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ENVIRONMENT
Directorate C - Quality of Life, Water & Air
ENV.C.1 - Water



Procurement procedure 070201/2015/716925/ENV.C.1 “Support contract for the adjustment and transfer of the Natural Water Retention Measures (NWRM) platform to the JRC”

NWRM website - USER'S GUIDE



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This document is giving some further elements on how to access the different parts of the NWRM knowledge platform available at www.nwrm.eu. While the website is relatively easy to navigate as shown by the number of visitors, it has been deemed relevant to highlight the key parts of the platform to help a new visitor to make the most of his/her navigation on the platform.

There are multiple links between the different components which allow go from a case study to the set of NWRM implemented or from a specific NWRM to the set of case studies which implement it.

The platform is very rich in information and links: do not hesitate to come back again and again and to suggest improvements or new relevant case studies.

I. Homepage - Overall organisation:

The screenshot illustrates the NWRM homepage with several key sections and their interconnections:

- Top Navigation Bar:** Home, Contact, Search, Legal notice, Log in.
- Main Menu:** Home, Implementing NWRM, Catalogue of NWRM, Case studies, Glossary, About NWRM project.
- Search Function:** A search bar labeled "Type here your request..." with a magnifying glass icon.
- Welcome Message:** WELCOME TO THE EUROPEAN NWRM PLATFORM. Text: "This platform gathers information on NWRM at EU level. From this page you can browse NWRM related concepts, access the practical guide that will help you find your way to implement NWRM, or directly access the different products: synthesis documents, catalogue of measures, case studies. You can also join our LinkedIn and access the NWRM community of practice defined in our discussion forum."
- JOIN OUR FORUM:** A button to join the discussion forum.
- MEASURES BY SECTOR:** A section titled "HYDRO-MORPHO" showing a map of a water body with various green and blue areas. Text: "MEASURES BY SECTOR". Buttons: "FIND OUT MORE", "CATALOGUE OF NWRM". A callout box says: "Accessing directly the NWRM measures by sector via a picture".
- Core Definition:** A box containing the definition of NWRM: "Natural Water Retention Measures are multi-functional measures that aim to protect water resources and address water-related challenges by using natural processes. They are measures that are based on the physical and characteristics of water bodies using natural means and processes [...]".
- IN PRACTICE:** A map of Europe showing implementation points across various countries. Text: "Measures have been implemented in the field. To see examples of implementation see the catalogue of case studies or click directly on the map below." Buttons: "CATALOGUE OF CASE STUDIES", "MAP". A callout box says: "Accessing the case studies via a map".
- DECISION SUPPORT FOR NWRM IMPLEMENTATION:** A section with tabs: BIOPHYSICAL IMPACTS, SOCIO-ECONOMIC ASPECTS, GOVERNANCE, IMPLEMENTATION & FINANCING. A button: "NWRM PRACTICAL GUIDE". A callout box says: "Accessing the guide and key questions documents".
- Catalogue Section:** A list of categories: Green roofs, Rainwater harvesting, Permeable surfaces, Islands, Wetlands and riparian areas, River dredging, Sustainable infiltration trenches, Stormwater management, Catchment Based Management, Reservoir Ponds, Infiltration basins. A callout box says: "Accessing the case studies via catalogue".
- Basin Location:** A 3D map of a residential area with red circles indicating specific locations. Text: "by localisation in basin".
- Name Search:** A search bar labeled "by name" with a dropdown menu showing the same categories as the catalogue section.
- Partners:** Logos for various partners including AQUA, BFR, Enveco, I.A.CO, IDEA, SLU, and others. Text: "Partners", "Owner", "Disclaimer".



II. Menu: Implementing NWRM

(NOTA: when developing the practical guide, it was deemed relevant to develop very brief factsheets with the key information that are detailed in the individual factsheets on the website)

This section provides mostly downloadable documents:

- the practical guide and the summary factsheets for the 53 NWRM, also accessible with a reader directly online
- communication material to promote NWRM in countries
- Synthesis documents detailing in 10 to 40 pages some key questions raised by implementation of NWRM

II.1. Sub-menu: The Practical guide



The screenshot shows the 'the practical guide' section of the NWRM website. It features two main boxes: one for 'The guide in 15 languages' and another for 'The summary NWRM factsheets in 6 languages'. Below these, there is a section titled 'Some explanations on the guide' with a list of bullet points. At the bottom, there is a footer with logos and project partners.

The guide in 15 languages

The summary NWRM factsheets in 6 languages

Some explanations on the guide

- The EU NWRM policy document that sets the overall objectives
- Existing guidance on planning processes that consider management planning, urban planning, the developer guidance on the practical design and implementation of measures cited in the revised practical guide.

Project partners

Service providers to the European Commission
EU Project Atmosphere Protection and Efficient Use of Water: Integration of Natural Water Retention Measures in Water Resource Management
www.nwrmpilot.eu
& Géoparc Natura 2000



II.2. Sub-menu: Communication material

II.3. Sub-menu: Synthesis documents

Synthesis document n°1	what are NWRM, where do they come from, what makes them a distinct set of measures and how they relate to structural measures?
Synthesis document n°2	what are NWRM main biophysical impacts, how basic characteristics can influence them and how can they contribute to achieve EU policy objective?
Synthesis document n°3	what are the methods and tools used to assess NWRM effectiveness?

Synthesis document n°4	what are NWRM socio-economic benefits and how are they identified, classified and influenced by local circumstances?
Synthesis document n°5	what are the capital, operation and maintenance costs of NWRM, their opportunity costs and their forgone benefits?
Synthesis document n°6	what is the cost-effectiveness of NWRM compared to traditional / structural measures, and with regards to their multiple objectives?
Synthesis document n°7	what are the methods used to assess the economic aspects of NWRM and to assess NWRM benefits if they can be valued or measured?

Synthesis document n°8	what are the "windows for opportunity" for NWRM?
Synthesis document n°9	what are the barrier and success factors for the implementation of NWRM?
Synthesis document n°10	what is the policy coordination linked to NWRM and how can they be integrated to different EU directives?
Synthesis document n°11	what are the financing sources for NWRM?



III. Menu: Catalogue of NWRM

This section gives access to the full set of NWRM factsheets with different tools to access the factsheets: per sector, per benefit, and benefit matrixes to help select the most relevant NWRM.

III.1. Sub-menu: NWRM per sector

Natural Water Retention Measures

Home | Implementing NWRM | Catalogue of NWRM | Case studies | Glossary | About NWRM project

Home > Catalogue of NWRM - Access per sector

Catalogue of NWRM - Access per sector

NWRM cover a wide range of actions and land use types. Many different measures can act as NWRM, by encouraging the retention of water within a catchment and, through this, enhancing the natural functioning of the catchment. The catalogue of measures hereunder is sorted by sector. It has been decided that the NWRM project represents a comprehensive but non prescriptive wide range of measures, and you may have other measures, or similar measures, a different name, that could also be classified as NWRM. When implementing one or more of these measures, it is always necessary to check the NWRM according the definition.

ALL NWRM ILLUSTRATED ← You can also access across the illustrated catalogue (in pdf) that includes soil the definition and some motivations for each NWRM.

AGRICULTURE		FOREST	
Meadows and pastures	Forest riparian buffers		
Buffer strips and hedges	Maintenance of forest cover in headwater areas		
Crop rotation	Afforestation of reservoir catchments		
Strips cropping along contours	Directed planting for 'catching' precipitation		
Intercropping	Land-use conversion		
No-till agriculture	Continuous cover forestry		
Zero-till agriculture	Soil conservation drilling		
Soil cover	Appropriate design of roads and stream crossings		
Early sowing	Riparian capture ponds		
Traditional terracing	Grazing woods, debris		
Controlled traffic farming	Urban forest parks		
Reduced stocking density	Trees in urban areas		
Mulching	Peak flow control structures		
	Soil/land flow areas in peatland forests		

HYDRO MORPHOLOGY		URBAN	
Basins and ponds	Green Roofs		
Wetland restoration and management	Rainwater harvesting		
Riparian restoration and management	Permeable surfaces		
Re-meandering	Swales		
Stream bed re-naturalisation	Channels and rills		
Restoration and reconnection of seasonal streams	Buffer Strips		
Reconnection of tributary leach and similar features	Soil疏鬆		
Riverbed material re-naturalisation	Infiltration trenches		
Removal of dams and other longitudinal barriers	Rain gardens		
Natural bank stabilisation	Cisterns		
Elimination of riverbank protection	Retention Basins		
Litter reduction	Retention Ponds		
Restoration of natural infiltration to groundwater	Infiltration basins		
Renaturalisation ofolder areas			

Agriculture **Urban** **Forest** **Hydro**

The full list of NWRM illustrated

Access to detailed individual NWRM factsheet

Access to NWRM factsheets by integrated sector scheme

PARTNERS

Services partially funded by the European Commission
Project acronym: NWRM - Protection and efficiency of Fresh Waters: Integration of Nature Based Measures in River Basin Management
Contract number: ENV/2010/00007
Duration: 01/09/2011 - 31/08/2014
Budget: € 1.200.000,00
Funding: € 1.000.000,00
Financed by: LIFE Environment
Project website: www.nwrmpartnership.eu

Each of the 53 NWRM are described in a separate factsheet providing exact definition, a detailed downloadable factsheet giving key elements gathered on the biophysical impact, socio-economic



aspects and governance, implementation and financing elements, but also key benefits the measure can provide, and link to case studies implementing the measure.

A downloadable document describing some key features of the NWRM

The definition of the NWRM

Possible benefits with level:

Benefit	Level
BPs - Slow runoff	High
BPs+ - Reduce erosion and/or sediment delivery	High
ES+ - Flood risk reduction	High
ES+ - Erosion/sediment control	High
PO+ - Take adequate and co-ordinated measures to reduce flood risks	High
PO+ - Better protection for ecosystems and more use of green infrastructure	High
BPs+ - Increase infiltration and/or groundwater recharge	Low
BPs+ - Improve soils	
PO+ - Improving quantitative status	
PO+ - Prevent groundwater status deterioration	
BPs+ - Increase evapotranspiration	
BPs+ - Increase soil water retention	
BPs+ - Absorb and/or retain CO ₂	
ES+ - Climate change adaptation and mitigation	
ES+ - Groundwater/soil/recharge	
ES+ - Filtration of pollutants	
PO+ - Improving status of hydrogeomorphology: quality elements	
PO+ - Prevent surface water status deterioration	
PO+ - More sustainable agriculture and forestry	
PO+ - Prevention of biodiversity loss	

Link to the main benefits of the NWRM

Link to the case studies applying this NWRM

PARTNERS



III.2. Sub-menu: NWRM per benefits

Natural Water Retention Measures

[Home](#) [Implementing NWRM](#) [Catalogue of NWRM](#) [Case studies](#) [Glossary](#) [About NWRM project](#)

[Search](#) [Contact](#) [Logout](#) [User Guide](#) | [Add](#)

NWRM per type of benefit provided

To help you choose the most appropriate NWRM

As NWRM could have multiple functions and co-benefits, you will find here guidance links between measures and impacts, benefits and policy objectives.

Measures → **Environmental Benefits** → **Economic Benefits** → **EU Policy Objectives**

The measure has multiple impacts. The measure also has multiple environmental benefits. The benefits that derive from the measure also contribute to meeting EU Policy Objectives.

Biophysical Impacts: Any → **Excellent Service Benefit (ESB)**: Any → **Policy Objectives**: Any → **Rank** → **Apply**

Select any filter and click on Apply to see results

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Services funded by the European Commission
AustroPap-Austrian Paperboard - Production and application of paper-based Water Retention Measures in River basin management
www.austropap.at/nwrm/nwrm-project

This video is managed by CMV International Ltd. [http://www.cmvltd.com](#)
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Selecting the NWRM benefits looked for



III.3. Sub-menu: Benefit tables

Benefit tables

Biophysical Impact			Ecosystem services			EU Policy Objective		
AGRICULTURE	FOREST	URBAN	AGRICULTURE	FOREST	URBAN	AGRICULTURE	FOREST	URBAN
HYDRO MORPHOLOGY	HYDRO MORPHOLOGY	HYDRO MORPHOLOGY	HYDRO MORPHOLOGY	HYDRO MORPHOLOGY	HYDRO MORPHOLOGY	HYDRO MORPHOLOGY	HYDRO MORPHOLOGY	HYDRO MORPHOLOGY

Legend:
■ Low impact
■ Moderate impact
■ High impact

PARTNERS

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Accessing the matrixes linking NWRM and their benefits



IV. Menu: Case studies

This section gives access to the individual case studies collected that apply one or more of the 53 NWRM identified by the project. It gives also access to the main documents and references that were used to populate each case study. These can be used as further reference or to find more detailed information.

Accessing & filtering the case studies



1. by map

Within the present pilot project, a large number of NWRM case studies has been identified, and information collected using a common template. Among them, at least one - particular interesting - case study has been selected for each country, and additional descriptive information has been collected. The latter are designated as "in-depth" case studies, and more detailed information on them is available for download. The others are designated as "light" case studies.

2. by filter

a) Select a specific NWRM
...and / or...
Select the sector of application of the case study
...and / or...
Enter free text

b) Launch the filter

3. by title & summary

Alzette river restoration in Dumontshaff, Luxembourg

In the 50's and 60's, the alluvial plain of the Alzette river was deeply modified in order to develop intensive agriculture. As a result, the water retention was reduced and prudential value declined. The project aimed at restoring the hydrological state of the Alzette in Dumontshaff (Luxembourg). The two main tasks are flooding of aside land, wetland habitats restoration and to block, etc.). The first step was to determine the floodplain a driven. An agronomic feasibility study was made to arrangement or displacement of the river bed into natural thalweg. Finally, the restoration of the complete flood plain was possible.

NWRM(s) implemented in the case study: Re-meandering Meadows and pastures
Sector: Hydro Morphology Agriculture

Alzette river restoration in the "Am Brill" nature reserve, Luxembourg

The Alzette river (Luxembourg) restoration project aimed at erasing the effect of the river channelling, which caused the river uniformisation and an ecological impoverishment. The project consisted in a remeandering, increase of the base level of the river, widening of the riverbed, reconnection of the river to existing ponds and creation of a new pond.

NWRM(s) implemented in the case study: Re-meandering
Sector: Hydro Morphology

Aquifer recharge in Malta

Aquifer recharge with highly polluted treated effluents. With a high population density and almost inexistent surface waters, Malta is in a situation of over abstraction of its groundwater resources and where its total water demand exceeds the sustainable yield of the naturally renewable freshwater resources. Demand comes from the domestic and agricultural sectors alike (the domestic use can even exceed the agricultural use with the arrival of tourists during touristic seasons). From a qualitative point of view, freshwater resources are also under threat resulting from nitrates and salt water intrusions.

NWRM(s) implemented in the case study: Restoration of natural infiltration to groundwater
Sector: Hydro Morphology



IV.1. The case study factsheet

Sitemap | Contact | Search | Lead notice | Logon | Logout

Natural Water Retention Measures

Home | Implementing NWRM | Catalogue of NWRM | Case studies | Glossary | About NWRM project

Home >> Case Study >> Climate-Proofing Social Housing Landscapes

Climate-Proofing Social Housing Landscapes

View | Edit | Revisions | Track | Workflow | Detail

Current state: done

General

National id: United Kingdom_06
 Site name: Queen Caroline Estate; Cyril Thatcher, Eric MacDonald and Richard Knight Houses; and C Summary:
 Groundwork London, in partnership with Hammersmith and Fulham Council, received LIFE+ funding project in 2013. The project, which came to an end in September 2016, has demonstrated an integrated undertaking a package of affordable, light-engineering climate change adaptation measures based a infrastructure (see illustrations in herewith file). Alongside this, the project has also featured in-depth climate change adaptation opportunities, as well as training local apprentices and local authority staff measures. These measures have been implemented in three different social housing contexts in West London, within areas characterised by high levels of multiple deprivation including higher exposure to climate-related risks. Ultimately, the project aimed to demonstrate an integrated approach to addressing climate-related and wider socio-economic challenges in vulnerable urban environments.

The in-depth description of the case study: [\[illustrations-london-climate.pdf\]](#)

The project sought to deliver a holistic package of climate change adaptation solutions in three social housing estates within the London Borough of Hammersmith and Fulham. The Borough is one of the 32 London Boroughs, situated to the western side of Central London. The River Thames forms the borough boundary to the South and South-West. It is the third smallest of the London Boroughs in terms of land area (5,640 hectares) and currently has a population of c.182,500. Population growth is expected to slow over the next decade, however, it is already one of the most densely populated local authorities in England, with around 114 persons per hectare (pph) compared to the London average of 53pph (LBHF, 2010). The three estates, owned by the Local Authority, were chosen as demonstration sites because they reflect different social housing contexts (such as property types and estate sizes) that can be found across EU member states, demonstrate vulnerability to increasingly extreme weather conditions, and have high indices of multiple deprivation. In this way, the project was able to demonstrate how green infrastructure adaptation measures can be implemented in a wide range of urban housing settings.

NUTS Code: Inner London
 RBD code: UK06
 Transboundary: 0
 Data provider: Groundwork London
 Source(s): Climate Proofing Housing Landscapes
 NWRM(s) implemented in the case study:
 Green Roofs
 Permeable surfaces
 Swales
 Rain Gardens
 Infiltration basins
 Longitude: -0.1359202,47
 Latitude: 51.4911875

Site information
 Monitoring maintenance
 Performance
 Biophysical impacts
 Lessons, risks, implications...
 Socio-economic

Printable pdf document with illustrations, photos and more

Brief description of the case studies

Other sections with relevant information: **click to open**



IV.2. Sub-menu: Sources

Natural Water Retention Measures

Home | Implementing NWRM | Catalogue of NWRM | Case studies | Glossary | About NWRM project

Home > Sources

Sources

Displaying 1 - 15 of 128

Nid	Title	Abstract	Case study
1259	2002-2014, una década de recursos pasciales, acuíferos de la Cebolla de San Juan (Cármen, La Rioja)	The book gathers the experience of 10 years of the implementation of managed aquifer recharge in a local aquifer (Cebolla de San Juan) in Spain.	Managed Aquifer Recharge in Los Arroyos (Segovia, Spain)
2454	A bivalvohabitatás területek elemzése a vízzelátásban és a természet-szigetelésben	Analyse of bivalve habitat areas in water supply and restoration in Northeastern-southern Hungary	
2538	About the project	The hydrological conditions will be improved, overgrowth and invasive alien fish species will be removed in Domi-kai and Mura-szövör lakes, destruction of endangered habitats and the disturbance of endangered species will be prevented by building footpaths in Zalánki and in Mónorha bog, guidelines for management of pilot areas will be prepared and integrated into sector plan, which will ensure a sustainable pilot areas. Field actions will be supported action both on national and local level.	Vietnam - Conservation and management of freshwater Biodiversity
2481	ABP MER news	ABP MER website - news section	
2483	Action Plan for Renaturalization of watercourses in the area of Čerknica Lake (Akvilej) plan začetnickega izdelovanja obnovitvenega akvila Čerknica - available in Slovenian language	The document consists of historical overview at Čerknica Lake, changed water regime and its consequences, and detailed action plan for renaturalization of watercourses of Čerknica Lake.	Renaturalization Lake Čerknica, Slovenia
2518	A FÖLDÉK KÖZÖSSÉGEI ÉS A VÍZFORRÁSOK ÉS A VÍZELŐHOLMI KÖZÖSSÉGEI	Restoration of floodplain watercourse network to provide surface water supply to the forest from backwater of flood waters on the river Körös. During the execution of the job there came into being a 9.8 km long water-flow and a free water surface of 157 hectares. The work touched a forest area of	Floodplain Reconstruction in the forests of the Körös Valley, Hungary
...			
2520	A simple method for assessing the ecological quality of riparian habitats in rivers and streams. QRIQ index	Habitat quality. This Index is easy to calculate and can be used together with any other index of water quality to assess the ecological status of streams and rivers. It may also be a useful tool for defining 'high ecological status' under the EC Water Framework Directive.	Stabilisation and riparian buffer galleries along the Ribeira River, Portugal
2526	Assessing the environmental impact of artificial recharge by highly polluted treated effluent on an unconfined aquifer system	Assess the impact of artificial recharge on the qualitative and quantitative status of groundwater by assessing the changes in water level and water quality in wells located in the immediate area of the artificial recharge zone.	Artificial recharge in India
2530	Assessing the impacts of mining reclamation on agricultural productivity: An interim progress report	Report on the initial results of analysis of arable quality and parasites of re-wetting comparing sites with blocked and unblocked drainage ditches	Arable Arable peatland regeneration, UK
2547	Evaluation of in-stream structures for habitat improvement for two critically endangered fish species	River ecosystems have witnessed a long list pressure, particularly the diversion of fresh populations. The evaluation of this situation habitat improvement projects, with a variety of success	Odeleite River, Portugal
2550	A String of Pearls Towards Restoration of Inland Lakes in the PoV Basin	Keynote paper for Aquatic River Restoration conference presenting the concept of the Aquiring of pearl, aquatic restoration concept and more details the pilot project, Ceneciu (Constanta) project	Inland restoration in Ceneciu, Romania

Accessing the sources used in populating the case studies

Accessing the other pages

1 2 3 4 5 6 7 8 9 – 10 11 12 13

Exporting in xls

PARTNERS

Service co-financed by the European Commission
Project: Alpine-Horn Project: Protection and efficient use of fresh water, integration of Natural Water Retention Measures in Riverbank management
Contract No: ENV/2010/000010
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V. Menu: Glossary

This section allows identify the core language and definitions used when addressing NWRM, and identify the relationships and dependencies (ontology) between all the words used. It gathers more than 100 words with their definition and source.

Search a specific word

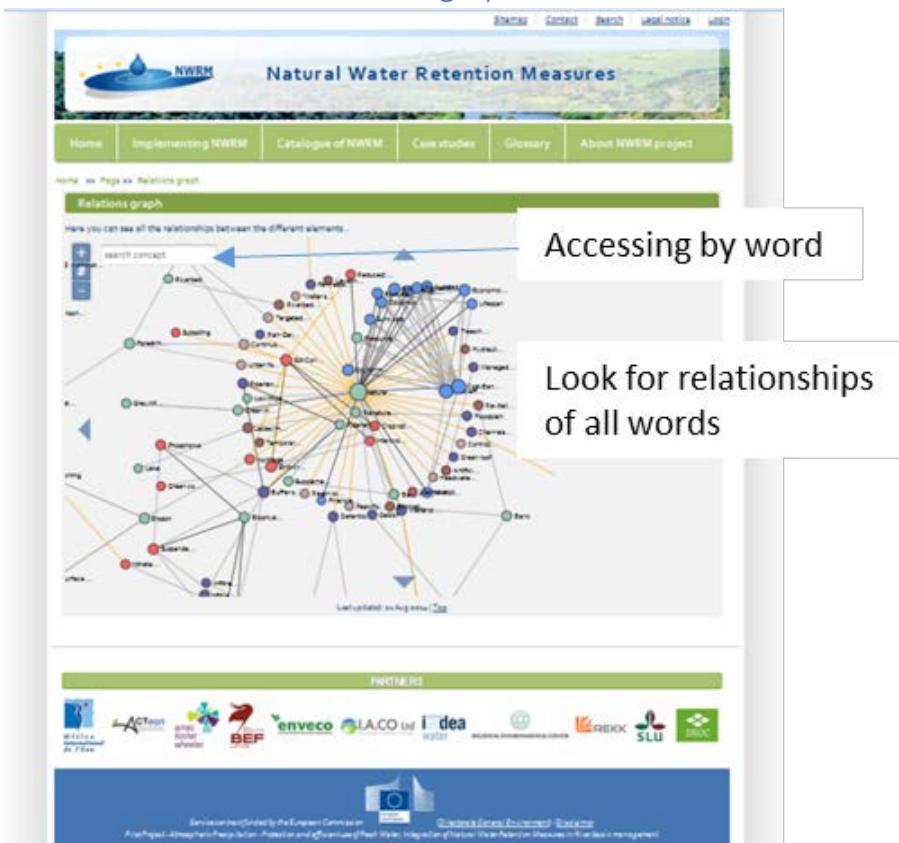
Accessing by first letter

Accessing the other pages

Exporting in doc



V.1. Sub-menu: Relation graph



Accessing by word

Look for relationships of all words

Partners

European Commission

Project Acronym: Water Protection and Efficiency of Natural Water Retention Measures in Urban Drainage



VI. Menu: About NWRM project

This section gives more information on the project and the partners involved in its development, but also on the regional networks implemented during the course of the project with the regional Workshops and associated presentations made, and a selection of the documents that were produced during the project.

VI.1. Sub-menu: About



The Project

There is an increasing policy interest in the so-called Natural Water Retention Measures (NWRM) for improving the water status on hydromorphology and diffuse pollution. To respond to this interest, DG ENV launched a dedicated study entitled Pilot Project - Atmospheric Precipitation - Protection and efficient use of Fresh Water: Integration of Natural Water Retention Measures in River basin management (2013-2014). The two overall objectives of the pilot project were:

- To develop a structured knowledge base on NWRM that can easily be accessed by all within the Water Information System for Europe (WISE).
- To contribute to the development of an active European "community of NWRM practitioners", thanks to the launching of different regional networks and the development of a practical manual for supporting NWRM design & implementation.

BASIC INFORMATION

- Project type: Service contract
- Duration: 18 months
- Duration, IP: December 2013 – 30 November 2014
- Coordinator: Office International de l'Eau, Limoges, France
- Service contract n°: 09-02200193/B/2013/000042/00001/00001/Ca
- EU contribution €1,258,945

NWRM in brief

- Why are Natural Water Retention Measures on today's water policy agenda?
- What is NWRM initiative, what was it for?
- How was the community of experts involved?
- Who participated?
- How the initiative has fed the policy-making?
- What benefits may you expect from using and promoting NWRM?
- If you have an interest in the DG ENV initiative on NWRM...

Why are Natural Water Retention Measures on today's policy agenda?

With the [Water Infrastructure EU policy](#), there is an increasing interest in measures that aim to enhance the functioning of natural processes and ecosystems so that water can better infiltrate and be stored. These so-called Natural Water Retention Measures (NWRM) can represent cost-effective options for achieving the objective of the [Water Framework Directive \(WFD\)](#) and/or the [Flood Directive](#). They can be part of Sustainable Urban Development plans to reduce investments in expensive water infrastructure. They can also help to enhance the resilience of socio-systems vis-à-vis climate change. Furthermore, [NWRM](#) can provide additional benefits in terms of ecosystem services delivery. In Europe, the implementation of NWRM is in its infancy. NWRM-related information is widely scattered and difficult to access. Readily available information on practical cases, that can be a "source of inspiration" for practitioners from elsewhere, catchments or local areas, is rare.

NWRM Initiative: what was it for?

DG Environment, European Commission, has launched an EU NWRM initiative that aimed to:

- Develop sound and comprehensive European tool-based knowledge on NWRM. This knowledge base (via current platform) structure available information on technical, environmental, socio-economic, governance and implementation aspects of NWRM, mobilising existing practical experiences, studies and stakeholders' knowledge. It is publicly available and provides a structured catalogue of [NWRM](#), a set of [case studies](#) illustrating the implementation of

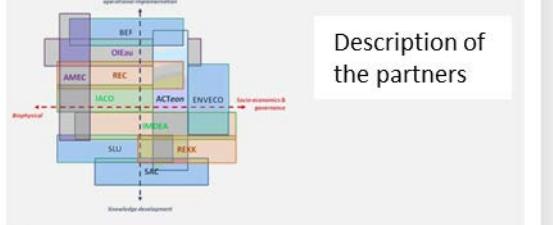
Description of the project



The Partners

The consortium was led by the [Office International de l'Eau](#) (Orbau – France) with [ACTeon](#) (France), [IMDEA-WATER](#) (Spain), [IACO](#) (Cyprus/Greece), [REC](#) (Hungary/Central & Eastern Europe), [REKK](#) (Hungary), [BEP](#) (Baltic States), [SLU](#) (Sweden), [ENVECO](#) (Switzerland), [EUREC](#) (UK) and [AMEC](#) (UK) as partners. Further details on each partner can be found [here](#).

As illustrated in the following figure, the partnership covered all fields of expertise including biophysical, technical, socio-economic and governance/policy implementation. It covered different types of organisations from research and scientific organisations developing knowledge to consultancy providing support to policy design, implementation and evaluation at different decision making scales, in particular in Europe.



Policy & operational implementation

Socio-economics & governance

Knowledge development

Biophysical

Technical

Partners:

- Office International de l'Eau (Orbau)
- ACTeon
- IMDEA-WATER
- IACO
- REC
- REKK
- BEP
- SLU
- ENVECO
- EUREC
- AMEC

Office International de l'Eau (Orbau) is a non-profit-making association gathering 44 member organisations with a permanent staff of over 100 people. Its primary focus is to develop skills for better water management, both nationally and internationally. It is active in the following domains: i) Cooperation missions, studies and consultancy to strengthen skills within institutions, to put strategies in place for integrated water resources management and the good governance of water supply and sanitation services with specific expertise in the implementation of the WFD and the development of programmes of measures (including NWRM) for many countries; ii) Data and information management (to set up solutions for managing information on water and making it accessible, to standardise data exchanges in information bases); iii) Training in the water sector (catalogue-based and tailored training programmes with 100 sessions and 10000 trainees per year; assistance in creating water training centres). Orbau is also the secretariat of the International Network of Basin Organisations (INBO). And it runs the Shared Euro-Mediterranean Information System on Innovative in the Water Sector, it has been instrumental in setting up an international network of water training centres.

Description of the partners

VI.2. Sub-menu: Regional networks

Natural Water Retention Measures

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Regional Networks

A NWRM community of practice

A major objective of the NWRM initiative was to build a European NWRM "community of practice" by bringing together all parties interested in the design and implementation of NWRM, facilitating the creation of partnerships and information exchange. The ultimate aim was the development of a European (web-based) knowledge on NWRM, including technical, environmental, socio-economic, governance and implementation aspects of NWRM.

A web-based discussion forum

The web-based NWRM discussion forum was created to host this community and build networks of experts and practitioners on NWRM. The discussion forum is not closed with the end of the NWRM project. It will be facilitated for one more year. Here, you can exchange ideas and experiences on NWRM, as well as discuss about specific challenges and priorities specific to different regional contexts.

At the EU level, the forum aims at bringing together existing initiatives and research projects on NWRM. However, NWRM implementation faces different challenges in different European regions, depending on factors like for example bioclimatic and hydromorphologic conditions. For this reason, four regional networks were created as sub-groups of the current group: Baltic network, Danube network, Maas regional group have focused on these regional characteristics, challenges and priorities, and needs and may allow the identification of best practices as well as practical solutions to common issues.

Objectives

The common objectives are:

- collective learning about NWRM;
- sharing practical experiences and pooling expertise on NWRM implementation and regional issues;
- identifying key policy and implementation issues – and solutions to tackle them;
- acquire first-hand knowledge on regional issues;
- enhance knowledge levels on NWRM (for the planning cycles under the WFD);
- promote a policy agenda tackling main challenges financing, co-ordination of water policies and land-use policies, etc.)

These regional processes should reflect work-in-progress, which will be fed by the contributions of NWRM experts, practitioners and other stakeholders. For this reason, your views and experiences with NWRM are a valuable input to the process.

Joining

You can still join the NWRM discussion forum at the following [link](#).

The LinkedIn group is accessible to everyone that apply to it; however, you need to join LinkedIn prior to gaining access to it.

Creating an account can be done with a minimum of information. If you don't have a LinkedIn account – <https://www.linkedin.com/registration/>

What for?

Once your invitation is accepted, you will be able to:

- raise issues in the discussion forum;
- suggest new case studies or references;
- react to others' views and statements;
- learn from on-going (lively) electronic exchanges.

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Description of the regional networks and link to LinkedIn group

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Baltic Sea Regional network

JOIN OUR FORUM [in](#) **link to regional LinkedIn group**

WORKSHOP N°1

WORKSHOP N°2

Link to Workshops organised in the region

The "Baltic Sea Regional Network for Natural Water Retention Measures" is a new network which aims to connect different stakeholders involved in water resource management to discuss issues related to NWRM, for instance how these measures shall be integrated into the forthcoming River Basin Management Plans.

The Baltic Sea Regional Network consists of all EU countries sharing the Baltic Sea – Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Sweden – as well as Norway. Compared to other regions in Europe, this region is considered rich in terms of available water resources. The majority of countries in the region exploit less than 50% of available fresh water resources. So far the key concern of water managers has mainly been water quality, especially eutrophication. Nevertheless, sustainable management of water fluxes is equally important. The changing patterns of rain and snowfall, and the resulting water fluxes, are becoming increasingly important due to climate change and related effects on water flows.

Although NWRM as a term is relatively unknown for those who deal with river basin management planning, the concept of "green engineering" measures have already been designed and implemented to manage water resources sustainably. These measures include maintenance of floodplains and wetlands, buffer strips in forest and agriculture lands, settling ponds, green roofs, water management and all NWRM which have been implemented in this region. In the Nordic-Baltic region NWRM is a relatively new concept and there is a lack of experience in its application.

Throughout the project, there have been ongoing discussions as to what is meant by "natural", what qualifies as an NWRM and their relevance in the water-rich Nordic-Baltic region. These discussions are especially relevant given the plans to use the measures identified in this project in compensation schemes and in the separation of "grey" and "green" infrastructure. Due to the characteristics of NWRM we observe controversy and debates between water & nature managers and land use planners/experts on how to provide more space for waters and wetlands versus more intensive rural land use for forestry and agriculture.

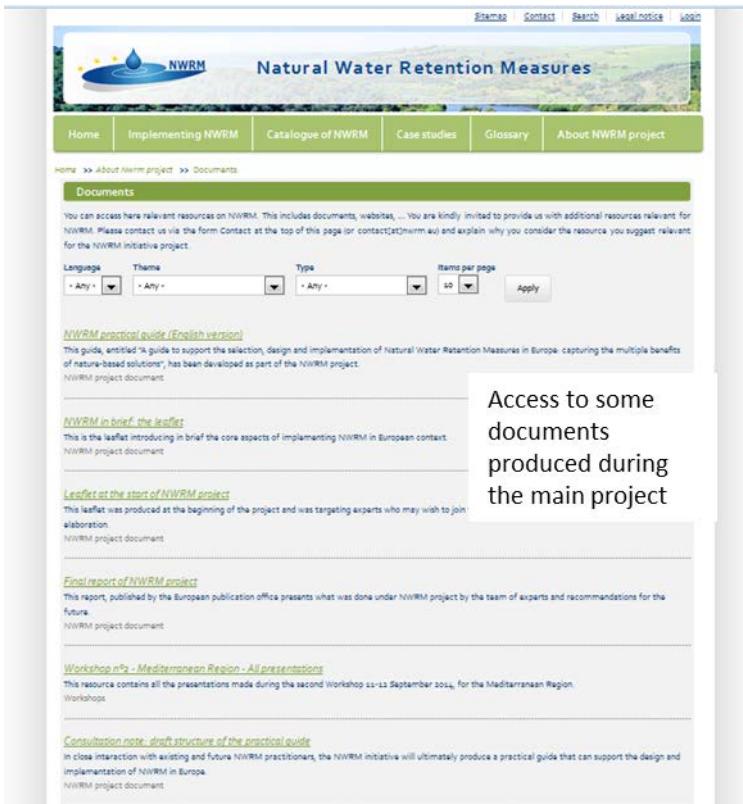
We encourage all stakeholders to join the [NWRM discussion forum](#) to share their knowledge, views and opinions on theoretical as well as on practical implementation issues related to NWRM and join the network on this platform regularly. Please, feel free to pose challenging questions and we will jointly seek how to answer them.

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PARTNERS



VI.3. Sub-menu: Project documents



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Documents

You can access here relevant resources on NWRM. This includes documents, webinars, ... You are kindly invited to provide us with additional resources relevant for NWRM. Please contact us via the form Contact at the top of this page (or contact(at)nwrmp.eu) and explain why you consider the resource you suggest relevant for the NWRM initiative project.

Language: Any | Theme: Any | Type: Any | Items per page: 50 | Apply

NWRM practical guide (English version)
This guide, entitled 'A guide to support the selection, design and implementation of natural Water Retention Measures in Europe: capturing the multiple benefits of nature-based solutions', has been developed as part of the NWRM project.
NWRM project document

NWRM in brief: the leaflet
This is the leaflet introducing in brief the core aspects of implementing NWRM in European context.
NWRM project document

Leaflet at the start of NWRM project
This leaflet was produced at the beginning of the project and was targeting experts who may wish to join elaboration.
NWRM project document

Final report of NWRM project
This report, published by the European publication office presents what was done under NWRM project by the team of experts and recommendations for the future.
NWRM project document

Workshop m7s - Mediterranean Region - All presentations
This resource contains all the presentations made during the second Workshop 11-12 September 2014, for the Mediterranean Region.
Workshop

Consultation note: draft structure of the practical guide
In close interaction with existing and future NWRM practitioners, the NWRM initiative will ultimately produce a practical guide that can support the design and implementation of NWRM in Europe.
NWRM project document

Access to some documents produced during the main project

