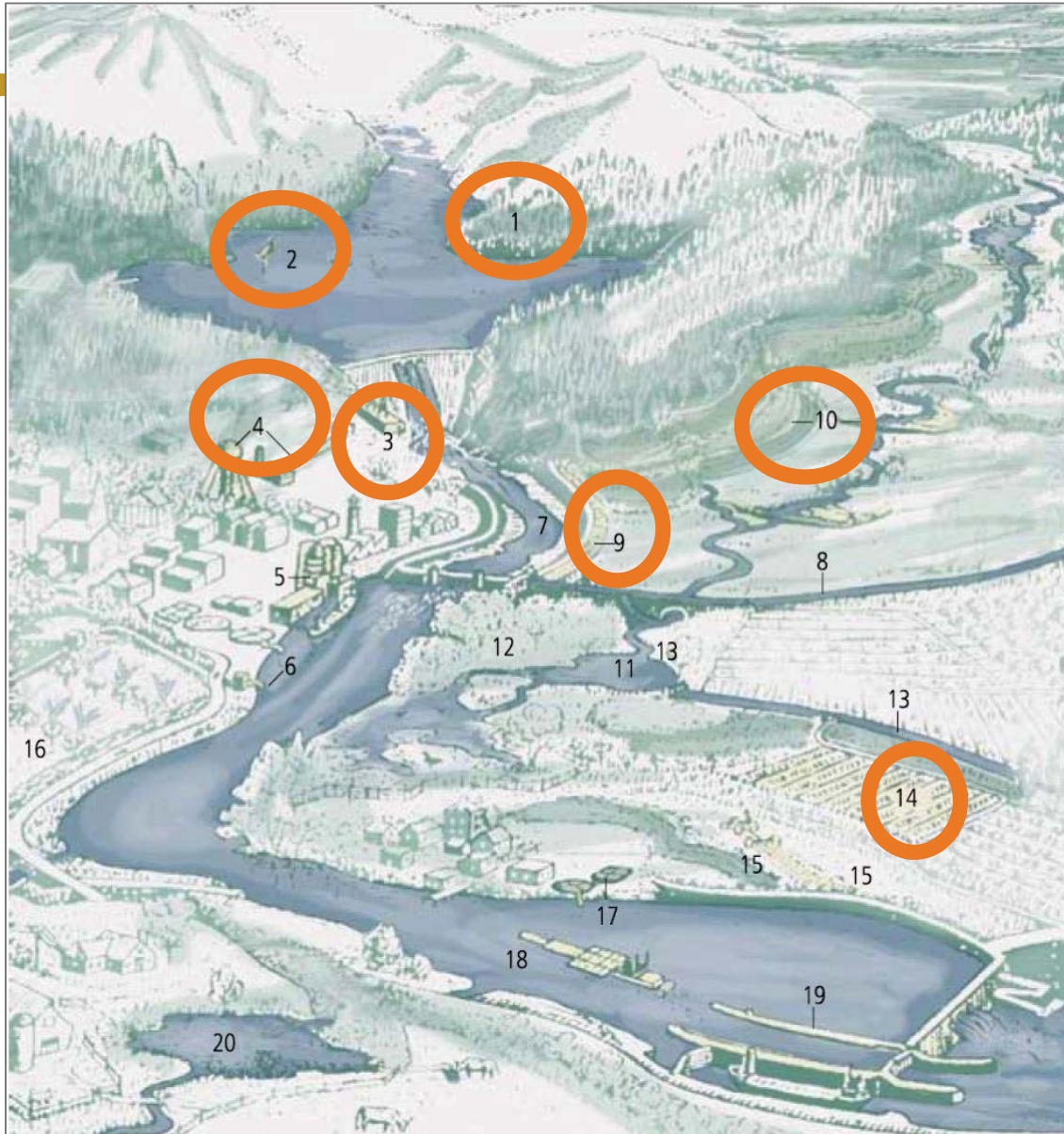
UNECE/FAO Forestry and Timber Section, [www.unece.org/forests](http://www.unece.org/forests)

18 October 2017



# Water-related Forest Services

some examples



- 1. Forest sedimentation control**
- 2. Recreation, swimming, fishing, camping and water storage**
- 3. Hydroelectric station**
- 4. Municipal water supply**
5. City and industrial waste treatment plant
6. Pump to equalizing reservoir for irrigation
7. Diversion dam and lake
8. High-level irrigation canal
- 9. Flood control**
- 10. Erosion control:** stream drams, contour terracing and wetland restoration
11. Regulating basin for irrigation
12. Wildlife refugee
13. Low level irrigation canal
- 14. Agriculture irrigation**
15. Contour ploughing
16. Sprinkler irrigation
17. Community Water Treatment Plan
18. Navigation: barge, trains, locks
19. Re-regulating reservoir with locks
20. Farm pond with pisciculture

Source: Smith *et al.*, 2006.