



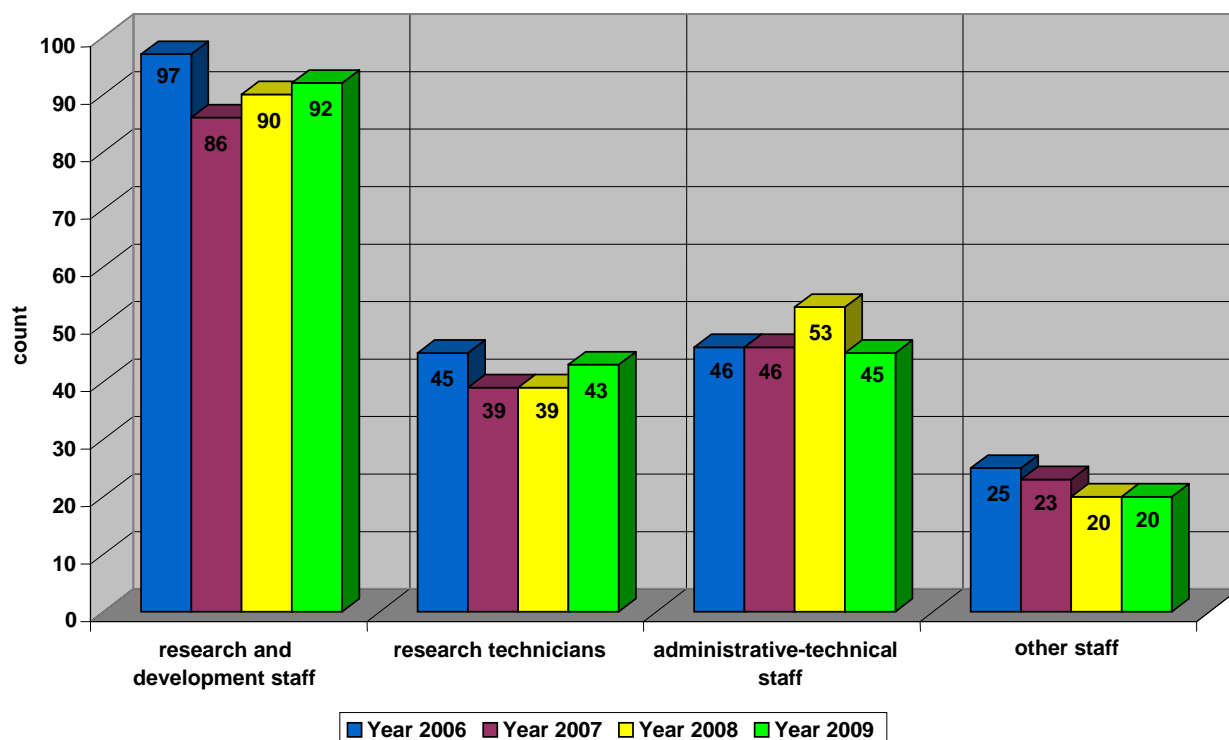
WATER RESEARCH INSTITUTE - WRI (Extract from the Annual Report 2009)

Department/founder: Ministry of Environment of the Slovak Republic

WRI mission: It is the only organization in Slovakia conducting comprehensive water management research and other related activities resulting from the needs of water management of the Slovak Republic.

Scope of activities: research and development, technical expertises, professional consulting and advisory service and dealing with water management and ecological problems

WRI Staff



The WRI profit for 2009 is 1 777.59 €.

The state budget funds in the amount of 2,981,902 € were used for financing the tasks within the contract between the Water Research Institute and the Ministry of Environment SR and within the requirements of the *Plan of the Main Tasks for 2009* as well as for activities related to the operation of WRI.

- The core activities of WRI were aimed at the implementation of the Water Framework Directive (direct coordination by the European Commission).

The main activities in accordance with the *Working and Time Schedule of Activities for Development of River Basin Management Plans* and the *National Strategy for WFD Implementation* were focused on the completion of the WFD implementation process by preparing the final version of river basin management plans. Prior to this process the following activities were carried out:

- *publishing the proposal of the 1st version of the river basin management plans for comments, active participation and consultation of public*
- *assessment of the comments on the proposal of the 1st version of river basin management plans*
- *preparation of the final version of river basin management plans based on relevant comments and consultations with the involved parties*
- *approval of the proposal of the Water Plan of Slovakia by the Government of the Slovak Republic. The Water Plan of Slovakia was submitted to the Government of the Slovak Republic for approval in accordance with the paragraph 14, article 3 of the Water Act on December 16, 2009.*

In addition to the above-mentioned activities, other significant works were done especially within the *assessment of ecological and chemical status of surface water bodies*. The results were included in the final version of the Water Plan of the Slovak Republic and in the management plans of sub-basins. A part of activities within the WFD implementation included the preparation works for the second planning period 2010-2015.

The costs for WRI activities were 33.5 % of the total amount of allocated funds (21.2 % of the total Institute's capacity).

- WRI participated in fulfilling the reporting requirements under the EU water directives.

The costs for the WRI activities were 19 % of the total amount of allocated funds (12 % of the total Institute's capacity).

- Update and maintenance of water management databases in accordance with the Act 442/2002. Databases are important for development of conceptual materials as well as for operative management of water sector in the competence of authorities at all levels.

The costs for the WRI activities were 8 % of the total amount of allocated funds (5 % of the total Institute's capacity).

- Performance of tasks resulting from the requirements of the Slovak National Council and the Government of the Slovak Republic.

The costs for the WRI activities were 28 % of the total amount of allocated funds (18 % of the total Institute's capacity).

- WRI provided a technical assistance to legislative activities of the Ministry of Environment of the Slovak Republic.

In 2009, the Water Research Institute actively participated in completing the final versions of the acts and in preparation of legal regulations to these acts. The following acts were included:

- *the Act 384/2009 amending the Water Act 364/2004 and the Act of the Slovak National Council 372/1990 on offences and on amendments to the Act 569/2007 on geological works (Geology Act) as amended by the Act 515/2008 - approved by the National Council of the Slovak Republic on September 8, 2009 with effect from November 1, 2009,*
- *the Act 394/2009 amending the Act 442/2002 on public water supply and public sewerage systems and on amendments to the Act 276/2001 concerning the regulation in network industries - approved by the National Council of the Slovak Republic on September 10, 2009 with effect from November 1, 2009,*
- *the Flood Protection Act 7/2010 - approved by the National Council of the Slovak Republic on December 2, 2009 with effect from February 1, 2010.*

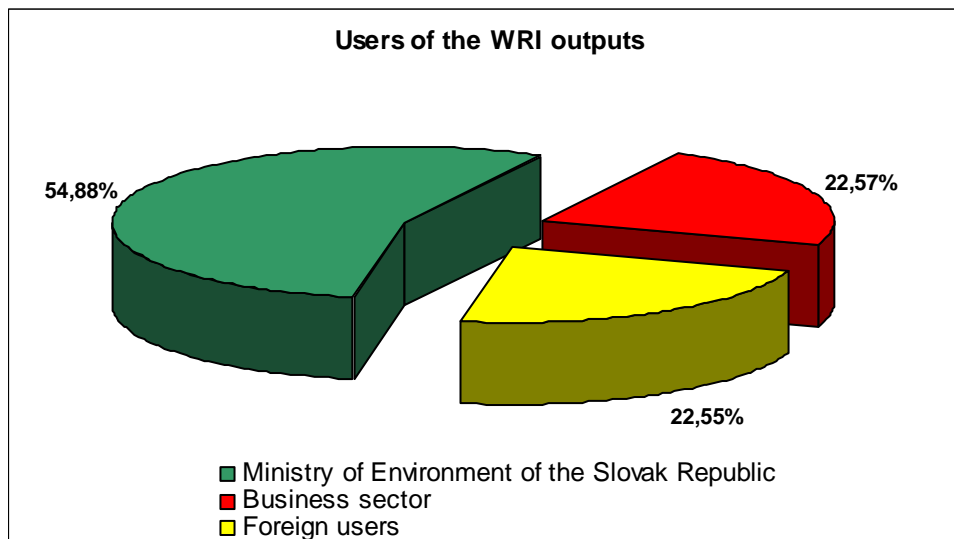
The costs for the WRI activities were 3 % of the total amount of allocated funds (2 % of the total Institute's capacity).

- On the long-term basis, the Water Research Institute cooperates with the committees on transboundary rivers and the international and European standardization committees in the field of water management. As a coordinator for technical standardization in water sector of Slovakia, the WRI provides professional-technical assistance to development of the Slovak National Standards (STN) in water sector with the focus on harmonization of the system of national standards with the system of European standards (24 international and European standards transposed to the system of Slovak National Standards, 2 amendments to original STN and 1 revision of original STN).

The costs of the WRI activities were 2 % of the total amount of allocated funds (1 % of the total Institute's capacity).

The costs for other Institute's activities (operative) were 6.5 % of the total amount of allocated funds.

In 2009 the WRI implemented scientific-technological projects at international, national and local levels in the amount of 37 % of the total capacity. Funds for these projects were allocated from sources other than the state budget of the Slovak Republic.



Scientific – technological projects

SLATINKA WATERWORKS – ASSESSMENT OF MINIMUM DISCHARGES ON THE SLATINA AND MIDDLE HRON RIVERS

Responsible researcher: Ing. Miroslav Lukáč, PhD. (lukac@vuvh.sk)

Funding: Vodohospodárska výstavba, š.p. Bratislava

The project was divided into the following parts and related topics:

- Hydrological analysis of minimum discharges on Slatina and Middle Hron in relation to water management
- Hydrodynamic model of Slatina and Middle Hron
- Design of the Slatinka Water Reservoir on the Slatina River
- Hydrological assessment of related section concerning minimal discharges and ecosystem requirements

DRINKING WATER SUPPLY SAFETY

Responsible researcher: Ing. Karol Munka, PhD. (munka@vuvh.sk)

Partners: Central Slovakia Water Company in Banská Bystrica

Funding: EEA Financial Mechanism (42.5 %), Norwegian Financial Mechanism (42.5 %), state budget SR (15.0 %)



The main objective of the project is to improve drinking water supply and its reliability through the water safety plans implemented in relevant drinking water supply systems.

The project aims at the development of the framework water safety plan based on the documents of the World Health Organization (WHO) and the European Commission. The plan will take into account specific conditions of water companies in Slovakia and it will serve as a supporting material for other water companies in developing their own water safety plans.

The project implements a new holistic approach to the whole water supply system – from the resource to the consumer.

ENVIRONMENTAL RESEARCH AND NUMERICAL MODELLING OF SEDIMENT TRANSPORT AND MORPHOLOGICAL CHANGES OF ALLUVIAL STREAMS

Responsible researcher: Ing. Katarína Holubová, PhD., holubova@vuvh.sk

Project partners: Cemagref UR Hydrologie Hydraulique Lyon France

Funding: APVV

The objective of the project is to develop and improve forecasting ability and performance of different numerical models (1D, 2D) used for simulation of sediment transport and morphological changes of alluvial streams.

S O C O P S E - SOURCE CONTROL OF PRIORITY SUBSTANCES IN EUROPE

Responsible researcher: Ing. Katarína Šilhárová (silharova@vuvh.sk)

Project partners: IVL Swedish Environmental Research Institute Ltd., Sweden, TNO Netherlands Organisatie Voor Toegepast Natuurwetenschappelijk Onderzoek, Holland; INERIS Institut National de l'Environnement Industriel et des Risques, France; ES Consejo Superior de Investigaciones Científicas (CSIC), France; NILU Norsk institutt for luftforskning, Norway; IETU/Envitech Instytut Ekologii Terenow Uprzemyslowionych, Poland; SYKE Finnish Environment Institute, Finland; KWR Watercycle Research Institute, Holland; SOTON University of Southampton School of Civil Engineering & the Environment, Great Britain.

Funding: state budget SR, EU grant within the 6th Framework Programme

The objective of the project is to develop the decision making tools and guidelines in relation with priority pollutants:

The Following activities were included in the project:

- analysis of material flow for selected priority pollutants
- assessment of available and new measures and options for priority pollutants management
- development of decision-making tools for identification and selection of relevant measures at European, national and regional levels
- assessment of different potential measures using supportive decision making tools in case studies
- support to development of collective action plans (e.g. river basin management plans) involving general public (industry, authorities, citizens, NGOs)

CAPACITY BUILDING SUPPORT TO THE WATER SECTOR IN TURKEY

Responsible researcher: doc. RNDr. Štefan Reháč, CSc. (rehak@vuvh.sk)

Project partners: Government Service for Land and Water Management, Holland (coordinating institution); UK Department EU + International Relations Environmental Agency, England

Funding: EU, Twinning project

The main objective is to support and introduce water management system in Turkey through strengthening the institutions and water management tools applicable to different river basins and to establish the framework for activities in the field of water policy.

W A N D A - WASTE MANAGEMENT FOR INLAND NAVIGATION ON THE DANUBE

Responsible researcher: RNDr. Beáta Michniaková (michniakova@vuvh.sk)

Project partners: via donau – Österreichische Wasserstraßen Gesellschaft mbH, Austria; KTI Institute for transport Sciences Non Profit Ltd., Hungary; RSOE National Association of Radio-Distress-Signalling and Info-Communications, Hungary; APDF National Company the Administration of River Ports on the Danube J.S.Co Giurgiu, Romania; APDM Maritime Danube Ports Administration, Romania; EAMDR Executive Agency for Maintenance of the Danube River, Bulgaria; PAV Port Authority Vukovar – Public Institution for Management and Development of the Ports and Piers on Danube River and Danube-Sava, Croatia; Directorate for Inland Waterways Ploput, Serbia

Funding: European Regional Development Fund (ERDF) 85 %, state budget SR 15 %



The WANDA project is focused on the reduction of water pollution by wastewater and waste generated by ships.

Its main objective is to develop and implement the measures establishing environmentally sound and transnationally coordinated approach to ship waste management.

The project activities include the development of harmonized national concepts of ship waste management and the implementation of pilot actions for collection, treatment and disposal of hazardous waste and other types of ship waste along the Danube River.

DEVELOPMENT AND EVALUATION OF PASSIVE SAMPLING TECHNOLOGIES FOR MONITORING EMERGING AND PERSISTENT ORGANIC POLLUTANTS IN AQUEOUS ENVIRONMENT - S A M P L E R

Responsible researcher: Ing. Branislav Vrana, PhD. (vrana@vuvh.sk)

Project partners: Dr. Luke Chimuka, University of the Witwatersrand, Republic of South Africa

Funding: APVV

The main objective of the project is to improve water quality monitoring tools in Slovakia and in the Republic of South Africa. The method of passive sampling is a cost effective alternative to the current sampling techniques, which are based on spot sampling.

DINAMICS-DIAGNOSTIC NANOTECH AND MICROTECH SENSORS

Responsible person: RNDr. Lívia Tóthová, PhD. (tothova@vuvh.sk)

Project partners: 14 organizations from 7 countries EU and Turkey

Funding: state budget SR, EU grant within the 6th Framework Programme

The main objective of the DINAMIC project is to develop and implement the nanochip detecting harmful substances and pathogenic microorganisms in water with no other supporting devices. It is not intended for specific geographic area and it can be used in all EU countries.

Operational Programme - Environment

WATER STATUS MONITORING AND ASSESSMENT

Responsible researcher: RNDr. Jarmila Makovinská, CSc. (makovinska@vuvh.sk)

Funding: Kohesion Funds

Implementation of the project is based on the Water Monitoring Programme for 2008 – 2010

The project includes the following activities:

- Water quality monitoring and assessment in Slovak – Austrian transboundary rivers
- Water quality monitoring and assessment in Slovak – Hungarian transboundary rivers
- Monitoring of biological quality parameters
- Analyses of selected organic pollutants in selected sampling sites of Slovakia
- Control analyses of groundwater within the national system of groundwater quality monitoring in the Slovak Republic
- Monitoring of selected groundwater quality parameters in vulnerable areas of the Slovak Republic
- Monitoring of hydromorphological quality parameters in selected river sections in the Slovak Republic
- Assessment of ecological and chemical status of surface water bodies in the Slovak Republic

Expert events 2009

Conferences organized by the Water Research Institute as a leading organizer:

- ❖ 5th International Conference **Sediments of Water Courses and Reservoirs** (13-14 May)
- ❖ **International Geothermal Days, Slovakia 2009** – national concepts of the use of geothermal energy (26-29 May)
- ❖ 6th International Conference **Reconstructions of Sewerage Systems and Wastewater Treatment Plants** (21-23 October)

Expert training courses organized by the WRI in 2009:

- Microbiological course – basic laboratory microbiology
- Groundwater and wastewater sampling course
- Hydro-metering course
- Radiochemical workshop
- Training course for water managers – 1st grade
- Microbiological course
- Training course for water managers – 2nd grade
- Environment and water microbiology
- Drinking water and surface water sampling course

❖ WRI participated in organizing the gala events: World Water Day Conference „Common Waters – Joint Opportunities“ held on 19 March 2009.

❖ 8th international congress of IT specialists in public administration – Information Technologies and Public Administration (ITAPA 2009) was held in late 2009. The WRI was granted the [certificate of merit](#) for the project “[Keeping records of chemical factors and hazardous waste using the bar codes](#)” in the category “Process Improvement – IT economically and effectively“.



❖ The WRI was one of the partners in “**Young Slovak Scientists**”, the project of the Slovak Research and Development Agency.

Water Research Institute (WRI)

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full version of annual report is available on: <http://www.vuvh.sk>