



Natural Water Retention Measures

Web-based knowledge
Community of practice
NWRM practical guide



Pilot Project - Atmospheric Precipitation - Protection and efficient use of Fresh Water: Integration of Natural Water Retention Measures in River basin management

Service contract n°ENV.D.1/SER/2013/0010

SESSION 4: “COOKING NWRM”

WG1: Forestry / Nature
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Introduction to WG 1

Some Key Points to remember:

- *The EU Working Definition: “Natural Water Retention Measures aim at restoring and maintaining water related ecosystems by natural means. They are Green Infrastructures intended to maintain and restore landscape, soils and aquifers in order to improve their natural properties, the environmental services they provide, and to favour climate change adaptation and reduced vulnerability to floods and droughts”*
- *Not every measure that increases the water stored in water bodies is a NWRM*
- *NWRMs are restoration interventions over water related ecosystems*
- *NWRMs use natural processes*
- *Natural water retention is not the end but the means that make NWRMs relevant for water resource efficiency and sustainability*
- *NWRMs are not simply means to restore to its original natural condition the assets modified by human action, which is often not an affordable (if at all possible) task, but to adapt current existing developments in order to enhance or recover the water regulation functions provided by them and that were reduced or lost when these developments took place*



List of NWRM measures in the Forestry Sector

A total of fifteen (15) measures are included in our study:

- Afforestation of riparian areas
- Afforestation of montane areas
- Afforestation of reservoir catchments
- Targeted planting in Mediterranean areas for “catching” precipitation
- Forests as large-scale water pumps
- Land use conversion for water quality improvement
- Continuous Cover forestry
- “Water sensitive” driving
- Maintenance of riparian buffers
- Appropriate design of roads and stream crossings
- Sediment capture ponds
- Coarse woody debris
- Re-meandering of forestry-affected rivers
- Urban forests
- Riparian trees in agricultural landscape



List of NWRM measures in the Nature Sector

A total of thirteen (13) measures are included in our study:

- Basins and ponds
- Wetland restoration and creation
- Floodplain reconnection and restoration
- Re-meandering
- Revitalisation of flowing waters
- Restoration of the flows of temporary tributaries
- Reconnection of hydraulic annexes
- Restoration of the riverbed (alluvial mattress)
- Leveling of dams/ longitudinal barriers
- Natural bank stabilisation
- Elimination of riverbank protection
- Restoration of lakes
- Artificial groundwater recharge (AGR)



Presentations that follow:

Concern the following NWRM applications:

- Reforestation of the abandoned Asbestos Mine in the Amiantos Area, Cyprus
- Post-fire water retention management in Olympia, Greece
- Integrated characterization, requalification and monitoring of Mediterranean freshwater systems: the case of the Odelouca River, Portugal



Discussion Questions

1. Is the concept of NWRM clear to you? What's not?
2. Have we captured all Nature/Forestry NWRMs? Are there any measures that should not be considered NWRM?
3. What are the key barriers and challenges to implementing NWRMs in the Forestry/ Nature Section? Public /Local Authority acceptance? Funding/ financing? How can these challenges be overcome?
4. Are there any cost / benefit advantages of NWRM over 'traditional' water management measures? Any evidence on these?
5. NWRMs contribute to water management as well as to other environmental policy objectives (FD, GI, Droughts Reducing Soil Sealing, etc). What is the thresholds/criteria we should use for including them or not as NWRMs?
6. Any examples of successful Nature / Forestry NWRM implementation? Why have these examples been a success and how did they overcome any challenges to being implemented? What makes them 'best practice'? How have the benefits been realized?
7. And a final question ... if you could fix *one* thing overnight to help implement nature / forestry NWRMs, what would you fix?

Thank you for attention

