

ICPDR – EUSDR PA4 & PA5 COORDINATION

Joint Paper on Cooperation and Synergy for the EUSDR Implementation

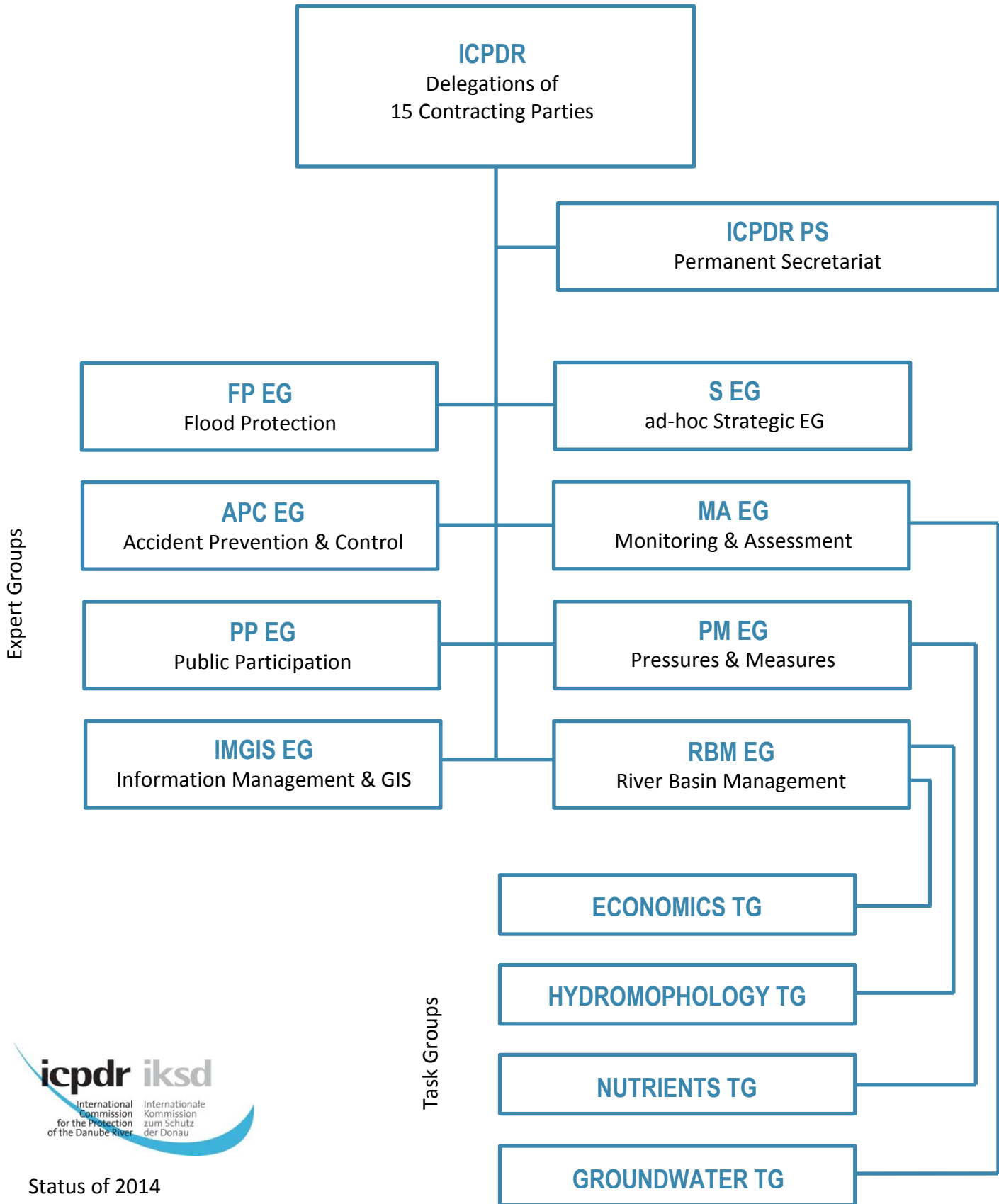
Annex

September 2014

ANNEX 1

ICPDR structure and responsibilities

**ORGANIGRAM OF THE
INTERNATIONAL COMMISSION FOR THE PROTECTION OF THE DANUBE RIVER (ICPDR)**



Status of 2014

ICPDR EXPERT GROUPS

Expert Group on River Basin Management

The Expert Group on River Basin Management (RBM EG) defines and prepares tasks related to the implementation of the EU Water Framework Directive in the Danube River Basin. This includes the Danube River Basin Analysis and the development of the Danube River Basin Management Plans, as well as the cooperation with different water-related sectors and the coordination with sub-basin initiatives.

Pressures and Measures Expert Group

The Pressures and Measures Expert Group (PM EG) identifies the causes of pollution-related pressures and promotes measures to address them. Harmonising the work of the ICPDR with the EU directives (e.g. UWWT Directive, Nitrates Directive, and IED Directive) is another issue. This Expert Group develops the Joint Programme of Measures, which is part of the Danube River Basin Management Plan.

Monitoring and Assessment Expert Group

The Monitoring and Assessment Expert Group (MA EG) is responsible for issues concerning water quality assessment and classification, including assessment of the ecological and chemical status according to the EU Water Framework Directive. The EG supervises the operation of the Trans-National Monitoring Network including its analytical quality control and supports organization of the Joint Danube Surveys.

Flood Protection Expert Group

The Flood Protection Expert Group (FP EG) was responsible for developing the Action Programme for Sustainable Flood Protection in the Danube River Basin and is currently overseeing its implementation at the national level. The EG also defines and prepares tasks related to the implementation of the EU Floods Directive in the Danube River Basin such as the development of flood hazard and risk maps and the Danube River Basin Flood Risk Management Plan.

Information Management and GIS Expert Group

The Information Management and Geographical Information System Expert Group (IMGIS EG), develops and operates the DanubeGIS and supports data collection and maps preparation on the level of the Danube River Basin for ICPDR reports. The Expert Group also supports the bilateral/multilateral activities related to the harmonisation of national datasets.

Accident Prevention and Control Expert Group

The Accident Prevention and Control Expert Group (APC EG) develops strategies to prevent or manage accidents. It works with pollution prevention and precautionary controls including inventories of accident risk spots, old contaminated sites in areas liable to flooding and mining sites. It supports the operation and development of the Danube Accident and Emergency Warning System, and the communication of alarm/warning messages in the event of accidents.

Danube River Basin Management and Flood Risk Management Plans, publications and outreach initiatives such as Danube Day or environmental education.

Strategic Expert Group (ad hoc)

The ad hoc Strategic Expert Group (ad hoc S EG) addresses administrative and legal matters arising from the implementation of the Danube River Protection Convention.

ICPDR TASK GROUPS

Groundwater Task Group

Reporting to the MA EG, the Groundwater Task Group deals with issues related to trans-boundary groundwater bodies of Danube River Basin-wide importance and with all aspects of groundwater management in line with the implementation of EU Water Framework Directive and Groundwater Directive.

Nutrients Task Group

Reporting to the PM EG, the Nutrients Task Group deals with the implementation of measures in line with nutrient reduction and works towards harmonising ICPDR work with EU legislation such as the UWWT Directive or Nitrates Directive and with agricultural policies like CAP

Economics Task Group

Reporting to the RBM EG, the Economics Task Group deals with the economic aspects of EU Water Framework Directive and Floods Directive and contributes to the development of the respective management plans.

Hydromorphology Task Group

Reporting to the RBM EG, the Hydromorphology Task Group deals with aspects of hydromorphology including e.g. longitudinal connectivity, wetlands and floodplains, morphological and hydrological alterations, future infrastructure projects or sediment management.

ICPDR OBSERVER ORGANISATIONS

The ICPDR has also a comprehensive number of Observers in order to ensure policy integration across sectors. As of summer 2014, 23 Observers are entitled to send delegates for active participation to all ICPDR plenary meetings, expert and task group meetings. They have access to technical working documents prior to these meetings. Observers represent interest groups from the full spectrum of water users in the Danube River Basin and are accepted by the ICPDR upon application and fulfilment of defined criteria.

 viadonau

Via Donau



International Association of Water Supply Companies



European Water Association



European Barge Union



Danube Environmental Forum



World Wildlife Fund



VGB PowerTech e.V.



Central Dredging Association



International Association for Danube Research



International Sava River Basin Commission



UNESCO International Hydrological Programme



Ramsar Convention on Wetlands



Danube Commission



Global Water Partnership



Carpathian Convention



Friends of Nature International



Regional Environmental Centre for Central and Eastern Europe



European Anglers Alliance



Commission on the Protection of Black Sea Against Pollution



Danube Tourist Commission



Danube Competence Center



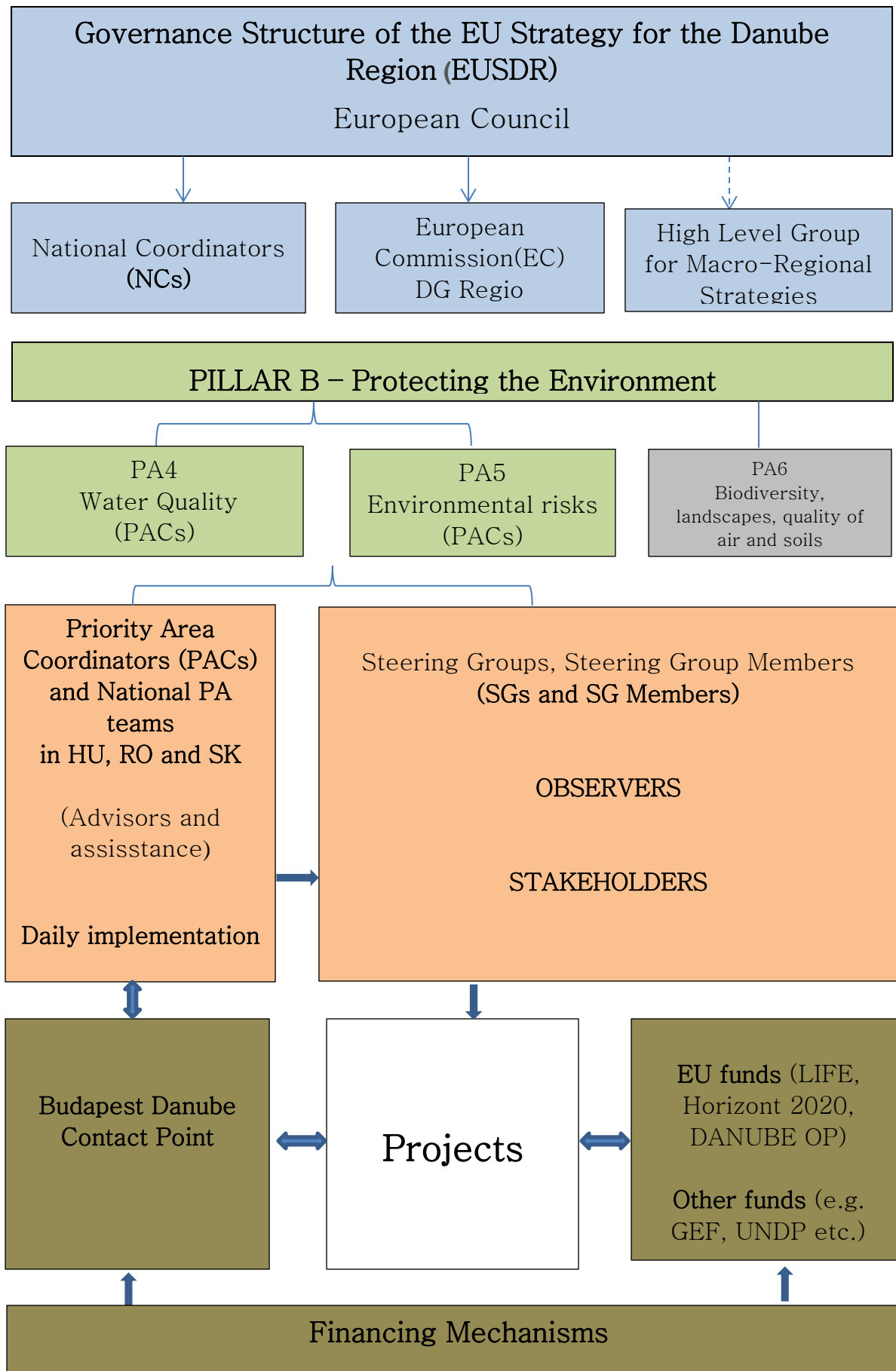
Danube Parks Network



Danube Civil Society Forum

ANNEX 2

EUSDR structure and responsibilities



ANNEX 3

Overview table ICPDR activities and related Danube strategy actions

Priority Area 4 – To restore and maintain the quality of waters

Action title	Action description	ICPDR Activities	PA4 Actions
Action - “To implement fully the Danube River Basin Management Plan”.	This Action Plan fully supports all the measures which have been agreed by the countries in the framework of their endorsement of the Danube River Basin Management Plan (DRBMP) and its accompanying Joint Programme of Measures.	<p><u>ICPDR Activity and Involvement</u></p> <p>The ICPDR is the forum under which the Danube countries have developed the Danube River Basin Management Plan as required by the EU Water Framework Directive. The ICPDR is also the forum under which the implementation is being monitored and coordinated.</p> <p>An interim report on the implementation of the Joint Program of Measures as included in the Danube River Basin Management Plan is currently under elaboration, to be finalized by end 2012.</p> <p>This action is not one single action but a multitude of actions in four key areas, Organic Pollution reduction, nutrient and hazardous pollution reduction and efforts to restore and improve the hydromorphological conditions. These actions are being implemented by each individual country and collectively will improve the conditions in the basin to meet the good status of water called for in the EU Water Framework Directive.</p> <p>A specific set of actions, including a Donors Conference, aiming firstly to make known the funding needs, and as well the identification of potential funding sources have been undertaken by the ICPDR.</p> <p>ICPDR has participated in the meetings of Priority Area 4 where the actions needed have been discussed. A communication strategy to was developed to involve stakeholders to learn about the DRBMP and the progress of its implementation.</p>	<p><u>PA4 activity and involvement</u></p> <p>Action related roadmap and set up of the roadmap was facilitated and organised by PA4 between 2011-2013.</p> <p>PA4 facilitated the alignment of funding and the support of the JPM of 1st and 2nd Danube River Basin Management Plan initiating the development of the document on the Alignment of Funding. http://groupspaces.com/WaterQuality/pages/</p> <p>The document serves as a supporting document to help financing procedure of 2nd Joint Programme of Measures as well as act as an umbrella paper integrating all aspects of Priority Area 4The main objective of this activity was to facilitate the trans-boundary coordination of efforts and funding as well as to confirm national priorities from the macro-regional perspective of the EU SDR. The compliance to OPs is ensured, broad intervention topics and indicative interventions were identified. The results are circulated to the SG members and to the EC.</p>
Action - “To greatly strengthen cooperation at sub-basin level”.	This action is particularly important to develop specific river basin management plans (Tisza, Sava and Prut rivers). Institutions of relevant areas are already established, cooperation and exchange of information should be strengthened.	<p><u>Existing ICPDR activities and involvement</u></p> <p>In four sub-basins, countries have committed themselves in the frame of the ICPDR to develop and adopt sub-basin management plans (Tisza, Sava, Prut and Danube Delta):</p> <p>On the occasion of the Ministerial Meeting on 11th of April 2011 in Uzhgorod, initiated under the Ukrainian ICPDR Presidency, relevant Ministers adopted the Integrated Tisza River Basin Management Plan and signed the memorandum of understanding to strengthen cooperation</p>	<p><u>PA4 activity and involvement</u></p> <p>1) <i>In connection to the four main sub-basins (Sava, Tisza, Prut and Danube Delta) the following activities have been initiated:</i></p> <p>- <i>In the frame of the International Development Cooperative Framework (NEFE), the Ministry of Foreign Affairs finances temporary experts of the BDCP from non-EU Danube countries to facilitate cooperation of PA activities. Via this initiative the PA4, in cooperation with the Budapest Danube Contact Point,</i></p>

Action title	Action description	ICPDR Activities	PA4 Actions
	<ul style="list-style-type: none"> ▪ Project “To complete and adopt Danube Tributaries’ River Basin Management Plans” – this project is currently on-going for the rivers Tisza and Sava. For the Tisza, Romania, Slovakia, Hungary, Ukraine and Serbia are currently cooperating on the basis of the Memorandum of Understanding signed in 2004 and coordinated by the Tisza Group established in the framework of the ICPDR. The first draft of the Integrated Tisza River Basin Management Plan is under public consultation and should be finalised by the end of 2010. As regards the Sava, Bosnia Herzegovina, Croatia, Serbia and Slovenia have signed a Framework Agreement on the Sava River Basin and established the International Sava River Basin Commission (ISRBC). A full River Basin Management Plan is under preparation, with financial support from the European Commission, and should be completed by the end of 2011 (Lead : relevant river management body; 	<p>towards its implementation. This work should contribute to supporting the sustainable development of the region.</p> <p>The Integrated Tisza River Basin Management Plan has been developed. The ICPDR Tisza Group is now focusing on the implementation of the Integrated Tisza River Basin Management Plan.</p> <p>The “Sava RBM Plan” was prepared by the ISRBC with EU-funded technical assistance (Dec. 2009 – Dec. 2011).</p> <p>The coordination and cooperation between the ICPDR and ISRBC has been formalized and agreed including the active participation in the respective meetings. This activity is clearly led by the ISRBC.</p> <p><u>ICPDR Activity and Involvement</u></p> <p>The cooperation between the countries of the Danube Delta was formalized in an MOU signed in 2008 by the Heads of Delegation from these three countries to develop a sub-basin management plan. The commitment to develop a Sub-basin plan have been strengthened through the project funding received by the ICDPR from the Environment and Security Initiative (ENVSEC). The Project objective are to improve objectives are to improve cross-border cooperation in the Danube Delta and to build capacities for introducing a river basin approach for the management of natural resources in the Danube Delta Region.</p> <p>A funding proposal involving larger amounts of funding is available with the hope that this EU programme can support the next steps of this initiative. The countries of the Delta region are responsible for this activity in the context of their involvement of the ICPDR.</p>	<p>accelerates efforts to strengthen cooperation and identify new partners with non- members states, such as in the frame of twinning programs with Moldova and Ukraine.</p> <ul style="list-style-type: none"> - <i>In 2013 experts from Baden-Württemberg and Ukraine have been seconded to the BDCP to facilitate transboundary cooperation in connection to the PA activities and additional experts will arrive from Moldova in the coming months. Discussions have already been started with Bosnia and Herzegovina and Serbia on possible future co-operations. The NEFE main objective is to strengthen PA activities by supporting Non-EU countries.</i> - <i>Specific action has been facilitated by PA4 since 2010 to develop a project proposal to ensure the continuation of the work within the ICPDR Tisza Group. First a project proposal developed by experts from Hungarian VÁTI Institute integrating in the task land use and water management development issues. The proposal development was taken over by REC in 2011. The project proposal (acronym is Pro-Tisza) was supported by all countries of the Tisza River Basin (Ukraine, Romania, Slovakia, Hungary and Serbia) and was submitted to the SEE programme in 2011. The project proposal has not yet been supported. PA4 aims to assist in a project development and to set up a consortium in 2014 to further develop Tisza River Basin cooperation.</i> - <i>Relevant for the Tisza River Basin the development of the idea of EW system is included in Action 2 and its roadmaps of EUSDR Priority Area 4 (PA4, Water Quality). One of the front-end activities of ICPDR is the Danube AEWS (Accident Emergency Warning System) and its implementation through the operation of network of PIACs (Principal International Alarm Centres). This system is a logical framework of the proper reaction on the accidents and pollutions that may have international effects, AEWS itself physically does not exist. The detection of any kind of accidents varies from country to country and dependent on the concrete case, there is no unified and regulated, agreed system in Europe yet. The implementation of an Early Warning Water Quality Monitoring System would result in a solid, physical base of the AEWS. As an initial step to touch the problem a preparatory study was made to find out the possible directions of beginning.</i> - Cooperation with the Sava Commission has also priority

Action title	Action description	ICPDR Activities	PA4 Actions
	<p>Deadline : end 2011)</p> <ul style="list-style-type: none"> ▪ Project “To complete and adopt a Management Plan for the Danube Delta” — the delta is one of the sub-basins identified within the wider Danube area. Much still needs to be done to develop joint data collection, joint research and joint initiatives in terms of delta water management. Despite complex socio-economic and political issues affecting the area, the three countries concerned (Romania, Moldova and Ukraine) have started cooperating more closely, with the support of the ICPDR. A full management plan should be prepared and agreed, possibly with the support of a project to be funded by the ENPI CBC Programme Romania-Ukraine-Moldova. (Lead: Romania, Ukraine and Moldova) 		<p>within Action 2, The main objective is to further strengthen cooperation with the Commission share best practices and lessons learned as well as to seek for common action intervention areas where joint actions can further contribute to the success of both Sava Commission and Pa4.</p> <ul style="list-style-type: none"> - The document on the Alignment of Funding highlights intervention areas and topics relevant for the sub basins. Development of the update of the Pro-Tisza project proposal has specific priority in 2014. http://groupspaces.com/WaterQuality/pages/2)

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<p>Action - "To continue to invest in and support the information collection systems already developed by ICPDR".</p>	<p>The activities such as the Transnational Monitoring Network, the Danube Joint Surveys or the GIS databases provide essential information necessary to identify key problems and take action in order to meet the objectives of the Water Framework Directive.</p> <ul style="list-style-type: none"> ▪ Project - "To carry out the next Joint Danube Survey by 2013 and to complete the development of the existing Danube GIS Database". In the field of water management, collecting and analysing data, further harmonization of other national monitoring and assessment methods, is of the utmost importance. To this effect, the existing work already completed needs to be further developed and monitoring of water quality needs to be a permanent feature. As far as the GIS system is concerned, it will be critical to make it compatible with the WISE system developed by the EU and to make results available to other key actors. (Lead: ICPDR; Deadline : 2013) 	<p><u>ICPDR Activities</u></p> <p>The Joint Danube Survey will be organized by the ICPDR in 2013. Its general objective is to undertake an international longitudinal survey that would produce comparable and reliable information on water quality for the whole of the length of the Danube River on a short-term basis. The outcomes of the JDS3 will cover the information gaps as necessary for the implementation of the EU Water Framework Directive. At present the collected samples are being analysed to provide a comprehensive database for preparing the Final report. JDS 3 Report Writing Workshop will be held on 27-28 March 2014 in Vienna.</p> <p>The IMGIS EG of the ICPDR with support by the Umweltbundesamt Austria prepared a strategic plan for future development of the DanubeGIS addressing the following needs: upgrade to up-to-date software, introduction of a database backend to facilitate data validation, analysis and integration with other ICPDR datasets (eg. water quality monitoring, emission sources), implementation of a modern interactive WebGIS viewer, as well as a concept for data updates, production of reference datasets, and object transaction rules. The IMGIS EG is also supporting the bilateral/multilateral harmonisation of the river network.</p> <p>Funding is needed for both of these activities and the Danube Strategy can be a vehicle to ensure this.</p> <p><u>ICPDR Involvement</u></p> <p>The initial phase of the Sava GIS establishment started and is planned to be finalized in 2012 by the ISRBC.</p> <p>and there is the need to ensure that the activities at the two levels are mutually supportive.</p>	<p><u>PA4 activities</u></p> <p>Action related roadmap and set up of the roadmap was facilitated and organised by PA4 between 2011-2013.</p> <p>PA4 seeks for options to ensure financial support for the Joint Tisza Survey and related activities. PA4 aiming at to link Joint Tisza Survey activity with the project introduced under sub-basin cooperation relevant for the TRB.</p> <p>PA4 facilitated the alignment of funding and the support of the JPM of 1st and 2nd Danube River Basin Management Plan initiating the development of the document on the Alignment of Funding. http://groupspaces.com/WaterQuality/pages/</p> <p>Efforts to coordinate common activities a meeting was organised with the Joint Research Centre in 2013. PAC participated at the different water nexus meetings and the cooperation resulted in initiating the macro regional conference in Budapest in September 2013. JRC gave a presentation on the Multi-criteria hydro-economic optimisation of water resources in Europe to support the EU Blueprint to safeguard Europe's waters and the Danube Strategy. JRC study on challenges and solutions related water demand and supply was introduced as well. The aim of the study is to stimulate EU countries to increase the efficiency of water use by 2020/2030. JRC as a key initiator of fact and science based policy support to the macro-regional water policy. To integrate the new water nexus being established by the JRC into the framework in to PA4 of EUSDR the PAC already invited the water nexus leaders to the SG to provide an overview and to discuss the nexus. PAC noted with appreciation the high interest from scientific institutions to take part within the water nexus and participated at various meetings to foster and deeper integration of research and science activities towards the implementation of PA4 actions in the Action plan. There are some good examples already of macro regional co-operations established between research institutions to joint forces with the JRC and to broaden the research to support the EUSDR.</p>

Action title	Action description	ICPDR Activities	PA4 Actions
	<ul style="list-style-type: none"> ▪ Project - “To establish and complete the Sava GIS” - the Sava GIS Strategy was adopted by the ISRBC in 2008. The main aim of the Sava GIS Strategy is to establish an effective and efficient (geo) information system and spatial data infrastructure to support a wide range of water management planning activities. In December 2009, a grant was received from the European Commission to support the ISRBC in preparing and implementing its river management plan. In this way, collected national data sets will be refined and verified and initial activities in the establishment of the Sava GeoPortal core functionalities will be performed. (Lead: ISRBC; Deadline : December 2013) 		
<p>Action - “To continue boosting major investments in building and upgrading urban wastewater treatment facilities across the Danube</p>	<p>Requirements under EU environmental legislation need to be fully met and EU funding possibilities need to be used effectively in order to ensure full primary, secondary and tertiary treatment. The Danube</p>	<p><u>ICPDR Activity</u></p> <p>The ICPDR prepared a comprehensive basin wide analysis and overview on the urban wastewater treatment development in the DRB. Based on the EU reporting schemes, complete sets of national reports are available, different scenarios of development to meet WFD objectives have been calculated and results were visualized in the maps and graphs. An overview on the measures</p>	<p><u>PA4 activity and involvement</u></p> <p>Action related roadmap and set up of the roadmap was facilitated and organised by PA4 between 2011-2013.</p> <p>Facilitating projects that aim at the improvement of large urban waste water treatment plants, supporting the development of technologies in the field of removal of organic micropollutants</p>

Action title	Action description	ICPDR Activities	PA4 Actions
<p>Basin, including measures to build capacity at the regional and local level for the design of such infrastructure”.</p>	<p>countries which are not members of the EU are also being urged to speed up their investments in WWTP, as they pledged to do when adopting the DRBMP at the end of 2009.</p> <ul style="list-style-type: none"> ▪ Project - “To implement the Blue Danube cooperation project to exchange technologies, experience and personnel in the field of urban waste water treatment”. The project initially involves the Danube cities of Ulm and Vidin and looks in particular at new technologies aimed at removing waste from pharmaceutical products. (Lead : University of Ulm; Deadline : 2014) 	<p>taken and progress achieved by the Danube countries is available in the Interim Report on the Implementation of the Joint Program of Measures. Update of the information is on-going, analysis will be elaborated for the Danube Basin Analysis Report. The database on UWWTPs is planned to be updated for the 2nd DRBM Plan.</p> <p>Further, estimates on the investments needs are available for some of the plants. The financing needs for the urban wastewater development have been discussed with the IFIs, in particular with the WB, EBRD and EIB, during a donors conference organized in 2010, as well in bilateral consultation discussion between the ICPDR and the financing institutions. The ICPDR workshop on financing held on 4-5 April 2013 also specifically addressed the financing issues of the UWWTP’s.</p> <p>The specific project listed as an action has not been discussed in the context of the ICPDR but the lessons learned from the activity planned for Germany and Bulgaria can be used to illustrate the benefits of removing micropollutants which are coming from the urban systems. Also the experience can be shared at the ICPDR relevant EG meeting and during a planned workshop to discuss inventories and possible reduction measures of hazardous substances in the DRB.</p>	<p>(priority pollutants and watch list compounds).</p> <p>Blue Danube project ‘<i>Improved framework conditions for fast track eco-innovation in waste water treatment</i>’ has been received a LoR. The project proposal has not been approved yet.</p> <p>– Macro-Regional Conference has been organised in September 2013 to support objectives of PA4 activities and to offer new scientific and technical solutions to fill in gaps outlined by PA4. In the frame of the conference relevant to the topic of sanitations and waste water treatment, the PA4 initiated contacts with the related waste water treatment services to establish working groups and proceeded developing project ideas. A small settlement waste water treatment optimizations system was identified as a result of the cooperation with the Budapest Technical University (BME) for the integrated solutions for wastewater treatment in small settlements and rural areas and results were disseminated at the conference. As a major contribution to the reduction of water use and waste water amount a source separation scheme was presented, defining descriptive categories of yellow, brown and grey water and their possible paths within a rural/agricultural household and <u>environment.The relevant milestones among others relates to technology developments.</u></p>
<p>Action - “To establish buffer strips along the rivers to retain nutrients and to promote alternative collection and treatment of waste in small rural settlements”.</p>	<p>The action which should be seen as complementing the effects of completing the network of WWTP. Other, less costly and heavy, methods of reducing polluting discharges into rivers (alternative sanitation) should be explored wherever possible.</p>	<p><u>ICPDR Activities</u></p> <p>Agri-environmental measures to reduce nutrients are included in the Danube RBM Plan and in the national plans. The assessment of the implementation status and the anticipated effects in reducing nutrients is evaluated by the ICPDR. Discussions on the good agricultural practices have regularly been initiated at the PM EG Meetings. The results were used in the 2012 implementation report (EU WFD), an overview on the basic and supplementary measures, inter alia the buffer zones, and progress achieved by the Danube countries is available in the Interim Report on the Implementation of the Joint Program of Measures. This will serve as a basis of future scenario calculations evaluating the packages of measures related to agriculture. This will be used for the 2nd DRBM Plan.</p>	<p><u>PA4 activity and involvement</u></p> <p>Action related roadmap and set up of the roadmap was facilitated and organised by PA4 between 2011-2013.</p> <p>In the Action Plan a special task was identified to send a questionnaire to the countries and based on the replies, to provide an assessment on the situation of the buffer zones. PA4 created and coordinated that the questionnaire is sent to the SG members. The PA4 decided to make further assessment and studies to contribute and fulfil its duties concerning Action 5 of the Action Plan. As Hungary was identified as primary responsible actor for this Action (beside PA4 and the ICPDR), for this reason and partially based on Hungarian governmental funds, a contract with an international research organization, Czech based regional network “Justice and Environment” was concluded in 2013 to prepare a complete research document analysing the situation in the Danube basin for the utilization of</p>

Action title	Action description	ICPDR Activities	PA4 Actions
		<p>A project focused specifically on this topic could be developed and funded in the context of the Danube Strategy. An activity involving cooperation with Observers related to the issue is under consideration in connection with the expected Business Friends of the Danube actions.</p> <p>This could be developed in the context of the action listed below involving cooperation between water managers and the agricultural sector.</p>	<p>PA4.</p> <p>The Study is result of a comprehensive research that was completed in all Danube countries, with the involvement of experts describing the situation from the concerned Danube states. The result of the research will also serve to identify policy recommendations and to further discuss with and submit for consideration to DG ENV in line with previous discussions held between PA4 and DG ENV in 2013.</p> <p>The Study contains the following documents:</p> <ol style="list-style-type: none"> 1. Survey of the situation of buffer zones 2. Survey of the situation on management of solid waste in small rural settlements 3. Survey of the situation on alternative collection and treatment of wastewater in small rural settlements. <p>The Study, a summary of the Study and the recommendations based on the research were all provided for the Steering Group Members of PA4 and for further recommendations to stakeholder institutions and were discussed in detail at the SG7 Meeting in Budapest, on 28.03.2014 and still being discussed at several ICPDR WGs. They are all available at http://groupspaces.com/WaterQuality/pages/</p>
<p>Action - "To foster and develop an active process of dialogue and cooperation between authorities responsible for agriculture and environment to ensure that measures are taken to address agricultural pollution".</p>	<p>It is vital that key stakeholders from environment and agriculture cooperate in order to jointly re-enforce concrete measures in reducing pollution from fertilisers and manure. This work should expand to comply with the Nitrates Directive and lead to the full implementation in the region of a holistic/overarching plan to reduce nutrients discharge.</p>	<p><u>ICPDR Activity</u></p> <p>The countries of the Danube made a commitment to develop this cooperation in the context of the Danube River Basin Management Plan implementation in the Ministerial Declaration adopted in February 2010.</p> <p>Different scenarios of agricultural intensification have been calculated to illustrate the effect of an increase fertilizers application in the DRB. Also inventories of fertilizers and pesticides have been prepared and are currently updated. The ICPDR is supporting the countries in their efforts to implement the Nitrates Directive and the respective actions plans in the NVZ, as appropriate for those countries accepting a territorial approach. Further, activities are organized to assess the implementation status and effects of the agri-environmental measures, as part of the CAP – RDP, supporting the WFD objectives. A workshop on agriculture was organized in 2012 to facilitate stakeholders</p>	<p><u>PA4 activity and involvement</u></p> <p>Action related roadmap and set up of the roadmap was facilitated and organised by PA4 between 2011-2013.</p> <p>Facilitating pilot projects that aim at the reduction of nutrient emission from agriculture.</p> <p>Supporting such projects by issuing LoR.</p> <p>The project proposal 'GOODWATER' has been developed aiming at to provide implementation instruments, based on environmental basis for effective protection of water resources and enhanced - sustainable land use. The project idea received a Letter of Recommendation in 2011 but the project has not received financial support yet.</p>

Action title	Action description	ICPDR Activities	PA4 Actions
		<p>understanding of issues linked to agricultural pollution, nutrients reduction, implementation of agri-environmental measures (such as manure storage) and compensation mechanisms.</p> <p>Funding is needed to expand and carry out this activity in an active and organized manner beyond the actions outline above. Important as well is the involvement and cooperation of partners from the agriculture sector.</p>	
<p>Action - “To legislate at the appropriate level to limit the presence of phosphates in detergents”.</p>	<p>This key action is seen as a very cost effective pollution control initiative which can quickly and effectively reduce the nutrient pollution in the Danube region.</p>	<p><u>ICPDR Activity and Involvement</u></p> <p>The ICPDR has been actively involved in preparing background information and actions related to promoting and encouraging this action at both an EU level and in non-EU countries.</p> <p>The ICPDR has for over ten years been involved in dialogue at high level with the ministers, preparation and signing of the ministerial declaration with provisions related to the phosphates limitation, scientific meetings with relevant experts, consultation meetings with the AISE and detergent industries, workshops. Various modelling scenarios have also been calculated to investigate the effects of the P-free detergents. The anticipated results in P reduction have been included in the DRBMP, and the measures were recognized as a supplementary measures in many of the Danube countries to reduce nutrients.</p> <p>, therefore a targeted dialogue with non EU MS on the implementation of a P ban for detergents should be considered.</p>	<p><u>PA4 activity and involvement</u></p> <p>Action related roadmap and set up of the roadmap was facilitated and organised by PA4 between 2011-2013.</p> <p>The ICPDR was responsible under Milestone 1 to prepare an overview report on the implementation of regulation (EU) 259/2012. In the Roadmap of PA4 A7 a special task was identified in Milestone 2 to make a policy response to the overview report. Therefore to complete this task and partially based on Hungarian governmental funds, PA4 concluded a contract in 2013 with an international research organization, Czech based Justice and Environment, who prepared a complete research document analyzing the situation with regards to phosphates in the Danube basin. The result of the research will also serve to identify policy recommendations and to further discuss with and submit for consideration to DG ENV in line with previous discussions held between PA4 and DG ENV in 2013.</p> <p>The Study, a summary of the Study and the recommendations based on the research were all provided for the Steering Group Members of PA4 and for further recommendations to stakeholder institutions and were discussed in detail at the SG7 Meeting in Budapest, on 28.03.2014. The documents and recommendations were also discussed at several ICPDR EGs and are all available at http://groupspaces.com/WaterQuality/pages/</p>
<p>Action - “To treat hazardous substances and contaminated sludge with the</p>	<p>In this key action important to invest in research and innovation to reduce risks connected with the production of hazardous</p>	<p><u>ICPDR Activities and Involvement</u></p> <p>The ICPDR activities are focused on the accidental risk assessment of contaminated sites, including industrial sites and solid waste disposal sites (counting as well the</p>	<p><u>PA4 activity and involvement</u></p> <p>Action related roadmap and set up of the roadmap was facilitated and organised by PA4 between 2011-2013.</p> <p>Action strongly links to the ICPDR activities, however there are</p>

Action title	Action description	ICPDR Activities	PA4 Actions
<p>newest and best available technology and to develop and promote remediation measures for hazardous producing or abandoned industrial sites and waste deposits”</p>	<p>substances and their disposal, which can have disastrous consequences on the quality of ground and surface waters.</p>	<p>abandoned tailing deposits and mining sites). Contaminated sites inventories are concluded and periodically updated. The quantification of real risk associated with level of safety of specific sites is a task under investigation. Future work relates to the update of the catalogue of measures based on the results of the new inventories and real quantification of the risks.</p> <p>The ICPDR has been an important forum for addressing aspects of this issue but it is clear that a large number of additional actors are involved and have activities which will contribute to this action. The ICPDR can and should be a place where advancements and progress are monitored and evaluated.</p>	<p>certain tasks to be shared with PA4 such as the organisation of pilot project to promote and present best practices in replacing the hazardous compounds and in the clean-up of contaminated industrial sites and abandoned or illegal waste deposits. In 2014 – in line with the Roadmap objective – PA4 and ICPDR should explore the list of relevant activities and research needs.</p>
<p>Action - “To assure the proper control and progressive substitution of substances that are considered problematic for Danube Region”.</p>	<p>The action identified under REACH as substances of very high concern, through the preparation of Annex XV dossiers for identification of those substances and their with a view to their eventual inclusion in Annex XIV of REACH.</p>	<p><u>ICPDR Activity</u></p> <p>Emission inventories have been prepared by the ICPDR for industrial, urban and agricultural discharges. For the pollution assessment needed for the preparation of the DRBMP, information existing in the EPRTR reports have been considered. The ICPDR was involved in the work of the EU Drafting Group on preparing a guidance document on inventories of emissions, discharges and losses of priority substances. The Guidance document is available and a preliminary testing of its application was carried out at the DRB level.</p> <p>Reporting under REACH is also considered as a source of information concerning the registration, evaluation, authorisation and restriction of chemicals by EU Member States in the DRB. All these expected data and information will improve the current unsatisfactory level of information in the DRB.</p> <p>JDS 3 will be a supplementary source of information and indication where the control is successful or not.</p> <p>In the frame of the EU PF7 project SOLUTIONS the Danube river basin specific pollutants will be identified.</p>	<p><u>PA4 activity and involvement</u></p> <p>Action related roadmap and set up of the roadmap was facilitated and organised by PA4 between 2011-2013.</p> <p>Action strongly links to the ICPDR activities.</p> <p>The Macro-regional conference provided an overview about scientific results and innovative methods which are essential to the implementation of the water-related goals of the EU Strategy for the Danube Macro-region. It was stressed in the frame of the conference that the EUSDR provides a comprehensive cooperation platform for macro-regions; builds on a legal context, offers a complex framework to coordinate, enhance and implement strategies in a multi-sectoral and transnational context and also for the first time it offers an opportunity for alignment of funding with cohesion policy instruments and other potential sources.</p> <p>The brief presentation of Kovács Zs and Török A on the frame of the conference (from the Pannon Egyetem) – was focusing on complex and innovative monitoring systems for river basins, by presenting new ideas concerning Early Warning Systems and toxicology testing. These two directions of water analysis were joined together comprising a cost effective integrated system which performs sampling, analysis and toxicity testing of surface waters.</p> <p>To integrate the new water nexus being established by the JRC into the framework in to PA4 of EUSDR the PAC already invited the water nexus leaders to the SG to provide an overview and to discuss the nexus. PAC noted with appreciation the high interest</p>

Action title	Action description	ICPDR Activities	PA4 Actions
			<p>from scientific institutions to take part within the water nexus and participated at various meetings to foster and deeper integration of research and science activities towards the implementation of PA4 actions in the Action plan. There are some good examples already of macro regional co-operations established between research institutions to joint forces with the JRC and to broaden the research to support the EUSDR. The PAC looks forward receiving similar good examples of cooperation in all SG countries.</p>
<p>Action - "To reduce existing water continuity interruption for fish migration in the Danube river basin".</p>	<p>In the current DRBMP it is agreed that 108 migration aids will be built, which is a good start but which needs to be expanded in the coming years. It is also important to implement the jointly agreed Sturgeon Action Plan and to invest into further research on fish migration routes and behaviour.</p> <ul style="list-style-type: none"> ▪ Project - "To make the feasibility study for restoring continuity at the Iron Gates". The sturgeon and other fish population are decreasing because of the existence of big dams that prevent the fish migrating and thus reproducing. One of the biggest obstacles is the Iron Gate hydroelectric dam between Romania and Serbia. A feasibility study on the possibilities of fish migration through the dam should be carried out. (Lead: 	<p><u>ICPDR Activity and Involvement</u></p> <p>The overall issue is one of major importance for which the ICPDR is coordinating with other partners actions.</p> <p>The ICPDR Secretariat, Romania and Serbia have continued with activities to elaborate on the feasibility for establishing fish passage on the Iron Gates Dams.</p> <p>Based on letters expressing interest in this activity which were sent to the Food and Agriculture Organization (FAO) by the Romanian Minister of Environment and Serbian Minister of Agriculture, a mission was conducted from 10 to 13 May 2011. Representatives from FAO, the ICPDR Secretariat, Romania and Serbia participated in a site visit at the Iron Gate dams I&II to evaluate the possibility of fish passes being built for sturgeons and other migratory fish species.</p> <p>Building on this activity, a project further investigating on this issue was launched in September 2013, financed by the Dutch Partners for Water Programme and the ICPDR. The project will be finalised in June 2014, providing further clearance on possible solutions for fish migration.</p> <p><u>ICPDR Activity and Involvement</u></p> <p>Three lead countries (AT, HU, RO) have been nominated to work together with the Secretariat in the frame of the</p>	<p><u>PA4 activity and involvement</u></p> <p>Action related roadmap and set up of the roadmap was facilitated and organised by PA4 between 2011-2013.</p> <p>In line and next to the ongoing ICPDR activities PA4 will support the research and implementation of river continuity facilities. PA4 will facilitate the implementation of Milestone 5 and Milestone 6: Assessment of the establishment of a hydro-morphological monitoring system for the Danube and tributaries as well as will organize the development of a study on the improvement of longitudinal continuity of rivers with operational changes in existing installations and low cost improvements in the light of the specific needs of various migratory fish species and taxa (coordination with PA6).</p> <p>PA4 facilitated the alignment of funding and the support of the JPM of 1st and 2nd Danube River Basin Management Plan initiating the development of the document on the Alignment of Funding. http://groupsaces.com/WaterQuality/pages/</p> <p><u>PA4 activity and involvement</u></p> <p>According to the outlined milestone (milestone 4) of the Roadmap, in line with the agreement of the Danube Countries a project consortium was established supported by PAC 4 and also facilitated by the ICPDR PS to review the current status of the sediment regime of Danube including the inputs of major tributaries, analyse pressures and impacts. Moreover the project</p>

Action title	Action description	ICPDR Activities	PA4 Actions
	<p>Romania and Serbia; Deadline: end 2012)</p> <ul style="list-style-type: none"> ▪ Example of project - “To carry out an assessment for restoration of the sediment balance in the Danube”. Trans-boundary solutions need to be found for the problem of riverbed incision and the lack of sediment. Hydropower dams and dredging activities on the Danube cause serious problems in the balance of the sediment of the river system, which drives the deepening of the riverbed on free flowing river sections. Co-ordination within the framework of the Strategy will help ensure identification and implementation of best solutions. This is also an important project in relation to flood prevention. ▪ Project - “To examine biodiversity and environmental status of sediment, water and biota in the Sava River Basin” - The project should focus mainly on integration of EU environmental directives 	<p>ICPDR on the sediment issue.</p> <p>The project “Danube Sediment Management - Assessment for Restoration of Sediment Balance in the Danube River Basin” has been submitted to the 4th call of the SEE Programme on 24 November 2011.</p> <p>The project received the Danube Strategy Letter of Recommendation due to its high relevance for the implementation of Priority Area 4 of the Strategy and is also strongly supported by the ICPDR. As next steps it is planned to update the project proposal and to hand it in under an upcoming call of an appropriate funding programme (e.g. Danube Transnational Cooperation Programme).</p> <p>A sediment activity for the Sava River undertaken by the ISRBC will also contribute to the effort listed above.</p>	<p>also aims to assess the potential for restoration of sediment balance and propose actions to be taken in order to improve the sediment continuum and river morphodynamics along the Danube. For the establishment of the consortium partner meetings have been organised. Currently the countries are seeking for the suitable financial sources. In the following progress period the countries will revise/update the project proposal in line with the feedback of SEE program evaluators and absend on the follow-up agreement of the countries.</p> <p>The project proposal received a LoR from PA4.</p> <p>PA4 facilitated the alignment of funding and the support of the JPM of 1st and 2nd Danube River Basin Management Plan initiating the development of the document on the Alignment of Funding. http://groupspaces.com/WaterQuality/pages/. Further on discussion has been organised with DG MOVE as well to facilitate relevant actions.</p>

Action title	Action description	ICPDR Activities	PA4 Actions
	<p>in Sava river countries. A system for efficient exchange of data will be established and know-how transfer between project partners and other relevant institutions in the Sava River Basin will be provided. The ecological status of the Sava River Basin will be evaluated on the basis of data collected. Outcomes of the project will serve as the basis for application of the EU directives and sustainable water management activities which are crucial for the Sava River Basin Management Plan, as well as the management of natural assets and protected areas. (Lead: ISRBC, Deadline: 2014)</p>		
<p>Action – “To promote measures to limit water abstraction”</p>	<p>There is competition for water for various purposes (drinking water, irrigation, industry, energy) and in view of possible reduced levels of water available in the future, actions should be developed to establish a water abstraction management concept with special attention to water demand management.</p>	<p><u>ICPDR Activity and Involvement</u></p> <p>The ICPDR performed an economic analysis of the WFD. One component of the analysis relates to the water pricing, cost recovery and water pricing policy as one of the most important water demand management measure to control water use and ensure rational water abstraction and use.</p> <p>Although no specific project for this activity has been developed in the frame of the ICPDR it would be beneficial and either undertaken by the ICPDR or by an institution supporting the Danube countries through the ICPDR.</p>	<p><u>PA4 activity and involvement</u></p> <p>Revealing the best practices in reducing water abstraction, disseminating the best practices in this field by organising conferences and issuing guidelines.</p> <p>Supporting such project by issuing LoR for CC-Ware project in 2011. Main results and best practices and policies for decision makers and stakeholders should be collected using the outcomes of CC WATERS and CC WARE. Integration of the results into the 2nd RBMP should be ensured in 2014 and 2015.</p> <p>Besides issuing LoRs for the mentioned projects PA4 also ensured the wide dissemination of these projects by introducing them, in the frame of the 1st and 2nd Stakeholder Conferences</p>

Action title	Action description	ICPDR Activities	PA4 Actions
<p>Action - “To strengthen general awareness and facilitate exchange of good practice in integrated water management issues in the Danube Basin among decision-makers at all levels and among the population of the Region”</p>	<p>It is very important that the population at large, and in particular young people, are aware of the challenges facing the region in terms of water quality and management. Existing initiatives such as Danube Day or the Danube Box should be built upon and expanded.</p>	<p><u>ICPDR Activity and Involvement</u></p> <p>The ICPDR has initiated Danube Day and developed the Danube Box to realize this goal. The further development and expansion of these activities are being investigated.</p> <p>In addition, one of the goals of the Joint Danube Survey is to raise public awareness towards the needs of water quality protection. A number of public events will be included in the survey.</p> <p>Measures under way to develop Danube Box go in two directions: Spread it geographically and implement it as one element into youth programs and educational initiatives. Danube Day will continue to be a key element in the ICPDR’s communication activities.</p>	<p>as well as on the Annual Forum in Regensburg.</p> <p>PACs have distributed the main results, progress achieved during the project period in the frame of international events, like conferences, workshops, seminars.</p> <p>3) To be able to disseminate the outcomes of PA4 and inform stakeholders interested in the process the following main steps have been done:</p> <p>4)</p> <ul style="list-style-type: none"> • Establishing and keeping up to date a website with access to the broad public (http://groupspaces.com/WaterQuality/); • Establishing a project database and proper input forms; • Communicating the activities and projects of PA4 to stakeholders and to the public; • Organisation of the first Stakeholder Seminar together with the other two Pillar B Priority Areas (PA5 and PA6); • Participation in the first EUSDR Stakeholder Forum, in Regensburg; • Organisation of the second Stakeholder Seminar (Macro-Regional Conference) together with the other two Pillar B Priority Areas (PA5 and PA6); • Participation in the second EUSDR Stakeholder Forum, in Bucharest; • Participation on the ICPDR Standing Working Group meetings and Ordinary meetings to sharing information with the relevant organisations; • Presenting results and main objectives of EUSDR PA4 in the frame of relevant conferences, workshops, etc.;
<p>Action - “To promote measures aimed at reducing knowledge deficits, developing and transferring tools, methods and guidelines concerning the safeguarding of drinking water</p>	<p>This action could be improved by fostering intense cooperation between drinking water suppliers. Ways in which to implement the cost recovery principle and general water pricing issues should be discussed and experience exchanged.</p>	<p><u>ICPDR Involvement</u></p> <p>The investigation of the application of cost recovery principle in the DRB was done based on case studies for the DRBMP. An updated assessment is under consideration in line with Art 9 of WFD. Further, an overview of water pricing policies is planned to be prepared in 2012 to serve as basis for the 2013 analysis.</p> <p>The ICPDR would be an important beneficiary and actor in this action which would logically be undertaken by drinking water suppliers working in the context of the IAWD which as an observer to the ICPDR could bring this information in</p>	<p><u>PA4 activity and involvement</u></p> <p>The list of the available national and trans-national associations was prepared in 2013. A stakeholder conference was organized by the Slovak co-coordinating institute of PA4 on 16-17 December in Bratislava with a title: Safeguarding of drinking water supply - Challenge for the Danube Region Strategy. The conference discussed the following important topics:</p> <ol style="list-style-type: none"> 1. Drinking Water in the Light of European Legislation 2. European Strategy for the Danube Region in the Sphere of Water Quality 3. Progressive Analytic Methods for Drinking Water

Action title	Action description	ICPDR Activities	PA4 Actions
supply”.		the discussions at the ICPDR.	<p>4. Drinking Water Quality in the Danube Region</p> <p>The conference details and related presentations are available at www.vuvh.sk</p> <p>CC-WaterS (Climate Change and Impacts on Water Supply) main objectives is to safeguard future water supply under conditions of climate change as well as to discuss, develop and test measures which support adaptation to climate change of water recovery techniques. As an additional outcomes the the project assess direct and indirect impacts of climate change and develop methods and tools in order to quantify the regional and local extent of climate change. This project has already been finalised in 2012 and as a follow – up project the CC - Ware (Mitigating Vulnerability of Water Resources) to facilitate the development of national action plans for assuring sustainable drinking water supply by setting up a transnational strategy. The strategy will be based on assessment of water resources vulnerability under global changes and investigated management options for mitigating vulnerability (improvement of ecosystem services, land use regulation and demand management tools).The project started in December 2012 and will run until September 2014.</p>
Action - “To further strengthen Integrated Coastal Zone Management (ICZM) and Maritime Spatial Planning (MSP) practices on the Western shores of the Black Sea”.	Human activities tend to develop together in coastal and marine areas, coming into conflict with each other and with protection needs of habitats and landscapes. ICZM and MSP, as planning instruments to allocate the spatial and temporal distribution of human activities in coastal and marine areas should be encouraged and exchange of experience should be put in place, building also on the pilot projects developed under the PlanCoast project.	<p><u>ICPDR Involvement</u></p> <p>The ICPDR is cooperating with the Black Sea Commission on the implementation of the MoU between the two commissions. The working structure is the Danube Black Sea technical Working Group and the experts groups of the ICPDR and Advisory groups of the Black Sea. The relevant expert group of the ICPDR and the BSC have exchanged experience, methodologies and ideas on the assessment of land based pollution issues and the ICZM. A future challenge connected with this issue is the definition of the WFD tasks to be jointly implemented for the Marine Strategy Framework Directive. This task is the responsibility of coastal countries. A project in the frame of the Black Sea Danube cooperation would be beneficial.</p>	<p><u>PA4 activity and involvement</u></p> <p>Supporting the relevant projects by issuing LoR and seeking finance.</p>

Priority Area 5 – To manage environmental risks

General remarks: providing the basis for all decision making processes, specific actions had to be identified in order to improve the safety of the region. These actions were all designed after a harmonisation process with various political, professional and civil organisations, including the thorough consultation with all stakeholders, observers and advisors of the 14 states of the Danube Region, with the DGs involved, namely: DG REGIO, DG ECHO, DG ENV, and with the scientific organisations as well. To ensure the proper guidance and management of the Actions, PA5 and ICPDR had distributed the action leaders’ roles. As during the preparations of each action, a result-oriented approach was applied, therefore to be able to program and to measure the progress made, roadmaps were designed for each action. Roadmaps, being an outcome of institutional-level facilitate a structured cooperation with the DGs involved, with stakeholders and with civil organisations as well. This structured cooperation can result in written documents. An emphatic element of generating projects is issuing Letters of Recommendation and Letters of Merit contributing a wider range, more colourful development of the Region.

Action title	Action description	ICPDR Activities	PA5 Actions
<p>Action - “To develop and adopt one single overarching floods management plan at basin level or a set of flood risk management plans coordinated at the level of the international river basin”</p>	<p>The action should promote Green Infrastructure and ecosystem based approaches providing long-term, sustainable solutions often at a lower investment and maintenance cost, ensuring spatial and functional connectivity and providing win-win solutions.</p> <ul style="list-style-type: none"> Project - “To complete and make full use of the outputs of the DANUBE FLOODRISK project currently underway (European Territorial Cooperation Programme South-East Europe)”- Many Danube authorities, at national, regional and local levels, as well as civil society, have highlighted the importance of this existing project and have urged the relevant decision-makers to make full use of the future project outputs. As a result of cross-country cooperation, a set of unified hazard and flood risk maps will be produced for the Danube floodplains, which will provide the basis for adequate risk management and planning activities. This can only happen through increased harmonisation of data. The methodology will be tested via three pilot projects for the implementation of concrete measures at local level, based on the maps produced. (Lead: Ministry of Environment, Romania; Deadline: April 2012). 	<p>The ICPDR is the vehicle under which the countries have agreed to develop a Danube Flood Risk Management Plan thus supporting member states to meet their legal obligation from the EU FD to coordinate at the level of the entire river basin district</p> <p>At the ICPDR Ministerial Meeting in 2010 the Danube Declaration was adopted in which the Danube Ministers committed themselves to make all efforts to implement the EU Flood Risk Management Directive throughout the whole Danube River Basin and to develop one single international Flood Risk Management Plan or a set of flood risk management plans, based upon the ICPDR Action Programme for Sustainable Flood Protection and the sub-basin plans, coordinated at the level of the international river basin district by 2015 making full use of the existing synergies with the DRBM Plan.</p> <p>The development of the Flood Risk Management Plan is carried out by the ICPDR Flood Protection Expert Group. The FP EG has finalized the preliminary flood risk assessment and reported on it to the EC. The identification of the areas of potential significant flood risk according to Art.4 and 5 EFD has been completed.</p> <p>The flood hazard and flood risk maps for the</p>	<p>PA5 designated the ICPDR as the action leader for this action.</p> <p>The Steering Group of PA5 adopted the Roadmap (implementation plan) for the Action and monitored the overall implementation primarily through the reports of the ICPDR onwards.</p> <p>To help prepare the flood risk maps, methodologies and flood risk management plans and to provide additional policy support to the initiative, the PA5 issued an EU SDR label to the Danube Floodrisk project already mentioned under “ICPDR Actions”.</p> <p>The DANUBE FLOODRISK project has been finished and the “Harmonized Manual of Data & Methods”; “Harmonized Manual of Maps” and the “Danube Flood Hazard and Risk Atlas” printed by the consortia. The PA5 Steering Group endorsed the Harmonized Manual for the Danube Valley as a best practice and to support ICPDR in the related follow up activities.</p> <p>Where an international river basin district, or unit of management referred to in Article 3(2)(b), extends beyond the boundaries of the Community, Member States shall endeavour to produce one single international flood risk management plan or a set of flood risk management plans coordinated at the level of the international river basin district. In order</p>

Action title	Action description	ICPDR Activities	PA5 Actions
	<ul style="list-style-type: none"> ▪ Project - "To promote transnational conservation of the remaining floodplains along the entire length of the Danube by completing existing initiatives and promoting new ones, including along tributaries" – there are already in various parts of the Danube Basin excellent examples of floodplain conservation or restoration, which should be either completed or expanded. Examples include the section between Neuburg and Ingolstadt or the Blue Ribbon of Biodiversity promoted by Bund Naturschutz in Bavaria or the Green Corridor in the Lower Danube. (Lead: Bavaria and Bulgaria) 	<p>Danube River Basin District are under preparation. The templates and basic layout of the flood hazard map and flood risk maps were agreed by the FP EG. At the 23rd FP EG meeting the first draft maps were discussed and the amendments in the map format were agreed. For the 24th FP EG meeting the revised maps were prepared by the Secretariat using the data from AT, BA, DE and SK:</p> <ul style="list-style-type: none"> (i) map of hazard and flooding scenarios; (ii) map on risk and population; (iii) map on risk and economic activity; (iv) map on risk and IPPC installations and (v) two maps on WFD protected areas. <p>The national deadlines for map preparation reported by a number of countries at the 23rd FP EG meeting and reconfirmed at the 24th FP EG meeting extend until the end of 2014. Therefore, only a draft version of the ICPDR flood hazard and risk maps could be prepared for OM16 to obtain a general agreement of the ICPDR with the layout of the maps. These draft maps and text report have been uploaded on the ICPDR web-site so that the countries reporting to the EC can use the web-link to the ICPDR report in their national reports to the EC. The collection of missing data will continue in 2014 to prepare an updated version for the 12th StWG meeting. After the adoption by the ICPDR the updated version will be uploaded to the ICPDR website.</p> <p>The ICPDR provided support to the ongoing Danube FLOODRISK project which was coordinated by Romania and aimed to provide hazard maps and flood risk maps for the Danube River floodplains as well as development of coordinated methodologies for flood risk mapping throughout the Danube River Basin.</p> <p>The ICPDR agreed upon the following basin-wide goals of the flood risk management plan:</p> <ul style="list-style-type: none"> (i) Avoidance of new risks; 	<p>to help implementing this task and coordinating this without prejudice to the content of the roof level flood risk management plan to be adopted by the ICPDR the following work has been done by EUSDR PA5: Preparation of projects proposals, implementation of projects and alignment of funding for the preparation of flood risk management plans for Danube Region areas of Non-Members States as well as in sub basins and countries in a need of such assistance.</p> <p>In one of the sub-basins most prone to various flood phenomena in Europe, the Upper Tisza region there was a complex planning and investment coordination project carried out in the framework of the EU SDR between a non-member state, Ukraine, and Hungary. The adopted plan that complies with the EU Floods Directive is also contribution towards the Tisza and roof level flood risk management plans to be adopted by ICPDR.</p> <p>This programme based on the catchment area of the Upper-Tisza - connecting four countries provides a model for synchronized coordination of risk management and modelling, forecasting, operation and investments for the whole of the macro region and across the borders of the European Union.</p> <p>In the document "Alignment of Funding – Operative programmes for EU SDR" Flood Management Plan plays a key role. This documents contributes to securing the additional financing needed by some of the partners and countries involved in the planning and implementation and monitoring of the 1st and 2nd Flood Risk Management Plans in all levels during the 2014-2020 Multiannual Financial Framework.</p> <p>Within the frame of "Flood survey" and of the Danube Region Enhanced Flood Management Plan PA5 have directly consulted with representatives of over 60 flood forecasting, flood management, civil protection, Operational Programming and EU DRS coordination, R&D institutions of 12 countries,</p>

Action title	Action description	ICPDR Activities	PA5 Actions
		<p>(ii) Reduction of existing risks;</p> <p>(iii) Strengthening resilience;</p> <p>(iv) Raising awareness;</p> <p>(v) Solidarity principle.</p> <p>These goals will be linked with the respective measures. While the full list of measures will be provided at the national level, at the level of an international river basin district the focus should be given to the measures with the transboundary relevance. The plan should provide clear figures summarizing the actions already taken/to be taken by the countries and/or figures characterizing the effects of the measures. The Secretariat developed a draft template for collection of information on measures distinguishing between the implemented, ongoing and future measures. The template is structured according to the agreed goals and refers to the types of measures from the EU guidance. The template has been distributed to the FP EG to collect the data. Before the 24th FP EG meeting only Bosnia and Herzegovina and Moldova submitted the completed templates. Most of the other countries will report on measures in 2014. The prioritization of measures on the level A will be done after most of the national measures will be collected by the templates. All countries were asked to provide at the 25th FP EG meeting a short description of the national prioritization methodologies and to come up for the next meeting with suggestions of priorities for measures at the level A.</p> <p>The Secretariat prepared the table of contents of the ICPDR Flood Risk Management Plan 2015. It was amended by the FP EG and adopted at the OM-16.</p> <p>To have sufficient time for discussing the ICPDR Flood Risk Management Plan 2015 a workshop has been organized on this issue back-to-back to</p>	<p>including institutions of non-member states. In addition regional organizations, ICPDR FP EG, the 2nd EU DRS Annual Forum and the 2nd Pillar2 Stakeholder conference were used to discuss the findings and proposals based on the process. Via this consultations and subsequent PA5 drafted a document of additional support and actions needed in flood management, forecasting, rescue, preparedness practices and planning methods in connection with flood risks on a river basin and sub-basin level, including tasks and practices of coordination, and the questions of financial tools. These findings were included into the DR Enhanced Flood Management Plan which is currently under adoption.</p>

Action title	Action description	ICPDR Activities	PA5 Actions
		<p>the 25th FP EG meeting</p> <p>The restoration of floodplains is an action included in the Danube River Basin Management Plan. Specific country commitments have been made to restoring and conserving wetlands and individual projects such as the project listed can achieve this. The progress on this issue will be monitored in the context of the ICPDR but funding for actions (Life etc) are needed to ensure that projects are realized.</p>	
<p>Action - “To support wetland and floodplain restoration as an effective mean of enhancing flood protection, and more generally to analyse and identify the best response to flood risk (including “green infrastructure”)”.</p>	<p>Protection against flood requires taking specific measures which can vary across the Region according to a series of geographical or hydromorphological elements. This approach should be explored more systematically within the 17 Danube sub-basins. In addition, they offer great potential for green tourism.</p> <ul style="list-style-type: none"> ▪ Project - “To support the Morava-Thaya Basin initiatives”- The Danube-Morava-Dyje wetlands are the only trilateral Ramsar site worldwide. An important cooperation project is underway to ensure the protection of the ‘Donau March-Thaya-Auen’ wetland leading to the lowering of flood risks in the flooding areas and to the improvement of water courses channels in urban areas. It also include the development of a platform that would prepare a trilateral management plan and a strategy for promoting environmentally benign, soft, quality tourism, including leisure navigation. Some elements of the project are already supported by the Austria-Slovakia cross border cooperation programme (Lead: Austria, Czech Republic and Slovakia) 	<p>Wetland restoration belongs to the key interests of the ICPDR with the view of combining the aspect of water retention to reduce flood risks as well as an environmental aspect of achieving good ecological status of water bodies.</p> <p>It is clear that not all projects that are undertaken to address this area should be done in the context of the ICPDR but the overall reporting and assessment of these actions should be part of the Flood Management Plans and River Basin Management Plan.</p> <p>Funding for supporting transboundary and national actions are needed.</p> <p>A project proposal concept was prepared by Romania and the Secretariat and this project proposal has been prepared and submitted for EUSDR TAF funding in March 2014.</p>	<p>Steering Group adopted the Roadmap for the Action.</p> <p>Development of a Master Plan for the restoration of Floodplains of the Danube and its tributaries from spring to its discharge into the Black Sea Assessment of the existing projects and identification of the future possible areas where the floodplain could be restored and evaluation of the benefits for flood control and improvement of the aquatic environment including the connection between the main bed with the floodplain.</p> <p>Organization of national and regional workshops concerning the Danube Floodplain restoration Development of the documents and organization of the workshops with the involvement of all concerned stakeholders in order to present the local and regional benefits of the wetland restoration as well as the Danube Floodplain Master Plan concept. PA5 had consulted WWF in connection with the Liberty Island project, in order to assure, that the outcomes of the project would be available for distribution in the frame of the Danube Floodplain project.</p> <p>The project was presented on various forums of the EUSDR granting a high–level of visibility, which resulted in a growing political support. Letter of recommendation was issued for the Danube Floodplain project. Romania’s proposal was submitted for the 2nd call of DR TAF. PA10 awarded the DR TAF support to the project proposal.</p>

Action title	Action description	ICPDR Activities	PA5 Actions
			<p>Sediment project was handled jointly by PA4 and PA5. Encouraging the project, a LoR was issued.</p> <p>PA5 was involved in consulting the professional scientific consortium, in order to assure that the longitudinal continuity of the river bed as well as additional needs of the sectors using the Danube as a natural resource appears in the project. ICPDR was also consulted as a supporter of the project.</p> <p>During the Flood Survey, PA5 had consulted the plan of Green Infrastructure with more than 60 institutions.</p> <p>PA5 monitored the implementation of the Morava-Thaya Basin with an EU SDR label. It was awarded due to the cross-cutting nature of the initiative: to contribute to the protection of the 'Donau March-Thaya-Auen' wetland also leading to the lowering of flood risks in the flooding areas and to the improvement of urban water courses. Progress was noted on a new breeding raft was introduced in a lake near Zwerndorf. The river tern (<i>Sterna hirundo</i>) are using the old as well as the new breeding raft at Zwerndorf very well. Due to the cool and very different weather conditions this spring, the young birds have very different age distribution. In total 8 young birds and another 8 breeding birds breeding adult birds were counted. A great success and a new record at the site Zwerndorf!</p>
Action - "To extend the coverage of the European Floods Alert System (EFAS) system to the whole Danube river basin, to step up preparedness efforts at regional level (including better knowledge of each	The EFAS system is an early warning system for floods, and one of the "basin-wide" measures in the current ICPDR's Flood Action Plan. However, there is a need to upgrade warning systems and coordinate civil protection from local to transnational/European levels across the area.	The first international system for forecasting Danube floods and providing an early flood warning was launched in 2008. Danube-EFAS information (early flood warning reports for floods in the next 3-10 days) is available through a website, 24 hours a day, through an online service managed by the EC Joint Research Centre in Ispra (IT). The system currently includes 700 rainfall stations in the Danube Basin. Information includes rainfall and flood forecasts throughout	Steering Group adopted the Roadmap for the Action. <p>Progress was monitored and the establishment of the three operational EFAS centres for hydrological data collection, computation, and dissemination of EFAS information as part of the initial operational of GMES Emergency Management Service was noted. EFAS running operationally at each centre as a 7/365 service producing probabilistic early flood forecasting information twice daily is distributed</p>

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<p>other's national systems) and to further promote joint responses to natural disasters and to flood events in particular, including early warning systems”</p>	<ul style="list-style-type: none"> ▪ Project - “To deploy a set of sensors and actuators all along the river and network them through the broadband infrastructure, allowing for events surveillance and risk prevention”. Wireless identifiable devices and the utilization of Internet of Things Technologies in green related applications and environmental conservation are one of the most promising application scenarios for networked and broadband-based modern communication networks in the future, and there will be an increased usage of wireless identifiable devices in environmentally friendly programmes worldwide. This can be built on the experiences of the SENSEI, WISEBED, IoT-A, Smart Santander projects and the IERC – Internet of Things European Research Cluster. The Cluster is also connected to similar approaches and projects to Asian countries like China and Japan, where due to huge national catastrophes and zones with a potential earthquake risk a strong implementation practises exists. At the same time two European Internet of Things support actions are also concerned to inform and involve local authorities and business about the potential of a set of sensors and actuators network. While small test environments exist and results were achieved in similar mobile devices networks, support is needed for a wide range deployment and the 	<p>the river basin, and maps showing rivers potentially reaching critical alert levels for all Danube tributary rivers with upstream areas larger than 4,000 km². The ICPDR Flood Protection Expert Group supervises continuous testing and operation of the Danube EFAS and cooperates on its updating with the EC JRC.</p> <p>Funding of EFAS is guaranteed until the end of 2013 (in 2011 is EFAS funded entirely by DG ECHO MIC, in 2012 jointly by GMES / DG ECHO MIC, and in 2013 by GMES). A support of EU member States is needed to guarantee the future operation of EFAS by including it into GMES budget 2014+.</p> <p>ICPDR involvement possible in this project. Although this project has not been discussed or presented to the ICPDR it is a project that might have basin wide relevance and interest.</p>	<p>daily to the EFAS Danube partners via a password protected website and daily summary updates on the flood situation in Europe to the Monitoring and Information Centre (MIC).</p> <p>Further development and adaptation of the system to end-user needs are being prepared by JRC. There is a continuous communication with ICPDR on the future prospects and plans and the Pillar2 Scientific Stakeholder Conference on EU SDR macro-regional water management provided an opportunity for JRC to discuss the EFAS with 300 high level and academic representatives and partners from throughout the Danube Region.</p>

Action title	Action description	ICPDR Activities	PA5 Actions
	development of the corresponding computer systems. (Deadline: 2013)		
<p>Action - “To strengthen operational cooperation among the emergency response authorities in the Danube countries and to improve the interoperability of the available assets”</p>	<p>For risks that are common to an important number of countries in the region (i.e. floods), it is important to strengthen cross-border cooperation and that teams can function smoothly in case of major emergencies involving bilateral, European, or international response. The development and use of common guidelines/procedures for risk mapping and assessment, early warning message and emergency response should also be considered. It is also important to address development of capacity for surveillance and response to Public Health Emergencies of International concern as well as to health threats of cross-border relevance. This issue is one of the requirements under the provisions of the new International Regulations (IHR).</p> <ul style="list-style-type: none"> ▪ Project - “To develop strategies for resilience of local communities to natural disasters through the existing MONITOR II project currently underway (European Territorial Cooperation Programme South-East Europe)”- Management of natural hazards constitutes a common challenge in the SEES. Until now, neither hazard mapping nor contingency planning has been transnationally coordinated and defined in a sufficient manner. These gaps will be tackled in MONITOR II with the development of a common methodology and a "Continuous Situation Awareness" system, allowing for periodic update of hazard maps and contingency plans and thus making them usable in real-time for disaster situations. Stakeholders include the public, politicians, emergency services and experts. (Lead: Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management; Deadline: May 2012). 	<p>The ICPDR has investigated through a designed questionnaire to DRB countries on the current situations related to the existence of agreement and related procedure on mutual assistance in different countries.</p> <p>The ongoing and future activity within the work of the Accident Prevention EG of the ICPDR refers to the definition of Liability, Mutual Assistance and Contingency Planning and elaboration of some general guidelines/principles on major relevant areas, which can be implemented in the DRB. In addition some pragmatic approach pilot project to test mutual assistance will be also initiated.</p> <p>The lessons learned from the proposed SEE project can be disseminated within the frame of the ICPDR working structure.</p>	<p>Roadmap is elaborated and it is in the process of approval by the Steering Group.</p> <p>In the document “Alignment of Funding – Operative programmes for EU SDR” this action is covered as a key topic.</p> <p>A manual was prepared for harmonized methods of climate related risk assessment for civil protection authorities and local governments. It covers preventive disaster risk evaluation method and tools (especially risk assessment and risk mapping), taking into account local specificities and data availability of the national, regional and local levels affected by the changing climatic events.</p> <p>An initial network of affected administrative, scientific and local government institutions was established and a common risk assessment methodology has been developed in Autumn 2013 within the framework of the EU SDR through the SEERISK project. The methodology has been developed with the cooperation of municipalities, disaster management and research institutions from 9 countries (namely Austria, Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria, Slovenia and Bosnia and Herzegovina). The methodology can be further updated and shared amongst stakeholders of the DRS.</p> <p>Work towards the establishment of the comparability of data/information systems about extreme climatic events in order to facilitate its exchange according to a commonly understood standard is further facilitated in cooperation with the JRC coordinated DRS Nexus and within the framework of the scientific cooperation with academic and research institutions of the region. In this framework among others an adaptable model of standardized climate data was discussed at the Pillar2 Scientific Stakeholder Conference on EU SDR</p>

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			<p>macro-regional water management with EU SDR stakeholders.</p> <p>Based on the SEERISK initiative preparatory work has been initiated on the following areas:</p> <p>Enhancement of the research and innovation taking into account the regional specificities of climate change and the usability of the scientific material in specific adaptation measures</p> <p>Development of a training module on the effects of climate change for disaster management experts and operational staff intervening in emergencies is being planned within the PA5 building on the SEERISK project and consultations with DG ECHO.</p> <p>Harmonised training and capacity building of the flood rescue teams (volunteer and professional) in the Danube region. Enhancement of the interoperability of the assets to be deployed in case of extreme weather events and floods.</p> <p>Awareness raising and sharing the experiences on the involvement of the population into the preparations for disasters (especially flooding) and the practices of the recovery measures</p> <p>A regionally adaptable public awareness survey for measuring the preparedness of the population to the climate related risks has been developed in Autumn 2013 within the framework of the SEERISK project (see above). The analysis can be prepared on the basis of this awareness survey and the risk maps prepared for the same territory.</p> <p>The “Guideline on climate change adaptation and risk assessment” was published.</p>
Action - “To continuously update the existing database	This action requires working with the institutions/organisations concerned to reduce the risk to minimum levels and should include	The ICPDR has prepared methodologies for risk assessment, inventories of Accident Risk Spots and guidelines for assessing the accidental	Steering Group adopted the Roadmap for the Action prepared by ICPDR as the Action Leader.

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<p>of accident risk spots (ARS Inventory), contaminated sites and sites used for the storage of dangerous substances”</p>	<p>harmonisation of safety standards, increased awareness and capacity in accident response and joint crisis management.</p>	<p>pollution in case of sites located in the flooding areas.</p> <p>Currently, the ICPDR is updating the inventories of ARS and CS, with a separate mining sites inventory (in line with the EU Mining Waste Directive). An updated map of ARS for the DRB is planned to be also prepared. Templates for inventories of ARS, Contaminated Sites and Mining Sites are available.</p> <p><u>Future activities include:</u></p> <ul style="list-style-type: none"> (i) the preparation of a proposal for further testing the M2 methodology for real risk quantification in other types of industrial plants handling hazardous substances, with consideration of safety precautions in place, (ii) the evaluation of the EU Mining Wastes Directive implementation, (iii) organise an ICPDR Mining inventory, a mining sites map and a procedure to implement the Guidelines and good practices for Tailing Management Facilities, and (iv) prepare a proposal for accidental pollution emergency procedures in the cross border areas. 	<p>Support is offered to ICPDR and affected partners in addressing potential bottlenecks in implementation in particular but not restricted to accession and neighbourhood EU DRS countries.</p> <p>In the document “ALIGNMENT OF FUNDING – Operative programmes for EU SDR” bottlenecks of the implementation had been addressed.</p>
<p>Action - “To develop rapid response procedures and plans in case of industrial accidental river pollution”</p>	<p>This action should include the strengthening of the existing early warning system Danube AEWS, the availability of intervention-specific equipment such as spill-sorb, floating dams, etc., the harmonisation of contingency planning and the promotion of joint exercises. All this should be based on the information already collected by ICPDR which should be further expanded to establish the effectiveness of existing measures and take action where those prove to be insufficient. The work on this action shall be closely linked to the work under the EU Civil Protection Mechanism (i.e. in terms of mobilisation of rapid intervention equipment and assets, harmonised contingency planning</p>	<p>The AEWS system has been operating since 1995 and it has been based on an Oracle Portal platform since 2003. The system was further refined using the experience gained during its use and testing by the AEWS Task Group of the ICPDR. Despite its successful applications the system required an upgrade of the outdated software platform which entails potential security risks and hinders further improvements of the system. The AEWS 2.0 has been developed and the ICPDR at its 15th Ordinary Meeting agreed with bringing it into full operation by 1 March 2013. The system is built on the open source software Drupal and mostly on available modules, no license costs are required. Backup</p>	<p>Steering Group adopted the Roadmap for the Action prepared by ICPDR as the Action Leader.</p> <p>Implementation is monitored primarily through the reports of ICPDR.</p> <p>Discussions are started with ICPDR expert groups and PA4 on potential further support to the operation on the AEWS by on-line monitoring and ICT based on the model developed under the framework of PA4 of the EU SDR.</p> <p>Complementary actions for the civil protection cooperation and flood rescue are done within the framework of Action 4 in consultation and</p>

Action title	Action description	ICPDR Activities	PA5 Actions
	<p>and response procedures, joint exercises and training).</p> <ul style="list-style-type: none"> ▪ Project - “To implement a comprehensive transboundary risk management project in the Danube Delta” - Joint responsibility for protecting people, the environment and the climate before, during and after industrial incidents in the Danube Delta is a vital concern. Technology and information transfer into Eastern and South-Eastern European countries should help to substantially reduce the risk of incidents and contribute to transboundary emergency preparedness. The German-lead project with Romania, Moldova and Ukraine is geared towards establishing transnational incident management, improving industrial risk potential prevention, developing harmonised safety standards for industrial plants and minimising impacts in case of an incident through joint crisis management. To meet these goals, measures are being taken to prepare the introduction of safety technologies in these countries, in particular with a view to the experience gained in this field in Germany. (Lead: Germany and Romania; Deadline: 2013). ▪ Project - “To strengthen operational cooperation between the emergency response authorities in the Danube countries and to improve the interoperability of the available assets in order to reduce damages, protect citizens and ensure an appropriate response to emergencies” –To achieve these goals, the project shall include the identification of risks of common interest and characterization of their national specificities, inventory/ mapping of assets available at national level and identification of potential gaps, general and specific 	<p>communication is available in the event that the Internet does not work.</p> <p>The AEWS design has been upgraded. It includes among others (i) updatable reports (one report instead of a number of separate messages) which provide consolidated information on an incident and a good overview of changes in report revisions; (ii) one simplified form minimizing the risk of selecting a wrong form or incident; (iii) simplified navigation and better overview on home page; (iv) possibility of comments (using a simple text form) on reports by other PIACs. A quick reference sheet and system usage tutorials for AEWS 2.0 were prepared by the Secretariat and received very positive feedback from the APC EG. Therefore, four additional tutorials were prepared by the Secretariat and are available as an on-line help on the AEWS site: https://www.icpdr.org/aews/help.</p> <p>Regular tests of AEWS as well as trainings of system operators are organized by the ICPDR.</p> <p>The ongoing and future activity within the work of the APC EG of the ICPDR refers to the definition of Liability, Mutual Assistance and Contingency Planning and elaboration of some general guidelines/principles on major relevant areas, which can be implemented in the DRB. In addition some pragmatic approach pilot project to test mutual assistance will be also initiated.</p> <p>The lessons learned from the ongoing project can be disseminated within the frame of the ICPDR working structure.</p>	<p>cooperation with operative civil protection authorities and DG ECHO.</p>

Action title	Action description	ICPDR Activities	PA5 Actions
	<p>training, development of common interoperable working procedures (including for early warning messages and response operations), exercises (accompanied by lessons learnt meetings).</p>		
<p>Action - "Anticipate regional and local impacts of climate change through research".</p>	<p>Initiatives in this research field should address specific concerns in the Danube Region. Research projects on the impacts of climate change on infrastructure, health, food security and the environment should be initiated. Furthermore, the international scientific cooperation in this field should be supported, while ensuring close coordination with overall action at EU level. A preparatory action "Climate of the Carpathian Basin" will be launched before the end of 2010. This action will contribute to regional climate variability and change studies, and applied climatology. It will also encompass an analysis of the vulnerability of water and ecosystems of the region to climate change impacts and other man-made pressures and on identifying potential adaptation measures, focusing on adaptive water management and ecosystem-based approaches. This work should be used at basin level.</p> <ul style="list-style-type: none"> ▪ Project - "To foster transnational cooperation via ICPDR in order to develop a Climate Change Adaptation Strategy for the Danube Region", including drafting and implementation of Political commitment has been expressed via ICPDR for a full climate change adaptation strategy for the Region, to be prepared under the leadership of ICPDR. This strategy should be based on a step-by-step approach and encompass an overview of relevant research and data collection, a vulnerability assessment, and ensure that measures related to navigation, agriculture, energy are climate proof. (Lead: 	<p>Under the lead of Germany, the ICPDR developed a Climate Change Adaptation Strategy for the Danube River Basin which was finalized and adopted in 2012¹. Currently, the Adaptation Strategy is implemented, i.e. through the elaboration of the 2nd Danube River Basin Management Plan and the 1st Danube Flood Risk Management Plan, which are considered as the main tools for the implementation of the climate adaptation measures. A climate adaptation plan for the Sava is currently under development in the framework of the ISRBC.</p>	<p>Steering Group adopted the Roadmap for the Action.</p> <p>The Danube Climate Change Adaptation Strategy and its follow-up is primarily monitored based on the reports from ICPDR.</p> <p>Using synergies inter alia of the nexuses coordinated by JRC, and cooperating with affected research and administrative institutions PA5 is actively engaged in refining the currently available spatial data on the climate change.</p> <p>Within the Danube Region Enhanced Flood Management Plan preparing for the more and more frequently appearing events connected to climate change – such as flash floods, fast flowing floods – are emphasized. With the help of complex weather models previously designed flood levels could be reconsidered. Choosing the sub-basin area of Tisza as a pilot area, design flood level had already been reviewed.</p> <p>Several consultations were organized between PA5 and PA4 about the effects of climate change on the operation of water utilities (but leaving the issue under the primary supervision of PA4).</p> <p>Hazard risk mapping methodology was developed for the region respecting the available data and the potentials to acquiring improved data while respecting EU provisions on risk mapping.</p> <p>The further usability of the method that has been worked out is currently under investigation.</p>

¹<http://www.icpdr.org/main/activities-projects/climate-change-adaptation>

Action title	Action description	ICPDR Activities	PA5 Actions
	<p>ICPDR; Deadline: 2012).</p> <ul style="list-style-type: none"> ▪ Project - “To draft and implement a Water and Climate Adaptation Plan for the Sava River Basin” - According to the last findings on climate change, the Sava River Basin is predicted to experience higher temperatures and more severe precipitation events and droughts. These changes will impact water resources management, water supply, hydropower, agriculture, navigation and flood control. Climate impacts will have significant consequences on investments in water systems associated with water services and managing water. To fill the knowledge gap on the impact of climate change on water sector and to inform decision making sector (e.g. governments and other national authorities) how to increase the climate resilience of the critical water management infrastructure investments and integrated water resource management, the World Bank has initiated the project Water and Climate Adaptation Plan for the Sava River Basin (WATCAP). (Lead: ISRBC; Deadline: July 2011). 		<p>Taking the CarpatClim project as a model, DanubeClim project had been prepared for the implementation and continuation of the tasks and methods used, setting the goal of forming a common standardised database based on processed meteorological and related data from the last 30 years.</p>
<p>Action - “To develop spatial planning and construction activities in the context of climate change and increased threats of floods”.</p>	<p>Flood prevention activities imply the cooperation of national, regional and local authorities in terms of land-use and physical planning. Spatial Data Infrastructure for the Danube Region needs to be developed through increased cooperation, coordination and data exchange, as required under the INSPIRE Directive. Adequate land-use needs to be identified and agreed in an integrated way, and priority actions such as the promotion of sound forest and pasture management, the minimising of plough lands on the slopes of hills or the protection of biodiversity and restoration of ecosystems and natural river courses need to be taken across the Danube Basin area. Urban and housing development need to take account of</p>	<p>The ICPDR Flood EG examines and addresses issues related to this activity but all projects such as CC water which improve the actions related to this issue are beneficial and do not necessarily have to managed or coordinated by the ICPDR.</p> <p>The ISRBC is the logical organization for this project which is of relevance for the ICPDR and connected to the overall work in this area at the ICPDR. See above.</p>	<p>There is a comprehensive Roadmap the Steering Group prepared and adopted for the Action.</p> <p>It involves assessment and characterisation of the areas stricken by droughts and water shortage, problem management in the Danube region in the following manner:</p> <ul style="list-style-type: none"> - Exploring areas stricken by droughts and water shortage, and classifying them into clusters taking into account of the impacts of climate changes (spatial characteristic of the exposure and sensitivity to climate change) - Developing special actions for each cluster to manage problems caused by droughts and water shortage - Assessment of the spatial characteristic of the adaptive capacity and adaptation options for

Action title	Action description	ICPDR Activities	PA5 Actions
	<p>climate change factors. Cities and towns in the Basin should be encouraged to share experience and best practice in this field.</p> <ul style="list-style-type: none"> ▪ Project - “To evaluate impacts of climate change on the availability and safety of public drinking water supply through the existing CC-WaterS project currently underway (European Territorial Cooperation Programme South-East Europe” - Transnational action is needed to prepare SEE for the challenge of ensuring water supply for society for several decades. Policy makers and water suppliers are required to develop sustainable management practices for water resources, considering existing and future Climate Change influences. In CC-WaterS, SEE governmental bodies, water suppliers and research institutions work together and implement jointly developed solutions. The complementary knowledge of the partners, enhanced by further applicable results of past projects, will provide a strong background. (Lead: Vienna City Waterworks, Austria; Deadline: April 2012). ▪ Project - “To prepare and implement a Water Pollution Contingency Management Plan for the Sava River Basin” - The project is aimed at efficient provision of measures in the case of accidental spills of substances which might affect the use of water for different purposes (drinking water, breeding waters, irrigation, industry, navigation etc.), as well as the quality of rivers and aquatic eco-system, especially the areas of special importance. For the purpose of efficient and effective management, the modelling and information exchange platform will be developed by which all responsible authorities and institutions will be alerted on the eventual spill of harmful substances, follow the development of the situation and co-ordinate a concerted response to it. 		<p>each cluster</p> <ul style="list-style-type: none"> - Elaborating integrated professional principles for transboundary regions - Preparing action plan - Preparing intervention plans - Implementing interventions <p>Preparation of the missing data and establishing a scientific framework was in the focus of the preparatory work of the PA5. Elements of scientific models to be used in this framework based on land use, use of economic measures and policy responses to climate change were addressed at the EU SDR Macro-regional Water Management conference. There is an ongoing effort together with JRC to provide a sub-basin wide model for drought management.</p> <p>In the document “Alignment of Funding” the drought management was identified as a significant issue for coordination for those sub-basins affected by severe droughts.</p>

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	<p>Watercourses as transport media for accidental pollution, with intensive transboundary dimension, are directing the project to include all the countries in the Sava River Basin. The project is seeking financing from the European Territorial Cooperation programme "South-East Europe". (Lead: ISRBC; Deadline: 2014).</p>		