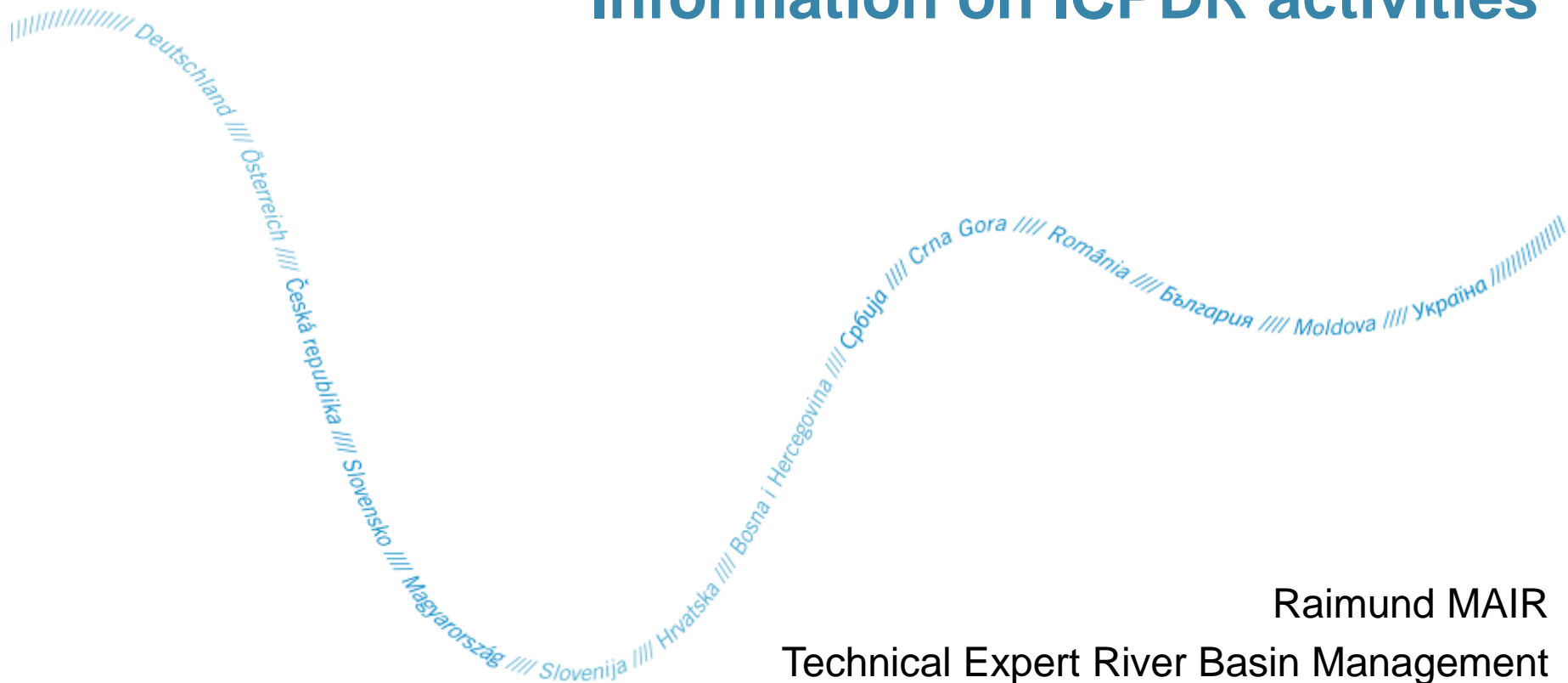


# 10<sup>th</sup> PA4 Steering Group Meeting

20 October 2015, Bratislava (SK)

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## Information on ICPDR activities



Raimund MAIR  
Technical Expert River Basin Management  
International Commission for the Protection of the Danube River (ICPDR)  
[Raimund.MAIR@unvienna.org](mailto:Raimund.MAIR@unvienna.org)

# Danube River Protection Convention

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**signed 29 June 1994, Sofia (Bulgaria)**



Protection of water &  
ecological resources



Sustainable use  
of water



Reduce nutrients &  
hazardous substances



Manage floods  
& ice hazards

**ICPDR coordinates implementation of  
EU Water Framework Directive & EU  
Floods Directive on basin-wide level**



# International Commission for the Protection of the Danube River (ICPDR) Contracting Parties

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**Germany**



**Austria**



**Czech Republic**



**Slovakia**



**Hungary**



**Slovenia**



**Croatia**



**Bosnia & Herzegovina**



**Serbia**



**Montenegro**



**Romania**



**Bulgaria**



**Rep. of Moldova**



**Ukraine**

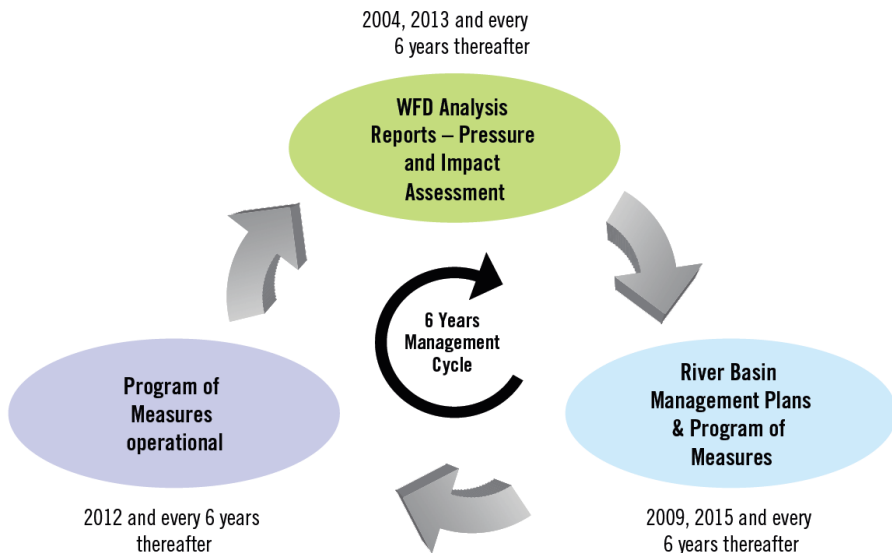


**European Union**

- **EU Member States (9)**
- **Non-EU Member States (5)**

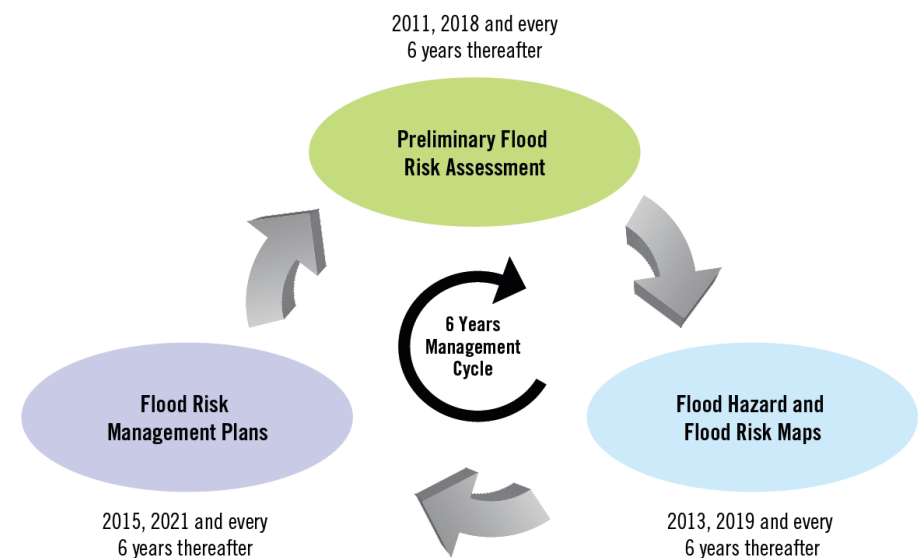
# Integrated River Basin and Flood Risk Management Planning on international basin-wide level

Main implementation steps for the EU Water Framework Directive *FIGURE 1*



Main implementation steps for the EU Floods Directive

*FIGURE 2*



- **Key tools** for Integrated Transboundary Water Resources Management
- Regularly updated **Management Plans**
- **6-years** management cycle
- **Integrated approach** with stakeholder involvement

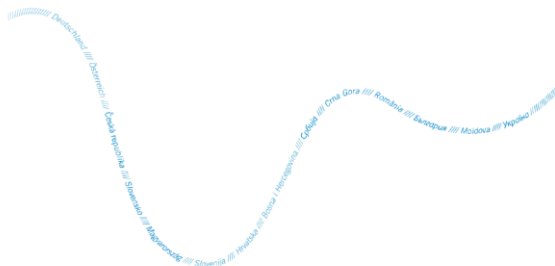
# Danube River Basin Management Plan 2015 - 2021

## The Danube River Basin District Management Plan – Update 2015

Part A – Basin-wide overview

Document number:  
Version: Draft 7  
Date: 2015-10-13

**DRAFT 7**  
**October 2015**



- WFD planning period 2015 – 2021
- Includes latest pressures assessment
- Includes latest monitoring data
- Joint Program of Measures 2015-2021
- 6 months public consultation
- To be adopted by ICPDR on 1-2 December 2015
- To be endorsed at Danube Ministerial Conference on 9 February 2016

# Public Consultation for DRBM Plan & DFRM Plan

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# Public Consultation on management plans

## Four sets of activities:

- (1) collection of comments directly given
- (2) stakeholder consultation workshop
- (3) social media campaign
- (4) online questionnaires



# Stakeholder Workshop „Voice of the Danube“

- Held 2/3 July at **Croatian National Archives**, Zagreb
- Over **80 participants** from range of backgrounds
- **1.5 days** of intense discussions
- **5** interactive, topical **discussion rounds**
- **Social media** actions accompanied the event



# Stakeholder Consultation

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## Example from pressure assessment 2015: Nutrient pollution

→ 650,000 tons/year total N and 50,000 tons/year total P emissions

→ Diffuse pathways dominate



This map illustrates nitrogen emissions entering the surface water bodies from catchment areas. The emissions were calculated according to long-term average hydrological conditions over the period of 2009-2012, using the most recent available data within the same period. Calculation was implemented using the MONERIS model (Venohr et al., 2011).

This ICPRD product is based on national information provided by the Contracting Parties to the ICPRD (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH. EuroGlobalMap data from EuroGeographics was used for all national borders except for AL, BA, ME where the data from the ESRD World Countries was used. Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as elevation data layer; data from the European Commission (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

[www.icprd.org](http://www.icprd.org)

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# Example from pressure assessment: River continuity interruptions 2015

➔ 1015 total barriers

➔ 655 currently unpassable for fish migration



\* The barriers are related to different water uses. More detailed information is available in the chapter 2 of the DRBM Plan - Update 2015.

This ICPCR product is based on national information provided by the Contracting Parties to the ICPCR (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH. EuroGlobalMap data from EuroGeographics was used for all national borders except for AL, BA, ME where the data from the ESRI World Countries was used. Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as elevation data layer; data from the European Commission (Joint Research Center) was used for the outer border of the CRBD of AL, IT, ME and PL.

# You can't manage what you don't measure!

# Transnational Monitoring Network (TNMN)

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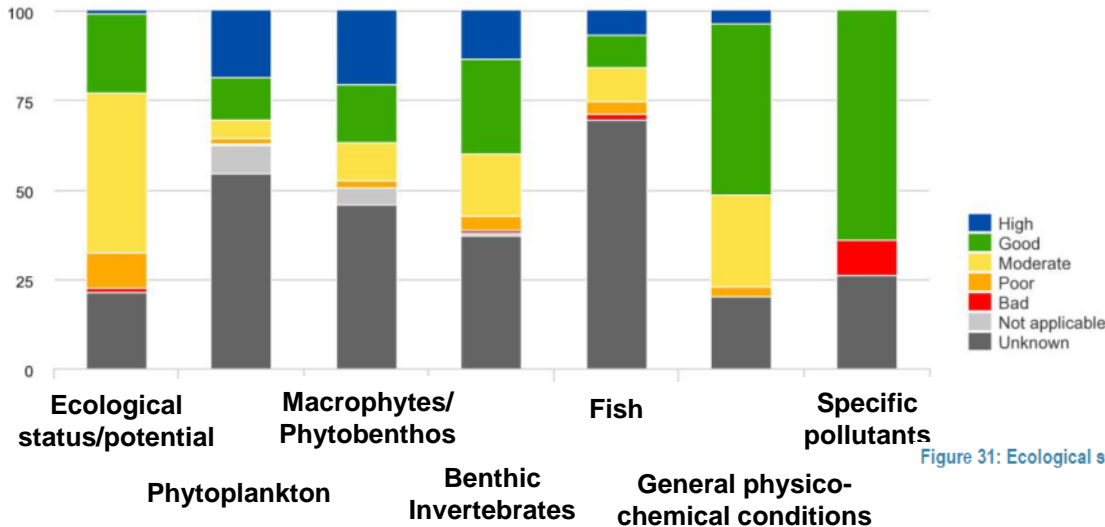
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# Monitoring Results (DRAFT! DRBMP 2015)

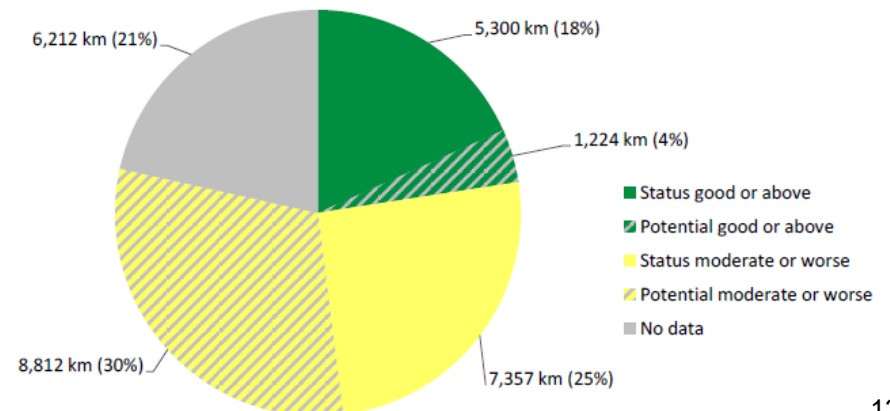
## Ecological status

Figure 32: Ecological status: classification of biological quality elements and physico-chemical conditions (indicated as % of the total length)<sup>19</sup>



Overall **status** is  
**determined by quality  
element** which is in worst  
condition

Figure 31: Ecological status and ecological potential for river water bodies in the DRBD (indicated in length in km)

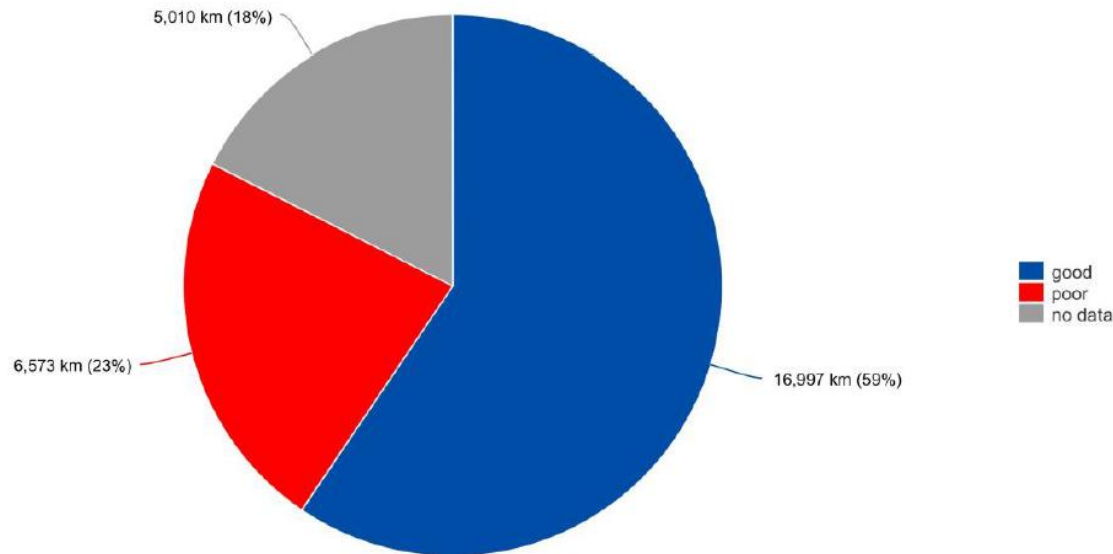


„One out all out principle“

# Monitoring Results (DRAFT! DRBMP 2015)

## Chemical status

Figure 33: Chemical status for river water bodies in the DRBD (indicated in length in km)



**Determined by so-called „Priority Substances“ laid down in WFD  
and updated by EU Directive on Priority Substances**

Pollutants which are toxic, heavily degradable or accumulative and have regional relevance (e.g. heavy metals, arsenic, cyanides, oil and its compounds, trihalomethanes, polycyclic aromatic hydrocarbons, biphenyls, phenols, pesticides, haloalkanes, endocrine disruptors, pharmaceuticals, etc.)

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# Program of Measures

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Progress made, however, significant share of water bodies

- (Provisionally) designated as “heavily modified water bodies” - **substantially changed in character**
- **not in good ecological status/potential**
- **not in good chemical status**

thus in need for further measures to achieve WFD objectives

- Updated “**Joint Program of Measures**” (JPM) as part of the Danube River Basin Management Plan 2015

# Pressures and Progress

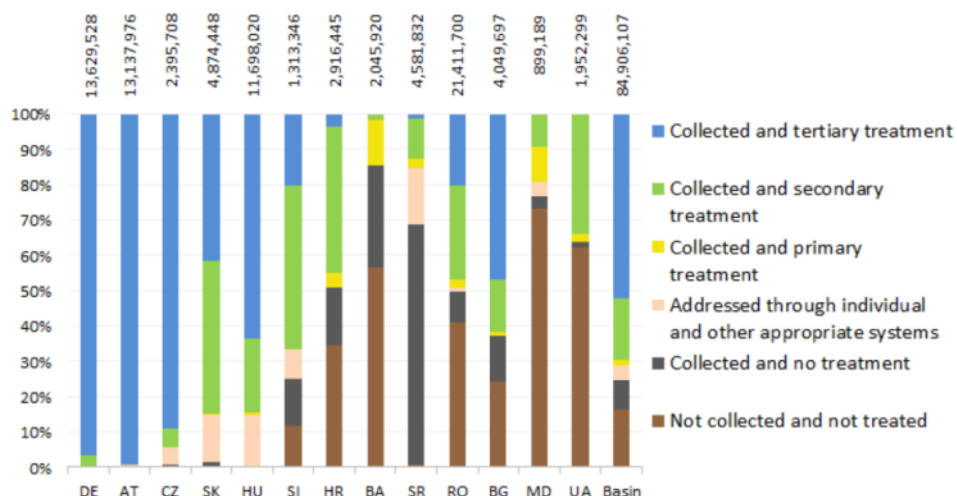
## Example wastewater treatment

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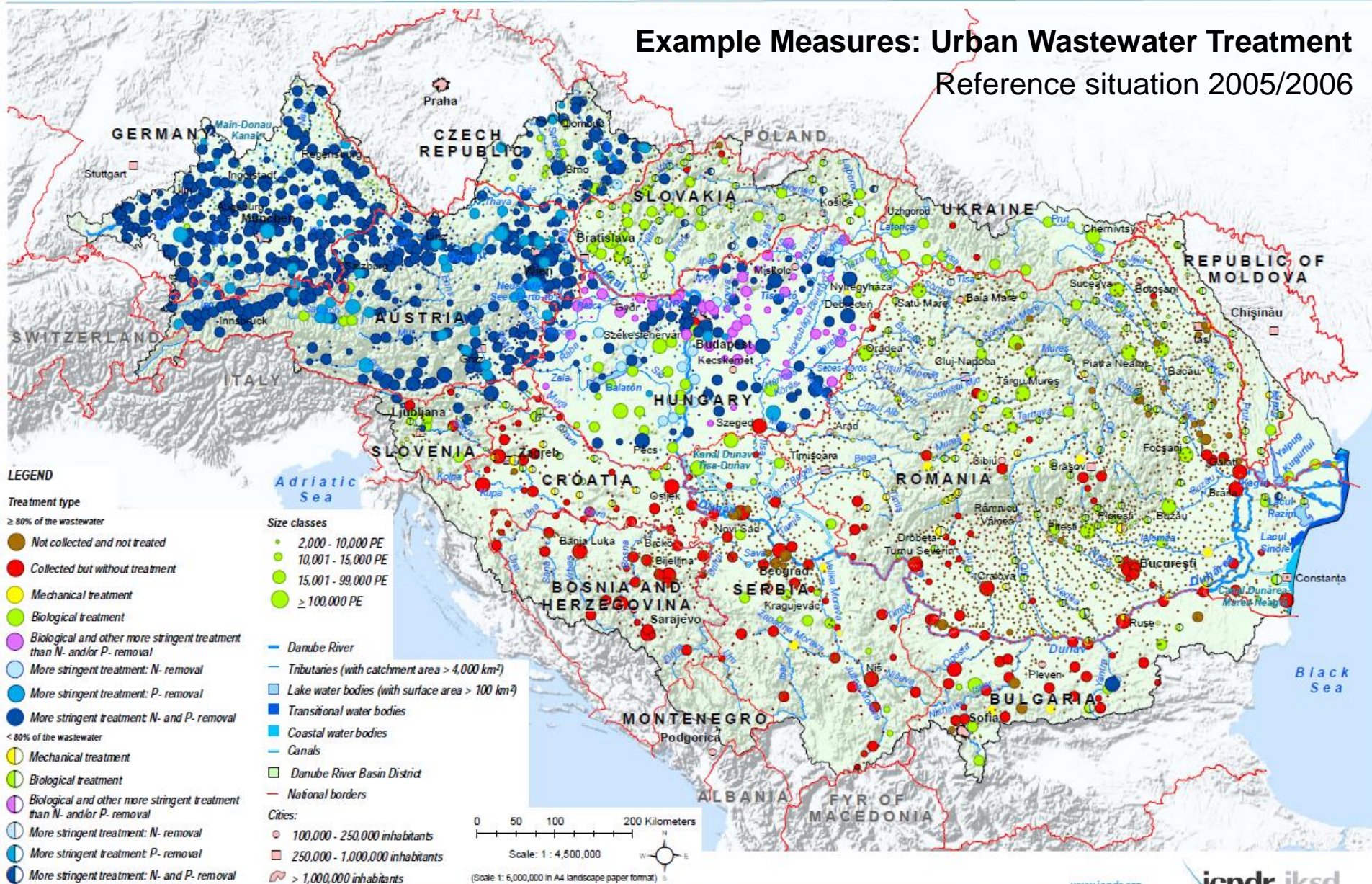
Figure 7: Share of the collection and treatment stages in the total population equivalents in the Danube countries (reference year: 2011/2012, absolute numbers on the top refer to PE)



- **Significant progress** in emission reduction
  - **Almost 900 agglomerations with improved UWW infrastructure by 2015 (construction, extension and upgrade)**
  - **Additional 1.000 to come - half under construction**
- **Further efforts** to be taken for full UWWT Directive implementation

# Example Measures: Urban Wastewater Treatment

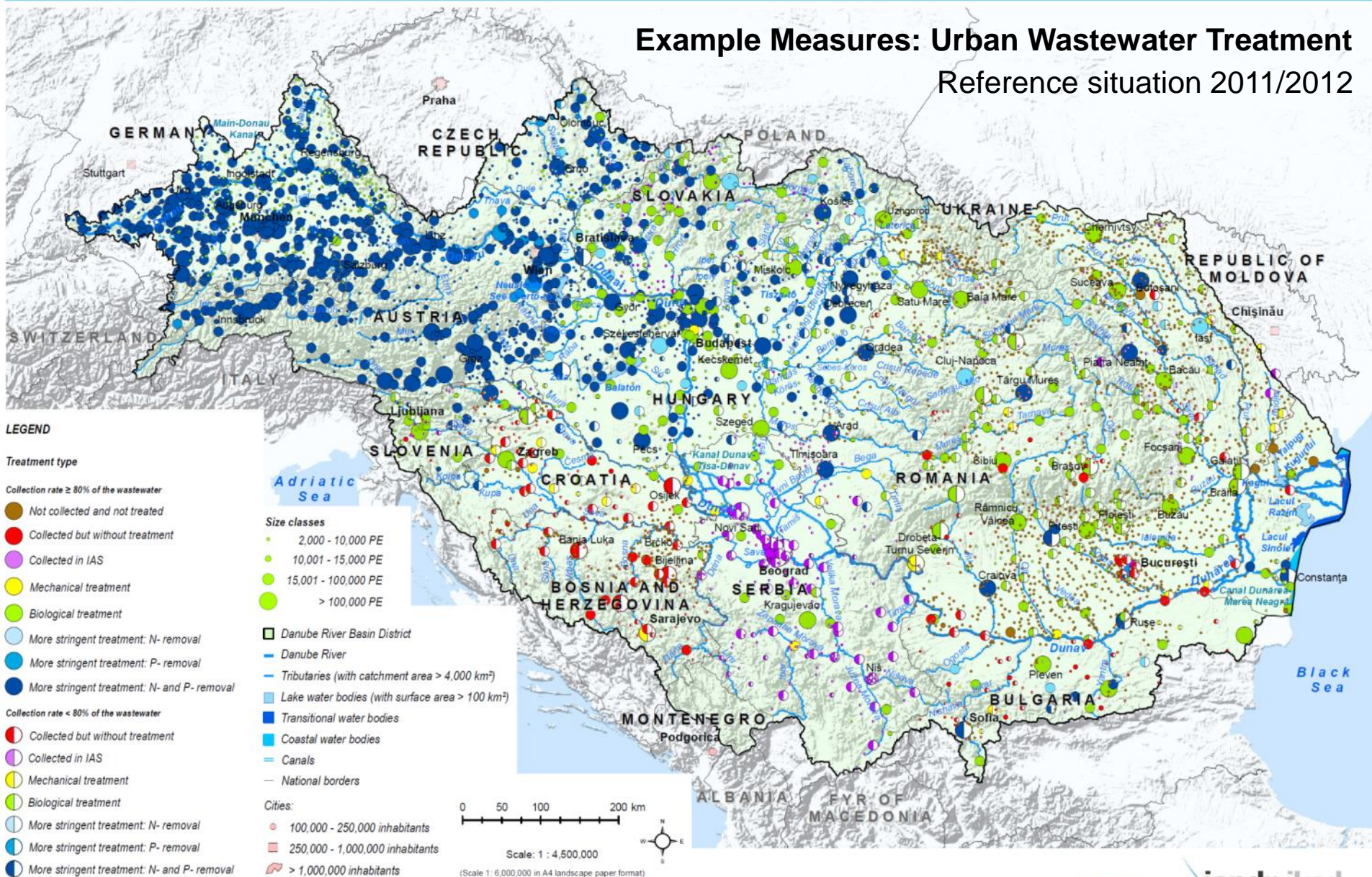
## Reference situation 2005/2006



This ICPRD product is based on national information provided by the Contracting Parties to the ICPRD (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH, except for the following: EuroGlobalMap v2.1 from EuroGeographics was used for national borders of AT, CZ, DE, HR, HU, MD, RO, SI, SK and UA; ESRI data was used for national borders of AL, ME, MK; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as topographic layer; data from the European Commission (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

# Example Measures: Urban Wastewater Treatment

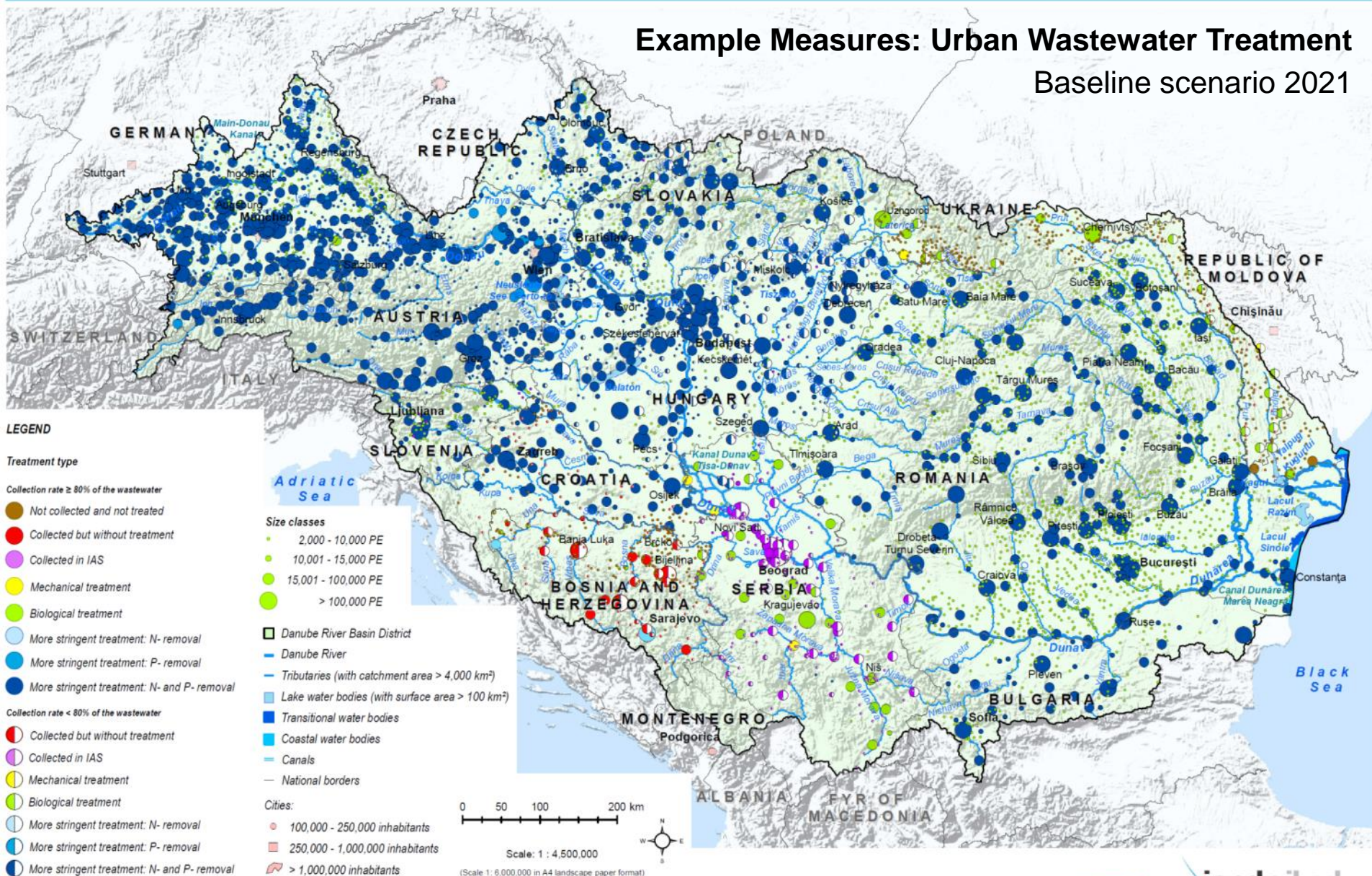
## Reference situation 2011/2012



This ICPRD product is based on national information provided by the Contracting Parties to the ICPRD (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH, except for the following: EuroGlobalMap v2.1 from EuroGeographics was used for national borders of AT, CZ, DE, HR, HU, MD, RO, SI, SK and UA; ESRI data was used for national borders of AL, ME, MK; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as topographic layer; data from the European Commission (Joint Research Center) was used for the outer border of the DRBO of AL, IT, ME and PL.

# Example Measures: Urban Wastewater Treatment

## Baseline scenario 2021

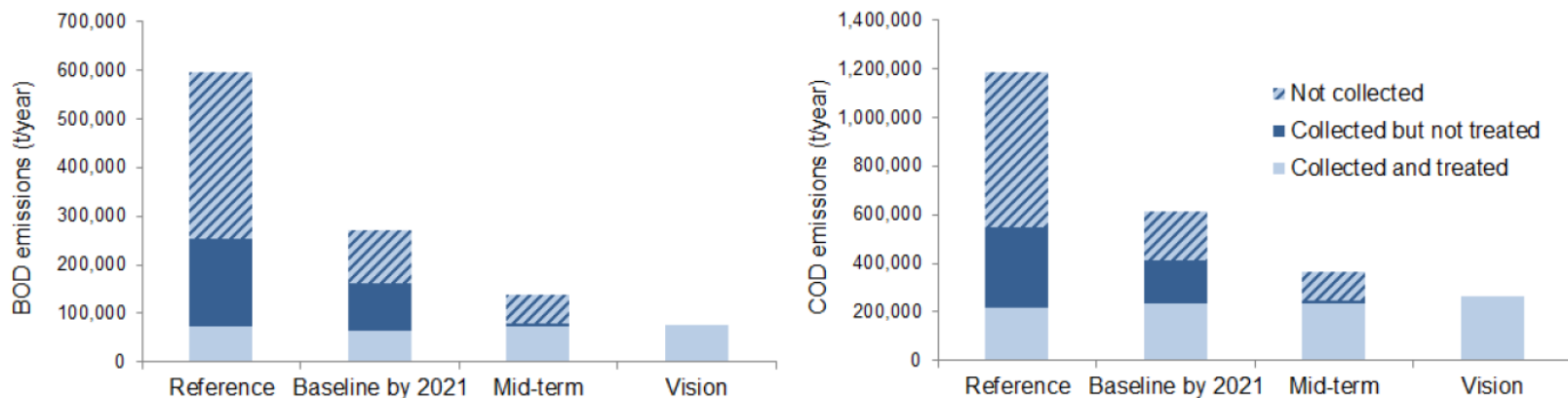


This ICPRD product is based on national information provided by the Contracting Parties to the ICPRD (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH, except for the following: EuroGlobalMap v2.1 from EuroGeographics was used for national borders of AT, CZ, DE, HR, HU, MD, RO, SI, SK and UA. ESRI data was used for national borders of AL, ME, MK, Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as topographic layer, data from the European Commission (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

# Example Joint Program of Measures 2015 - 2021

- Further investments in sewer systems and urban wastewater treatment (UWWTD)
  - Reduction of pollution from industrial sources (BAT)
- ➔ Expected **reduction** of organic **emissions by half** and further reduction of nutrient emissions

Figure 45: BOD and COD emissions via urban waste water according to future scenarios



# Example

## Agriculture

- **Balancing** fertilizer application and nutrient consumption by crops
- **Action Program under EU Nitrates Directive**
  - **Limitations** maximum fertilizer application
  - **Ban of fertilizer application** during periods where uptake is not guaranteed (winter months)
  - Provisions on required **storage facilities** for manure
  - etc.



**Storage facilities for manure**

**Proper application?**



# Agriculture

## (EU Nitrates Directive: Application Action Programs)

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# Agriculture

## (EU Nitrates Directive: Application Action Programs)

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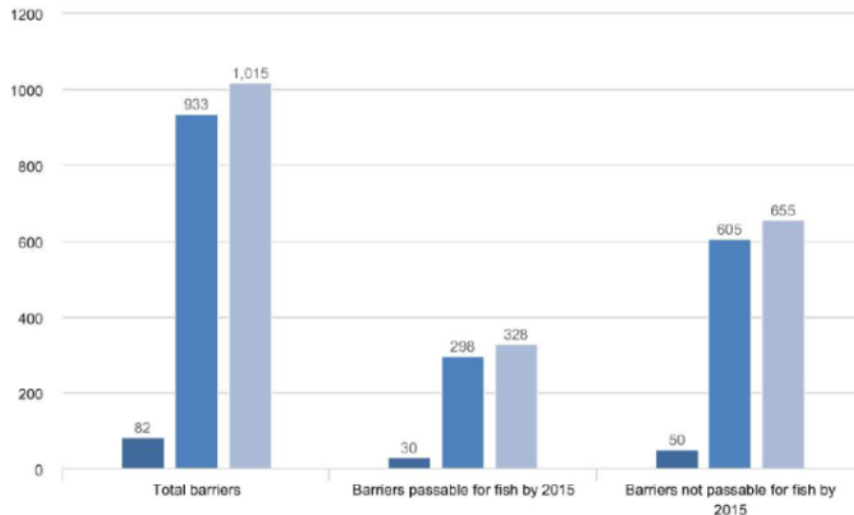
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# Pressures and progress: Hydromorphological alterations

Figure 21: Current situation on river continuity interruption for fish migration in the DRBD



- Progress made: **120+ fish migration aids completed in 2015**
- **Further measures** taken on morphology, wetlands and floodplains reconnection, ecological flows, etc.

# Further measures to improve river hydromorphology

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- Construction of additional 100+ fish migration aids until 2021
- Improvement of river morphology (river bed, riparian zones)
- Reconnection of 15,000+ ha of wetlands/floodplains
- Improvement of impoundments, ensuring ecological flows, addressing hydropeaking
- Sustainability of future infrastructure projects (i.e. flood protection measures, inland navigation, hydropower)



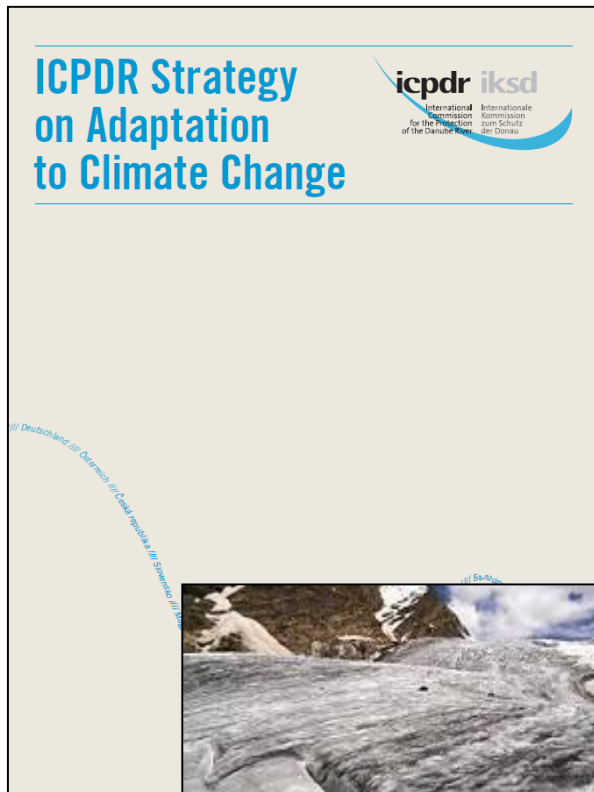
# Chapter on Financing

Table 44: Overview SWMIs, measures and potential funding sources

Type of pressure	Measures	Possible financing source/program (EU)	Possible financing source/program (non-EU)
Organic Pollution	UWWTP	ERDF, CF	ENI, IPA II
	Industrial point sources (direct discharges)	ERDF, CF, ESF (capacity building)	ENI, IPA II
	Animal feeding/breeding lots	EAFRD	ENI, IPA II
Nutrient Pollution	Diffuse sources: agriculture	ERDF, EAFRD, LIFE, ESF (capacity building)	ENI, IPA II
	Diffuse sources: atmospheric deposition	EAFRD (concerning agricultural atmospheric emissions)	ENI, IPA II
	Diffuse sources: urban run-off	CF, potentially LIFE	Potentially LIFE, ENI, IPA II
	UWWTP	ERDF, CF	ENI, IPA II
	Industrial point sources (direct discharges)	ERDF, CF, ESF (capacity building)	ENI, IPA II
	Animal feeding/breeding lots	EAFRD	ENI, IPA II
Hazardous Substances Pollution	Industrial point sources (direct discharges)	ERDF, CF, ESF (capacity building)	ENI, IPA II
	UWWTP	ERDF, CF	ENI, IPA II
	Diffuse sources: urban run-off	ERDF (integrated sustainable urban development measures), CF, potentially LIFE	Potentially LIFE, ENI, IPA II
	Diffuse sources: agriculture	EAFRD, LIFE, ESF (capacity building)	LIFE, ENI, IPA II
	Diffuses sources: landfills, mining sites etc.	Possibly LIFE	Possibly LIFE, ENI, IPA II
Hydromorphological Alterations	Interruption of river continuity and morphological alterations	CF, LIFE	LIFE
	Reconnection of wetlands/floodplains	ERDF, CF (ecosystem-based measures regarding CC adaptation), LIFE, possibly EAFRD (Art. 30 NATURA2000/WFD payments) (see below for more details)	LIFE, ENI, IPA II
	Hydrological alterations (quantity and conditions of flow)	CF, LIFE	LIFE, ENI, IPA II

- Overview different funding instruments for water-related projects
- Includes also reference to EUSDR
- More detailed information on funding possibilities summarised in Annex 17 of the DRBM Plan

# Other key issues



ICPDR Strategy on Adaptation to  
**Climate Change** → integrated in  
**DRBM Plan & DFRM Plan 2015**



**Sediment** quality and  
quantity

**PROJECT**



## **Invasive Alien Species**

– comprehensive list  
currently under  
development

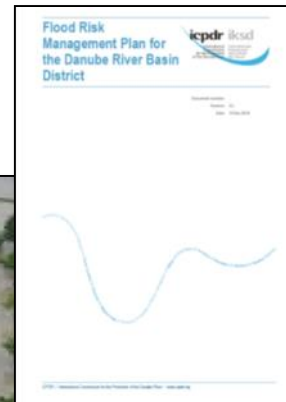
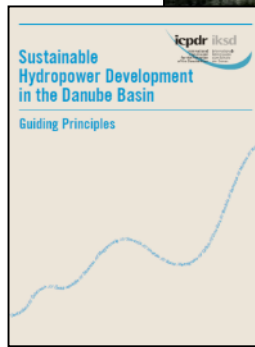
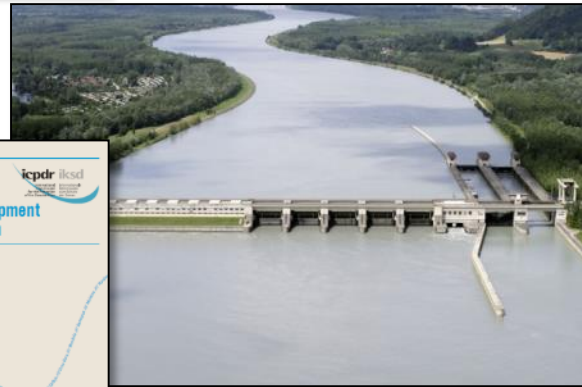
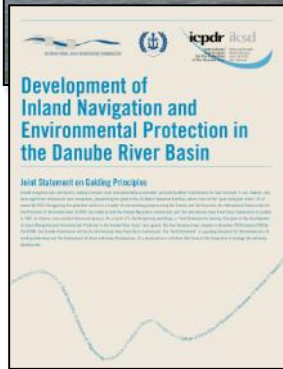


# ICPDR Intersectoral Cooperation

## Sustainability of future infrastructure projects

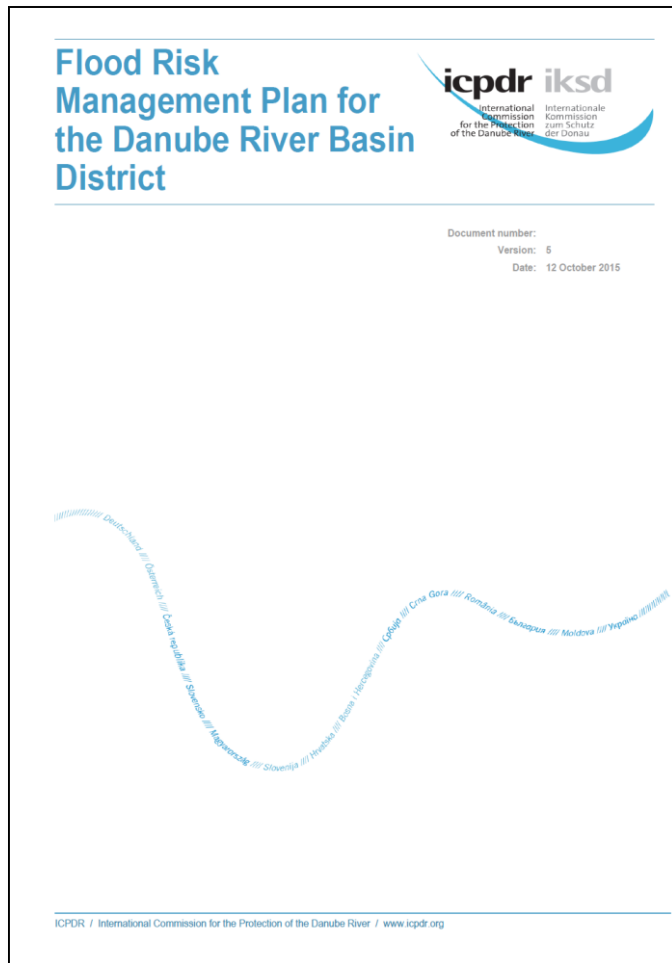
**Inland Navigation:** Joint Statement process

Sustainable **Hydropower** Development



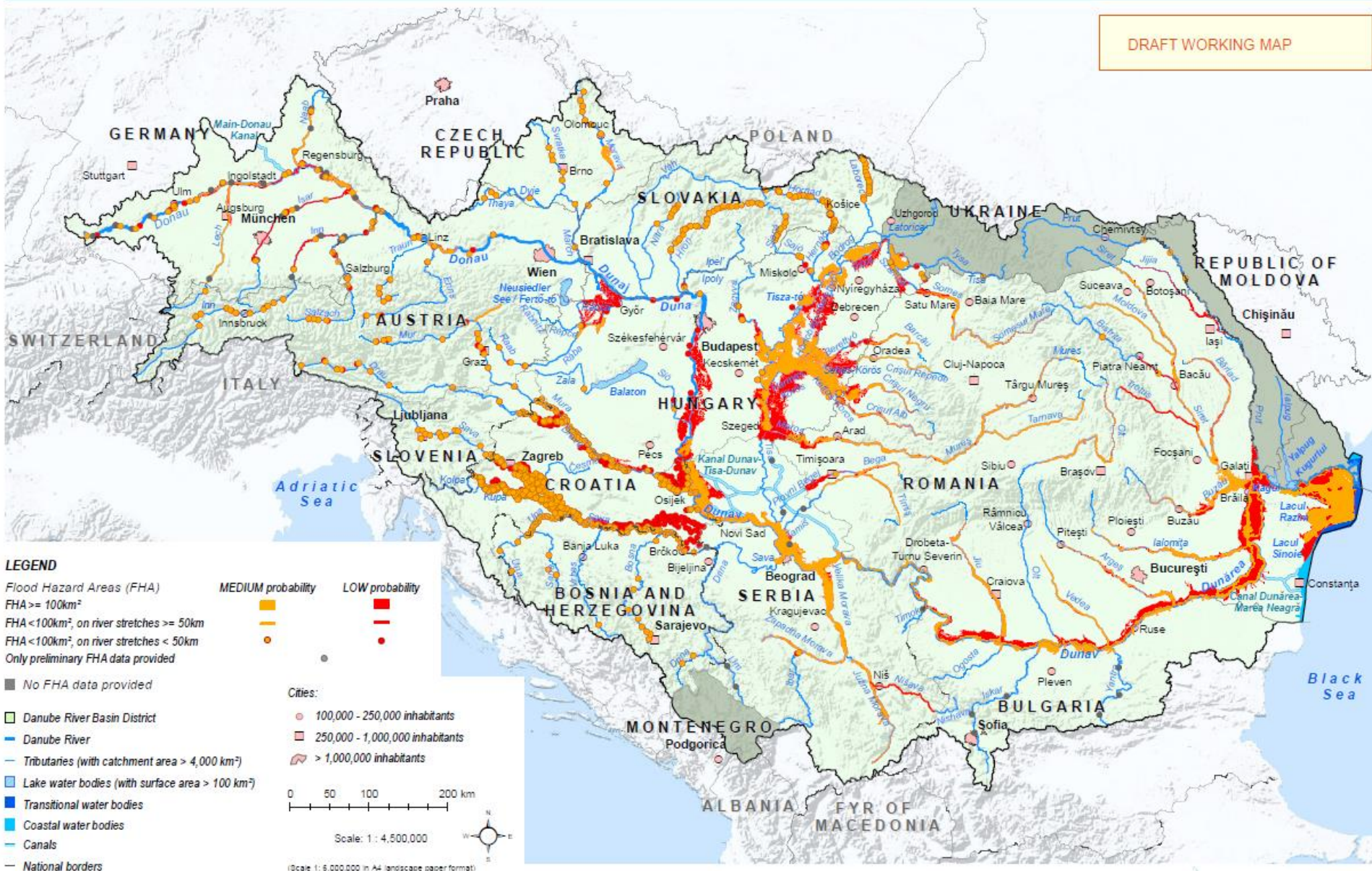
Coordination with **Flood Risk Management**

# Danube Flood Risk Management Plan 2015 - 2021



- FD planning period 2015 – 2021
- Includes Flood Hazard Maps
- Includes Flood Risk Maps
- Measures 2015-2021
- 6 months public consultation
- To be adopted by ICPDR on 1-2 December 2015
- To be endorsed at Danube Ministerial Conference on 9 February 2016

DRAFT WORKING MAP



FHA data for the Danube floodplain in BA, RO and RS was taken from the Danube Floodrisk Project. FHA data for Velika Morava floodplain in RS was taken from the SOPRAS 1 project. FHA data for SI was provided for 11 out of 21 relevant flood hazard areas (based on watershed size and national importance criteria).

This ICOPDR product is based on national information provided by the Contracting Parties to the ICOPDR (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH. EuroGlobalMap data from EuroGeographics was used for all national borders except for AL, BA, ME where the data from the ESRI World Countries was used; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as elevation data layer; data from the European Commission (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

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# Joint Statement Inland Navigation and Environment

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# 6<sup>th</sup> Meeting Joint Statement Inland Navigation and Environment, 10-11 September 2015, Vienna

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- Organised by ICPDR jointly with ISRBC and Danube Commission
- Participation by EC (DG Transport and DG Environment), representatives from Ministries of Transport, Ministries of Environment, project representatives, stakeholders and NGOs
- Importance of linkage of navigation projects with River Basin Management Plans highlighted
- All presentations and related documents available on DANUBIS following the link:

[http://www.icpdr.org/pls/danubis/danubis.www\\_main.main?p\\_siteid=1&p\\_cornerid=107552](http://www.icpdr.org/pls/danubis/danubis.www_main.main?p_siteid=1&p_cornerid=107552)

# ICPDR Workshop WFD methodological aspects regarding hydromorphology

23-25 September 2015, Vienna (AT)

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# HYMO WORKSHOP

## WFD methodological aspects concerning hydromorphology

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- Date: 23-25 September 2015, Vienna and surroundings
- Total 2 ½ days: 1 day theory, 1 day field survey, ½ day post-field survey theory
- Objective: Strengthening common understanding and facilitate harmonisation efforts for hydromorphological assessments
- Target audience: National experts from administrations and other experts dealing with WFD methodological aspects regarding HYMO assessments
- All documents available at:  
[http://www.icpdr.org/pls/danubis/danubis.www\\_main.main?p\\_siteid=1&p\\_cornerid=107518](http://www.icpdr.org/pls/danubis/danubis.www_main.main?p_siteid=1&p_cornerid=107518)

# ICPDR HYMO WORKSHOP

## Field Trip Day 2

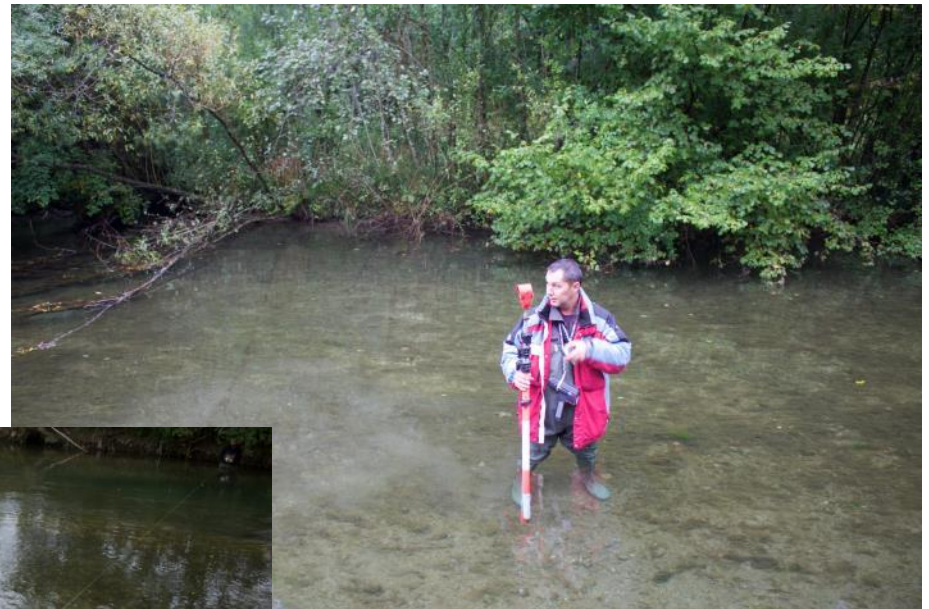
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# ICPDR HYMO WORKSHOP

## Field Trip Day 2

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# ICPDR HYMO WORKSHOP

## Field Trip Day 2

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# Support for specific projects relevant for EUSDR/PA4

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- Preparation Danube Sediment Management Project Proposal
- Preparation Tisza Project Proposal
- Sava Hydrological Information System (Sava HIS)
- Sturgeon conservation

To be finalised by the end of October 2015

***Thank you very much!***

For more information please consult the ICPDR website

<http://www.icpdr.org>

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Phone +43 1 26060-5738 / Fax +43 1 26060-5895 / [icpdr@unvienna.org](mailto:icpdr@unvienna.org) / [www.icpdr.org](http://www.icpdr.org)

