

GWP Latvia develops river management guidelines

GWP LATVIA AND ITS PARTNER NON GOVERNMENTAL ORGANIZATION DAUGAVAS SAVIENIBA PREPARE A GUIDELINE FOR PRACTICAL MANAGEMENT OF WATER STREAMS.



Latvia Water Partnership

Need for such guidance has emerged up during implementation of a pilot project in the Venta and Vitrupe River basins where several challenges related to ecological, hydro-chemical and morphological features of rivers emerged.

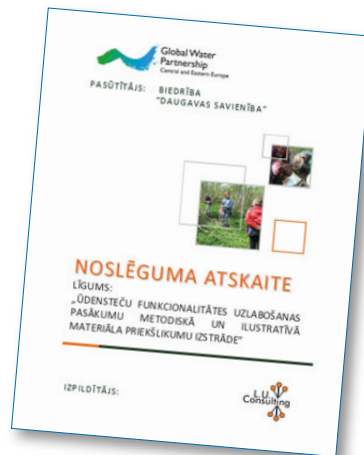
Main objective of the project, implemented from period of April – November 2011, was to train volunteers and carry out practical works to limit algae overgrowth, remove sediment and wooden debris and improve potential spawning sites for salmon, sea trout and lampreys. Project team organized training for river managers and voluntary river keepers followed by activities to improve hydro-morphological and biological functions of the Venta and Vitrupe Rivers. The project was implemented by company "L.U.Consulting" in cooperation with GWP Latvia and Daugavas Savieniba.

Venta River is a river in north-western Lithuania and western Latvia. Its source is near Kuršėnai in the Lithuanian Šiauliai County. It has a length of 346 km and flows into the Baltic Sea at Ventspils in Latvia. The main salmon spawning and nursery habitats are situated in the middle part of the river below the waterfall Ventas Rumba. The river partially belongs to EU network of protected areas Natura 2000. There are 2 nature reserves in the river: "Ventas ieleja" (The river Venta valley) and "Ventas un Skerveļā ieleja" (The rivers Venta and Skervele valleys).

The river Vitrupe is typical medium sized river entering the Gulf of Riga. It has a length of 36 km totally accessible for salmon. The salmon and sea trout spawning and nursery habitat are situated in the lower and middle part of the river. There are no artificial migration obstacles, but there is one natural waterfall that allows for species that

are good swimmers. The river partially belongs to the Natura 2000 network. There is a reserve of "Vitrupe ieleja" (Valley of Vitrupe).

The Guidelines available in Latvian language, is the first attempt in the country to explain practical methods of river basin management. It addresses major problems of Latvian streams such as pollution by nitrogen and phosphorus, sedimentation, deterioration of buffer zones around streams and others.



It also provides examples of innovative yet traditional methods tested during previous projects including "Place a Stone in the Stream" initiative utilizing stones to mitigate climate change and ensure survival of aquatic species threatened by lack of oxygen due to higher water temperature. Well placed stones slow down water flow and create favorable living conditions for water fauna.

The guideline specifically addresses the following:

- Eutrophication or great increase of phytoplankton in streams. Negative environmental effects include depletion of oxygen in the water, which induces reductions in specific fish and other animal populations
- Wooden debris in streams and their management
- Improvement of riparian zone functionality which is an interface between land and a river or streams.
- Management of sedimentation processes.
- Improvement of river self purifying capacity.

Calendar of Events

World Water Day
22 March 2012
Water and Food Security

Baltic Sea Day
22 March 2012
Baltic Sea Region

World Water Forum 6
12–17 March 2012
Marseille, France

International Sava Day
1 June 2012
Sava River Basin

Danube Day
29 June 2012
Danube River Basin

World Water Week in Stockholm
26–31 August 2012
Stockholm, Sweden
Water and Food Security

- Construction of riffle areas in rivers to increase levels of oxygen proposed through innovative approach „Place a Stone in the Stream.
- Improve structure and change use of adjacent landscape
- Increase diversity of aquatic habitats through installment of stone structures.

The guidelines gives practical tips for river management activities on different scales, embracing both low cost local activities, as well medium scale multipurpose projects. So far, it's not legally binding, however, the project team tries to make it unifying and science based, e.g. hydrobiology addressing a common problem of streams and small rivers overgrowth and biodiversity decline.

In the future, one of the proposals is to establish a tradition of Great Cleanup Day in April to involve local people, volunteers and water management in cleaning local streams and raise awareness on water issues. ■

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Climate change and water security nexus in Lithuania

A RECENT RESEARCH HAS ESTABLISHED HOW CLIMATE CHANGE COULD CONTRIBUTE TO INCREASE IN GROUNDWATER LEVELS OVER THE NEXT 100 YEARS IN LITHUANIA.

The use of groundwater for public water supply is increasing in Europe, however, it is estimated that 60% of European cities overexploit their groundwater resources. Highest percentage of groundwater for drinking water is used by Lithuania (100%), closely followed by Denmark (98%), Italy (93%), Hungary (90%), Poland (70%), Estonia (65%), Romania (43%), UK (35%) and Scandinavian countries and Ireland (15%) at the end. This raises an important question of how climate change can potentially influence recharge, availability, and quality of groundwater resources.

An evaluation of climate change impact on groundwater resources in Lithuanian Klaipeda County was performed in 2010 in frame of the project "Climate Change: Impacts, Costs and Adaptation in the Baltic Sea Region" (BaltCICA), partially financed by the European Union (EU)

Baltic Sea Region Programme 2007–2013. Klaipeda is the third largest city in Lithuania with a population of 187,000 (2005 estimate), a capital of Klaipeda County, one of ten counties in Lithuania. It lies in the west of the country and is the only county to have a coastline. It has a total area of 5,209 km² and 378,843 inhabitants (2008).

In the study area, all potable water is groundwater located in shallow mix of aquifers including present day (Quaternary), Mesozoic period (Cretaceous and Jurassic), Paleozoic period (Permian) and Devonian age (Famennian). Lithuanian Geological Survey estimate available groundwater resources in these aquifers at 74,000 m³/day (Quaternary), 100 m³/day (Cretaceous), 1,148 m³/day (Jurassic), 8,463 m³/day (Permian) and 63,084 m³/day (Famennian) respectively. There are 76 waterworks located in the study area. The Klaipeda No. 3 waterworks is the only waterworks in the country extracting water from shallow groundwater. It extracts 27% of approved available resources.

Climate change impact on groundwater was estimated on the basis of two scenario's A1B and B1 for the years 2025, 2050 and 2100. Predictions of precipitation and evaporation were provided using Climate and Environmental Retrieval and Archive (CERA) database. Forecast of groundwater resources changes was done using mathematical groundwater flow model elaborated by Dr Marius Gregorauskas, is based on correlations between values of precipitation, river basins runoff in the study area and groundwater recharge. Simulation results show that both climate change scenarios predict increase (2025, 2050 and 2100 years) of dynamic resources of groundwater.

"Since the main source of the groundwater resources and cause of its changes is infiltration recharge into shallow groundwater, the highest increase of resources is anticipated in shallow groundwater aquifer", says Jurgita Kriukaite, Lithuanian Geological Survey. In the A1B scenario the highest groundwater level is expected in 2025. During that time the groundwater recharge will increase from 45.7 mm/year



Higher levels of groundwater can flood low lying areas

CREDIT: GWP CEE

to 79.6 mm/year adding to dynamic resources from 4.05 m³/s up to 5.99 m³/s. Similar growth of groundwater resources is anticipated in B1 scenario in 2100.

However, decrease of groundwater levels is also expected in some years according to results of

simulation. Available groundwater in dry periods will drop by 4m³/s in the shallow aquifer and 3.8-3.6 m³/s (5-10 %) in Quaternary aquifers, compared with the present situation. According to Jonas Satkunas, Lithuanian Geological Survey Deputy Director, "the trend of groundwater resources increase will prevail

until 2100". On the other hand, higher levels of groundwater can make it vulnerable to pollution and potentially flood lowland areas and cellars in residential houses. ■

Autors: Jurgita Kriukaite and Jonas Satkunas, Lithuanian Geological Survey.

GWP Central and Eastern Europe at Sava Stakeholder Forum

GWP CEE AND GWP MEDITERRANEAN PARTICIPATED IN THE SAVA STAKEHOLDER FORUM ORGANIZED BY THE INTERNATIONAL SAVA RIVER BASIN COMMISSION.

A River Basin Management Plan of the Sava River Basin is under development, the first attempt in the Southern European region to draft a River Basin Management Plan according to the EU Water Framework Directive. GWP Mediterranean and GWP Central and Eastern Europe have significantly contributed to the stakeholder involvement process related to development of the Plan.

The objective of the Sava Stakeholder Forum held on 9-10 November 2011 in Belgrade, was to present and discuss the draft of the Sava River Basin Management Plan among the affected stakeholders. The Plan describes the present water status in the basin, identifying significant pressures and proposing measures directed towards achieving the environmental objectives of the EU Water Framework Directive on a basin-wide scale. A more permanent mechanism of organizing structured participation of stakeholders in the management of the Sava River Basin in the form of a Water Part-

nership has been discussed. "Sava Water Partnership can join GWP network and benefit from the membership", proposed GWP CEE Chair Ms. Martina Zupan.

The Sava River is the third longest tributary and the largest by discharge of the Danube River. The length of the Sava from its main source in the western Slovenian mountains to its mouth at the Danube in Belgrade is about 944 km. The basin, with an area of 97,713 km², covers parts of Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro and a small part of Albania. ■

For more information about Sava River Basin Management Plan: <http://www.savacommission.org/srbmp/>



International passenger terminal on the Sava River in Belgrade, Serbia

CREDIT: GWP CEE

When we speak about economic growth we speak about water resources

AT THE SEVENTH "ENVIRONMENT FOR EUROPE" MINISTERIAL CONFERENCE IN ASTANA, KAZAKHSTAN, GWP CONVENED A SIDE EVENT TITLED, "ECONOMIC GROWTH AND WATER: AN INTEGRATED APPROACH HELPS".

GWP Chair Dr Letitia A Obeng emphasized that "when we speak about the economy and economic growth we speak about water resources." The Conference addressed two main themes: Sustainable management of water and water-related ecosystems; and Greening the economy: mainstreaming the environment into economic development. The GWP side event held on 23 September 2011 linked these two aspects: how to make water resources available and yet protected when countries embark on economic development. The Conference recognized the "hydro-centric" and "eco-engineering" themes are closely related.

Speakers at the GWP side event illustrated why water is attracting more political attention, while highlighting water's complexity and the need for an integrated approach to guide its use, management and development. Prof. Nariman Kipshakbaev from GWP Kazakhstan presented their experiences of developing a National Integrate Water Resources Management Plan (IWRM) Plan. He made a brief summary of water resources policy reform and emphasized that "there is a need to balance multiple uses of water in a water scarce region." He stressed the important role of newly established water councils, citing examples of water councils that have a transboundary character, for instance in Kazakhstan and Kyrgyzstan.

GWP Georgia Chair Ms Nino Chkhobadze looked at role of civil society and non-governmental organizations in support of water reform in the Caucasus. "It is not well understood the role NGOs play in supporting governments to develop and implement river basin management plans," said Ms Nino Chkhobadze, who was Georgia's Minister of Environment for eight years. "Involvement of society is understood as the right of people to be informed, but participation in decision making is moved aside." She said that stakeholders and the public ensure positive results when they participate in processes that introduce Integrated Water Resources Management principles at local level, and subsequently, better acceptance of future investments.

GWP invited speakers that do not belong directly to the "water family" because GWP ac-

knowledges that for water management to be successful it must involve experts from outside the "water box." Prof. Laszlo Miklos from the Technical University of Zvolen in Slovakia is a geographer by background and a politician by experience. Having been the Minister of Environment for two terms, and a member of the national Parliament, he reminded the audience of the political commitments made under Agenda 21, and the adoption of the principle of an integrated approach to the management of land resources.

Recognizing that "integrated management" needs to be understood, he asked, "What exactly do we want to integrate? Different understandings of integration resulted in a myriad of policy reforms that integrated institutions and agencies and administration but not the planning process itself." He recommended making land use plans the legal, obligatory framework for each sectoral plan because how we use land takes into account every sector including water management.

Prof. Lu ka Kajfež Bogataj, winner of the Nobel Peace Prize together with other climatologists, looked at climate change from a national and international security point of view rather than from the environmental perspective. A number of studies suggest that the worst effects can be avoided by keeping global temperature rise below 2°C. However, Prof. Bogataj said that if current problems are not solved, they will be aggravated regardless of mathematical scenarios that predict a temperature rise. She showed the participants the map of continents originally developed by the Ministry of Defense to illustrate, in graphic terms, the security challenges posed by a warming planet. Climate

change is likely to make essential resources (notably freshwater, arable land, crop yields and fish stocks) scarcer in many parts of the world, particularly in already vulnerable societies.

"Increased scarcity increases the risk of competition over resources within and between communities and states," she said. "This can create instability, increasing vulnerability to conflict. On current projections, substantial parts of the world risk being left uninhabitable by rising sea levels, reduced freshwater availability and declining agricultural capacity. This will exacerbate existing migratory pressures from rural areas to cities, from unproductive land to more fertile land, and across international borders." ■

Source: GWP Blog
<http://globalwaterpartnership.wordpress.com/>

For more information and presentations:
<http://www.slideshare.net/gwpceewaterpartnership/presentations>



GWP Chair Letitia A Obeng at the Seventh "Environment for Europe" Ministerial Conference in Astana, Kazakhstan

CREDIT: GWP

Kaliningrad takes up water issues

A NEW REPORT HAS BEEN LAUNCHED ON IMPROVING WATER RESOURCES MANAGEMENT IN KALININGRAD, RUSSIA.

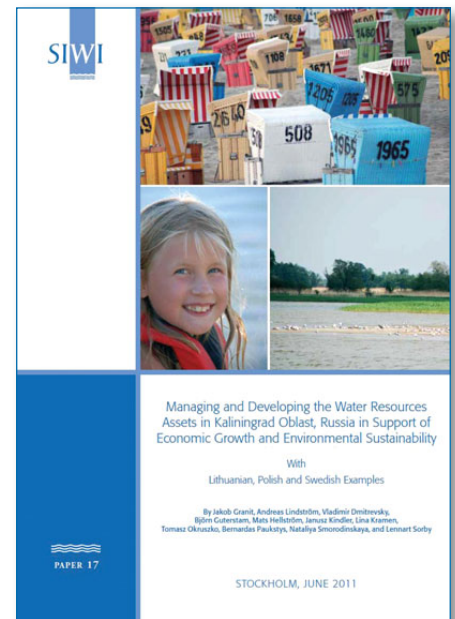
The report, "Managing and Development of the Water Resources Assets in Kaliningrad Oblast, Russia in Support of Economic Growth and Environmental Sustainability", was published by the Stockholm International Water Institute (SIWI) who prepared the report with contributions from the Global Water Partnership (GWP) and its Country Water Partnerships in Poland and Lithuania. Support also came from the Northern Dimension Foundation, the Russian Academy of Sciences, and the Swedish River Basin District Authority for the Northern Baltic Sea.

The report was presented to the Vice Governor of the Kaliningrad Oblast at a workshop attended by 36 stakeholders who have an interest in water resources in Kaliningrad. The discussion at the workshop highlighted a strong interest to start a water resources management programme with transboundary dimensions

together with neighboring states that share river basins and coastal lagoons in Poland and Lithuania. Transboundary planning and investment programs could be coordinated and implemented with support from external financing agencies.

Experiences of Lithuania and Poland in the implementation of an integrated approach and EU Water Framework Directive, offer options to work in a partnership for joint management and development plans for the transboundary Pregola and Neman River Basins. "We cannot develop a comprehensive Nemunas (Neman) River Basin District Management Plan without the involvement of the Kaliningrad Oblast," said Dr. Bernardas Paukstys, Chair of GWP Lithuania, acknowledging the fact that water has no borders.

The Kaliningrad Oblast is a territory of Russia situated on the Baltic coast between Lithuania and Poland and not contiguous with the Russian mainland, with a population of 941,500. Kaliningrad has a rich natural landscape but its



water resources and the hydraulic infrastructure assets are in poor condition. GWP is involved in developing a Water Resources Investment Program for the Kaliningrad Oblast. ■

Autors: Jurgita Kriukaite and Jonas Satkunas, Lithuanian Geological Survey.

Knowledge sharing between Baltic and Danube

GWP HUNGARY AND GWP CEE ORGANIZED A KNOWLEDGE-SHARING WORKSHOP ON "WATER RESOURCES MANAGEMENT ASPECTS OF EUROPEAN UNION STRATEGIES FOR BALTIC SEA AND DANUBE BASIN REGIONS".



The focus was on sharing experiences and expertise from the implementation of the Baltic Sea Strategy. During the workshop held in Budapest on 5 April 2011, experts identified similarities and differences concerning water management issues and discussed implementation mechanisms and institutional roles such as selection of projects and partnerships in the Danube Region.

The Baltic Sea Strategy was formally adopted in October 2009 under the Swedish Presidency of the European Union (EU). In December 2010, the European Commission adopted the EU Strategy for the Danube Region following a request from member states.

"GWP CEE has been advocating principles of integrated water resources management in the Baltic and Danube regions since 1998 and is well suited to provide a platform for discussions shaping future of water for years to come," said



Parallels workshop attracted more than 40 participants from Baltic and Danube Regions

Martina Zupan, GWP CEE Chair. GWP CEE, with its unique geographical position covering parts of the Baltic and Danube provides a neutral platform for dialogues and exchange of experiences. It holds an observer status to two international water commissions in the region – the International Commission for the Protection of the Danube River and the Helsinki Commission.

Concrete examples of activities include financing of regional strategies in non-EU member countries and the exchange of best practices between the Baltic and Danube countries. GWP CEE projects in the area of floods and droughts as well as sustainable sanitation may be submitted for funding. ■

Danube Art Master 2011: Germany wins the competition with creative masterpiece

GERMAN CHILDREN HAVE WON THE „INTERNATIONAL DANUBE ART MASTER 2011“ COMPETITION, AS THE INTERNATIONAL COMMISSION FOR THE PROTECTION OF THE DANUBE RIVER (ICPDR) ANNOUNCED ON 25 SEPTEMBER 2011.



The International Danube Art Master is selected from the winners of the national 'Danube Art Master' competitions in 14 Danube Basin countries - Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Montenegro, Republic of Moldova, Romania, Serbia, Slovakia, Slovenia and Ukraine. Thousands of children from these 14 countries entered the competition.

The winning submission was created by 11 German school children from class 5G of the Sonderpädagogisches Förderzentrum Neutraubling. Their artistic painting, entitled "Our Danube - a river as variously as we" is creatively made from colourful patterns and full of references to nature. It represents an appeal to "get active for the rivers", the official slogan of Danube Day 2011.



National Danube Art Master winners at the award ceremony



Excursion at the Danube Museum in Esztergom, Hungary



Best art work "Our Danube, a river as variously as we" by students of Secondary School Förderzentrum Neutraubling, Germany

"This competition is a key element of the annual Danube Day celebration and transcends national borders, emphasizing the complexity of the Danube and its connections to land, animals, forests and people," said Philip Weller, Executive Secretary of the ICPDR. Children were encouraged to visit local rivers and surrounding areas and to consider what the environment means to them. They were then asked to reflect their thoughts and inspirations through environmental art using materials from in and around the river.

The competition was jointly organized by the ICPDR in cooperation with the Global Water Partnership Central and Eastern Europe (GWPCEE). The award ceremony in Budapest was attended by the national Danube Art Master winners and their accompanying persons. After the ceremony, the winners joined a three-day environmental programme, supported by Coca-Cola and organized by the Global Water Partnership Hungary, which included trips to the surroundings of Budapest and the Danube bend, Budapest Zoo and the Danube Museum. Since two children per country are allowed to attend this trip, the winning team is represented by Selina Glas and Adrian Langner.

For more information:
<http://www.danubeday.org>

Danube Art Master 2012

GET INVOLVED IN DANUBE DAY, HELP SECURE A POSITIVE FUTURE FOR THE DANUBE AND WIN GREAT PRIZES!

DANUBE DAY



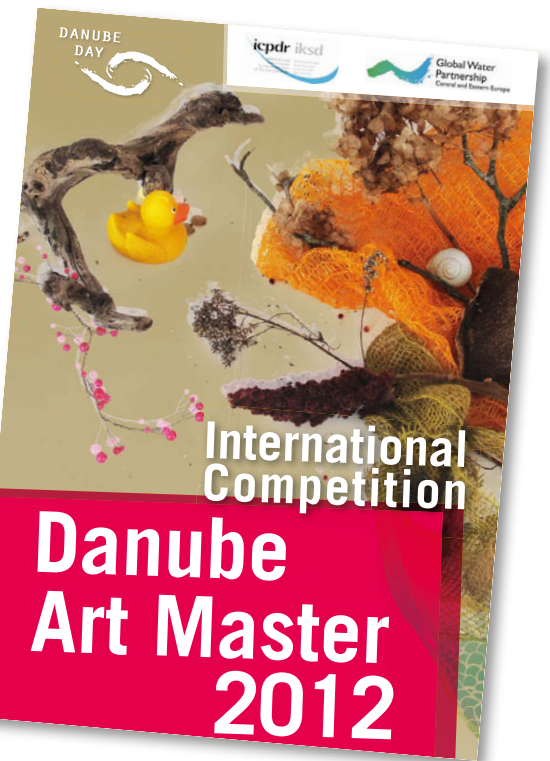
Danube Art Master is opened to children aged 6 to 16 from a school, NGO, day care centre or association in the Danube Basin to create their own 'environmental art' inspired by the mighty Danube and its tributaries. Every year, this ambitious 14-country competition jointly organized by the GWP Central and Eastern Europe and the International Commission for the Protection of the Danube River (ICPDR) unites thousands of children from across the Danube River Basin.

The competition comprises two levels: national and international. The former is carried out in each country and national winners selected to receive prizes. National prizes vary from country to country, so please contact your country's organizer for details. The national winners will

be invited to take part in the international competition. The creators of the best piece of work will be crowned 'Danube Art Master' and will be rewarded with prizes for themselves and more prizes for the school, day centre or other group that they are part of – such as laboratory test kits for their school, underwater cameras and other water-related treats.

To take part, arrange your school to reflect on rivers and water bodies and ideally make an outing to the Danube River or one of its tributaries before the end of June 2012. The idea is for students to be inspired by what they see and use materials found by the river to create works of art, preferably directly along its banks. This could mean sculptures, pictures, mosaics or collages made from material such as driftwood, stones or even rubbish dumped by the river. To enter, take a color photograph of your art and send it to the competition organisers in your country by post (prints) or e-mail (digital).

Eligible countries are Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic,



Germany, Hungary, Moldova, Montenegro, Romania, Serbia, Slovakia, Slovenia and Ukraine. ■

For more information visit <http://www.danubeday.org> or contact Richard Müller, GWP CEE Secretariat, at gwpcee@shmu.sk

GWP contributes to UN Economic Commission for Europe transboundary process

THE ASSESSMENT OF TRANSBOUNDARY WATER COOPERATION IN CENTRAL AND WESTERN EUROPE WAS THE TOPIC OF A SUB-REGIONAL WORKSHOP.

Ministry of Rural Development of Hungary, and the United Nations Economic Commission for Europe (UNECE) in cooperation with the International Water Assessment Centre (IWAC) organized the workshop in Budapest on 8-10 February 2011.

The workshop was an important step in the process of preparations of the second Assessment of Transboundary Rivers, Lakes and Ground waters in the UNECE region for the Seventh Ministerial Conference Environment for Europe in September. GWP representatives were Regional Chair Martina Zupan, Regional Council Member Boris Minarik and Knowledge Management Officer Danka Thalmeinerova.

The second Assessment is an important part of the programme of work for 2010-2012 of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention). It has an ambition to provide a conclusive picture of the state of transboundary waters and to identify joint priorities and challenges. It wants to stimulate further action by governments, river basin organizations, the international community, including donors, and relevant non-governmental organizations.

More than 50 participants from nine countries of West and Central Europe, the EU Commission, UN organizations, NGOs and specialized institutes discussed common issues for transboundary water management, such as diffuse pollution and land use, ecosystems approach and ecosystem services.

"Most of the discussion focused on monitoring systems that become to be more compatible

due to the same requirements of the EU Water Framework Directive, which is a good signal for future potential planning", Dr Danka Thalmeinerova said. "However, most of the presentations were fragmented and did not capture a "transboundary" dimension of the assessed basins. Country representatives did separate presentations of the same (transboundary) groundwater body."

She continued: "Although there is progress in cooperation at transboundary basins regarding the exchange of monitoring data, alert and prevention systems, there is a lack of coordinated planning, implementing and assessment of impact at transboundary basins. It was concluded that international agreements including the EU Water Framework Directive are worthy gestures and expression of political will, but that the implementation of programs will need to happen at national levels with limited coordination with neighbourhood countries." ■

GWP Slovakia launches sustainable sanitation study

GWP SLOVAKIA LAUNCHES A NEW STUDY ON POSSIBILITIES OF ALTERNATIVE WASTE WATER COLLECTION AND TREATMENT IN EASTERN SLOVAKIA.

The study complements UNDP project "Integration of principles and methods of ecological management of Eastern Slovakia Lowlands" and especially Black Water River Basin Management Plan.

There are 28 small villages (below 2,000 inhabitants) with 11,589 people in the area which was in the past heavily drained to support agriculture production and prevent flooding. Main water course is Black Water a tributary to the Uh River, flowing from one of the largest water reservoirs in the country, Zemplínska Šírava. In terms of economic and social development, Eastern Slovakia is not reaching 50% of EU average in GDP per capita and unemployment

rate in Michalove District was more than 23% (June 2011 data).

Nature Reserve Senianske Ponds, situated in the middle of the study area, was founded in 1955 to protect water fowl and unique water plants. It is also international wetland site under Ramsar Convention and a part of EU wide network of protected areas NATURA 2000.

Alternative waste water treatment plants are various reed bed, soil and sand filters, willow fields and other natural methods of cleaning waste water from households and especially nutrients. In reality, these are rarely used due to low awareness, legislation and permitting obstacles. Depending on local conditions, they can have lower construction and operational costs in comparison with traditional biological activation systems. However, they require quite large areas for fast growing plants used to clean

up waste water. It is a good solution for small compact settlements with very short collection system (pipes) which are the most expensive part of the waster water treatment system.

Expert team comprising Igor Bodik from Technical University in Bratislava, Elena Fatulova, water management consultant and Milan Matuska, GWP Central and Eastern Europe short-listed seven villages (Blatná Polianka, Blatné Remety, Bunkovce, Senné, Stretava, Stretávka and Veľké Revištia) where alternative plant is feasible from technical and economic point of view.

Next step would be to secure funding for pilot plant to demonstrate feasibility of the technology. GWP CEE has been working on sustainable sanitation since 2007 and since then facilitated several regional and local initiatives to advance alternative waste water treatment for the benefit of the people and nature. ■



Reed beds are used as a method of removing pollutants from waste water

CREDIT: GWP CEE