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PROJECT UNDER EU RESEARCH & TECHNOLOGICAL DEVELOPMENT

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www.daywater.org

DayWater, literally «stormwater runoff» in Swedish, is also the name of a network of researchers and managers associated with an European research and development project. This first issue of the *DayWater News* presents the main features of the research project (objectives, partners and associated end-users). It also gives the opportunity to one of the 14 associated end-users (Stockholm Water) to describe their contribution to the project and their expectations. Together with local language versions (the French version is already available), the English version is disseminated to public and private stakeholders involved in the source control of urban stormwater. The next issue of the bi-annual newsletter will present the first major results of the DayWater project. We would greatly appreciate receiving your comments and questions, preferably via e-mail (daywater@cereve.enpc.fr). They will allow us to improve the layout, content and dissemination procedure of this newsletter.

DAYWATER (EVK1-CT-2002-00111) IS A PROJECT UNDER THE 5TH FRAMEWORK PROGRAMME OF THE EUROPEAN UNION AND ONE OF SIX PROJECTS FORMING THE CITYNET CLUSTER (EVK1-CT-2002-80013)

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GENERAL PRESENTATION

ADAPTIVE DECISION SUPPORT SYSTEM (ADSS) FOR THE INTEGRATION OF STORMWATER SOURCE CONTROL INTO SUSTAINABLE URBAN WATER MANAGEMENT STRATEGIES

Stormwater source control is perceived today as an efficient solution to resolve flooding and pollution problems associated with urban stormwater. It is a key issue for sustainable development in the urban context. However, implementing the best solution remains difficult because the range of possible measures is vast and individual needs have to be defined. DayWater aims to understand and integrate these issues in a coherent manner and proposes an adaptive decision support system (ADSS) for use by the decision makers.

The main objective is to develop a tool which can be used by stakeholders in urban stormwater management. As decisions are made within various space and time scales due to differences in topography and the dynamic nature of urban development, the tool has to be adaptive. The development of an adaptive decision support system (ADSS) provides a synthesis of components organised and tested in European urban areas.

INNOVATIVE OBJECTIVES

- Characterisation of the decision making processes;
- Promotion of stormwater source control methods and integrated water management into urban policy making and catchment area management;
- Dissemination of technical information about structural and non-structural best management practices (BMPs) for stormwater pollution control;
- Provision of models for the analysis of pollution loads and environmental risk assessment.

Completion of these aims will ultimately lead to the availability and accessibility of the necessary information in the best format at the right time to optimise decision-making processes.

CONTRIBUTION TO 5TH EUROPEAN RESEARCH & TECHNOLOGY DEVELOPMENT FRAMEWORK PROGRAMME

The DayWater project contributes to the key action «sustainable management and quality of water» by supplying decision makers with support tools. The best tools have to be identified in order to obtain the best solution in a given context for the control of the impact of urban stormwater flow and pollution.

Further contributions of the DayWater project:

- Identification & quantification of pollution sources and fluxes;
- Collection of information on current best practices in DayWater partner countries;
- Identification of the best currently available technical tools;
- Identification of priority pollutants for stormwater management.

OUTLOOK

It is known that a considerable amount of funds will be invested in the management of stormwater in urban areas in the forthcoming years. Both peak flows and environmental quality have to be controlled. The ADSS will assist the identification of the most sustainable and cost-effective solutions for a range of urban situations. End-users play an active role in field testing, therefore the core end-user group will be extended during the project, enabling the dissemination of DayWater products on a larger scale within Europe. The DayWater project deals with the availability and use of technological progress for the benefit of society. Significant efforts are put into the analysis of how technological information can be used in decision-making processes.

At the end of the project all European stakeholders will have access to the ADSS, a sum of state-of-the-art knowledge, decision support tools, methods and data. They will be able to introduce the most attractive elements to their decision making process, thus applying the best techniques. This means optimising the investment costs of water management and minimising the risks.

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PRESENTATION OF THE END-USERS

OVERVIEW OF THE DAYWATER STRUCTURE

The DayWater project is structured in 7 work packages (WP), each of them placed under a different leadership:

- WP1:** Project co-ordination and dissemination of results, leader D. Thévenot, Cereve-ENPC
- WP2:** Adaptive decision support system (ADSS) production, leader J. Krejčík, DHI-Hydroinform
- WP3:** Urban dynamics, leader G. Geldof, TAUW
- WP4:** Risk and impact assessment, leader P.S. Mikkelsen, Environment & Resources DTU
- WP5:** Multi-criteria analysis of structural and non-structural best management practices (BMPs), leader M. Revitt, Middlesex University
- WP6:** Sources and flux models (SFM), leader G. Svensson, Chalmers University
- WP7:** Field testing, leader J.-C. Deutsch, Cereve-ENPC

PRESENTATION OF END-USERS ASSOCIATED WITH THE DAYWATER PROJECT

Scientific partners and end-users will work closely together to incorporate the practical advice and experience of end-users, and to ensure that end-user needs are addressed. To maintain this interaction numerous seminars and workshops are scheduled. There will also be a web-based exchange between urban hydrology partners and end-users. Recursive interactions with the end-users are organised throughout the project. The associated end-user group initially contains 14 members and will increase to around 50.

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END-USER INTERVIEW : STOCKHOLM

Knut Bennerstedt,

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Could you give a short description of Stockholm Water?

Stockholm Water is a company totally owned by the city. The company is responsible for water distribution and sewerage in the city of Stockholm (800,000 inhabitants) and in 10 neighbouring municipalities (300,000 inhabitants). The company operates 2 water works, 3 wastewater treatment



Photo: Stockholm Water

plants, 2,000 km of water pipes and 2,500 km of sewers. The company is organised into 3 technical departments (operation, engineering and environment & development) and 2 administrative departments, with a total of 600 employees and a budget of 100 M Euro. The water fee includes a special stormwater fee, which can be reduced if the consumers infiltrate or retain the stormwater within their properties.

What is your water quality like?

The water quality is in general very good with bathing places and salmon fishing in the central parts of the city. However, high concentrations of heavy metals have been measured in bottom sediments. The major input of heavy metals to receiving waters comes from stormwater. About 50% of the sewer system is combined.

What is your strategy concerning stormwater source control?

The city has a stormwater strategy that says:

1. The pollution concentrations in stormwater should be reduced at the source.
2. The stormwater should be treated locally to ensure that the groundwater and small water bodies receive as much water as possible without critical levels of pollution occurring.
3. Polluted stormwater must be treated locally, transferred to less sensitive receiving waters or a wastewater treatment plant.
4. Priority should be given to building stormwater treatment facilities in connection with other road and housing construction activities.

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END-USER INTERVIEW : STOCKHOLM

What could be your contribution to the DayWater project?

The proposed case study area for DayWater is a 200 ha site close to the downtown area, now undergoing reconstruction. It is a former industrial site. Construction work started around 1995 and the area will be completed in 2010. The environmental emphasis of the project is a result of a strong political will. According to the programme certain materials such as unpainted copper and zinc are not allowed. Stormwater runoff must be treated. Special measures for stormwater treatment have been implemented e.g. sedimentation tanks and ponds, infiltration trenches and filters.

What do you expect from the DayWater project?

The feedback that we hope to get from this project is:

- Knowledge about the use of different BMPs ;
- Discussion of different strategies to handle stormwater;
- Information on how to treat stormwater in the central parts of the city, for example, should we keep the combined sewer system ?
- Information on the different options to influence the sources which pollute stormwater.

What are the identified needs of Stockholm Water?

We lack methodologies for comparing and assessing the many possible options for stormwater source control and for evaluating the possible environmental risks. We consider the proposed project a unique opportunity to develop better methodologies and tools to assist in the future planning of stormwater projects.

How did you get in contact with DayWater?

We have a strong link with Dr Gilbert Svensson, at Chalmers Technical University, Gothenburg, who is a partner of the DayWater project.



Photo: Stockholm Water

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OUTLINE OF NEXT ISSUE

PUBLICATIONS

OUTLINE OF THE NEXT ISSUE OF DAYWATER NEWS (DECEMBER 2003)

- First annual report
- Proceedings of regional end-user conferences
- Choice of case studies for final Adaptive Decision Support System (ADSS) testing
- Terms of references of the ADSS relying on characterisation of the core end-user and extended end-user sites
- First template of the ADSS
- Comparative description of decision making processes related to urban stormwater management
- Inventory of risks in urban stormwater management

1st International Conference on Urban Drainage and Highway Runoff in Cold Climate (25-27 March 2003, Riksgränsen, Sweden):

«Urban Stormwater Source Control Strategy within DayWater Project (FP 5 RTD): General Feature and Specific Issues in Cold Climate»

Authors: Maria Viklander, Magnus Bäckström, Miriam Förster, Daniel Thévenot

CO-ORDINATOR'S WORD

After more than 18 months of preparation involving 10 research teams from 8 European countries, the DayWater research project officially started in December 2002 over a 3 years period. This preparation step was stimulating since besides the preparation of the project submission to the European Commission, it gave us the opportunity to discover our respective scope of services & research fields. Furthermore we had to identify the needs of the 14 associated end-users, all entirely involved in different aspects of stormwater source control. Only a few days after the signature of the DayWater contract by the European Commission, about 50 representatives of DayWater partners and end-users met during two days for the project kick-off meeting in Paris, December 2002.

Work groups and working procedures for the first year were established and personal networks were formed. Later each of the 14 end-users completed a detailed questionnaire in order to describe ongoing and future projects related to stormwater source control and the type of difficulties they encounter in such projects. The exploitation of the questionnaires allows us to adapt the objectives and the structure of the Adaptive Decision Support System (ADSS), as well as the selection of case studies to test and validate the ADSS.

Daniel Thévenot

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DAYWATER AGENDA

REGIONAL CONFERENCES

Czech Republic, Prague - 10/2003

Denmark, Copenhagen - 10/2003

France, Paris - 10/10/2003

Germany, Berlin - 10/2003

Greece, Athens - 14/10/2003

Netherlands, Deventer - 21/10/2003

United Kingdom, London - 4/11/2003

Sweden, Stockholm - 09/2003

INTERNATIONAL CONFERENCES

**Ecohazard 2003, Aachen - Germany;
14-17/09/2003
www.ecohazard2003.rwth-aachen.de**

**2nd International Conference on Urban
Drainage and Highway runoff in Cold
Climate**

**Portland - Maine; USA
3-5/11/2003
[www.cascobay.usm.maine.edu/
coldsw.html](http://www.cascobay.usm.maine.edu/coldsw.html)**

**Novatech, Lyon - France;
5th International conference on sustainable
techniques and strategies in urban water
management
6-10/06/2004
www.graie.org/novatech**

CITYNET CLUSTER

Main Events

A major aim is to communicate with parties outside the consortium, such as other relevant European projects dealing with integrated urban water management (CityNet Cluster). The preparation of publications, newsletters, an external web site and of course international and regional conferences for the consortium and the end-user group members will be the basis for intense interaction between summer 2003 and summer 2005.

A final event will be the International ADSS Conference to be held in Paris in October 2005.



CityNet Cluster

DayWater belongs to the CityNet project cluster of six individual research and development projects (2001-2005), which focus on different aspects of integrated urban water management (water supply, sewage, drainage), including their urban-rural interfaces (raw water sources, receiving waters, groundwater).

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