

# IDES

## *Improving water quality in the **Danube River** and its tributaries by integrative floodplain management based on **Ecosystem Services***

DTP3-389-2.1 – IDES

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### **O T2.1 Stakeholder workshops in pilot areas focusing on water quality and ES**

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with support of the entire IDES partnership

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## **SUMMARY**

The output is presenting the results of the 1<sup>st</sup> and 2<sup>nd</sup> stakeholders workshop addressing the water quality management concepts and application of IDES tool in the five pilot areas.

Two stakeholder workshops with all relevant stakeholders (e.g. land user (agriculture, forestry, fishery), local authorities, regional authorities (nature conservation, water management, drinking water, tourism), NGOs, sectoral agencies) were held in each of the 5 pilot areas in AT, HU, SI, RS and RO. During the first workshops the stakeholders have been informed about the necessity to improve water quality, but also about the wide variety of ecosystem services offered by rivers and floodplains to the benefit of society.

All workshops followed a common design. The various management options regarding water quality have been introduced and discussed according to the local situation. The workshops enabled the stakeholders to emphasize their needs, suggestions and the supposed conflicts. They outlined the usage and the potentials of water quality related ES in the pilot area. The outcomes of these workshops helped to identify practical water quality management solutions in floodplains of the pilot areas (SO 2). The results of the ES assessment of the status quo and different management scenarios have been then presented and discussed with the stakeholders during the second stakeholder workshops in order to find the best possible solution to improve water quality co-creating the water quality management concepts.

## **PROTOCOL OF THE 1ST STAKEHOLDERS WORKSHOP**

In February 2021 we have presented to all partners the guide on Identification of DPSIR and ES in pilot areas as an internal document, detailing all the steps needed to ensure a large participation of the stakeholders including the workflow and the forms for ES, Drivers, Pressures and Measures.

## **PROTOCOL OF THE 2ND STAKEHOLDERS WORKSHOP**

The workshops in the five pilot areas followed the common protocol described below.

*Duration:* one day event / two days event (each partner will decide which is more suitable for the pilot area).

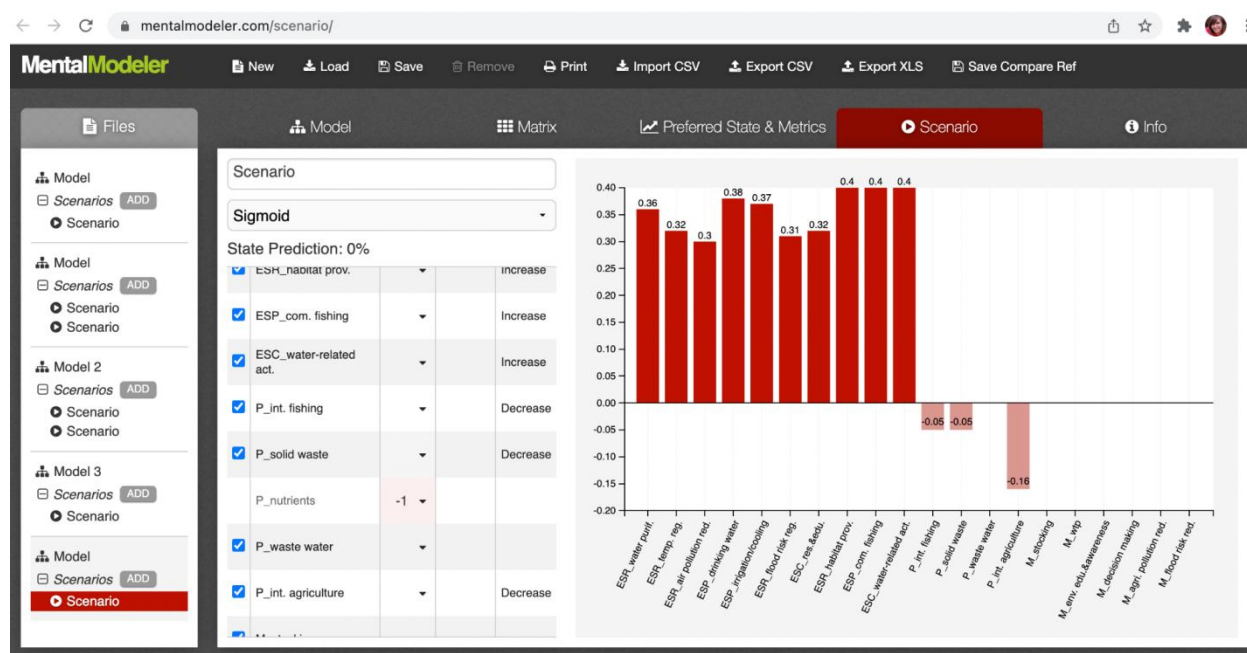
*Participants:* local stakeholders (send invitations to the list of stakeholders that participated in the 1st stakeholders workshop); national stakeholders (mainly for the training, but can stay also for the workshop), select the most important stakeholders for you (Environment Agency, Water Agency, Forest, Aquaculture).

## METHODOLOGY

Based on the first workshop's FCMs, the best scenario for improving water quality in each pilot area was created following the three steps:

### Step 1: Working with the FCM

- Make the correlation between the FCM and the Ecosystem Services (ES) maps obtained in WP T1 using the IDES tool; this is the baseline/ status quo for calculating the effects of scenarios on ES provision;
- Working with the FCM scenario module we could show the relation between Pressures (P) and ES by decreasing the value of a selected pressure (in the example below we have selected P\_nutrients and decreased its value to -1. This results in a positive impact on all ES and a negative impact on some of the pressures);



The process was reversed and different pressures were selected or more pressures were added;

- This exercise showed which pressure has the biggest impact on ES and which has the lowest impact (see the relative value of ES when P is modified); it enabled to compare cross-sites the results of the same pressure and see the differences in the way ES and P were linked;
- Identify the options for the pilot area: the maximum positive impact on ES is when all the pressures are reduced to -1; Identify the pressures that have impact on water quality; agree on the value of each pressure, in the [-1, +1] range; find in the FCM the Measures (M) selected to decrease the pressures.

#### *Step 2: Discussing the measures*

Debate the arguments for the measures identified in step 1, based on FCM. In this step the stakeholders are asked to present arguments for choosing a measure over another one. Write down the arguments (for e.g. on post-its). For the arguments use criteria like: timeframe, feasibility, financial resources, technology, and know-how.

#### *Step 3 Agreement on a combination of measures*

- Select the optimal and feasible combination of measures in order to improve water quality; there is no limit for the number of selected measures;
- It is the role of the moderator to direct the discussion to water quality and to get to an agreement between the participants;
- Answer the following questions:
  - who can implement the measures (what entity)?
  - what kind of funds are needed?
  - what is the timeframe for implementation?
  - what are the barriers?
- The agreed combination of measures will result in the agreed concept, which is described in Output O T2.2

## REPORTS OF PILOT AREAS 1st STAKEHOLDERS WORKSHOP

First stakeholder workshop took place in all 5 pilot areas according to Table 1. The workshop was designed to be conducted either as face to face or as online meeting, in accordance with the pandemic restrictions from each country.

*Table 1: Date and type of the workshop in each pilot area*

Country	Pilot	WHS type	Location	Date
AT	Nationalpark Donauauen	online	zoom	28.05.2021
HU	Tisza near Szolnok	face to face	Szolnok	28.06.2021
RO	Braila Islands	face to face	Braila	21.05.2021
RS	Nature Reserve Koviljsko-petrovaradinski rit	face to face	Forest Administration Kovilj, Kovilj	27.05.2021
SI	Mura River Kučnica Mura Petajnci – Gibina	face to face	Island of Love, Ižakovci village	27.05.2021

The number and type of participants are described in table 2.

*Table 2: Number of participants in the workshop and the category of the stakeholders*

Country	No of participants	No of participants who answered the questionnaire	No of participants who answered the questionnaire in each category						
			local public authority	regional public authority	national public authority	sectoral interest agency	higher education and research	Small & Medium Enterprise	
AT	12	9		3		1	3		2
HU	9	12		7	1	1	2	1	
RO	29	19	3		1	4	2	8	1
RS	44	17	1	4		3	6	3	
SI	AT	36	14	1	2		13	3	3

### 1. AT - Donauauen Nationalpark (Austria)

In preparation of the workshop in Donauauen Nationalpark pilot area, 9 respondents have answered the questionnaire.

### 2. Tisza near Szolnok (Hungary)

In Hungary's pilot area the questionnaire was answered by 12 stakeholders: 7 from public local authorities, 1 national authority, 1 sectoral agency, 2 NGOs and 1 from higher education.

### 3 Special Nature Reserve “Koviljsko-Petrovaradinski Rit” (Serbia)

17 stakeholders responded to the questionnaire: 1 from national public authorities, 4 from the regional ones, 3 from the sectoral agencies 6 NGO and 3 researchers.

#### 4. SI - Mura River Kučnica Mura Petajnci – Gibina

For this pilot area a number of 36 stakeholders have responded to the questionnaires: 14 from public authorities, 1 from regional, 2 from national authorities 13 from the NGOs, 3 from higher education and 3 from the small and medium enterprises.

#### 5 RO - Braila Islands

In Romania 19 stakeholders responded to the questionnaires: 3 from local authorities, 1 national, 4 from sectoral agencies 2 NGOs 8 from high education and 1 finally 1 from small and medium enterprises.

## REPORTS OF PILOT AREAS 2ND STAKEHOLDERS WORKSHOP

### 4 Donauauen Nationalpark (Austria)

*Where did the workshop took place?*

online (zoom)

*When did the workshop took place?*

31.05.2022

Participants:

Participant	Institution	Sector*	Specific interest*
P1	Vienna's municipal department for Climate, Forestry, and Agriculture (MA 49)	Administration, silviculture, agriculture	Conservation, biodiversity
P2	Austrian national waterway authority (viadonau)	Navigation	Navigation, restoration
P3	Austrian national waterway authority (viadonau)	Navigation	Navigation, restoration
P4	Federal Ministry for Agriculture, Regions, and Tourism (BMLRT)	Administration, agriculture, tourism	ES use, in particular cultural ES

*The model of the FCM (mmp, xls) used in the workshop (English version, use the "code" column for ES, P, M ).*

## 2. Special Nature Reserve “Koviljsko-Petrovaradinski Rit” (Serbia)

*Where the workshop took place?*

Forest Administration Kovilj, Kovilj (village in the Special Nature Reserve Koviljsko-petrovaradinski rit)

*When the workshop took place?*

31.05.2022

Participants:

Participant	Institution	Sector*	Specific interest*
P1	Institute of Nature Conservation (Serbian ASP)	conservation	conservation, R, P, C
P2	Institute of Nature Conservation (Serbian ASP)	conservation	conservation, R, P, C
P3	public company Vojvodinašume/forest holding Novi Sad (responsible for the management of the KPR)	silviculture	R, P
P4	public company Vojvodinašume/forest holding Novi Sad (responsible for the management of the KPR)	silviculture	R, P
P5	public company Vojvodinašume/forest holding Novi Sad (responsible for the management of the KPR)	silviculture	R, P
P6	public company Vojvodinašume/forest administration Kovilj (responsible for operationalisation of the management plans and the works in the KPR)	silviculture	R, P
P7	public company Vojvodinašume/ forest holding Novi Sad	silviculture	R, P
P8	Local authority Kovilj	administration	R, P, C
P9	public water management company Vode Vojvodine (responsible for the water management in the KPR)	water management	R
P10	public water management company Vode Vojvodine (responsible for the water management in the KPR)	water management	R
P11	public water management company Vode Vojvodine (responsible for the water management in the KPR)	water management	R
P12	provincial secretariat for urbanism and environmental protection	environment protection	conservation, R, P, C
P13	provincial secretariat for urbanism and	environment	conservation,



	environmental protection	protection	R, P, C
P14	provincial secretariat for urbanism and environmental protection	environment protection	conservation, R, P, C
P15	provincial secretariat for urbanism and environmental protection	environment protection	conservation, R, P, C
P16	provincial secretariat for urbanism and environmental protection	environment protection	conservation, R, P, C
P17	provincial secretariat for urbanism and environmental protection	environment protection	conservation, R, P, C
-P18	provincial secretariat for urbanism and environmental protection	environment protection	conservation, R, P, C
P19	provincial secretariat for urbanism and environmental protection	environment protection	conservation, R, P, C
P20	provincial secretariat for urbanism and environmental protection	environment protection	conservation, R, P, C
P21	farmers association Eco-farmer	agriculture	P
P22	farmers association Eco-farmer	agriculture	P
P23	association of cattle breeders Dunav	animal husbandry	P
P24	association of fishermans Dunav	aquaculture	P
P25	association of hunters Novi Sad	tourism	P
P26	non-governmental organization Ecological movement Novi Sad	environment protection	conservation
P27	civil society association Dunav 1245	urban development	C
P28	civil society association Dunav 1245	urban development	C
P29	non-governmental organization Pokret Gorana	environment protection	conservation, R, P, C
P30	non-governmental organization Pokret Gorana	environment protection	conservation, R, P, C
P31	non-governmental organization Ecological Center Radulovački	environment protection	conservation, R, P, C
P32	City of Novi Sad Administration for Environmental Protection	environment protection	conservation, R, P, C
P33	Faculty of Sciences, Department for biology and ecology, University of Novi Sad	higher education	conservation, R, P, C
P34	Faculty of Agriculture, University of Novi Sad	higher education	conservation, R, P, C
P35	Faculty of Agriculture, University of Novi Sad	higher education	conservation, R, P, C
P36	Faculty of Agriculture, University of Novi Sad	higher education	conservation, R, P, C
P37	Faculty of Agriculture, University of Novi Sad	higher education	conservation, R, P, C
P38	Faculty of Agriculture, University of Novi Sad	higher	conservation,

		education	R, P, C
P39	Faculty of Agriculture, University of Novi Sad	higher education	conservation, R, P, C
P40	Faculty of Agriculture, University of Novi Sad	higher education	conservation, R, P, C

*The model of the FCM (mmp, xls) used in the workshop (english version, use the "code" column for ES, P, M).*

### 3. Braila Islands (Romania)

*Where the workshop took place?*

Brăila

*When the workshop took place?*

10.06.2022

Participants:

Participants	Institution	Sector*	Specific interest*
P1	National Agency for Natural Protected Areas, Braila	environment protection	Conservation, R, C
P2	National Agency for Natural Protected Areas, Braila	environment protection	Conservation, R, C
P3	National Environmental Guard	environment protection	Conservation, R, C
P4	Environmental Protection Agency, Braila	environment protection	Conservation, R, C
P5	Environmental Protection Agency, Braila	environment protection	Conservation, R, C
P6	Environmental Protection Agency, Braila	environment protection	Conservation, R, C
P7	Obiectiv, Vocea Brailei (newspaper)	press	Conservation, R, P, C
P8	Brăila Water Management System	water utilities	R, P
P9	Brăila Water Management System	water utilities	R, P
P10	Brăila Water Management System	water utilities	R, P
P11	ARIN - NGO	environment protection	Conservation, R, C
P12	Braila Agricultural Development Research Station	research, agriculture	P
P13	Braila Agricultural Development Research Station	research, agriculture	P
P14	Braila Agricultural Development Research Station	research, agriculture	P
P15	EcoAlpex 024 Asociation	environment protection	Conservation, R, C
P16	National Institute of Hydrology and Water Management	water	R
P17	National Institute of Hydrology and Water Management	water	R
P18	National Agency for Fisheries and Aquaculture -	aquaculture	P

	Moldova Branch		
P19	National Agency for Fisheries and Aquaculture - Moldova Branch	aquaculture	P
P20	Research & Development Institute for Aquatic Ecology Fisheries and Aquaculture	research, conservation, water, aquaculture	Conservation, R, P
P21	Research & Development Institute for Aquatic Ecology Fisheries and Aquaculture	research, conservation, water, aquaculture	Conservation, R, P
P22	Research & Development Institute for Aquatic Ecology Fisheries and Aquaculture	research, conservation, water, aquaculture	Conservation, R, P
P23	Forest Guard	forestry, environment protection	P, R
P24	South-East Regional Development Agency	administration	P, R, C
P25	“Danube Delta” National Institute for Research and Development	research, conservation	Conservation, R, C
P26	WWF Romania	conservation	Conservation, R, C
P27	UB-RCSES	higher education and research, conservation	Conservation, R, C
P28	UB-RCSES	higher education and research, conservation	Conservation, R, C
P29	UB-RCSES	higher education and research, conservation	Conservation, R, C
P30	UB-RCSES	higher education and research, conservation	Conservation, R, C
P31	UB-RCSES	higher education and research, conservation	Conservation, R, C
P32	UB-RCSES	higher education and research,	Conservation, R, C

		conservation	
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*The model of the FCM (mmp, xls) used in the workshop (english version, use the “code” column for ES, P, M).*

#### 4. Tisza near Szolnok (Hungary)

*Where the workshop took place?*

Szolnok

*When the workshop took place?*

30.06.2022

Participants:

Participants	Institution	Sector*	Specific interest*
P1	Pály Secondary School	Education	
P2	Pály Secondary School	Education	
P3	KÖTIVIZIG	Regional public authority	
P4	KÖTIVIZIG	Regional public authority	
P5	VCSM Zrt. Szolnok	Water utilities	Use of ES - Drinking water supply from Tisza River
P6	KÖTIVIZIG	Regional public authority	
P7	Expert	Private sector	
P8	Expert	Private sector	
P9	KÖTIVIZIG	Regional public authority	
P10	KÖTIVIZIG	Regional public authority	
P11	KÖTIVIZIG	Regional public authority	
P12	KÖTIVIZIG	Regional public authority	
P13	KÖTIVIZIG	Regional public authority	
P14	KÖTIVIZIG	Regional public authority	
P15	KÖTIVIZIG	Regional public authority	
P16	KÖTIVIZIG	Regional public authority	
P17	Expert	Private sector	

*The model of the FCM (mmp, xls) used in the workshop (english version, use the “code” column for ES, P, M).*

## 5. Mura River Kučnica Mura Petajnci – Gibina (Slovenia)

*Where the workshop took place?*

SPA Resort Radenci

*When the workshop took place?*

19.05.2022

Participants:

Participants	Institution	Sector*	Specific interest*
P1	Slovenia Forest Service	Silviculture	Conservation
P2	Slovenia Forest Service, Regional Unit Murska Sobota	Silviculture	Conservation
P3	Institute for Waters of the Republic of Slovenia	Aquaculture	Conservation
P4	Institute for Waters of the Republic of Slovenia	Aquaculture	Conservation
P5	Institute for Waters of the Republic of Slovenia	Aquaculture	Conservation
P6	Development Centre Murska Sobota	Administration	Conservation
P7	Municipality Gornja Radgona	Administration	Conservation
P8	VGP Pomgrad	Water Utilities	Production
P9	VGP Pomgrad	Water Utilities	Production
P10	Slovenian State Forests Ltd.	Silviculture	Production
P11	Slovenian State Forests Ltd.	Silviculture	Production
P12	Slovenia Forest Service, Regional Unit Murska Sobota	Silviculture	Conservation
P13	Slovenia Forest Service, Regional Unit Murska Sobota	Silviculture	Conservation
P14	Aqueduct System B	Water Utilities	Production
P15	ZTKŠ Beltinci	Tourism	Conservation

*The model of the FCM (mmp, xls) used in the workshop (english version, use the “code” column for ES, P, M).*