Competent Authorities and Weblinks to National RBM Plans in the DRBD

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

Draft ANNEX 1 as of 27 March 2021
DRBMP Update 2021

Austria
Federal Ministry for Agriculture, Regions and Tourism
Stubenring 1
A-1012 Wien
Web link: www.bmlrt.gv.at
Web link national RBM Plan:
http://wisa.bmlrt.gv.at

Bosnia and Herzegovina
Ministry of Foreign Trade and Economic Relations
Musala 9
BiH-71000 Sarajevo
Web link: www.mvteo.gov.ba

Federal Ministry of Agriculture, Water Management and Forestry
Hamdije Ćemerlića 2
BiH-71000 Sarajevo
Web link RBM Plan:
http://www.voda.ba/plana-upravljanja-vodama-za-vodno-podrucje-rijeke-save-u-federaciji-bih-(2022.-2027.)
Web link: www.fmpvs.gov.ba

Ministry of Agriculture, Forestry and Water Management of Republika Srpska
Trg Republike Srpske 1
BiH-78000 Banja Luka
Web link: www.vladars.net
Web link RBM Plan:
http://www.voders.org/dokumentacija

Bulgaria
Ministry of Environment and Water
22 Maria-Luisa Blvd.
BG-1000 Sofia
Web link: www.moew.government.bg

Danube River Basin Directorate
60, Chataldzha str.
BG -5800 Pleven
Web link: www.bd-dunav.org
Web link national RBM Plan:
http://www.bd-dunav.org/content/upravlenie-na-vodite/plan-za-upravlenie-na-rechniia-baseyn/purb-2022-2027-v-dunavski-rayon/

https://www.moew.government.bg/bg/vodi/planove-za-upravlenie/planove-za-upravlenie-na-rechnite-basejni-purb/planove-za-upravlenie-na-rechnite-basejni-2022-2027-g

Croatia
Ministry of Agriculture
Ulica grada Vukovara 78
HR-10000 Zagreb
Web link: http://www.mps.hr

Czech Republic
Ministry of Environment
Vrsovická 65
CZ-10010 Praha 10
Web link: www.mzp.cz

Ministry of Agriculture
Tesnov 17
CZ-117 05 Praha 1
Web link: www.mze.cz
Web link national RBM Plan:
http://portal.mze.cz/public/web/mze/voda/planovani-v-oblasti-vod/

Germany
Bavarian State Ministry for Environment and Consumer Protection
Rosenkavalierplatz 2
D-81925 München
Web link: www.stmuv.bayern.de/

Ministry for the Environment, Climate Protection and the Energy Sector Baden-Württemberg
Kernerplatz 10
D-70182 Stuttgart
Web link: www.um.baden-wuerttemberg.de/

Hungary
Ministry of Interior
Jozsef Attila u. 2-4
H-1051 Budapest
Web link:
www.kormany.hu/hu/belugyminiszterium
Web link national RBM Plan: www.vizeink.hu

Moldova
Ministry of Environment
9 Cosmonautilor St.
MD-2005 Chisinau
Web link: www.mediu.gov.md

Montenegro
Ministry of Agriculture, Forestry and Water Management
Rimski Trg 46
ME – 81000 Podgorica

Web link: https://mpr.gov.me/ministarstvo

Water Administration
Bulevar Revolucije 24
ME – 81000 Podgorica
Web link: https://upravazavode.gov.me/uprava

Romania
Ministry of Environment, Waters and Forests
12 Libertatii Blvd., Sector 5
RO-04129 Bucharest
Web link: http://www.mmediu.ro

National Administration “Apele Romane”
6 Edgar Quinet St., Sector 1
RO-010018 Bucharest
Web link: *http://www.rowater.ro*

Serbia
Ministry of Agriculture, Forestry and Water Management
Nemanjina 22-26
RS-11000 Beograd
Web link:
http://www.minpolj.gov.rs/?script=lat

Republic Directorate for Water
Bulevar umetnosti 2a
RS-11070 Beograd
Web link:
http://www.rdvode.gov.rs/lat/index.php

Slovak Republic
Ministry of the Environment
Námestie L’ Stúra 1
SK-81235 Bratislava
Web link: www.enviro.gov.sk;
www.vuvh.sk/rsv2

Slovenia
Ministry of the Environment and Spatial Planning
Dunajska 48
SI-1000 Ljubljana
Web link: www.mop.gov.si/en/
Web link national RBM Plan:
http://www.mop.gov.si/si/delovna_podrocja/voda/nacrt_upravljanja_voda/nuv_besedilni_in_kartografski_del/
Web link PoMs:
http://www.mop.gov.si/si/delovna_podrocja/voda/nacrt_upravljanja_voda/#c18223

Ukraine
Ministry for Environmental Protection and Natural Resources
35, Mitropolita Vasylia Lypkivskogo str.
UA-03035 Kyiv

State Agency e for Water Management
8, Velyka Vasylkivska Str.
UA-01601 Kyiv
Web link: www.menr.gov.ua

DRBD Surface Water Typology

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

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DRBMP Update 2021

Typology of the Danube River

The typology of the Danube River has been developed in a joint activity by the countries sharing the Danube River for the first DBA in 2004. The Danube typology therefore constitutes a harmonised system used by all these countries. The Danube typology was based on a combination of abiotic factors of System A and System B. The most important factors are ecoregion, mean water slope, substratum composition, geomorphology and water temperature.

Figure 1: Danube section types; the dividing lines refer only to the Danube River itself.

Section Type	Name of the Section Type	from - to
1	Upper course of the Danube	rkm 2786: confluence of Brigach and Breg – rkm 2581: Neu Ulm
2	Western Alpine Foothills Danube	rkm 2581: Neu Ulm – rkm 2225: Passau
3	Eastern Alpine Foothills Danube	rkm 2225: Passau – rkm 2001: Krems
4	Lower Alpine Foothills Danube	rkm 2001: Krems – rkm 1790: Gönyű/Kližská Nemá
5	Hungarian Danube Bend	rkm 1790: Gönyű/ Kližská Nemá – rkm 1497: Baja
6	Pannonian Plain Danube	rkm 1497: Baja – rkm 1075 : Bazias
7	Iron Gate (Cazane) Danube	rkm 1075: Bazias – rkm 943: Turnu Severin
8	Western Pontic (Cazane-Calarasi) Danube	rkm 943: Turnu Severin – rkm 375.5: Chiciu/Silistra
9	Eastern Wallachian (Calarasi-Isaccea) Danube	rkm 375.5: Chiciu/Silistra – rkm 100: Isaccea
10	Danube Delta*	rkm 100: Isaccea – rkm 0 on Chilia arm, rkm 0 on Sulina arm and rkm 0 on Sf. Gheorghe arm

Table 1: Danube section types

Ten Danube section types were identified (see Figure 1 and Table 1). The morphological and habitat characteristics are outlined for each section type. In order to ensure that the Danube section types are biologically meaningful, these were validated with biological data collected during the first Joint Danube Survey in 2001.

Typology of the tributaries in the Danube River Basin District

The typologies of the Danube tributaries were developed by the countries individually. Stream types relevant on transboundary water courses were bilaterally harmonised with the neighbours.

Most countries in the DRB (Germany, Austria, Czech Republic, Hungary, Slovenia, Bosnia and Herzegovina, Serbia, Croatia, Romania, Bulgaria) have applied System B (Annex II, 1.2.1 WFD) for establishing their river typology. Only Slovakia and Ukraine have used System A. Countries using System B have used a number of optional factors to further describe the river types. River discharge, mean substratum composition and mean water slope are most frequently used.

Table 2 gives an overview of the class boundaries used by the DRB countries for the common descriptors: altitude, catchment area and geology.

Descriptor	Country	Class boundaries				
Altitude	Germany	0-200 m	200-800m	> 800 m		
	Austria	0-200 m	200-500 m	500-800 m	800-1600 m	> 1600 m
	Czech R.	0-200 m	200-500 m	500-800 m	> 800 m	
	Slovak R.	0-200 m	200-500 m	500-800 m	> 800 m	
	Hungary[1]	slope categories were used in river typology				
	Croatia	0-200 m	200 - 500 m	> 500 m		
	Slovenia	no altitude classes were used in river typology				
	Serbia	0-200 m	200-500 m	> 500 m		
	Romania	0-200 m	200-500 m	> 500 m		
	Bulgaria	0-200 m	200-800 m	> 800 m		
	Bosnia and Herzegovina	< 200 m	200-500 m	500-800 m	> 800 m	
	Moldova	0-200 m	200-800m	> 800 m		
	Montenegro					
	Ukraine	< 200 m	200-500 m	500-800 m		
Catchment area	Germany	10-100 km^2	100-1000 km^2	1000-10,000 km^2	> 10,000 km^2	
	Austria	10-100 km^2	100-500 km^2	500-1000 km^2	1000-2500 km^2	2500-10,000 km^2
	Czech R.	Not applied anymore				
	Slovak R.[2]	10-100 km^2	100 – 1 000 km^2	1000 – 10000 km^2		
	Hungary	10-100 km^2	100-1000 km^2	1000-10,000 km^2	10,000-100,000 km^2	> 100,000 km^2
	Croatia	10-100 km^2	100-1000 km^2	1000-10,000 km^2	> 10,000 km^2	
	Slovenia	<10 km^2	10-100 km^2	100-1000 km^2	1000-10,000 km^2	> 10,000 km^2
	Serbia	10-100 km^2	100-1000 km^2	1000-4000 km^2	4000-10,000 km^2	> 10,000 km^2
	Romania	10-100 km^2	100-1000 km^2	1000-10,000 km^2	> 10,000 km^2	
	Bulgaria	10-100 km^2	100-1300 km^2	1300-10,000 km^2	> 10,000 km^2	
	Bosnia and Herzegovina	<100 km^2	100-1000 km^2	1000-4000 km^2	4000-10,000 km^2	> 10,000 km^2
	Moldova	10-100 km^2	100-1000 km^2	1000-10,000 km^2	> 10,000 km^2	
	Montenegro					
	Ukraine	10-100 km^2	100-1000 km^2	1000-10,000 km^2	> 10,000 km^2	
Geology	Germany	siliceous	calcareous	organic		
	Austria	crystalline	tertiary and quaternary sediments	flysch and helveticum	limestone and dolomite	
	Czech R.	crystalline and vulcanites	sandstones, mudstones and quaternary			
	Slovak R.	mixed				
	Hungary	siliceous	calcareous			
	Croatia	siliceous	calcareous	organic	mixed	
	Slovenia	siliceous	calcareous	flysch[3]		
	Serbia	siliceous	calcareous	organic		
	Romania	siliceous	calcareous	organic		
	Bulgaria	siliceous	calcareous	mixed		
	Bosnia and Herzegovina	siliceous	calcareous	organic		
	Moldova	siliceous	calcareous	organic		

[1] River type-classification of waterbodies based on the slope category more powerful then altitude based on biological validation results (slope categories: <0,15 ‰, 0,15 ‰ - 2,5‰, >2,5‰; real altitude categories are rather 0-150m, 150-350m, >350 m and used as background-information).

[2] The river typology is not based on strict boundaries of catchment area. Rivers > 1,000 km^2 make up individual types; definition of types for smaller rivers is based on ecoregion, altitude and geology.

[3] not for the tributaries in the Danube river basin district

	Montenegro			
	Ukraine	siliceous	calcareous	organic

Table 2: Obligatory factors used in river typologies (Systems A and B)

Lakes

In total, four lakes were reported at the DRB overview level: Neusiedler/Fertö-to (Austria/Hungary), Balaton (Hungary), Ialpug (Ukraine) and Razim/Razelm (Romania). Information is provided in Table 3.

Lakes > 100 km²	Country(s)	Type of lake	Ecoregion	Altitude class	Depth class	Size class	Geology
Neusiedler See / Fertő-tó	AT, HU	lowland, large shallow, saline lake	2	lowland: < 200 m	< 3 m	> 100 km²	saline
Lake Balaton	HU	lowland, very large, mid deep, calcareous lake	1	lowland: < 200 m	3-15 m	> 100 km²	calcareous
Ozero Ialpug	UA	n.a.	12	n.a.	n.a.	> 100 km²	n.a.
Lacul Razim / Razelm	RO	lowland, very shallow, calcareous, very large lake type	12	lowland: < 200 m	< 3 m	> 100 km²	calcareous

Table 3: Lakes selected for the basin-wide overview and their types

Transitional and coastal waters

The transitional and coastal waters of the DRB are located in Romania and Ukraine. For the development of the typology of transitional and coastal waters System B was applied. The transitional waters are differentiated into lacustrine and marine transitional waters (Table 4).

Transitional water	Type
Lake Sinoe	Transitional lacustrine type
Black Sea coastal waters (northern sector) – Chilia mouth to Periboina	Transitional marine type

Table 4: Types of transitional waters in the DRBD

Two coastal water types have been defined for the coastal waters in the DRBD (Table 5).

Coastal water	Type
Periboina – Singol Cape	Sandy shallow coastal water
Singol Cape – Vama veche	Mixed shallow coastal water

Table 5: Types of coastal waters in the Danube River Basin District

Urban Wastewater Emission Inventory

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Urban wastewater discharge data were collected from the countries in line with the reporting requirements of the UWWTD (non-EU countries used the same template). The data served the assessments of the point source organic substance and nutrient emissions via urban wastewater discharges for the reference year 2016. Summarizing tables of the data submitted are presented in the followings.

Table 1: Number of agglomerations according to collection and treatment systems (highest technological level) and countries

Collection and treatment system	DE	AT	CZ	SK	HU	SI	HR	BA	RS	BG	RO	MD	UA	Basin
NP-removal	452	526	136	142	438	78	6		3	33	175			1989
P-removal	11	76	19	7	10						2			125
N-removal	86		19	63	13					1	3			185
Secondary treatment	101	3	26	80	98	55	22	8	34	10	351	7	8	803
Primary treatment				2	32		10		9	2	41	5	2	103
Addressed through IAS			1	50	24	5	89			19	117			305
Collected but not treated							2	77	145	30	132	20	12	418
Addressed through local systems								81	150					231
Not collected							10	2	1	25	1049	112	271	1470
Total	**650**	**605**	**201**	**344**	**615**	**138**	**139**	**168**	**342**	**120**	**1870**	**144**	**293**	**5629**

Table 2: Summed Population Equivalents (PE) according to collection and treatment systems of the agglomerations (highest technological level) and countries

Collection and treatment system	DE	AT	CZ	SK	HU	SI	HR	BA	RS	BG	RO	MD	UA	Basin
NP-removal	11957490	13256107	2178596	3158525	10362731	727297	247421		193836	2825464	11533293			56440760
P-removal	44988	338073	234671	139520	49665						13114			820031
N-removal	328403		69792	231835	379149					19924	149934			1179037
Secondary treatment	341627	3948	134806	334825	2404962	570017	1398946	586200	1083231	499069	2795565	96020	591705	10840921
Primary treatment				8400	392469		184897		81935	19215	559293	69400	31291	1346900
Addressed through IAS			2200	167633	68886	16032	926551			117628	511579			1810509
Collected but not treated							7172	1694803	4165316	162810	783656	92497	70624	6976878
Addressed through local systems								278650	570562					849212
Not collected							39821	9072	2050	77573	3795616	359897	1106001	5390030
Total	**12672508**	**13598128**	**2620065**	**4040738**	**13657862**	**1313346**	**2804808**	**2568725**	**6096930**	**3721683**	**20142050**	**617814**	**1799621**	**85654278**

Table 3: Summed Population Equivalents (PE) according to collection types and countries

Type of collection	DE	AT	CZ	SK	HU	SI	HR	BA	RS	BG	RO	MD	UA	Basin
Collected by sewer	12658003	13503800	2465154	3379826	11648962	1188875	1959491	980928	4283162	3048156	12425527	89610	583819	68215311
Collected by IAS	14505	94328	154911	642898	1457217	69295	572195	0	0	481029	281339	0	0	3767717
Collected by local systems	0	0	0	0	0	0	0	1062487	1674254	0	0	15052	0	2751793
Not collected	0	0	0	18014	551683	55176	273122	525311	139514	192498	7435184	513152	1215802	10919456
Total	**12672508**	**13598128**	**2620065**	**4040738**	**13657862**	**1313346**	**2804808**	**2568725**	**6096930**	**3721683**	**20142050**	**617814**	**1799621**	**85654278**

Table 4: Number of treatment facilities according to treatment types and countries

Type of treatment	DE	AT	CZ	SK	HU	SI	HR	BA	RS	BG	RO	MD	UA	Basin
NP-removal	452	526	116	89	443	46	6		3	28	143			1852
P-removal	11	76	19	6	11						2			125
N-removal	86		19	72	13					1	3			194
Secondary treatment	101	3	26	90	99	48	23	10	34	10	372	7	8	831
Primary treatment				4	33		10	1	9	3	42	5	2	109
Collected but not treated				12		18	100	73	283	41	160	20	12	719
Total	**650**	**605**	**180**	**273**	**599**	**112**	**139**	**84**	**329**	**83**	**722**	**32**	**22**	**3830**

Table 5: Summed Population Equivalents (PE) according to treatment types and countries

Type of treatment	DE	AT	CZ	SK	HU	SI	HR	BA	RS	BG	RO	MD	UA	Basin
NP-removal	11943647	13162668	2052907	2780894	8899229	659486	174572		136157	2331560	9219123			51360242
P-removal	44885	337192	225277	215887	87990						4411			915641
N-removal	327874		63691	157365	349930					18529	136782			1054172
Secondary treatment	341597	3940	123279	199240	1982913	501660	1148225	338439	554213	476860	1438759	40266	520168	7669560
Primary treatment				5207	315878		130945	4797	44817	8326	382761	37364	23521	953616
Collected but not treated				21233	13022	27728	505748	637691	3547975	212882	1243693	11980	40129	6262081
Total	**12658003**	**13503800**	**2465154**	**3379826**	**11648962**	**1188875**	**1959491**	**980928**	**4283162**	**3048156**	**12425527**	**89610**	**583819**	**68215311**

Table 6: Biochemical Oxygen Demand (BOD) discharges according to treatment types and countries (t/year)

Type of treatment	DE	AT	CZ	SK	HU	SI	HR	BA	RS	BG	RO	MD	UA	Basin
NP-removal	3686.8	4373.1	379.5	702.6	4974.3	209.4	180.8		256.2	982.2	14523.4			30268.4
P-removal	22.3	199.2	42.9	61.5	97.3						4.5			427.7
N-removal	113.9		26.4	92.7	90.4					21.4	173.1			517.8
Secondary treatment	256.6	5.9	23.7	498.6	1535.3	146.6	7308.9	5994.8	3693.4	981.9	3429.8	525.7	671.0	25072.2
Primary treatment				19.7	265.9		2193.6	105.1	597.9	139.6	1369.0	1001.2	18.0	5710.2
Collected but not treated				165.5		607.4	9984.8	14000.6	63763.0	4628.8	5589.5	525.4	20.0	99284.9
Total	**4079.6**	**4578.2**	**472.5**	**1540.6**	**6963.1**	**963.4**	**19668.1**	**20100.5**	**68310.5**	**6754.0**	**25089.3**	**2052.3**	**709.0**	**161281.1**

Table 7: Chemical Oxygen Demand (COD) discharges according to treatment types and countries (t/year)

Type of treatment	DE	AT	CZ	SK	HU	SI	HR	BA	RS	BG	RO	MD	UA	Basin
NP-removal	26980.2	28297.1	2669.5	3282.4	17562.0	1242.7	915.6		469.6	3368.1	53557.7			138345.1
P-removal	123.0	717.5	356.0	254.9	323.5						47.8			1822.7
N-removal	748.4		131.6	401.8	535.7					78.4	532.0			2427.9
Secondary treatment	1380.3	18.3	169.2	4326.6	4601.1	688.3	10463.3	10990.5	6694.0	3600.4	13936.6	744.8	1903.0	59516.4
Primary treatment				61.0	914.4		3511.2	192.7	1096.2	259.8	3390.0	1614.9	43.0	11083.3
Collected but not treated				352.4		1265.0	17461.4	25667.7	116898.8	8486.2	11381.8	893.2	40.0	182446.5
Total	**29231.9**	**29032.9**	**3326.3**	**8679.2**	**23936.8**	**3196.0**	**32351.6**	**36850.9**	**125158.7**	**15793.0**	**82845.8**	**3252.8**	**1986.0**	**395641.9**

Table 8: Total Nitrogen (TN) discharges according to treatment types and countries (t/year)

Type of treatment	DE	AT	CZ	SK	HU	SI	HR	BA	RS	BG	RO	MD	UA	Basin
NP-removal	12050.1	8327.4	1048.1	1383.6	5556.6	263.5	320.6		83.1	532.1	7147.9			36713.0
P-removal	40.0	415.2	144.1	131.1	65.7						12.8			808.9
N-removal	243.8		47.5	113.4	234.9					12.8	103.6			756.0
Secondary treatment	528.7	10.5	67.9	588.3	1283.4	239.5	4249.1	921.5	1070.3	1178.3	1602.4	166.3	761.0	12667.1
Primary treatment				12.8	221.3		687.9	17.5	114.7	21.9	366.4	168.3	13.0	1623.8
Collected but not treated				54.8		0.0	2290.9	2173.9	9351.9	694.3	1278.2	76.7	5.0	15925.7
Total	**12862.6**	**8753.1**	**1307.6**	**2284.1**	**7361.9**	**503.0**	**7548.4**	**3112.9**	**10620.0**	**2439.4**	**10511.2**	**411.3**	**779.0**	**68494.6**

Table 9: Total Phosphorus (TP) discharges according to treatment types and countries (t/year)

Type of treatment	DE	AT	CZ	SK	HU	SI	HR	BA	RS	BG	RO	MD	UA	Basin
NP-removal	644.6	626.6	81.0	116.1	606.1	40.0	24.7		7.9	45.9	766.3			2959.2
P-removal	7.5	24.4	10.1	6.9	9.6						1.2			59.6
N-removal	77.7		9.3	43.8	36.5					7.5	3.9			178.5
Secondary treatment	82.4	1.8	9.6	65.2	554.9	32.9	660.2	202.6	254.8	171.8	219.4	57.5	85.2	2398.5
Primary treatment				2.1	32.6		84.3	3.5	25.2	3.5	53.6	46.7	0.9	252.5
Collected but not treated				8.7		0.0	358.8	470.0	1912.9	115.7	175.5	21.5	1.0	3064.1
Total	**812.1**	**652.9**	**109.9**	**242.8**	**1239.6**	**72.9**	**1128.0**	**676.1**	**2200.7**	**344.5**	**1219.9**	**125.8**	**87.2**	**8912.5**

Industrial Emission Inventory

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

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Industrial pollutant release data were collected from the E-PRTR database (note that some data might have been updated since February 2021) and directly from the countries which do not report under the E-PRTR system. The data served the assessments of the point source organic matter and nutrient emissions via direct industrial dischargers for the reference year 2017. Summarizing tables of the data submitted are presented in the followings.

Table 1: Number of industrial facilities with reported Chemical Oxygen Demand (COD) discharge according to industrial sectors and countries

Activity	DE	AT	CZ	SK	HU	SI	HR	BA	ME	RS	BG	RO	MD	UA	Basin
Energy sector	0	0	0	1	4	0	0	0	0	0	0	3	0	0	8
Production and processing of metals	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3
Mineral industry	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Chemical industry	2	2	0	2	2	0	0	0	0	0	0	2	0	0	10
Waste and industrial wastewater management	0	6	0	0	3	0	0	0	0	0	1	0	0	0	10
Paper and wood production processing	5	4	0	2	1	2	0	0	0	0	1	0	0	1	16
Intensive livestock production and aquaculture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Products from the food and beverage sector	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
Other activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**7**	**14**	**0**	**6**	**14**	**2**	**0**	**0**	**0**	**0**	**2**	**5**	**0**	**1**	**51**

Table 2: Chemical Oxygen Demand (COD) discharges according to industrial sectors and countries (t/year)

Activity	DE	AT	CZ	SK	HU	SI	HR	BA	ME	RS	BG	RO	MD	UA	Basin
Energy sector	0	0	0	675	3417	0	0	0	0	0	0	1179	0	0	5271
Production and processing of metals	0	220	0	396	1176	0	0	0	0	0	0	0	0	0	1792
Mineral industry	0	0	0	0	210	0	0	0	0	0	0	0	0	0	210
Chemical industry	1419	1571	0	474	669	0	0	0	0	0	0	9651	0	0	13784
Waste and industrial wastewater management	0	21063	0	0	727	0	0	0	0	0	221	0	0	0	22011
Paper and wood production processing	8187	9088	0	4596	2208	561	0	0	0	0	1788	0	0	131	26559
Intensive livestock production and aquaculture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Products from the food and beverage sector	0	624	0	0	1158	0	0	0	0	0	0	0	0	0	1782
Other activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**9606**	**32566**	**0**	**6141**	**9565**	**561**	**0**	**0**	**0**	**0**	**2009**	**10830**	**0**	**131**	**71409**

Table 3: Number of industrial facilities with reported Total Nitrogen (TN) discharge according to industrial sectors and countries

Activity	DE	AT	CZ	SK	HU	SI	HR	BA	ME	RS	BG	RO	MD	UA	Basin
Energy sector	1	0	0	1	3	0	0	2	0	0	0	0	0	0	7
Production and processing of metals	0	0	0	1	0	0	0	0	0	1	0	1	0	0	3
Mineral industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical industry	2	1	0	1	2	0	1	1	0	1	0	1	0	0	10
Waste and industrial wastewater management	0	2	0	1	1	0	0	0	0	0	0	0	0	0	4
Paper and wood production processing	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
Intensive livestock production and aquaculture	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Products from the food and beverage sector	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Other activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**3**	**4**	**0**	**5**	**6**	**0**	**1**	**3**	**0**	**2**	**1**	**2**	**0**	**1**	**28**

Table 4: Total Nitrogen (TN) discharges according to industrial sectors and countries (t/year)

Activity	DE	AT	CZ	SK	HU	SI	HR	BA	ME	RS	BG	RO	MD	UA	Basin
Energy sector	58	0	0	138	608	0	0	4.1	0	0	0	0	0	0	808
Production and processing of metals	0	0	0	161	0	0	0	0.0	0	114	0	373	0	0	648
Mineral industry	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0
Chemical industry	170	135	0	106	241	0	68	0.1	0	626	0	55	0	0	1401
Waste and industrial wastewater management	0	443	0	82	83	0	0	0.0	0	0	0	0	0	0	607
Paper and wood production processing	0	0	0	117	0	0	0	0.0	0	0	0	0	0	71	188
Intensive livestock production and aquaculture	0	0	0	0	0	0	0	0.0	0	0	218	0	0	0	218
Products from the food and beverage sector	0	252	0	0	0	0	0	0.0	0	0	0	0	0	0	252
Other activities	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0
Total	**227**	**830**	**0**	**604**	**932**	**0**	**68**	**4.1**	**0**	**740**	**218**	**428**	**0**	**71**	**4121**

Table 5: Number of industrial facilities with reported Total Phosphorus (TP) discharge according to industrial sectors and countries

Activity	DE	AT	CZ	SK	HU	SI	HR	BA	ME	RS	BG	RO	MD	UA	Basin
Energy sector	0	0	0	1	2	0	0	2	0	0	0	1	0	0	6
Production and processing of metals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mineral industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical industry	1	1	0	0	0	0	0	0	0	1	0	0	0	0	3
Waste and industrial wastewater management	0	3	0	1	1	0	0	0	0	0	0	0	0	0	5
Paper and wood production processing	0	1	0	1	1	0	0	0	0	0	0	0	0	1	4
Intensive livestock production and aquaculture	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
Products from the food and beverage sector	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Other activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**1**	**6**	**0**	**3**	**5**	**0**	**0**	**2**	**0**	**1**	**1**	**1**	**0**	**1**	**21**

Table 6: Total Phosphorus (TP) discharges according to industrial sectors and countries (t/year)

Activity	DE	AT	CZ	SK	HU	SI	HR	BA	ME	RS	BG	RO	MD	UA	Basin
Energy sector	0	0	0	11	16	0	0	0	0	0	0	6	0	0	33
Production and processing of metals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mineral industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical industry	6	7	0	0	0	0	0	0	0	11	0	0	0	0	24
Waste and industrial wastewater management	0	65	0	7	10	0	0	0	0	0	0	0	0	0	81
Paper and wood production processing	0	17	0	17	15	0	0	0	0	0	0	0	0	9	57
Intensive livestock production and aquaculture	0	0	0	0	4	0	0	0	0	0	109	0	0	0	113
Products from the food and beverage sector	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Other activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**6**	**95**	**0**	**34**	**44**	**0**	**0**	**0.4**	**0**	**11**	**109**	**6**	**0**	**9**	**315**

Hazardous Substances Release Inventory

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

Draft ANNEX 6 as of 26 February 2021

DRBMP Update 2021

Deutschland //// Österreich //// Česká republika //// Slovensko //// Magyarország //// Slovenija //// Hrvatska //// Bosna i Hercegovina //// Србија //// Crna Gora //// România //// България //// Moldova //// Україна

Hazardous substances release data were collected from the E-PRTR database (note that some data might have been updated since February 2021) and directly from the countries which do not report under the E-PRTR system. The data served the assessments of the point source hazardous substances emissions via direct industrial dischargers for the reference year 2017. Summarizing tables of the data submitted are presented in the followings.

Table 1: Number of industrial facilities and urban wastewater treatment plants with reported direct hazardous substance releases according to industrial sectors and countries

Activity	DE	AT	CZ	SK	HU	SI	HR	BA	ME	RS	BG	RO	MD	UA	Basin
Energy sector	2	4	2	3	3	0	2	2		0	0	3			21
Production and processing of metals	3	5	0	2	2	2	0	0		1	0	3			18
Mineral industry	1	0	1	0	0	0	0	0		7	1	1			11
Chemical industry	3	2	2	3	2	2	1	1		2	0	4			22
Urban wastewater management	24	11	5	1	6	3	1	0		1	3	21			76
Waste and industrial wastewater management	0	6	0	1	4	1	0	0		0	1	0			13
Paper and wood production processing	2	1	0	2	1	1	0	0		1	1	0			9
Products from the food and beverage sector	0	1	0	0	0	0	0	0		0	0	0			1
Other activities	0	0	0	2	1	0	0	0		1	0	0			4
Total	**35**	**30**	**10**	**14**	**19**	**9**	**4**	**3**		**13**	**6**	**32**			**175**

Table 2: Number of industrial facilities and urban wastewater treatment plants with reported direct hazardous substance releases according to compounds and countries

Substance	Pollutant group	DE	AT	CZ	SK	HU	SI	HR	BA	ME	RS	BG	RO	MD	UA	Basin
CHLORO-ALKANES (C10-13)	CHLORG	0	1	0	0	0	1	0	0	0	0	0	0	0	0	**2**
DICHLOROETHANE-1,2 (DCE)	CHLORG	0	0	0	1	1	0	0	0	0	0	0	0	0	0	**2**
DICHLOROMETHANE (DCM)	CHLORG	1	0	0	0	0	2	0	0	0	0	0	0	0	0	**3**
HALOGENATED ORGANIC COMPOUNDS	CHLORG	6	3	3	5	3	1	0	0	0	1	0	0	0	0	**22**
PENTACHLOROPHENOL (PCP)	CHLORG	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**1**
POLYCHLORINATED BIPHENYLS (PCBS)	CHLORG	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
TETRACHLOROETHANE-1,1,2,2	CHLORG	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**
TETRACHLOROETHYLENE (PER)	CHLORG	0	0	1	1	0	0	0	0	0	0	0	0	0	0	**2**
TRICHLOROBENZENES (TCB)	CHLORG	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
TRICHLOROETHYLENE (TRI)	CHLORG	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**
TRICHLOROMETHANE	CHLORG	1	2	0	1	0	0	0	0	0	0	0	0	0	0	**4**
VINYL CHLORIDE	CHLORG	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**
AS AND COMPOUNDS	HEVMET	6	2	4	1	5	1	0	0	0	3	2	1	0	0	**25**
CD AND COMPOUNDS	HEVMET	2	2	1	4	4	0	0	0	0	1	1	2	0	0	**17**
CR AND COMPOUNDS	HEVMET	4	1	2	2	5	2	1	1	0	1	4	11	0	0	**34**
CU AND COMPOUNDS	HEVMET	17	9	2	0	4	2	1	0	0	6	2	11	0	0	**54**
HG AND COMPOUNDS	HEVMET	2	2	1	5	5	0	1	1	0	0	1	1	0	0	**19**
NI AND COMPOUNDS	HEVMET	24	13	5	1	9	6	1	1	0	5	2	19	0	0	**86**
PB AND COMPOUNDS	HEVMET	3	6	1	0	4	0	1	2	0	5	2	7	0	0	**31**
ZN AND COMPOUNDS	HEVMET	27	15	5	2	4	7	1	0	0	6	2	19	0	0	**88**
CHLORIDES	INORG	11	1	1	2	1	1	0	1	0	0	1	7	0	0	**26**
CYANIDES	INORG	0	1	2	2	1	1	0	0	0	2	0	7	0	0	**16**
FLUORIDES	INORG	5	3	4	2	3	0	0	0	0	1	0	0	0	0	**18**
BENZO(G,H,I)PERYLENE	OTHORG	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
DEHP	OTHORG	20	2	1	3	0	3	1	0	0	0	0	1	0	0	**31**
FLUORANTHENE	OTHORG	0	1	0	1	0	0	0	0	0	0	0	0	0	0	**2**
NP/NPES	OTHORG	0	9	1	0	0	3	1	0	0	0	0	0	0	0	**14**
OCTYLPHENOLS AND OCTYLPHENOL ETHOXYLATE	OTHORG	0	0	1	0	0	1	0	0	0	0	0	0	0	0	**2**
PHENOLS	OTHORG	0	1	2	6	5	0	1	0	0	4	3	12	0	0	**34**
POLYCYCLIC AROMATIC HYDROCARBONS	OTHORG	1	0	0	1	0	0	0	0	0	0	0	0	0	0	**2**
ATRAZINE	PEST	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**
DIURON	PEST	4	2	0	0	0	0	0	0	0	0	0	0	0	0	**6**
ISOPROTURON	PEST	1	1	0	0	0	0	0	0	0	0	0	0	0	0	**2**
LINDANE	PEST	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**1**

Table 3: Reported direct hazardous substance releases according to compounds and countries (kg/year)

Substance	Pollutant group	DE	AT	CZ	SK	HU	SI	HR	BA	ME	RS	BG	RO	MD	UA	Total
CHLORO-ALKANES (C10-13)	CHLORG	0.0	19.0	0.0	0.0	0.0	29.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**48.0**
DICHLOROETHANE-1,2 (DCE)	CHLORG	0.0	0.0	0.0	172.0	259.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**431.0**
DICHLOROMETHANE (DCM)	CHLORG	44.0	0.0	0.0	0.0	0.0	268.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**312.0**
HALOGENATED ORGANIC COMPOUNDS	CHLORG	9880.0	50460.0	4754.6	31930.0	8240.0	1030.0	0.0	0.0	0.0	2100.0	0.0	0.0	0.0	0.0	**108394.6**
PENTACHLOROPHENOL (PCP)	CHLORG	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**1.9**
POLYCHLORINATED BIPHENYLS (PCBS)	CHLORG	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.5**
TETRACHLOROETHANE-1,1,2,2	CHLORG	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**13.0**
TETRACHLOROETHYLENE (PER)	CHLORG	0.0	0.0	11.5	14.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**25.9**
TRICHLOROBENZENES (TCB)	CHLORG	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.3**
TRICHLOROETHYLENE (TRI)	CHLORG	0.0	0.0	0.0	64.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**64.4**
TRICHLOROMETHANE	CHLORG	125.0	76.5	0.0	119.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**320.5**
VINYL CHLORIDE	CHLORG	0.0	0.0	0.0	0.0	360.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**360.0**
AS AND COMPOUNDS	HEVMET	58.0	26.1	8.4	95.2	899.9	17.8	0.0	0.0	0.0	67.0	1358.1	13.3	0.0	0.0	**2543.8**
CD AND COMPOUNDS	HEVMET	33.4	15.5	9.8	140.7	296.7	0.0	0.0	0.0	0.0	7.0	664.0	18.0	0.0	0.0	**1185.1**
CR AND COMPOUNDS	HEVMET	619.2	403.0	142.0	142.9	2091.6	256.7	111.0	2.4	0.0	115.0	6479.8	3653.5	0.0	0.0	**14017.1**
CU AND COMPOUNDS	HEVMET	5455.0	6342.0	627.0	0.0	2592.0	502.0	747.0	0.0	0.0	485295.0	6814.0	30802.5	0.0	0.0	**539176.5**
HG AND COMPOUNDS	HEVMET	17.8	41.3	3.2	281.8	43.4	0.0	1.5	0.4	0.0	0.0	14.3	21.7	0.0	0.0	**425.4**
NI AND COMPOUNDS	HEVMET	1717.5	4528.3	1146.1	26.1	3100.3	427.3	217.0	141.0	0.0	374.0	1827.0	4042.4	0.0	0.0	**17547.0**
PB AND COMPOUNDS	HEVMET	586.0	1088.8	56.0	0.0	2901.0	0.0	35.2	162.6	0.0	1716.0	2764.0	975.2	0.0	0.0	**10284.8**
ZN AND COMPOUNDS	HEVMET	35756.0	50231.0	5086.3	1632.0	13265.0	3952.0	3540.0	0.0	0.0	3056.0	14470.0	51261.0	0.0	0.0	**182249.3**
CHLORIDES	INORG	95700000.0	22700000.0	5208671.0	8340000.0	10400000.0	2380000.0	0.0	252.5	0.0	0.0	9210000.0	321390000.0	0.0	0.0	**475328923.5**
CYANIDES	INORG	0.0	342.0	0.0	949.8	451.0	65.0	0.0	0.0	0.0	320.0	0.0	4182.0	0.0	0.0	**6309.8**
FLUORIDES	INORG	37340.0	32760.0	29309.0	91460.0	21170.0	0.0	0.0	0.0	0.0	21900.0	0.0	0.0	0.0	0.0	**233939.0**
BENZO(G,H,I)PERYLENE	OTHORG	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.4**
DEHP	OTHORG	107.1	15.8	34.0	257.7	0.0	10.9	1.9	0.0	0.0	0.0	0.0	2960.0	0.0	0.0	**3387.3**
FLUORANTHENE	OTHORG	0.0	3.3	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**4.3**
NP/NPES	OTHORG	0.0	57.5	2.7	0.0	0.0	58.3	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**120.4**
OCTYLPHENOLS AND OCTYLPHENOL ETHOXYLATE	OTHORG	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**1.8**
PHENOLS	OTHORG	0.0	456.0	879.4	2336.1	3187.8	0.0	114.0	0.0	0.0	366.0	2783.0	39007.4	0.0	0.0	**49129.7**
POLYCYCLIC AROMATIC HYDROCARBONS	OTHORG	5.7	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**11.1**
ATRAZINE	PEST	0.0	0.0	0.0	0.0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**26.0**
DIURON	PEST	9.1	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**12.8**
ISOPROTURON	PEST	1.6	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**2.7**
LINDANE	PEST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	**1.2**

Table 4: Number of industrial facilities and urban wastewater treatment plants with reported direct hazardous substance releases according to compounds and industrial sectors

Substance	Pollutant group	Energy sector	Production and processing of metals	Mineral industry	Chemical industry	Waste and industrial wastewater management	Urban wastewater management	Paper and wood production processing	Intensive livestock production and aquaculture	Products from the food and beverage sector	Other activities	Basin
CHLORO-ALKANES (C10-13)	CHLORG	0	1	0	0	0	1	0	0	0	0	**2**
DICHLOROETHANE-1,2 (DCE)	CHLORG	0	0	0	2	0	0	0	0	0	0	**2**
DICHLOROMETHANE (DCM)	CHLORG	0	0	0	2	1	0	0	0	0	0	**3**
HALOGENATED ORGANIC COMPOUNDS	CHLORG	2	2	0	3	3	8	4	0	0	0	**22**
PENTACHLOROPHENOL (PCP)	CHLORG	0	0	0	0	1	0	0	0	0	0	**1**
POLYCHLORINATED BIPHENYLS (PCBS)	CHLORG	1	0	0	0	0	0	0	0	0	0	**1**
TETRACHLOROETHANE-1,1,2,2	CHLORG	0	0	0	0	1	0	0	0	0	0	**1**
TETRACHLOROETHYLENE (PER)	CHLORG	0	1	0	0	0	1	0	0	0	0	**2**
TRICHLOROBENZENES (TCB)	CHLORG	0	0	0	1	0	0	0	0	0	0	**1**
TRICHLOROETHYLENE (TRI)	CHLORG	0	1	0	1	0	0	0	0	0	0	**2**
TRICHLOROMETHANE	CHLORG	0	1	0	2	1	0	0	0	0	0	**4**
VINYL CHLORIDE	CHLORG	0	0	0	1	0	0	0	0	0	0	**1**
AS AND COMPOUNDS	HEVMET	5	2	4	1	3	9	1	0	0	0	**25**
CD AND COMPOUNDS	HEVMET	1	1	1	0	0	13	1	0	0	0	**17**
CR AND COMPOUNDS	HEVMET	3	4	0	2	0	23	2	0	0	0	**34**
CU AND COMPOUNDS	HEVMET	3	4	6	1	2	36	2	0	0	0	**54**
HG AND COMPOUNDS	HEVMET	2	3	0	4	0	9	1	0	0	0	**19**
NI AND COMPOUNDS	HEVMET	6	11	3	4	5	52	1	0	1	3	**86**
PB AND COMPOUNDS	HEVMET	3	5	3	1	2	16	1	0	0	0	**31**
ZN AND COMPOUNDS	HEVMET	6	12	7	3	3	53	3	0	1	0	**88**
CHLORIDES	INORG	1	2	1	5	0	17	0	0	0	0	**26**
CYANIDES	INORG	1	3	1	2	0	9	0	0	0	0	**16**
FLUORIDES	INORG	3	3	1	5	2	4	0	0	0	0	**18**
BENZO(G,H,I)PERYLENE	OTHORG	1	0	0	0	0	0	0	0	0	0	**1**
DEHP	OTHORG	0	1	0	2	1	26	0	0	0	1	**31**
FLUORANTHENE	OTHORG	1	1	0	0	0	0	0	0	0	0	**2**
NP/NPES	OTHORG	0	1	0	1	2	9	1	0	0	0	**14**
OCTYLPHENOLS AND OCTYLPHENOL ETHOXYLATE	OTHORG	0	0	0	0	0	2	0	0	0	0	**2**
PHENOLS	OTHORG	7	4	0	7	2	13	1	0	0	0	**34**
POLYCYCLIC AROMATIC HYDROCARBONS	OTHORG	0	1	0	0	0	1	0	0	0	0	**2**
ATRAZINE	PEST	0	0	0	0	1	0	0	0	0	0	**1**
DIURON	PEST	0	0	0	0	1	5	0	0	0	0	**6**
ISOPROTURON	PEST	0	0	0	0	0	2	0	0	0	0	**2**
LINDANE	PEST	0	0	0	1	0	0	0	0	0	0	**1**

Table 5: Reported direct hazardous substance releases according to compounds and industrial sectors (kg/year)

Substance	Pollutant group	Energy sector	Production and processing of metals	Mineral industry	Chemical industry	Waste and industrial wastewater management	Urban wastewater management	Paper and wood production processing	Intensive livestock production and aquaculture	Products from the food and beverage sector	Other activities	Basin
CHLORO-ALKANES (C10-13)	CHLORG	0.0	19.0	0.0	0.0	0.0	29.0	0.0	0.0	0.0	0.0	**48.0**
DICHLOROETHANE-1,2 (DCE)	CHLORG	0.0	0.0	0.0	431.0	0.0	0.0	0.0	0.0	0.0	0.0	**431.0**
DICHLOROMETHANE (DCM)	CHLORG	0.0	0.0	0.0	73.0	239.0	0.0	0.0	0.0	0.0	0.0	**312.0**
HALOGENATED ORGANIC COMPOUNDS	CHLORG	3070.0	3770.0	0.0	9640.0	56640.0	12124.6	23150.0	0.0	0.0	0.0	**108394.6**
PENTACHLOROPHENOL (PCP)	CHLORG	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	**1.9**
POLYCHLORINATED BIPHENYLS (PCBS)	CHLORG	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.5**
TETRACHLOROETHANE-1,1,2,2	CHLORG	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	**13.0**
TETRACHLOROETHYLENE (PER)	CHLORG	0.0	14.4	0.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0	**25.9**
TRICHLOROBENZENES (TCB)	CHLORG	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	**3.3**
TRICHLOROETHYLENE (TRI)	CHLORG	0.0	14.4	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	**64.4**
TRICHLOROMETHANE	CHLORG	0.0	24.9	0.0	244.0	51.6	0.0	0.0	0.0	0.0	0.0	**320.5**
VINYL CHLORIDE	CHLORG	0.0	0.0	0.0	360.0	0.0	0.0	0.0	0.0	0.0	0.0	**360.0**
AS AND COMPOUNDS	HEVMET	127.7	26.1	67.0	0.0	704.0	1600.9	18.1	0.0	0.0	0.0	**2543.8**
CD AND COMPOUNDS	HEVMET	107.0	14.4	7.0	0.0	0.0	1043.4	13.3	0.0	0.0	0.0	**1185.1**
CR AND COMPOUNDS	HEVMET	360.9	933.6	0.0	70.9	0.0	12506.9	144.8	0.0	0.0	0.0	**14017.1**
CU AND COMPOUNDS	HEVMET	682.0	2115.0	49195.0	91.0	306.0	486432.5	355.0	0.0	0.0	0.0	**539176.5**
HG AND COMPOUNDS	HEVMET	20.8	44.2	0.0	279.3	0.0	75.6	5.6	0.0	0.0	0.0	**425.4**
NI AND COMPOUNDS	HEVMET	1324.8	990.4	233.0	159.5	984.0	13595.4	123.0	0.0	52.6	84.3	**17547.0**
PB AND COMPOUNDS	HEVMET	454.0	1774.0	689.0	51.6	172.8	7074.4	69.0	0.0	0.0	0.0	**10284.8**
ZN AND COMPOUNDS	HEVMET	1967.3	19185.0	16626.0	12632.0	4985.0	124220.0	2319.0	0.0	315.0	0.0	**182249.3**
CHLORIDES	INORG	252.5	8330000.0	9210000.0	318850000.0	0.0	138938671.0	0.0	0.0	0.0	0.0	**475328923.5**
CYANIDES	INORG	53.8	2039.0	237.0	342.0	0.0	3638.0	0.0	0.0	0.0	0.0	**6309.8**
FLUORIDES	INORG	23797.0	32350.0	8480.0	134990.0	12570.0	21752.0	0.0	0.0	0.0	0.0	**233939.0**
BENZO(G,H,I)PERYLENE	OTHORG	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.4**
DEHP	OTHORG	0.0	252.0	0.0	5.4	12.0	3115.7	0.0	0.0	0.0	2.2	**3387.3**
FLUORANTHENE	OTHORG	1.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**4.3**
NP/NPES	OTHORG	0.0	2.5	0.0	1.9	8.1	104.7	3.2	0.0	0.0	0.0	**120.4**
OCTYLPHENOLS AND OCTYLPHENOL ETHOXYLATES	OTHORG	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	**1.8**
PHENOLS	OTHORG	2479.9	1190.8	0.0	855.6	198.0	44365.4	40.0	0.0	0.0	0.0	**49129.7**
POLYCYCLIC AROMATIC HYDROCARBONS	OTHORG	0.0	5.4	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0	**11.1**
ATRAZINE	PEST	0.0	0.0	0.0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	**26.0**
DIURON	PEST	0.0	0.0	0.0	0.0	1.6	11.2	0.0	0.0	0.0	0.0	**12.8**
ISOPROTURON	PEST	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	**2.7**
LINDANE	PEST	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	**1.2**

List of Future Infrastructure Projects

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

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DRBMP Update 2021

As in previous cycles, a list of future infrastructure projects (FIPs) of basin-wide importance has been compiled for the DRBMP Update 2021. The following criteria were applied for the data collection.

Criteria for the collection of future infrastructure projects for the Danube River and other DRBD rivers with catchment areas >4,000 km²

	Danube River	Other DRBD rivers with catchment areas >4,000 km²
Criteria	Strategic Environmental Assessment (SEA) and/or Environmental Impact Assessments (EIA) are performed for the project	Strategic Environmental Assessment (SEA) and/or Environmental Impact Assessments (EIA) are performed for the project
	or	**and**
	project is expected to provoke transboundary effects	project is expected to provoke transboundary effects

These FIPs, if implemented without full consideration to effects on water status, are likely to provoke impacts on water status due to hydromorphological alterations. Consequently, these projects need to be addressed by integrating mitigation measures in order to reduce/cancel the potential impacts on water status.

Explanations for table

SEA = Strategic Environmental Assessment

EIA = Environmental Impact Assessment

Country	River	Water body	Project title	Main purpose	Description	Project status	Start imple-mentation	Expected deterioration of water body status	Trans-boundary impact	SEA	EIA	Exemption WFD Art. 4(7)
BG	Dunav	DUNAV RWB01	Fast Danube Sector 7 Belene	Navigation	Improvement of the navigation conditions on the RO-BG Danube Sector - Location 1 km north of Belene; between km 577 â km 560	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
BG	Dunav	DUNAV RWB01	Fast Danube Sector 8 Vardim	Navigation	Improvement of the navigation conditions on the RO-BG Danube Sector - Location 5 km northeast of Vardim; between km 542 â km 539	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
BG	Dunav	DUNAV RWB01	Fast Danube Sector 9 Yantra	Navigation	Improvement of the navigation conditions on the RO-BG Danube Sector - Location: 3 km north of Krivina; between km 537 â km 534	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
BG	Dunav	DUNAV RWB01	Fast Danube Sector 10 Batin	Navigation	Improvement of the navigation conditions on the RO-BG Danube Sector - Location: 2 km north of Batin; between km 530 and km 520	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
BG	Dunav	DUNAV RWB01	Fast Danube Sector 11 Konsui	Navigation	Improvement of the navigation conditions on the RO-BG Danube Sector - Location 6 km east of Oltenita; between km 428 â km 423	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
BG	Dunav	DUNAV RWB01	Fast Danube Sector 12 Popina	Navigation	Improvement of the navigation conditions on the RO-BG Danube Sector - Location: 1 km north of Popina; between km 408 and km 401	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
DE	Donau	Donau von Einmündung Große Laber bis Einmündung Isar	Ausbau der Wasserstraße und Verbesserung des Hochwasserschutzes zwischen Straubing und Vilshofen, Teilabschnitt 1: Straubing und Deggendorf	Flood protection	reduction flood risks, improvement for navigation (Ongoing approval procedure under public law and current measures improving flood protection)	Officially planned	Not yet determined	No	No	No	Intended	No

Country	River	Water body	Project title	Main purpose	Description	Project status	Start imple-mentation	Expected deterioration of water body status	Trans-boundary impact	SEA	EIA	Exemption WFD Art. 4(7)
DE	Donau	Donau von Einmündung Isar bis Einmündung Vils	Ausbau der Wasserstraße und Verbesserung des Hochwasserschutzes zwischen Straubing und Vilshofen, Teilabschnitt 2: Deggendorf und Vilshofen	Flood protection	reduction flood risks, improvement for navigation (Ongoing approval procedure under public law and current measures improving flood protection)	Planning under preparation	Not yet determined	No	No	No	Intended	No
DE	Donau	Donau von Einmündung Lech bis Einmündung Paar	Polder Bertoldsheim	Flood protection	polder	Planning under preparation	Not yet determined	No	No	Intended	Intended	No
DE	Donau	Donau von Einmündung Naab bis Einmündung Große Laber	Polder Eltheim	Flood protection	polder	Planning under preparation	Not yet determined	No	No	Intended	Intended	No
DE	Donau	Donau von Einmündung Lech bis Einmündung Paar	Polder Grossmehring	Flood protection	polder	Planning under preparation	Not yet determined	No	No	Intended	Intended	No
DE	Donau	Donau von Einmündung Landgraben bei Offingen bis Staustufe Donauwörth	Polder Helmeringen	Flood protection	polder	Planning under preparation	Not yet determined	No	No	Intended	Intended	No
DE	Donau	Donau von Einmündung Paar bis Staubing (Fkm 165)	Polder Katzau	Flood protection	polder	Planning under preparation	Not yet determined	No	No	Intended	Intended	No
DE	Donau	Donau von Einmündung Iller bis Einmündung Landgraben bei Offingen	Polder Leipheim	Flood protection	polder	Planning under preparation	Not yet determined	No	No	Intended	Intended	No

Country	River	Water body	Project title	Main purpose	Description	Project status	Start imple-mentation	Expected deterioration of water body status	Trans-boundary impact	SEA	EIA	Exemption WFD Art. 4(7)
DE	Donau	Donau von Einmündung Landgraben bei Offingen bis Staustufe Donauwörth	Polder Neugeschüttwörth	Flood protection	polder	Planning under preparation	Not yet determined	No	No	Intended	Intended	No
DE	Donau	Donau von Einmündung Naab bis Einmündung Große Laber	Polder Ueberauer Schleife	Flood protection	polder	Planning under preparation	Not yet determined	No	No	Intended	Intended	No
DE	Donau	Donau von Einmündung Lech bis Einmündung Paar	Polder Riedensheim	Flood protection	polder	Implementation of project	2015	No	No	Already done	Already done	No
DE	Donau	Donau von Einmündung Naab bis Einmündung Große Laber	Polder Woerthhof	Flood protection	polder	Planning under preparation	Not yet determined	No	No	Intended	Intended	No
HR	Kupa	Kupa	Projekt "Sustav zaštite od poplava karlovačko-sisačkog područja"	Flood protection	Projekt "Sustav zaštite od poplava karlovačko-sisačkog područja"	Officially planned	2020	No	No	Already done	Already done	No
HR	Sava	Sava	Modernizacija lijevoobalnih savskih nasipa	Flood protection	Modernizacija lijevoobalnih savskih nasipa	Implementation of project	2017	No	No	Already done	No	No
HR	Drava	Drava	Rekonstrukcija nasipa Otok Virje Brezje	Flood protection	Rekonstrukcija nasipa Otok Virje Brezje - Projekt FRISCO 2.3 - Prekogranično usklađeno smanjenje rizika od poplava 2.3 – strukturne mjere na slivovima rijeka Drave i Kolpe/Kupe.	Implementation of project	2019	No	No	Already done	Already done	No
HU	Mosoni-Duna	Mosoni-Duna alsó	Water-level rehabilitation of the Mosoni-Danube confluence	Flood protection	Restoring low and mean water levels in the estuary section of Mosoni-Danube	Implementation of project	2016	No	Yes	No	Already done	No
HU	Duna	Duna Szigetköznél	Nagyműtárgyak fejlesztése és rekonstrukciója (Dunakiliti)	Flood protection	Rekonstruction of Dunakiliti dam to allow the reduction of flood risk.	Implementation of project	2016	No	Yes	No	No	No

Country	River	Water body	Project title	Main purpose	Description	Project status	Start imple-mentation	Expected deterioration of water body status	Trans-boundary impact	SEA	EIA	Exemption WFD Art. 4(7)
HU	Duna	Duna Gönyü-Szob között	Esztergom árvízvédelmének fejlesztése I. ütem	Flood protection	Flood risk reduction of the city Esztergom by the development of former dykes.	Implementation of project	2016	No	No	No	Already done	No
HU	Duna	Duna–Budapest, Duna Budapest–Dunaföldvár között, Duna Dunaföldvár–Sió torkolat között, Duna Gönyü-Szob között, Duna Sió torkolat–országhatár között, Duna Szigetköznél, Duna Szob–Budapest között	Navigation development on the Danube	Navigation	The navigable days on the HU Danube stretch is now under 250. It is not in line with the international expectations (Belgrade and AGN Convention). On 43 sites (92 km) modifications are foreseen.	Planning under preparation	2022	Yes	No	Already done	No	Yes
RO	Dunarea	Dunarea PF II - Chiciu	FAST DANUBE - Garla Mare - sector de navigatie administrat de AFDJ; Mehedinti - UAT Garla Mare	Navigation	1 km sud de Garla Mare, aval Vrav	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
RO	Dunarea	Dunarea PF II - Chiciu	FAST DANUBE - Salcia - sector de navigatie administrat de AFDJ; Mehedinti - UAT Salcia	Navigation	3 km sud de Salcia, aval Iasen	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
RO	Dunarea	Dunarea PF II - Chiciu	FAST DANUBE - Bogdan - Secian - sector administrat AFDJ;Dolj - UAT Calafat	Navigation	<1 km sud-vest de Ciupercenii Vechi, 3 km est de Vidbol-Dunavsti	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
RO	Dunarea	Dunarea PF II - Chiciu	FAST DANUBE - Dobrina - sector de navigatie administrat de AFDJ;Dolj - UAT Desa	Navigation	6 km sud de Desa, 3 km nord de Dobri dol - Silivata - Orsoia	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
RO	Dunarea	Dunarea PF II - Chiciu	FAST DANUBE - Bechet - sector de navigatie administrat de AFDJ;Dolj - UAT Bechet	Navigation	3 km sud-est de Bechet, aval Oryahovo, 1.5 km nord de Lekovet	Implementation of project	2021	Yes	Yes	No	Intended	Yes*

Country	River	Water body	Project title	Main purpose	Description	Project status	Start imple-mentation	Expected deterioration of water body status	Trans-boundary impact	SEA	EIA	Exemption WFD Art. 4(7)
RO	Dunarea	Dunarea PF II - Chiciu	FAST DANUBE - Corabia - sector de navigatie administrat de AFDJ;Olt - UAT Corabia	Navigation	la sud de Corabia, <1km nord-vest de Zagrajden	Implementation of project	2021	Yes	Yes	No	Intended	Yes*
RS	Dunav	Akumulacija HE Đ• erdap 1 od ušća Velike Morave do ušća Save	Rehabilitation and construction of the Bulk and General Cargo Terminal of the Port of Smederevo	Navigation	Rehabilitation and construction of the Bulk and General Cargo Terminal of the Port of Smederevo	Implementation of project	2021	No	No	Already done	Already done	Yes
RS	Sava	Drina od ušća u Savu do ušća Lešnice, Sava od ušća Drine do državne granice sa Republikom Hrvatskom, Sava od ušća kanala Manđelos do ušća Drine	River traning and dredging works on the Sava Drina Confluence	Navigation	River traning and dredging works on the Sava Drina Confluence	Officially planned	2022	No	No	Already done	Intended	Yes
RS	Lim	Lim od ušća Slatinske reke do Državne granice sa Crnom Gorom	Projekat izgradnje HE Brodarevo 1 i HE Brodarevo 2	Hydropower	Hydropower plant 13,5 MW	Officially planned	Not yet determined	Yes	Yes	Already done	Already done	Yes
RS	Lim	Lim od ušća Zebuđe do ušća Slatinske reke	Projekat izgradnje HE Brodarevo 1 i HE Brodarevo 2	Hydropower	Hydropower plant 22,25 MW	Officially planned	Not yet determined	Yes	Yes	Already done	Already done	Yes

* Please note that the EIA study in relation to the Fast Danube Project (including the Impact Assessment on Water Bodies) is an ongoing process, and only its completion will conclude or not on WB deterioration.

Groundwater in the DRBD

ICPDR IKSD
International Commission for the Protection of the Danube River
Internationale Kommission zum Schutz der Donau

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DRBMP Update 2021

Deutschland //// Österreich //// Česká republika //// Slovensko //// Magyarország //// Slovenija //// Hrvatska //// Bosna i Hercegovina //// Србија //// Crna Gora //// România //// България //// Moldova //// Україна

Table 1: Nominated transboundary GWBs of Danube basin wide importance

GWB	Nat. part	Area [km²]	Aquifer characteristics		Main use	Overlying strata [m]	Criteria for importance
			Aquifer Type	Confined			
1	AT-1	1,650	K	Yes	SPA, CAL	100-1000	Intensive use
	DE-1	4,250					
2	BG-2	13,034	F, K	Yes	DRW, AGR, IND	0-600	> 4000 km²
	RO-2	11,340					
3	MD-3	9,662	P	Yes	DRW, AGR, IND	0-150	> 4000 km², GW use, GW resource
	RO-3	12,646					
4	BG-4	3,308	K, F-K	No	DRW, AGR, IND	0-10	> 4000 km²
	RO-4	2,187		Yes			
5	HU-5	4,989	P	No	DRW, IRR, IND	2-30	> 4000 km², GW resource, DRW protection
	RO-5	2,227					
6	HU-6	1,034	P	No	DRW, AGR, IRR	5-30	GW resource, DRW protection
	RO-6	1,459					
7	HU-7	7,098	P	No	DRW, AGR, IND, IRR	0-125	> 4000 km², GW use, GW resource, DRW protection
	RO-7	11,355		Yes			
	RS-7	10,506		No			
8	HU-8	1,152	P	No	DRW, IRR, AGR, IND	2-5	GW resource, DRW protection, dependent ecosystems
	SK-8	2,186					
9	HU-9	750	P	No	DRW,IRR	2-10	GW resource, DRW protection, dependent ecosystems
	SK-9	1,470		Yes			
10	HU-10	493	K	No	DRW, OTH	0-500	GW resources, DRW protection, dependent ecosystem
	SK-10	598	K, F				
11	HU-11	3,337	K	Yes	DRW, SPA, CAL	0-2500	Thermal water resource
	SK-11	563	F, K				
12	HU-12	146	P	No	DRW, AGR	0-10	DRW protection, dependent ecosystems, GW resource
	SK-12	198					

Table 2: Nominated transboundary GWBs of Danube basin wide importance

Transboundary GWB	Nat. part	National GWB Codes	Area [km²]	Area [km²]	Aquifer characterisation		Main use	Overlying strata	Criteria for importance
					Aquifer Type	Confined			
1: Deep Thermal	AT-1	ATGK100158	5,900	1,650	K	Yes	SPA, CAL	100–1000	Intensive use
	DE-1	DEGK1110		4,250					
2: Upper Jurassic – Lower Cretaceous	BG-2	BG1G0000J3K051	24,374	13,034	F, K	Yes	DRW, AGR, IND	0–600	>4000 km²
	RO-2	RODL06		11,340					
3: Middle Sarmatian - Pontian	MD-3	MDPR01	22,308	9,662	P	Yes	DRW, AGR, IND	0–150	>4000 km², GW use, GW resource
	RO-3	ROPR05		12,646					
4: Sarmatian	BG-4	BG1G000000N049	5,495	3,308	K, F-K	No / Yes	DRW, AGR, IND	0–10	>4000 km²
	RO-4	RODL04		2,187					
5: Mures / Maros	HU-5	HU_AIQ605 HU_AIQ604 HU_AIQ594 HU_AIQ593	7,216	4,989	P	No	DRW, IRR, IND	2-30	>4000 km², GW resource, DRW protection
	RO-5*	ROMU20 ROMU22		2,227 1,774					
6: Somes / Szamos	HU-6	HU_AIQ649 HU_AIQ648 HU_AIQ600 HU_AIQ601	2,493	1,034	P	No	DRW,AGR, IRR	5–30	GW resource, DRW protection
	RO-6*	ROSO01 ROSO13		1,459 1,392					
7: Upper Pannonian-Lower Pleistocene / Vojvodina / Duna-Tisza köze déli r.	HU-7	HU_AIQ528 HU_AIQ523 HU_AIQ532 HU_AIQ487 HU_AIQ590 HU_AIQ529 HU_AIQ522 HU_AIQ533 HU_AIQ486 HU_AIQ591	28,959	7,098	P	No / Yes / No	DRW, AGR, IND, IRR	0–125	> 4000 km², GW use, GW resource, DRW protection
	RO-7	ROBA18		11,355					
	RS-7	RS_TIS_GW_I_1 RS_TIS_GW_SI_1 RS_TIS_GW_I_2 RS_TIS_GW_SI_2 RS_TIS_GW_I_3 RS_TIS_GW_SI_3 RS_TIS_GW_I_4 RS_TIS_GW_SI_4 RS_TIS_GW_I_7 RS_TIS_GW_SI_7 RS_D_GW_I_1 RS_D_GW_SI_1		10,506					
8: Podunajska Basin, Zitny Ostrov / Szigetköz, Hanság-	HU-8	HU_AIQ654 HU_AIQ572 HU_AIQ653 HU_AIQ573	3,338	1,152	P	No	DRW, IRR, AGR, IND	2–5	GW resource, DRW protection, dependent

Transboundary GWB	Nat. part	National GWB Codes	Area [km²]	Area [km²]	Aquifer characterisation		Main use	Overlying strata	Criteria for importance
					Aquifer Type	Confined			
Rábca	SK-8	SK1000300P SK1000200P		2,186					ecosystems
9: Bodrog	HU-9	HU_AIQ495 HU_AIQ496	2,220	750	P	No / Yes	DRW,IRR	2–10	GW resource, DRW protection, dependent ecosystems
	SK-9	SK1001500P		1,470					
10: Slovensky kras / Aggtelek-hgs.	HU-10	HU_AIQ485	1,091	493	K	No	DRW, OTH	0–500	GW resource, DRW protection, dependent ecosystems
	SK-10	SK200480KF		598	K, F				
11: Komarnanska Kryha / Dunántúli-khgs. északi r.	HU-11	HU_AIQ558 HU_AIQ552 HU_AIQ564 HU_AIQ660	3,900	3,337	K	Yes	DRW, SPA, CAL	0–2,500	Thermal water resource
	SK-11	SK300010FK SK300020FK		563	F, K				
12: Ipel / Ipoly	HU-12	HU_AIQ583	344	146		No	DRW, AGR	0–10	DRW protection, dependent ecosystems, GW resources
	SK-12	SK1000800P		198	P				

*...GWBs overlying

Explanation to Table 1 and 2

Transboundary GWB	ICPDR GWB code which is a unique identifier and the name
Nat. part	Code of national shares of ICPDR GWB
National GWB Codes	National codes of the individual GWBs forming the national part of a transboundary GWB of basin wide importance.
Area	Whole area of the transboundary GWB covering all countries concerned / Area of national shares in km²
Aquifer characterisation	Aquifer Type: Predom. **P** = porous/ **K** = karst/ **F** = fissured. Multiple selections possible: Predominantly porous, karst, fissured and combinations are possible. Main type should be listed first. Confined: **Yes / No**
Main use	**DRW** = drinking water / **AGR** = agriculture / **IRR** = irrigation / **IND** = Industry / **SPA** = balneology / **CAL** = caloric energy / **OTH** = other. Multiple selection possible.
Overlying strata	Indicates a range of thickness (minimum and maximum in metres)
Criteria for importance	If size < 4 000 km² criteria for importance of the GW body have to be named, they have to be bilaterally agreed upon.

Table 3: Number of monitoring stations and density per GWB

Transboundary GWB	Nat. part	Area [km²]	CHEMICAL			Associated to		QUANTITY			Associated to	
			Sites	km²/ site	Sites bilaterally agreed for data exchange	Drinking water protected areas	Eco-systems	Sites	km²/ site	Sites bilaterally agreed for data exchange	Drinking water protected areas	Eco-systems
1 Deep Thermal	AT-1	1,650	4	413	-[2]	-	-	3	550	-[2]	-	-
	DE-1	4,250	4	1,063	-[2]	-	-	4	1,063	-[2]	-	-
	Σ	**5,900**	**8**	**738**				**7**	**843**			
2 Upper Jurassic – Lower Cretaceous	BG-2	13,034	9	1,448	2	yes	-	10	1,303	2	yes	-
	RO-2	11,340	26	436	4		-	1	11,340	4	0	-
	Σ	**24,374**	**35**	**696**				**11**	**2,216**			
3 Sarmatian – Pontian	MD-3	9,662	6	1,610				7	1,380			
	RO-3	12,646	19	666	0	-	-	17	744	0	0	-
	Σ	**22,308**	**25**	**892**				**24**	**930**			
4 Sarmatian	BG-4	3,308	7	473	2	yes	-	5	662	2	yes	-
	RO-4	2,187	18	122	4		-	18	122	4	0	-
	Σ	**5,495**	**25**	**220**				**23**	**239**			
5 Mures/Maros	HU-5	4,989	125	40	6	94	5	110	45	5	20	8
		2,227	20	111				16	139			
	RO-5*	1,774	3	591	5	0	-	3	591	5	0	-
	Σ	**7,216**	**148**	**48**				**129**	**56**			
6 Somes/Szamos	HU-6	1,034	25	41	5	12	4	18	57	1	2	2
		1,459	33	44				115	13			
	RO-6*	1,392	6	232	2	0		7	199	2		
	Σ	**2,493**	**64**	**39**				**141**	**18**			
7 Upper Pannonian – Lower Pleisto-cene / Vojvodina / Duna-Tisza köze deli r.	HU-7	7,098	159	45	0	105	14	151	47	0	22	15
	RO-7	11,355	44	258		0	-	24	473		0	-
	RS-7	10,506	11	955	0	yes	**	93	113	0	**	**
	Σ	**28,959**	**214**	**135**				**268**	**108**			
8 Podunajska Basin, Zitny Ostrov / Szigetköz, Hanság-Rábca	HU-8	1,152	59	20	0	24	18	108	11	24	31	22
	SK-8	2,186	133	16	0	**	**	274	8	136	**	**
	Σ	**3,338**	**192**	**17**				**382**	**9**			
9 Bodrog	HU-9	750	12	62	0	6	0	16	47	12	0	2
	SK-9	1,470	93	16	0	**	**	92	16	8	**	**
	Σ	**2,220**	**105**	**21**				**108**	**21**			
10 Slovensky kras /Aggtelek-hsg.	HU-10	493	13	38	0	10	6	16	31	9	6	6
	SK-10	598	7	85	0	**	**	22	27	3	**	**
	Σ	**1,091**	**20**	**55**				**38**	**29**			
11 Komarnanska Kryha / Dunántúli-khgs. Északi r.	HU-11	3,337	23	167	0	20	1	48	70	10	5	0
	SK-11	563	4	141	0	**	**	3	188	-	**	**
	Σ	**3,900**	**27**	**144**				**51**	**76**			
12 Ipel / Ipoly	HU-12	146	6	29	0	6	3	7	21	1	0	2
	SK-12	198	26	8	0	**	**	19	10	7	**	
	Σ	**344**	**32**	**11**				**26**	**13**			

*...GWBs overlying; ** no information; [2] unrestricted data exchange on demand; + will be updated

Explanation to Table 3

Transboundary GWB	ICPDR GWB code which is a unique identifier and the name
Nat. part	Code of national shares of ICPDR GWB
Area	Area of the whole transboundary ICPDR GWB covering all countries concerned and of the national shares of the ICPDR GWB in km².
CHEMICAL / QUANTITY	
Sites	Number of monitoring sites – Reference year (AT/DE 2018/19, BG 2016/19, RO 2017/19, SK 2018)
km²/site	Area in km² represented by each site – Reference year (AT/DE 2018/19, BG 2016/19, RO 2017/19, SK 2018)
Number of sites bilaterally agreed for data exchange	Number of monitoring sites for which transboundary data exchange is bilaterally agreed.
Associated to	
Drinking water protected areas	Number of monitoring sites associated to drinking water protected areas
Ecosystems	Number of monitoring sites associated to ecosystems

Table 4: Parameters and frequency for the surveillance monitoring program

	AT/DE	BG	RS	HU	MD	RO	SK
Transboundary GWB	1	2, 4	7	5 – 12	3	2 – 7	8 – 12
CHEMICAL (with estimation of frequency)							
Oxygen	1/a	>1/a	1/a	1/6; <1/a		1/a***	>1/a
pH-value	1/a	>1/a	1/a	>1/a*		1/a	>1/a
Electrical conductivity	1/a (cont. DE)	>1/a	1/a	>1/a*		1/a	>1/a
Nitrate	1/a	>1/a	1/a	>1/a*		1/a	>1/a
Ammonium	1/a	>1/a	1/a	>1/a*		1/a	>1/a
Temperature	cont.	>1/a	1/a	>1/a*		1/a	>1/a
Further parameters, e.g. major ions	x**	x	1/a	x		x	x
operational		x		x		x	x
QUANTITY (with estimation of frequency)							
GW levels/well head pressure	x	x	x	x		x	x
spring flows		x		x		x	x
Flow characteristics							x
Extraction (not obligatory)	x						
Reinjection (not obligatory)	x						

Remarks:

Transboundary GWB:	Code of transboundary GWB of Danube basin wide importance
>1/a:	More than 1 per year
x:	Parameter is measured
*…	In the starting year
**…	A yearly program and a five year monitoring program were established. Further parameters in DE are chloride, sulphate and total hardness
***…	Monitoring frequency is according to surveillance monitoring program. The frequency is >1/year (2/y) in case of operational monitoring program

Table 5: Summary table: Groundwater CHEMICAL risk and status information of the ICPDR GW-bodies over the period of 2015 to 2027

GWB	Nat. part	Danube RBM Plan 2015							Danube RBM Plan 2021						
		Status 2015	Status Pressure Types 2015	Significant upward trend (parameter)	Trend reversal (parameter)	Risk 2013→2021	Risk Pressure Types →2021	Exemptions from 2021	Status 2021	Status Pressure Types 2021	Significant upward trend (parameter)	Trend reversal (parameter)	Risk 2019→2027	Risk Pressure Types →2027	Exemptions (Year of achievement)
GWB-1	AT-1 DE-1	Good	-	-	-	-	-	-	Good	-	-	-	-	-	-
GWB-2	BG-2 RO-2	Good	-	-	-	-	-	-	Good	-	-	- *Cl*	-	-	-
GWB-3	MD-3	Good	-	-	-	Risk	PS, DS, WA	-	Good	-	-	-	-	-	-
	RO-3					-	-								
GWB-4	BG-4	Good	-	-	-	-	-	-	Good	-	-	-	-	-	-
	RO-4								Poor	DS			Risk	DS	2027
GWB-5	HU-5	Poor	DS	SO_4	-	Risk	DS	2027	Poor	DS	NO_3, NH4, EC, SO_4		Risk	DS	2027+
	RO-5			NH_4							-	*Cr, Pb*			2027
GWB-6	HU-6 RO-6	Good	-	-	-	-	-	-	Good	-	-	-	-	-	-
GWB-7	HU-7	Poor	DS	NO_3	-	Risk	DS	2027	Poor	DS	-	-	Risk	DS	2027+
	RO-7	Good	-	-	-	-	-	-	Good	-	-	PO_4, *Cl*	-	-	-
	RS-7	Good*	-			-	-	-	Good	-	-	-	-	-	-
GWB-8	HU-8	Good	-	-	-	-	-	-	Good	-	-		-	-	-
	SK-8	Good		NH_4, NO_3, *Cl*, *As*, SO_4			PS, DS	-			PO_4	NH_4***, *Cl****, SO_4, *TOC*	Risk	PS, DS	-
GWB-9	HU-9	Good	-	-	-	-	-	-	Good		NH_4	-	Risk	DS	
	SK-9								Poor	DS, PS	PO_4	NH_4			2027+
GWB-10	HU-10	Good	-	-	-	-	-	-	Good	-	-	-	Risk	PS	-
	SK-10														
GWB-11	HU-11	Good	-	-	-	-	-	-	Good	-	-	-	-	-	-
	SK-11	Unknown		Unknown*											
GWB-12	HU-12	Good	DS	NO_3	-	Risk	-	-	Good	-	-	-	-	-	-
	SK-12	Poor	DS	SO_4					Poor	DS	-	-	Risk	DS	2027+

'-' means 'No'; * The status information is of low confidence as it is based on risk assessment; ** Not yet discussed; *** The trend was partially reversed, it means for some sites identified with significant upward trends in the 2^{nd} RBMP. TOC - total organic carbon

Explanation: see next page

Table 6: Summary table: Groundwater QUANTITY risk and status information of the ICPDR GW-bodies over the period of 2015 to 2027

GWB	Nat. part	Danube RBM Plan 2015					Danube RBM Plan 2021				
		Status 2015	Status Pressure Types 2015	Risk 2013→2021	Risk Pressure Types →2021	Exemptions from 2021	Status 2021	Status Pressure Types 2021	Risk 2019→2027	Risk Pressure Types →2027	Exemptions (Year of achievement)
GWB-1	AT-1 DE-1	Good	-	-	-	-	Good	-	-	-	-
GWB-2	BG-2 RO-2	Good	-	-	-	-	Good	-	-	-	-
GWB-3	MD-3 RO-3	Good	-	-	-	-	Good	-	-	-	-
GWB-4	BG-4 RO-4	Good	-	-	-	-	Good	-	-	-	-
GWB-5	HU-5	Poor	WA	Risk	WA	2027	Poor	WA	Risk	WA	2027+
	RO-5	Good	-	-	-	-	Good	-	-	-	-
GWB-6	HU-6 RO-6	Good	-	-	-	-	Good	-	-	-	-
GWB-7	HU-7	Poor	WA	Risk	WA	2027	Poor	WA	Risk	WA	2027+
	RO-7	Good	-	-	-	-	Good	-	-	-	-
	RS-7	Poor*	WA	Risk	WA	**	Poor	WA	Risk	WA	***
GWB-8	HU-8	Poor	WA	Risk	WA	2027	Good	-	-	-	-
	SK-8	Good	-	-	-	-					
GWB-9	HU-9 SK-9	Good	-	-	-	-	Good	-	-	-	-
GWB-10	HU-10	Good	-	-	-	-	Good	-	-	-	-
	SK-10								Risk	WA	
GWB-11	HU-11	Good	-	-	-	-	Good	-	-	-	-
	SK-11	Unknown									
GWB-12	HU-12 SK-12	Good	-	-	-	-	Good	-	-	-	-

- … no / not applicable; * … Status information is of low confidence as it is based on risk assessment; ** … not yet discussed; ***… information will be provided, when the Plan is officially adopted.

Explanation to Table 5 and Table 6

GWB	ICPDR GWB code which is a unique identifier.	
Nat. part	Code of national shares of ICPDR GWBs	
Danube RBM Plan 2015	**Danube RBM Plan 2021**	
Status 2015	**Status 2021**	**Good / Poor / Unknown**
Status Pressure Types 2015	**Status Pressure Types 2021**	Indicates the significant pressures causing poor status in 2015. **AR =** artificial recharge**, DS** = diffuse sources**, PS** = point sources**, OP** = other significant pressures**, WA** = water abstractions
Significant upward trend (parameter)	**Significant upward trend (parameter)**	Indicates for which parameter a significant sustained upward trend has been identified.
Trend reversal (parameter)	**Trend reversal (parameter)**	Indicates for which parameter a trend reversal could have been achieved.
Risk 2013→2021	**Risk 2019→2027**	**Risk** / - (which means ‘no risk’)
Risk Pressure Types →2021	**Risk Pressure Types →2027**	Indicates the significant pressures causing risk of failing to achieve good status in 2021. **AR =** artificial recharge**, DS** = diffuse sources**, PS** = point sources**,** **OP** = other significant pressures**, WA** = water abstractions
Exemptions from 2021	**Exemptions (Year of achievement)**	Indicates the year by when good status is expected to be achieved.

Table 7: Groundwater CHEMICAL STATUS 2021: Reasons for failing good groundwater chemical status in 2021 for the ICPDR GW-bodies.

GWB	GWB Name	National part	Year of status assessment	Chemical Status	Which parameters cause poor status	Failed general assessment of GWB as a whole	Saline or other intrusion	Failed achievement of Article 4 objectives for associated surface waters	Significant damage to GW dependent terrestrial ecosystem	Art 7 drinking water protected area affected
				good /poor	*parameter*	*Yes / - / Unknown (parameter)*	*Yes / - / Unknown (parameter)*	*Yes / - / Unknown (parameter)*	*Yes / - / Unknown (parameter)*	*Yes / - / Unknown (parameter)*
GWB-1	Deep GWB – Thermal Water	AT-1	2020	Good	-	-	-	-	-	-
		DE-1								
GWB-2	Upper Jurassic – Lower Cretaceous GWB	BG-2	2019	Good	-	-	-	-	-	-
		RO-2	2017							
GWB-3	Middle Sarmatian - Pontian GWB	MD-3	2018	Good	-	-	-	-	-	-
		RO-3	2017							
GWB-4	Sarmatian GWB	BG-4	2019	Good	-	-	-	-	-	-
		RO-4	2017	Poor	NO_3	Yes				
GWB-5	Mures / Maros	HU-5	2020	Poor	NO_3, SO_4, NH_4, Cl,	-	-	-	-	Yes (NO_3, SO_4, NH_4, Cl)
		RO-5	2017		NO_3	Yes				-
GWB-6	Somes / Szamos	HU-6	2020	Good	-	-	-	-	-	-
		RO-6	2017							
GWB-7	Upper Pannonian – Lower Pleistocene / Vojvodina / Duna-Tisza köze deli r.	HU-7	2020	Poor	NO_3	Yes (NO_3)	-	-	-	-
		RO-7	2017	Good	-	-				
		RS-7	2019	Good	-	-				
GWB-8	Podunajska Basin, Zitny Ostrov / Szigetköz, Hanság-Rábca	HU-8	2020	Good	-	-	-	-	-	-
		SK-8	2013-2018							
GWB-9	Bodrog	HU-9	2020	Good	-		-	-	-	-
		SK-9	2013-2018	Poor	NH_4, PO_4	Yes				
GWB-10	Slovensky kras / Aggtelek-hgs.	HU-10	2020	Good	-	-	-	-	-	-
		SK-10	2013-2018							
GWB-11	Komarnanska Kryha / Dunántúli-khgs. északi r.	HU-11	2020	Good	-	-	-	-	-	-
		SK-11	2013-2018							
GWB-12	Ipel / Ipoly	HU-12	2020	Good	-	-	-	-	-	-
		SK-12	2013-2018	Poor	NO_3, SO_4, PO_4	Yes				

'-' means 'No'; * The status information is of low confidence as it is based on risk assessment;

Table 8: Groundwater CHEMICAL RISK 2027: Reasons for risk of failing good groundwater chemical status in 2027 for the ICPDR GW-bodies.

GWB	GWB Name	National part	Year of risk assessment	‚at risk‘	Which parameters cause risk	Failed general assessment of GWB as a whole	Saline or other intrusions	Failed achievement of Article 4 objectives for associated surface waters	Significant damage to GW dependent terrestrial ecosystem	Art 7 drinking water protected area affected
				Risk / -	*parameter*	*Yes / - / Unknown (parameter)*	*Yes / - / Unknown (parameter)*	*Yes / - / Unknown (parameter)*	*Yes / - / Unknown (parameter)*	*Yes / - / Unknown (parameter)*
GWB-1	Deep GWB – Thermal Water	AT-1	2020	-	-	-	-	-	-	-
		DE-1								
GWB-2	Upper Jurassic – Lower Cretaceous GWB	BG-2	2019	-	-	-	-	-	-	-
		RO-2	2017							
GWB-3	Middle Sarmatian - Pontian GWB	MD-3	2017	-	-	-	-	-	-	-
		RO-3								
GWB-4	Sarmatian GWB	BG-4	2019	-	-	-	-	-	-	-
		RO-4	2017	Risk	NO_3	Yes				
GWB-5	Mures / Maros	HU-5	2018	Risk	NH4, glyphosate*, Cl, SO_4	Yes (NH_4)	-	-	-	Yes (NO_3, Cl, SO_4)
		RO-5	2017		NO_3	Yes				-
GWB-6	Somes / Szamos	HU-6	2018	-	-	-	-	-	-	-
		RO-6	2017							
GWB-7	Upper Pannonian – Lower Pleistocene / Vojvodina / Duna-Tisza köze deli r.	HU-7	2018	Risk	Glyphosate*, EC, NH_4, NO_3	Yes (NH_4, NO_3)	-	-	-	NO_3, EC
		RO-7	2017	-	-	-				-
		RS-7	2019	-	-	-				
GWB-8	Podunajska Basin, Zitny Ostrov / Szigetköz, Hanság-Rábca	HU-8	2018	-	-	-	-	-	-	-
		SK-8	2020	Risk	NH_4					Yes
GWB-9	Bodrog	HU-9	2018	Risk	NH_4	-	-	-	-	Yes (NH_4)
		SK-9	2020		NH_4, PO_4	Yes				-
GWB-10	Slovensky kras / Aggtelek-hgs.	HU-10	2018	Risk	TCE	-	-	-	-	TCE
		SK-10	-							
GWB-11	Komarnanska Kryha / Dunántúli-khgs. északi r.	HU-11	2018	-	-	-	-	-	-	-
		SK-11	2020							
GWB-12	Ipel / Ipoly	HU-12	2018	-	-	-	-	-	-	-
		SK-12	2020	Risk	NO_3, PO_4, SO_4	Yes				

‘-‘ means ‘No’; * based on single data after risk assessment period

Table 9: Groundwater QUANTITY STATUS 2021: Reasons for failing good groundwater quantitative status in 2021 for the ICPDR GW-bodies.

GWB	GWB Name	National part	Year of status assessment	Quantitative status	Exceedance of available GW resource	Failed achievement of Article 4 objectives for associated surface waters	Significant damage to GW dependent terrestrial ecosystem	Uses affected (drinking water use, irrigation etc.)	Intrusions detected or likely to happen due to alterations of flow directions resulting from level changes
				good / poor	*Yes / - / Unknown*	*Yes / - / Unknown*	*Yes / - / Unknown*	*Yes / - / Unknown If yes, which?*	*Yes / - / Unknown*
GWB-1	Deep GWB – Thermal Water	AT-1	2020	Good	-	-	-	-	-
		DE-1							
GWB-2	Upper Jurassic – Lower Cretaceous GWB	BG-2	2019	Good	-	-	-	-	-
		RO-2	2017						
GWB-3	Middle Sarmatian - Pontian GWB	MD-3	2017	Good	-	-	-	-	-
		RO-3							
GWB-4	Sarmatian GWB	BG-4	2019	Good	-	-	-	-	-
		RO-4	2017						
GWB-5	Mures / Maros	HU-5	2020	Poor	-	-	Yes	-	-
		RO-5	2017	Good			-		
GWB-6	Somes / Szamos	HU-6	2020		-	-	-	-	-
		RO-6	2017	Good					
GWB-7	Upper Pannonian – Lower Pleistocene / Vojvodina / Duna-Tisza köze deli r.	HU-7	2020	Poor	Yes	-	Yes	-	-
		RO-7	2017	Good	-	-	-	-	-
		RS-7	2019	Poor	Yes	Unknown	Unknown	Yes	Unknown
GWB-8	Podunajska Basin, Zitny Ostrov / Szigetköz, Hanság-Rábca	HU-8	2020	Good	-	-	-	-	-
		SK-8	2013-2017						
GWB-9	Bodrog	HU-9	2020	Good	-	-	-	-	-
		SK-9	2013-2017						
GWB-10	Slovensky kras / Aggtelek-hgs.	HU-10	2020	Good	-	-	-	-	-
		SK-10	2013-2017						
GWB-11	Komarnanska Kryha / Dunántúli-khgs. északi r.	HU-11	2020	Good	-	-	-	-	-
		SK-11	2015-2017						
GWB-12	Ipel / Ipoly	HU-12	2020	Good	-	-	-	-	-
		SK-12	2013-2017						

Table 10: Groundwater QUANTITY RISK 2027: Reasons for risk of failing good groundwater quantitative status in 2027 for the ICPDR GW-bodies.

GWB	GWB Name	National part	Year of risk assessment	'at risk'	Exceedance of available GW resource	Failed achievement of Article 4 objectives for associated surface waters	Significant damage to GW dependent terrestrial ecosystem	Uses affected (drinking water use, irrigation etc.)	Intrusions detected or likely to happen due to alterations of flow directions resulting from level changes
				Risk / -	*Yes / - / Unknown*	*Yes / - / Unknown*	*Yes / - / Unknown*	*Yes / - / Unknown If yes, which?*	*Yes / - / Unknown*
GWB-1	Deep GWB – Thermal Water	AT-1	2020	-	-	-	-	-	-
		DE-1							
GWB-2	Upper Jurassic – Lower Cretaceous GWB	BG-2	2019	-	-	-	-	-	-
		RO-2	2017						
GWB-3	Middle Sarmatian - Pontian GWB	MD-3	2018	-	-	-	-	-	-
		RO-3	2017						
GWB-4	Sarmatian GWB	BG-4	2019	-	-	-	-	-	-
		RO-4	2017						
GWB-5	Mures / Maros	HU-5	2020	Risk	-	-	Yes	-	-
		RO-5	2017	-			-		
GWB-6	Somes / Szamos	HU-6	2020	-	-	-	-	-	-
		RO-6	2017						
GWB-7	Upper Pannonian – Lower Pleistocene / Vojvodina / Duna-Tisza köze deli r.	HU-7	2020	Risk	Yes	-	Yes	-	-
		RO-7	2017	-	-	-	-	-	-
		RS-7	2019	Risk	Yes	Unknown	Unknown	Yes, DW	Unknown
GWB-8	Podunajska Basin, Zitny Ostrov / Szigetköz, Hanság-Rábca	HU-8	2020	-	-	-	-	-	-
		SK-8	2017						
GWB-9	Bodrog	HU-9	2020	-	-	-	-	-	-
		SK-9	2017						
GWB-10	Slovensky kras / Aggtelek-hgs.	HU-10	2020		-	-	-	-	-
		SK-10	2017	Risk		Yes			
GWB-11	Komarnanska Kryha / Dunántúli-khgs. északi r.	HU-11	2020	-	-	-	-	-	-
		SK-11	2017						
GWB-12	Ipel / Ipoly	HU-12	2020	-	-	-	-	-	-
		SK-12	2017						

- means 'No';

Table 11: Summary table: Groundwater threshold values

		GWB-1	GWB-2		GWB-3	GWB-4		GWB-5		GWB-6		GWB-7		GWB-8		GWB-9		GWB-10		GWB-11	GWB-12	
Parameter	**unit**		**BG-2**	**RO-2**	**RO-3**	**BG-4**	**RO-4**	**RO-5**	**HU-5**	**HU-6**	**RO-6**	**HU-7**	**RO-7**	**HU-8**	**SK-8**	**HU-9**	**SK-9**	**HU-10**	**SK-10**	**HU-11 SK-11****	**HU-12**	**SK-12**
Ammonium	mg/l		0.4487	0.5	6.4	0.38	0.7	0.5–1.9	2–5	2–5	0.5–1.3	2–5	6.4	1–2	0.26	2–5	0.30	0 .5	0.27	0.5–no TV	2	0.90
AOX	µg/l								20	20		20		20		20		20		20–no TV	20	
Arsenic	µg/l		7.6	10	10	7.7	10	40		-	10				6		6		5.5			6
Benzene	µg/l			10	10		10	10			10		10		0.8		0.8		0.8			0.8
Cadmium	µg/l		3.8	5	5	3.9	5	5	5	5	5	5	5	5	3.0	5	3.0	5	2.7	5–no TV	5	2.9
Chloride	mg/l		189	250	250	188.75	250	250	250-500	250	250	250	250	250	135.8-137.3	250	147.4	250	131.8	250–no TV	250	135.7
Chromium	µg/l		38.875		50	38.25		50			50		50		26		27		25			26
COD Mn	mg O2/l		3.975			3.8625																
Conductivity	µS/cm		1640.625			1713.6			2500-4000	2500		2500-4000		2500		2500		2500		2500–no TV	2500	
Copper	µg/l		152.7		100	150.1		100			100		100		1001-1002		1004		1001			1003
Cyanides	mg/l		0.04			0.04																
Iron total	mg/l		0.1607			0.15									0.125-0.135		0.150		0.105			0.150
Lead	µg/l		8.1	10	10	7.6	10	10–20	10	10	30–70	10	10	10	6.5-7.0	10	9.0	10	5.5	10–no TV	10	7.0
Manganese	mg/l		0.038			0.038									0.030		0.030		0.027			0.100
Mercury	µg/l		0.8	1	1	0.8	1		1	1	1	1	1	1	0.7-0.8	1	0.7	1	0.6	1–no TV	1	0.6
Nickel	µg/l		15.05		20	15.5	20	20			20		20									
Nitrates**	mg/l		38.5			39.87												25		25–50–no TV		
Nitrites	mg/l		0.3801	0.5	0.5	0.375	0.5	0.5			0.5		0.5		0.26		0.26		0.26			0.26
Phenols	µg/l							2			2		4									
Phosphates	mg/l		0.3805	0.5	1.4	0.3798	0.5	0.5–0.6			0.5		1		0.22		0.22		0.24			0.24
Orthophosphate	mg/l								2–5	0.5–2		1–5		1		1–2		0.25		0.25-no TV	2	
Sodium	mg/l		156.75			158.25									104.5-105.8		111.0		52.3			119.8
Sulphates	mg/l		192	250	250	189	250	250	250–500	250	250	250–500	250	250	148.9–157.6	250	167.4	250	167.6	250–no TV	500	140.8
Tetrachloroethylen	µg/l		7.5*	10	10	7.5*	10	10	10	10	10	10	10	10	7.5*	10	7.5*	10	7.5*	10	10	7.5*
Trichlorethylene	µg/l		*	10	10	*	10	10	10	10	10	10	10	10	7.5*	10	7.5*	10	7.5*	10	10	7.5*
Zinc	mg/l		0.777		5	0.7537	5	5			5		5									
Pesticides total**			0.375			0.375																

*...7.5 for Tetrachloroethylen + Trichlorethylene; ** the quality standards for nitrates (50 mg/l) and for pesticides (0.1 for individual pesticides and relevant metabolites and 0.5 for total pesticides) are not mentioned in the table. **…The criterion for evaluating the chemical status of geothermal GWB is the stability of the chemical composition

Methodologies of status and trend assessment of the ICPDR GW-bodies

GWB-1: Deep Groundwater Body – Thermal Water

<table>
<tr><td rowspan="2">GWB-1</td><td rowspan="2">National share</td><td rowspan="2">AT-1
DE-1</td><td colspan="2">Status 2021 for each national GWB?</td></tr>
<tr><td>Chemical (substance)</td><td>Quantity</td></tr>
<tr><td rowspan="3">List of individual GW-bodies forming the whole national share (national code incl. country code)</td><td>AT</td><td>ATGK100158</td><td>Good</td><td>Good</td></tr>
<tr><td>DE</td><td>DEGK1110</td><td>Good</td><td>Good</td></tr>
<tr><td colspan="4"></td></tr>
</table>

Description/Characterisation of the ICPDR GW-body	*The thermal groundwater of the Malm karst (Upper Jurassic) in the Lower Bavarian and Upper Austrian Molasse Basin is of transboundary importance. It is used for spa purposes and to gain geothermal energy. The geothermal used water is totally re-injected in the same aquifer.* *The transboundary GW-body covers a total area of 5,900 km²; the length is 155 km and the width is up to 55 km. The aquifer is Malm (karstic limestone); the top of the Malm reaches a depth of more than 1,000 m below sea level in the Bavarian part and 2,000 m in the Upper Austrian part. The groundwater recharge is mainly composed of subterranean inflow of the adjacent Bohemian Massif and infiltration of precipitation in the northern part of the GWB area. The total groundwater recharge was determined to 820 l/s. The GW-body is selected as of basin-wide importance because of its intensive use. An expert group takes care for the permanent bilateral exchange of information and a sustainable transboundary use.*
Description of **status** assessment methodology.	***Chemical Status*** *The chemical status of the deep GWB will be described on the basis of measurement and analysis data according to a procedure agreed between the two states. The decisive parameters for the evaluation of the qualitative status of near-surface GWBs (such as nitrate and pesticides) are not relevant for deep GWBs.* *As expected, the parameters measured in the GWB extending over 5900 km² differ (in some cases considerably) from site to site. This is due to regionally different geo-hydraulic conditions. Therefore the description of the qualitative status cannot be made in the same way as that for near-surface GWBs (on the basis of aggregated data), but made on the basis of measurement and analysis data available at every individual measuring site. Contrary to near-surface GWBs, it should be considered that, due to the utilization of the waters (balneological and thermal uses), good status is not only not achieved if the concentration of certain contents rises above a certain level, but also if it falls below it.* *The available data is presently not sufficient to identify precisely enough the scope of fluctuations relevant for individual parameters at the individual measuring sites.* *Good chemical status is considered to be reached if the threshold value (TV) of the decisive parameters neither exceed nor fall below the scope of fluctuations determined for every measuring site. It is planned to examine the current selected scope of fluctuations on the basis of many years of monitoring, (at least over a period of 10 years) and to adapt them, where required.* *In any case, the GWB is considered to be in a good chemical status if at least 75% of the measuring sites meet good status.* *The following parameters are used as a basis for the determination of the qualitative status of the deep GWB: temperature, electrical conductivity, total hardness, sulphate and chloride.* ***Quantitative Status*** *No Changes since 2009* *There is no interaction between deep groundwater and surface waters and/or terrestrial ecosystems.* *The quantitative status of the deep GWB can be described by means of:* - *the identification of trends over a period of many years monitoring of the level of hydraulic pressure at groundwater measuring sites and wells;* - *a balancing calculation: a comparison between the thermal water supply and thermal water abstractions.* *Apart from Bad Füssing (records since 1948), no long-term monitoring of pressure potentials that would be significant for a trend analysis is available.* *As early as in 1998, detailed thermal water balancing was carried out for the deep GWB. In the course of this balancing an exploitation of the available thermal water resources by thermal water abstractions of about 25% was recorded, which corresponds to a good quantitative status (at least 30% of the quantity available).* *In the meantime, the extent of utilisation has been considerably reduced due to successfully implemented management measures (among other things the obligation to reinject the used thermal water exclusively). Good quantitative status could be even further improved on the basis of the level of hydraulic pressure in*

<table>
<tr><td colspan="2"></td><td colspan="4">the thermal waters of Bad Füssing which has risen again since then.
With a view to the regionally uneven distribution of the available quantity, water abstraction points and abstracted water quantities, a sub-division of the balance area into sub-areas can be made. For these areas the decisive balance parameters can be determined separately</td></tr>
<tr><td colspan="2">Groundwater threshold value relationships</td><td colspan="4">No changes since 2015</td></tr>
<tr><td colspan="2">Verbal description of the trend assessment methodology</td><td colspan="4">No changes since 2015</td></tr>
<tr><td colspan="2">Verbal description of the trend reversal assessment methodology</td><td colspan="4">No changes since 2015</td></tr>
<tr><td colspan="6">Threshold values per GWB</td></tr>
<tr><td></td><td>Pollutant / Indicator</td><td>TV (or range) [unit]</td><td>NBL (or range) [unit]</td><td>Level of TV establishment (national, RBD, GWB)</td><td>Related to risk in this GWB [yes/-]</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

GWB-2: Upper Jurassic – Lower Cretaceous GWB

GWB-2	National share	**BG-2, RO-2**	Status 2021 for each national GWB?	
			Chemical (substance)	Quantity
List of individual GW-bodies forming the whole national share (national code incl. country code)	BG-2	BG1G0000J3K051	Good	Good
	RO-2	RODL06	Good	Good

Description/Characterisation of the ICPDR GW-body	***Bulgaria:*** *The starting point for identifying the geographical boundaries of the GWB BG1G0000J3K051 (Upper Jurassic-Lower Cretaceous) is the geological boundaries. After that additional sub-division on the basis of groundwater flow lines and piezometric heads.The lithological composition of GWB is: limestones, dolomitic limestones and dolomites. Overlying strata consists of marls, clays, sands, limestones, pebbles and loess. The age of the above mentioned deposits is Hauterivian, Sarmatian, Pliocene and Quaternary. With the exception of small cropped out areas the GWB is very well protected. There is no significant impact on the GWB. The main use of groundwater is for drinking water, agriculture and industry supply.* ***Romania:*** *Criteria for delineation is development of Upper Jurassic-Lower Cretaceous permeable deposits and water content in these deposits. The lithological composition is limestones, dolomitic limestones and dolomites. Overlying strata consists of marls, clays, sands, limestones, pebbles and loess. The age of the above mentioned deposits is Hauterivian, Sarmatian, Pliocene and Quaternary.* *Groundwater body RODL06- Valachian Platform has great extension and partially covers Valah platform. It is a transboundary water body of great potential, the depth aquifer having partially a free level (in the sector adjacent to the Danube) and is quartered in calcareous formations, sometime fissured and karstic, with regional extension in the whole South Dobrogea. These deposits are characterized by a hydraulic communication through an aquitard.* *From the geological point of view, this aquifer complex has a complex structure, being divided by a system of major older than the Sarmatian fault with orientations approximately NNE-SSW and WNW-ESE.* *Excluding small cropped out areas the GWB is very well protected. The main use is for drinking water supply, agriculture and industry supply. In Romania the GWB has an interaction with Lake Siutghiol situated near the Black Sea.* *The criterion for selection as 'important' is for both GWBs the size which exceeds 4,000 km²*
Description of **status** assessment methodology.	Chemical Status ***Bulgaria:*** *Assessment of the chemical status of groundwater has been done by carrying out the following tests and steps:* *GQA-Test: General assessment of the chemical status of GWB.* *Step 1: Calculation of arithmetic means per monitoring point (MP) for each indicator for the period 2017-2020. Values below LoQ are replaced by ½ LoQ.* *Step 2: Comparison of arithmetic means with the lowest QS or TVs (EQS, intrusion of salt or polluted waters, drinking water standard or other).* *Step 3: Assessment of the chemical status in the area of the MP:* - *If for all indicators, the status is "good", then the GWB in the area of the MP is "good";* - *If for one or more indicators, the status is "poor", then the GWB in the area of the MP is "poor". In this case, a careful analysis was carried out of the primary hydrochemical data. If the data are doubtful or insufficiently reliable, the indicator (indicators) are rejected from the final assessment and a respective justification for this is presented.* *Step 4: If in the areas of all MP the status is good, the GWB is determined 'good' and no other tests are needed.* *Step 5: The confidence of the assessment is determined by the following criteria:* - *Density of the monitoring points in GWB: low (1 MP on area > 200 km²); medium (1 MP on area 50–200 km²), high (1 MP on area <50 km²);* - *Data have to meet the following requirements: All analytical methods are validated in accordance with standard BDS EN ISO / IEC-17025 or other equivalent internationally*

	recognized standard. Accredited laboratories shall ensure minimum criteria for all applie analytical methods. Minimum length of the time series. *<u>Step 6:</u> The extent of exceedance was calculated. If the status is determined as "poor" for one or more indicators in one or more MP, then an assessment of the affected area was performed.* - *Based on the conceptual model, it is determined whether the MP (points) is (are) located in the recharge zone or in the transit zone or in the drainage zone of GWB.* - *The areas of GWB in which the average annual concentrations of pollutants exceed QS or TV have been delineated. Each area of GWB affected by pollution includes the area located between the MP where QS or TV have been exceeded. Further, a 1 km buffer zone was delineated around this zone or around the contaminated MP.* *<u>Step 7:</u> If the polluted area is more than 20% of the total area of the GWB, the confidence assessment was made according step 5.* *<u>Step 8:</u> The places of the exceedances are connected with the groundwater receptors. Depending on the identified locations and GW receptors, relevant tests have been applied: saline or other intrusion, surface water bodies with deteriorated status, GW directly dependent terrestrial ecosystems, drinking and household water supply located at polluted area.* *<u>Step 9:</u> Local conceptual models have been developed for each exceedance point considering the possibility for the pollutant to move through the GWB, identification of pressures, additional trend assessment.* *A GWB is in good chemical status when the extent of exceedance is less than 20% and the remaining tests show that: the quality of groundwater used for drinking and domestic water supply has not deteriorated, the GW status-related to surface waters and terrestrial ecosystems (directly dependent of GW) has not deteriorated and there is no intrusion of salt or polluted waters; no significant and sustainable upward trends in concentrations of pollutants and pollution indicators have been identified.* ***Romania:** The methodology for the chemical status assessment followed the requirements of the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 – Guidance on Groundwater status and trend assessment.* *The first step was to check any exceedances of the quality standards and TVs which were established taken into consideration the NBL values. If no exceedances of the quality standards and TVs have been recorded, the groundwater body has been considered as being in good chemical status. If exceedances of TVs were recorded the following relevant tests were carried out:* • *General assessment of the chemical status: Data aggregation was performed and it was checked whether the total area of exceedance was greater than 20% of the total area of the GWB. The test showed a good status for the water body if no exceeding occurs.* • *Saline or other intrusion: not relevant.* • *Significant diminution of associated surface water chemistry and ecology due to transfer of pollutants from the GWB: The location of the exceedance of the relevant TVs was not found in areas where pollutants might be transferred to surface waters. A comparison of the pollutant load transferred from the GWB to the surface water body with the total load in the surface water body did not exceed 50%. The test showed a good status for the water body.* • *Significant damage to GWDTEs due to transfer of pollutants from the GWB: No GWDTE was found to be damaged. The test showed a good status for the water body;* • *Meets the requirements of WFD Article 7(3) – Drinking Water Protected Areas: there is no evidence of increased treatment due to changes in water quality. The test showed a good status for the water body.* *To assess the chemical status of the groundwater bodies, the following steps are considered:* • *for each monitoring point the annual average concentrations for each indicators was calculated; for the metals the concentration of the dissolved form was considered;* • *For each monitoring point the annual average concentration of the each parameters was compared with the thresholds values (determined for each GWB) or standards value (nitrates and pesticides).* • *The GWB is of good chemical status when no EQS or TV is exceeded in any monitoring*

	point. • *The GWB is of poor chemical status when EQS or TV are exceeded at monitoring points representing more than 20% of the GWB surface.* Quantitative Status ***Bulgaria:*** *The assessment considered data from national and self-monitoring of groundwater abstraction facilities according to the issued permits. The main criteria for assessing good quantitative status are the exploitable (available) groundwater resources of GWB and the groundwater level. To verify compliance with the requirements of the WFD, various tests were performed. The assessment was based on data from 2017–2020 and trends were assessed, with data from 2007–2020. The following tests were performed:* - *Water balance test: the assessment of the GW level downward trend is an indication that, the available GW resources were exceeded and the GWB is in poor status.* - *Surface water test and terrestrial ecosystem test: both not applicable in BG-2 as surface water bodies and terrestrial ecosystems are not associated/connected.* - *Saline intrusion test: not relevant* ***Romania:*** *The criterion for risk assessment of the quantity status is based on trend assessment evolution of the groundwater levels. The quantitative status has been assessed taking into account the CIS Guidance no.18. The following criteria have been used:* • *water balance* • *the connection with surface waters* • *the influence on the terrestrial ecosystems which depend directly on the GWB* • *the effects of saline or other intrusions* *The quantitative status analysis has been done for the GWB level by comparing the average of the hydrostatic level from 2017 (reference year) with the multiannual average during the whole observation period*
Groundwater threshold value relationships	Receptors considered: ***Romania:*** *Drinking Water standards* ***Bulgaria:*** *Drinking Water standards* Consideration of NBL and EQS (environmental quality standards, drinking water standards) in the TV establishment: ***Romania:*** *The methodology for TV establishment in Romania has been developed according to CIS Guidance No. 18. NBL are the key elements in the process of TV setting. As described above, during the TV establishment, the NBL have been compared with the drinking water standards. The maximum allowable concentrations (MAC) provided by the Law no.458/2002 as amended, were chosen as TV where NBL are smaller than MAC. Where NBL are higher than MAC, a small addition of 0.2 NBL was used, in order to avoid misclassification of the respective GWB (TV = NBL + 0.2 NBL = 1.2 NBL).* *The updated list of TVs established for each GWB was published in the new Order of the Minster no. 621/2014 approving TV for GWBs from Romania.* ***Bulgaria:*** *The methodology for TV determination in Bulgaria has been developed according to CIS Guidance No. 18. TVs are determined by comparing NBLs with criterial values (CVs). CVs is the concentration of a pollutant (without taking into account the NBLs), which, if exceeded, could lead to a distortion of the criteria for good status. CVs should take into account the risk assessment and receptors of groundwater.* *The NBL were established for each GWB as a result of the project report ‘Assessment of the natural hydrochemical background of the substances composition of groundwater in Bulgaria" (GEOFUND V-402), 1998’ NBLs are available for Ca, Mg, SO4, Cl, HC03, Total hardness, Cu, Pb, Zn, As, Fe, F, Al, Mn, Cr, Co, V, J, Ag, Ni, Na, K.* *The NBLs were determined for each hydrogeological classes (5 classes) in the 90th percentile and 50th percentile (median) of the statistical sample.* *Criterial values (CVs) have been drinking water standards according to the Bulgarian Regulation N-9.* *When NBL > CV, the TV is equal to NBL.* *When CV > NBL, the TV = NBL + Ktv* (CV-NBL).* ***0 < Ktv < 1***

	Ktv is usually between 0.5 and 0.75, as recommended and providing reasonable assurance. Ktv <0.5 has a large certainty and is used for GWBs, which have important economic significance and are the sole source of drinking water supply of settlements. This value should be used for such GWB to which they are attached particularly valuable wetlands presence of dependent PA terrestrial ecosystems. The higher value (0.75) is used in all other cases or GWBs already classified bodies at risk.
Verbal description of the **trend** assessment methodology	***Bulgaria:*** *The trend analysis is based on recognized statistical methods such as regression method and a time series of data from 2012 to 2019 (using annual values, semi-annual or quarterly values).* *Based on regression analysis is assessed whether there is a break in the trend i.e. after sustained upward trend follows sustained downward trend or the opposite case the sustained downward trend is followed by sustained upward trend.* • *Initially , the entire curve of the experimental data is approximated by a polynomial curve of degree 2 (quadratic regression curve).* • *If there is detected a maximum in the polynomial curve it means that a change of the direction of the trend is available - from ascending to descending.* • *If there is detected a minimum in the polynomial curve it means that a change of the direction of the trend is available - from descending to ascending.* • *Then, (in case of available maximum) the entire curve is divided into two branches: 1st branch – till the date of the maximum and the second branch - after the peak.* • *In case with available minimum: 1st branch – till the date of the minimum and the second branch - after the minimum.* • *Data from the first and second branch are considered separately and are approximated by linear trends (straight lines) . The date at which it crossed the two approximating straight lines corresponds to the date at which it changes the direction of the linear trend - from ascending to descending or from descending to ascending* *By extrapolation of the second (falling) trend can be predicted date at which the starting concentration (75% GWQS in our case 60% TV) will be reached* ***Romania:*** *In order to assess the trend in pollutant concentrations, the results of the chemical analysis from the monitoring points have been used. Minimum period of analysis was at least 17 years (2000–2017).* *The methodology for identifying significant upper trends consists in adjustment and aggregation of the data from each monitoring points on groundwater bodies. The trend analysis was done using the Gwstat program.* *The steps used for trend assessment were:* • *Identifying the monitoring points and the associated results of chemical analysis, assessment of data series, for each year of reference period (2000–2017)* • *Establishment of baseline concentration for each parameter as the average concentration registered during the year 2000* • *Calculation of annual average for the available data in each monitoring point* • *Significant upward trends were identified by Gwstat software, based on Anova Test*
Verbal description of the **trend reversal** assessment methodology	***Bulgaria:*** *The starting point for trend reversal should be placed where the concentration of the pollutant reaches 75% of the groundwater quality standard or 75% of the threshold value of the relevant pollutant. Selected starting points should be possible to reverse trends in the most effective way before pollutant concentrations can cause irreversible changes in groundwater quality. When we have GWB who responds too slowly to changes, there may be a need for an early starting point and vice versa - for responsive GWB should be chosen starting point at a later moment.* *Initially, the entire curve of the experimental data is approximated by a polynomial curve of degree 2 (quadratic regression curve).* *If there is detected a maximum in the polynomial curve it means that a change of the direction of the trend is available - from ascending to descending.* *If there is detected a minimum in the polynomial curve it means that a change of the direction of the trend is available - from descending to ascending.* *Then, (in case of available maximum) the entire curve is divided into two branches: 1st branch*

– till the date of the maximum and the second branch - after the peak

In case with available minimum: 1st branch – till the date of the minimum and the second branch - after the minimum.

Data from the first and second branch are considered separately and are approximated by linear trends (straight lines). The date at which it crossed the two approximating straight lines corresponds to the date at which it changes the direction of the linear trend - from ascending to descending or from descending to ascending

By extrapolation of the second (falling) trend can be predicted date at which the starting concentration (75% GWQS in our case 60% TV) will be reached .Practically for the second RBMP we have used 60 % from the TV.

***Romania:** Trend reversal assessment methodology consists also in the use of Gwstat software.*

This method assumes that the time series can be characterized by two linear trends with a slope change within the time interval (analysis period). Thus, by applying the 95% quantile of the distribution, a reversal of the trend is identified, if in the first section the slope of the trend is positive, and in the second section the slope of the trend is negative. The stages of the method of reversing the pollutant concentration tendency:

- *optimizing the choice of time sections regarding the shape of the resulting model*
- *examining the significance of the rift for the simple linear regression model based on the square of the residue sum*
- *conducting a statistical test to verify that the 2-sections model is significantly more than a simple regression model.*

Threshold values per GWB

	Pollutant / Indicator	*TV (or range) [unit]*	*NBL (or range) [unit]*	*Level of TV establishment (national, RBD, GWB)*	*Related to risk in this GWB [yes/-]*
RO	*Nitrates*	*50 mg/l*		*National*	*-*
RO	*Benzen*	*10 µg/l*		*National*	*-*
RO	*Tricloretilena*	*10 µg/l*		*National*	*-*
RO	*Tetracloretilena*	*10 µg/l*		*National*	*-*
RO	*Ammonium*	*0.5 mg/l*	*0.31mg/l*	*GWB*	*-*
RO	*Chlorides*	*250 mg/l*	*73,87 mg/l*	*GWB*	*-*
RO	*Sulphates*	*250 mg/l*	*71,44 mg/l*	*GWB*	*-*
RO	*Nitrites*	*0.5 mg/l*	*0.039 mg/l*	*GWB*	*-*
RO	*Phosphates*	*0.5 mg/l*	*0.08 mg/l*	*GWB*	*-*
RO	*Cadmium*	*0.005 mg/l*	*0.0001mg/l*	*GWB*	*-*
RO	*Mercury*	*0.001 mg/l*	*0.000042 mg/l*	*GWB*	*-*
RO	*Lead*	*0.01 mg/l*	*0.0011 mg/l*	*GWB*	*-*
RO	*Arsenic*	*0.01 mg/l*	*0.00075 mg/l*	*GWB*	*-*
BG	*Nitrates*	*38.5 mg/l*	*2.2 mg/l*	*GWB*	*-*
BG	*Pesticides sum*	*0.375 µg/l*		*GWB*	
BG	*Arsenic*	*0.0076 mg/l*	*0.0004 mg/l*	*GWB*	
BG	*Lead*	*0.0081 mg/l*	*0.0026 mg/l*	*GWB*	
BG	*Cadmium*	*0.0038 mg/l*	*0.0002 mg/l*	*GWB*	
BG	*Mercury*	*0.0008 mg/l*	*0.0002 mg/l*	*GWB*	
BG	*Ammonium*	*0.4487 mg/l*	*0.295 mg/l*	*GWB*	
BG	*Chlorides*	*189 mg/l*	*6 mg/l*	*GWB*	
BG	*Sulphates*	*192 mg/l*	*18 mg/l*	*GWB*	
BG	*Tri + Tetrachlo-roethyle*	*7.5 µg/l*		*GWB*	
BG	*Conductivity*	*1640.625 µS/cm*	*562.5 µS/cm*	*GWB*	
BG	*Manganese*	*0.038 mg/l*	*0.022 mg/l*	*GWB*	
BG	*Total Iron*	*0.1607 mg/l*	*0.043 mg/l*	*GWB*	
BG	*Nitrites*	*0.3801 mg/l*	*0.0207mg/l*	*GWB*	
BG	*Sodium*	*156.75 mg/l*	*27 mg/l*	*GWB*	
BG	*Chromium*	*38.875 mg/l*	*5.5 µg/l*	*GWB*	

BG	*Cupper*	*0.1527 mg/l*	*0.0108 mg/l*	*GWB*	
BG	*Nikel*	*15.05 µg/l*	*0.2 µg/l*	*GWB*	
BG	*Zink*	*0.777 mg/l*	*0.109 mg/l*	*GWB*	
BG	*COD - Mn*	*3.975 mgO2/l*	*0.9 mgO2/l*	*GWB*	
BG	*PO4*	*0.3805 mg/l*	*0.022 mg/l*	*GWB*	
BG	*Cyanides*	*0.04 mg/l*	*0.01 mg/l*	*GWB*	

GWB-3: Middle Sarmatian - Pontian GWB

GWB-3	National share	**MD-3** **RO-3**	Status 2021 for each national GWB?	
			Chemical (substance)	Quantity
List of individual GW-bodies forming the whole national share (national code incl. country code)		MDPR01	Good	Good
		ROPR05	Good	Good
Description/Characterisation of the ICPDR GW-body	***Romania:*** *The criteria for delineation of the GWB was the development of the Sarmatian aquifer deposits on the territories of Neamt, Bacau and Vaslui districts, situated in the Siret and Prut River Basins. Lithologically, the water-bearing deposits are constituted of sands and sandstones thin layer. Geologically, the wells have pierced the following sub-stages of the Sarmatian: Buglovian, Volhynian, Basarabian and Chersonian. The wells data have indicated that the Sarmatian deposits thickness is highly variable, going from 295 m (Iaşi) to 886 m (Bârlad). It is considered that the Sarmatian deposits unconformably overlay the Late Badenian ones, because the Early Buglovian is lacking. The upper boundary of Sarmatian, respectively the Sarmatian-Meotian boundary, is difficult to assign due to the lack of sure paleontological elements.* *Lithologically, the water-bearing deposits are constituted of thin layers with fine towards medium grain-size (sands, rarely gravels), sometimes with lens aspect, situated at depth of 30–350 meters.* *Hydrogeologically and hydrochemically, the investigation of wells data has revealed important areal differences, of quantitative and qualitative order, both horizontally and vertically. The differences of quantitative order are especially due to the Sarmatian deposits grain size.* *The overlying strata is represented by clay of about 50 meters thickness.* *The groundwater is mainly used for drinking water supply, agricultural and industrial supplies. The criterion for selection as "important" consists in its size that exceeds 4,000 km^2.* ***Moldova:*** *Criteria for delineation are: geological boundaries; groundwater flow lines; chemical and one quantitative status; GWB vulnerability; surface–groundwater interaction. The MD GWB consists of five deep aquifers.* *<u>Silurian - Cretaceous aquifer</u> (S-K2) is spread on the whole territory of the basin and it is used for centralized water supply only in the northern part of the basin. Groundwater is contained in limestone, sandstone, with interlayers of Silurian marls and argilites with total thickness varying from 50-60 m to 100-120 m. Water bearing capacity of the aquifers vary in a wide range. Dominating values of hydraulic conductivity and transmissivity are rather low (K=0.12–0,37 m/day, Km=10-50 m2/day). The chemical composition of the Silurian-Cretaceous aquifers is heterogenous. In the northern part of the basin fresh groundwaters with mineralisation <1g/l and dominating hydrocarbonate-sulphate-calcium-magnesium ions are detected. Going to the south chemical composition of the aquifer the characteristics is changing to hydrocarbonate-sulphate-sodium and hydrocarbonate sodium type and the amount of total dissolved solids increases to 2-10 mg/l.* *<u>Baden-Sarmatian</u> aquifer (N1b-s) is the most productive and most important for centralized water supply. Water-bearing layers are represented by limestone with interlayers of fine grained sand, sometimes clays, marls and gypsum. Thickness of the aquifer reaches 50 m, in some places up to 90 m, with average thickness of about 25 m. In the northern part of the basin water bearing sediments outcrop to the pre-Quaternary surface and these areas coincide with the recharge*			

	zones of the aquifer. Groundwater is discharging into the valley of Prut's tributaries. Southwards Baden-Sarmatian aquifer occurs deeper and near the village Gotesti it was detected by drilling at the depth of 572 m.Hydraulic properties of the aquifer are rather poor. Hydraulic conductivity reaches 1–12 m/day, with mean values of 5 m/day, transmissivity is also low – only 5–20 m²/day. Capacity of wells varies in a range of 0.09–8l/s. *When water bearing rocks are composed of limestones they contain fresh or slightly mineralised hydrocarbonate-calcium-sodium water with mineralization below 1 g/l. Such areas, however, are rather scarce and groundwaters with mineralization above 1 g/l are prevailing in the basin.* *<u>Upper Sarmatian Meotic</u> aquifer system (N1s3-m), which can be included in this GWB is only partially exploited for groundwater abstraction in the southern part of the river basin. Sarmat-Meotis deposits in the area are represented by fine-grained sands and clay with the lenses of quartz sand with total thickness of the aquifer 60–70 m. This sand is water-bearing and contains good quality water. The thickness of water bearing layers is 4–5 m. Yields of exploitation wells vary between 3 and 7 m³/h. Waters from the aquifer system are supplying the needs of several enterprises. Near the Prut river valley yields of the wells increase to 10 m³/h with the drawdown of up to 30 m. This aquifer contains hydrocarbonate-sodium waters with total mineralization of 1–1.5 g/l. In some areas chemical composition changes to sulphate-hydrocarbonate-sodium and mineralization increases to 2 g/l. Hydraulic parameters of the aquifer are rather poor: hydraulic conductivity varies between 0.8–5 m/day with mean values of 2.3 m/day and transmissivity changes in a range of 10–25 m²/day, mean being 5 m²/day.* *Groundwater monitoring results over three wells for the period from 2005 to 2009 indicate a decrease in the level of groundwater. The rate of decrease is 0.5–1.4 meter per year. This can be attributed to an increase in the water abstraction from the operating wells located in the vicinity.* *<u>Middle Sarmatian (Congeriev) aquifer</u> (N1s2)is used for a centralised water supply in the southern part of Republic of Moldova. Groundwater is contained in fine-grained sands with interlayers of clays, sandstones and limestones. Thickness of water bearing sediments varies from 5–15 m to 40–50 m with mean values of 20–30 m. Hydraulic properties of water bearing sands are quite poor. Hydraulic conductivity changes from 0.6 to 1.9 m/day average being 1.3 m/day. Transmissivity values are also very low and do not exceed 20–50 m²/day. Depth to groundwater aquifer depends on the landscape and varies from 1.5 to 100 m. Yields of wells vary from 5 to 75 l/s. When hydrocarbonate-sulphate-chloride anions dominate in groundwater its mineralisation is below 1.5 g/l. When chloride–hydrocarbonate and sodium ions prevail total mineralization increases up to 2 g/l. Monitoring of the aquifer indicates a slight decrease in groundwater level with the rate of 0.4–0.65 m/a.* *<u>Pontian aquifer </u>(N2p) is spread in the southern part of Republic of Moldova. Water bearing sediments are composed of sandy clays with interlayers of sand and shell limestone with the total thickness of 70–80 m.Prevailing hydraulic properties of water bearing sands are rather poor. Hydraulic conductivity changes from 3.5–3.7 with mean values of 3 m/day. Transmissivity coefficient varies between 18–45 m²/day in some places (e.g. Giurgiulesti village) increasing to 250–260 m²/day. Depth to groundwater aquifer depends on the landscape and varies from 2 to 125 m. Yields of wells vary from 1.1–2.3 l/s, increasing southwards to 3.7–7.6 l/s. Near the village of Taraklia few springs are discharging into Prut river valley with the capacity of 8–9 l/sec. Aquifer contains fresh groundwater with mineralisation <1 g/l (figure 2.6) and prevailing ions of hydrocarbonate -sulphate-chloride-sodium, sometimes sulphate –hydrocarbonate-sodium.* *Groundwater from this aquifer is used for drinking and agricultural water supply.*
Description of **status** assessment methodology.	<u>Chemical Status</u> ***Moldova:*** *The methodology for the chemical status assessment followed the requirements of the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 – Guidance on Groundwater status and trend assessment.* ***Romania:*** *The methodology for the chemical status assessment followed the requirements of the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 – Guidance on Groundwater status and trend assessment.* *The first step was to check any exceedances of the quality standards and TVs which were established taken into consideration the NBL values. If no exceedances of the quality standards and TVs have been recorded, the groundwater body has been considered as being in good chemical status. If exceedances of TVs were recorded the following relevant tests were carried out:*

	• *General assessment of the chemical status: Data aggregation was performed and it was checked whether the total area of exceedance was greater than 20% of the total area of the GWB. The test showed a good status for the water body if no exceeding occurs.* • *Saline or other intrusion: not relevant.* • *Significant diminution of associated surface water chemistry and ecology due to transfer of pollutants from the GWB: The location of the exceedance of the relevant TVs was not found in areas where pollutants might be transferred to surface waters. A comparison of the pollutant load transferred from the GWB to the surface water body with the total load in the surface water body did not exceed 50%. The test showed a good status for the water body.* • *Significant damage to GWDTEs due to transfer of pollutants from the GWB: No GWDTE was found to be damaged. The test showed a good status for the water body;* • *Meets the requirements of WFD Article 7(3) – Drinking Water Protected Areas: there is no evidence of increased treatment due to changes in water quality. The test showed a good status for the water body* *To assess the chemical status of the groundwater bodies, the following steps are considered:* • *for each monitoring point the annual average concentrations for each indicator was calculated; for the metals the concentration of the dissolved form was considered;* • *For each monitoring point the annual average concentration of the each parameters was compared with the thresholds values (determined for each GWB) or standards value (nitrates and pesticides).* • *The GWB is of good chemical status when no EQS or TV is exceeded in any monitoring point.* • *The GWB is of poor chemical status when EQS or TV are exceeded at monitoring points representing more than 20% of the GWB surface.* Quantitative Status: ***Moldova:*** *The criterion for risk assessment of the quantity status is based on trend assessment evolution of the groundwater levels. The quantitative status has been assessed taking into account the CIS Guidance № 18* ***Romania:*** *The criterion for risk assessment of the quantity status is based on trend assessment evolution of the groundwater levels. The quantitative status has been assessed taking into account the CIS Guidance № 18. The following criteria have been used:* • *water balance* • *the connection with surface waters* • *the influence on the terrestrial ecosystems which depend directly on the GWB* • *the effects of saline or other intrusions* *The quantitative status analysis has been done for the GWB level by comparing the average of the hydrostatic level from 2017 (reference year) with the multiannual average levels during the whole period.*
Groundwater threshold value relationships	Receptors considered: ***Romania:*** *Drinking Water standards* ***Moldova:*** Consideration of NBL and EQS (environmental quality standards, drinking water standards) in the TV establishment: ***Romania:*** *The methodology for TV establishment in Romania has been developed according to CIS Guidance No. 18. NBL are the key elements in the process of TV setting. As described previously, during the TV establishment, the NBL have been compared with the drinking water standards. The maximum allowable concentrations (MAC) provided by the Law no.458/2002 as amended, were chosen as TV where natural background levels (NBL) are smaller than MAC. Where background levels are higher than MAC, a small addition of 0.2 NBL was used, in order to avoid misclassification of the respective GWB (TV = NBL + 0.2 NBL = 1.2 NBL).* *The updated list of TVs established for each GWB was published in the new Order of the Minster*

	no. 621/2014 approving TV for groundwater bodies from Romania.
Verbal description of the **trend** assessment methodology	***Moldova:*** *In order to assess the trend in pollutant concentrations, the results of the chemical analysis from the monitoring points have been used. Minimum period of analysis was at least 22 years (1996-2018).* ***Romania:*** *In order to assess the trend in pollutant concentrations, the results of the chemical analysis from the monitoring points have been used. Minimum period of analysis was at least 17 years (2000-2017).* *The methodology for identifying significant upper trends consists in adjustment and aggregation of the data from each monitoring points on groundwater bodies. The trend analysis was done using the Gwstat program.* *The steps used for trend assessment were:* • *Identifying the monitoring points and the associated results of chemical analysis, assessment of data series, for each year of reference period (2000–2017)* • *Establishment of baseline concentration for each parameter as the average concentration registered during the year 2000* • *Calculation of annual average for the available data in each monitoring point* • *Significant upward trends were identified by Gwstat software, based on Anova Test*
Verbal description of the **trend reversal** assessment methodology	***Romania:*** *Trend reversal assessment methodology consists also in the use of Gwstat software. This method assumes that the time series can be characterized by two linear trends with a slope change within the time interval (analysis period). Thus, by applying the 95% quantile of the distribution, a reversal of the trend is identified, if in the first section the slope of the trend is positive, and in the second section the slope of the trend is negative. The stages of the method of reversing the pollutant concentration tendency:* • *optimizing the choice of time sections regarding the shape of the resulting model;* • *examining the significance of the rift for the simple linear regression model based on the square of the residue sum;* • *conducting a statistical test to verify that the 2-sections model is significantly more than a simple regression model.*

Threshold values per GWB

	Pollutant / Indicator	*TV (or range) [unit]*	*NBL (or range) [unit]*	*Level of TV establishment (national, RBD, GWB)*	*Related to risk in this GWB [yes/-]*
RO	*Nitrates*	*50 mg/l*		*National*	-
RO	*Benzen*	*10 µg/l*		*National*	-
RO	*Tricloretilena*	*10 µg/l*		*National*	-
RO	*Tetracloretilena*	*10 µg/l*		*National*	-
RO	*Ammonium*	*6.4 mg/l*	*5,34 mg/l*	*GWB*	-
RO	*Chlorides*	*250 mg/l*	*78,87 mg/l*	*GWB*	-
RO	*Sulphates*	*250 mg/l*	*192 mg/l*	*GWB*	-
RO	*Nitrites*	*0,5 mg/l*	*0.34 mg/l*	*GWB*	-
RO	*Phosphates*	*1,4 mg/l*	*1,13 mg/l*	*GWB*	-
RO	*Chromium*	*0,05 mg/l*	*0.0003033 mg/l*	*GWB*	-
RO	*Nickel*	*0,02 mg/l*	*0.00053 mg/l*	*GWB*	-
RO	*Copper*	*0,1 mg/l*	*0.00307 mg/l*	*GWB*	-
RO	*Zinc*	*5 mg/l*	*0.02425 mg/l*	*GWB*	-
RO	*Cadmium*	*0,005 mg/l*	*0.0000455 mg/l*	*GWB*	-
RO	*Mercury*	*0,001 mg/l*	*0.000003385 mg/l*	*GWB*	-
RO	*Lead*	*0,01 mg/l*	*0.0001825 mg/l*	*GWB*	-
RO	*Arsenic*	*0,01 mg/l*	*0.003175 mg/l*	*GWB*	-

GWB-4: Sarmatian GWB

<table>
<tr><td rowspan="2">GWB-4</td><td rowspan="2">National share</td><td rowspan="2">BG-4
RO-4</td><td colspan="2">Status 2021 for each national GWB?</td></tr>
<tr><td>Chemical (substance)</td><td>Quantity</td></tr>
<tr><td rowspan="3">List of individual GW-bodies forming the whole national share (national code incl. country code)</td><td>BG-4</td><td>BG1G000000N049</td><td>Good</td><td>Good</td></tr>
<tr><td>RO-4</td><td>RODL04</td><td>Poor (nitrates)</td><td>Good</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
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<table>
<tr><td>Description/Characterisation of the ICPDR GW-body</td><td>
The starting point for identifying the boundaries of the GWB BG1G000000N049 Sarmatian is the geological boundaries. The lithological composition of water-bearing deposits is as follows:
- in Bulgaria: limestones, sands;
Overlying strata consists of loess and loesses clays and clays. The age of the above mentioned deposits is Quaternary. The GWB is vulnerable with cropped out regions of limestones and sandstones or covered with loess. GWB main use is for drinking water supply, agriculture and industry supply.
Romania: Criteria for delineation are the development of Sarmatian permeable deposits and water resources in these deposits. The lithological composition of water-bearing deposits is oollitic limestones and organogenic limestone.
Overlying strata consists of loess and clays. The GWB is well protected in the clay covered areas, but is vulnerable to pollution in pre-dominantly loess and sands covered areas. This explains nitrate contamination in some areas.
GWB main use is for drinking water supply, and also agricultural and industrial purposes.
The main pressures are agriculture activities, waste landfills and less industrial plants.
The criterion for selection as “important” is the size, which exceeds 4000 km².
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<tr><td>Description of status assessment methodology.</td><td>
<u>Chemical Status</u>
Bulgaria: Assessment of the chemical status of groundwater has been done by carrying out the following tests and steps:
GQA-Test: General assessment of the chemical status of GWB.
<u>Step 1:</u> Calculation of arithmetic means per monitoring point (MP) for each indicator for the period 2017-2020. Values below LoQ are replaced by ½ LoQ.
<u>Step 2:</u> Comparison of arithmetic means with the lowest QS or TVs (EQS, intrusion of salt or polluted waters, drinking water standard or other).
<u>Step 3:</u> <u>A</u>ssessment of the chemical status in the area of the MP:
- If for all indicators, the status is "good", then the GWB in the area of the MP is "good";
- If for one or more indicators, the status is "poor", then the GWB in the area of the MP is "poor". In this case, a careful analysis was carried out of the primary hydrochemical data. If the data are doubtful or insufficiently reliable, the indicator (indicators) are rejected from the final assessment and a respective justification for this is presented.
<u>Step 4:</u> If in the areas of all MP the status is good, the GWB is determined ‘good’ and no other tests are needed.
<u>Step 5:</u> The confidence of the assessment is determined by the following criteria:
- Density of the monitoring points in GWB: low (1 MP on area > 200 km²); medium (1 MP on area 50–200 km²), high (1 MP on area <50 km²);
- Data have to meet the following requirements: All analytical methods are validated in accordance with standard BDS EN ISO / IEC-17025 or other equivalent internationally recognized standard. Accredited laboratories shall ensure minimum criteria for all applie analytical methods. Minimum length of the time series.
<u>Step 6:</u> The extent of exceedance was calculated. If the status is determined as "poor" for one or more indicators in one or more MP, then an assessment of the affected area was performed.
- Based on the conceptual model, it is determined whether the MP (points) is (are) located in the recharge zone or in the transit zone or in the drainage zone of GWB.
- The areas of GWB in which the average annual concentrations of pollutants exceed QS or TV have been delineated. Each area of GWB affected by pollution includes the area
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</table>

	located between the MP where QS or TV have been exceeded. Further, a 1 km buffer zone was delineated around this zone or around the contaminated MP. *Step 7: If the polluted area is more than 20% of the total area of the GWB, the confidence assessment was made according step 5.* *Step 8: The places of the exceedances are connected with the groundwater receptors. Depending on the identified locations and GW receptors, relevant tests have been applied: saline or other intrusion, surface water bodies with deteriorated status, GW directly dependent terrestrial ecosystems, drinking and household water supply located at polluted area.* *Step 9: Local conceptual models have been developed for each exceedance point considering the possibility for the pollutant to move through the GWB, identification of pressures, additional trend assessment.* *A GWB is in good chemical status when the extent of exceedance is less than 20% and the remaining tests show that: the quality of groundwater used for drinking and domestic water supply has not deteriorated, the GW status-related to surface waters and terrestrial ecosystems (directly dependent of GW) has not deteriorated and there is no intrusion of salt or polluted waters; no significant and sustainable upward trends in concentrations of pollutants and pollution indicators have been identified.* ***Romania:** The methodology for the chemical status assessment followed the requirements of the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 – Guidance on Groundwater status and trend assessment.* *The first step is to check any exceedances of the quality standards and TVs which were established taken into consideration the NBL values. If no exceedances of the quality standards and TVs are recorded, the groundwater body is considered as being in good chemical status. If exceedances of TVs or quality standards are recorded the following relevant tests are carried out:* • *General assessment of the chemical status: Data aggregation is performed and it is checked whether the total area of exceedance is greater than 20% of the total area of the GWB. In case there are no exceedances, the test indicate a good status for the water body.* • *Saline or other intrusion: not relevant.* • *Significant diminution of associated surface water chemistry and ecology due to transfer of pollutants from the GWB: the location of the exceedance of the relevant TVs was not found in areas where pollutants might be transferred to surface waters; a comparison of the pollutant load transferred from the GWB to the surface water body with the total load in the surface water body did not exceed 50%. The test show a good status for the water body if these criteria are achieved.* • *Significant damage to GWDTEs due to transfer of pollutants from the GWB: No GWDTE was found to be damaged. The test show a good status for the water body if this criteria is achieved;* • *Meets the requirements of WFD Article 7(3) – Drinking Water Protected Areas: there is no evidence of increased treatment due to changes in water quality.* *To assess the chemical status of the groundwater bodies, the following steps are considered.* • *for each monitoring point the annual average concentrations for each indicator was calculated; for the metals the concentration of the dissolved form was considered;* • *For each monitoring point the annual average concentration of the each parameters was compared with the thresholds values (determined for each GWB) or standards value (nitrates and pesticides).* • *The GWB is of good chemical status when no EQS or TV is exceeded in any monitoring point.* • *The GWB is of poor chemical status when EQS or TV are exceeded at monitoring points representing more than 20% of the GWB surface.* *The chemical status of the GWB RODL06 is poor, considering the results of applying the methodology for chemical status assessment* Quantitative Status ***Bulgaria:** The assessment considered data from national and self-monitoring of groundwater*

	abstraction facilities according to the issued permits. The main criteria for assessing good quantitative status are the exploitable (available) groundwater resources of GWB and the groundwater level. To verify compliance with the requirements of the WFD, various tests were performed. The assessment was based on data from 2017–2020 and trends were assessed, with data from 2007–2020. The following tests were performed: - *Water balance test: the assessment of the GW level downward trend is an indication that, the available GW resources were exceeded and the GWB is in poor status.* - *Surface water test and terrestrial ecosystem test: both not applicable in BG-2 as surface water bodies and terrestrial ecosystems are not associated/connected.* - *Saline intrusion test: not relevant* ***Romania:*** *The criterion for risk assessment of the quantity status is based on trend assessment evolution of the groundwater levels. The quantitative status has been assessed taking into account the CIS Guidance no.18. The following criteria have been used:* • *water balance* • *the connection with surface waters* • *the influence on the terrestrial ecosystems which depend directly on the GWB* • *the effects of saline or other intrusions* *The quantitative status analysis has been done for the GWB level by comparing the average of the hydrostatic level from 2017 (reference year) with the multiannual average levels during the whole observation period.*
Groundwater threshold value relationships	Receptors considered: ***Romania:*** *Drinking Water standards* ***Bulgaria:*** *Drinking Water standards* Consideration of NBL and EQS (environmental quality standards, drinking water standards) in the TV establishment: ***Romania:*** *The methodology for TV establishment in Romania has been developed according to CIS Guidance No. 18. NBL are the key elements in the process of TV setting. As described above, during the TV establishment, the NBL have been compared with the drinking water standards. The maximum allowable concentrations (MAC) provided by the Law no.458/2002 as amended, were chosen as TV where NBL are smaller than MAC. Where NBL are higher than MAC, a small addition of 0.2 NBL was used, in order to avoid misclassification of the respective GWB (TV = NBL + 0.2 NBL = 1.2 NBL).* *The updated list of TVs established for each GWB was published in the new Order of the Minster no. 621/2014 approving TV for GWBs from Romania.* ***Bulgaria:*** *The methodology for TV determination in Bulgaria has been developed according to CIS Guidance No. 18. TVs are determined by comparing NBLs with criterial values (CVs). CVs is the concentration of a pollutant (without taking into account the NBLs), which, if exceeded, could lead to a distortion of the criteria for good status. CVs should take into account the risk assessment and receptors of groundwater.* *The NBL were established for each GWB as a result of the project report 'Assessment of the natural hydrochemical background of the substances composition of groundwater in Bulgaria" (GEOFUND V-402), 1998' NBLs are available for Ca, Mg, SO4, Cl, HC03, Total hardness, Cu, Pb, Zn, As, Fe, F, Al, Mn, Cr, Co, V, J, Ag, Ni, Na, K.* *The NBLs were determined for each hydrogeological classes (5 classes) in the 90th percentile and 50th percentile (median) of the statistical sample.* *Criterial values (CVs) have been drinking water standards according to the Bulgarian Regulation N-9.* *When NBL > CV, the TV is equal to NBL.* *When CV > NBL, the TV = NBL + Ktv* (CV-NBL).* ***0 < Ktv < 1*** *Ktv is usually between 0.5 and 0.75, as recommended and providing reasonable assurance. Ktv <0.5 has a large certainty and is used for GWBs, which have important economic significance and are the sole source of drinking water supply of settlements. This value should be used for such GWB to which they are attached particularly valuable wetlands presence of dependent PA terrestrial ecosystems. The higher value (0.75) is used in all other cases or GWBs already classified bodies at risk.*

Verbal description of the **trend** assessment methodology	***Bulgaria:*** *The trend analysis is based on recognized statistical methods such as regression method and a time series of data from 2012 to 2019 (using annual values, semi-annual or quarterly values).* *Based on regression analysis is assessed whether there is a break in the trend i.e. after sustained upward trend follows sustained downward trend or the opposite case the sustained downward trend is followed by sustained upward trend.* • *Initially, the entire curve of the experimental data is approximated by a polynomial curve of degree 2 (quadratic regression curve).* • *If there is detected a maximum in the polynomial curve it means that a change of the direction of the trend is available - from ascending to descending.* • *If there is detected a minimum in the polynomial curve it means that a change of the direction of the trend is available - from descending to ascending.* • *Then, (in case of available maximum) the entire curve is divided into two branches : 1st branch – till the date of the maximum and the second branch - after the peak.* • *In case with available minimum: 1st branch – till the date of the minimum and the second branch - after the minimum.* • *Data from the first and second branch are considered separately and are approximated by linear trends (straight lines). The date at which it crossed the two approximating straight lines corresponds to the date at which it changes the direction of the linear trend - from ascending to descending or from descending to ascending* *By extrapolation of the second (falling) trend can be predicted date at which the starting concentration (75% GWQS in our case 60% TV) will be reached* ***Romania:*** *In order to assess the trend in pollutant concentrations, the results of the chemical analysis from the monitoring points have been used. Minimum period of analysis was at least 17 years (2000–2017).* *The methodology for identifying significant upper trends consists in adjustment and aggregation of the data from each monitoring points on groundwater bodies. The trend analysis was done using the Gwstat program.* *The steps used for trend assessment were:* • *Identifying the monitoring points and the associated results of chemical analysis, assessment of data series, for each year of reference period (2000–2017)* • *Establishment of baseline concentration for each parameter as the average concentration registered during the year 2000* • *Calculation of annual average for the available data in each monitoring point* • *Significant upward trends were identified by Gwstat software, based on Anova Test*
Verbal description of the **trend reversal** assessment methodology	***Bulgaria:*** *The starting point for trend reversal should be placed where the concentration of the pollutant reaches 75% of the groundwater quality standard or 75% of the threshold value of the relevant pollutant. Selected starting points should be possible to reverse trends in the most effective way before pollutant concentrations can cause irreversible changes in groundwater quality. When we have GWB who responds too slowly to changes, there may be a need for an early starting point and vice versa - for responsive GWB should be chosen starting point at a later moment.* *Initially, the entire curve of the experimental data is approximated by a polynomial curve of degree 2 (quadratic regression curve).* • *If there is detected a maximum in the polynomial curve it means that a change of the direction of the trend is available - from ascending to descending.* • *If there is detected a minimum in the polynomial curve it means that a change of the direction of the trend is available - from descending to ascending.* • *Then, (in case of available maximum) the entire curve is divided into two branches: 1st branch – till the date of the maximum and the second branch - after the peak* *In case with available minimum: 1st branch – till the date of the minimum and the second branch - after the minimum.* *Data from the first and second branch are considered separately and are approximated by linear trends (straight lines). The date at which it crossed the two approximating straight lines*

corresponds to the date at which it changes the direction of the linear trend - from ascending to descending or from descending to ascending

By extrapolation of the second (falling) trend can be predicted date at which the starting concentration (75% GWQS in our case 60% TV) will be reached .Practically for the second RBMP we have used 60 % from the TV.

Romania: *Trend reversal assessment methodology consists also in the use of Gwstat software. This method assumes that the time series can be characterized by two linear trends with a slope change within the time interval (analysis period). Thus, by applying the 95% quantile of the distribution, a reversal of the trend is identified, if in the first section the slope of the trend is positive, and in the second section the slope of the trend is negative. The stages of the method of reversing the pollutant concentration tendency:*

- *optimizing the choice of time sections regarding the shape of the resulting model;*
- *examining the significance of the rift for the simple linear regression model based on the square of the residue sum;*
- *conducting a statistical test to verify that the 2-sections model is significantly more than a simple regression model.*

Threshold values per GWB

	Pollutant / Indicator	*TV (or range) [unit]*	*NBL (or range) [unit]*	*Level of TV establishment (national, RBD, GWB)*	*Related to risk in this GWB [yes/-]*
RO	*Nitrates*	*50 mg/l*		*National*	*Yes*
RO	*Benzen*	*10 µg/l*		*National*	*-*
RO	*Tricloretilena*	*10 µg/l*		*National*	*-*
RO	*Tetracloretilena*	*10 µg/l*		*National*	*-*
RO	*Ammonium*	*0.7 mg/l*	*0.504 mg/l*	*GWB*	*-*
RO	*Chlorides*	*250 mg/l*	*189 mg/l*	*GWB*	*-*
RO	*Sulphates*	*250 mg/l*	*120.5 mg/l*	*GWB*	*-*
RO	*Nitrites*	*0,5 mg/l*	*0.069 mg/l*	*GWB*	*-*
RO	*Phosphates*	*0,5 mg/l*	*0.21 mg/l*	*GWB*	*-*
RO	*Nickel*	*0,02 mg/l*	*0.035 mg/l*	*GWB*	*-*
RO	*Zinc*	*5 mg/l*	*0.355 mg/l*	*GWB*	*-*
RO	*Cadmium*	*0.005 mg/l*	*0.000202 mg/l*	*GWB*	*-*
RO	*Mercury*	*0.001 mg/l*	*0.00012 mg/l*	*GWB*	*-*
RO	*Lead*	*0.01mg/l*	*0.001 mg/l*	*GWB*	*-*
RO	*Arsenic*	*0.01 mg/l*	*0.0013 mg/l*	*GWB*	*-*
BG	*Nitrates*	*39.87 mg/l*	*9.49mg/l*	*GWB*	*-*
BG	*Pesticides sum*	*0.375 µg/l*		*GWB*	*-*
BG	*Arsenic*	*0.0077 mg/l*	*0.0007mg/l*	*GWB*	*-*
BG	*Lead*	*0.0076 mg/l*	*0.0005 mg/l*	*GWB*	*-*
BG	*Cadmium*	*0.0039 mg/l*	*0.0005 mg/l*	*GWB*	*-*
BG	*Mercury*	*0.0008 mg/l*	*0.0002 mg/l*	*GWB*	*-*
BG	*Ammonium*	*0.3758 mg/l*	*0.0031mg/l*	*GWB*	*-*
BG	*Chlorides*	*188.75 mg/l*	*5 mg/l*	*GWB*	*-*
BG	*Sulphates*	*189 mg/l*	*6 mg/l*	*GWB*	*-*
BG	*Tri+Tetraclo-retilena*	*7.5 µg/l*		*GWB*	
BG	*Conductivity*	*1713.6 µS/cm*	*854.5 µS/cm*	*GWB*	*-*
BG	*Manganese*	*0.0379 mg/l*	*0.016 mg/l*	*GWB*	*-*
BG	*Total Iron*	*0.1513 mg/l*	*0.005 mg/l*	*GWB*	*-*
BG	*Nitrites*	*0.375 mg/l*	*0.0001 mg/l*	*GWB*	*-*
BG	*Sodium*	*158.25 mg/l*	*33 mg/l*	*GWB*	*-*
BG	*Chromium*	*38.25 mg/l*	*3 µg/l*	*GWB*	*-*
BG	*Cupper*	*0.1501 mg/l*	*0.003 mg/l*	*GWB*	*-*
BG	*Nikel*	*15.5 µg/l*	*2 µg/l*	*GWB*	*-*
BG	*Zink*	*0.7537 mg/l*	*0.015 mg/l*	*GWB*	

BG	*COD - Mn*	*3.8625 mgO2/l*	*0.45 mgO2/l*	*GWB*	*-*
BG	*PO4*	*0.3798 mg/l*	*0.0195 mg/l*	*GWB*	*-*
BG	*Cyanides*	*0.04 mg/l*	*0.01 mg/l*	*GWB*	*-*

GWB-5: Mures / Maros

<table>
<tr><td rowspan="2">GWB-5</td><td rowspan="2">National share</td><td rowspan="2">HU-5
RO-5</td><td colspan="2">Status 2021 for each national GWB?</td></tr>
<tr><td>Chemical (substance)</td><td>Quantity</td></tr>
<tr><td rowspan="7">List of individual GW-bodies forming the whole national share (national code incl. country code)</td><td>HU</td><td>HU_AIQ605</td><td>Poor (NH4, NO_3, SO_4, Cl, AOX)</td><td>Good</td></tr>
<tr><td>HU</td><td>HU_AIQ604</td><td>Good</td><td>Good</td></tr>
<tr><td>HU</td><td>HU_AIQ594</td><td>Poor (NH_4, NO_3, SO_4)</td><td>Poor</td></tr>
<tr><td>HU</td><td>HU_AIQ593</td><td>Good</td><td>Good</td></tr>
<tr><td>RO</td><td>ROMU20</td><td>Poor (nitrates)</td><td>Good</td></tr>
<tr><td>RO</td><td>ROMU22</td><td>Good</td><td>Good</td></tr>
<tr><td colspan="4"></td></tr>
</table>

Description/Characterisation of the ICPDR GW-body	*The alluvial deposit of the Maros/Mures River lies along both sides of the southern Hungarian – Romanian border, to the north of the actual river bed of the Maros/Mures. In particular, it is an important water resource for drinking water purposes for both countries and water abstraction in one country influences the water availability in the other.* *The basin of the SE part of the Great Hungarian Plain is filled up with more than 2000 m thick deposits of different ages, which are progressively thinning in Romania. The alluvial fan of the Maros/Mures River forms the Pleistocene part of the strata. The aquifer is divided into several GWBs in both countries. Despite the differences in the delineation method of the two countries, it was possible to select the relevant water bodies from the transboundary point of view. Of the four water bodies containing cold water in Hungary (HU), two contain Quaternary strata from the surface to a depth of 30 m, namely the shallow GWBs (HU_AIQ605, HU_AIQ594). Underneath them are two porous GWBs (GWB HU_AIQ604, HU_AIQ593), which, besides Quaternary strata, include some parts of the Upper- Pannonian deposits as well (to a depth of 400–500 m corresponding to the surface separating cold and thermal waters).* *Two Quaternary water bodies have been selected in Romania.* *On the* ***Romanian*** *side, two water bodies are included in the transboundary evaluation because in the Romanian method there is a separating horizon at the limit of the Upper (GWB ROMU20) and Lower Pleistocene (GWB ROMU22) age of the strata. Both water bodies can be lithologically characterised by pebbles, sands and clayey inter-layers, but the upper part is significantly coarser with better permeability. Virtually following the same separation line on the Hungarian side, the lower 100 m of the 250–300 m thick Pleistocene strata is silty-sand, sandy-silt, sand and clay, and the upper part is mainly sand with gravel, so that permeability improves towards the surface (the hydraulic conductivity of the aquifers ranges between 5–30 m/day). The covering layer is mainly sandy silt and clay of 3-13 m thickness.* *On the Romanian side, the upper water body is unconfined and the lower is confined.* *In* ***Hungary*** *both confined and unconfined conditions occur in the southern water bodies (HU_AIQ604, HU_AIQ605) and mainly confined conditions are characteristic for the water bodies of the upward flow system (HU_AIQ593, HU_AIQ594). The groundwater table is 2–4 m below the surface in Hungary. Recharge in sandy areas has only local importance (15 Mm3/year). At present, because of the considerable amount of water abstracted from the deep layers, there is a permanent recharge from shallow groundwater to the deep groundwater system (app. 15* Mm^3*/year) and large areas with sandy-silty covered layers also contribute to the recharge of the abstracted amount in Hungary. Another important element of the global recharge of the Hungarian part is the lateral flow across the border, estimated at 15–20* Mm^3*/d (uncertain value based on limited available knowledge). The direction of the groundwater flow*

	is from the recharge area to the discharge areas (main river valleys and zones with groundwater level close to the surface) i.e. from SE to N and NW
Description of **status** assessment methodology.	<u>Chemical status</u> ***Romania:*** *The methodology for the chemical status assessment followed the requirements of the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 – Guidance on Groundwater status and trend assessment.* *The first step is to check any exceedances of the quality standards and TVs which were established taken into consideration the NBL values. If no exceedances of the quality standards and TVs are recorded, the groundwater body is considered as being in good chemical status. If exceedances of TVs or quality standards are recorded the following relevant tests are carried out:* • *General assessment of the chemical status: Data aggregation is performed and it is checked whether the total area of exceedance is greater than 20% of the total area of the GWB. In case there are no exceedances, the test indicate a good status for the water body.* • *Saline or other intrusion: not relevant.* • *Significant diminution of associated surface water chemistry and ecology due to transfer of pollutants from the GWB: the location of the exceedance of the relevant TVs was not found in areas where pollutants might be transferred to surface waters; a comparison of the pollutant load transferred from the GWB to the surface water body with the total load in the surface water body did not exceed 50%. The test show a good status for the water body if these criteria are achieved.* • *Significant damage to GWDTEs due to transfer of pollutants from the GWB: No GWDTE was found to be damaged. The test show a good status for the water body if this criteria is achieved;* • *Meets the requirements of WFD Article 7(3) – Drinking Water Protected Areas: there is no evidence of increased treatment due to changes in water quality.* *To assess the chemical status of the groundwater bodies, the following steps are considered:* • *For each monitoring point the annual average concentrations for each indicator was calculated; for the metals the concentration of the dissolved form was considered;* • *For each monitoring point the annual average concentration of the each parameters was compared with the thresholds values (determined for each GWB) or standards value (nitrates and pesticides).* • *The GWB is of good chemical status when no EQS or TV is exceeded in any monitoring point.* • *The GWB is of poor chemical status when EQS or TV are exceeded at monitoring points representing more than 20% of the GWB surface.* *The chemical status of the GWB ROMU20 is poor, considering the results of applying the methodology for chemical status assessment.* ***Hungary:*** *Assessment of the chemical status of GWBs was conducted: Analysing of the chemical data of individual monitoring points within each of the GWBs; Identifying of the pressures - sources of pollution; The NBLs were calculated and used to determine TVs. TVs have been determined according to CIS Guidance No. 18. Contamination limits have been determined for all indicators listed in Annex II Part B of Directive 2006/118/EC and indicators of the report under Art. 5 of Directive 2006/118/EC.* *The following parameters were investigated:* *a) NBL was determined for the following components: nitrate, ammonium, specific conductivity, sulphate, chloride, arsenic, cadmium, lead, mercury, orthosphosphate* *b) For each monitoring point the median concentration of each parameters of the studied period was compared to the TVs (determined for each GWB) or standards values (in the case of nitrates, metals and pesticides).* *c) Different tests were conducted to assess GWB status: Diffuse pollution test (nitrate, ammonium, orthosphosphate), Drinking water supply tests for numerous elements or components in both drinking water wells and monitoring wells and trend analysis based on the data of the surveillance monitoring system. Studied components of these tests are: nitrate, ammonium, chloride, sulphate, specific conductivity, mercury, lead,*

	cadmium, pesticides and organics, furthermore in the trend analysis pH and dissolved oxygen. d) *Based on these tests, GWB was evaluated.* Quantitative Status ***Romania*: *The criterion for risk assessment of the quantity status is based on trend assessment evolution of the groundwater levels. The quantitative status has been assessed taking into account CIS Guidance No.18. The following criteria have been used:*** • *water balance* • *the connection with surface waters* • *the influence on the terrestrial ecosystems which depend directly on the GWB* • *the effects of saline or other intrusions* *The quantitative status analysis has been done for the GWB level by comparing the average of the hydrostatic level from 2017 (reference year) with the multiannual average levels during the whole observation period.* ***Hungary:*** *To determine the overall quantitative status for a GWB, a series of tests should be applied that considers the impacts of anthropogenically induced long-term alterations in groundwater level and/or flow. Each test will assess whether the GWB is meeting the relevant environmental objectives. The quantitative status has been assessed taking into account CIS Guidance No.18. The following criteria have been used:* • *GW alteration (Drawdown) test* • *Water Balance test* • *Surface Water Flow test* • *Groundwater Dependent Terrestrial Ecosystems (GWDTE)* • *Saline or other Intrusion test*
Groundwater threshold value relationships	Receptors considered ***Romania:*** *Drinking Water standards* ***Hungary:*** *Drinking water* Consideration of NBL and EQS (environmental quality standards, drinking water standards) in the TV establishment: ***Romania:*** *The methodology for TV establishment in Romania has been developed according to CIS Guidance No. 18. NBL are the key elements in the process of TV setting.* *As described previously, during the TV establishment, the NBL have been compared with the drinking water standards. The maximum allowable concentrations (MAC) provided by the Law no.458/2002 as amended, were chosen as TV where NBL are smaller than MAC. Where background levels are higher than MAC, a small addition of 0.2 NBL was used, in order to avoid misclassification of the respective GWB (TV = NBL + 0.2 NBL = 1.2 NBL).* *The updated list of TVs established for each GWB was published in the new Order of the Minster no. 621/2014 approving TV for groundwater bodies from Romania.* ***Hungary:*** *EQS for herbicides and total pesticides, tri-, tetrachloroethylenes based on 201/2001. (X.25.) Gov. decree and the 6/2009. (IV.14.) KvVM-EüM-FVM common ministerial decree in correspondence to I. Annex of the 2006/118/EC directive.* *In Hungary, more than 95% of drinking water ensured from subsurface waters, so for all other components the DWS is applicable.* *For those GWBs where the NBL was higher than the DWS due to natural hydro-geological reasons, the TVs for ammonium, SO4 and EC were defined by taking into account these higher values, as described in Guidance Document No. 18.*
Verbal description of the **trend** assessment methodology	***Romania:*** *In order to assess the trend in pollutant concentrations, the results of the chemical analysis from the monitoring points have been used. Minimum period of analysis was at least 17 years (2000-2017).* *The methodology for identifying significant upper trends consists in adjustment and aggregation of the data from each monitoring points on groundwater bodies. The trend*

	analysis was done using the Gwstat program. The steps used for trend assessment were: • *Identifying the monitoring points and the associated results of chemical analysis, assessment of data series, for each year of reference period (2000–2017)* • *Establishment of baseline concentration for each parameter as the average concentration registered during the year 2000* • *Calculation of annual average for the available data in each monitoring point* • *Significant upward trends were identified by Gwstat software, based on Anova Test* ***Hungary****: To assess the trend of pollutant concentrations, chemical data of the surveillance monitoring systems were used for the period of 2000 to 2012. The trend analysis was done using Matlab program package of Man-Kendall method with fitted Sen slope. The steps used for trend assessment were:* • *During the assessment trend of all components for all monitoring objects were created using yearly average data and excluding time series with less than 4 data points.* • *The trend of groundwater body level aggregates of yearly annual data were assessed as well.* • *Significant upward or downward trends were identified on 95 and 90% significance level using Man-Kendall method with Sen's slope.*
Verbal description of the **trend reversal** assessment methodology	***Romania:*** *Trend reversal assessment methodology consists also in the use of Gwstat software. This method assumes that the time series can be characterized by two linear trends with a slope change within the time interval (analysis period). Thus, by applying the 95% quantile of the distribution, a reversal of the trend is identified, if in the first section the slope of the trend is positive, and in the second section the slope of the trend is negative. The stages of the method of reversing the pollutant concentration tendency:* • *optimizing the choice of time sections regarding the shape of the resulting model;* • *examining the significance of the rift for the simple linear regression model based on the square of the residue sum;* • *conducting a statistical test to verify that the 2-sections model is significantly more than a simple regression model..* ***Hungary:*** *To assess the trend reversal of pollutant concentrations, two consecutive time periods were compared and evaluated*

Threshold values per GWB

	Pollutant / Indicator	*TV (or range) [unit]*	*NBL (or range) [unit]*	*Level of TV establishment (national, RBD, GWB)*	*Related to risk in this GWB [yes/-]*
HU	*Nitrates*	*50 mg/l*	*0,5-12.1 mg/l*	*GWB*	*Yes*
HU	*Ammonium*	*2-5 mg/l*	*1,97-4.54 mg/l*	*GWB*	*Yes*
HU	*Conductivity*	*2500-4000 µS/cm*	*1210-2500 µS/cm*	*GWB*	*-*
HU	*Sulfate*	*250-500 mg/l*	*20-481 mg/l*	*GWB*	*Yes*
HU	*Chloride*	*250-500 mg/l*	*32,5-300 mg/l*	*GWB*	*Yes*
HU	*Ortophosphate*	*2-5 mg/l*	*0.65-1.71 mg/l*	*GWB*	
HU	*Cadmium*	*5 µg/l*	*0.16-0.83 µg/l*	*national*	*-*
HU	*Lead*	*10 µg/l*	*2.7-5 µg/l*	*national*	*-*
HU	*Mercury*	*1 µg/l*	*0.39-0.49 µg/l*	*national*	*-*
HU	*Trichlorethylene*	*10 µg/l*		*national*	*-*
HU	*Tetrachloroethylene*	*10 µg/l*		*national*	*-*
HU	*Absorbed organic halogens AOX*	*20 µg/l*		*national*	*Yes*
HU	*Pesticides by components*	*0,1 µg/l*		*national*	*-*
HU	*Pesticides all*	*0,5 µg/l*		*national*	*-*
RO	*Nitrates*	*50 mg/l*		*National*	*Yes*
RO	*Benzen*	*10 µg/l*		*National*	*-*
RO	*Tricloretilena*	*10 µg/l*		*National*	*-*

RO	*Tetracloretilena*	*10 µg/l*		*National*	*-*
RO	*Ammonium*	*0.5–1.9 mg/l*	*0.216–1.56 mg/l*	*GWB*	*-*
RO	*Chlorides*	*250 mg/l*	*66.755–179.57 mg/l*	*GWB*	*-*
RO	*Sulphates*	*250 mg/l*	*102.04–193.99 mg/l*	*GWB*	*-*
RO	*Nitrites*	*0,5 mg/l*	*0.046–0.2 mg/l*	*GWB*	*-*
RO	*Phosphates*	*0,5–0.6 mg/l*	*0.134–0.5 mg/l*	*GWB*	*-*
RO	*Chromium*	*0,05 mg/l*	*0.006296–0.00811mg/l*	*GWB*	*-*
RO	*Nickel*	*0,02 mg/l*	*0.009–0.00836 mg/l*	*GWB*	*-*
RO	*Copper*	*0.1 mg/l*	*0.0113–0.0117 mg/l*	*GWB*	*-*
RO	*Zinc*	*5 mg/l*	*0.125–0.0274 mg/l*	*GWB*	*-*
RO	*Cadmium*	*0.005 mg/l*	*0.0035 mg/l*	*GWB*	*-*
RO	*Lead*	*0.01-0.02 mg/l*	*0.0075–0.01316 mg/l*	*GWB*	*-*
RO	*Arsenic*	*0.04 mg/l*	*0.0289 mg/l*	*GWB*	*-*
RO	*Phenols*	*0.002mg/l*	*0.0015 mg/l*	*GWB*	*-*

GWB-6: Somes / Szamos

GWB-6	National share	**HU-6** **RO-6**	Status 2021 for each national GWB?	
			Chemical (substance)	Quantity
List of individual GW-bodies forming the whole national share (national code incl. country code)	HU	HU_AIQ649	Good	Good
	HU	HU_AIQ648	Good	Good
	HU	HU_AIQ600	Good	Good
	HU	HU_AIQ601	Good	Good
	RO	ROSO01	Good	Good
	RO	ROSO13	Good	Good

Description/Characterisation of the ICPDR GW-body	***Reasons for selection as an important transboundary GWB*** *The alluvial deposit of the Somes/Szamos River extends on both sides of the northern part of the Hungarian-Romanian border. It is also connected to the aquifer system lying in Ukraine close to the borders. The aquifer system supplies drinking water to a population of approx. 170,000 inhabitants in Romania and 50,000 inhabitants in Hungary. On the Hungarian side, due to the lowland character and upward flow system, the terrestrial ecosystems require surplus transpiration from groundwater; 7% of the area of the water body is under nature conservation. The recharge zone is in Romania and Ukraine, thus the available groundwater resource and the status of the terrestrial ecosystems on the Hungarian side depend on the lateral flow from the neighbouring countries. The Romanian and Hungarian parts of the water body complex are described below.* ***General description*** *The Somes/Szamos River has formed a 30–250 m thick alluvial deposit* *The aquifer is divided into several GWBs in both countries. Despite the differences in the delineation method of the two countries, it was possible to select the relevant water bodies from the transboundary point of view.* *Four water bodies containing cold water occur in Hungary. Two of them contain Quaternary strata from the surface to a depth of 30 m, namely the shallow GWBs (HU_AIQ649, HU_AIQ600). Underneath are the porous GWBs (HU_AIQ648, HU_AIQ601), which beside Quaternary strata include some parts of the Upper- Pannonian deposits as well, to a depth of 400–500 m corresponding to the surface separating cold and thermal waters.* *This Holocene-Pleistocene formation is divided vertically in Romania by the horizon separating the Upper- and Lower-Pleistocene strata. In Romania two water bodies are considered, overlapping each other, covering a surface of 1,440 km^2. According to the Hungarian approach of delineation, the cold part of the Upper-Pannonian and the Pleistocene and Holocene layers are vertically unified. The Hungarian part can be characterised only by an upward flow system, thus no further horizontal separation is applied. The area covered by the water body is 1,035 km2.* *In **Romania**, the shallow (Holocene-Upper-Pleistocene) aquifer is unconfined, consisting of sands, argillaceous sands, gravels and even boulders in the eastern part, and has a depth of*

	25–35 m. The silty-clayey covering layer is 5–15 m thick. *The deeper (Lower-Pleistocene) aquifer is confined (it is separated from the Upper-Pleistocene part by a clay layer); its bottom is declining from 30 m to 130 m below the surface from East to West. The gravely and sandy strata (characteristic to westwards from Satu-Mare town) represent the main aquifer for water supply in the region.* *In* ***Hungary*** *(as part of the cold water body), the Quaternary (Pleistocene) and Holocene strata are 50 m thick at the Ukrainian border and its continuously declining bottom is around 200 m below the surface at the western boundary. Mainly confined conditions characterise the Hungarian part, with a silty clayey covering layer of 1–6 m (increasing from the NE to the SW). The Quaternary aquifer is sand or gravelly sand, and the hydraulic conductivity ranges between 10- 30 m/d. It should be noted that the Hungarian water body includes the cold water bearing part of the Upper-Pannonian formation as well, to a depth of 400–500 m (under this level, thermal water of a temperature greater than 30 ºC can be found).* *Depth of the groundwater level (mainly pressure in confined area) below the surface ranges between 2 and 5 m in Hungary. The flow direction is from the ENE to the WSW in both countries, corresponding to the recharge and main discharge zones (rivers and area with groundwater level close to the surface).* *The recharge area is in the Romanian part of the water body (and in Ukraine). In Hungary the infiltrated amount from local recharge zones supplies neighbouring discharge zones and cannot be considered as part of the available groundwater resources.*
Description of **status** assessment methodology.	<u>Chemical status</u> ***Romania:*** *The methodology for the chemical status assessment followed the requirements of the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 – Guidance on Groundwater status and trend assessment.* *The first step is to check any exceedances of the quality standards and TVs which were established taken into consideration the NBL values. If no exceedances of the quality standards and TVs are recorded, the groundwater body is considered as being in good chemical status. If exceedances of TVs or quality standards are recorded the following relevant tests are carried out:* • *General assessment of the chemical status: Data aggregation is performed and it is checked whether the total area of exceedance is greater than 20% of the total area of the GWB. In case there are no exceedances, the test indicate a good status for the water body.* • *Saline or other intrusion: not relevant.* • *Significant diminution of associated surface water chemistry and ecology due to transfer of pollutants from the GWB: the location of the exceedance of the relevant TVs was not found in areas where pollutants might be transferred to surface waters; a comparison of the pollutant load transferred from the GWB to the surface water body with the total load in the surface water body did not exceed 50%. The test show a good status for the water body if these criteria are achieved.* • *Significant damage to GWDTEs due to transfer of pollutants from the GWB: No GWDTE was found to be damaged. The test show a good status for the water body if this criteria is achieved;* • *Meets the requirements of WFD Article 7(3) – Drinking Water Protected Areas: there is no evidence of increased treatment due to changes in water quality.* *To assess the chemical status of the groundwater bodies, the following steps are considered:* • *For each monitoring point the annual average concentrations for each indicator was calculated; for the metals the concentration of the dissolved form was considered;* • *For each monitoring point the annual average concentration of the each parameters was compared with the thresholds values (determined for each GWB) or standards value (nitrates and pesticides).* • *The GWB is of good chemical status when no EQS or TV is exceeded in any monitoring point.* • *The GWB is of poor chemical status when EQS or TV are exceeded at monitoring points representing more than 20% of the GWB surface.* ***Hungary:*** *Assessment of the chemical status of groundwater was conducted: Analysing of the*

	chemical data of individual monitoring points within each of the GWBs; Identifying of the pressures - sources of pollution; The background levels were calculated and used to determine threshold value. Threshold values have been determined according to CIS Guidance No. 18. Contamination limits have been determined for all indicators listed in Annex II Part B of Directive 2006/118/EC and indicators of the report under Art. 5 of Directive 2006/118/EC. *The following parameters were investigated:* *a) Natural Background Level was determined for the following components: nitrate, ammonium, specific conductivity, sulphate, chloride, arsenic, cadmium, lead, mercury, orthophosphate* *b) For each monitoring point the median concentration of each parameters of the studied period was compared to the thresholds values (determined for each GWB) or standards values (in the case of nitrates, metals and pesticides).* *c) Different tests were conducted to assess groundwater body status: Diffuse pollution test (nitrate, ammonium, orthophosphate), Drinking water supply tests for numerous elements or components in both drinking water wells and monitoring wells and trend analysis based on the data of the surveillance monitoring system. Studied components of these tests are: nitrate, ammonium, chloride, sulphate, specific conductivity, mercury, lead, cadmium, pesticides and organics, furthermore in the trend analysis pH and dissolved oxygen.* *d) Based on these tests, groundwater body was evaluated.* <u>Quantitative Status</u> ***Romania*****:** *The criterion for risk assessment of the quantity status is based on trend assessment evolution of the groundwater levels. The quantitative status has been assessed taking into account the CIS Guidance No.18. The following criteria have been used:* • *water balance* • *the connection with surface waters* • *the influence on the terrestrial ecosystems which depend directly on the GWB* • *the effects of saline or other intrusions* *The quantitative status analysis has been done for the GWB level by comparing the average of the hydrostatic level from 2017 (reference year) with the multiannual average levels during the observation period.* ***Hungary:*** *To determine the overall quantitative status for a GWB, a series of tests should be applied that considers the impacts of anthropogenically induced long-term alterations in groundwater level and/or flow. Each test will assess whether the GWB is meeting the relevant environmental objectives. The quantitative status has been assessed taking into account CIS Guidance No.18. The following criteria have been used:* • *<u>GW alteration (Drawdown) test</u>* • *Water Balance test* • *Surface Water Flow test* • *Groundwater Dependent Terrestrial Ecosystems (GWDTE)* • *Saline or other Intrusion test*
Groundwater threshold value relationships	<u>Receptors considered</u> ***Romania:*** *Drinking Water standards* ***Hungary:*** *Drinking water* <u>Consideration of NBL and EQS (environmental quality standards, drinking water standards) in the TV establishment:</u> ***Romania:*** *The methodology for TV establishment in Romania has been developed according to CIS Guidance No. 18. NBL are the key elements in the process of TV setting.* *As described previously, during the TV establishment, the NBL have been compared with the drinking water standards. The maximum allowable concentrations (MAC) provided by the Law no.458/2002 as amended, were chosen as TV where natural background levels (NBL) are smaller than MAC. Where background levels are higher than MAC, a small addition of 0.2*

	NBL was used, in order to avoid misclassification of the respective GWB (TV = NBL + 0.2 NBL = 1.2 NBL). *The updated list of TVs established for each GWB was published in the new Order of the Minster no. 621/2014 approving TV for groundwater bodies from Romania.* ***Hungary:*** *EQS for herbicides and total pesticides, tri-, tetrachloroethylenes based on 201/2001. (X.25.) Gov. decree and the 6/2009. (IV.14.) KvVM-EüM-FVM common ministerial decree in correspondence to I. Annex of the 2006/118/EC directive.* *In Hungary, more than 95% of drinking water ensured from subsurface waters, so for all other components the DWS is applicable.* *For those GWBs where the NBL was higher than the DWS due to natural hydro-geological reasons, the TVs for ammonium, SO4 and EC were defined by taking into account these higher values, as described in Guidance Document No. 18.*
Verbal description of the **trend** assessment methodology	***Romania:*** *In order to assess the trend in pollutant concentrations, the results of the chemical analysis from the monitoring points have been used. Minimum period of analysis was at least 10 years (2000-2011).* *The methodology for identifying significant upper trends consists in adjustment and aggregation of the data from each monitoring points on groundwater bodies. The trend analysis was done using the Gwstat program.* *The steps used for trend assessment were:* • *Identifying the monitoring points and the associated results of chemical analysis, assessment of data series, for each year of reference period (2000–2011)* • *Establishment of baseline concentration for each parameter as the average concentration registered during the year 2000* • *Calculation of annual average for the available data in each monitoring point* • *Significant upward trends were identified by Gwstat software, based on Anova Test* ***Hungary****: To assess the trend of pollutant concentrations, chemical data of the surveillance monitoring systems were used for the period of 2000 to 2012. The trend analysis was done using Matlab program package of Man-Kendall method with fitted Sen slope. The steps used for trend assessment were:* • *During the assessment trend of all components for all monitoring objects were created using yearly average data and excluding time series with less than 4 data points.* • *The trend of groundwater body level aggregates of yearly annual data were assessed as well.* • *Significant upward or downward trends were identified on 95 and 90% significance level using Man-Kendall method with Sen's slope.*
Verbal description of the **trend reversal** assessment methodology	***Romania:*** *Trend reversal assessment methodology consists also in the use of Gwstat software. This method assumes that the time series can be characterized by two linear trends with a slope change within the time interval (analysis period). Thus, by applying the 95% quantile of the distribution, a reversal of the trend is identified, if in the first section the slope of the trend is positive, and in the second section the slope of the trend is negative. The stages of the method of reversing the pollutant concentration tendency:* • *optimizing the choice of time sections regarding the shape of the resulting model;* • *examining the significance of the rift for the simple linear regression model based on the square of the residue sum;* • *conducting a statistical test to verify that the 2-sections model is significantly more than a simple regression model.* ***Hungary:*** *To assess the trend reversal of pollutant concentrations two consecutive time period was compared and evaluated*

Threshold values per GWB

	Pollutant / Indicator	*TV (or range) [unit]*	*NBL (or range) [unit]*	*Level of TV establishment (national, RBD,*	*Related to risk in this GWB*

				GWB)	[yes/-]
HU	Nitrates	50 mg/l	1-11.5 mg/l	GWB	-
HU	Ammonium	2-5 mg/l	1.5-3.3 mg/l	GWB	-
HU	Conductivity	2500 µS/cm	649-1787 µS/cm	GWB	-
HU	Sulfate	250 mg/l	17.8-184 mg/l	GWB	-
HU	Chloride	250 mg/l	21.4-138 mg/l	GWB	-
HU	Orthophosphate	0.5-2 mg/l	0.11-0.92 mg/l	GWB	
HU	Cadmium	5 µg/l	0.04-0.16 µg/l	national	-
HU	Lead	10 µg/l	0.38-4.7 µg/l	national	-
HU	Mercury	1 µg/l	0.005-0.27 µg/l	national	-
HU	Trichlorethylene	10 µg/l		national	-
HU	Tetrachloro ethylene	10 µg/l		national	-
HU	Absorbed organic halogens AOX	20 µg/l		national	-
HU	Pesticides by components	0,1 µg/l		national	-
HU	Pesticides all	0,5 µg/l		national	-
RO	Nitrates	50 mg/l		National	-
RO	Benzen	10 µg/l		National	-
RO	Tricloretilena	10 µg/l		National	-
RO	Tetracloretilena	10 µg/l		National	-
RO	Ammonium	0.5-1.3 mg/l	0.22-1.05 mg/l	GWB	-
RO	Chlorides	250 mg/l	19.46- 51.5 mg/l	GWB	-
RO	Sulphates	250 mg/l	19,01- 91.78 mg/l	GWB	-
RO	Nitrites	0.5 mg/l	0.08- 0.15 mg/l	GWB	-
RO	Phosphates	0.5 mg/l	0.16-0.41 mg/l	GWB	-
RO	Chromium	0.05 mg/l	0.0071-0.010 mg/l	GWB	-
RO	Nickel	0.02 mg/l	0.011-0.005 mg/l	GWB	-
RO	Copper	0.1 mg/l	0.0153-0.024 mg/l	GWB	-
RO	Zinc	5 mg/l	0.26-0.262 mg/l	GWB	-
RO	Cadmium	0,005 mg/l	0.00085-0.0023 mg/l	GWB	-
RO	Mercury	0,001 mg/l	0.000035-0.00002 mg/l	GWB	-
RO	Lead	0.03-0.07 mg/l	0.022-0.055 mg/l	GWB	-
RO	Arsenic	0.01mg/l	0.0021- 0.006 mg/l	GWB	-
RO	Phenols	0.002mg/l	0.001- 0.0013 mg/l	GWB	-

GWB-7: Upper Pannonian – Lower Pleistocene / Vojvodina / Duna-Tisza köze deli r.

GWB-7	National share	**HU-7** **RO-7** **RS-7**	Status 2021 for each national GWB?	
			Chemical (substance)	Quantity
List of individual GW-bodies forming the whole national share (national code incl. country code)	HU	HU_AIQ528	Good	Good
	HU	HU_AIQ523	Good	Good
	HU	HU_AIQ532	Good	Good
	HU	HU_AIQ487	Good	Good
	HU	HU_AIQ590	Good	Good
	HU	HU_AIQ529	Good	Poor
	HU	HU_AIQ522	Good	Poor
	HU	HU_AIQ533	Good	Poor
	HU	HU_AIQ486	Good	Poor
	HU	HU_AIQ591	Poor (NO_3)	Good
	RO	ROBA18	Good	Good
	RS	RS_TIS_GW_I_1	Good	Poor
	RS	RS_TIS_GW_SI_1	Good	Good
	RS	RS_TIS_GW_I_2	Good	Poor
	RS	RS_TIS_GW_SI_2	Good	Good
	RS	RS_TIS_GW_I_3	Good	Poor
	RS	RS_TIS_GW_SI_3	Good	Good
	RS	RS_TIS_GW_I_4	Good	Poor
	RS	RS_TIS_GW_SI_4	Good	Good
	RS	RS_TIS_GW_I_7	Good	Poor
	RS	RS_TIS_GW_SI_7	Good	Good
	RS	RS_D_GW_I_1	Good	Poor
	RS	RS_D_GW_SI_1	Good	Good

Description/Characterisation of the ICPDR GW-body	*The GWB is mainly used for drinking water supply, agricultural and industrial supplies. The criterion for selection as "important" consists in its size that exceeds 4,000 km².* *The whole aquifer system of the Danube-Tisza region stretches from the foothills of the northern mountainous region of Hungary to the Danube in Serbia, where the river flows to the south-east. The western boundary is the Danube itself downstream of Budapest in Hungary but after crossing the Hungarian border it enlarges towards Slavonia (western part of Backa in Croatia). The eastern boundary is somewhat east from the Tisza River in Hungary and in Serbia it includes the Banat as well, whose eastern part is in Romania. The Danube, Tisza and Timis Rivers are important discharge-lines but cannot be considered as pure hydrodynamic boundaries, since there is some flow under the river in the deeper aquifer that is not discharged into the river.* *The porous aquifer system between the Danube and Tisza Rivers is the biggest geological unit of the Pannonian Basin. It lies mainly in Hungary and Serbia, with a smaller part in Croatia and Romania. Serbia and Hungary have selected it as an important transboundary GWB complex because: (i) size, (ii) importance in supplying drinking water for the population and (iii) the need to satisfy the water demand of agriculture and industry, (iv) protected areas cover a large part of the GWB complex (protection zones for vulnerable drinking water resources, nature conservation areas and nitrate-sensitive areas).* *In **Serbia**, the area of the whole Dunav aquifer system is 17,435 km² (the areas of Backa and Banat). However, the transboundary importance is related only to the GWBs adjacent to the state borders with Hungary (a total of 6 GWBs: 3 shallow (RS_TIS_GW_SI_1; RS_TIS_GW_SI_2; RS_TIS_GW_SI_3) and 3 deep (RS_TIS_GW_I_1; RS_TIS_GW_I_2; RS_TIS_GW_I_3)) and with Romania (a total of 6 GWBs: 3 shallow (RS_TIS_GW_SI_4; RS_TIS_GW_SI_7; RS_D_GW_SI_1) and 3 deep (RS_TIS_GW_I_4; RS_TIS_GW_I_7; RS_D_GW_I_1). The area of water bodies situated towards Hungary is 5,647 km2 and towards Romania 4,859 km2, with a total aggregated area of 10,506 km2 for the Vojvodina GWB.* *In **Hungary**, the aquifer system is divided into several water bodies according to major subsurface catchment areas and downward-upward flow systems. For the transboundary conciliation, only the southern part of the aquifer system is considered, which includes 10 cold*

	water bodies. Five of them contain Quaternary strata from the surface to a depth of 23–30 m. Beneath these are five porous GWBs. Besides Quaternary strata, these include part of the Upper-Pannonian deposits as well, to a depth of 400–500 m corresponding to the surface and separating cold and thermal water bodies. The Hungarian part can be characterised by both upward and downward flow systems that are the basis for the horizontal separation of the GWBs. The area covered by these water bodies is 7,098 km2. The aquifer can be considered unconfined in the shallow GWBs, despite a considerable area where the water level is in the semi-permeable covering layer, and confined in the deeper ones. *The depth of the groundwater level below the surface ranges between 3 and 5 m in Hungary, with a maximum depth of 7–12 m in the main recharge zones (HU_AIQ529, HU_AIQ591 and HU_AIQ533).* *In **Romania**, the aquifer system covers around 11,408 km2 and is adjacent to the state border with Serbia. The GWB is generally confined, its covering strata being of Quaternary age. The depth of the groundwater level below surface ranges from 3–20 m. The protection degree of the GWB is very good. The main aquifer is the Quaternary alluvial deposit of the Danube lying on the Pannonian strata. Its thickness is a few tens of meters at the northern, western and southern boundary and increases up to 700 m in the middle of the basin (in the lower Tisza-valley). At the eastern boundary, the thick Quaternary deposit is a mixture of the alluvial deposits of the Danube and the Carpathian rivers. In respect to lithology, the aquifer consists of medium and coarse sands and gravely sands with inter-layers and lenses of silty sands and silty clays. Average hydraulic conductivity ranges between 5–30 m/d. The topographically elevated ridge between the Danube and the Tisza is formed of eolian sand with relatively good recharge conditions and phreatic groundwater. In the river valleys and east of the Tisza, mainly confined conditions appear. The depth of the fluvial-swamp silty clays and swamp clays overlying strata varies from 10-20 m in the western and southern part, and up to 100–125 m in the north-eastern part of Backa and in Banat. Here, prior to intensive groundwater abstraction, an artesian type of groundwater occurred.* *The main recharge area is in Hungary, in the eolian sand ridge, and in Romania. In Hungary, the estimated value of the recharge is approx. 220 Mm3/year. In Serbia, only local recharge areas exist (areas of the Deliblat Sands and the Subotica/Horgos Sands), thus the lateral flow crossing the border from the neighbouring country - as a component of the overall recharge - is very important.* *The groundwater is mainly discharged by the rivers (and drainage canals) and by the surplus of evapotranspiration from vegetation in the areas characterised by groundwater levels close to the surface. Small lakes and marshes in locally deeper areas (i.e. in topographic depressions) must be considered as local discharge areas – they are important from the nature conservation point of view. Besides natural discharge, there is also significant groundwater tapping for various uses (drinking water, agriculture, industry, irrigation etc.). In Vojvodina, the entire public water supply relies exclusively on groundwater from aquifers formed at different depths, from 20 m to more than 200 m.* *The direction of the groundwater flow in the upper part of the aquifer-system follows the topography and recharge-discharge conditions. At the Hungarian-Serbian border, the flow direction is almost parallel to the border (flowing slightly from Hungary towards Serbia). In the deeper part, the general flow direction is NW to SE i.e. from the Danube to the Tisza in Hungary and in Backa, while in Banat the general direction of the groundwater flow is from E to W. GWB is mainly used for drinking water supply, agricultural and industrial supplies. The criterion for selection as "important" consists in its size that exceeds 4000 km².*
Description of **status** assessment methodology.	Chemical status ***Romania:** The methodology for the chemical status assessment followed the requirements of the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 – Guidance on Groundwater status and trend assessment.* *The first step is to check any exceedances of the quality standards and TVs which were established taken into consideration the NBL values. If no exceedances of the quality standards and TVs are recorded, the groundwater body is considered as being in good chemical status. If exceedances of TVs or quality standards are recorded the following relevant tests are carried out:* • *General assessment of the chemical status: Data aggregation is performed and it is checked whether the total area of exceedance is greater than 20% of the total area of the GWB. In case there are no exceedances, the test indicate a good status for the*

	water body. • *Saline or other intrusion: not relevant.* • *Significant diminution of associated surface water chemistry and ecology due to transfer of pollutants from the GWB: the location of the exceedance of the relevant TVs was not found in areas where pollutants might be transferred to surface waters; a comparison of the pollutant load transferred from the GWB to the surface water body with the total load in the surface water body did not exceed 50%. The test show a good status for the water body if these criteria are achieved.* • *Significant damage to GWDTEs due to transfer of pollutants from the GWB: No GWDTE was found to be damaged. The test show a good status for the water body if this criteria is achieved;* • *Meets the requirements of WFD Article 7(3) – Drinking Water Protected Areas: there is no evidence of increased treatment due to changes in water quality.* *To assess the chemical status of the groundwater bodies, the following steps are considered:* • *For each monitoring point the annual average concentrations for each indicator was calculated; for the metals the concentration of the dissolved form was considered;* • *For each monitoring point the annual average concentration of the each parameters was compared with the thresholds values (determined for each GWB) or standards value (nitrates and pesticides).* • *The GWB is of good chemical status when no EQS or TV is exceeded in any monitoring point.* • *The GWB is of poor chemical status when EQS or TV are exceeded at monitoring points representing more than 20% of the GWB surface..* ***Hungary:*** *Assessment of the chemical status of groundwater was conducted: Analysing of the chemical data of individual monitoring points within each of the GWBs; Identifying of the pressures - sources of pollution; The background levels were calculated and used to determine threshold value. Threshold values have been determined according to CIS Guidance No. 18. Contamination limits have been determined for all indicators listed in Annex II Part B of Directive 2006/118/EC and indicators of the report under Art. 5 of Directive 2006/118/EC.* *The following parameters were investigated:* *a) Natural Background Level was determined for the following components: nitrate, ammonium, specific conductivity, sulphate, chloride, arsenic, cadmium, lead, mercury, orthophoshate* *b) For each monitoring point the median concentration of each parameters of the studied period was compared to the thresholds values (determined for each GWB) or standards values (in the case of nitrates, metals and pesticides).* *c) Different tests were conducted to assess groundwater body status: Diffuse pollution test (nitrate, ammonium, orthophoshate), Drinking water supply tests for numerous elements or components in both drinking water wells and monitoring wells and trend analysis based on the data of the surveillance monitoring system. Studied components of these tests are: nitrate, ammonium, chloride, sulphate, specific conductivity, mercury, lead, cadmium, pesticides and organics, furthermore in the trend analysis pH and dissolved oxygen.* *d) Based on these tests, groundwater body was evaluated.* ***Serbia:*** *The criteria for the chemical status assessment were: present groundwater quality, pressures and their impacts, natural protection (overlying strata),. Pressures and impacts where assessed on the basis of the census data at settlement level for the 2011 regarding demographics, sanitation and water supply practices (septic tanks, sewerage, water supply, connection rates) and agricultural census data from 2012 (livestock, Agricultural land use).* *The Census data was projected to 2016 for the purpose of STATUS assessment. Non agricultural land use pressures were evaluated on the basis of CORINE 2016 data set and CORINE CLASS specific pollution coefficients for BOD, TN. Pressures were evaluated for organic pollution and nutrients (Indicators used were BOD, TN). Pressure analysis were conducted for 160 analytical units (settlements covering the total area of ground water bodies).* *Monitoring data for 16 groundwater monitoring stations for the 12 GWB in Serbia covering a period from 2004 to 2018 was evaluated and stations with at least 5 years of data on*

	monitoring were selected for status and impact assessment. Parameters considered for the analysis included NO3 and pesticides. For each of the monitoring stations trend analysis were conducted on all available data (minimum for 5 years, maximum for 15 years). Trend significance was classified in terms of annual rate of increase/decrease in a manner that would lead to the exceedance of the threshold value for NO3 (50 mg/L as NO3) within 10 years in relation to the observed average NO3 concentration at any given station. Regression coefficient values were used as a measure of a level of confidence of the trend assessment so that if r2 value was above 0,7 trend assessment was to be considered as high confidence assessment, values of r2 between 0,4 and 0,7 lead to medium confidence of the trend assessment and values of r2 indicate that trend assessment is of low confidence. • *The GWB is of good chemical status when no TV is exceeded in any monitoring point and when no significant increasing trend is detected, and GW is not under significant pressure (Pressure is considered to be significant if total load on the GWB exceeds 10 kg TN-N/ha/yr)* • *The GWB is of poor chemical status when TV are exceeded at monitoring points representing more than 20% of the GW samples analysed at the particular monitoring point in the period from 2004 to 2018.* • *The GWB is declared under risk if observed trend would lead to the exceedance of the TV for NO3 within 10 if the observed trend continued at any of the monitoring stations for a given water body. The assessment of Risk is accompanied with level of confidence of the assessment.* <u>Quantitative Status</u> ***Romania***: *The criterion for risk assessment of the quantity status is based on trend assessment evolution of the groundwater levels. The quantitative status has been assessed taking into account CIS Guidance No.18. The following criteria have been used:* • *water balance* • *the connection with surface waters* • *the influence on the terrestrial ecosystems which depend directly on the GWB* • *the effects of saline or other intrusions* *The quantitative status analysis has been done for the GWB level by comparing the average of the hydrostatic level from 2017 (reference year) with the multiannual average levels during the observation period.* ***Hungary:*** *To determine the overall quantitative status for a GWB, a series of tests should be applied that considers the impacts of anthropogenically induced long-term alterations in groundwater level and/or flow. Each test will assess whether the GWB is meeting the relevant environmental objectives. The quantitative status has been assessed taking into account CIS Guidance No.18. The following criteria have been used:* • <u>*GW alteration (Drawdown) test*</u> • *Water Balance test* • *Surface Water Flow test* • *Groundwater Dependent Terrestrial Ecosystems (GWDTE)* • *Saline or other Intrusion test* ***Serbia:*** *Considering the risk of not achieving good quantitative status, groundwater bodies within which there is a registered trend of groundwater level decrease as a consequence of abstraction are considered to be at risk. For this purpose, data time series of registered groundwater levels were used only for shallow GWBs, since no organized monitoring of deep aquifers exists.* *For groundwater bodies where no quantitative monitoring exists, the estimate of groundwater balance is calculated, using available data on precipitation, abstraction etc. Assessment of risk from non-achievement of the good quantitative status until 2015 was carried out based on the criteria that average GW abstraction over several years < 50% of groundwater recharge, no substance intrusion into the body caused by the change of GW streaming direction and associated surface ecosystems are not endangered by GW abstraction.*
Groundwater	<u>Receptors considered:</u>

threshold value relationships	***Romania:*** *Drinking Water standards* ***Hungary:*** *Drinking water* ***Serbia:*** Consideration of NBL and EQS (environmental quality standards, drinking water standards) in the TV establishment: ***Romania:*** *The methodology for TV establishment in Romania has been developed according to CIS Guidance No. 18. NBL are the key elements in the process of TV setting.* *As described previously, during the TV establishment, the NBL have been compared with the drinking water standards. The maximum allowable concentrations (MAC) provided by the Law no.458/2002 as amended, were chosen as TV where natural background levels (NBL) are smaller than MAC. Where background levels are higher than MAC, a small addition of 0.2 NBL was used, in order to avoid misclassification of the respective GWB (TV = NBL + 0.2 NBL = 1.2 NBL).* *The updated list of TVs established for each GWB was published in the new Order of the Minster no. 621/2014 approving TV for groundwater bodies from Romania.* ***Hungary:*** *EQS for herbicides and total pesticides, tri-, tetrachloroethylenes based on 201/2001. (X.25.) Gov. decree and the 6/2009. (IV.14.) KvVM-EüM-FVM common ministerial decree in correspondence to I. Annex of the 2006/118/EC directive.* *In Hungary, more than 95% of drinking water ensured from subsurface waters, so for all other components the DWS is applicable.* *For those GWBs where the NBL was higher than the DWS due to natural hydro-geological reasons, the TVs for ammonium, SO4 and EC were defined by taking into account these higher values, as described in Guidance Document No. 18.* ***Serbia:***
Verbal description of the **trend** assessment methodology	***Romania:*** *In order to assess the trend in pollutant concentrations, the results of the chemical analysis from the monitoring points have been used. Minimum period of analysis was at least 17 years (2000-2017).* *The methodology for identifying significant upper trends consists in adjustment and aggregation of the data from each monitoring points on groundwater bodies. The trend analysis was done using the Gwstat program. The steps used for trend assessment were:* • *Identifying the monitoring points and the associated results of chemical analysis, assessment of data series, for each year of reference period (2000–2017)* • *Establishment of baseline concentration for each parameter as the average concentration registered during the year 2000* • *Calculation of annual average for the available data in each monitoring point* • *Significant upward trends were identified by Gwstat software, based on Anova Test* ***Hungary****: To assess the trend of pollutant concentrations, chemical data of the surveillance monitoring systems were used for the period of 2000 to 2012. The trend analysis was done using Matlab program package of Man-Kendall method with fitted Sen slope. The steps used for trend assessment were:* • *During the assessment trend of all components for all monitoring objects were created using yearly average data and excluding time series with less than 4 data points.* • *The trend of groundwater body level aggregates of yearly annual data were assessed as well.* *Significant upward or downward trends were identified on 95 and 90% significance level using Man-Kendall method with Sen's slope.* ***Serbia:*** *No methodology for trend assessment has been developed.*
Verbal description of the **trend reversal** assessment methodology	***Romania:****. Trend reversal assessment methodology consists also in the use of Gwstat software. This method assumes that the time series can be characterized by two linear trends with a slope change within the time interval (analysis period). Thus, by applying the 95% quantile of the distribution, a reversal of the trend is identified, if in the first section the slope of the trend is positive, and in the second section the slope of the trend is negative. The stages of the method of reversing the pollutant concentration tendency:* • *optimizing the choice of time sections regarding the shape of the resulting model;*

	• *examining the significance of the rift for the simple linear regression model based on the square of the residue sum;* • *conducting a statistical test to verify that the 2-sections model is significantly more than a simple regression model.* ***Hungary:*** *To assess the trend reversal of pollutant concentrations two consecutive time periods were compared and evaluated* ***Serbia:*** *No methodology for trend reversal assessment has been developed*

Threshold values per GWB

	Pollutant / Indicator	*TV (or range) [unit]*	*NBL (or range) [unit]*	*Level of TV establishment (national, RBD, GWB)*	*Related to risk in this GWB [yes/-]*
HU	*Nitrates*	*50 mg/l*	*0.5-9.6 mg/l*	*GWB*	*Yes*
HU	*Ammonium*	*2-5 mg/l*	*1.3-4.54 mg/l*	*GWB*	*-*
HU	*Conductivity*	*2500-4000 µS/cm*	*565-2004 µS/cm*	*GWB*	*-*
HU	*Sulfate*	*250-500 mg/l*	*5.6-373 mg/l*	*GWB*	*-*
HU	*Chloride*	*250 mg/l*	*8-183 mg/l*	*GWB*	*-*
HU	*Orthophosphate*	*1-5 mg/l*	*0.16-1.71 mg/l*	*GWB*	
HU	*Cadmium*	*5 µg/l*	*0.01-0.52µg/l*	*national*	*-*
HU	*Lead*	*10 µg/l*	*1-6 µg/l*	*national*	*-*
HU	*Mercury*	*1 µg/l*	*0.06-0.52 µg/l*	*national*	*-*
HU	*Trichlorethylene*	*10 µg/l*		*national*	*-*
HU	*Tetrachloro ethylene*	*10 µg/l*		*national*	*-*
HU	*Absorbed organic halogens AOX*	*20 µg/l*		*national*	*-*
HU	*Pesticides by components*	*0,1 µg/l*		*national*	*-*
HU	*Pesticides all*	*0.5 µg/l*		*national*	*-*
RO	*Nitrates*	*50 mg/l*		*National*	*-*
RO	*Benzen*	*10 µg/l*		*National*	*-*
RO	*Tricloretilena*	*10 µg/l*		*National*	*-*
RO	*Tetracloretilena*	*10 µg/l*		*National*	*-*
RO	*Ammonium*	*6.4 mg/l*	*5.33 mg/l*	*GWB*	*-*
RO	*Chlorides*	*250 mg/l*	*51.66 mg/l*	*GWB*	*-*
RO	*Sulphates*	*250 mg/l*	*69.47 mg/l*	*GWB*	*-*
RO	*Nitrites*	*0.5 mg/l*	*0.137 mg/l*	*GWB*	*-*
RO	*Phosphates*	*1 mg/l*	*0.774 mg/l*	*GWB*	*-*
RO	*Chromium*	*0.05 mg/l*	*0.00505 mg/l*	*GWB*	*-*
RO	*Nickel*	*0.02 mg/l*	*0.009573 mg/l*	*GWB*	*-*
RO	*Copper*	*0,1 mg/l*	*0.017913 mg/l*	*GWB*	*-*
RO	*Zinc*	*5 mg/l*	*0.350642 mg/l*	*GWB*	*-*
RO	*Cadmium*	*0.005 mg/l*	*0.000333 mg/l*	*GWB*	*-*
RO	*Mercury*	*0.001 mg/l*	*0.0004 mg/l*	*GWB*	*-*
RO	*Lead*	*0.01-mg/l*	*0.00744 mg/l*	*GWB*	*-*
RO	*Phenols*	*0.004 mg/l*	*0.003 mg/l*	*GWB*	*-*

GWB-8: Podunajska Basin, Zitny Ostrov / Szigetköz, Hanság-Rábca

GWB-8	National share	**HU-8** **SK-8**	Status 2021 for each national GWB?	
			Chemical (substance)	Quantity
List of individual GW-bodies forming the whole national share (national code incl. country code)	HU	HU_AIQ654	Good	Good
	HU	HU_AIQ572	Good	Good
	HU	HU_AIQ653	Good	Good
	HU	HU_AIQ573	Good	Good
	SK	SK1000300P	Good	Good
	SK	SK1000200P	Good	Good

Description/Characterisation of the ICPDR GW-body	***Slovak Republic:*** *The delineation consists of the following steps:* 1. *The aquifers are vertically divided in three floors: Quaternary sediments, Pre-quaternary strata containing cold waters, thermal aquifers (temperature > 25°C or it is considered as thermal by classification).* 2. *The pre-quaternary strata are further divided horizontally by geological types of the aquifer: volcanic rocks, other fissured rocks, karstic rocks, porous sediments.* 3. *Further separation is due to the borders of the surface catchment areas considered as river basin management units.* ***Hungary:*** *The delineation of groundwater bodies in Hungary has been carried out by:* 1. *Separation of the main geological features: porous aquifers in the basins, karstic aquifers, mixed formations of the mountainous regions, other than karstic aquifers.* 2. *Thermal water bodies are separated according to the temperature greater than 30 °C. In the case of porous aquifers it is done vertically, while in karstic aquifers horizontally. There are no thermal aquifers in the mountainous regions other than karstic.* 3. *Further division is related to the subsurface catchment areas and vertical flow system (in the case of porous aquifers) and to the structural and hydrological units (in the case of karstic aquifers and mountainous regions).* *For transboundary water bodies the more detailed further characterisation is carried out (n.b. because of the numerous transboundary water bodies and the expected further 20–30 % due to the risk of failing good status, Hungary decided to apply the methodology of further characterisation for all water bodies).* ***Reasons for selecting as important transboundary GWB*** *The large alluvial deposit of the River Danube downstream Bratislava lies in three countries: Slovakia (Podunajská lowland and its part: Žitný ostrov), Hungary (Northern part of Kisalföld including the Szigetköz) and in Austria. The aquifer system has been considered by Slovakia and Hungary as an important transboundary aquifer because of (i) its size, (ii) the unique amount of available groundwater resource and the important actual use for drinking water and other purposes as well (iii) the groundwater dependent terrestrial ecosystem of the floodplain, (iv) majority of the area is protected (protection zones of drinking water abstraction sites, nitrate sensitive areas, nature conservation areas), (v) the existence of the Gabcikovo Hydropower System.* ***General description*** *The Danube has been playing the decisive role in the formation of the aquifer system. The main aquifer is made up of 15–500 m thick Quaternary alluvia: hydraulically connected mixture of sands, gravels, intercalated with numerous clay and silt lenses. The average hydraulic conductivity is in the range of 100–500 m/day providing extremely high transmissivity, especially in the centre of the basin. Here, the bottom of the underlying Pannonian deposits is at a depth of 3,500 m.* *The aquifer is divided into several groundwater bodies in both countries. Despite the differences in the delineation method of the two countries, it was possible to select the relevant water bodies from transboundary point of view: two water bodies containing cold water in Hungary, which beside the Quaternary strata include some part of the Upper-Pannonian deposits as well, to the depth of 400–500 m corresponding to the surface separating cold and thermal waters (1,152 km2) and two Quaternary water bodies in Slovakia (2,186 km2) have*

	been selected, i.e. 3,338 km2 in total (see the summary table above). *The aquifer can be considered as unconfined, despite the considerable area where the water level is in the semi-permeable covering layer.* *Due to the high transmissivity of the aquifer, the groundwater regime and groundwater quality mainly depend on the surface water. The flow system and the type of covering layer provide surplus recharge condition in the majority of the area, but the main source of groundwater recharge is the Danube. Before the construction of the hydropower system (1992), the riverbed had been the infiltration surface, and the Danube's line had been the hydraulic boundary between the countries as well (in upper parts of Danube stream between Devín and Hrušov, approximately since 1970's, river bed started to drain groundwater). In the actual situation, the artificial recharge system is the main source for the vicinity of the Danube, but a remaining part of the aquifers in the Hungarian territory is recharged by the Čunovo reservoir. Where the reservoir is in the neighbourhood of the main channel (between Rajka and Dunakiliti) considerable transboundary groundwater flow appears under the Danube. The Danube's river bed downstream the reservoir – due to the derived flow and the consequently decreased average water level - drains the neighbouring groundwater, causing considerable drop of groundwater level in the imminent vicinity of the river bed. Both the quantity and the quality of the recharge from the reservoir highly depend on the continuously increasing deposit in the reservoir and the developing physico-chemical processes. Deposits in the reservoir are extracted. Signs of long-term changes of quantity and quality of recharge caused by continuously increasing deposit in the reservoir were not observed in the Slovak part of the aquifer yet.* *The depth of the groundwater table varies between 2 and 5 m. The wetting conditions of the covering layer has substantially changed along the Danube and in the lower Szigetköz, where prior to the derivation of the Danube the groundwater has fluctuated in the covering layer and the existing artificial recharge system does not compensate sufficiently the former influence of the Danube. On the Slovak territory, annual artificial flooding of the river system in the high water periods seems to efficiently supply groundwater as well as the soil moisture resources.*
Description of **status** assessment methodology.	<u>Chemical Status</u> ***Slovak Republic:*** *The methodology for assessing chemical status followed the requirements of the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 - Guidance on groundwater status and trend assessment. The assessment of the chemical status of GWB in the conditions of the Slovak Republic consisted of the following tests:* *1. General quality assessment (GQA) test - years 2016-2017.* *2. Drinking water protected areas (DWPA) test - period 2008-2017.* *3. Test of significant diminution of associated surface water chemistry and ecology due to transfer of pollutant from the GWB - named as Surface water test - period 2013-2018.* *For all tests, the procedure was based on a comparison of the arithmetic means of the concentration of the individual component with quality standards (QS) or thresholds values (TV) for each monitoring point. If no exceedances of the QS/TV were recorded in all monitoring points, the whole GWB was evaluated in good chemical status. If exceedances of QS/TVs were recorded than the methodologies were as follows:* *In the GQA or DWPA test, data aggregation to whole GWB was performed. If the calculated total area of exceedance of the QS/TV was less than 20% of the total area of the GWB, the GWB was evaluated in good status. If the exceedance more than 20% of the total area of the GWB was recorded and based on expert judgment, the GWB was evaluated in poor chemical status.* *In the Surface water test, each GWB (with the relevant groundwater monitoring point) associated with the surface water body was assessed individually, taking into account the hydrological criterion, the hydrogeological criterion, the groundwater and surface water concentration profile, dilution (if data available) and that the estimated load of pollutant from groundwater transferred to associated surface water could be more than 50%, the GWB was evaluated in poor chemical status.* ***Hungary:*** *Assessment of the chemical status of groundwater was conducted: Analysing of the chemical data of individual monitoring points within each of the GWBs; Identifying of the pressures - sources of pollution; The background levels were calculated and used to determine*

	threshold value. Threshold values have been determined according to CIS Guidance No. 18. Contamination limits have been determined for all indicators listed in Annex II Part B of Directive 2006/118/EC and indicators of the report under Art. 5 of Directive 2006/118/EC. *The following parameters were investigated:* *a) Natural Background Level was determined for the following components: nitrate, ammonium, specific conductivity, sulphate, chloride, arsenic, cadmium, lead, mercury, orthophosphate* *b) For each monitoring point the median concentration of each parameters of the studied period was compared to the thresholds values (determined for each GWB) or standards values (in the case of nitrates, metals and pesticides).* *c) Different tests were conducted to assess groundwater body status: Diffuse pollution test (nitrate, ammonium, orthophosphate), Drinking water supply tests for numerous elements or components in both drinking water wells and monitoring wells and trend analysis based on the data of the surveillance monitoring system. Studied components of these tests are: nitrate, ammonium, chloride, sulphate, specific conductivity, mercury, lead, cadmium, pesticides and organics, furthermore in the trend analysis pH and dissolved oxygen.* *d) Based on these tests, groundwater body was evaluated.* <u>Quantitative Status</u> ***Hungary:*** *To determine the overall quantitative status for a GWB, a series of tests should be applied that considers the impacts of anthropogenically induced long-term alterations in groundwater level and/or flow. Each test will assess whether the GWB is meeting the relevant environmental objectives. The quantitative status has been assessed taking into account CIS Guidance No.18. The following criteria have been used:* • *<u>GW alteration (Drawdown) test</u>* • *Water Balance test* • *Surface Water Flow test* • *Groundwater Dependent Terrestrial Ecosystems (GWDTE)* • *Saline or other Intrusion test* ***Slovak Republic:*** *Assessment of groundwater quantitative status consists of 4 tests:* *1. balance assessment of groundwater bodies for the period 2013-2017 and evaluation of the long-term trend of development of balance levels of groundwater bodies for the period 2004-2018* *2. evaluation of the existence of significant declining trends in the groundwater level and spring yield in groundwater bodies for the period 2007-2016 processed by aggregation of point results of groundwater quantity monitoring in the facilities of the state hydrological network of the SHMI* *3. assessment of the impact of groundwater quantity on the status of terrestrial ecosystems dependent on groundwater* *4. assessment of the impact of groundwater quantity on surface water.*
Groundwater threshold value relationships	<u>Receptors considered</u> ***Slovak Republic:*** *Drinking water, Surface water* ***Hungary:*** *Drinking water* <u>Consideration of NBL and EQS (environmental quality standards, drinking water standards, surface water standards) in the TV establishment:</u> ***Slovak Republic:*** *The natural background level (NBL) was determined and used to derive the threshold value (TV). The TV were determined for all indicators listed in Part B of Annex II to Directive 2006/118/EC and in Directive 2014/80/EU. The TV for the inorganic substances were derived according to the formula: TV = (NBL + DWS)/2. The TV for organic compounds were derived using the formula: TV = 0.75 * DWS. These TV were used for GQA and DWPA tests.* *An updated list of the TV established for each GWB was published in the amended Regulation of the Government of the Slovak republic no. 282/2010 Coll.*

	*For the Surface water test, the TV were derived as follows: TV = CV = AF * EQS (surface water standard)/DF, where AF (Attenuation factor) and DF (Dilution factor) are equal to 1 (the worst case).* *For that GWB where the NBL was higher than the TV due to natural hydro-geological reasons, the TV was set up as TV = NBL.* ***Hungary:** EQS for herbicides and total pesticides, tri-, tetrachloroethylenes based on 201/2001. (X.25.) Gov. decree and the 6/2009. (IV.14.) KvVM-EüM-FVM common ministerial decree in correspondence to I. Annex of the 2006/118/EC directive.* *In Hungary, more than 95% of drinking water ensured from subsurface waters, so for all other components the DWS is applicable.* *For those GWBs where the NBL was higher than the DWS due to natural hydro-geological reasons, the TVs for ammonium, SO4 and EC were defined by taking into account these higher values, as described in Guidance Document No. 18.*
Verbal description of the **trend** assessment methodology	***Slovak Republic:** Trend is assessed separately for groundwater quality and quantity at which for trends in quantity the procedure applies for all GW quantity monitoring sites. The assessment follows a stepwise procedure. Consisting of the evaluation of the data sets and the monitoring points (no gaps in time series are allowed and data from 2007–2016 were used), consisting of the performance of the non-parametric Mann-Kendall trend test (95% confidence level) and comprising the regression analysis. GWBs with decreasing trends but with no evidence of abstraction are excluded from assessment in the 2nd RBMP. For assessing trends in concentrations of pollutants in groundwater the evaluation period was 2007–2016. The results of surveillance and operational monitoring were applied for the assessment. Monitoring frequency depends on the GWB type. In the analysis the values <LOQ are replaced by LOQmax/2. Trend assessment is only performed if the number of values <LOQ is less than 50%. Non-parametric Mann-Kendall test with 5% significance level was applied for trend evaluation. For time series showing a normal distribution, the statistical significance of the trend was also tested by the parametric method (ANOVA) with 5% significance level. Than for all times series with statistically significant upwards trends, the statistically significant upward trend was evaluated and identified if the median of the values measured over the last 2 years was higher than 0.75 * QS/TV or the calculated predicted value of the linear trend up to 2026 (regression model calculated by the least squares method or Sen's nonparametric procedure) was higher than QS/TV. The significant sustained upward trends of pollutant concentrations were identified at the level of monitoring points and at the GWB level.* *The starting point for trend reversal was placed where the concentration of the pollutant reaches 75% of the QS/TV of the relevant pollutant.* ***Hungary**: To assess the trend of pollutant concentrations, chemical data of the surveillance monitoring systems were used for the period of 2000 to 2012. The trend analysis was done using Matlab program package of Man-Kendall method with fitted Sen slope. The steps used for trend assessment were:* • *During the assessment trend of all components for all monitoring objects were created using yearly average data and excluding time series with less than 4 data points.* • *The trend of groundwater body level aggregates of yearly annual data were assessed as well.* *Significant upward or downward trends were identified on 95% significance level using Man-Kendall method with Sen's slope.*
Verbal description of the **trend reversal** assessment methodology	***Slovak Republic:** Trend reversal assessment methodology consists also in the use of GWstat software. Time series were included in the assessment, on the basis of which significant sustained upward trends at the level of groundwater bodies were classified. The time series entering the evaluation were supplemented by data monitored in previous years so that the evaluation period was 14 years. The evaluation was performed by dynamically dividing the time series into two sections with different lengths and then evaluating the statistical significance of the trends separately for each allocated section. A reversal of the trend was indicated if the following conditions were met at the same time: the statistical significance of the trends evaluated within individual sections is higher than the statistical significance of the trend evaluated on the basis of all data forming the evaluated time series, the section representing the results of monitoring in the older period shows a statistically significant*

	upward trend, which is followed by a statistically significant decreasing trend evaluated on the basis of the results of monitoring in the newer period ***Hungary: To assess the trend reversal of pollutant concentrations two consecutive time period was compared and evaluated***

Threshold values per GWB

	Pollutant / Indicator	*TV (or range) [unit]*	*NBL (or range) [unit]*	*Level of TV establishment (national, RBD, GWB)*	*Related to risk in this GWB [yes/-]*
HU	*Nitrates*	*50 mg/l*	*2.9-12 mg/l*	*GWB*	-
HU	*Ammonium*	*1-2 mg/l*	*0.4-0.86 mg/l*	*GWB*	-
HU	*Conductivity*	*2500 µS/cm*	*657-1030 µS/cm*	*GWB*	-
HU	*Sulfate*	*250 mg/l*	*88.8-220 mg/l*	*GWB*	-
HU	*Chloride*	*250 mg/l*	*30-49.7 mg/l*	*GWB*	-
HU	*Orthophosphate*	*1 mg/l*	*0.24-0.44 mg/l*	*GWB*	
HU	*Cadmium*	*5 µg/l*	*0.17-1.1 µg/l*	*national*	-
HU	*Lead*	*10 µg/l*	*1.9-3.1 µg/l*	*national*	-
HU	*Mercury*	*1 µg/l*	*0.07-0.2 µg/l*	*national*	-
HU	*Trichlorethylene*	*10 µg/l*		*national*	-
HU	*Tetrachloro ethylene*	*10 µg/l*		*national*	-
HU	*AOX*	*20 µg/l*		*national*	-
HU	*Pesticides by components*	*0,1 µg/l*		*national*	-
HU	*Pesticides all*	*0,5 µg/l*		*national*	-
SK1000300P	*Ammonium*	*0.26 mg/l*	*0.02 mg/l*	*GWB*	*Yes*
	Arsenic	*6 µg/l*	*2 µg/l*	*GWB*	-
	Benzene	*0.8 µg/l*	-	*national*	-
	Cadmium	*3.0 µg/l*	*1 µg/l*	*GWB*	-
	Chloride	*137.3 mg/l*	*24.6 mg/l*	*GWB*	-
	Chromium	*26 µg/l*	*2 µg/l*	*GWB*	-
	Copper	*1002 µg/l*	*4 µg/l*	*GWB*	-
	Iron total	*0.135 mg/l*	*0.07 mg/l*	*GWB*	-
	Lead	*7.0 µg/l*	*4 µg/l*	*GWB*	-
	Manganese	*0.030 mg/l*	*0.01 mg/l*	*GWB*	-
	Mercury	*0.8 µg/l*	*0.5 µg/l*	*GWB*	-
	Nitrates	*50 mg/l*	*6.6 mg/l*	*GWB*	-
	Nitrites	*0.26 mg/l*	*0.01 mg/l*	*GWB*	-
	Phosphates	*0.22 mg/l*	*0.04 mg/l*	*GWB*	-
	Sodium	*104.5 mg/l*	*8.9 mg/l*	*GWB*	-
	Sulphates	*157.6 mg/l*	*65.2 mg/l*	*GWB*	-
	Tetrachloroethylen	*7.5* µg/l*	-	*national*	-
	Trichlorethylene	*7.5* µg/l*	-	*national*	-
SK1000200P	*Ammonium*	*0.26 mg/l*	*0.01 mg/l*	*GWB*	-
	Arsenic	*6 µg/l*	*2 µg/l*	*GWB*	-
	Benzene	*0.8 µg/l*	-	*national*	-
	Cadmium	*3.0 µg/l*	*1 µg/l*	*GWB*	-
	Chloride	*135.8 mg/l*	*21.5 mg/l*	*GWB*	-
	Chromium	*26 µg/l*	*1 µg/l*	*GWB*	-
	Copper	*1001 µg/l*	*2 µg/l*	*GWB*	-
	Iron total	*0.125 mg/l*	*0.05 mg/l*	*GWB*	-
	Lead	*6.5 µg/l*	*3 µg/l*	*GWB*	-
	Manganese	*0.030 mg/l*	*0.01 mg/l*	*GWB*	-
	Mercury	*0.7 µg/l*	*0.4 µg/l*	*GWB*	-
	Nitrates	*50 mg/l*	*14.2 mg/l*	*GWB*	-
	Nitrites	*0.26 mg/l*	*0.01 mg/l*	*GWB*	-
	Phosphates	*0.22 mg/l*	*0.04 mg/l*	*GWB*	-
	Sodium	*105.8 mg/l*	*11.5 mg/l*	*GWB*	-

	Sulphates	*148.9 mg/l*	*47.8 mg/l*	*GWB*	-
	Tetrachloroethylen	*7.5* µg/l*	-	*national*	-
	Trichlorethylene	*7.5* µg/l*	-	*national*	-

* 7.5 for Tetrachloroethylene + Trichlorethylene

GWB-9: Bodrog

<table>
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At the common eastern border of Slovakia and Hungary, the alluvial aquifer system corresponding to the Bodrog River catchment area in Slovakia and the Tisza-valley between Záhony and Tokaj (confluence with the Bodrog River) has been selected as important due to (i) its significance in meeting the water demand of the region, (ii) contamination threat of the groundwater in the vicinity of state border between Slovakia and Hungary. Some part of the water aquifer system is in Ukraine.
General description
The aquifer is the alluvial deposit of the Bodrog River and its tributaries. The Tisza divides the lowland area in Hungary into Bodrogköz (northern part) and Rétköz (Southern part). Holocene silty-clayey layers cover the surface with peaty areas. The Quaternary aquifer is around 60 m thick in the Slovakian side and its thickness gradually increases in Hungary towards the South (50-200 m). The fluvial sediments (from sandy gravels in the North to sands is the South with intercalated silt and clay lenses) can be characterized by 5 – 30 m/d hydraulic conductivity.
In the Slovakian part only the Quaternary aquifer system is part of the transboundary water body-complex while in Hungary the Upper part of the Pannonian formation is also attached (depth is app. 500 m, corresponding to water temperature less than 30°C).
The main recharge area is in the Slovakian territory. The rain waters infiltrate at the marginal mountains and penetrate into permeable deep aquifers. In the upstream part of the catchment area surface waters also contribute to the recharge. In the Slovakian side the water bodies are mainly unconfined or in some places partly confined. In Hungary both water bodies are in discharge position and the main aquifers can be considered as confined. Here the groundwater level lies close to (between 2 and 4 m below) the surface. Where it is around 2 m below the surface, the groundwater can considerably contribute to the transpiration need of the vegetation, which are adapted to that condition, and consequently they are very sensitive to the status of the groundwater. The surplus of evapotranspiration and the artificial drainage system (canals) collect the upward groundwater flow. From South, the sandy hills of Nyírség contribute to the discharged groundwater as well, but the boundary of the waters of different origin is not exactly known (that is why both discharge areas in Hungary have been attached to the transboundary aquifer). The general direction of the groundwater flow is N-S (NE-SW) to the North of the Tisza River and SE-NW in the Rétköz and uncertain below the Tisza.
The regional hydro-geochemical picture follows the flow system. Close to the river bed sections recharging groundwater, the water quality is almost the same as in surface streams. Generally low TDS, Ca-Mg-HCO3 type waters occur in the recharge areas, Na-HCO3 waters dominate in the middle and western part of Rétköz, and mixture of these two types in the western part of Bodrogköz region. At the centre of the Bodrogköz, elevated Cl-content indicates strong upward migration from the deeper zones.
The major water quality problem of natural origin in the Bodrogköz Quaternary aquifer complex is the high iron and manganese content (reducing conditions). In the Rétköz elevated (10–30 µ/l) arsenic-content occurs.
The estimated amount of available groundwater resources is almost 50 Mm3/year in the Slovakian part, out of that 10–15 Mm3/year should be maintained as lateral flow towards the Hungarian part. It is to be mentioned, that the southern part of the Hungarian discharge area receives water from the southern recharge areas as well, but no local recharge can be considered available for abstraction in the Bodrogköz and Rétköz.
Major pressures and impacts
The groundwater is mainly used for drinking water supply, but partially for industrial and</td></tr>
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	agricultural purposes (inc. irrigation) as well. The use ratio is quite low in Slovakia: only 10 %. The development is limited by occurrence of technologically inappropriate substances in water (Mn, Fe) and sometimes also by groundwater pollution from surface waters, industry, agriculture and transport infrastructure (Strážske, Hencovce, Michalovce, Čierna nad Tisou). *In Hungary the available groundwater resources of the two water bodies are quite different. In the northern part, which is in close relation to the Slovakian part, the water demand of the groundwater dependent aquatic and terrestrial ecosystems can be estimated at 5–8 Mm3/d, thus the available groundwater resources is in the range of 5–7 Mm3/year. The abstracted amount of groundwater is 3 Mm3/year, so the ratio is around 50 %, but the majority is concentrated to Ronyva/Roňava river valley. In the southern part, the lateral flow from the recharge zone of Nyírség (app. 30 Mm3/year) provides sufficient water for the minimum water demand of ecosystems (8-12 Mm3/year) and for 8 Mm3/year of abstraction.* *In Hungary 10 significant point sources of pollution have been registered. The shallow groundwater has usually high nitrate under the settlements, because of the inappropriate handling of manure and the totally or partially missing sewer systems. The agriculture contributes to the pollution as well, through use of chemicals. The estimated amunt of surplus Nitrogen is 15 kgN/ha/year originated from the use of 88 kgN/ha/year fertilizer and 13 kgN/year manure.* *The groundwater quality in Slovakia is monitored in 17 sampling sites, groundwater samples are taken from the first aquifer 2 times per year). The Hungarian water quality monitoring is concentrating in the surrounding of waterworks. The quality of the Ronyva/Roňava aquifer close to the waterworks of Sátoraljaújhely shows increasing tendency of Nitrate pollution: the average concentration is around 30 mg/l, and in one production well the Nitrate-concentration exceeds the limit value of 50 mg/l. Information on pollution in arable lands is practically missing in this region.* *The high vulnerability of groundwater and the expected future development in water demand requires high level of protection in the Slovakian part of the region mainly oriented to measures focused on industrial pollution sources. In Hungary the protection zones of the waterworks (5 %) need special attention.*
Description of **status** assessment methodology.	Chemical Status ***Slovak Republic:*** *The methodology for assessing chemical status followed the requirements of the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 - Guidance on groundwater status and trend assessment. The assessment of the chemical status of GWB in the conditions of the Slovak Republic consisted of the following tests:* 1. *General quality assessment (GQA) test - years 2016-2017.* 2. *Drinking water protected areas (DWPA) test - period 2008-2017.* 3. *Test of significant diminution of associated surface water chemistry and ecology due to transfer of pollutant from the GWB - named as Surface water test - period 2013-2018.* *For all tests, the procedure was based on a comparison of the arithmetic means of the concentration of the individual component with quality standards (QS) or thresholds values (TV) for each monitoring point. If no exceedances of the QS/TV were recorded in all monitoring points, the whole GWB was evaluated in good chemical status. If exceedances of QS/TVs were recorded than the methodologies were as follows:* *In the GQA or DWPA test, data aggregation to whole GWB was performed. If the calculated total area of exceedance of the QS/TV was less than 20% of the total area of the GWB, the GWB was evaluated in good status. If the exceedance more than 20% of the total area of the GWB was recorded and based on expert judgment, the GWB was evaluated in poor chemical status.* *In the Surface water test, each GWB (with the relevant groundwater monitoring point) associated with the surface water body was assessed individually, taking into account the hydrological criterion, the hydrogeological criterion, the groundwater and surface water concentration profile, dilution (if data available) and that the estimated load of pollutant from groundwater transferred to associated surface water could be more than 50%, the GWB was evaluated in poor chemical status.* ***Hungary:*** *Assessment of the chemical status of groundwater was conducted: Analysing of the chemical data of individual monitoring points within each of the GWBs; Identifying of the*

	pressures - sources of pollution; The background levels were calculated and used to determine threshold value. Threshold values have been determined according to CIS Guidance No. 18. Contamination limits have been determined for all indicators listed in Annex II Part B of Directive 2006/118/EC and indicators of the report under Art. 5 of Directive 2006/118/EC. *The following parameters were investigated:* *a) Natural Background Level was determined for the following components: nitrate, ammonium, specific conductivity, sulphate, chloride, arsenic, cadmium, lead, mercury, orthophosphate* *b) For each monitoring point the median concentration of each parameters of the studied period was compared to the thresholds values (determined for each GWB) or standards values (in the case of nitrates, metals and pesticides).* *c) Different tests were conducted to assess groundwater body status: Diffuse pollution test (nitrate, ammonium, orthophosphate), Drinking water supply tests for numerous elements or components in both drinking water wells and monitoring wells and trend analysis based on the data of the surveillance monitoring system. Studied components of these tests are: nitrate, ammonium, chloride, sulphate, specific conductivity, mercury, lead, cadmium, pesticides and organics, furthermore in the trend analysis pH and dissolved oxygen.* *d) Based on these tests, groundwater body was evaluated.* <u>Quantitative Status</u> ***Hungary:** To determine the overall quantitative status for a GWB, a series of tests should be applied that considers the impacts of anthropogenically induced long-term alterations in groundwater level and/or flow. Each test will assess whether the GWB is meeting the relevant environmental objectives. The quantitative status has been assessed taking into account CIS Guidance No.18. The following criteria have been used:* • *<u>GW alteration (Drawdown) test</u>* • *Water Balance test* • *Surface Water Flow test* • *Groundwater Dependent Terrestrial Ecosystems (GWDTE)* • *Saline or other Intrusion test* ***Slovak Republic:**. Assessment of groundwater quantitative status consists of 4 tests:* *1. balance assessment of groundwater bodies for the period 2013-2017 and evaluation of the long-term trend of development of balance levels of groundwater bodies for the period 2004-2018* *2. evaluation of the existence of significant declining trends in the groundwater level and spring yield in groundwater bodies for the period 2007-2016 processed by aggregation of point results of groundwater quantity monitoring in the facilities of the state hydrological network of the SHMI* *3. assessment of the impact of groundwater quantity on the status of terrestrial ecosystems dependent on groundwater* *4. assessment of the impact of groundwater quantity on surface water*
Groundwater threshold value relationships	<u>Receptors considered</u> ***Slovak Republic:** Drinking water, Surface water* ***Hungary:** Drinking water* <u>Consideration of NBL and EQS (environmental quality standards, drinking water standards, surface water standards) in the TV establishment:</u> ***Slovak Republic:** The natural background level (NBL) was determined and used to derive the threshold value (TV). The TV were determined for all indicators listed in Part B of Annex II to Directive 2006/118/EC and in Directive 2014/80/EU. The TV for the inorganic substances were derived according to the formula: TV = (NBL + DWS)/2. The TV for organic compounds were derived using the formula: TV = 0.75 * DWS. These TV were used for GQA and DWPA tests.* *An updated list of the TV established for each GWB was published in the amended Regulation of the Government of the Slovak republic no. 282/2010 Coll.* *For the Surface water test, the TV were derived as follows: TV = CV = AF * EQS (surface water standard)/DF, where AF (Attenuation factor) and DF (Dilution factor) are equal to 1*

	(the worst case). *For that GWB where the NBL was higher than the TV due to natural hydro-geological reasons, the TV was set up as TV = NBL.* ***Hungary:*** *EQS for herbicides and total pesticides, tri-, tetrachloroethylenes based on 201/2001. (X.25.) Gov. decree and the 6/2009. (IV.14.) KvVM-EüM-FVM common ministerial decree in correspondence to I. Annex of the 2006/118/EC directive.* *In Hungary, more than 95% of drinking water ensured from subsurface waters, so for all other components the DWS is applicable.* *For those GWBs where the NBL was higher than the DWS due to natural hydro-geological reasons, the TVs for ammonium, SO4 and EC were defined by taking into account these higher values, as described in Guidance Document No. 18.*
Verbal description of the **trend** assessment methodology	***Slovak Republic:*** *Trend is assessed separately for groundwater quality and quantity at which for trends in quantity the procedure applies for all GW quantity monitoring sites. The assessment follows a stepwise procedure. Consisting of the evaluation of the data sets and the monitoring points (no gaps in time series are allowed and data from 2007–2016 were used), consisting of the performance of the non-parametric Mann-Kendall trend test (95% confidence level) and comprising the regression analysis. GWBs with decreasing trends but with no evidence of abstraction are excluded from assessment in the 2nd RBMP. For assessing trends in concentrations of pollutants in groundwater the evaluation period was 2007–2016. The results of surveillance and operational monitoring were applied for the assessment. Monitoring frequency depends on the GWB type. In the analysis the values <LOQ are replaced by LOQmax/2. Trend assessment is only performed if the number of values <LOQ is less than 50%. Non-parametric Mann-Kendall test with 5% significance level was applied for trend evaluation. For time series showing a normal distribution, the statistical significance of the trend was also tested by the parametric method (ANOVA) with 5% significance level. Than for all times series with statistically significant upwards trends, the statistically significant upward trend was evaluated and identified if the median of the values measured over the last 2 years was higher than 0.75 * QS/TV or the calculated predicted value of the linear trend up to 2026 (regression model calculated by the least squares method or Sen's nonparametric procedure) was higher than QS/TV. The significant sustained upward trends of pollutant concentrations were identified at the level of monitoring points and at the GWB level.* *The starting point for trend reversal was placed where the concentration of the pollutant reaches 75% of the QS/TV of the relevant pollutant.* ***Hungary****: To assess the trend of pollutant concentrations, chemical data of the surveillance monitoring systems were used for the period of 2000 to 2012. The trend analysis was done using Matlab program package of Mann-Kendall method with fitted Sen slope. The steps used for trend assessment were:* • *During the assessment trend of all components for all monitoring objects were created using yearly average data and excluding time series with less than 4 data points.* • *The trend of groundwater body level aggregates of yearly annual data were assessed as well.* *Significant upward or downward trends were identified on 95% significance level using Mann-Kendall method with Sen's slope.*
Verbal description of the **trend reversal** assessment methodology	***Slovak Republic:*** *Trend reversal assessment methodology consists also in the use of GWstat software. Time series were included in the assessment, on the basis of which significant sustained upward trends at the level of groundwater bodies were classified. The time series entering the evaluation were supplemented by data monitored in previous years so that the evaluation period was 14 years. The evaluation was performed by dynamically dividing the time series into two sections with different lengths and then evaluating the statistical significance of the trends separately for each allocated section. A reversal of the trend was indicated if the following conditions were met at the same time: the statistical significance of the trends evaluated within individual sections is higher than the statistical significance of the trend evaluated on the basis of all data forming the evaluated time series, the section representing the results of monitoring in the older period shows a statistically significant upward trend, which is followed by a statistically significant decreasing trend evaluated on the basis of the results of monitoring in the newer period*

	Hungary:				
Threshold values per GWB					
	Pollutant / Indicator	*TV (or range) [unit]*	*NBL (or range) [unit]*	*Level of TV establishment (national, RBD, GWB)*	*Related to risk in this GWB [yes/-]*
HU	*Nitrates*	*50 mg/l*	*1.2-12.8 mg/l*	*GWB*	*-*
HU	*Ammonium*	*2-5 mg/l*	*1.79-3.6 mg/l*	*GWB*	*Yes*
HU	*Conductivity*	*2500 µS/cm*	*1370-1483 µS/cm*	*GWB*	*-*
HU	*Sulfate*	*250 mg/l*	*42.2-191 mg/l*	*GWB*	*-*
HU	*Chloride*	*250 mg/l*	*135-214 mg/l*	*GWB*	*-*
HU	*Orthophosphate*	*1-2 mg/l*	*0.3-1.45 mg/l*	*GWB*	
HU	*Cadmium*	*5 µg/l*	*0.03-1 µg/l*	*national*	*-*
HU	*Lead*	*10 µg/l*	*3.5-4.36µg/l*	*national*	*-*
HU	*Mercury*	*1 µg/l*	*0.1-0.19 µg/l*	*national*	*-*
HU	*Trichlorethylene*	*10 µg/l*		*national*	*-*
HU	*Tetrachloro ethylene*	*10 µg/l*		*national*	*-*
HU	*Absorbed organic halogens AOX*	*20 µg/l*		*national*	*-*
HU	*Pesticides by components*	*0.1 µg/l*		*national*	*-*
HU	*Pesticides all*	*0.5 µg/l*		*national*	*-*
SK	*Ammonium*	*0.30 mg/l*	*0.09 mg/l*	*GWB*	*Yes*
SK	*Arsenic*	*6 µg/l*	*2 µg/l*	*GWB*	*-*
SK	*Benzene*	*0.8 µg/l*	*-*	*national*	*-*
SK	*Cadmium*	*3.0 µg/l*	*1 µg/l*	*GWB*	*-*
SK	*Chloride*	*147.4 mg/l*	*44.7 mg/l*	*GWB*	*-*
SK	*Chromium*	*27 µg/l*	*4 µg/l*	*GWB*	*-*
SK	*Copper*	*1004 µg/l*	*8 µg/l*	*GWB*	*-*
SK	*Iron total*	*0.150 mg/l*	*0.1 mg/l*	*GWB*	*-*
SK	*Lead*	*9.0 µg/l*	*8 µg/l*	*GWB*	*-*
SK	*Manganese*	*0.030 mg/l*	*0.01 mg/l*	*GWB*	*-*
SK	*Mercury*	*0.7 µg/l*	*0.4 µg/l*	*GWB*	*-*
SK	*Nitrates*	*50 mg/l*	*9.7 mg/l*	*GWB*	*-*
SK	*Nitrites*	*0.26 mg/l*	*0.01 mg/l*	*GWB*	*-*
SK	*Phosphates*	*0.22 mg/l*	*0.02 mg/l*	*GWB*	*Yes*
SK	*Sodium*	*111.0 mg/l*	*22 mg/l*	*GWB*	*-*
SK	*Sulphates*	*167.4 mg/l*	*84.7 mg/l*	*GWB*	*-*
SK	*Tetrachloroethylen*	*7.5* µg/l*	*-*	*national*	*-*
SK	*Trichlorethylene*	*7.5* µg/l*	*-*	*national*	*-*

* 7.5 for Tetrachloroethylene + Trichlorethylene

GWB-10: Slovensky kras / Aggtelek-hgs.

GWB-10	National share	**HU-10** **SK-10**	Status 2021 for each national GWB?	
			Chemical (substance)	Quantity
List of individual GW-bodies forming the whole national share (national code incl. country code)	HU	HU_AIQ485	Good	Good
	SK	SK200480KF	Good	Good

Description/Characterisation of the ICPDR GW-body	***Delineation:*** *see GWB-8* *The Aggtelek Mountain and the Slovensky kras form a large common karstic aquifer system in the Eastern part of the counrtries. It is selected for presenting in the Danube-basin report as important transboundary water body: (i) National Park covers the majority of its surface, where the role of the groundwater is presented by springs and stalactite caves, (ii) significant drinking water resource in Slovakia, regionally important in Hungary (iii) vulnerable area requiring protection.* ***General description*** *The GWB is in a Mesozoic complex with morphologically visible karstic plateau and canyon-like valleys of water courses, separating different units. Hydrogeological units are very different according to the character of permeability, character of groundwater circulation, type of groundwater regime, and also in the resulting yield of groundwater springs. From hydro-geological point of view, the most important tectonic unit in the area is the Silicicum unit, mainly its Middle Triassic and Upper Triassic part. The most important aquifer here is the Middle and Upper Triassic limestone and dolomites with karst-fissure type of permeability. Similarly important hydrogeological units in the Hungarian side are Alsóhegy, Nagyoldal, Hasagistya and Galyaság, which contain the Aggtelek-Domica cave system. Tertiary basins act as a regional impermeable barrier for the groundwater accumulated in Triassic limestone.* *Groundwater circulation in these rocks is controlled by extreme heterogeneity of carbonate rocks, following the tectonic development. These tectonically pre-destinated drainage structures show the major influence on the directions of groundwater flow. Majority of groundwater is drained towards big karstic springs. Areas between such tectonic faults are less karstified and also less permeable. If not drained by cave systems or permeable tectonic faults, groundwater usually feeds the Quaternary coverage. Specific hydraulic feature of the karstified carbonate complex with preferred drainage structures is that no continuous groundwater table ca be defined within the rock mass. Groundwater in many cases only fills up karstic openings – conduits, sometimes enlarged into the cave systems, while segments between the preferred groundwater routes are unsaturated. On the other hand, groundwater level changes in these zones are sharp and show quick response to the meteorological situation. Typical amplitude of groundwater level change is from 5 to 15 m. In such levels above the erosion base perennial springs occur after an intensive rainfall events or sudden snowmelts. Hidden outflow to the deeper structures within and outside of the area the territory (generally of westward direction under the Tertiary sediments of the Rimavská kotlina Basin) is considered to be quite important from the water management point of view. Groundwater abstraction for various purposes is concentrated at the natural outflows of springs – relatively small portion is abstracted by pumping from boreholes and wells.* ***Major pressures and impacts*** *The estimated amount of available resources in Slovenský kras is 40.4 Mm3/year, the actual use is 21 % of available resources, mainly for drinking water purposes.* *In the Hungarian side only the amount of karstic water is utilized, which flows out naturally from karstic springs in Jósvafő, Szögliget, Komjáti, Égerszög and Aggtelek. There are enough data about karst spring discharge. Observed discharge data are available for a period of nearly 30 years. Because of the National Park no important karstic water abstraction will be planned on the area.* *National Parks cover the majority of the area. In addition, in Hungary the total area of the GWB is considered as Nitrate-sensitive. .*
Description of **status**	Chemical Status: ***Slovak Republic:*** *The methodology for assessing chemical status followed the requirements of*

assessment methodology.	*the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 - Guidance on groundwater status and trend assessment. The assessment of the chemical status of GWB in the conditions of the Slovak Republic consisted of the following tests:* *1. General quality assessment (GQA) test - years 2016-2017.* *2. Drinking water protected areas (DWPA) test - period 2008-2017.* *3. Test of significant diminution of associated surface water chemistry and ecology due to transfer of pollutant from the GWB - named as Surface water test - period 2013-2018.* *For all tests, the procedure was based on a comparison of the arithmetic means of the concentration of the individual component with quality standards (QS) or thresholds values (TV) for each monitoring point. If no exceedances of the QS/TV were recorded in all monitoring points, the whole GWB was evaluated in good chemical status. If exceedances of QS/TVs were recorded than the methodologies were as follows:* *In the GQA or DWPA test, data aggregation to whole GWB was performed. If the calculated total area of exceedance of the QS/TV was less than 20% of the total area of the GWB, the GWB was evaluated in good status. If the exceedance more than 20% of the total area of the GWB was recorded and based on expert judgment, the GWB was evaluated in poor chemical status.* *In the Surface water test, each GWB (with the relevant groundwater monitoring point) associated with the surface water body was assessed individually, taking into account the hydrological criterion, the hydrogeological criterion, the groundwater and surface water concentration profile, dilution (if data available) and that the estimated load of pollutant from groundwater transferred to associated surface water could be more than 50%, the GWB was evaluated in poor chemical status.* ***Hungary:** Assessment of the chemical status of groundwater was conducted: Analysing of the chemical data of individual monitoring points within each of the GWBs; Identifying of the pressures - sources of pollution; The background levels were calculated and used to determine threshold value. Threshold values have been determined according to CIS Guidance No. 18. Contamination limits have been determined for all indicators listed in Annex II Part B of Directive 2006/118/EC and indicators of the report under Art. 5 of Directive 2006/118/EC.* *The following parameters were investigated:* *a) Natural Background Level was determined for the following components: nitrate, ammonium, specific conductivity, sulphate, chloride, arsenic, cadmium, lead, mercury, orthophosphate* *b) For each monitoring point the median concentration of each parameters of the studied period was compared to the thresholds values (determined for each GWB) or standards values (in the case of nitrates, metals and pesticides).* *c) Different tests were conducted to assess groundwater body status: Diffuse pollution test (nitrate, ammonium, orthophosphate), Drinking water supply tests for numerous elements or components in both drinking water wells and monitoring wells and trend analysis based on the data of the surveillance monitoring system. Studied components of these tests are: nitrate, ammonium, chloride, sulphate, specific conductivity, mercury, lead, cadmium, pesticides and organics, furthermore in the trend analysis pH and dissolved oxygen.* *d) Based on these tests, groundwater body was evaluated.* Quantitative Status: ***Hungary:** To determine the overall quantitative status for a GWB, a series of tests should be applied that considers the impacts of anthropogenically induced long-term alterations in groundwater level and/or flow. Each test will assess whether the GWB is meeting the relevant environmental objectives. The quantitative status has been assessed taking into account CIS Guidance No.18. The following criteria have been used:* • *GW alteration (Drawdown) test* • *Water Balance test* • *Surface Water Flow test* • *Groundwater Dependent Terrestrial Ecosystems (GWDTE)*

	• *Saline or other Intrusion test* ***Slovak Republic:*** *Assessment of groundwater quantitative status consists of 4 tests:* 1. *balance assessment of groundwater bodies for the period 2013-2017 and evaluation of the long-term trend of development of balance levels of groundwater bodies for the period 2004-2018* 2. *evaluation of the existence of significant declining trends in the groundwater level and spring yield in groundwater bodies for the period 2007-2016 processed by aggregation of point results of groundwater quantity monitoring in the facilities of the state hydrological network of the SHMI* 3. *assessment of the impact of groundwater quantity on the status of terrestrial ecosystems dependent on groundwater* 4. *assessment of the impact of groundwater quantity on surface water*
Groundwater threshold value relationships	<u>Receptors considered</u> ***Slovak Republic:*** *Drinking water, Surface water* ***Hungary:*** *Drinking water* <u>Consideration of NBL and EQS (environmental quality standards, drinking water standards, surface water standards) in the TV establishment:</u> ***Slovak Republic:*** *The natural background level (NBL) was determined and used to derive the threshold value (TV). The TV were determined for all indicators listed in Part B of Annex II to Directive 2006/118/EC and in Directive 2014/80/EU. The TV for the inorganic substances were derived according to the formula: TV = (NBL + DWS)/2. The TV for organic compounds were derived using the formula: TV = 0.75 * DWS. These TV were used for GQA and DWPA tests.* *An updated list of the TV established for each GWB was published in the amended Regulation of the Government of the Slovak republic no. 282/2010 Coll.* *For the Surface water test, the TV were derived as follows: TV = CV = AF * EQS (surface water standard)/DF, where AF (Attenuation factor) and DF (Dilution factor) are equal to 1 (the worst case).* *For that GWB where the NBL was higher than the TV due to natural hydro-geological reasons, the TV was set up as TV = NBL.* ***Hungary:*** *EQS for herbicides and total pesticides, tri-, tetrachloroethylenes based on 201/2001. (X.25.) Gov. decree and the 6/2009. (IV.14.) KvVM-EüM-FVM common ministerial decree in correspondence to I. Annex of the 2006/118/EC directive.* *In Hungary, more than 95% of drinking water ensured from subsurface waters, so the DWS is applicable. Exempt those cases, when the karstic and shallow GWBs are in direct relation to aquatic ecosystems (GWAAE), so here the EQS nitrate is applicable (25 mg/l) instead of 50 mg/l of DWS.* *For other components the DWS is applicable.* <u>*For those GWBs where the NBL was higher than the DWS due to natural hydro-geological reasons, the TVs for ammonium, SO4 and EC were defined by taking into account these higher values, as described in Guidance Document No. 18.*</u>
Verbal description of the **trend** assessment methodology	***Slovak Republic:*** *Trend is assessed separately for groundwater quality and quantity at which for trends in quantity the procedure applies for all GW quantity monitoring sites. The assessment follows a stepwise procedure. Consisting of the evaluation of the data sets and the monitoring points (no gaps in time series are allowed and data from 2007–2016 were used), consisting of the performance of the non-parametric Mann-Kendall trend test (95% confidence level) and comprising the regression analysis. GWBs with decreasing trends but with no evidence of abstraction are excluded from assessment in the 2nd RBMP. For assessing trends in concentrations of pollutants in groundwater the evaluation period was 2007–2016. The results of surveillance and operational monitoring were applied for the assessment. Monitoring frequency depends on the GWB type. In the analysis the values <LOQ are replaced by LOQmax/2. Trend assessment is only performed if the number of values <LOQ is less than 50%. Non-parametric Mann-Kendall test with 5% significance level was applied for trend evaluation. For time series showing a normal distribution, the statistical significance of the trend was also tested by the parametric method (ANOVA) with 5% significance level. Than for all times series with statistically significant upwards trends, the statistically significant upward*

	*trend was evaluated and identified if the median of the values measured over the last 2 years was higher than 0.75 * QS/TV or the calculated predicted value of the linear trend up to 2026 (regression model calculated by the least squares method or Sen's nonparametric procedure) was higher than QS/TV. The significant sustained upward trends of pollutant concentrations were identified at the level of monitoring points and at the GWB level.* *The starting point for trend reversal was placed where the concentration of the pollutant reaches 75% of the QS/TV of the relevant pollutant.* ***Hungary**: To assess the trend of pollutant concentrations, chemical data of the surveillance monitoring systems were used for the period of 2000 to 2012. The trend analysis was done using Matlab program package of Man-Kendall method with fitted Sen slope. The steps used for trend assessment were:* • *During the assessment trend of all components for all monitoring objects were created using yearly average data and excluding time series with less than 4 datapoints.* • *The trend of groundwater body level aggregates of yearly annual data were assessed as well.* *Significant upward or downward trends were identified on 95 and 90% significance level using Man-Kendall method with Sen's slope.*
Verbal description of the **trend reversal** assessment methodology	***Slovak Republic:** Trend reversal assessment methodology consists also in the use of GWstat software. Time series were included in the assessment, on the basis of which significant sustained upward trends at the level of groundwater bodies were classified. The time series entering the evaluation were supplemented by data monitored in previous years so that the evaluation period was 14 years. The evaluation was performed by dynamically dividing the time series into two sections with different lengths and then evaluating the statistical significance of the trends separately for each allocated section. A reversal of the trend was indicated if the following conditions were met at the same time: the statistical significance of the trends evaluated within individual sections is higher than the statistical significance of the trend evaluated on the basis of all data forming the evaluated time series, the section representing the results of monitoring in the older period shows a statistically significant upward trend, which is followed by a statistically significant decreasing trend evaluated on the basis of the results of monitoring in the newer period* ***Hungary:***

Threshold values per GWB

	Pollutant / Indicator	*TV (or range) [unit]*	*NBL (or range) [unit]*	*Level of TV establishment (national, RBD, GWB)*	*Related to risk in this GWB [yes/-]*
HU	*Nitrates*	*25 mg/l*	*8.6 mg/l*	*GWB*	*-*
HU	*Ammonium*	*0.5 mg/l*	*0.26 mg/l*	*GWB*	*-*
HU	*Conductivity*	*2500 µS/cm*	*732 µS/cm*	*GWB*	*-*
HU	*Sulfate*	*250 mg/l*	*123 mg/l*	*GWB*	*-*
HU	*Chloride*	*250 mg/l*	*88 mg/l*	*GWB*	*-*
HU	*Orthophophate*	*0.25 mg/l*	*0.1 mg/l*	*GWB*	
HU	*Cadmium*	*5 µg/l*	*0.02 µg/l*	*national*	*-*
HU	*Lead*	*10 µg/l*	*0.7 µg/l*	*national*	*-*
HU	*Mercury*	*1 µg/l*	*0.49 µg/l*	*national*	*-*
HU	*Trichlorethylene*	*10 µg/l*		*national*	*-*
HU	*Tetrachloro ethylene*	*10 µg/l*		*national*	*-*
HU	*Absorbed organic halogens AOX*	*20 µg/l*		*national*	*-*
HU	*Pesticides by components*	*0.1 µg/l*		*national*	*-*
HU	*Pesticides all*	*0.5 µg/l*		*national*	*-*
SK	*Ammonium*	*0.27 mg/l*	*0.03 mg/l*	*GWB*	*-*
SK	*Arsenic*	*5.5 µg/l*	*1 µg/l*	*GWB*	*-*
SK	*Benzene*	*0.8 µg/l*	*-*	*national*	*-*
SK	*Cadmium*	*2.7 µg/l*	*0.4 µg/l*	*GWB*	*-*

SK	*Chloride*	*131.8 mg/l*	*13.5 mg/l*	*GWB*	-
SK	*Chromium*	*25 µg/l*	*0.4 µg/l*	*GWB*	-
SK	*Copper*	*1001 µg/l*	*1 µg/l*	*GWB*	-
SK	*Iron total*	*0.105 mg/l*	*0.01 mg/l*	*GWB*	-
SK	*Lead*	*5.5 µg/l*	*1 µg/l*	*GWB*	-
SK	*Manganese*	*0.027 mg/l*	*0.003 mg/l*	*GWB*	-
SK	*Mercury*	*0.6 µg/l*	*0.1 µg/l*	*GWB*	-
SK	*Nitrates*	*50 mg/l*	*16.7 mg/l*	*GWB*	-
SK	*Nitrites*	*0.26 mg/l*	*0.01 mg/l*	*GWB*	-
SK	*Phosphates*	*0.24 mg/l*	*0.07 mg/l*	*GWB*	-
SK	*Sodium*	*52.3 mg/l*	*4.6 mg/l*	*GWB*	-
SK	*Sulphates*	*167.6 mg/l*	*85.1 mg/l*	*GWB*	-
SK	*Tetrachloroethylen*	*7.5* µg/l*	-	*national*	-
SK	*Trichlorethylene*	*7.5* µg/l*	-	*national*	-

* 7.5 for Tetrachloroethylene + Trichlorethylene

GWB-11: Komarnanska Kryha / Dunántúli-khgs. északi r.

GWB-11	National share	**HU-11** **SK-11**	Status 2021 for each national GWB?	
			Chemical (substance)	Quantity
List of individual GW-bodies forming the whole national share (national code incl. country code)	HU	HU_AIQ558	Good	Good
	HU	HU_AIQ552	Good	Good
	HU	HU_AIQ564	Good	Good
	HU	HU_AIQ660	Good	Good
	SK	SK300010FK	Good	Good
	SK	SK300020FK	Good	Good

Description/Characterisation of the ICPDR GW-body	***Delineation**: see GWB-8* ***Reasons for selecting as important transboundary GWB*** *The Middle and Upper-Triassic karstic dolomite and limestone formation of the northern part of the Transdanubian Mountain (Hungary) and the Komarnanská Kryha (Slovakia) belong to one of the largest karstic aquifer systems in Central Europe. It provides good quality drinking water for the population of the region in Hungary; it contributes to the characteristic landscape by supplying springs and the deeper part of the aquifer system is very important thermal water resources in both countries.* ***General description*** *The karstic formation of the northern part of the Transdanubian Mountains is composed mainly of Upper-Triassic dolomite and limestone. The considerable matrix porosity of the dolomite is due to the dense fissure-system, while in the limestone large fractures are characteristic along the faults. The elevated open karstic zones are separated by sunken basins, where the thickness of the covering layer is several hundred meters. Above the thermal part it exceeds 500 m of thickness (in some places it reaches even 2,500 m) consisting of different types of sediments: sand, clay, marl, sandstone, Eocene karstic formation with brown coal.* *The Slovakian part (the Komarno block) extends between Komarno and Sturovo. It is fringed by the Danube River in the South and by the E-W Hurbanovo fault in the North. The southern limit along the Danube is tectonic as well and therefore the Komarno block is a sunken tract of the northern slope of the Gerecse and Pilis Mountains. The Komarno block consists largely of Triassic dolomites and limestones up to 1,000 m in thickness. The surface of the pre-Tertiary substratum plunges towards the north from a depth of approximately 100 m near the River Danube to as much as 3,000 m near the Hurbanovo fault.* *The karstic aquifer is divided into six water bodies. In Hungary, where the recharge area appears, two water bodies bearing cold waters have been delineated according to the flow system. The thermal water bodies (in Hungary waters with temperature more than 30 °C is considered as thermal, while in Slovakia the limit is 25°C: HU_kt..1.2, HU_kt.1.4,*

	SK_300010FK and SK_300020FK are in close hydraulic connection with the cold ones. To be noted, that the missing continuation of the cold water bodies in the Slovakian part is mainly due to the different consideration of the limit of temperature. Taking into account hydro-geothermal aspects, the deep Slovakian karstic aquifer is divided into the Komarno high block (SK 300010FK) and the Komarno marginal block (SK300020FK). *The Danube River is the regional erosion base of the water bodies. The water level fluctuation is in strong relation with the water level changes in the river. The water bodies are hydraulically connected. It is valid at the border of the countries as well, i.e. under the Danube and the Ipoly/Ipel Rivers, making the abstractions of water in both countries highly interrelated.* *The recharge area is in the Hungarian side and the total recharge is estimated at 60 Mm^3/y. Without abstraction this amount of water is discharged by the springs and by the upward flow towards the covering layer, and some part is infiltrating to the deeper, thermal part.* *The temperature of the water abstracted (captured) from the Hungarian thermal water bodies does not exceed 60 ^oC. Heat-flow densities suggest that the Komarno high block can be characterised by a fairly low (thermal spring at Sturovo and Patince are 39 and 26 ^oC warm) and the marginal block by a medium geothermal activity (40–68 ^oC). Heat flow given in mW/m^2 is 50- 60 in Komárno high block and 60–70 mW/m^2 in Komárno marginal block, both considered as low values.* *Coefficient of transmissivity in the high block varies from 13 to 100 m^2/d, while in the marginal block between 4 to 20 m^2/d. Prognostic recoverable amount of thermal water in the high block is estimated at 12,000 m^3/d water of 20 to 40°C warm. In the marginal block the abstracted thermal water should be re-injected after use.* ***Major pressures and impacts*** *In Hungary the actual abstractions are apr. 30 M m^3/y from the cold part and 2 M m^3/y from the thermal part. In Slovakia the thermal water abstraction is 0.6 M m^3/y mainly in area Komárno-Patince-Štúrovo. The cold karstic water is used for drinking water, the thermal water for balneology (in Hungary and in Slovakia) and for energy production (in Slovakia). Disposal of used geothermal water is solved in Slovakia by discharge into surface water (River Danube and Váh) after dilution with groundwater on acceptable qualitative parameters.* *Due to the mining activities in the 20th century, the actual water levels - especially in the cold water bodies in the Hungarian side - are significantly lower than the long-term natural averages and as a consequence all cold and lukewarm karstic springs dried out. In the Slovak side the regime of geothermal water (decreasing discharges of wells) was also affected by the extensive pumping of karstic water from coal mines in Tatabánya and Dorog (Hungary). After the mining was stopped (in 1993), the water levels have been showing increasing trend and the gradual reappearance of the springs is forecasted in the coming 5–15 years.* *The abandoned cuts and fields of mine submerged by the rising karstic water represent a potential pollution source. Water quality monitoring has been installed, but data are not sufficient for estimating future impacts.* *In extremely vulnerable open karstic area a few settlements should be considered as potential source of pollution. Relatively a high number of significant pollution exists in the area (40). The majority is lying above the not vulnerable covered part. The average amount of Nitrogen fertilizer is 86 kgN/ha/year, the use of manure is insignificant (3 kgN/ha/year). The surplus Nitrogen from agriculture is 17 kgN/ha/year, but in the majority of the area the thick covering layers provide natural protection. (Localities in real danger should be assessed at smaller scale, focusing on open karstic zones).*
Description of **status** assessment methodology.	<u>Chemical Status</u> ***Hungary:*** *Assessment of the chemical status of groundwater was conducted: Analysing of the chemical data of individual monitoring points within each of the GWBs; Identifying of the pressures - sources of pollution; The background levels were calculated and used to determine threshold value. Threshold values have been determined according to CIS Guidance No. 18. Contamination limits have been determined for all indicators listed in Annex II Part B of Directive 2006/118/EC and indicators of the report under Art. 5 of Directive 2006/118/EC.* *The following parameters were investigated:* *a) Natural Background Level was determined for the following components: nitrate, ammonium, specific conductivity, sulphate, chloride, arsenic, cadmium, lead, mercury,*

	orthophosphate b) *For each monitoring point the median concentration of each parameters of the studied period was compared to the thresholds values (determined for each GWB) or standards values (in the case of nitrates, metals and pesticides).* c) *Different tests were conducted to assess groundwater body status: Diffuse pollution test (nitrate, ammonium, orthophosphate), Drinking water supply tests for numerous elements or components in both drinking water wells and monitoring wells and trend analysis based on the data of the surveillance monitoring system. Studied components of these tests are: nitrate, ammonium, chloride, sulphate, specific conductivity, mercury, lead, cadmium, pesticides and organics, furthermore in the trend analysis pH and dissolved oxygen.* d) *Based on these tests, groundwater body was evaluated.* ***Slovak Republic:*** *An important factor in assessing the chemical status of geothermal waters, especially in terms of their use, is the stability of their chemical composition. The stability of the chemical composition for individual sources will be evaluated in those indicators that characterize the chemical type of water (Mineralization, Ca, Mg, Na, Cl, HCO_3, SO_4). Another method is the evaluation of the development trend of the mentioned indicators in individual sources of the geothermal unit. The interquartile range (IQR) method was chosen to evaluate the chemical stability of geothermal water.* *Good chemical status is if :* • *the main indicators of the chemical type of water are between the lower and upper dispersion limits,* • *the trend of development of components of the chemical type of water reaches the same course and individual deviations can be described from the source regime.* <u>Quantitative Status</u> ***Hungary:*** *To determine the overall quantitative status for a GWB, a series of tests should be applied that considers the impacts of anthropogenically induced long-term alterations in groundwater level and/or flow. Each test will assess whether the GWB is meeting the relevant environmental objectives. The quantitative status has been assessed taking into account CIS Guidance No.18. The following criteria have been used:* • *<u>GW alteration (Drawdown) test</u>* • *Water Balance test* • *Surface Water Flow test* • *Groundwater Dependent Terrestrial Ecosystems (GWDTE)* • *Saline or other Intrusion test* ***<u>Slovak Republic:</u>*** *The assessment of the quantitative status of geothermal groundwater bodies consists of the balance assessment of individual bodies and the identification of sources for which a critical or emergency balance state occurred during the use of groundwater during the monitored period (2015-2017). For comparison, the state of balance in the period between the geothermal bodies, each will use the value of balance taking into account the state transformed usable amounts expressed in % (BST).* *Good quantitative status is, if:* • *the balance value of the BsT geothermal unit for the observed period may not exceed the value of 80%,* • *the trend of development of BsT values <70% is not marked, for BsT> 70% we mark the trend with signs,* • *in case of occurrence of sources with critical or emergency balance state Bs ≤ 1,18 - definition of causes.*
Groundwater threshold value relationships	<u>Receptors considered</u> ***Hungary:*** *Drinking water standards* ***Slovak Republic:*** <u>Consideration of NBL and EQS (environmental quality standards, drinking water standards) in the TV establishment:</u>

	Hungary: *EQS for herbicides and total pesticides, tri-, tetrachloroethylenes based on 201/2001. (X.25.) Gov. decree and the 6/2009. (IV.14.) KvVM-EüM-FVM common ministerial decree in correspondence to I. Annex of the 2006/118/EC directive.* *In Hungary, more than 95% of drinking water ensured from subsurface waters, so the DWS is applicable. Exempt those cases, when the karstic and shallow GWBs are in direct relation to aquatic ecosystems (GWAAE), so here the EQS nitrate is applicable (25 mg/l) instead of 50 mg/l of DWS.* *For other components the DWS is applicable.* *For those GWBs where the NBL was higher than the DWS due to natural hydro-geological reasons, the TVs for ammonium, SO4 and EC were defined by taking into account these higher values, as described in Guidance Document No. 18.* ***Slovak Republic:*** *The criterion for evaluating the chemical status of geothermal GWB is the stability of the chemical composition as was described above.*
Verbal description of the **trend** assessment methodology	***Hungary****: To assess the trend of pollutant concentrations, chemical data of the surveillance monitoring systems were used for the period of 2000 to 2012. The trend analysis was done using Matlab program package of Mann-Kendall method with fitted Sen slope. The steps used for trend assessment were:* • *During the assessment trend of all components for all monitoring objects were created using yearly average data and excluding time series with less than 4 data points.* • *The trend of groundwater body level aggregates of yearly annual data were assessed as well.* *Significant upward or downward trends were identified on 95% significance level using Mann-Kendall method with Sen's slope.*
Verbal description of the **trend reversal** assessment methodology	***Hungary:*** ***Slovak Republic****:*

Threshold values per GWB

	Pollutant / Indicator	*TV (or range) [unit]*	*NBL (or range) [unit]*	*Level of TV establishment (national, RBD, GWB)*	*Related to risk in this GWB [yes/-]*
HU	*Nitrates*	*50-no TV mg/l*	*<1-9.8 mg/l*	*GWB*	*-*
HU	*Ammonium*	*0.5-no TV mg/l*	*0.26-16.7 mg/l*	*GWB*	*-*
HU	*Conductivity*	*2500-no TV µS/cm*	*996-5097 µS/cm*	*GWB*	*-*
HU	*Sulfate*	*250-no TV mg/l*	*124-266 mg/l*	*GWB*	*-*
HU	*Chloride*	*250-no TV mg/l*	*35-627 mg/l*	*GWB*	*-*
HU	*Orthophosphate*	*0.25-no TV mg/l*	*0.1 mg/l*	*GWB*	
HU	*Cadmium*	*5-no TV µg/l*	*0.08-0.2 µg/l*	*national*	*-*
HU	*Lead*	*10-no TV µg/l*	*2-3.42 µg/l*	*national*	*-*
HU	*Mercury*	*1-no TV µg/l*	*0.21-0.5 µg/l*	*national*	*-*
HU	*Trichlorethylene*	*10-no TV µg/l*		*national*	*-*
HU	*Tetrachloro ethylene*	*10-no TV µg/l*		*national*	*-*
HU	*Absorbed organic halogens AOX*	*20-no TV µg/l*		*national*	*-*
HU	*Pesticides by components*	*0.1-no TV µg/l*		*national*	*-*
HU	*Pesticides all*	*0.5-no TV µg/l*		*national*	*-*

*: no TV for karst thermal GWB

GWB-12: Ipel /Ipoly

GWB-12	National share	**HU-12** **SK-12**	Status 2021 for each national GWB?	
			Chemical (substance)	Quantity
List of individual GW-bodies forming the whole national share (national code incl. country code)	HU	HUAIQ583	Good	Good
	SK	SK1000800P	Poor (NH_4, SO_4, PO_4)	Good
Description/Characterisation of the ICPDR GW-body	***Delineation:*** *The Ipoly-valley is situated in the border of Slovakia and Hungary, east of Danube River. Its area is 145,8 km^2, the elevation varies between 290 m asl to 128 m asl. The middle Ipoly-valley has an east to west direction, while the lower Ipoly-valley is a north to south one. Left side of the river belongs to Hungary. The middle-Ipoly valley formed by several young refilling trenches, on the south is separated by a defined morphological barrier showing terrace-like river valley. Several river terraces forms the lower-Ipoly-valley between the Börzsöny and Helemba hills. Morphologically, it is a diverse pediment surface from the level of the river up to 200 m asl.* ***Reasons for selecting as important transboundary GWB****:* *The surrounding area of this aquifer suffers from lack of water, while these groundwater bodies are important local drinking water resources in Slovakia and Hungary. Therefore, collaboration between SK and HU to delineate the HU and SK GWBs as common transboundary GWB is a key to maintain safe water supply in sufficient quantities. The alluvial deposits of the Ipeľ/ Ipoly River extend on both sides of the Hungarian-Slovakian border. The aquifer supplies drinking water to a population of approx. 170,000 inhabitants in Slovakia and 50,000 inhabitants in Hungary. On the Hungarian side, due to the lowland character and upward flow system, the terrestrial ecosystems (NATURA 2000 site) require surplus transpiration from groundwater; 7% of the area of the water body is under nature conservation. The recharge zone is in Slovakia and Hungary thus the available groundwater resource and the status of the terrestrial ecosystems depend on the lateral flow from the neighbouring countries. Both sides of the GWBs have issues with groundwater quality problems The Ipeľ/ Ipoly River had formed a 0-10 meters thick alluvial deposit, along the stretch of approximately 80km of the river, which forms a natural boundary between Slovakia and Hungary. More importantly, hydraulic connection between the SK100080OP – HUAIQ583 groundwater bodies is anticipated (http://www.all-in.sk/enwat/ipel.html).* ***General description****:* *The middle and the lower part of the Ipoly-valley significantly differ in geology. In the area of upper-Ipoly-valley, the maximum 10 meters thick soil covers the alluvial sand, sandy gravel sediments. Below the maximum few tenth meters thick Holocene-Pleistocene sequence, several hundred meters thick Oligocene schlier, sandstone, clay sequence (Szécsényi schlier, Pétervásárai sandstone, Kiscelli clay and Hárshegy sandstone) covers the schist and gneiss basement. In the area of lower-Ipoly-valley below the few meters thick alluvial sand and gravel sediment few hundred meters thick Miocene marl, limestone sequence (Lajta limestone, Szilágy clayly marl) covers the magmatic tuffs (Nagyvölgyi Dacite tuffs) sediments.* *The lower boundary of the groundwater body is formed by the thick low permeability schlier and sandstone formations, respectively thick clayly marl aquitard (Szilágyi clayly marl). In the river terraces the Pleistocene fluvio- eolian sand and loess is a good water bearing strata, however the main aquifer is the few meters thick (4 m in average) Holocene fluvial sand and gravel along the river. The recharge of the upper part of the river is in Slovakia, while the middle and lower part of it is recharged both side of the river.* *The area of interest is delimited by the extent of the youngest alluvium of the river Ipoly/Ipeľ and partially also of some of its tributaries. The alluvium lies on the impermeable clayey sediments of the Neogene filling of the Juhoslovenská and Podunajská panva basins in the Slovakian side. In the groundwater body there are mainly alluvial and terrestrial gravel, sandy gravel, sand, stratigraphic classification of Pleistocene - Holocene as collector rocks. In hydrogeological collectors of the formation, the inter-grain permeability prevails. The average*			

	range of the thickness of the guardrails is <10 m, the value of the filtration coefficient here is in the range of 1.10-4 to 1.10-3 m.s-1. The general direction of groundwater flow in the alluvial floodplain of the quaternary formation SK1000800P is more or less parallel to the course of the main flow. Intergranular groundwater body of Quaternary sediments of the Ipeľ river is in the Hron watershed area. The evaluated area (agricultural land including arable land, grassland, pastures and permanent crops plantations) shares 86.69 % of total groundwater body area, rest of groundwater body area land cover is represented by forests, semi-natural land, surface water tables and artificial surfaces. Within the groundwater body area, evaluated area creates large and compact patterns which regularly cover whole area. In general, groundwater body shows lowered potential of soil regarding possible negative influence of surface contamination to groundwater. *The main aquifer is the alluvial sediments of the river Ipoly/Ipeľ and the connecting terraces. Their thickness is about 4-10 m, or more. The gravels and sands are covered with 1.5-4 m of clayey flood sediments. The changing thickness sometimes causes the occurrence of the confined groundwater. The gravels and sands have high transmissivity. The width of the river flood plain is about 1-2 km, but at some places it is of only tens of meters. Groundwater recharge occurs by infiltration of precipitations and infiltration of surface water at high water levels. The changing (decreasing) surface water level of the river has negative impact of the water supply possibilities Strong variability of groundwater chemical composition and quality is characteristic for the Ipeľ region. Ca-Mg-HCO3 dominates in groundwater as the result of dissolution of carbonates and hydrolytical decomposition of silicate minerals. Groundwater qualitative properties in the region reflect either the natural character of the area or the addition of compounds due to anthropogenic activities.* ***Major pressures and impacts*** *Anthropogenic contamination of groundwater is mostly originated by agricultural activities and production of waste waters. It is mainly contamination of the uppermost groundwater horizons that occurs in the area. Deteriorated groundwater quality is mainly characterized by high contents of nitrates, chlorides, ammonia ions, phosphates or specific organic parameters (PAH, COD) and occasionally pesticides. Locally high pesticide concentrations (> 0.5 mg/l) are found in both surface water and in groundwater along the Ipoly/Ipeľ valley. Pesticides in unsaturated soils can be released by erosion, which can be increased by climate change. Nitrates have also a substantial impact on the shallow parts (0-20 m) of the groundwater systems. In general, detected pesticide concentrations suggest that water quality can be considered to be at risk until further investigations will be made and the additional measures as defined by WFD, will be taken. Furthermore, besides the anthropogenic pressures the locally important drinking water resource has high natural sulphate content and electric conductivity. The whole GWB is highly sensitive to climatic changes*
Description of **status** assessment methodology.	<u>Chemical Status:</u> ***Hungary:*** *Assessment of the chemical status of groundwater was conducted: Analysing of the chemical data of individual monitoring points within each of the GWBs; Identifying of the pressures - sources of pollution; The background levels were calculated and used to determine threshold value. Threshold values have been determined according to CIS Guidance No. 18. Contamination limits have been determined for all indicators listed in Annex II Part B of Directive 2006/118/EC and indicators of the report under Art. 5 of Directive 2006/118/EC.* *The following parameters were investigated:* *a) Natural Background Level was determined for the following components: nitrate, ammonium, specific conductivity, sulphate, chloride, arsenic, cadmium, lead, mercury, orthophosphate* *b) For each monitoring point the median concentration of each parameters of the studied period was compared to the thresholds values (determined for each GWB) or standards values (in the case of nitrates, metals and pesticides).* *c) Different tests were conducted to assess groundwater body status: Diffuse pollution test (nitrate, ammonium, orthophosphate), Drinking water supply tests for numerous elements or components in both drinking water wells and monitoring wells and trend analysis based on the data of the surveillance monitoring system. Studied components of these tests are: nitrate, ammonium, chloride, sulphate, specific conductivity, mercury, lead, cadmium, pesticides and organics, furthermore in the trend analysis pH and dissolved oxygen.*

	d) Based on these tests, groundwater body was evaluated. ***Slovak Republic:*** *The methodology for assessing chemical status followed the requirements of the Groundwater Directive (2006/118/EC) as well as the recommendations of the CIS Guidance Document no. 18 - Guidance on groundwater status and trend assessment. The assessment of the chemical status of GWB in the conditions of the Slovak Republic consisted of the following tests:* *1. General quality assessment (GQA) test - years 2016-2017.* *2. Drinking water protected areas (DWPA) test - period 2008-2017.* *3. Test of significant diminution of associated surface water chemistry and ecology due to transfer of pollutant from the GWB - named as Surface water test - period 2013-2018.* *For all tests, the procedure was based on a comparison of the arithmetic means of the concentration of the individual component with quality standards (QS) or thresholds values (TV) for each monitoring point. If no exceedances of the QS/TV were recorded in all monitoring points, the whole GWB was evaluated in good chemical status. If exceedances of QS/TVs were recorded than the methodologies were as follows:* *In the GQA or DWPA test, data aggregation to whole GWB was performed. If the calculated total area of exceedance of the QS/TV was less than 20% of the total area of the GWB, the GWB was evaluated in good status. If the exceedance more than 20% of the total area of the GWB was recorded and based on expert judgment, the GWB was evaluated in poor chemical status.* *In the Surface water test, each GWB (with the relevant groundwater monitoring point) associated with the surface water body was assessed individually, taking into account the hydrological criterion, the hydrogeological criterion, the groundwater and surface water concentration profile, dilution (if data available) and that the estimated load of pollutant from groundwater transferred to associated surface water could be more than 50%, the GWB was evaluated in poor chemical status.* <u>Quantitative Status:</u> ***Hungary:*** *To determine the overall quantitative status for a GWB, a series of tests should be applied that considers the impacts of anthropogenically induced long-term alterations in groundwater level and/or flow. Each test will assess whether the GWB is meeting the relevant environmental objectives. The quantitative status has been assessed taking into account CIS Guidance No.18. The following criteria have been used:* • *<u>GW alteration (Drawdown) test</u>* • *Water Balance test* • *Surface Water Flow test* • *Groundwater Dependent Terrestrial Ecosystems (GWDTE)* • *Saline or other Intrusion test* ***Slovak Republic:*** *Assessment of groundwater quantitative status consists of 4 tests:* *1. balance assessment of groundwater bodies for the period 2013-2017 and evaluation of the long-term trend of development of balance levels of groundwater bodies for the period 2004-2018* *2. evaluation of the existence of significant declining trends in the groundwater level and spring yield in groundwater bodies for the period 2007-2016 processed by aggregation of point results of groundwater quantity monitoring in the facilities of the state hydrological network of the SHMI* *3. assessment of the impact of groundwater quantity on the status of terrestrial ecosystems dependent on groundwater* *4. assessment of the impact of groundwater quantity on surface water*
Groundwater threshold value relationships	<u>Receptors considered</u> ***Slovak Republic:*** *Drinking water, Surface water* ***Hungary:*** *Drinking water* <u>Consideration of NBL and EQS (environmental quality standards, drinking water standards, surface water standards) in the TV establishment:</u> ***Slovak Republic:*** *The natural background level (NBL) was determined and used to derive the*

	*threshold value (TV). The TV were determined for all indicators listed in Part B of Annex II to Directive 2006/118/EC and in Directive 2014/80/EU. The TV for the inorganic substances were derived according to the formula: TV = (NBL + DWS)/2. The TV for organic compounds were derived using the formula: TV = 0.75 * DWS. These TV were used for GQA and DWPA tests.* *An updated list of the TV established for each GWB was published in the amended Regulation of the Government of the Slovak republic no. 282/2010 Coll.* *For the Surface water test, the TV were derived as follows: TV = CV = AF * EQS (surface water standard)/DF, where AF (Attenuation factor) and DF (Dilution factor) are equal to 1 (the worst case).* *For that GWB where the NBL was higher than the TV due to natural hydro-geological reasons, the TV was set up as TV = NBL.* ***Hungary:*** *EQS for herbicides and total pesticides, tri-, tetrachloroethylenes based on 201/2001. (X.25.) Gov. decree and the 6/2009. (IV.14.) KvVM-EüM-FVM common ministerial decree in correspondence to I. Annex of the 2006/118/EC directive.* *In Hungary, more than 95% of drinking water ensured from subsurface waters, so for all other components the DWS is applicable.* <u>*For those GWBs where the NBL was higher than the DWS due to natural hydro-geological reasons, the TVs for ammonium, SO4 and EC were defined by taking into account these higher values, as described in Guidance Document No. 18.*</u>
Verbal description of the **trend** assessment methodology	***Slovak Republic:*** *Trend is assessed separately for groundwater quality and quantity at which for trends in quantity the procedure applies for all GW quantity monitoring sites. The assessment follows a stepwise procedure. Consisting of the evaluation of the data sets and the monitoring points (no gaps in time series are allowed and data from 2007–2016 were used), consisting of the performance of the non-parametric Mann-Kendall trend test (95% confidence level) and comprising the regression analysis. GWBs with decreasing trends but with no evidence of abstraction are excluded from assessment in the 2nd RBMP. For assessing trends in concentrations of pollutants in groundwater the evaluation period was 2007–2016. The results of surveillance and operational monitoring were applied for the assessment. Monitoring frequency depends on the GWB type. In the analysis the values <LOQ are replaced by LOQmax/2. Trend assessment is only performed if the number of values <LOQ is less than 50%. Non-parametric Mann-Kendall test with 5% significance level was applied for trend evaluation. For time series showing a normal distribution, the statistical significance of the trend was also tested by the parametric method (ANOVA) with 5% significance level. Than for all times series with statistically significant upwards trends, the statistically significant upward trend was evaluated and identified if the median of the values measured over the last 2 years was higher than 0.75 * QS/TV or the calculated predicted value of the linear trend up to 2026 (regression model calculated by the least squares method or Sen's nonparametric procedure) was higher than QS/TV. The significant sustained upward trends of pollutant concentrations were identified at the level of monitoring points and at the GWB level.* *The starting point for trend reversal was placed where the concentration of the pollutant reaches 75% of the QS/TV of the relevant pollutant.* ***Hungary****: To assess the trend of pollutant concentrations, chemical data of the surveillance monitoring systems were used for the period of 2000 to 2012. The trend analysis was done using Matlab program package of Mann-Kendall method with fitted Sen slope. The steps used for trend assessment were:* • *During the assessment trend of all components for all monitoring objects were created using yearly average data and excluding time series with less than 4 data points.* • *The trend of groundwater body level aggregates of yearly annual data were assessed as well.* *Significant upward or downward trends were identified on 95% significance level using Mann-Kendall method with Sen's slope.*
Verbal description of the **trend reversal**	***Slovak Republic:*** *Trend reversal assessment methodology consists also in the use of GWstat software. Time series were included in the assessment, on the basis of which significant sustained upward trends at the level of groundwater bodies were classified. The time series entering the evaluation were supplemented by data monitored in previous years so that the*

assessment methodology	*evaluation period was 14 years. The evaluation was performed by dynamically dividing the time series into two sections with different lengths and then evaluating the statistical significance of the trends separately for each allocated section. A reversal of the trend was indicated if the following conditions were met at the same time: the statistical significance of the trends evaluated within individual sections is higher than the statistical significance of the trend evaluated on the basis of all data forming the evaluated time series, the section representing the results of monitoring in the older period shows a statistically significant upward trend, which is followed by a statistically significant decreasing trend evaluated on the basis of the results of monitoring in the newer period.* ***Hungary:*** *To assess the trend reversal of pollutant concentrations two consecutive time period was compared and evaluated*

Threshold values per GWB

	Pollutant / Indicator	TV (or range) [unit]	NBL (or range) [unit]	Level of TV establishment (national, RBD, GWB)	Related to risk in this GWB [yes/-]
HU	Nitrates	50-no TV mg/l	9.5 mg/l	GWB	-
HU	Ammonium	2.0-no TV mg/l	1.1 mg/l	GWB	-
HU	Conductivity	2,500-no TV µS/cm	1,570 µS/cm	GWB	-
HU	Sulphate	500-no TV mg/l	284 mg/l	GWB	-
HU	Chloride	250-no TV mg/l	119 mg/l	GWB	-
HU	Orthophosphate	2.0 mg/l	0,91 mg/l	GWB	
HU	Cadmium	5-no TV µg/l	0.07 µg/l	national	-
HU	Lead	10-no TV µg/l	0.293 µg/l	national	-
HU	Mercury	1-no TV µg/l	0.005 µg/l	national	-
HU	Trichlorethylene	10-no TV µg/l		national	-
HU	Tetrachloro ethylene	10-no TV µg/l		national	-
HU	Absorbed organic halogens AOX	20-no TV µg/l		national	-
HU	Pesticides by components	0.1-no TV µg/l		national	-
HU	Pesticides all	0.5-no TV µg/l		national	-
SK	Ammonium	0.9 mg/l	0.9 mg/l	GWB	-
SK	Arsenic	6 µg/l	2 µg/l	GWB	-
SK	Benzene	0.8 µg/l	-	national	-
SK	Cadmium	2.9 µg/l	0.7 µg/l	GWB	-
SK	Chloride	135.7 mg/l	21.3 mg/l	GWB	-
SK	Chromium	26 µg/l	2 µg/l	GWB	-
SK	Copper	1003 µg/l	6 µg/l	GWB	-
SK	Iron total	0.150 mg/l	0.1 mg/l	GWB	-
SK	Lead	7.0 µg/l	5 µg/l	GWB	-
SK	Manganese	0.100 mg/l	0.1 mg/l	GWB	-
SK	Mercury	0.6 µg/l	0.1 µg/l	GWB	-
SK	Nitrates	50 mg/l	1.5 mg/l	GWB	Yes
SK	Nitrites	0.26 mg/l	0.02 mg/l	GWB	-
SK	Phosphates	0.24 mg/l	0.08 mg/l	GWB	Yes
SK	Sodium	119.8 mg/l	39.6 mg/l	GWB	-
SK	Sulphates	140.8 mg/l	31.6 mg/l	GWB	Yes
SK	Tetrachloroethylen	7.5* µg/l	-	national	-
SK	Trichlorethylene	7.5* µg/l	-	national	-

* 7.5 for Tetrachloroethylene + Trichlorethylene

Significant pressures on the ICPDR GW-bodies

Code of ICPDR GW-body		*GWB-1*
National share of ICPDR GW-body (nationally aggregated part)		*AT-1, DE-1*

Significant Pressures for Groundwater	**Status pressure types 2021**				**Risk pressure types 2019→2027**			
	Chemical Yes/-		**Quantity** Yes/-		**Chemical** Yes/-		**Quantity** Yes/-	
	AT	DE	AT	DE	AT	DE	AT	DE
Point sources	-				-			
Leakages from contaminated sites								
Leakages from waste disposal sites (landfill and agricultural waste disposal)								
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)								
Diffuse Sources	-				-			
due to agricultural activities								
due to non-sewered population								
Urban land use								
Other significant diffuse pressures (specify below)								
Water abstractions			-				-	
Abstractions for agriculture								
Abstractions for public water supply								
Abstractions by industry								
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge			-				-	
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures	-		-		-		-	
Saltwater intrusion								
Other intrusion (specify below)								

Description of other significant pressures than those selected above.	

Code of ICPDR GW-body		*GWB-2*
National share of ICPDR GW-body (nationally aggregated part)		*BG-2, RO-2*

Significant Pressures for Groundwater	**Status pressure types 2021**				**Risk pressure types 2019→2027**			
	Chemical Yes/-		**Quantity** Yes/-		**Chemical** Yes/-		**Quantity** Yes/-	
	BG	RO	BG	RO	BG	RO	BG	RO
Point sources	-				-			
Leakages from contaminated sites								
Leakages from waste disposal sites (landfill and agricultural waste disposal)								
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)								
Diffuse Sources	-				-			
due to agricultural activities								
due to non-sewered population								
Urban land use								
Other significant diffuse pressures (specify below)								
Water abstractions			-				-	
Abstractions for agriculture								
Abstractions for public water supply								
Abstractions by industry								
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge			-				-	
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures	-		-		-		-	
Saltwater intrusion								
Other intrusion (specify below)								

Description of other significant pressures than those selected above.	

Code of ICPDR GW-body		*GWB-3*
National share of ICPDR GW-body (nationally aggregated part)		*MD-3, RO-3*

	Status pressure types 2021				**Risk pressure types 2019→2027**			
Significant Pressures for Groundwater	**Chemical** Yes/-		**Quantity** Yes/-		**Chemical** Yes/-		**Quantity** Yes/-	
	MD	RO	MD	RO	MD	RO	MD	RO
Point sources	-				-			
Leakages from contaminated sites								
Leakages from waste disposal sites (landfill and agricultural waste disposal)								
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)								
Diffuse Sources	-				-			
due to agricultural activities								
due to non-sewered population								
Urban land use								
Other significant diffuse pressures (specify below)								
Water abstractions			-		-		-	
Abstractions for agriculture								
Abstractions for public water supply								
Abstractions by industry								
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge			-				-	
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures	-		-		-		-	
Saltwater intrusion								
Other intrusion (specify below)								

Description of other significant pressures than those selected above.	

Code of ICPDR GW-body		*GWB-4*
National share of ICPDR GW-body (nationally aggregated part)		*BG-4, RO-4*

	Status pressure types 2021				**Risk pressure types 2019→2027**			
Significant Pressures for Groundwater	**Chemical** Yes/-		**Quantity** Yes/-		**Chemical** Yes/-		**Quantity** Yes/-	
	BG	RO poor	BG	RO	BG	RO risk	BG	RO
Point sources	-				-			
Leakages from contaminated sites								
Leakages from waste disposal sites (landfill and agricultural waste disposal)								
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)								
Diffuse Sources	-	**Yes**			-	**Yes**		
due to agricultural activities		x				x		
due to non-sewered population		x				x		
Urban land use								
Other significant diffuse pressures (specify below)								
Water abstractions			-				-	
Abstractions for agriculture								
Abstractions for public water supply								
Abstractions by industry								
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge			-				-	
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures	-		-		-		-	
Saltwater intrusion								
Other intrusion (specify below)								

Description of other significant pressures than those selected above.	

Code of ICPDR GW-body		*GWB-5*
National share of ICPDR GW-body (nationally aggregated part)		*HU-5, RO-5*

	Status pressure types 2021				**Risk pressure types 2019→2027**			
Significant Pressures for Groundwater	**Chemical** Yes/-		**Quantity** Yes/-		**Chemical** Yes/-		**Quantity** Yes/-	
	HU poor	RO poor	HU poor	RO	HU risk	RO risk	HU risk	RO
Point sources		-				-		
Leakages from contaminated sites								
Leakages from waste disposal sites (landfill and agricultural waste disposal)								
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)								
Diffuse Sources	**Yes**	**Yes**			**Yes**	**Yes**		
due to agricultural activities	x	x			x	x		
due to non-sewered population	x	x			x	x		
Urban land use	x				x			
Other significant diffuse pressures (specify below)								
Water abstractions			**Yes**	-			**Yes**	-
Abstractions for agriculture								
Abstractions for public water supply								
Abstractions by industry								
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge				-				-
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures		-		-		-		-
Saltwater intrusion								
Other intrusion (specify below)								

Description of other significant pressures than those selected above.	HU: indirect water abstraction: inland excess water drainage

Code of ICPDR GW-body		*GWB-6*
National share of ICPDR GW-body (nationally aggregated part)		*HU-6, RO-6*

Significant Pressures for Groundwater	Status pressure types 2021				Risk pressure types 2019→2027			
	Chemical Yes/-		**Quantity** Yes/-		**Chemical** Yes/-		**Quantity** Yes/-	
	HU	RO	HU	RO	HU	RO	HU	RO
Point sources	-				-			
Leakages from contaminated sites								
Leakages from waste disposal sites (landfill and agricultural waste disposal)								
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)								
Diffuse Sources	-				-			
due to agricultural activities								
due to non-sewered population								
Urban land use								
Other significant diffuse pressures (specify below)								
Water abstractions			-				--	
Abstractions for agriculture								
Abstractions for public water supply								
Abstractions by industry								
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge			-				-	
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures	-		-		-		-	
Saltwater intrusion								
Other intrusion (specify below)								

Description of other significant pressures than those selected above.	

Code of ICPDR GW-body		GWB-7
National share of ICPDR GW-body (nationally aggregated part)		*HU-7, RO-7, RS-7*

Significant Pressures for Groundwater	Status pressure types 2021						Risk pressure types 2019→2027					
	Chemical Yes/-			Quantity Yes/-			Chemical Yes/-			Quantity Yes/-		
	HU poor	RO	RS	HU poor	RO	RS poor	HU risk	RO	RS	HU risk	RO	RS risk
Point sources		-	-					-	-			
Leakages from contaminated sites												
Leakages from waste disposal sites (landfill and agricultural waste disposal)												
Leakages associated with oil industry infrastructure												
Mine water discharges												
Discharges to ground such as disposal of contaminated water to soak ways												
Other relevant point sources (specify below)												
Diffuse Sources	**Yes**	-	-				**Yes**	-	-			
due to agricultural activities	x						x					
due to non-sewered population	x						x					
Urban land use	x						x					
Other significant diffuse pressures (specify below)												
Water abstractions				**Yes**	-	**Yes**				**Yes**	-	**Yes**
Abstractions for agriculture				x		x				x		x
Abstractions for public water supply				x		x				x		x
Abstractions by industry						x						x
IPPC activities												
Non-IPPC activities												
Abstractions by quarries/open cast coal sites												
Other major abstractions (specify below)												
Artificial recharge					-						-	
Discharges to groundwater for artificial recharge purposes												
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)												
Mine water rebound												
Other major recharges (specify below)												
Other significant pressures		-			-			-			-	
Saltwater intrusion												
Other intrusion (specify below)												

Description of other significant pressures than those selected above.	

Code of ICPDR GW-body					*GWB-8*			
National share of ICPDR GW-body (nationally aggregated part)					*HU-8, SK-8*			
Significant Pressures for Groundwater	**Status pressure types 2021**				**Risk pressure types 2019→2027**			
	Chemical Yes/-		**Quantity** Yes/-		**Chemical** Yes/-		**Quantity** Yes/-	
	HU	SK	HU	SK	HU	SK risk	HU	SK
Point sources	-				-	**Yes**		
Leakages from contaminated sites						x		
Leakages from waste disposal sites (landfill and agricultural waste disposal)								
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)						x		
Diffuse Sources	-					**Yes**		
due to agricultural activities						x		
due to non-sewered population						x		
Urban land use								
Other significant diffuse pressures (specify below)								
Water abstractions			-				-	
Abstractions for agriculture								
Abstractions for public water supply								
Abstractions by industry								
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge			-				-	
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures	-		-		-		-	
Saltwater intrusion								
Other intrusion (specify below)								
Description of other significant pressures than those selected above.	SK: discharges from wastewater treatment plant (indirect pressure)							

Code of ICPDR GW-body		*GWB-9*
National share of ICPDR GW-body (nationally aggregated part)		*HU-9, SK-9*

Significant Pressures for Groundwater	**Status pressure types 2021**				**Risk pressure types 2019→2027**			
	Chemical Yes/-		**Quantity** Yes/-		**Chemical** Yes/-		**Quantity** Yes/-	
	HU	SK poor	HU	SK	HU risk	SK risk	HU	SK
Point sources	-	**Yes**			-			
Leakages from contaminated sites		x						
Leakages from waste disposal sites (landfill and agricultural waste disposal)		x						
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)		x						
Diffuse Sources	-	**Yes**			**Yes**	**Yes**		
due to agricultural activities					x	x		
due to non-sewered population		x			x			
Urban land use								
Other significant diffuse pressures (specify below)								
Water abstractions							-	
Abstractions for agriculture								
Abstractions for public water supply								
Abstractions by industry								
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge			-				-	
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures	-		-		-		-	
Saltwater intrusion								
Other intrusion (specify below)								

Description of other significant pressures than those selected above.	SK: discharges from wastewater treatment plant (indirect pressure)

Code of ICPDR GW-body		GWB-10
National share of ICPDR GW-body (nationally aggregated part)		HU-10, SK-10

Significant Pressures for Groundwater	Status pressure types 2021				Risk pressure types 2019→2027			
	Chemical Yes/-		Quantity Yes/-		Chemical Yes/-		Quantity Yes/-	
	HU	SK	HU	SK	HU risk	SK	HU	SK risk
Point sources	-				**Yes**	-		
Leakages from contaminated sites								
Leakages from waste disposal sites (landfill and agricultural waste disposal)								
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)					x			
Diffuse Sources	-				-	-		
due to agricultural activities								
due to non-sewered population								
Urban land use								
Other significant diffuse pressures (specify below)								
Water abstractions			-					**Yes**
Abstractions for agriculture								x
Abstractions for public water supply								x
Abstractions by industry								x
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge								
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures	-		-		-		-	
Saltwater intrusion								
Other intrusion (specify below)								

Description of other significant pressures than those selected above.	HU: unknown pollution source, monitoring required

Code of ICPDR GW-body		*GWB-11*
National share of ICPDR GW-body (nationally aggregated part)		*HU-11, SK-11*

Significant Pressures for Groundwater	**Status pressure types 2021** **Chemical** Yes/-		**Quantity** Yes/-		**Risk pressure types 2019→2027** **Chemical** Yes/-		**Quantity** Yes/-	
	HU	SK	HU	SK	HU	SK	HU	SK
Point sources	-				-			
Leakages from contaminated sites								
Leakages from waste disposal sites (landfill and agricultural waste disposal)								
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)								
Diffuse Sources	-				-			
due to agricultural activities								
due to non-sewered population								
Urban land use								
Other significant diffuse pressures (specify below)								
Water abstractions			-				-	
Abstractions for agriculture								
Abstractions for public water supply								
Abstractions by industry								
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge			-				-	
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures	-		-		-		-	
Saltwater intrusion								
Other intrusion (specify below)								

Description of other significant pressures than those selected above.	

Code of ICPDR GW-body		*GWB-12*
National share of ICPDR GW-body (nationally aggregated part)		*HU-12, SK-12*

	Status pressure types 2021				**Risk pressure types 2019→2027**			
Significant Pressures for Groundwater	**Chemical** Yes/-		**Quantity** Yes/-		**Chemical** Yes/-		**Quantity** Yes/-	
	HU	SK poor	HU	SK	HU	SK risk	HU	SK
Point sources	-				-			
Leakages from contaminated sites								
Leakages from waste disposal sites (landfill and agricultural waste disposal)								
Leakages associated with oil industry infrastructure								
Mine water discharges								
Discharges to ground such as disposal of contaminated water to soak ways								
Other relevant point sources (specify below)								
Diffuse Sources		**Yes**				**Yes**		
due to agricultural activities		x				x		
due to non-sewered population		x						
Urban land use								
Other significant diffuse pressures (specify below)		x						
Water abstractions			-				-	
Abstractions for agriculture								
Abstractions for public water supply								
Abstractions by industry								
IPPC activities								
Non-IPPC activities								
Abstractions by quarries/open cast coal sites								
Other major abstractions (specify below)								
Artificial recharge								
Discharges to groundwater for artificial recharge purposes								
Returns of groundwater to GWB from which it was abstracted (e.g. for sand and gravel washing)								
Mine water rebound								
Other major recharges (specify below)								
Other significant pressures	-		-		-		-	
Saltwater intrusion								
Other intrusion (specify below)								

Description of other significant pressures than those selected above.	SK: other anthropogenic pressure - unknown

Groundwater measures

The overview table indicates the status of implementation of all key measures in the following way:

MC	**Measure** implementation **Completed** by end of 2020
	Implementation of measure is estimated to be ***completed by the end of 2020***
MO	**Measure** implementation **On-going** after the end of 2020
	(Involving administrative acts, diffuse pollution, advisory services, research etc.)
PO	**Construction Planning On-going** after the end of 2020
	Planning *of construction measure is* ***on-going***.
	(Involving construction or building works)
CO	**Construction On-going** after the end of 2020
	Construction *of measure is* ***on-going***.
	(Involving construction or building works)
MP	**Measure** implementation **Not Started** by the end of 2020
	Implementation of measure is planned
MN	**Measure** implementation **Not Started** by the end of 2020

The detailed tables provide more details on particular measures in each relevant GWB:

- description of the measure,
- responsible authority,
- quantitative information by appropriate indicators (number of measures/projects and costs).

GWBs at poor status in 2021 or at risk in 2027 and the implemented measures

DRBD-GWB		GWB-4	GWB-5			GWB-7			GWB-8	GWB-9		GWB-10		GWB-12
National part		RO-4	RO-5	HU-5		HU-7		RS-7	SK-8	HU-9	SK-9	HU-10	SK-10	SK-12
Poor status (Chem or Quant)		Chem	Chem	Chem	Quant	Chem	Quant	Quant	-	-	Chem		-	Chem
Risk (Chem or Quant)		Chem	Chem	Chem	Quant	Chem	Quant	Quant	Chem	Chem	Chem	Chem	Quant	Chem
Basic Measures (BM) – Article 11(3)(a)														
BM-01	BathingWater													
BM-02	Birds													
BM-03	DrinkingWater	MO	MO						MO					
BM-04	Seveso													
BM-05	EnvironmentalImpact													
BM-06	SewageSludge													
BM-07	UrbanWasteWater	CO	CO	MO		MO			CO	MO	CO			
BM-08	PlantProtectionProducts			MO		MO			MO		MN			MO
BM-09	Nitrates	MO	MO	MO		MO			MO	MO	MN			MO
BM-10	Habitats													
BM-11	IPPC													
Other Basic Measures (OBM) – Article 11(3)(b-l)														
OBM-20	CostRecoveryWaterServices													
OBM-21	EfficientWaterUse													
OBM-22	ProtectionWaterAbstractions			MP		MP						MN		
OBM-23	ControlsWaterAbstraction				MP		MP						MN	
OBM-24	RechargeAugmentationGroundwater													
OBM-25	PointSourceDischarge													
OBM-26	PollutantsDiffuse			MP		MP								
OBM-27	AdverseImpact													
OBM-28	PollutantDirectGroundwater													
OBM-29	SurfacePrioritySubstances													
OBM-30	AccidentalPollution													
Supplementary Measures (SM) – Article 11(4)&(5)		MO	MO	MP	MP	MP	MP		MO		MN	MN		MO

MC…Measure implementation completed by end of 2020, **MO**…Measure implementation on-going after the end of 2020, **PO**…Construction planning on-going after the end of 2020, **CO**…Construction on-going after the end of 2020, **MN**…Measure implementation not started by end 2020, **MP**…Measure implementation not started by end 2020, implementation of measure is planned

Detailed description of measures

[**BM** = basic measures**, OBM** = other basic measures**, SM** = supplementary measures].

GWB-4: Sarmatian

GWB Code	Size [km^2]	Pressures		Status/Risk		Measures		Exemptions
		Chemical	Quantity	Chemical	Quantity	Chemical	Quantity	
GWB-4 BG-RO	5,412	DS	-	Poor, Risk (RO)	Good	BM, SM	-	2027

MC - Measure implementation completed by the end of 2020

MO - Measure implementation on-going after the end of 2020

<u>RO – Chemical:</u>

BM-03 Ensuring the protection areas for the drinking groundwater abstraction (MO)

- **description of the measure:** establishment of safeguard zones and buffer zones ensuring the protected area according to the water legislation in force (Water Law 107/1996 modified and completed, GD 930/2005 and Order 1278/2011); banning measures for some activities and restricted use of land, in order to prevent the water contamination risk/
- **responsible authority:** water authorities, local authorities;
- **quantitative information:** according with the Water Law 107/1996 as amended and GD 930/2005, for all drinking groundwater abstractions are establishing the safeguard zones and buffer zones, in order to prevent the water resources contamination.

BM-09 Applying the Action Programs (whole territory approach) in accordance to the Nitrates Directive (MO)

In Romania, following the discussions with the EC, whole territory approach is applied according with Decision 221983/GC/12.06.2013 of the Inter-ministerial Commission for the implementation of the Action Programs for the protection of waters against pollution caused by nitrates from agricultural sources.

- **description of the measure –** programme of measures applied for the agriculture diffuse sources in order to reduce the effects of the agriculture activities
- **responsible authority:** county agriculture authorities, local authorities and farmers
- **quantitative information by appropriate indicators:** This measure is applied in whole Dobrogea-Litoral Water Basin Administration territory.

SM - Research study for evaluation of the type and quantity of pollutants in soil and groundwater and the transfer/degradation mechanisms (MO)

- **description of the measure**: development of modelling tools for the evaluation of spatial and temporal pollutants migration – the support tool for finalising the evaluation methodology of the groundwater status and of the pollutant trends.
- **responsible authority**: Ministry of Environment, Waters and Forests, National Administration ”Romanian Waters”, National Institute for Hydrology and Water Management.
- **quantitative information by appropriate indicators**: research study

PO - Construction measure planning on-going after the end of 2020

CO - Construction of measure on-going after the end of 2020

<u>RO – Chemical:</u>

BM – 07 Construction of collecting system (CO)

- **description of the measure** – execution of the new sewage networks
- **responsible authority:** local authority

- **quantitative information** construction of collecting systems and improvement of the waste water treatment plant performance

MN - Measure implementation not started by the end of 2020

GWB-5: Mures/Maros

GWB Code	Size [km²]	Pressures		Status/Risk		Measures		Exemptions
		Chemical	Quantity	Chemical	Quantity	Chemical	Quantity	
GWB-5 HU-RO	7,216	DS	WA	Poor, Risk (RO, HU)	Poor, Risk (HU)	BM, OBM, SM	OBM, SM	2027+ (HU) 2027 (RO)

MC - Measure implementation completed by the end of 2020

MO - Measure implementation on-going after the end of 2020

RO – Chemical:

BM-03 Ensuring the protection areas for the drinking groundwater abstraction (MO)

- **description of the measure:** establishment of safeguard zones and buffer zones ensuring the protected area according to the water legislation in force (Water Law 107/1996 modified and completed, GD 930/2005 and Order 1278/2011); banning measures for some activities and restricted use of land, in order to prevent the water contamination risk/
- **responsible authority:** water authorities, local authorities;
- **quantitative information:** according with the Water Law 107/1996 as amended and GD 930/2005, for all drinking groundwater abstractions are establishing the safeguard zones and buffer zones, in order to prevent the water resources contamination.

BM-09 Applying the Action Programs (whole territory approach) in accordance to the Nitrates Directive (MO)

In Romania, following the discussions with the EC, whole territory approach is applied according with Decision 221983/GC/12.06.2013 of the Inter-ministerial Commission for the implementation of the Action Programs for the protection of waters against pollution caused by nitrates from agricultural sources.

- **description of the measure –** programme of measures applied for the agriculture diffuse sources in order to reduce the effects of the agriculture activities
- **responsible authority:** county agriculture authorities, local authorities and farmers
- **quantitative information by appropriate indicators:** This measure is applied in whole Dobrogea-Littoral Water Basin Administration territory.

SM - Research study for evaluation of the type and quantity of pollutants in soil and groundwater and the transfer/degradation mechanisms (MO)

- **description of the measure**: development of modelling tools for the evaluation of spatial and temporal pollutants migration – the support tool for finalising the evaluation methodology of the groundwater status and of the pollutant trends.
- **responsible authority**: Ministry of Environment, Waters and Forests, National Administration ”Romanian Waters”, National Institute for Hydrology and Water Management.
- **quantitative information by appropriate indicators**: research study

HU – Chemical:

BM-07

- **description of the measure:** BM07
- **responsible authority:** local governments

- **quantitative information by appropriate indicators (number of measures/projects and costs):**
  HU transposed the Urban Waste Water Directive by Gov. decree 25/2002. (II. 27.) on the National Wastewater Collection and Treatment program. The implementation of UWWD is ongoing.

BM-08

- **description of the measure:** BM08
- **responsible authority:** plant protection authority
- **quantitative information by appropriate indicators (number of measures/projects and costs):**
  Implementation of EU the plant protection action program required by Sustainable Use of Pesticides Directive in the territory of the whole country with special regard to sensitive areas like drinking water protection zones, buffer strips of surface waters, etc. with additional voluntary measures planned under CAP 2021-27.

BM-09

- **description of the measure:** BM09
- **responsible authority:** authorities for soil protection and for water protection
- **quantitative information by appropriate indicators (number of measures/projects and costs):**
  HU transposed the ND by the Gov. Decree No. 27/2006. (II.7.) on the protection of waters against pollution caused by nitrates of agricultural sources. Designation of nitrate vulnerable zones was revised in 2013 (NVZ; ~69% of Hungary) . The Code of Good Agricultural Practice (GAP) is obligatory on NVZ's. Outside the NVZ's, the agri environmental measures assist the implementation of GAP on a voluntary basis.

RO – Quantity:

OBM-23

- **description of the measure** - In Romania, the measures (basic and other basic measures) are taken for all groundwater bodies (even if they are in good status), to prevent deterioration of groundwater bodies status but also taking into consideration the precautionary principle.
- **responsible authority:** water authorities, local authorities
- **quantitative information by appropriate indicators:** according with the Water Law 107/1996, Annex 3 (C) as amended, the groundwater abstraction shall be authorized and controlled, and the water abstraction register is regularly update.

HU – Quantity:

SM: measure for the inland excess water retention

OBM-23: development of water information system concerning the electronic-authorisation; New regulation on water management elaborated to take action against the installation and use of illegal agricultural water wells.

PO - Construction measure planning on-going after the end of 2020

CO - Construction of measure on-going after the end of 2020

RO – Chemical:

BM–07 Construction of collecting system (CO)

- **description of the measure** – execution of the new sewage networks
- **responsible authority:** local authority
- **quantitative information** construction of collecting systems and improvement of the waste water treatment plant performance
-

MN - Measure implementation not started by the end of 2020

HU – Chemical:

OBM-22

- **description of the measure:** OBM22 – protection of water abstractions

- **responsible authority:** authorities for water protection and water management
- **quantitative information by appropriate indicators (number of measures/projects and costs):**
  The protection of drinking water abstraction sites is regulated by 123/1997. (VII. 18.) Gov. Decree, acc. to which protection zones of sensitive abstraction sites have to be revised every 10 years. Revision includes i. a. the review of potential pollution sources and activities in the protection zones and their impacts on water quality and taking restrictive measures or additional monitoring if necessary. In addition to the implementation of the risk-based approach in the protection zones of drinking water abstraction acc. to the new Drinking Water Directive, other basic measures to support water protective agricultural practices, e. g. forestation, special practices for areas prone to erosion, excess water or droughts, will be introduced and subsidised by CAP 2021-27.

OBM-26

- **description of the measure:** OBM26 – poll. diffuse
- **responsible authority:** authorities for soil protection and for water protection
- **quantitative information by appropriate indicators (number of measures/projects and costs):**
  New compulsory and voluntary measures to reduce erosion and prevent nutrient (esp. phosphorus) inputs into waters in CAP 2021-27 are under elaboration.

SM - Supplementary Measures

- **description of the measure:** SM – education
- **responsible authority:** Ministry of Agriculture, farmers' advisors
- **quantitative information by appropriate indicators (number of measures/projects and costs):**
  Expand farmers' advisory system and introduce consultation for farmers on water protecting agricultural practices in the fields of sustainable nutrient and pesticide management, water saving cultivation practices, irrigation, natural water retention, erosion to assist to a successful application and use of CAP subsidies, both compulsory and voluntary.

- **description of the measure:** SM – research, development – kiegészítő intézkedés
- **responsible authority:** Ministry of Interior, Ministry of Agriculture
- **quantitative information by appropriate indicators (number of measures/projects and costs):**
  The request "Strengthening water monitoring in Hungary" (21HU07) for support under the first round of the Technical Support Instrument (TSI 2021) has been preliminarily accepted for funding by DG Reform. The project aims at ensuring high-quality monitoring and processing of water related information, integration of monitoring activity of the aquatic environment (soil, ecosystem, water, air) between sectors and organizations and closing the gap between research to practical application. (Planned budget: 650 000€, expected end: 2022)

GWB-7: Upper Pannonian – Lower Pleistocene / Vojvodina / Duna-Tisza köze deli r.

GWB Code	Size [km²]	Pressures		Status/Risk		Measures		Exemptions
		Chemical	Quantity	Chemical	Quantity	Chemical	Quantity	
GWB-7 HU-RO-RS	28,959	DS	WA	Poor, Risk (HU)	Poor, Risk (HU, RS*)	BM, OBM, SM	OBM, SM	2027+ (HU) YYYY (RS*)

MC - Measure implementation completed by the end of 2020

HU - Quantity

SM: measures from the CAP in order to protect the groundwater resources (CAP planning is ongoing)

OBM-23: development of water information system concerning the electronic-authorisation; New regulation on water management elaborated to take action against the installation and use of illegal agricultural water wells.

MO - Measure implementation on-going after the end of 2020

HU – Chemistry

BM-07

- **description of the measure:** BM07
- **responsible authority:** local governments
- **quantitative information by appropriate indicators (number of measures/projects and costs):**

  HU transposed the Urban Waste Water Directive by Gov. decree 25/2002. (II. 27.) on the National Wastewater Collection and Treatment program. The implementation of UWWD is ongoing.

BM-08

- **description of the measure:** BM08
- **responsible authority:** plant protection authority
- **quantitative information by appropriate indicators (number of measures/projects and costs):**

  Implementation of EU the plant protection action program required by Sustainable Use of Pesticides Directive in the territory of the whole country with special regard to sensitive areas like drinking water protection zones, buffer strips of surface waters, etc. with additional voluntary measures planned under CAP 2021-27.

BM-09

- **description of the measure:** BM09
- **responsible authority:** authorities for soil protection and for water protection
- **quantitative information by appropriate indicators (number of measures/projects and costs):**

  HU transposed the ND by the Gov. Decree No. 27/2006. (II.7.) on the protection of waters against pollution caused by nitrates of agricultural sources. Designation of nitrate vulnerable zones was revised in 2013 (NVZ; ~69% of Hungary) . The Code of Good Agricultural Practice (GAP) is obligatory on NVZ's. Outside the NVZ's, the agri environmental measures assist the implementation of GAP on a voluntary basis.

PO - Construction measure planning on-going after the end of 2020

CO - Construction of measure on-going after the end of 2020

MN - Measure implementation not started by the end of 2020

HU – Chemistry

OBM-22

- **description of the measure:** OBM22 – protection of water abstractions
- **responsible authority:** authorities for water protection and water management
- **quantitative information by appropriate indicators (number of measures/projects and costs):**

  The protection of drinking water abstraction sites is regulated by 123/1997. (VII. 18.) Gov. Decree, acc. to which protection zones of sensitive abstraction sites have to be revised every 10 years. Revision includes i. a. the review of potential pollution sources and activities in the protection zones and their impacts on water quality and taking restrictive measures or additional monitoring if necessary. In addition to the implementation of the risk-based approach in the protection zones of drinking water abstraction acc. to the new Drinking Water Directive, other basic measures to support water protective agricultural practices, e. g. forestation, special practices for areas prone to erosion, excess water or droughts, will be introduced and subsidised by CAP 2021-27.

OBM-26

- **description of the measure:** OBM26 – poll. diffuse
- **responsible authority:** authorities for soil protection and for water protection
- **quantitative information by appropriate indicators (number of measures/projects and costs):**

  New compulsory and voluntary measures to reduce erosion and prevent nutrient (esp. phosphorus) inputs into waters in

CAP 2021-27 are under elaboration.

SM - Supplementary Measures

- **description of the measure:** SM – education
- **responsible authority:** Ministry of Agriculture, farmers' advisors
- **quantitative information by appropriate indicators (number of measures/projects and costs):**
  Expand farmers' advisory system and introduce consultation for farmers on water protecting agricultural practices in the fields of sustainable nutrient and pesticide management, water saving cultivation practices, irrigation, natural water retention, erosion to assist to a successful application and use of CAP subsidies, both compulsory and voluntary.

- **description of the measure:** SM – research, development
- **responsible authority:** Ministry of Interior, Ministry of Agriculture
- **quantitative information by appropriate indicators (number of measures/projects and costs):**
  The request "Strengthening water monitoring in Hungary" (21HU07) for support under the first round of the Technical Support Instrument (TSI 2021) has been preliminarily accepted for funding by DG Reform. The project aims at ensuring high-quality monitoring and processing of water related information, integration of monitoring activity of the aquatic environment (soil, ecosystem, water, air) between sectors and organizations and closing the gap between research to practical application. (Planned budget: 650 000€, expected end: 2022)

Note

** The National Plan for the Republic of Serbia is still in progress (available as draft), therefore, the year for exemptions as well as information on measures for the national part of GWB 7 which is in quantitative risk cannot be provided before the deadline of data collection of this overview. The information will be provided, when the Plan is officially adopted.*

GWB-8: Podunajska Basin, Zitny Ostrov / Szigetköz, Hanság-Rábca

GWB Code	Size [km²]	Pressures		Status/Risk		Measures		Exemptions
		Chemical	Quantity	Chemical	Quantity	Chemical	Quantity	
GWB-8 HU-SK	3,338	PS, DS		Risk (SK)	Good	BM, SM		

MC - Measure implementation completed by the end of 2020

MO - Measure implementation on-going after the end of 2020

<u>SK – Chemical</u>

BM-03 Drinking water protected areas (DWPA)

- **description of the measure:** Reconsider the safeguard zone and restrictions in the DWPA, if they are sufficient to protect the quality of drinking water sources.
- **responsible authority:** Slovak Environmental Inspection, Ministry of Agriculture and Rural Development of the Slovak Republic
- **quantitative information by appropriate indicators:** DWPA Žitný ostrov (area 1200 km^2)

BM-08 Plant protection products

- **description of the measure:** Continue to meet the requirements arising from the implementation of European Parliament and Council Directive 2009/128/EC concerning the reduction of pesticides pollution from agriculture and implementation of this Directive into national Law and National action programme to achieve sustainable use of pesticides. Continue to apply measure concerning the placing of plant protection products on the market according to Regulation No. 1107/2009 of the EU Parliament and of the Council.

- **responsible authority:** Central Control and Testing Institute in Agriculture, Ministry of Agriculture and Rural Development of the Slovak Republic
- **quantitative information by appropriate indicators:**

BM-09 Nitrates Directive

- **description of the measure:** Continuing in application of requirements of the Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources (Nitrates Directive). The Nitrates Directive requires the fulfilment of the task of the Action Programme, which is established in the SR by Act no. 136/2000 Coll. on fertilizers.
- **responsible authority:** Ministry of Agriculture and Rural Development of the Slovak Republic, Central Control and Testing Institute in Agriculture
- **quantitative information by appropriate indicators:** This measure is applied in groundwater body's vulnerable areas (1694 km^2) according to Government Regulation no. 174/2017 Coll. (will be revised in 2021/2022).

SM - Supplementary Measures

- Remediation of contaminated sites - continuing in remediation and monitoring of environmental burdens at priority sites listed in the Informational System of Environmental Burdens according to the State Remediation Programme of Environmental Burdens (2022–2027).
- Continuing in application of measures according to Rural Development Programme for SR (2014–2020) extended to 2022, when the new Common Agricultural Policy (CAP) enters into force. The measures include the advisory services for agriculture, support for organic farming, managed agricultural and forestry activities in NATURA 2000 areas, etc.
- Research, improvement of knowledge base reducing uncertainty - support of research project, support of purpose monitoring to increase information about groundwater contamination and sources of contamination.
- Strengthening control activities (personnel ad financial) including increasing the number of controls.
- Education and training in the field of water protection for the professional and public (including school).

PO - Construction measure planning on-going after the end of 2020

CO - Construction of measure on-going after the end of 2020

SK – Chemical

BM-07 Measures to reduce pollution from urban areas

- **description of the measure:** Construction or upgrades of sewerage systems and wastewater treatment plants according to Plan of Public Sewerage System Development for years 2021 - 2027. Measures for sewerage systems (collecting systems for urban waste water) to comply article 3 of Council Directive 91/271/EEC and measures for urban waste water treatment to comply with article 4 and article 5 of Council Directive 91/271/EEC in ground water bodies.
- **responsible authority:** Ministry of Environment of the Slovak Republic
- **quantitative information by appropriate indicators:** measures for agglomerations >2000 PE: sewerage systems in 5 agglomerations and 3 WWTP need to be (re)constructed or upgraded; measures in DWPA Žitný ostrov for agglomerations <2000 PE: 41 agglomerations sewerage systems and 5 agglomerations sewerage systems and WWTP.

MN - Measure implementation not started by the end of 2020

GWB-9: Bodrog

GWB Code	Size [km²]	Pressures		Status/Risk		Measures		Exemptions
		Chemical	Quantity	Chemical	Quantity	Chemical	Quantity	
GWB-9	2,220	DS		Poor, Risk	Good	BM, SM		2027+

HU-SK				(HU, SK)				

MC - Measure implementation completed by the end of 2020

MO - Measure implementation on-going after the end of 2020

<u>HU – Chemical</u>

BM-07

- **description of the measure:** BM07
- **responsible authority:** local governments
- **quantitative information by appropriate indicators (number of measures/projects and costs):**

HU transposed the Urban Waste Water Directive by Gov. decree 25/2002. (II. 27.) on the National Wastewater Collection and Treatment program. The implementation of UWWD is ongoing.

BM-09

- **description of the measure:** BM09
- **responsible authority:** authorities for soil protection and for water protection
- **quantitative information by appropriate indicators (number of measures/projects and costs):**

HU transposed the ND by the Gov. Decree No. 27/2006. (II.7.) on the protection of waters against pollution caused by nitrates of agricultural sources. Designation of nitrate vulnerable zones was revised in 2013 (NVZ; ~69% of Hungary) . The Code of Good Agricultural Practice (GAP) is obligatory on NVZ's. Outside the NVZ's, the agri environmental measures assist the implementation of GAP on a voluntary basis.

PO - Construction measure planning on-going after the end of 2020

CO - Construction of measure on-going after the end of 2020

<u>SK – Chemical</u>

BM-07 Measures to reduce pollution from urban areas

- **description of the measure:** Construction or upgrades of sewerage systems and wastewater treatment plants according to Plan of Public Sewerage System Development for years 2021–2027. Measures for sewerage systems (collecting systems for urban waste water) to comply article 3 of Council Directive 91/271/EEC and measures for urban waste water treatment to comply with article 4 and article 5 of Council Directive 91/271/EEC in ground water bodies.
- **responsible authority:** Ministry of Environment of the Slovak Republic
- **quantitative information by appropriate indicators:** sewerage networks in 2 agglomerations (>2000 PE) and 1 WWTP need to be (re)constructed or upgraded

MN - Measure implementation not started by the end of 2020

<u>SK – Chemical</u>

BM-08 Plant protection products

- **description of the measure:** Continue to meet the requirements arising from the implementation of European Parliament and Council Directive 2009/128/EC concerning the reduction of pesticides pollution from agriculture and implementation of this Directive into national Law and National action programme to achieve sustainable use of pesticides. Continue to apply measure concerning the placing of plant protection products on the market according to Regulation No. 1107/2009 of the EU Parliament and of the Council.
- **responsible authority:** Central Control and Testing Institute in Agriculture, Ministry of Agriculture and Rural Development of the Slovak Republic
- **quantitative information by appropriate indicators:**

BM-09 Nitrates Directive

- **description of the measure:** Continuing in application of requirements of the Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources (Nitrates Directive). The Nitrates

Directive requires the fulfilment of the task of the Action Programme, which is established in the SR by Act no. 136/2000 Coll. on fertilizers.

- **responsible authority:** Ministry of Agriculture and Rural Development of the Slovak Republic, Central Control and Testing Institute in Agriculture
- **quantitative information by appropriate indicators:** This measure is applied in groundwater body's vulnerable areas (1293 km^2) according to Government Regulation no. 174/2017Coll. (will be revised in 2021/2022).

SM - Supplementary Measures

- Remediation of contaminated sites - continuing in remediation and monitoring of environmental burdens at priority sites listed in the Informational System of Environmental Burdens according to the State Remediation Programme of Environmental Burdens (2022 - 2027).
- Continuing in application of measures according to Rural Development Programme for SR (2014 -2020) extended to 2022, when the new Common Agricultural Policy (CAP) enters into force. The measures include the advisory services for agriculture, support for organic farming, managed agricultural and forestry activities in NATURA 2000 areas, etc.
- Research, improvement of knowledge base reducing uncertainty - support of research project, support of purpose monitoring to increase information about groundwater contamination and sources of contamination.
- Strengthening control activities (personnel ad financial) including increasing the number of controls.
- Education and training in the field of water protection for the professional and public (including school).

GWB-10: Slovensky kras /Aggtelek-hsg

GWB Code	Size [km²]	Pressures		Status/Risk		Measures		Exemptions
		Chemical	Quantity	Chemical	Quantity	Chemical	Quantity	
GWB-10 HU-SK	1,091	PS	WA	Risk (HU)	Risk (SK)	OBM, SM	OBM	-

MC - Measure implementation completed by the end of 2020

MO - Measure implementation on-going after the end of 2020

PO - Construction measure planning on-going after the end of 2020

CO - Construction of measure on-going after the end of 2020

MN – Measure implementation not started by the end of 2020

HU - Chemical

OBM-22

- **description of the measure:** OBM22 – protection of water abstractions
- **responsible authority:** authorities for water protection and water management
- **quantitative information by appropriate indicators (number of measures/projects and costs):**

The protection of drinking water abstraction sites is regulated by 123/1997. (VII. 18.) Gov. Decree, acc. to which protection zones of sensitive abstraction sites have to be revised every 10 years. Revision includes i. a. the review of potential pollution sources and activities in the protection zones and their impacts on water quality and taking restrictive measures or additional monitoring if necessary. In addition to the implementation of the risk-based approach in the protection zones of drinking water abstraction acc. to the new Drinking Water Directive, other basic measures to support water protective agricultural practices, e. g. forestation, special practices for areas prone to erosion, excess water or droughts, will be introduced and subsidised by CAP 2021-27.

SM

- **description of the measure:** SM – research, development
- **responsible authority:** Ministry of Interior, Ministry of Agriculture
- **quantitative information by appropriate indicators (number of measures/projects and costs):**

The request "Strengthening water monitoring in Hungary" (21HU07) for support under the first round of the Technical Support Instrument (TSI 2021) has been preliminarily accepted for funding by DG Reform. The project aims at ensuring high-quality monitoring and processing of water related information, integration of monitoring activity of the aquatic environment (soil, ecosystem, water, air) between sectors and organizations and closing the gap between research to practical application. (Planned budget: 650 000€, expected end: 2022)

SK – Quantity

OBM-3 Controls of WaterAbstractions

- **description of the measure:** Controls and periodically reviewed abstractions of groundwater in accordance with the national Act no. 364/2004 Coll. on waters.
- **responsible authority:** State water management institutions - Ministry of Environment of the Slovak Republic, Slovak Environmental Inspection, and local authorities
- **quantitative information by appropriate indicators:** water law permits

GWB-12: Ipel / Ipoly

GWB Code	Size [km²]	Pressures		Status/Risk		Measures		Exemptions
		Chemical	Quantity	Chemical	Quantity	Chemical	Quantity	
GWB-12 HU-SK	344	DS	WA	Poor, Risk (SK)	Good	BM, SM		2027+

MC - Measure implementation completed by the end of 2020

MO - Measure implementation on-going after the end of 2020

SK – Chemical

BM-08 Plant protection products

- **description of the measure:** Continue to meet the requirements arising from the implementation of European Parliament and Council Directive 2009/128/EC concerning the reduction of pesticides pollution from agriculture and implementation of this Directive into national Law and National action programme to achieve sustainable use of pesticides. Continue to apply measure concerning the placing of plant protection products on the market according to Regulation No. 1107/2009 of the EU Parliament and of the Council.
- **responsible authority:** Central Control and Testing Institute in Agriculture, Ministry of Agriculture and Rural Development of the Slovak Republic
- **quantitative information by appropriate indicators:**

BM-09 Nitrates Directive

- **description of the measure:** Continuing in application of requirements of the Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources (Nitrates Directive). The Nitrates Directive requires the fulfilment of the task of the Action Programme, which is established in the SR by Act no. 136/2000 Coll. on fertilizers.
- **responsible authority:** Ministry of Agriculture and Rural Development of the Slovak Republic, Central Control and Testing Institute in Agriculture
- **quantitative information by appropriate indicators:** This measure is applied in groundwater body's vulnerable areas (173 km²) according to Government Regulation no. 174/2017 Coll. (will be revised in 2021/2022).

SM - Supplementary Measures

- Continuing in application of measures according to Rural Development Programme for SR (2014–2020) extended to 2022, when the new Common Agricultural Policy (CAP) enters into force. The measures include the advisory services for agriculture, support for organic farming, managed agricultural and forestry activities in NATURA 2000 areas, etc.
- Research, improvement of knowledge base reducing uncertainty - support of research project, support of purpose monitoring to increase information about groundwater contamination and sources of contamination.
- Strengthening control activities (personnel ad financial) including increasing the number of controls.
- Education and training in the field of water protection for the professional and public (including school).

PO - Construction measure planning on-going after the end of 2020

CO - Construction of measure on-going after the end of 2020

MN - Measure not having started by the end of 2020

Detailed results of classification of all assessed surface water bodies according to particular biological, hydromorphological and chemical quality elements

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

Draft ANNEX 9 as of 26 February 2021

DRBMP Update 2021

Deutschland //// Österreich //// Česká republika //// Slovensko //// Magyarország //// Slovenija //// Hrvatska //// Bosna i Hercegovina //// Србија //// Crna Gora //// România //// България //// Moldova //// Україна

Explanations

Labels in the tables		Description	Possible values
	Water body code	Water body code (including country code)	
	River	Name of river	
	Water body name	Name of water body	
	from river-km	Lower river km of the water body (on Danube River)	
	to river-km	Higher river km of the water body (on Danube River)	
	Water body type	Type of water body	N = natural, A = artificial H = heavily modified P = provisionally identified as heavily modified
Biological Quality Elements	**Fish**	Status class for the water body	1 = high 2 = good 3 = moderate 4 = poor 5 = bad - = not applicable
	Benthic invertebrates	Status class for the water body	
	Phytobenthos and Macrophytes	Status class for the river or lake water body	
	Angiosperms	Status class for the coastal or transitional water body	
	Macroalgae	Status class for the coastal or transitional water body	
	Phytoplankton	Status class for the water body	
	Overall Biological Status	Status class for the water body = worst case of the status classes of all biological quality elements (acc. to one-out-all-out principle)	
	Hydromorphology - High Status	Only if biological quality elements are in high status, hydromorphology must also be in high status	Y = yes N = no
	General Phys. and Chem. conditions	Status class for the water body for general physical and chemical conditions supportive to the Ecological Status	1 = high 2 = good 3 = moderate 4 = poor 5 = bad
	River Basin Specific Pollutants	Status class for the water body for specific pollutants based on national quality standards; relevant for the assessment of Ecological Status. Specific pollutants are those pollutants that are regulated at the national level (and not included in the List	G = good F = failing
	OVERALL ECOLOGICAL STATUS/POTENTIAL	Worst case of the Biological Quality Class and Specific pollutants Status Class. For High Ecological Status/Potential	1 = high 2 = good 3 = moderate 4 = poor

Labels in the tables		Description	Possible values
		additionally the General Physical and Chemical Parameters and the Hydromorphology have to be in high status.	5 = bad
	Related confidence class	Confidence level of assessment (agreed by the MA EG)	H = high M = medium L = low
CHEMICAL STATUS for priority substances (and confidence)	**…in water**	Chemical status class for priority substances in water, regulated by the EU	G = good F = failing
	Related confidence class	Confidence level of the assessment of priority substances in water (agreed by the MA EG)	H = high M = medium L = low
	…in water w/o ubiquitous	Chemical status class for priority substances in water, regulated by the EU, without ubiquitous substances according to Directive 2013/39/EU: (i.e., without *brominated diphenylethers, polyaromatic hydrocarbons, tributyltin compounds, perfluorooctane sulfonic acid and its derivatives, dioxins and dioxin-like compounds, hexabromocyclododecanes, heptachlor and heptachlor epoxide, mercury*)	G = good F = failing
	Related confidence class	Confidence level of the assessment of priority substances in water without ubiquitous substances (agreed by the MA EG)	H = high M = medium L = low
	…in biota	Chemical status class for priority substances in biota, regulated by the EU	G = good F = failing
	Related confidence class	Confidence level of the assessment of priority substances in biota (agreed by the MA EG)	H = high M = medium L = low
	…in biota w/o ubiquitous	Chemical status class for priority substances in biota, regulated by the EU without *brominated diphenylethers and mercury*	G = good F = failing
	Related confidence class	Confidence level of the assessment of priority substances in biota, regulated by the EU without *brominated diphenylethers and mercury* (agreed by the MA EG)	H = high M = medium L = low
Exemptions	Exemption Art. 4(4)	Usage of exemption according to EU WFD Art. 4(4)	Y = yes N = no - = not applicable
	Exemption Art. 4(5)	Usage of exemption according to EU WFD Art. 4(5)	Y = yes N = no - = not applicable

Status assessment of the Danube river

Water body code	River	Water body name	from river-km	to river-km	Water body type	Biological Quality Elements: Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status	Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence): …in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class	Exemption Art. 4(4)	Exemption Art. 4(5)
DERW_DEBW_6-01	Donau	Donau oberh. Beuroner Tal (TBG 60)	2717	2780	N	3	2	2	2	3	N	3	G	3	H	F	H	F	H	F	H	G	H	Y	N
DERW_DEBW_6-02	Donau	Donau ab Beuroner Tal oberh. Lauchert (TBG 61)	2676	2717	N	3	2	2	2	3	N	3	G	3	H	F	H	F	H	F	H	G	H	Y	N
DERW_DEBW_6-03	Donau	Donau ab Lauchert oberh. Zwiefalter Ach (TBG 62)	2640	2676	N	3	2	2	2	3	N	3	G	3	H	F	H	F	H	F	H	G	H	Y	N
DERW_DEBW_6-04	Donau	Donau ab Zwiefalter Ach oberh. Riß (TBG 63)	2603	2640	N	3	2	2	2	3	N	3	G	3	H	F	H	F	H	F	H	F	H	Y	N
DERW_DEBW_6-05	Donau	Donau ab Riß oberh. Iller (TBG 64)	2588	2603	H	3	2	3	2	3	N	3	G	3	H	F	H	F	H	F	H	F	H	Y	N
DERW_DEBY_1_F030 _BW	Donau	Donau von Einmündung Iller bis Einmündung Landgraben bei Offingen	2551	2583	H	2	2	2	2	2			G	2	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F062	Donau	Donau von Einmündung Landgraben bei Offingen bis Staustufe Donauwörth	2507	2551	H	2	2	2	2	2			G	2	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F074	Donau	Donau von Donauwörth bis Einmündung Lech	2491	2507	N	2	2	2	2	2			G	2	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F163	Donau	Donau von Einmündung Lech bis Einmündung Paar	2438	2491	H	2	2	2	2	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F204	Donau	Donau von Einmündung Paar bis Staubing (Fkm 165)	2418	2438	N	2	3	2	2	3			G	3	H	G	H	G	H	F	H	G	H	Y	N

Water body code	River	Water body name	from river-km	to river-km	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
						Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
DERW_DEBY_1_F205	Donau	Donau von Staubing bis Einmündung Main-Donau-Kanal	2406	2418	N	2	3	3	2	3			G	3	H	F	H	F	H	F	H	G	H	Y	N
DERW_DEBY_1_F223	Donau	Donau von Einmündung Main-Donau-Kanal bis Einmündung Naab	2380	2406	H	3	3	3	2	3			G	3	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F348	Donau	Donau von Einmündung Naab bis Einmündung Große Laber	0	2380	H	3	3	3	2	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F361	Donau	Donau von Einmündung Große Laber bis Einmündung Isar	2282	2324	N	2	2	3	2	3			G	3	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F477	Donau	Donau von Einmündung Isar bis Einmündung Vils	2249	2282	N	2	2	3	2	3			G	3	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F478	Donau	Donau von Einmündung Vils bis Einmündung Inn	2225	2249	H	2	2	3	2	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F633	Donau	Donau von Passau bis Staatsgrenze	2202	2225	H	3	2	3	2	3			G	3	H	G	H	G	H	F	H	F	H	Y	N
ATOK303070000	Donau	Donau	2202	2223	H	5	3	2		5	N	3	G	3	H	G	L	G	L	F	H	G	L	Y	N
ATOK410360003	Donau	Donau-Aschach	2162	2202	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK410360005	Donau	Donau-Ottensheim_Wilhering	2146	2162	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK410360007	Donau	Donau_10, KW Ottensheim_Wilhering bis KW Abwinden_Asten, EP groß	2120	2146	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK410360009	Donau	Donau_09 KW Abwinden_Asten bis KW	2094	2120	H	4	2	3		4	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N

Water body code	River	Water body name	from river-km	to river-km	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
						Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
		Wallsee_Mitterkirchen, EP groß																							
ATOK410360012	Donau	Donau_08, KW Wallsee_Mitterkirchen bis KW Ybbs_Persenbeug, EP groß	2060	2094	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK410360002	Donau	Donau_07, KW Ybbs Persenbeug bis KW Melk, EP groß	2038	2060	H	5	2	2		5	N	2	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK410350000	Donau	Donau_06, KW Melk bis Mautern, EP groß	2005	2038	N	5	2	2		5	N	2	G	4	H	G	L	G	L	F	H	G	L	Y	N
ATOK409040012	Donau	Donau_05, Mautern bis KW Altenwörth, EP groß	1980	2005	H	5	2	2		5	N	2	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK409040011	Donau	Donau_04, KW Altenwörth bis KW Greifenstein, EP groß	1950	1980	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK409040013	Donau	Donau_03, KW Greifenstein bis KW Freudenau, EP groß	1921	1950	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK409040008	Donau	Donau_02, KW Freudenau bis Devin, EP groß	1880	1921	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK411340000	Donau	Donau_01, unterhalb Devin, EP groß	1873	1880	N	2	2	2		2	N	2	G	2	L	G	L	G	L	F	H	G	L	N	N
SKD0016	Dunaj	Dunaj	1869	1880	N	3	2	3	2	3	N	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
SKD0017	Dunaj	Dunaj	1790	1869	H	3	3	2	2	3	N	2	G	3	M	F	H	G	H	F	H	G	H	Y	N
HUAEP443	Duna	Duna Szigetköznél	1785	1850	H		3	2	1	3	N	1	G	3	H	F	H	G	H	F	H	F	H	Y	N
SKD0018	Dunaj	Dunaj	1708	1790	N	3	3	3	2	3	N	2	G	3	H	F	H	G	H	F	H	F	H	Y	N

Water body code	River	Water body name	from river-km	to river-km	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
						Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
HUAEP446	Duna	Duna Gönyü-Szob között	1708	1785	N		3	2	1	3	N	2	F	3	H	F	H	G	H	F	H	F	H	Y	N
HUAOC756	Duna, Szentendrei-Duna	Duna Szob–Budapest között	1660	1708	N		3	2	2	3	N	2	G	3	H	F	H	F	H	F	H	F	H	Y	N
HUAOC752	Duna, Szentendrei-Duna	Duna–Budapest	1633	1660	H		3	2	2	3	N	2	F	3	H	F	H	G	H	F	H	F	H	Y	N
HUAOC753	Duna	Duna Budapest–Dunaföldvár között	1561	1633	H		3	2	2	3	N	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
HUAOC754	Duna	Duna Dunaföldvár–Sió torkolat között	1497	1561	H		3	2	2	3	N	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
HRCDRI0001_001	Dunav	Dunav	1479	1561	N			2	2	2	N	2	G	5	H	G	H								Y
HUAOC755	Duna	Duna Sió torkolat–országhatár között	1433	1497	H		3	2	2	3	N	2	G	3	H	F	H	G	H	F	H	F	H	Y	N
HRCDRI0001_002	Dunav	Dunav	1428	1479	N		3	2	1	3	N	2	G	4	H	G	H							Y	Y
RSD_10	Dunav	Dunav od ušća Drave do Državne granice sa Mađarskom	1382	1433	N		2	2		2		3	F	2	M	F	H								
RSD_09	Dunav	Dunav od Državne granice sa Republikom Hrvatskom kod Bač• ke Palanke do ušća Drave	1296	1382	N		2	2		2		3	F	2	M	F	H								
RSD_08	Dunav	Dunav od DTD kanal Novi Sad-Savino Selo do Državne granice sa Republikom Hrvatskom kod Bačke Palanke	1253	1296	N		2	2		2		2	F	2	M	G	H								
RSD_07	Dunav	Dunav od ušća Tise do ušća DTD kanal Novi Sad-Savino Selo	1214	1261	N		3	3		3		2	F	3	M	G	H								

Water body code	River	Water body name	from river-km	to river-km	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
						Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RORW14-1_B1	Dunarea	Dunarea PF I	1038	1261	H		-	-	2	2	N	3	F	3	H	G	H	G	H			G			
RORW14-1_B2	Dunarea	Dunarea PF II	1021	1223	H		-	-	2	2	N	3	F	3	H	G	H	G	H			G			
RSD_06	Dunav	Dunav od ušća Save do ušća Tise	1170	1214	N		3	3		3		3	F	3	M	F	H								
RSD_05	Dunav	Akumulacija HE Đerdap 1 od ušća Velike Morave do ušća Save	1104	1170	H		4	3		4		3	F	4	M	F	H								
RSD_04	Dunav	Akumulacija HE Đerdap 1 od ušća Nere do ušća Velike Morave	1076	1104	H		4	2		4		2	F	4	M	G	M								
RSD_03	Dunav	Akumulacija HE Đerdap 1 od Brane do ušća Nere	943	1076	H		3	3		3		2	F	3	M	G	H								
RORW14-1_B3	Dunarea	Dunarea PF II - Chiciu	445	1021	H	3	2	1	1	3	N	2	G	3	H	F	H	G	H	F	H	G	H		
RSD_02	Dunav	Akumulacija HE Đerdap 2	863	943	H		3	3		3		2	F	3	M	G	H								
RSD_01	Dunav	Dunav nizvodno od HE Đerdap 2 do ušća Timoka	846	863	N		3	3		3		3	F	3	M	G	H								
BG1DU000R001	Dunav	DUNAV RWB01	374	846	H					-		2	G	3	H	F	M	F	M					Y	N
RORW14-1_B4	Dunarea	Dunarea Chiciu-Isaccea	124	446	H	3	2	2	2	3	N	2	G	3	H	F	H	G	H	F	H	G	H		
UADB_UA_01	Danube	Danube	178	194	N					-														-	-
UADB_UA_02	Danube	Danube	119	178	N					-														-	-
RORW14-1_B6	Dunarea	Dunarea Chilia	0	133	N		2	2	2	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW14-1_B5	Dunarea	Dunarea Isaccea-Sulina	0	124	H		2	2	2	2	N	2	G	2	H	F	H	G	H	F	H	G	H		
UADB_UA_03	Danube	Danube	22	119	N					-														-	-
RORW14-1_B7	Dunarea	Dunarea Sf. Gheorghe	0	88	N		2	2	2	2	N	2	G	2	H	F	H	G	H	F	H	G	H		

Status assessment of the tributaries

Water body code	River	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
DERW_DEBY_1_F 509	Inn	Inn von Innstau Passau-Ingling bis Mündung in die Donau	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 556	Inn	Inn von Einmündung Innwerkkanal bis Einmündung Alz	H	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 557	Inn	Inn von Ausleitung Innwerkkanal bis Einmündung Innwerkkanal	N	3	2	2	-	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 558	Inn	Inn von Einmündung der Mangfall bis Jettenbach	H	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 583	Inn	Inn von Einmündung Alz bis Einmündung der Salzach	H	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 654	Inn	Inn von Einmündung Salzach bis unterhalb Stau Neuhaus	H	2	2	2	-	2			G	2	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F 655	Inn	Inn von unterhalb Stau Neuhaus bis Innstau Passau-Ingling	H	3	2	2	-	3			G	3	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F 656	Inn	Inn von unterhalb Kufstein bis unterhalb Erl	H	4	2	2	-	4			G	4	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 657	Inn	Inn von unterhalb Erl bis Einmündung der Mangfall; Moosbach; Altwasser; Husarenbach	H	3	2	2	-	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 373	Isar	Isar von Staatsgrenze bis zum Krüner Wehr	N	2	1	1	-	2			G	2	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F 374	Isar	Isar vom Krüner Wehr bis Sylvensteinspeicher	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 375	Isar	Isar vom Sylvensteinspeicher bis Bad Tölz (Fkm 202,8)	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 376	Isar	Isar von Fkm 202,8 bis Fkm 195 (Bad Tölz)	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N

Water body code	River	Water body name	Water body type	Biological Quality Elements										CHEMICAL STATUS for priority substances (and confidence)									
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status	Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class	Exemption Art. 4(4)	Exemption Art. 4(5)
DERW_DEBY_1_F 377	Isar	Isar von Fkm 195 bis Einmündung der Loisach	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 402	Isar	Isar von Einmündung der Loisach bis Corneliuswehr	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 403	Isar	Isar von Corneliuswehr bis Oberföhringer Wehr	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 404	Isar	Isar von Anfang Mittlere-Isar-Kanal bis Moosburg	N	2	2	2	-	2			G	2	H	F	H	F	H	F	H	F	H	Y	N
DERW_DEBY_1_F 405	Isar	Isar von Einmündung der Amper bis Einmündung des Mittlere-Isar-Kanals	N	3	3	2	-	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 406	Isar	Isar von Moosburg bis Einmündung der Amper	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 429	Isar	Isar von Einmündung des Mittlere-Isar-Kanals bis Stützkraftstufe Pielweichs bei Plattling; Kleine Isar in Landshut	H	4	4	3	-	4			G	4	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 430	Isar	Isar von Plattling bis Mündung in die Donau	N	2	3	2	-	3			G	3	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_S 022	Isar	Isar vom Krüner Wehr bis Sylvensteinspeicher	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 121	Lech	Lech mit Lechfall von Staatsgrenze bis Theresienbrücke Füssen (Fkm 168,5 - 166,3)	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 122	Lech	Lech von Einmündung Lechkanal Meitingen bis Mündung in die Donau	H	3	-	-	-	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 124	Lech	Lech Mutterbett von Einmündung Wertach bis Einmündung Lechkanal bei Ostendorf	H	3	2	2	-	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 125	Lech	Lech von Fkm 139 bis Fkm 133 (Litzauer Schleife)	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 126	Lech	Lech Mutterbett vom Hochablass Augsburg bis Einmündung Wertach	N	2	3	2	-	3			G	3	H	G	H	G	H	F	H	G	H	Y	N

Water body code	River	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
DERW_DEBY_1_F 127	Lech	Lech von Staustufe 23 bis zum Hochablass Augsburg	N	2	3	2	-	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 128	Lech	Lech von Staustufe 1 bis Staustufe 4 (Kraftwerk Roßhaupten bis Fkm 139)	H	4	2	2	-	4			G	4	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 129	Lech	Lech von Theresienbrücke Füssen bis Staustufe 1 (Kraftwerk Roßhaupten)	H	-	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 130	Lech	Lech von Staustufe 15 bis Eisenbahnbrücke in Kaufering	N	2	2	2	-	2			G	2	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 131	Lech	Lech von Eisenbahnbrücke in Kaufering bis Staustufe 23	H	2	3	2	-	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 132	Lech	Lech von Mündung in Schongauer Lechsee bis Staustufe 15	H	3	2	2	-	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 226	Main-Donau-Kanal	Main-Donau-Kanal (Altmühl) von Dietfurt bis Mündung in die Donau	H	2	5	2	2	5			G	5	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 227	Main-Donau-Kanal	Altmühl bis Einmündung Wieseth	N	2	3	3	-	3			F	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 228	Main-Donau-Kanal	Altmühl von Einmündung Wieseth bis Einmündung Hungerbach	N	2	3	3	3	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 229	Main-Donau-Kanal	Altmühl von Einmündung Hungerbach bis zum Zusammenfluss mit Main-Donau-Kanal	N	2	3	3	4	4			G	4	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F 243	Main-Donau-Kanal	Main-Donau-Kanal von Pierheim bis Dietfurt	A	-	2	3	4	4			G	4	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 251	Naab	Tirschenreuther Waldnaab unterhalb Tirschenreuth (Fkm 168,8), Waldnaab bis Zusammenfluss mit der Haidenaab; Flutkanal (Stadt Weiden i.d.OPf.)	N	4	2	2	-	4			G	4	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 252	Naab	Tirschenreuther Waldnaab oh. WSP Liebenstein; Heiligenbach	N	4	2	2	-	4			G	4	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 253	Naab	Tir. Waldnaab ab Einmündung in Liebensteinspeicher bis Tirschenreuth	N	4	2	2	-	4			G	4	H	G	H	G	H	F	H	G	H	Y	N

Water body code	River	Water body name	Water body type	Biological Quality Elements: Fish	Biological Quality Elements: Benthic invertebrates	Biological Quality Elements: Phytobenthos & Macrophytes	Biological Quality Elements: Phytoplankton	Biological Quality Elements: Overall Biological Status	Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence): …in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class	Exemption Art. 4(4)	Exemption Art. 4(5)
		(Fkm 168,8); Geisbach von Kriegerbühl bis Mündung																					
DERW_DEBY_1_F 273	Naab	Naab von Zusammenfluss Haidenaab und Waldnaab bis Mündung in die Donau	N	2	2	3	3	3			G	3	H	G	H	G	H	F	H	F	H	Y	N
DERW_DEBY_1_F 640	Salzach	Salzach von Einmündung Alzkanal bis Mündung in den Inn	H	3	2	2	-	3			G	3	H	G	H	G	H	F	H	G	H	Y	N
DERW_DEBY_1_F 641	Salzach	Salzach von Einmündung Saalach bis Einmündung Alzkanal	N	3	2	2	-	3			G	3	H	F	H	G	H	F	H	F	H	Y	N
ATOK900470001	Drau	Drau	N	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK900470021	Drau	DRAU(150)	N	3	2	2		3	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK900470022	Drau	DRAU(140)	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK900470056	Drau	DRAU(90)	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK900470061	Drau	DRAU(130)	H	4	1	1		4	N	1	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK900470062	Drau	DRAU(20)	H	4	2	2		4	N	2	G	2	H	G	L	G	L	F	H	G	L	N	N
ATOK900470064	Drau	DRAU(30)	H	4	2	2		4	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK900470065	Drau	DRAU(40)	H	4	2	2		4	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK900470068	Drau	DRAU(50)	H	4	2	2		4	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK900470069	Drau	DRAU(60)	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK900470071	Drau	DRAU(70)	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK900470072	Drau	DRAU(80)	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK900470075	Drau	DRAU(100)	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK900470076	Drau	DRAU(110)	H	3	1	1		3	N	1	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK900470077	Drau	DRAU(120)	H	4	1	1		4	N	1	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK903540001	Drau	Drau	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N

Water body code	River	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ATOK903540002	Drau	Drau_1	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK903540003	Drau	Drau_2	N	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK903770000	Drau	DRAU(10)	H	4	2	2		4	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK400240027	Enns	Gewässer: Enns, Abschnitt: Landesgrenze bis Radstadt	N	5	3	2		5	N	3	G	5	H	G	L	G	L	F	L	G	L	Y	N
ATOK400240089	Enns	Enns	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK400240090	Enns	Enns	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK400240092	Enns	Enns	N	3	2	2		3	N	2	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK400240103	Enns	Gewässer: Enns, Abschnitt: Ende Fischlebensraum bis Labgeggbach	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK400240104	Enns	Gewässer: Enns, Abschnitt: Langeggbach bis Ursprung	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK400240105	Enns	Gewässer: Enns, Abschnitt: Radstadt bis Altenmarkt	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK400240106	Enns	Altenmarkt bis Flachau	N	3	2	2		3	N	2	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK400240163	Enns	Oberhalb Flachau bis Grenze Fischlebensraum	N	4	2	2		4	N	2	G	4	H	G	L	G	L	F	L	G	L	Y	N
ATOK409970000	Enns	Enns	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250006	Enns	Enns_Hafen Donaurückstau	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK411250008	Enns	Enns	H	5	2	2		5	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK411250009	Enns	Enns Gesäuse	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK411250010	Enns	Enns	N	5	2	2		5	N	2	G	5	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250012	Enns	Enns, Enns-Seitenarm	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK411250014	Enns	Enns_Thurnsdorf-Stau	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250016	Enns	Enns_Mühlrading-Stau	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ATOK411250018	Enns	Enns_Staning	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK411250020	Enns	Enns_Steyr-Fließstrecke	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250021	Enns	Enns_Garsten	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250023	Enns	Enns_Rosenau	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250025	Enns	Enns_Ternberg	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250027	Enns	Enns_Losenstein	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250029	Enns	Enns_Großraming	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250031	Enns	Enns_Weyer	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250035	Enns	Enns_Altennmarkt_1	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411250036	Enns	Enns_Hilfswehr-Enns	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK411250037	Enns	Enns_Thurnsdorf RWStrecke	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK304980003	Inn	Inn	H	3	2	2		3	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK304980005	Inn	Inn_1	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK304980006	Inn	Inn_2	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK304980007	Inn	Inn_1	H	3	2	2		3	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK304980008	Inn	Inn_2	H	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK304980009	Inn	Inn_3	H	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK304980010	Inn	Inn_4	H	3	2	2		3	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK305340005	Inn	Inn_Schärding_Neuhaus	H	5	3	2		5	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK305340007	Inn	Inn_Egglfing_Obernberg	H	4	3	2		4	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK305340009	Inn	Inn_Ering_Frauenstein	H	4	3	2		4	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK305340010	Inn	Inn_Braunau_Simbach	H	4	3	2		4	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						...in water	Related confidence class	...in water w/o ubiquitous	Related confidence class	...in biota	Related confidence class	...in biota w/o ubiquitous	Related confidence class		
ATOK305340011	Inn	Inn_Ingling Unterwasser-Fließstrecke	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK305340012	Inn	Inn_Ingling Stauraum	H	5	2	3		5	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK305850006	Inn	Inn_1	H	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK305850010	Inn	Inn_6	H	3	2	2		3	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK305850011	Inn	Inn_5	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK307030000	Inn	Inn	H	4	2	2		4	N	2	G	2	M	G	L	G	L	F	H	G	L	N	N
ATOK307210001	Inn	Inn_1	H	3	2	2		3	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK307210002	Inn	Inn_2	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK301860008	Isar	Isar_11	N	4	2	2		4	N	2	G	4	M	G	L	G	L	F	L	G	L	Y	N
ATOK301860009	Isar	Isar_10_1	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK301860010	Isar	Isar_10_2	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK302340001	Isar	Isar_1	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK302340002	Isar	Isar_2	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK301500002	Lech	Lech, Formarinbach	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK301500003	Lech	Lech_1_obh Zug	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK301500004	Lech	Lech_2_Ort	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK302370006	Lech	Lech	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK302370007	Lech	Lech	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK302370009	Lech	Lech_1	H	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK302370010	Lech	Lech_2	H	3	2	2		3	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK302370011	Lech	Lech_1	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK302370013	Lech	Lech_2_1	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N

Water body code	River	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ATOK302370014	Lech	Lech_2_2	N	1	2	2		2	Y	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK307080000	Lech	Lech	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK500020001	March	March, MP	N	2	3	3		3	Y	3	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK801180001	Mur	Gewässer: Mur, Abschnitt: Landesgrenze bis Kendlbruck; 8011802	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK801180002	Mur	Gewässer: Mur, Abschnitt: Kendlbruck bis Madling/Thomertalerbach Taurachmündung; 8011801	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK801180003	Mur	Gewässer: Mur, Abschnitt: Madling/Thomertalerbach bis Taurachmündung	N	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK801180004	Mur	Gewässer: Mur, Abschnitt: Taurachmündung bis Zederhausbachmündung; 8011805	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK801180005	Mur	Gewässer: Mur, Abschnitt: Zederhausbach bis Untere Au; 8011806	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK801180006	Mur	Gewässer: Mur, Abschnitt: Untere Au bis Murfall	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK801180007	Mur	Gewässer: Mur, Abschnitt: Murfall bis Rotgüldenbach	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK801180008	Mur	Gewässer: Mur, Abschnitt: Rotgüldenbach bis Dreischuppen; 8011807	H	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK801180009	Mur	Gewässer: Mur, Abschnitt: Drei Schuppen bis Nähe Zalußenalm	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK801180028	Mur	Mur, Mur-Seitenarm St. Georgen	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK801180029	Mur	Mur	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK801180055	Mur	Mur	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK802710002	Mur	Mur	H	3	2	2		3	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ATOK802710008	Mur	Mur	H	4	2	2		4	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK802710009	Mur	Mur	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK802710010	Mur	Mur	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK802710012	Mur	Mur Graz	H	4	2	2		4	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK802710014	Mur	Mur	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK802710015	Mur	Mur	H	4	2	2		4	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK802720001	Mur	Mur	H	4	2	2		4	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK802720002	Mur	Mur	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK802720003	Mur	Mur	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK802720004	Mur	Mur	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK802720005	Mur	Mur	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK802720006	Mur	Mur	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK803280000	Mur	Gewässer: Mur, Abschnitt: Nähe Zalußenalm bis Sticklerhütte	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK803280001	Mur	Gewässer: Mur, Abschnitt: Sticklerhütte bis Ursprung	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK804000000	Mur	Mur (Mura)	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	H	G	L	N	N
ATOK1000960015	Raab	Raab	N	5	2	2		5	N	2	G	5	H	G	L	G	L	F	L	G	L	Y	N
ATOK1000960017	Raab	Raab	N	2	2	2		2	N	2	G	2	H	G	L	G	L	F	L	G	L	N	N
ATOK1000960019	Raab	Raab	N	4	2	2		4	N	2	G	4	H	G	L	G	L	F	L	G	L	Y	N
ATOK1000960020	Raab	Raab	N	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK1001040041	Raab	Raab_Neumarkt	N	2	2	2		2	N	2	G	2	L	G	L	G	L	F	L	G	L	N	N
ATOK1001040042	Raab	Raab_St. Martin	N	2	3	2		3	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ATOK1001040102	Raab	Raab	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK1001040105	Raab	Raab	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK1001040108	Raab	Raab	N	4	2	2		4	N	2	G	4	H	G	L	G	L	F	L	G	L	Y	N
ATOK1001040109	Raab	Raab	N	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK1001040121	Raab	Raab Feldbach	N	3	2	2		3	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK1001040122	Raab	Raab	N	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK1002140000	Raab	Raab_Grenzstrecke	N	1	3	3		3	Y	3	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK1002160000	Raab	Raab	N	4	2	2		4	N	2	G	4	H	G	L	G	L	F	L	G	L	Y	N
ATOK1001790012	Rabnitz	Rabnitz_Piringsdorf	N	4	3	3		4	N	3	G	4	H	G	L	G	L	F	L	G	L	Y	N
ATOK1001790013	Rabnitz	Rabnitz_Oberrabnitz	N	3	3	3		3	N	3	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK1001790035	Rabnitz	Rabnitz_Unterloisdorf	N	3	3	3		3	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK1001790039	Rabnitz	Rabnitz_Frankenau	N	4	3	2		4	N	3	G	4	H	G	L	G	L	F	L	G	L	Y	N
ATOK1002370000	Rabnitz	Rabnitz_01, MR	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK304690001	Salzach	Gewässer: Salzach, Abschnitt: Gasteinerachenmündung bis KW Ausleitung in Högmoos	N	5	2	2		5	N	2	G	5	H	G	L	G	L	F	L	G	L	Y	N
ATOK304690004	Salzach	Gewässer: Salzach, Abschnitt: Mündung Felber Ache bis Trattenbachmündung	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK304690005	Salzach	Gewässer: Salzach, Abschnitt: Trattenbachmündung bis Mündung Krimmlerache	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK304690006	Salzach	Gewässer: Salzach, Abschnitt: Ende Fischlebensraum bis Überleitung Durlassboden	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ATOK304690007	Salzach	Gewässer: Salzach, Abschnitt: Überleitung Durlassboden bis Nähe Salzachjochütte	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK304690078	Salzach	Gewässer: Salzach, Abschnitt: Krimmlerachenmündung bis Ende Fischlebensraum	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK304690261	Salzach	Gewässer: Salzach, Abschnitt: Ende Stau KW Gries bis Mündung Felber Ache, prior Sanierungsr. I, prior Sanierungsr. II_2	N	3	2	2		3	N	2	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK304690262	Salzach	Gewässer: Salzach, Abschnitt: KW Ausleitung in Högmoos bis Ende Stau KW Gries	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK305000000	Salzach	Gewässer: Salzach, Abschnitt: Nähe Salzachjochhütte bis Ursprung	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK305350001	Salzach	Gewässer: Salzach, Abschnitt: Blühnbachmündung bis Mündung Kleinarlerache	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK305350002	Salzach	Gewässer: Salzach, Abschnitt: Tauglmündung bis Blühnbachmündung	N	5	2	2		5	N	2	G	5	H	G	L	G	L	F	L	G	L	Y	N
ATOK305350003	Salzach	Gewässer: Salzach, Abschnitt: Mündung der Oberalm bis zur Tauglmündung	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK305350004	Salzach	Gewässer: Salzach, Abschnitt: von der Saalachmündung bis KW Urstein	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK305350006	Salzach	Gewässer: Salzach, Abschnitt: KW Urstein bis Mündung der Oberalm	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK305360001	Salzach	Gewässer: Salzach, Abschnitt: Stauraum KW Wallnerau bis zur Mündung Gasteinerache	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ATOK305360002	Salzach	Gewässer: Salzach, Abschnitt: Kleinarlerachenmündung bis zum Stauraum KW Wallerau	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK307200001	Salzach	Salzach_Mündung	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK307200002	Salzach	Salzach	N	5	2	2		5	N	2	G	5	H	G	L	G	L	F	L	G	L	Y	N
ATOK307200003	Salzach	Gewässer: Salzach, Abschnitt: Landesgrenze bis Saalachmündung	N	4	2	2		4	N	2	G	4	H	G	L	G	L	F	L	G	L	Y	N
ATOK1001760000	Spratzbach	Spratzbach_02 [Rabnitz] (WB, NK)	N	3	2	2		3	N	2	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK1002370003	Spratzbach	Spratzbach_01	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK500010030	Thaya	Thaya_07, EP mittel	H	4	3	3		4	N	3	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK500010031	Thaya	Thaya_08, EP klein	H	4	3	3		4	N	3	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK500010036	Thaya	Thaya_06, EP mittel	H	3	3	3		3	N	3	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK500010038	Thaya	Thaya_09, EP klein	N	2	2	3		3	N	3	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK500010043	Thaya	Thaya_07, EP mittel	H	3	3	3		3	N	3	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK500040002	Thaya	Thaya_10, MR	N	3	3	3		3	N	3	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK500040003	Thaya	Thaya_11, ER	N	3	2	2		3	N	2	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK501710003	Thaya	Thaya_04, EP mittel 2	N	4	3	3		4	N	3	G	4	H	G	L	G	L	F	L	G	L	Y	N
ATOK501790000	Thaya	Thaya_01, MP	N	2	3	3		3	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK501870001	Thaya	Thaya_05, EP mittel	H	4	3	2		4	N	3	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK501930000	Thaya	Thaya_03, EP mittel 2	N	3	2	3		3	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK501940000	Thaya	Thaya_02, MP	N	2	2	3		3	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK400780000	Traun	Toplitzbach	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK400780002	Traun	Traun-Ursprung	N	1	1	1		1	Y	1	G	1	M	G	L	G	L	F	L	G	L	N	N
ATOK401220004	Traun	Traun	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						...in water	Related confidence class	...in water w/o ubiquitous	Related confidence class	...in biota	Related confidence class	...in biota w/o ubiquitous	Related confidence class		
ATOK401220014	Traun	Traun_Obertaun	N	2	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK401220015	Traun	Traun_Koppenschlucht_HMSG	N	1	2	2		2	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK401220016	Traun	Traun_HMWB_KW_Bad Goisern	H	4	2	2		4	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK401220017	Traun	Traun_Ausrinn_Hallstättersee	N	4	2	2		4	N	2	G	4	M	G	L	G	L	F	L	G	L	Y	N
ATOK409920002	Traun	Traun_HMWB_Bad Ischl	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK409920004	Traun	Traun_Engleithen	N	4	2	2		4	N	2	G	4	M	G	L	G	L	F	L	G	L	Y	N
ATOK409920005	Traun	Traun_HMWB_Lauffen bis Bad Goisern	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK411130036	Traun	Traun_HMWB_Ebensee	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK411130038	Traun	Traun_Ebensee bis Ischl	N	5	2	2		5	N	2	G	5	H	G	L	G	L	F	L	G	L	Y	N
ATOK411130039	Traun	Traun_uh Ischl	H	4	2	2		4	N	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK411970000	Traun	Grundlseer-Traun, Traun, Vereinigte Traun	N	5	2	2		5	N	2	G	5	L	G	L	G	L	F	L	G	L	Y	N
ATOK411980001	Traun	Grundlseer-Traun, Vereinigte Traun	N	4	2	2		4	N	2	G	4	M	G	L	G	L	F	L	G	L	Y	N
ATOK411980002	Traun	Grundlseer-Traun	N	5	2	2		5	N	2	G	5	H	G	L	G	L	F	L	G	L	Y	N
ATOK412090005	Traun	Traun	N	1	2	2		2	Y	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK412090013	Traun	Traun_Traun	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK412090014	Traun	Traun_Pucking	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK412090016	Traun	Traun_Marchtrenk	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK412090018	Traun	Traun_Wels	N	3	2	2		3	N	2	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK412090020	Traun	Traun_Welser_Wehr	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK412090024	Traun	Traun_Saag	N	3	3	3		3	N	3	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK412090027	Traun	Traun_Ebelsberg-Rückstau Donau	H	4	4	4		4	N	4	G	3	H	G	L	G	L	F	L	G	L	Y	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ATOK412090028	Traun	Traun_Ebelsberg-RWStrecke	N	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK412090030	Traun	Traun_Stadl	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK412090031	Traun	Traun_Lambach	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK412090032	Traun	Traun_Kemating	H	4	2	2		4	N	2	G	3	M	G	L	G	L	F	L	G	L	Y	N
ATOK412090036	Traun	Traun	N	3	2	2		3	N	2	G	3	L	G	L	G	L	F	L	G	L	Y	N
ATOK412090037	Traun	Traun_Roitham_HMSG	N	1	2	2		2	Y	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK412090040	Traun	Traun_HMSG_Fischerinsel	N	1	2	2		2	Y	2	G	2	M	G	L	G	L	F	L	G	L	N	N
ATOK412090042	Traun	Traun_Laakirchen	H	4	2	2		4	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK412100001	Traun	Traun_UW_Gmunden	N	3	2	2		3	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
ATOK412100002	Traun	Traun_KW_Gmunden	H	5	2	2		5	N	2	G	3	H	G	L	G	L	F	L	G	L	Y	N
CZDYJ_0100	Dyje	Dyje od státní hranice po vzdutí nádrže Vranov, včetně toku Křeslický potok	N	4	3	3		4		3	F	4	H	F	H	F		F	H	F	H	Y	N
CZDYJ_0155_J	Dyje	Nádrž Vranov na toku Dyje	H				2	2		3	G	3	H	G	M	G						N	N
CZDYJ_0160	Dyje	Dyje od hráze nádrže Vranov po státní hranici	H		2	2		2		3	G	3	H	G	M	G						Y	N
CZDYJ_0170	Dyje	Dyje od státní hranice po vzdutí nádrže Znojmo	H		2	2		2		3	G	3	H	F	M	G						Y	N
CZDYJ_0180	Dyje	Dyje od vzdutí nádrže Znojmo po státní hranici	N	4	3	2		4		3	G	4	H	F	M	F						Y	N
CZDYJ_0190	Dyje	Dyje od státní hranice po státní hranici	N		3	3		3		3	G	3	H	G	M	G						Y	N
CZDYJ_0200	Dyje	Dyje od státní hranice po vzdutí nádrže Nové Mlýny I. – horní	H	4	2	3		4		3	F	4	H	G	H	G		F	H			Y	N
CZDYJ_0295_J	Dyje	Nádrž Nové Mlýny I. - horní na toku Dyje	H				2	2		3	G	3	H	G	M	G						Y	N
CZDYJ_1195_J	Dyje	Nádrž Nové Mlýny II. - střední na toku Dyje	H				4	4		3	G	4	H	G	M	G						Y	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
CZDYJ_1205_J	Dyje	Nádrž Nové Mlýny III. - dolní na toku Dyje	H				5	5		3	F	5	H	G	M	G						Y	N
CZDYJ_1240	Dyje	Dyje od hráze nádrže Nové Mlýny III. - dolní po tok Odlehčovací rameno Dyje, Poštorná	H	4	3	2	3	4		3	G	4	H	F	M	G						Y	N
CZDYJ_1260	Dyje	Dyje od toku Odlehčovací rameno Dyje, Poštorná po tok Kyjovka (Stupava)	N	4	3	3	3	4		3	F	4	H	F	H	F		F	H			Y	N
CZDYJ_1300	Dyje	Dyje od toku Kyjovka (Stupava) po tok Morava	N	4	3	3	3	4		3	F	4	H	F	M	F		F	H			Y	N
CZMOV_0010	Morava	Morava od pramene po tok Krupá	N		1	1		1		2	G	2	H	G	M	G						N	N
CZMOV_0080	Morava	Morava od toku Krupá po tok Desná	N		2			2		2	F	3	H	F	M	F						Y	N
CZMOV_0180	Morava	Morava od toku Desná po soutok s tokem Moravská Sázava	N		1	2		2		2	F	3	H	F	M	F						Y	N
CZMOV_0310	Morava	Morava od toku Moravská Sázava po tok Třebůvka	N	3	2	2		3		3	G	3	H	F	M	F						Y	N
CZMOV_0530	Morava	Morava od toku Třebůvka po tok Bečva	N	5	4	3	3	5		3	F	5	H	F	H	F		F	H			Y	N
CZMOV_0950	Morava	Morava od toku Bečva po tok Haná	N	4	3		2	4		3	G	4	H	F	M	F						Y	N
CZMOV_1170	Morava	Morava od toku Haná po tok Dřevnice	H	4	3	2	2	4		3	F	4	H	F	M	F						Y	N
CZMOV_1290	Morava	Morava od toku Dřevnice po tok Olšava	H	5	4	3	2	5		3	F	5	H	G	M	G						Y	N
CZMOV_1390	Morava	Morava od toku Olšava po tok Radějovka	N	5	3	2	2	5		3	G	5	H	F	M	G						Y	N
CZMOV_1430	Morava	Morava od toku Radějovka po státní hranici	H	3	2	3	4	4		3	F	4	H	F	H	F		F	H			Y	N
CZDYJ_0300	Svratka	Svratka od pramene po Bílý potok	N		2	3		3		3	F	3	H	G	M	G						Y	N
CZDYJ_0330	Svratka	Svratka od toku Bílý potok po vzdutí nádrže Vír I.	N		2	3		3		3	G	3	H	F	M	F						Y	N
CZDYJ_0345_J	Svratka	Nádrž Vír I na toku Svratka	H				5	5		3	G	5	H	G	M	G						Y	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
CZDYJ_0380	Svratka	Svratka od hráze nádrže Vír I. po tok Bobrůvka (Loučka)	H	3	2	3		3		3	G	3	H	G	M	G						Y	N
CZDYJ_0450	Svratka	Svratka od toku Bobrůvka (Loučka) po vzdutí nádrže Brno	N	4	2	2		4		3	F	4	H	G	M	G						Y	N
CZDYJ_0485_J	Svratka	Nádrž Brno na toku Svratka	H				5	5		3	G	5	H	G	M	G						Y	N
CZDYJ_0490	Svratka	Svratka od hráze nádrže Brno po tok Svitava	H	3	2	2		3		3	G	3	H	G	M	G						Y	N
CZDYJ_0670	Svratka	Svratka od toku Svitava po tok Litava (Cézava)	N		3	3	3	3		3	F	3	H	F	M	F						Y	N
CZDYJ_0800	Svratka	Svratka od toku Litava (Cézava) po vzdutí nádrže Nové Mlýny II. - střední	N	5	3	3	2	5		3	F	5	H	F	M	F						Y	N
SKB0001	Bodrog	Bodrog	N	3		2	-	3	N	2	G	3	H	F	H	G	H	F	H	F	H	Y	N
SKV0003	Čierny Váh	Čierny Váh	N	1		2	-	2				2	H	F	H	G	H	F	H	G	H	Y	N
SKV0004	Čierny Váh	Čierny Váh	N		2	1	-	2			G	2	H	F	M	G	M					Y	N
SKH0001	Hornád	Hornád	N		2	2	-	2	N	2	F	3	H	G	M	G	M					Y	N
SKH0002	Hornád	Hornád	N		2	2	-	2	Y	2	G	2	H	G	M	G	M					N	N
SKH0003	Hornád	Hornád	N		2	3	-	3	N	3	F	3	H	G	M	G	M					N	N
SKH0004	Hornád	Hornád	N	3	2	2	-	3	N	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
SKR0001	Hron	Hron	N	2	1	2	-	2	Y	2	G	2	H	F	H	G	H	F	H	G	H	Y	N
SKR0002	Hron	Hron	N	1	2	1	-	2		2		2	H	F	H	G	H	F	H	G	H	Y	N
SKR0003	Hron	Hron	N	2	2	2	-	2		2	G	2	H	F	H	G	H	F	H	G	H	Y	N
SKR0004	Hron	Hron	N	1	2	3	-	3	N	2	G	3	H	F	H	F	H	F	H	G	H	Y	N
SKR0005	Hron	Hron	N	1	2	3	3	3	N	2	G	3	H	F	H	F	H	F	H	G	H	Y	N
SKR0222	Hron	Hron	H		3		-	3		2	G	3	M	F	M	F	M					Y	N
SKR0223	Hron	Hron	H					-				3	L	F	L	G	L					Y	N

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SKI0001	Ipeľ	Ipeľ	N	3	1	2	-	3	Y	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
SKI0003	Ipeľ	Ipeľ	N	2			-	2		2	G	2	M	F	H	F	H	F	H	G	H	Y	N
SKI0004	Ipeľ	Ipeľ	N	2	3	3	2	3	N	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
SKI0136	Ipeľ	Ipeľ	N			3		3				3	L	G	L	G	L					N	N
SKB0141	Laborec	Laborec	N				-	-				3	L	G	L	G	L					Y	N
SKB0142	Laborec	Laborec	N	1	3	2	-	3	N	2	F	3	H	F	H	G	H	F	H	G	H	Y	N
SKB0144	Laborec	Laborec	N	4	3	3	2	4	N	3	G	4	H	F	H	G	H	F	H	G	H	Y	N
SKB0264	Laborec	Laborec	H				-	-				2	L	G	L	G	L					Y	N
SKB0140	Latorica	Latorica	N	3	3	2	-	3	N	2	G	3	H	F	M	G	M					Y	N
SKM0001	Morava	Morava	H	2	3	3	3	3	N	2	G	3	H	F	H	G	H	F	H	F	H	Y	N
SKM0002	Morava	Morava	N	3	4	2	3	4	N	3	G	4	H	F	H	G	H	F	H	F	H	Y	N
SKN0001	Nitra	Nitra	N	1	2	2	-	2		2	G	2	H	G	M	G	M					N	N
SKN0002	Nitra	Nitra	N	3	2	2	-	3		2	G	3	H	F	H	G	H	F	H	G	H	Y	N
SKN0003	Nitra	Nitra	N			3	-	3		3	F	3	M	F	M	F	M					Y	N
SKN0004	Nitra	Nitra	H	4	3	-	3	4	N	3	F	4	M	F	H	G	H	F	H	G	H	Y	N
SKD0015	Prívodný kanál (VN Gabčíkovo) - Odpadový kanál	Prívodný kanál (VN Gabčíkovo) - Odpadový kanál	A	-	-	-	2	2	N	2	G	2	H	G	M	G	M					N	N
SKS0001	Slaná	Slaná	N	2	2	3	-	3		2		3	H	F	H	G	H	F	H	G	H	Y	N
SKS0002	Slaná	Slaná	N		2	2	-	2		2	G	2	H	G	M	G	M					N	N
SKS0003	Slaná	Slaná	N	2	3	3	-	3		3	G	3	H	F	H	F	H	F	H	G	H	Y	N
SKT0001	Tisa	Tisa	N	3	3	2	3	3	N	2	G	3	H	F	H	G	H	F	H	G	H	Y	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
SKV0005	Váh	Váh	N		2	2	-	2	N	2	G	2	H	G	M	G	M					N	N
SKV0006	Váh	Váh	H	3	3	1	-	3		2	G	3	M	G	M	G	M					N	N
SKV0007	Váh	Váh	H	4	4		-	4		2		4	M	F	M	G	M	F	H	G	H	Y	N
SKV0008	Váh	Váh	H		3		2	3	N	2	G	3	M	F	H	G	H	F	H	G	H	Y	N
SKV0019	Váh	Váh	N	3	3		3	3	N	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
SKV0027	Váh	Váh	H	4	3	2	2	4	N	2	G	4	H	F	H	F	H	F	H	G	H	Y	N
SKV0472	Váh	Váh	N		2	2	-	2	N	2	G	2	H	G	M	G	M					N	N
SKV0473	Váh	Váh	H	3	2		-	3	N	2	G	3	M	F	M	G	M					Y	N
SKV0474	Váh	Váh	H	2	2		-	2		2	G	2	H	F	H	G	H	F	H	G	H	Y	N
HUAEP322	Berettyó	Berettyó	H	3	2	2	3	3	N	2	F	3	H	F	H	F	H	F	H	G	H	Y	N
HUAEP334	Bodrog	Bodrog	N	3	3	2	2	3	Y	2	F	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEP438	Dráva	Dráva alsó	N	3	2	1	3	3	N	1	G	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEP439	Dráva	Dráva felső	H	3	3	2	2	3	N	1	F	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEP471	Fehér-Körös	Fehér-Körös	A	3	3	2	2	3	N	1	F	3	H	F	H	F	H	F	H	G	H	Y	N
HUAEP475	Fekete-Körös	Fekete-Körös	H	3	3	2	2	3	N	1	F	3	H	F	H	F	H	F	H	G	H	Y	N
HUAOC778	Hármas-Körös	Hármas-Körös alsó	N	3	3	2	2	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAOC779	Hármas-Körös	Hármas-Körös felső	H	3	3	2	2	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAEP579	Hernád	Hernád alsó	N	2	3	3	3	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAEP580	Hernád	Hernád felső	H	2	3	3	3	3	N	2	F	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEP594	Hortobágy-Berettyó	Hortobágy-Berettyó	H	3	3	2	3	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAOC785	Hortobágy-főcsatorna	Hortobágy-főcsatorna	H	3	3	2	3	3	N	3	F	3	H	F	H	G	H	F	H	F	H	Y	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
HUAEP614	Ipoly	Ipoly	N	3	3	3	3	3	N	2	F	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEP668	Kettős-Körös	Kettős-Körös	H	2	3	2	1	3	N	1	F	3	H	F	H	F	H	F	H	G	H	Y	N
HUAEP783	Maros	Maros torkolat	H	3	3	2	2	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAEP784	Maros	Maros kelet	H	2	2	2	2	2	N	2	F	2	H	F	H	G	H	F	H	F	H	N	Y
HUAEP810	Mosoni-Duna	Mosoni-Duna alsó	H		3	2	1	3	N	2	G	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEP811	Mosoni-Duna	Mosoni-Duna felső	H		3		1	3	N	1	G	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEP812	Mosoni-Duna	Mosoni-Duna középső	N		3	2	1	3	N	2	G	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEP816	Mura	Mura	N	3	2	3	2	3	N	1	G	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEP898	Rába	Rába (Kis-Rábától)	H	3	3	3	3	3	N	2	G	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEP899	Rába	Rába (Csörnöc-Herpenyőtől)	H		3	3	3	3	N	2	F	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEP900	Rába	Rába (Lapincstól)	H	2	2	3	3	3	N	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEP901	Rába	Rába (ÉDÁSZ-üzemvízcsatornától)	N	2	3	3	2	3	N	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEP902	Rába	Rába torkolati szakasz	H	3	2	2	3	3	N	3	F	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEP903	Rába	Rába (határtól)	H	3	2	3	3	3	N	2	F	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEP904	Rábca	Rábca	H	3	3	2	1	3	N	2	F	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEP919	Répce	Répce felső	H	2	2	2	3	3	N	2	G	2	H	F	H	F	H	F	H	F	H	N	Y
HUAEP920	Répce	Répce alsó	H		2	3	4	4	N	2	F	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEP921	Répce	Répce középső	N	3	3	2	4	4	N	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEP931	Sajó	Sajó felső	N	2	3	3	2	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAEP932	Sajó	Sajó alsó	N		2	3	3	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAEP953	Sebes-Körös	Sebes-Körös felső	N	4	2	2	2	4	N	1	G	4	H	F	H	F	H	F	H	G	H	Y	N
HUAEP954	Sebes-Körös	Sebes-Körös alsó	H	2	2	2	1	2	N	1	F	2	H	F	H	F	H	F	H	G	H	N	Y

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
HUAEP958	Sió	Sió felső	A		3	3		3	N	3	G	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEP959	Sió	Sió alsó	A	3		3		3	N	2	F	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEP971	Szamos	Szamos	N	2	3	3	3	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAEQ054	Tisza	Tisza Túrtól Szipa-főcsatornáig	N	2	2	1	1	2	N	1	F	2	H	F	H	G	H	F	H	G	H	Y	N
HUAEQ055	Tisza	Tisza országhatártól Túrig	N	3	3	1	1	3	N	1	F	3	H	F	H	F	H	F	H	G	H	Y	N
HUAEQ056	Tisza	Tisza Hármas-Köröstől déli országhatárig	H	3	3	2	2	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAEQ057	Tisza	Tisza Szipa-főcsatornától Belfő-csatornáig	N	2	2	2	3	3	N	1	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAEQ058	Tisza	Tisza Belfő-csatornától Keleti-főcsatornáig	N	3	3	2	3	3	N	1	F	3	H	F	H	F	H	F	H	G	H	Y	N
HUAEQ059	Tisza	Tisza Keleti-főcsatornától Tiszabábolnáig	H	2	3	2	2	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	N
HUAEQ060	Tisza	Tisza Kiskörétől Hármas-Körösig	H	3	3	2	2	3	N	2	F	3	H	F	H	G	H	F	H	F	H	Y	N
HUAIW389	Tisza	Tisza Tiszabábolnától Kiskőréig	H	2	3	2	2	3	N	1	F	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEQ139	Zagyva	Zagyva felső	H	3	3	2	4	4	N	3	G	3	L	F	H	G	H	F	H	F	H	Y	N
HUAEQ140	Zagyva	Zagyva alsó	H	2	3	2	3	3	N	2	G	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEQ137	Zagyva-patak	Zagyva-patak-alsó	N	3	4	2		4	N	3	G	4	H	F	H	G	H	F	H	F	H	Y	N
HUAEQ138	Zagyva-patak	Zagyva-patak felső és Bárna-patak	N		4			4	N	3	G	4	H	F	H	G	H	F	H	F	H	Y	N
HUAEQ144	Zala	Zala forrásvidék	N	2	3	1		3	Y	2	G	3	H	F	H	G	H	F	H	G	H	Y	N
HUAEQ146	Zala	Zala (Széplaki-patakig)	N	2	3	3	2	3	N	2	G	3	H	F	H	G	H	F	H	F	H	Y	N
HUAEQ147	Zala	Zala (Bárándi-patakig)	N		2		3	3	N	2	G	3	H	F	H	G	H	F	H	F	H	Y	N
SI3VT197	Drava	MPVT Drava mejni odsek z Avstrijo	H		4	1	-	4		1	G	3	M	G	H	G	H	F	H	G	H	Y	N
SI3VT359	Drava	MPVT Drava Dravograd - Maribor	H		3	2	-	3		1	G	2	H	G	H	G	H	F	H	G	H	N	N

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SI3VT5171	Drava	VT Drava Maribor - Ptuj	N		2	1	-	2		1	G	2	H	G	M	G	M	F	H	G	H	N	N
SI3VT930	Drava	VT Drava Ptuj - Ormož	N		2	1	-	2		2	G	2	H	G	M	G	M	F	H	G	H	N	N
SI3VT970	Drava	VT Drava zadrževalnik Ormoško jezero - Središče ob Dravi	N		2	1	-	2		1	G	2	H	G	H	G	H	F	L	G	L	N	N
SI378VT	Kanal Hidroelektrarne Formin	UVT Kanal HE Formin	A				-	-		2	G	2	L	G	M	G	M	F	L	G	L	N	N
SI35172VT	Kanal Hidroelektrarne Zlatoli_je	UVT Kanal HE Zlatoličje	A				-	-		2	G	2	L	G	M	G	M	F	L	G	L	N	N
SI21VT13	Kolpa	VT Kolpa Osilnica - Petrina	N		1	1	-	1		1	G	2	H	G	H	G	H	F	H	G	H	N	N
SI21VT50	Kolpa	VT Kolpa Petrina - Primostek	N		2	1	-	2		1	G	2	M	G	H	G	H	F	L	G	L	N	N
SI21VT70	Kolpa	VT Kolpa Primostek - Kamanje	N		2	2	-	2		1	G	2	H	G	H	G	H	F	H	G	H	N	N
SI43VT10	Mura	VT Mura Ceršak - Petanjci	N		2	1	-	2		2	G	2	H	G	H	G	H	F	H	G	H	N	N
SI43VT30	Mura	VT Kučnica Mura Petanjci - Gibina	N		2	3	-	3		2	G	3	M	G	H	G	H	F	H	G	H	Y	N
SI43VT50	Mura	VT Mura Gibina - Podturen	N		2	2	-	2		2	G	2	M	G	M	G	M	F	L	G	L	N	N
SI111VT5	Sava	VT Sava izvir - Hrušica	N	3	1	2	-	3		1	G	3	H	G	H	G	H	F	H	G	L	Y	N
SI111VT7	Sava	MPVT zadrževalnik HE Moste	H		4	3	-	4		1	G	3	H	G	H	G	H	F	H	G	L	Y	N
SI1VT137	Sava	VT Sava HE Moste - Podbrezje	N		2	1	-	2		2	G	2	H	G	H	G	H	F	L	G	L	N	N
SI1VT150	Sava	VT Sava Podbrezje - Kranj	N		2	1	-	2		1	G	2	M	G	H	G	H	F	L	G	L	N	N
SI1VT170	Sava	MPVT Sava Mavčiče - Medvode	H		4	1	-	4		1	G	3	H	G	M	G	M	F	H	G	H	Y	N
SI1VT310	Sava	VT Sava Medvode - Podgrad	N		2	2	-	2		1	G	2	H	G	H	G	H	F	H	G	H	N	N
SI1VT519	Sava	VT Sava Podgrad - Litija	N		2	1	-	2		2	G	2	H	G	H	G	H	F	L	G	L	N	N
SI1VT557	Sava	VT Sava Litija - Zidani Most	N		2	1	-	2		2	G	2	H	G	H	G	H	F	H	G	H	N	N

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SI1VT713	Sava	MPVT Sava Vrhovo - Boštanj	H		4	2	-	4		2	G	4	H	G	M	G	M	F	H	G	L	Y	N
SI1VT739	Sava	VT Sava Boštanj - Krško	N		3	2	-	3		2	G	3	H	G	M	G	H	F	L	G	L	Y	N
SI1VT913	Sava	VT Sava Krško - Vrbina	N		2	2	-	2		1	G	2	M	G	H	G	H	F	H	G	H	N	N
SI1VT930	Sava	VT Sava mejni odsek	N		2	1	-	2		1	G	2	H	G	H	G	H	F	H	G	H	N	N
HRCSRN0010_001	Česma	Česma	H		5	4		5	N	3	G	5	H	F	H							Y	Y
HRCSRN0010_002	Česma	Česma	H		4	4		4	N	3	G	5	H	G	H							Y	Y
HRCSRN0010_003	Česma	Česma	H					-	N	3	G	5	M	G	M								Y
HRCSRN0010_004	Česma	Česma	H		4	4		4	N	3	G	5	H	G	H							Y	Y
HRCSRN0010_005	Česma	Česma	H					-	N	3	G	4	M	G	M								Y
HRCSRN0010_006	Česma	Česma	N					-	N	3	G	4	M	G	M								Y
HRCSRN0010_007	Česma	Česma	N					-	N	3	G	4	L	G	L								Y
HRCSRN0010_008	Česma	Grđevica	N					-	Y	2	G	2	L	G	L							-	-
HRCDRI0002_004	Drava	Drava	N		2	2	2	2	N	2	G	4	H	G	H								Y
HRCDRI0002_005	Drava	Drava	H					-	N	2	G	4	M	G	M								Y
HRCDRI0002_006	Drava	Drava	H					-	N	2	G	4	M	G	M								Y
HRCDRI0002_007	Drava	Drava	H					-	N	2	G	4	M	G	M								Y
HRCDRI0002_008	Drava	Drava	H					-	N	2	G	4	M	G	M								Y
HRCDRI0002_009	Drava	Drava	H		4	4	2	4	N	2	G	5	H	G	H							Y	Y
HRCDRI0002_010	Drava	Drava	H					-	N	2	G	5	M	G	M								Y
HRCDRI0002_012	Drava	Drava	N		3	2	1	3	Y	2	G	3	H	G	H								
HRCDRI0002_019	Drava	Drava	N					-	N	2	G	5	M	G	M								Y
HRCDRI0002_020	Drava	Drava	H		4	2		4	N	1	G	5	H	G	H							Y	Y

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HRCDRI0002_021	Drava	Drava	N					-	Y	2	G	2	M	G	M							-	-
HRCDRI0002_022	Drava	Drava	A					-	Y	2	G	2	M	G	M								
HRCDRN0002_001	Drava	Drava	H		3	2	3	3	N	2	G	4	H	G	H							Y	Y
HRCDRN0002_002	Drava	Drava	H					-	N	2	G	4	M	G	M								Y
HRCDRN0002_003	Drava	Drava	N		2	2		2	N	2	G	5	H	G	H								Y
HRCDRN0002_011	Drava	Drava	H					-	N	2	G	4	M	G	M								Y
HRCDRN0002_013	Drava	Drava	N		3	2		3	N	1	G	3	H	G	H								
HRCDRN0002_014	Drava	Drava	N					-	N	2	G	5	M	G	M								Y
HRCDRN0002_015	Drava	Drava	H					-	N	1	G	5	M	G	M								Y
HRCDRN0002_016	Drava	Drava	N					-	N	2	G	5	L	G	L								Y
HRCDRN0002_017	Drava	Drava	H		4	3		4	N	1	G	5	L	G	L							Y	Y
HRCDRN0002_018	Drava	Drava	N					-	N	3	G	5	M	F	M							Y	Y
HRCSRN0007_003	Kanal Lonja-Strug, Lonja	Lonja Trebež	N					-	N	3	G	4	M	G	M								Y
HRCSRI0004_012	Kupa	Kupa	N		2	2		2	Y	2	G	2	H	G	H							-	-
HRCSRI0004_013	Kupa	Kupa	N					-	Y	2	G	2	M	G	M							-	-
HRCSRI0004_014	Kupa	Kupa	N		3	1		3	N	1	G	3	H	G	M							Y	Y
HRCSRI0004_015	Kupa	Kupa	N					-	N	1	G	3	M	G	M								Y
HRCSRI0004_016	Kupa	Kupa	N		2	2		2	Y	1	G	2	H	G	M							-	-
HRCSRI0004_017	Kupa	Kupa	N		2	2		2	N	1	G	2	H	G	H							-	-
HRCSRN0004_001	Kupa	Kupa	N		5	2		5	N	2	G	5	H	G	H								
HRCSRN0004_002	Kupa	Kupa	N		4	4		4	Y	2	G	4	M	G	H								
HRCSRN0004_003	Kupa	Kupa	N		4	2		4	Y	2	G	4	H	G	M								

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HRCSRN0004_004	Kupa	Kupa	N		5	2		5	Y	2	G	5	H	G	M								
HRCSRN0004_005	Kupa	Kupa	N					-	N	2	G	2	M	G	M							-	-
HRCSRN0004_006	Kupa	Kupa	N		3	2		3	Y	2	G	3	M	G	H								
HRCSRN0004_007	Kupa	Kupa	N		3	2		3	N	2	G	3	H	G	H								
HRCSRN0004_008	Kupa	Kupa	N		3	2		3	Y	1	G	3	H	G	M								
HRCSRN0004_009	Kupa	Kupa	N					-	Y	2	G	2	M	G	M							-	-
HRCSRN0004_010	Kupa	Kupa	H					-	N	2	G	3	M	G	M								Y
HRCSRN0004_011	Kupa	Kupa	N		2	2		2	Y	2	G	2	M	G	M							-	-
HRCSRN0004_018	Kupa	Kupa	N		2	2		2	N	1	G	2	H	G	H							-	-
HRCSRN0007_001	Lonja	Lonja Trebež	N					-	N	3	F	4	M	F	H								Y
HRCSRN0007_002	Lonja	Lonja Trebež	N					-	N	3	G	4	M	F	M								Y
HRCDRI0003_001	Mura	Mura	H					-	N	2	G	3	M	G	M								Y
HRCDRI0003_002	Mura	Mura	H		3	2	1	3	N	2	G	3	H	G	H							Y	Y
HRCDRI0003_003	Mura	Mura	N					-	N	2	G	2	M	G	M							-	-
HRCSRI0001_001	Sava	Sava	H		3	3		3	N	2	G	4	H	G	H							Y	Y
HRCSRI0001_002	Sava	Sava	N		2	2	2	2	N	2	G	5	H	G	H								Y
HRCSRI0001_003	Sava	Sava	N		2	2		2	N	2	G	5	H	G	H								Y
HRCSRI0001_004	Sava	Sava	H					-	N	2	G	5	M	G	M								Y
HRCSRI0001_005	Sava	Sava	N		2	2		2	N	2	G	4	H	G	H								Y
HRCSRI0001_006	Sava	Sava	H					-	N	2	G	5	M	G	M								Y
HRCSRI0001_007	Sava	Sava	N		2	2		2	N	2	G	5	H	G	H								Y
HRCSRI0001_008	Sava	Sava	H					-	N	2	G	5	M	G	M								Y

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HRCSRI0001_009	Sava	Sava	H		3	3		3	N	2	G	4	H	G	M							Y	Y
HRCSRI0001_010	Sava	Sava	H					-	N	2	G	5	M	G	M								Y
HRCSRI0001_011	Sava	Sava	H		3	2	2	3	N	2	G	4	H	G	M							Y	Y
HRCSRI0001_021	Sava	Sava	N		2	2		2	Y	2	G	2	H	G	H							-	-
HRCSRN0001_012	Sava	Sava	N		2	2	2	2	N	2	G	4	H	G	H								Y
HRCSRN0001_013	Sava	Sava	H					-	N	2	G	5	M	F	M								Y
HRCSRN0001_014	Sava	Sava	H		2	3		3	N	2	G	4	H	G	H							Y	Y
HRCSRN0001_015	Sava	Sava	H		3	3		3	N	2	G	5	H	G	H							Y	Y
HRCSRN0001_016	Sava	Sava	H					-	N	2	G	5	M	G	M								Y
HRCSRN0001_017	Sava	Sava	H					-	N	2	G	5	M	G	M								Y
HRCSRN0001_018	Sava	Sava	H		4	2		4	N	2	G	4	H	G	H							Y	Y
HRCSRN0001_019	Sava	Sava	N		2	3		3	N	2	G	3	H	G	H								
HRCSRN0001_020	Sava	Sava	N					-	N	2	G	2	M	G	M							-	-
HRCSRI0005_001	Una	Una	N		3	2		3	N	2	G	3	H	G	H							Y	Y
HRCSRI0005_002	Una	Una	N		3	2		3	Y	2	G	3	H	G	M								
HRCSRI0005_003	Una	Una	N		4	2		4	Y	2	G	4	H	G	M								
HRCSRI0005_004	Una	Una	N					-	Y	2	G	2	M	G	L							-	-
HRCSRI0005_005	Una	Una	N					-	Y	1	G	1	L	G	L							-	-
HRCSRI0005_006	Una	Una	N					-	Y	1	G	2	M	G	M							-	-
HRCSRN0005_007	Una	Una	N		2	2		2	Y	1	G	2	H	G	H							-	-
BABOS_1B	Bosna	BA_BOS_1B	N					-	N	1												N	
BABOS_2B	Bosna	BA_BOS_2B	N					-	N	5		3		F								N	

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BABOS_3	Bosna	BA_BOS_3	N					-	N	5		3		F								N	
BABOS_4	Bosna	BA_BOS_4	N					-	N	5		4		F								N	
BABOS_5	Bosna	BA_BOS_5	N					-	N	4		4		G								N	
BABOS_6	Bosna	BA_BOS_6	N					-	N	5		5		F								N	
BABOS_7	Bosna	BA_BOS_7	N					-	N	5		2		F								N	
BADR_5B	Drina	BA_DR_5B	P					-	N	5				G								Y	
BADR_6	Drina	BA_DR_6	N					-	N	5		2		F								N	
BAUNA_SAN_2C	Sana	BA_UNA_SAN_2C	N					-	N	2		2		G								N	
BAUNA_SAN_3	Sana	BA_UNA_SAN_3	N					-	Y	2		2		G								N	
BAUNA_SAN_4A	Sana	BA_UNA_SAN_4A	N					-	N	2		2		G								N	
BASA_1C	Sava	BA_SA_1C	P					-	N	5				F								Y	
BASA_2A	Sava	BA_SA_2A	H					-	N	5				G								Y	
BAUNA_2C	Una	BA_UNA_2C	N					-	N	2		2		G								N	
BAUNA_3	Una	BA_UNA_3	P					-	N	3				G								Y	
BAUNA_4	Una	BA_UNA_4	N					-	Y	2		2		G								N	
BAVRB_4B	Vrbas	BA_VRB_4B	H					-	N	5				G								Y	
BAVRB_5	Vrbas	BA_VRB_5	H					-	N	5				F								Y	
BAVRB_6	Vrbas	BA_VRB_6	N					-	N	5		2		F								N	
BAVRB_7	Vrbas	BA_VRB_7	N					-	N	5		2		F								N	
BAVRB_8	Vrbas	BA_VRB_8	N					-	N	4		4		G								N	
MEIBAR_1	Ibar	Ibar	N																				
MEIBAR_2	Ibar	Ibar	N																				

Water body code	River	Water body name	Water body type	Biological Quality Elements: Fish	Biological Quality Elements: Benthic invertebrates	Biological Quality Elements: Phytobenthos & Macrophytes	Biological Quality Elements: Phytoplankton	Biological Quality Elements: Overall Biological Status	Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence): …in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class	Exemption Art. 4(4)	Exemption Art. 4(5)
MELIM_1	Lim	Lim	N																				
MELIM_2	Lim	Lim	N																				
MEPIV_1	Piva	Piva	N																				
MEPIV_2	Piva	Piva	P																				
METAR_1	Tara	Tara	N																				
METAR_2	Tara	Tara	N																				
RSBEG	Begej	Begej od DTD Banatska Palanka-Novi Bečej do Tise	H		4	4		4		5	F	4	M	F	H								
RSDR_1_A	Drina	Drina od ušća u Savu do ušća Lešnice	P		3	2		3		2	F	3	M	G	H								
RSDR_1_B	Drina	Drina od ušća Lešnice do ušća reke Radalj	P		3	3		3		2	G	3	M	G	L								
RSDR_1_C	Drina	Drina od ušća reke Radalj do brane HE Zvornik	P		4	3		4		2	G	4	M	G	L								
RSDR_2	Drina	Akumulacija Zvornik	P		4	4	3	4		2	G	4	M	G	L								
RSDR_3_A	Drina	Drina od akumulacije Zvornik do ušća Ljuboviđe	N		3	2	-	3		2	G	3	M	G	L								
RSDR_3_B	Drina	Drina od ušća Ljuboviđe do ušća Rogačice	N		2	2	-	2		2	G	2	M	G	L								
RSDR_3_C	Drina	Drina od ušća Rogačice do brane HE Bajina Bašta	P		4	2	-	4		2	F	4	M	F	H								
RSDR_4	Drina	Akumulacija Bajina Bašta do Državne granice	P		4	4	3	4		2	G	4	M	G	L								
RSCAN_BP-KAR_1	DTD kanal Bački Petrovac-Karavukovo	DTD kanal Bački Petrovac-Karavukovo od triangla Bački Petrovac do uliva kanala Drže	A		4	3		4		2	G	4	L	F	L								
RSCAN_BP-KAR_2	DTD kanal Bački Petrovac-Karavukovo	DTD kanal Bački Petrovac-Karavukovo od kanala Drža do triangla Karavukovo	A		4	3		4		4	F	4	L	F	H								

Water body code	River	Water body name	Water body type	Biological Quality Elements: Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status	Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence): …in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class	Exemption Art. 4(4)	Exemption Art. 4(5)
RSCAN_BP-NB_1	DTD kanal Banatska Palanka-Novi Beč• ej	DTD kanal Banatska Palanka-Novi Bečej od ušća u Dunav do Karaša	A		5			5		3	F	5	L	F	H								
RSCAN_BP-NB_2	DTD kanal Banatska Palanka-Novi Beč• ej	DTD kanal Banatska Palanka-Novi Bečej od Karaša do Moravice	A		5			5		3	F	5	L	G	H								
RSCAN_BP-NB_3	DTD kanal Banatska Palanka-Novi Beč• ej	DTD kanal Banatska Palanka-Novi Bečej od Moravice do Brzave	A		5			5		4	F	5	L	G	L								
RSCAN_BP-NB_4	DTD kanal Banatska Palanka-Novi Beč• ej	DTD kanal Banatska Palanka-Novi Bečej od Brzave do hidročvora Botoš	A		5			5		4	F	5	L	G	L								
RSCAN_BP-NB_5	DTD kanal Banatska Palanka-Novi Bečej	DTD kanal Banatska Palanka-Novi Bečej od hidročvora Botoš do triangla Zrenjanin	A		5			5		2	G	5	L	F	L								
RSCAN_BP-NB_6	DTD kanal Banatska Palanka-Novi Bečej	DTD kanal Banatska Palanka-Novi Bečej od triangla Zrenjanin do triangla Jankov most	A		5	4		5		5	F	5	M	G	L								
RSCAN_BP-NB_7	DTD kanal Banatska Palanka-Novi Bečej	DTD kanal Banatska Palanka-Novi Bečej od triangla Jankov Most do triangla sa DTD Kikindskim kanalom	A		5	4		5		2	F	5	M	G	H								
RSCAN_BP-NB_8	DTD kanal Banatska Palanka-Novi Bečej	DTD kanal Banatska Palanka-Novi Bečej od triangla sa DTD Kikindskim kanalom do hidročvora Novi Bečej	A		4	4		4		3	F	4	M	G	L								

Water body code	River	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RSCAN_BEC-BOG_1	DTD kanal Bečej-Bogojevo	DTD kanal Bečej-Bogojevo Kanal od hidročvora Bečej do ušća Krivaje	A		4	4		4		4	F	4	L	F	H								
RSCAN_BEC-BOG_2	DTD kanal Bečej-Bogojevo	DTD kanal Bečej-Bogojevo od ušća Krivaje do triangla Vrbas	A		5	3		5		2	G	5	M	F	L								
RSCAN_BEC-BOG_3	DTD kanal Bečej-Bogojevo	DTD kanal Bečej-Bogojevo od triangla Vrbas do triangla Savino Selo	A		4	4		4		2	G	4	L	F	L								
RSCAN_BEC-BOG_4	DTD kanal Bečej-Bogojevo	DTD kanal Bečej-Bogojevo od triangla Savino Selo do triangla Kosančić	A		4	4		4		5	F	4	L	G	L								
RSCAN_BEC-BOG_5	DTD kanal Bečej-Bogojevo	DTD kanal Bečej-Bogojevo od triangla Kosančić do triangla Odžaci	A		4	4		4		2	F	4	L	F	H								
RSCAN_BEC-BOG_6	DTD kanal Bečej-Bogojevo	DTD kanal Bečej-Bogojevo od triangla Odžaci do triangla Karavukovo	A		4	4		4		4	F	4	L	G	L								
RSCAN_BEC-BOG_7	DTD kanal Bečej-Bogojevo	DTD kanal Bečej-Bogojevo od triangla Karavukovo do brodske prevodnce Bogojevo	A		4	4		4		3	F	4	L	G	L								
RSCAN_BEZ-BAJ	DTD kanal Bezdan-Baja	DTD kanal Bezdan-Baja od ustave Šebešfok do državne granice sa Mađarskom	A			3	3	3		3	G	3	M	G	M								
RSCAN_KOS-MS_1	DTD kanal Kosančić-Mali Stapar	DTD kanal Kosančić-Mali Stapar_1	A		4			4		4	F	4	M	G	H								
RSCAN_KOS-MS_2	DTD kanal Kosančić-Mali Stapar	DTD kanal Kosančić-Mali Stapar_2	A		4			4		4	F	4	M	G	H								
RSCAN_NS-SS_1	DTD kanal Novi Sad-Savino Selo	DTD kanal Novi Sad-Savino Selo od hidročvora Novi Sad do DTD kanal Bački Petrovac-Karavukovo	A		5			5		5	F	5	M	F	H								
RSCAN_NS-SS_2	DTD kanal Novi Sad-Savino Selo	DTD kanal Novi Sad-Savino Selo od DTD kanal Bač• ki Petrovac-Karavukovo do trangla Savino Selo	A		4			4		3	F	4	M	F	M								

Water body code	River	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RSCAN_ODZ-SO_1	DTD kanal Odžaci-Sombor	DTD kanal Odžaci-Sombor od triangla Odžaci do triangla Prigrevica	A		5			5		2	F	5	L	F	H								
RSCAN_ODZ-SO_2	DTD kanal Odžaci-Sombor	DTD kanal Odžaci-Sombor od triangla Prigrevica do uliva Mostonge	A		5	3		5		2	G	5	M	F	L								
RSCAN_PR-BEZ	DTD kanal Prigrevica-Bezdan	DTD kanal Prigrevica-Bezdan	A		5	3		5		2	G	5	L	F	L								
RSCAN_VR-BEZ_1	DTD kanal Vrbas-Bezdan	DTD kanal Vrbas-Bezdan od triangla Vrbas do hidročvora Vrbas	A		5	3		5		5	F	5	M	G	M								
RSCAN_VR-BEZ_2	DTD kanal Vrbas-Bezdan	DTD kanal Vrbas-Bezdan od hidročvora Vrbas do triangla Mali Stapar	A		5	3		5		2	G	5	L	F	L								
RSCAN_VR-BEZ_3	DTD kanal Vrbas-Bezdan	DTD kanal Vrbas-Bezdan od triangla MalI Stapar do uliva Glavni kanal 221	A		5	3		5		4	F	5	L	G	L								
RSCAN_VR-BEZ_4	DTD kanal Vrbas-Bezdan	DTD kanal Vrbas-Bezdan od uliva Glavni Kanal 221 do triangla Sombor	A		5	3		5		2	G	5	L	F	L								
RSCAN_VR-BEZ_5	DTD kanal Vrbas-Bezdan	DTD kanal Vrbas-Bezdan od triangla Sombor do brodske prevodnice Bezdan	A		5	3		5		3	G	5	L	F	H								
RSCAN_KIK_1	DTD Kikindski kanal	DTD Kikindski kanal od triangla Kanal Banatska Palanka-Novi Bečej do uliva Šećeranskog kanala	A					-		4	F	4	L	G	L								
RSCAN_KIK_2	DTD Kikindski kanal	DTD Kikindski kanal od uliva Šećeranskog kanala do Zlatice	A					-		4	F	5	L	F	H								
RSIB_1	Ibar	Ibar od ušća u Zapadnu Moravu do Mataruga	N		2		-	2		3	F	2	M	F	H								
RSIB_2	Ibar	Ibar od Mataruga do ušća Jošanice	N		2		-	2		3	F	2	M	G	H								
RSIB_3_A	Ibar	Ibar od ušća Jošanice do ušća Bervenice	N		3		-	3		5	F	3	M	G	M								
RSIB_3_B	Ibar	Ibar od ušća Bervenice do ušća Kaznovske	N		3		-	3		4	F	3	L	F	H								
RSIB_3_C	Ibar	Ibar od ušća Kaznovske do ušća Sitnice	N		3		-	3		5	F	3	L	G	L								

Water body code	River	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RSIB_4	Ibar	Ibar od ušća Sitnice do brane Pridvorica	N				-	-		2	G	2	L	G	L								
RSIB_5_A	Ibar	Akumulacija Pridvorica	P		3			3		2	G	3	L	G	L								
RSIB_5_B	Ibar	Akumulacija Gazivode	P		3			3		4	G	3	L	G	L								
RSIB_6	Ibar	Ibar uzvodno od akumulacije Gazivode do Državne granice	N				-	-		3	F	2	M	G	H								
RSJMOR_1	Južna Morava	Južna Morava od sastava sa Z. Moravom do ušća Ribarske reke	N		4		-	4		3	F	4	M	F	H								
RSJMOR_2_A1	Južna Morava	Južna Morava od ušća Ribarske reke do ušća Moravice	N		4		-	4		4	F	4	M	G	L								
RSJMOR_2_A2	Južna Morava	Južna Morava od ušća Moravice do ušća Katunske reke	N		4		-	4		4	F	4	M	G	H								
RSJMOR_2_B	Južna Morava	Južna Morava od ušća Katunske reke do ušća Nišave	N		4		-	4		5	F	4	M	G	L								
RSJMOR_3_A	Južna Morava	Južna Morava od ušća Nišave do ušća Krajkovačke reke	N		3		-	3		2	G	3	M	F	L								
RSJMOR_3_B	Južna Morava	Južna Morava od ušća Krajkovačke reke do ušća Toplice	N		3		-	3		3	F	3	M	G	H								
RSJMOR_4_A	Južna Morava	Južna Morava od ušća Toplice do ušća Jablanice	N		4		-	4		3	F	4	M	G	H								
RSJMOR_4_B	Južna Morava	Južna Morava od ušća Jablanice do ušća Vlasine	N		4		-	4		5	F	4	M	G	L								
RSJMOR_4_C	Južna Morava	Južna Morava od ušća Vlasine do ušća Kopašničke reke	N		4		-	4		5	F	4	M	G	L								
RSJMOR_5	Južna Morava	Južna Morava od ušća Kopašničke reke do ušća Vrle	P		4		-	4		3	F	4	M	G	H								
RSJMOR_6_A	Južna Morava	Južna Morava od ušća Vrle do ušća Korbevačke reke	P		4		-	4		2	G	4	M	F	L								
RSJMOR_6_B	Južna Morava	Južna Morava od ušća Korbevačke reke do ušća Trebešinjske	N		4		-	4		2	G	4	M	F	L								

Water body code	River	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RSJMOR_6_C	Južna Morava	Južna Morava od ušća Trebešinjske do sastava Binačke Morave i Moravice	N		4		-	4		4	F	4	M	F	H								
RSLIM_1	Lim	Lim od Državne granice sa BiH do ušća Uvca	N		4	2	-	4		2	G	4	M	G	L								
RSLIM_2	Lim	Lim od ušća Uvca do brane HE Potpeć	P		4	3	2	4		2	G	4	M	G	L								
RSLIM_3	Lim	Akumulacija Potpeć	P		4	2		4		2	G	4	M	G	L								
RSLIM_4_A	Lim	Lim od akumulacije Potpeć do ušća Mileševske	N		3	2	-	3		2	G	3	M	G	L								
RSLIM_4_B	Lim	Lim od ušća Mileševke do ušća Zebuđe	N		2	2	-	2		2	F	2	M	F	H								
RSLIM_4_C	Lim	Lim od ušća Zebuđe do ušća Slatinske reke	N		2	2	-	2		2	G	2	M	G	L								
RSLIM_4_D	Lim	Lim od ušća Slatinske reke do Državne granice sa Crnom Gorom	N		3	2	-	3		2	G	3	M	G	L								
RSNIS_1_A	Nišava	Nišava od ušća u Južnu moravu do ušća Rujničke reke	N		3	2	-	3		4	F	3	M	G	H								
RSNIS_1_B	Nišava	Nišava od ušća Rujničke reke do ušća Kutinske reke	P		4	4	-	4		3	F	4	M	G	H								
RSNIS_1_C	Nišava	Nišava od ušća Kutinske reke do ušća Studene	N		4	3	-	4		5	F	4	M	G	L								
RSNIS_2	Nišava	Nišava kroz Sićevačku klisuru, od ušća Studene do ušća Crvene reke	P		4		-	4		3	G	4	M	G	H								
RSNIS_3_A	Nišava	Nišava od ušća Crvene reke do ušća Koritničke reke	N		3	2	-	3		5	F	3	M	G	L								
RSNIS_3_B	Nišava	Nišava od ušća Koritničke reke do ušća Temštice	N		2	2	-	2		5	F	2	M	G	L								
RSNIS_3_C	Nišava	Nišava od ušća Temštice do ušća Jerme	N		3	3	-	3		2	G	3	M	F	L								
RSNIS_3_D	Nišava	Nišava od ušća Jerme do ušća Gaberske reke	N		3	2	-	3		2	G	3	M	F	L								
RSNIS_3_E	Nišava	Nišava od ušća Gaberske reke do Državne granice sa Bugarskom	N		3	2	-	3		2	F	3	M	G	H								

Water body code	River	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RSCAN_PLBEG	Plovni Begej	DTD Plovni Begej od hidročvora Klek do državne granice sa Rumunijom	A		4	3		4		5	F	4	M	F	M								
RSSA_1	Sava	Sava od ušća u Dunav do ušća Kolubare	H		4	3	3	4		4	F	4	M	F	M								
RSSA_2	Sava	Sava od ušća Kolubare do STAC Km 74+000	N		3	2	2	3		2	G	3	M	G	L								
RSSA_3	Sava	Sava od STAC 74000 do Cerskog obodnog kanala	N		3	2	3	3		2	G	3	M	G	L								
RSSA_4	Sava	Sava od ušća Cerskog obodnog kanala do ušća potoka Kamičak	N		3	2	3	3		2	F	3	M	G	H								
RSSA_5	Sava	Sava od ušća potoka Kamičak do ušća kanala Manđelos	N		3	3	3	3		2	G	3	M	G	L								
RSSA_6	Sava	Sava od ušća kanala Manđelos do ušća Drine	N		3	3	3	3		2	G	3	M	G	L								
RSSA_7	Sava	Sava od ušća Drine do državne granice sa Republikom Hrvatskom	N		3	2	2	3		3	F	3	M	G	H								
RSTAM_1	Tamiš	Tamiš od ustave Pančevo do ustave Opovo	H		4			4		3	F	4	L	F	H								
RSTAM_2	Tamiš	Tamiš od ustave Opovo do ustave Tomaševac	H		4	3		4		2	G	4	L	F	L								
RSTAM_3	Tamiš	Tamiš od od ustave Tomaševac do ušća Glavnog kanala (Oređ-Bele Bare-Sutjeska)	H		4	3		4		4	F	3	M	G	L								
RSTAM_4	Tamiš	Tamiš od ušća Glavnog kanala (Oređ-Bele Bare-Sutjeska) do ušća glavnog kanala Lanka	H		4	3		4		3	F	3	M	G	L								
RSTAM_5	Tamiš	Tamiš od ušća glavnog kanala Lanka do Državne granice sa Rumunijom	H		4	3		4		3	F	3	M	F	H								
RSTIM_1	Timok	Timok od ušća u Dunav do Bregova (duž Državne granice)	P		4		-	4		3	F	4	M	F	H								

Water body code	River	Water body name	Water body type	Biological Quality Elements: Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status	Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence): …in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class	Exemption Art. 4(4)	Exemption Art. 4(5)
RSTIM_2	Timok	Timok od Bregova do ušća Tabakovačkog potoka	N		3		-	3		2	G	3	M	G	L								
RSTIM_3	Timok	Tabakovačka klisura do ušća Borske reke	P		3		-	3		4	F	3	M	F	H								
RSTIM_4	Timok	Timok od ušća Borske reke do sastava Belog i crnog Timoka	N		4		-	4		5	F	4	M	G	H								
RSTIS_1	Tisa	Tisa od ušća u Dunav do ušća Jegričke	N		3	3	3	3		3	F	3	M	F	H								
RSTIS_2	Tisa	Tisa od ušća Jegričke do brane Novi Bečej	N		3	3	3	3		2	G	3	M	G	L								
RSTIS_3	Tisa	Tisa od brane Novi Bečej do ušća Čika	H		3	3	3	3		3	F	3	M	F	H								
RSTIS_4	Tisa	Tisa ušća Čika do ušća kanala S-V-0	H		3	3	3	3		2	G	3	M	G	L								
RSTIS_5	Tisa	Tisa od ušća kanala S-V-0 do Državne granice sa Mađarskom	H		3	3	3	3		3	F	3	M	F	H								
RSVMOR_1	Velika Morava	Velika Morava od ušća u Dunav do Ljubičevskog mosta	P		4	3		4		2	F	4	M	F	L								
RSVMOR_2_A	Velika Morava	Velika Morava od Ljubičevskog mosta do ušća Jasenice	N		4	3	-	4		3	F	4	M	G	H								
RSVMOR_2_B	Velika Morava	Velika Morava od ušća Jasenice do ušća Resave	N		4	2	-	4		2	G	3	M	G	L								
RSVMOR_3_A	Velika Morava	Velika Morava od ušća Resave do ušća Lepenice	N		4	2	-	4		2	G	4	M	G	L								
RSVMOR_3_B	Velika Morava	Velika Morava od ušća Lepenice do ušća Belice	N		3	2	-	3		4	F	3	M	F	H								
RSVMOR_3_C	Velika Morava	Velika Morava od ušća Belice do ušća Brestovačkog potoka	N		4	2	-	4		2	G	4	M	G	L								
RSVMOR_3_D	Velika Morava	Velika Morava od ušća Brestovačkog potoka do ušća Crnice	N		3	2	-	3		3	F	3	M	G	L								
RSVMOR_3_E	Velika Morava	Velika Morava od ušća Crnice do ušća Jovanovačke reke	N		3	3	-	3		3	F	3	M	G	L								

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RSVMOR_3_F	Velika Morava	Velika Morava od ušća Jovanovačke reke uzvodno	N		3	2	-	3		2	G	3	M	G	L								
RSZMOR_1_A	Zapadna Morava	Zapadna Morava od sastava sa J. Moravom do ušća Pepeljuše	N		3	2	-	3		3	F	3	M	G	H								
RSZMOR_1_B	Zapadna Morava	Zapadna Morava od ušća Pepeljuše do ušća Mijajlovačke reke	N		3	2	-	3		3	F	3	L	G	L								
RSZMOR_1_C	Zapadna Morava	Zapadna Morava od ušća Mijajlovačke reke do ušća Dubokog potoka	N		3	2	-	3		4	F	3	M	G	L								
RSZMOR_1_D	Zapadna Morava	Zapadna Morava od ušća Dubokog potoka do ušća Ibra	N		3	2	-	3		3	F	3	M	G	L								
RSZMOR_2_A	Zapadna Morava	Zapadna Morava od ušća Ibra do ušća Ivkovskog potoka	N		3		-	3		3	F	3	L	F	H								
RSZMOR_2_B	Zapadna Morava	Zapadna Morava od ušća Ivkovskog potoka do ušća Čemernice	N		3		-	3		2	G	3	L	F	L								
RSZMOR_2_C	Zapadna Morava	Zapadna Morava od ušća Čemernice do ušća Kamenice	P		4		-	4		2	G	4	M	F	L								
RSZMOR_3_A	Zapadna Morava	Zapadna Morava od ušća Kamenice do brane HE Međuvršje	N		4	3	-	4		4	F	4	M	G	L								
RSZMOR_3_B	Zapadna Morava	Akumulacija HE Međuvršje	P		4	2		4		3	F	4	M	G	L								
RSZMOR_3_C	Zapadna Morava	Akumulacija HE Ovčar Banja od brane do ušća Vrčanske reke	P		4	3		4		4	F	4	M	G	L								
RSZMOR_3_D	Zapadna Morava	Akumulacija HE Ovčar Banja od ušća Vrčanske reke do ušća Suvodola	P		4	3		4		4	F	4	M	G	L								
RSZMOR_3_E	Zapadna Morava	Akumulacija HE Ovčar Banja od ušća Suvodola uzvodno	P		4	3	4	4		4	F	4	M	G	L								
RSZMOR_4	Zapadna Morava	Zapadna Morava uzvodno od akumulacije HE Ovčar Banja	N		4	3	-	4		3	F	4	M	F	H								
ROLW10-1_B1	Arges	Ac. Vidraru	H		-	-	2	2	N	2	G	2	H	G	L	G	L	G	L	G	L	N	N
ROLW10-1_B2	Arges	Arges - sector intrare Ac. Oesti - amonte confluenta Valsan	H		-	-	2	2	N	1	G	2	H	G	H	G	H	G	L	G	L	N	N

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ROLW10-1_B3	Arges	Arges: sector amonte confluenta Valsan - intrare Ac. Prundu(am. confluenta Raul Doamnei)	H		-	-	2	2	N	1	G	2	H	G	H	G	H	G	L	G	L	N	N
ROLW10-1_B4	Arges	Arges: sector intrare Ac. Prundu (Pitesti) - aval Ac. Golesti	H		-	-	3	3	N	3	G	3	H	G	L	G	L	G	L	G	L		
ROLW10-1_B5	Arges	Ac. Zavoiul Orbului	H		-	-	2	2	N	2	G	2	H	G	L	G	L	G	L	G	L	N	N
ROLW10-1_B7	Arges	Ac. Mihailesti	H		-	-	3	3	N	2	G	3	H	G	L	G	L	G	L	G	L		
RORW10-1_B1	Arges	Arges: sector izvor - intrare Ac. Vidraru si afluentii	N	3	1	2	-	3	N	1	G	3	H	G	L	G	L	G	L	G	L		
RORW10-1_B2	Arges	Arges: sector aval Ac. Vidraru - intrare Ac. Oesti	H		1	1	-	1	N	1	G	2	H	G	L	G	L	G	L	G	L	N	N
RORW10-1_B3	Arges	Arges: sector aval Ac. Golesti - intrare Ac. Zavoiul Orbului	N	2	1	-	1	2	N	2	G	2	H	G	L	G	H	G	L	G	L	N	N
RORW10-1_B4a	Arges	Arges: sector aval Ac. Zavoiul Orbului - av. Ac. Frontala Ogrezeni	N	2	2	-	1	2	N	2	G	2	H	G	L	G	M	G	L	G	L	N	N
RORW10-1_B5	Arges	Arges: sector aval Ac. Frontala Ogrezeni - intrare Ac. Mihailesti	N	4	1	-	2	4	N	2	G	4	H	G	H	G	H	G	L	G	L		
RORW10-1_B6	Arges	Arges: sector aval Ac. Mihailesti - amonte confluenta Dambovita	H	2	1	-	2	2	N	2	G	2	H	F	H	G	H	F	H	G	H		
RORW10-1_B7	Arges	Arges: sector amonte confluenta Dambovita - confluenta Dunare	H	3	2	-	1	3	N	3	G	3	H	F	H	G	H	F	H	G	H		
ROLW3-1-44-33_B4	Barcau	Barcau - Ac.Suplacu de Barcau	H	-	-	-	2	2	N	3	G	3	H	G	L	G	L			G			
RORW3-1-44-33_B1	Barcau	Barcau - izvor - cnf. Toplita + Afluenti	N		2	2	-	2	N	2	G	2	M	G	M	G	M			G		N	N
RORW3-1-44-33_B2A	Barcau	Barcau - cnf. Toplita - cnf. Groapa	H		2	-		2	N	2	G	2	H	G	H	G	H			G		N	N
RORW3-1-44-33_B3A	Barcau	Barcau - cnf. Groapa - am. Ac.Suplacu de Barcau	N		1	-	1	1	N	2	G	2	M	G	M	G	M			G		N	N

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RORW3-1-44-33_B5	Barcau	Barcau - baraj Suplacu de Barcau - cnf. Bistra	N		2	-	2	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW3-1-44-33_B6	Barcau	Barcau - cnf. Bistra - frontiera	N	2	1	4	1	4	N	3	G	4	H	F	H	G	H	F	H	G	H	N	N
RORW5-1_B1	Bega	Bega - izvor-cf. Bega Poienilor + afluenti	N	2	1	2	-	2	N	2	G	2	H	G	H	G	H	G		G		N	N
RORW5-1_B2	Bega	Bega - cf. Bega Poienilor-cf. Chizdia	N	2	1	1	1	2	N	2	G	2	H	F	H	G	H	F	H	G	H	N	N
RORW5-1_B3	Bega	Bega - cf. Chizdia-cf. Behela	H	2	1	-	1	2	N	2	G	2	H	G	H	G	H	G		G		N	N
RORW5-1_B4	Bega	Bega - cf. Behela-frontiera	A	2	2	-	1	2	N	2	G	2	H	F	H	G	H	F	H	G	H	N	N
RORW12-1-78_B1	Birlad	Barlad - izvoare - confl. Garboveta	N	3	2	3	-	3	Y	3	G	3	H	G	H	G	H			G			
RORW12-1-78_B2	Birlad	Barlad - confl. Garboveta - confl. Crasna	H		2	1	-	2	N	3	G	3	H	G	H	G	H			G			
RORW12-1-78_B3	Birlad	Barlad - confl. Crasna - confl. Siret (include si derivatia Munteni - Tecucel)	H		2	-	2	2	N	3	G	3	H	G	H	G	H			G			
ROLW12-1-53_B3	Bistrita	Lac Izvoru Muntelui	H	-	-	-	1	1	N	2	G	2	H	G	M	G	M			G		N	N
ROLW12-1-53_B5	Bistrita	Lac Batca Doamnei	H	-	-	-	1	1	N	2	G	2	H	G	H	G	H			G		N	N
ROLW12-1-53_B7	Bistrita	Lac Agrement Bacau	H	-	-	-	1	1	Y	2	G	2	H	G	L							N	N
RORW12-1-53_B1	Bistrita	Bistrita (izv - cf Neagra)	N	2	1	3	-	3	N	2	G	3	H	G	H	G	H			G		N	N
RORW12-1-53_B2	Bistrita	Bistrita (cf Neagra - ac Izvorul Muntelui)	N	3	1	3	-	3	N	2	G	3	H	G	H	G	H			G			
RORW12-1-53_B4	Bistrita	Bistrita (baraj Izv Muntelui - ac Pangarati	N	2	1	2	-	2	N	2	G	2	H	G	M	G	M			G			
RORW12-1-53_B6	Bistrita	Bistrita (baraj Batca Doamnei - ac Racova)	N	2	1	2	-	2	N	2	G	2	H	G	H	G	H			G			
ROLW12-1-82_B1	Buzau	Acumularea Siriu	H		-	-	2	2	N	2	G	2	M	G	H	G	H	G	H	G		N	N
ROLW12-1-82_B2	Buzau	Acumularea Candesti	H		-	-	1	1	N	1	G	2	M	G	L	G	L	G	L	G		N	N
RORW12-1-82_B1	Buzau	Buzau_Izv._Ac. Siriu_Si_Afluentii	N		1	2	-	2	Y	2	G	2	H	G	M	G	M	G	M	G		N	N

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RORW12-1-82_B2	Buzau	Buzau_Ac. Siriu_Cf. Basca	N		1	2	-	2	N	2	G	2	H	G	M	G	M	G	M	G		N	N
RORW12-1-82_B3	Buzau	Buzau_Cf. Basca_Ac. Candesti	N		1	2	-	2	N	2	G	2	H	G	H	G	H	G	H	G		N	N
RORW12-1-82_B4	Buzau	Buzau_Ac. Candesti_Buzau	N		2	2	1	2	N	2	G	2	H	G	M	G	M	G	M	G		N	N
RORW12-1-82_B5	Buzau	Buzau_Buzau_Cf. Costei	N		2	2	1	2	N	2	G	2	H	F	H	G	H	F	H	G		N	N
RORW12-1-82_B6	Buzau	Buzau_Cf. Costei_Cf. Siret	N	1	1	2	1	2	N	2	G	2	H	G	H	G	H	G	H	G		N	N
RORW15-1-10B_B1	Canalul Dunarea Marea Neagra 1	Canalul Dunarea Marea Neagra 1	A		2			2	N	2	G	2	H	G	M	G	M			G		N	N
RORW15-1-10B_B2	Canal Dunare Marea Neagra 2 - Canal Poarta Alba - Marea Neagra	Canalul Dunare Marea Neagra 2 - CPAMN	A		2			2	N	3	G	3	H	G	H	G	H			G			
RORW3-1_B1	Crisul Alb	Crisul Alb - izvor - am. Ac.Mihaileni + Afluenti	N		1	2	-	2	N	2	G	2	H	G	M	G	M			G		N	N
RORW3-1_B2	Crisul Alb	Crisul Alb - Ac.Mihaileni - am. Ac.Mihaileni - baraj Mihaileni + Afluent	N		2	1	-	2	N	3	G	3	H	G	H	G	H			G		N	N
RORW3-1_B3	Crisul Alb	Crisul Alb - baraj Mihaileni - cnf. Tebea	N		1	2	-	2	N	2	G	2	H	G	H	G	H			G			
RORW3-1_B4	Crisul Alb	Crisul Alb - cnf. Tebea - cnf. Zimbru	N		1	2	-	2	N	2	G	2	H	G	H	G	H			G			
RORW3-1_B5	Crisul Alb	Crisul Alb - cnf. Zimbru - cnf. Chisindia	N		1	2	1	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW3-1_B6	Crisul Alb	Crisul Alb - cnf. Chisindia - cnf. Cigher	N		1	-	1	1	N	2	G	2	H	G	H	G	H			G		N	N
RORW3-1_B7	Crisul Alb	Crisul Alb - cnf. Cigher - frontiera	N		2	2	1	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW3-1-42_B1	Crisul Negru	Crisul Negru - izvor - cnf. Valea Mare + Afluent	H		2	2	-	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW3-1-42_B2	Crisul Negru	Crisul Negru - cnf. Valea Mare - cnf. Nimaiesti	N		1	4	-	4	N	2	G	4	H	G	H	G	H			G			

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RORW3-1-42_B3	Crisul Negru	Crisul Negru - cnf. Nimaiesti - cnf. Soimul	N		1	-	1	1	N	2	G	2	H	G	H	G	H			G		N	N
RORW3-1-42_B4	Crisul Negru	Crisul Negru - cnf. Soimul - cnf. Valea Noua	N		1	-	1	1	N	2	G	2	H	G	H	G	H			G		N	N
RORW3-1-42_B5	Crisul Negru	Crisul Negru - cnf. Valea Noua - frontiera	N		1	3	1	3	N	2	G	3	H	F	H	G	H	F	H	G	H		
ROLW3-1-44_B5	Crisul Repede	Crisul Repede - Ac.Tileagd + Afluent	H	-	-	-	2	2	N	2	G	2	H	G	L	G	L			G		N	N
RORW3-1-44_B1	Crisul Repede	Crisul Repede - izvor - cnf. Sacuieu	N	2	2	4	-	4	N	3	G	4	H	G	H	G	H			G			
RORW3-1-44_B2	Crisul Repede	Crisul Repede - cnf. Sacuieu - cnf. Iad	N		2	2	-	2	N	2	G	2	L	G	M	G	M			G		N	N
RORW3-1-44_B3	Crisul Repede	Crisul Repede - Def.Crisul Repede - cnf. Iad - av. Def.Crisul Repede + Afluent	N	2	1	3	-	3	N	3	G	3	H	G	H	G	H			G			
RORW3-1-44_B4	Crisul Repede	Crisul Repede - av. Def.Crisul Repede - am. Ac.Lugasu	N	4	1	-	1	4	N	2	G	4	H	G	H	G	H			G			
RORW3-1-44_B6	Crisul Repede	Crisul Repede - baraj Tileagd - cnf. Bonor	N	2	1	-	1	2	N	2	G	2	H	G	L	G	L			G		N	N
RORW3-1-44_B7	Crisul Repede	Crisul Repede - cnf. Bonor - frontiera	H	2	2	2	2	2	N	2	G	2	H	F	H	G	H	F	H	G	H	N	N
ROLW11-1_B1	Ialomita	Acumularea Bolboci	H		-	-	2	2	N	1	G	2	M	G	L	G	L	G	L	G		N	N
ROLW11-1_B2	Ialomita	Acumularea Pucioasa	H		-	-	1	1	N	1	G	2	M	G	H	G	H	G	H	G		N	N
ROLW11-1_B3	Ialomita	Acumularea Dridu	H		-	-	1	1	N	2	G	2	M	G	L	G	L	G	L	G		N	N
RORW11-1_B1	Ialomita	Ialomita_Izv._Ac. Bolboci	N		1	1	-	1	Y	2	G	2	H	G	M	G	M	G	M	G		N	N
RORW11-1_B2	Ialomita	Ialomita_Ac. Bolboci_Cf. Ialomicioara I	N		1	1	-	1	N	2	G	2	H	G	L	G	L	G	L	G		N	N
RORW11-1_B3	Ialomita	Ialomita_Cf. Ialomicioara I_Ac. Pucioasa	N		1	1	-	1	N	2	G	2	H	G	L	G	L	G	L	G		N	N
RORW11-1_B4	Ialomita	Ialomita_Ac. Pucioasa_Priboiu	N		1	2	-	2	N	2	G	2	H	G	M	G	M	G	M	G		N	N
RORW11-1_B5	Ialomita	Ialomita_Priboiu_Cf. Izvoru	N		1	3	-	3	N	3	G	3	H	G	M	G	M	G	M	G			N

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RORW11-1_B6	Ialomita	Ialomita_Cf. Izvoru_Ac. Dridu	N		2	-	1	2	N	2	G	2	H	G	M	G	M	G	M	G		N	N
RORW11-1_B7	Ialomita	Ialomita_Ac. Dridu_Ion Roata	N		3	-	1	3	N	3	G	3	H	G	M	G	M	G	M	G			N
RORW11-1_B8	Ialomita	Ialomita_Ion Roata_Slobozia	N		2	-	1	2	N	3	G	3	H	G	M	G	M	G	M	G			N
RORW11-1_B9	Ialomita	Ialomita_Slobozia_Cf. Dunare	N	1	1	-	2	2	N	3	G	3	H	G	H	G	H	G	H	G			N
ROLW13-1-15_B2	Jijia	Jijia CONTINUA - ac. Ezer	H		-	-	2	2	N	2	G	2	M	G	M	G	M			G			
RORW13-1-15_B1	Jijia	Jijia - sector izvor - ac. Ezer	N	2	2	-	1	2	Y	3	G	3	M	G	M	G	M			G		N	N
RORW13-1-15_B3	Jijia	Jijia - sector aval ac. Ezer - confl. Sitna	N	2	3	4	1	4	N	3	G	4	H	G	M	G	M			G			
RORW13-1-15_B4	Jijia	Jijia - sector confl. Sitna - confl. Prut	A	2	2	-	2	2	N	3	G	3	H	G	H	G	H	F	H	G	H		
RORW13-1-15_B5	Jijia	Jijia Veche	H		3	-	3	3	Y	3	G	3	L	G	L	G	L			G			
ROLW7-1_B120	Jiu	Ac. Isalnita	H		-	-	1	1	N	2	G	2	M	G	H	G	H			G			
ROLW7-1_B26	Jiu	Ac. Vadeni + Tg.-Jiu	H		-	-	2	2	N	3	G	3	M	G	L	G	L			G			
ROLW7-1_B56	Jiu	Ac. Turceni	H		-	-	2	2	N	3	G	3	M	G	M	G	M			G			
RORW7-1_B121	Jiu	Jiu Acum. Isalnita- Bratovoiesti	N	2	2	2	1	2	N	2	G	2	H	G	H	G	H			G			
RORW7-1_B14	Jiu	Jiu confl. Jiu de Est-Acum. Vadeni	N	2	1	2	-	2	N	2	G	2	H	G	H	G	H			G			
RORW7-1_B148	Jiu	Jiu Bratovoiesti-confl. Dunarea	N	2	1	2	2	2	N	2	G	2	H	G	H	G	H			G			
RORW7-1_B1A	Jiu	JIU DE VEST - izvor- loc. Paroseni si afl. Garbov, Buta, Lazar, Paraul Morii, Pilug, Sterminos, Valea de Pesti, Balomir, Mierleasa, Braia, Baleia	N	2	1	3	-	3	N	2	G	3	H	G	H	G	H			G			
RORW7-1_B28	Jiu	Jiu Tg. Jiu-Rovinari	N	2	1	2	-	2	N	2	G	2	H	G	H	G	H			G			
RORW7-1_B4	Jiu	Jiu de Vest - loc. Paroseni-confl. Jiul de Est	N	2	1	3	-	3	N	3	G	3	H	G	H	G	H			G			
RORW7-1_B51	Jiu	Jiu Rovinari-Ac. Turceni	N	3	1	2	1	3	N	2	G	3	H	G	H	G	H			G			
RORW7-1_B57	Jiu	Jiu Acum. Turceni-Acum. Isalnita	N		2	2	1	2	N	2	G	2	H	F	H	G	H	F	H	G	H		

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RORW12-1-40_B1	Moldova	Moldova (izv - cf Sadova)	N	2	1	2	-	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW12-1-40_B2	Moldova	Moldova (cf Sadova - cf Suha)	N	2	1	3	-	3	N	2	G	3	H	G	M	G	M			G		N	N
RORW12-1-40_B3	Moldova	Moldova (cf Suha - cf Vier)	N	2	1	3	-	3	N	2	G	3	H	G	H	G	H			G		N	N
RORW12-1-40_B4	Moldova	Moldova (cf Vier - cf Siret)	N	1	1	2	-	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW4-1_B1	Mures	Mures, izvor - conf. Carbunele Negru	N		1	3	-	3	N	3		3	H	G	L	G	L			G			
RORW4-1_B10	Mures	Mures, conf. Soimos - conf. Zadarlac	H		2	-	2	2	N	2	G	2	H	G	H	G	H			G			
RORW4-1_B11	Mures	Mures, conf. Zadarlac - Romanian/Hungarian Border	H		2	2	2	2	N	2	G	2	H	G	H	G	H			G			
RORW4-1_B2	Mures	Mures, conf. Carbunele Negru - conf. Lazarea	H		2	2	-	2	N	2		2	H	G	L	G	L			G		N	N
RORW4-1_B3	Mures	Mures, conf. Lazarea - conf.Toplita	N		1	3	-	3	N	3		3	H	G	L	G	L			G			
RORW4-1_B4	Mures	Mures, conf. Toplita - conf. Pietris	N		1	3	-	3	Y	3		3	H	G	L	G	L			G			
RORW4-1_B5	Mures	Mures, conf. Pietris - conf. Petrilaca	N		1	3	-	3	N	2		3	H	G	L	G	L			G			
RORW4-1_B6	Mures	Mures, conf. Petrilaca - conf. Aries	H		2	-	2	2	N	2	G	2	H	F	H	G	H	F	H	G	H		
RORW4-1_B7	Mures	Mures, conf. Aries - conf. Cerna	H		2	-	2	2	N	2	G	2	H	F	H	G	H	F	H	G	H	N	N
RORW4-1_B8	Mures	Mures, conf. Cerna - conf. Dobra	H		2	-	3	3	N	3	G	3	H	G	H	G	H			G			
RORW4-1_B9	Mures	Mures, conf. Dobra - conf. Soimos	N		2	-	2	2	Y	2	G	2	H	G	H	G	H			G		N	N
ROLW8-1_B10	Olt	OLT-ac.Ionesti, Zavideni, Dragasani, Strejesti, Arcesti...Draganesti si av Frunzaru	H		-	-	2	2	N	2	G	2	H	G	H							N	N
ROLW8-1_B11	Olt	OLT -acumulare Rusanesti si Izbiceni	H		-	-	2	2	N	2	G	2	H	G	H							N	N
ROLW8-1_B7	Olt	OLT -am. Ac. Voila, Vistea, Arpas, Scorei Arig si aval ac. Racovita	H		-	-	2	2	N	3	G	3	H	G	M								Y
ROLW8-1_B9	Olt	OLT -am.ac.Robesti, Cornet, Gura Lotrului, Turnu...Rm Valcea, Raureni, Govora si av Babeni	H		-	-	2	2	N	3	G	3	H	G	H								Y

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RORW8-1_B1	Olt	OLT - izv.- aval confl.Sipos si afluentii (Medias si Sipos)	N		1	2	-	2	N	2	G	2	H	G	H							N	N
RORW8-1_B12	Olt	OLT -aval acumulare Izbiceni confluenta Dunare	N		3	-	2	3	N	3	G	3	H	G	H								
RORW8-1_B2	Olt	OLT - aval confluenta Sipos - aval confluenta Cad	H		2	2	-	2	N	3	G	3	H	G	H								
RORW8-1_B3	Olt	OLT -aval confluenta Cad aval confluenta Mitaci	H		2	2	-	2	Y	3	G	3	H	G	H								
RORW8-1_B4	Olt	OLT -aval confluenta Mitaci aval confluenta Talomir	N		1	3	-	3	N	3	G	3	H	G	H								
RORW8-1_B5	Olt	OLT -aval confluenta Talomir aval confluenta Raul Negru	N		1	3	-	3	N	3	G	3	H	G	H								
RORW8-1_B6	Olt	OLT -aval confluenta Raul Negru amonte acumulare Voila	H		2	2	-	2	N	2	G	2	H	G	H							N	N
RORW8-1_B8	Olt	OLT -aval acumulare Racovita -amonte acumulare Robesti	N		2	3	-	3	N	3		3	H	G	H								
ROLW13-1_B2	Prut	Prut CONTINUA - ac. Stanca - Costesti	H		-	-	1	1	N	2	G	2	H	G	H	G	H			G		N	N
RORW13-1_B1	Prut	Prut - sector am. ac. Stanca	N	3	1	-	1	3	Y	3	G	3	H	G	H	G	H			G			
RORW13-1_B3	Prut	Prut - sector av. ac. Stanca - conf. Solonet	N	4	1	-	1	4	Y	2	G	4	H	G	H	G	H			G			
RORW13-1_B4	Prut	Prut - sector conf. Solonet - confl. Jijia	H	1	1	-	1	1	N	2	G	2	H	G	H	G	H			G		N	N
RORW13-1_B5	Prut	Prut - sector confl. Jijia - confl. Dunarea	H	3	2	1	1	3	N	3	G	3	H	F	H	F	H			F			
ROLW12-1_B1	Siret	Lac Rogojesti	H	-	-	-	1	1	N	3	G	3	H	G	M	G	M			G			
ROLW12-1_B3	Siret	Lac Bucecea	H	-	-	-	1	1	N	3	G	3	H	G	H	G	H			G			
ROLW12-1_B6	Siret	Siret (am. Galbeni - av. Beresti)	H	-	-	-	1	1	N	2	G	2	H	G	L							N	N
ROLW12-1_B8	Siret	Lac Calimanesti	H	-	-	-	1	1	N	2	G	2	H	G	L							N	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RORW12-1_B0	Siret	Siret (granita - lac Rogojesti)	N	2	2	3	-	3	N	2	G	3	H	G	H	G	H			G			
RORW12-1_B2	Siret	Siret (ac Rogojesti - ac Bucecea)	N	3	1	3	-	3	Y	2	G	3	H	G	M	G	M			G			
RORW12-1_B4	Siret	Siret (baraj Bucecea - cf Moldova)	N	2	1	3	-	3	N	3	G	3	H	G	M	G	M			G			
RORW12-1_B5	Siret	Siret (cf Moldova - ac Galbeni)	N	3	2	-	2	3	N	2	G	3	H	G	L								
RORW12-1_B7	Siret	Siret (baraj Beresti - ac Calimanesti)	N	3	1	-	1	3	N	2	G	3	H	G	L							N	N
RORW12-1_B9	Siret	Siret (baraj Calimanesti - cf Dunare)	N	2	1	-	1	2	N	2	G	2	H	F	H	F	H			F		N	N
RORW2-1_B1	Somes	Somesul Mare -izvoare-cf.Feldrisel si afluenti	N	2	1	2	-	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW2-1_B2	Somes	Somesul Mare -cf.Feldrisel-cf.Sieu	N	2	1	2	-	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW2-1_B3	Somes	Somesul Mare -cf.Sieu-Dej	H	3	3	1	-	3	N	3	G	3	H	G	H	G	H			G			
RORW2-1_B4	Somes	Somes -Dej-cf.Apa Sarata	N	2	2	3	-	3	Y	3	G	3	H	G	H	G	H			G			
RORW2-1_B5	Somes	Somes-cf.Apa Sarata-cf.Lapus	N	3	2		2	3	N	2	G	3	H	G	H	G	H			G			
RORW2-1_B6	Somes	Somes-cf.Lapus-cf.Homorodu Nou	N		2	2	2	2	N	2	G	2	H	F	H	G	H	F	H	G	H	N	N
RORW2-1_B7	Somes	Somes-cf.Homorodu Nou-granita cu Ungaria	N		2	2	2	2	N	3	G	3	H	F	H	G	H	F	H	G	H		
ROLW4-1-96_B2	Tarnava Mare	Tarnava Mare, ac. Zetea	H	-	-	-	2	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW4-1-96_B1	Tarnava Mare	Tarnava Mare, izvor - ac. Zetea si afluentii	N		1	2	-	2	N	2		2	H	G	L	G	L			G		N	N
RORW4-1-96_B3	Tarnava Mare	Tarnava Mare, ac. Zetea - conf. Bradesti si Desag	N		1	3	-	3	Y	3	G	3	H	G	H	G	H			G			
RORW4-1-96_B4	Tarnava Mare	Tarnava Mare, conf. Bradesti - conf. Cris	H		2	2	-	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW4-1-96_B5	Tarnava Mare	Tarnava Mare, conf. Cris - conf. Paucea	N		2	-	2	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW4-1-96_B6	Tarnava Mare	Tarnava Mare, conf. Paucea - conf. Vorumloc	H		2	-	2	2	N	2		2	H	G	L	G	L			G		N	N

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RORW4-1-96_B7	Tarnava Mare	Tarnava Mare, conf. Vorumloc - conf. Mures	H		2	-	2	2	N	2	G	2	H	F	H	G	H	F	H	G	H	N	N
ROLW5-2_B1	Timis	Timis - ac. Trei Ape	H		-	-	2	2	N	2	G	2	H										
RORW5-2_B1	Timis	Timis - izvoare-ac. trei ape	N	2	1	2	-	2	N	2	G	2	M	G	M	G	M	G		G		N	N
RORW5-2_B2	Timis	Timis - ac. trei ape-cf. fenes	H	1	1	1	-	1	N	1	G	2	H	G	H	G	H	G		G		N	N
RORW5-2_B3	Timis	Timis - cf. fenes-cf. sebes	N	2	1	3	-	3	N	2	G	3	H	G	H	G	H	G		G			
RORW5-2_B4	Timis	Timis - cf. sebes-cf. tapia	N	2	1	1	1	2	N	2	G	2	H	G	H	G	H	G		G		N	N
RORW5-2_B5	Timis	Timis - cf. tapia-evacuare gc lugoj	H	2	2	-	1	2	N	2	G	2	H	G	H	G	H	G		G		N	N
RORW5-2_B6	Timis	Timis - evacuare gc lugoj-cf. timisana	H	2	2	-	1	2	N	3	G	3	H	F	H	G	H	F	H	G	H		
RORW5-2_B7	Timis	Timis - cf. timisana-frontiera	N	2	2	-	1	2	N	2	G	2	H	G	H	G	H	G		G		N	N
RORW1-1_B1	Tisa	Tisa	N	2	1	2	-	2	N	2	G	2	H	G	H	G	H			G		N	N
RORW12-1-69_B1	Trotus	Trotus (izvor - cf Valea Rece)	N		1	3	-	3	N	2	G	3	H	G	H	G	H			G			
RORW12-1-69_B2	Trotus	Trotus (cf Valea Rece - cf Urmenis)	N		1	3	-	3	N	3	G	3	H	G	M	G	M			G			
RORW12-1-69_B3	Trotus	Trotus (cf Urmenis - cf Tazlau)	N		1	3	-	3	N	3	G	3	H	G	M	G	M			G			
RORW12-1-69_B4	Trotus	Trotus (cf Tazlau - cf Siret)	N	2	1	-	1	2	N	2	G	2	H	F	H	F	H			F		N	N
RORW9-1_B2	Vedea	Vedea : confluenta Vedita - amonte confluenta Cotmeana	N		2	-	1	2	Y	2	G	2	H	G	H	G	H	G	L	G	L	N	N
RORW9-1_B3	Vedea	Vedea : confluenta Cotmeana - amonte evacuare Rosiori de Vede	N		2	-	1	2	Y	2	G	2	H	G	L	G	L	G	L	G	L	N	N
RORW9-1_B4	Vedea	Vedea : amonte evacuare Rosiori de Vede - confluenta Paraul Cainelui	N		2	-	1	2	Y	3	F	3	H	G	H	G	H	G	L	G	L		
RORW9-1_B5	Vedea	Vedea : confluenta Paraul Cainelui - amonte evacuare Alexandria	N		2	-	1	2	N	3	G	3	H	G	H	G	H	G	L	G	L		
RORW9-1_B6	Vedea	Vedea : amonte evacuare Alexandria - amonte confluenta Teleorman	N		1	-	2	2	Y	3	G	3	H	G	L	G	L	G	L	G	L		

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
RORW9-1_B7	Vedea	Vedea : confluenta Teleorman - localitate Bujoru	H		1	-	2	2	N	3	G	3	H	G	L	G	L	G	L	G	L		
RORW9-1_B8	Vedea	Vedea : localitate Bujoru - confluenta Dunare	A		1	-	2	2	N	3	G	3	H	F	H	G	H	F	H	G	H		
BG1IS100R1027	Iskar	ISKAR RWB1027	H		2	2	-	2		3	G	3	H	F	M	G	M						N
BG1IS135R1026	Iskar	ISKAR RWB1026	N		3	3	-	3		3	G	3	H	G	M	G	M						N
BG1IS135R1126	Iskar	ISKAR RWB1126	N		3	3	-	3		3	G	3	H	F	M	G	M						
BG1IS135R1226	Iskar	ISKAR RWB1226	N		3	3	-	3		1	G	3	H	F	M	G	M						
BG1IS135R1326	Iskar	ISKAR RWB1326	N	2	3	4	-	4		3	F	4	H	G	M	G	M						
BG1IS135R1426	Iskar	ISKAR RWB1426	N		3	4	-	4		3	F	4	H	F	M	F	M						
BG1IS135R1726	Iskar	ISKAR RWB1726	N		3	2	-	3		2	G	3	H	G	M	G	M						
BG1IS500L008	Iskar	Dam Pancharevo	H	-		-	3	3		2	G	3	H	G	M	G	M					N	N
BG1IS700L005	Iskar	Dam Iskar	H	-	2	-	2	2		2	G	2	H	G	M	G	M					N	N
BG1IS700L1306	Iskar	Dam Kokalyane	H	-	2	-	2	2		1	G	2	H	G	M	G	M					N	N
BG1IS700R1006	Iskar	ISKAR RWB1006	N		3	2	-	3		2	F	3	H	F	M	G	M						
BG1IS700R1206	Iskar	ISKAR RWB1206	N		3	2	-	3		2	G	3	H	G	M	G	M					N	N
BG1IS789R1104	Iskar	ISKAR RWB1104	N		2	2	-	2		3	F	3	H	G	M	G	M						
BG1IS900R1003	Iskar	ISKAR RWB1003	N		2	1	-	2		2	F	3	H	G	M	G	M						
BG1NV200R1001	Nishava	NISHAVA RWB1001	N		2	2	-	2		2	G	2	H	G	M	G	M					N	N
BG1OG100R014	Ogosta	OGOSTA RWB14	H	4	3	3	-	4		2	G	4	H	F	M	G	M						
BG1OG307R1013	Ogosta	OGOSTA RWB1013	N		1	2	-	2		2	G	2	H	G	M	G	M					N	N
BG1OG307R1213	Ogosta	OGOSTA RWB1213	N		3	2	-	3		2	F	3	H	G	M	G	M						
BG1OG307R1313	Ogosta	OGOSTA RWB1313	N		1	3	-	3		1	F	3	H	F	M	G	M						

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				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						...in water	Related confidence class	...in water w/o ubiquitous	Related confidence class	...in biota	Related confidence class	...in biota w/o ubiquitous	Related confidence class		
BG1OG700L004	Ogosta	Dam Ogosta	H			-	2	2		2	F	3	H	G	M	G	M						
BG1OG789R1001	Ogosta	OGOSTA RWB1001	N	2	2	2	-	2		2	F	3	H	F	M	G	M						
BG1OG789R1401	Ogosta	OGOSTA RWB1401	N		2		-	2		2	F	3	H	G	M	G	M					N	
BG1OG789R1501	Ogosta	OGOSTA RWB1501	N		2	2	-	2		2	F	3	H	G	M	G	M					N	
BG1OG789R1601	Ogosta	OGOSTA RWB1601	N		2	1	-	2		2	F	3	H	G	M	G	M					N	
BG1WO100R001	Timok	TIMOK WORWB01	N		4	3	-	4		3	F	4	H	F	M	F	M					Y	
BG1YN130R1029	Yantra	YANTRA RWB1029	H	3	3	2	-	3		2	G	3	H	F	M	G	M						
BG1YN307R1027	Yantra	YANTRA RWB1027	H		3	2	-	3		3	G	3	H	G	M	G	M						N
BG1YN307R1127	Yantra	YANTRA RWB1127	H		2	3	-	3		2	G	3	M	G	M	G	M						N
BG1YN700R1017	Yantra	YANTRA RWB1017	N		3	3	-	3		3	G	3	H	G	M	G	M						N
BG1YN900R1015	Yantra	YANTRA RWB1015	N		3	3	-	3		3	F	3	H	G	M	G	M						
BG1YN900R1215	Yantra	YANTRA RWB1215	N		1	1	-	1		2	G	2	H	F	M	G	M						
BG1YN900R1415	Yantra	YANTRA RWB1415	N		2		-	2		2	G	2	H	G	M	G	M					N	N
MD0201/01	Prut	Prut	N																				
MD0201/02	Prut	Prut	N																				
MD0201/03	Prut	Prut	N																				
MD0201/04	Prut	Prut	N																				
MD0201/05	Prut	Prut (l.a.Costesti Stinca)	H																				
MD0201/06	Prut	Prut (l.a.Costesti Stinca)	H																				
MD0201/07	Prut	Prut	N																				
MD0201/08	Prut	Prut	N																				
MD0201/09	Prut	Prut	N																				

				Biological Quality Elements										CHEMICAL STATUS for priority substances (and confidence)									
Water body code	**River**	**Water body name**	**Water body type**	**Fish**	**Benthic invertebrates**	**Phytobenthos & Macrophytes**	**Phytoplankton**	**Overall Biological Status**	**Hydromorphology - High Status**	**General Phys. and Chem. conditions**	**River Basin Specific pollutants**	**ECOLOGICAL STATUS/POTENTIAL**	Related confidence class	**…in water**	Related confidence class	**…in water w/o ubiquitous**	Related confidence class	**…in biota**	Related confidence class	**…in biota w/o ubiquitous**	Related confidence class	**Exemption Art. 4(4)**	**Exemption Art. 4(5)**
MD0201/10	Prut	Prut	N																				
MD0201/11	Prut	Prut	N																				
MD0201/12	Prut	Prut	N																				
MD0201/13	Prut	Prut	N																				
MD0201/14	Prut	Prut	N																				
MD0201/15	Prut	Prut	N																				
UALAR01	Latorica	Latorica	N					-														-	-
UALAR02	Latorica	Latorica	N					-														-	-
UALAR03	Latorica	Latorica	N					-														-	-
UALAR04	Latorica	Latorica	N					-														-	-
UALAR05	Latorica	Latorica	N					-														-	-
UALAR06	Latorica	Latorica	N					-														-	-
UA0201/01	Prut	Prut	N					-														-	-
UA0201/02	Prut	Prut	N					-														-	-
UA0201/03	Prut	Prut	N					-														-	-
UA0201/04	Prut	Prut	N					-														-	-
UA0201/05	Prut	Prut	N					-														-	-
UA0201/06	Prut	Prut	N					-														-	-
UA0201/07	Prut	Prut	N					-														-	-
UASr01	Siret	Siret	N					-														-	-
UASr02	Siret	Siret	N					-														-	-
UASr03	Siret	Siret	N					-														-	-

Water body code	River	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
				Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
UASr04	Siret	Siret	N					-														-	-
UASr05	Siret	Siret	N					-														-	-
UASr06	Siret	Siret	N					-														-	-
UATISR01	Tisza	Tisa	N					-														-	-
UATISR02	Tisza	Tisa	N					-														-	-
UATISR03	Tisza	Tisa	N					-														-	-
UATISR04	Tisza	Tisa	N					-														-	-
UATISR05	Tisza	Tisa	N					-														-	-
UATISR06	Tisza	Tisa	N					-														-	-
UATISR07	Tisza	Tisa	N					-														-	-
UATISR08	Tisza	Tisa	N					-														-	-
UADUN_IAL_MD _05 (39_05)	Yalpuh	Danube	P					-														-	-

Status assessment of lakes

Water body code	Water body name	Water body type	Biological Quality Elements					Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
			Fish	Benthic invertebrates	Phytobenthos & Macrophytes	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ATOK10500200	Neusiedler See	N	2	2	2	2	2	Y	2	G	2	H	G	H	G	L	F	H	G	H	N	N
HUAIH049	Balaton	N	2	2	2	1	2	N	1	G	2	H	F	H	F	H	F	H	G	H	N	Y
HUAIH070	Fertő	N		3	2	1	3	N	2	F	3	H	F	H	F	H	F	H	G	H	Y	Y
HUANS560	Tisza-tó	H		3	3	2	3	N	2	F	3	H	F	H	F	H	F	H	F	H	Y	Y
ROLW14-1_B7	Razim	N		1	2	2	2	N	2	G	2	H	G	H	G	H						
UAKUW	Kuhurlui	N					-														-	-
UAYAW	Ialpuh	N					-														-	-

Status assessment of coastal waters

Water body code	Water body name	Water body type	Biological Quality Elements						Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
			Fish	Benthic invertebrates	Angiosperms	Macroalgae	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ROCT01_B1	Periboina-Cap Singol	N	-	2		5	3	5	N	3	G	5	H	G	H	G	H						
ROCT01_B2	Mangalia	H	-			5	2	5	N	3	G	5	H	G	H	G	H						
ROCT02_B1	Cap Singol-Eforie Nord	H	-	2		5	2	5	N	3	G	5	H	G	H	G	H						
ROCT02_B2	Eforie Nord-Vama Veche	N	-	2		5	3	5	N	3	G	5	H	G	H	G	H						

Status assessment of transitional waters

Water body code	Water body name	Water body type	Biological Quality Elements						Hydromorphology - High Status	General Phys. and Chem. conditions	River Basin Specific pollutants	ECOLOGICAL STATUS/POTENTIAL	Related confidence class	CHEMICAL STATUS for priority substances (and confidence)								Exemption Art. 4(4)	Exemption Art. 4(5)
			Fish	Benthic invertebrates	Angiosperms	Macroalgae	Phytoplankton	Overall Biological Status						…in water	Related confidence class	…in water w/o ubiquitous	Related confidence class	…in biota	Related confidence class	…in biota w/o ubiquitous	Related confidence class		
ROTT02_B1	Lac Sinoie	N					4	4	N	2	G	4	H	G	H	G	H						
ROTT03_B1	Chilia-Periboina	N		2			2	2	N	3	G	3	H	G	H	G	H						
UADDBS	Black sea	N						-														-	-

Inventory of Protected Areas

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

Draft ANNEX 10 as of 26 February 2021

DRBMP Update 2021

Explanations

This inventory only includes water-relevant protection areas covering an area larger than 500 hectar.

Types:

H = EU Habitat (FFH) Directive

B = EU Bird Protection Directive

O = Others (Non EU MS)

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
AT	AT1110137	Neusiedler See - Nordöstliches Leithagebirge	B,H	570.9
AT	AT1122916	Lafnitztal	H	5.9
AT	AT1126129	Waasen - Hanság	B	30
AT	AT1201A00	Waldviertler Teich-, Heide- und Moorlandschaft	H	137.2
AT	AT1202000	March-Thaya-Auen	H	88.6
AT	AT1202V00	March-Thaya-Auen	B	148.1
AT	AT1204000	Donau-Auen östlich von Wien	H	95
AT	AT1204V00	Donau-Auen östlich von Wien	B	90.9
AT	AT1208A00	Thayatal bei Hardegg	H	44.3
AT	AT1216000	Tullnerfelder Donau-Auen	H	175.3
AT	AT1217A00	Strudengau - Nibelungengau	H	48.2
AT	AT1218000	Machland Süd	H	16.7
AT	AT1219000	Niederösterreichische Alpenvorlandflüsse	H	70.2
AT	AT1220000	Feuchte Ebene - Leithaauen	H	50.8
AT	AT1301000	Nationalpark Donau-Auen (Wiener Teil)	B,H	22.6
AT	AT2101000	Hohe Tauern, Kärnten I	H	415.8
AT	AT2102000	Nockberge	H	79.8
AT	AT2105000	Vellacher Kotschna	H	5.8
AT	AT2108000	Inneres Pöllatal	H	32
AT	AT2109000	Wolayersee und Umgebung	H	19.4
AT	AT2112000	Villacher Alpe (Dobratsch)	B,H	23.3
AT	AT2114000	Obere Drau	B,H	10.3
AT	AT2116000	Görtschacher Moos - Obermoos im Gailtal	B,H	12.4
AT	AT2120000	Schütt - Graschelitzen	B,H	23.1
AT	AT2129000	Hohe Tauern, Kärnten II	B	415.8
AT	AT2134000	Mittagskogel - Karawanken Westteil	H	27
AT	AT2160000	Sattnitz-Ost	H	7
AT	AT2161000	Kronhofgraben	H	9
AT	AT2167000	Tscheppaschlucht - Ferlacher Horn	H	5.5
AT	AT2205000	Pürgschachen-Moos und ennsnahe Bereiche zwischen Selzthal und dem Gesäuseeingang	B,H	16.2
AT	AT2208000	Lafnitztal - Neudauer Teiche	B,H	11.8
AT	AT2210000	Ennstaler Alpen/Gesäuse	B,H	145.2
AT	AT2213000	Steirische Grenzmur mit Gamlitzbach und Gnasbach	B,H	21.9
AT	AT2215000	Teile der Eisenerzer Alpen	H	43.9
AT	AT2220000	Zirbitzkogel	B	23.1
AT	AT2225000	Demmerkogel-Südhänge, Wellinggraben mit Sulm-, Saggau- und Laßnitzabschnitten und Pößnitzbach	B,H	21.2
AT	AT2226000	Furtner Teich - Dürnberger-Moor	B	10.7
AT	AT2229000	Teile des Steirischen Jogl- und Wechsellandes	B	454.9
AT	AT2229002	Ennstal zwischen Liezen und Niederstuttern	B	25.6

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
AT	AT2230000	Teile des südoststeirischen Hügellandes inklusive Höll und Grabenlandbäche	B,H	156.6
AT	AT2233000	Raabklamm	B,H	5.6
AT	AT2236000	Ober- und Mittellauf der Mur mit Puxer Auwald, Puxer Wand und Gulsen	H	13.2
AT	AT2243000	Totes Gebirge mit Altausseer See	B,H	239.6
AT	AT3101000	Dachstein	B,H	145.6
AT	AT3105000	Unterer Inn	B,H	8.7
AT	AT3110000	Ettenau	B,H	6.3
AT	AT3111000	Nationalpark Kalkalpen und Umgebung	B,H	221.1
AT	AT3113000	Untere Traun	B	23.1
AT	AT3114000	Traun-Donau-Auen	B,H	6.6
AT	AT3117000	Mond- und Attersee	H	61.3
AT	AT3119000	Auwälder am Unteren Inn	H	5.8
AT	AT3120000	Waldaist und Naarn	H	38.4
AT	AT3121000	Böhmerwald und Mühltäler	H	93.5
AT	AT3122000	Oberes Donau- und Aschachtal	H	71.2
AT	AT3123000	Wiesengebiete und Seen im Alpenvorland	H	12.6
AT	AT3124000	Wiesengebiete im Freiwald	B	24.1
AT	AT3127000	Eferdinger Becken	H	13.4
AT	AT3128000	Bäche in den Steyr- und Ennstaler Voralpen	H	5.1
AT	AT3129000	Wiesengebiete im Mühlviertel	H	5.7
AT	AT3132000	Machland Nord	H	11.4
AT	AT3138000	Schluchtwälder der Steyr- und Ennstaler Voralpen	H	7.7
AT	AT3139000	Unteres Traun- und Almtal	H	12.5
AT	AT3144000	Goiserer Weißenbachtal	H	10.6
AT	AT3209022	Salzachauen, Salzburg	B	11.2
AT	AT3210001	Hohe Tauern, Salzburg	B,H	805
AT	AT3211012	Kalkhochalpen, Salzburg	H	237
AT	AT3223000	Salzachauen, Salzburg	H	7.4
AT	AT3302000	Vilsalpsee	B,H	18.3
AT	AT3303000	Valsertal	B,H	35.2
AT	AT3309000	Tiroler Lech	B,H	41.4
AT	AT3402000	Rheindelta	B,H	19.9
AT	AT3404000	Lauteracher Ried	B	5.8
AT	AT3410000	Gadental	H	15.4
AT	AT3411000	Klostertaler Bergwälder	B	21.4
AT	AT3412000	Verwall	B	121.1
AT	AT3438000	Ifen	H	24.7
BA	BABardaca	Zasticeno podrucje BARDACA	B	35
BA	BAProkosko jezero	Zasticeno podrucje ProkoĹˇko jezero	O	21.2

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
BA	BASkakavac	Zasticeno podrucje Skakavac	O	14.3
BA	BAUna	Zasticeno podrucje Una	O	198
BA	BAVrelo Bosne	Zasticeno podrucje Vrelo Bosne	O	6
BG	BG0000106	Harsovska reka	H	367.6
BG	BG0000107	Suha reka	H	624.8
BG	BG0000113	Vitosha	B,H	158.7
BG	BG0000117	Kotlenska planina	H	149.2
BG	BG0000165	Lozenska planina	H	13
BG	BG0000166	Vrachanski Balkan	H	360.3
BG	BG0000168	Ludogorie	H	594.5
BG	BG0000169	Ludogorie - Srebarna	H	52.2
BG	BG0000171	Ludogorie - Boblata	H	48.3
BG	BG0000173	Ostrovche	H	58.9
BG	BG0000180	Boblata	H	32.2
BG	BG0000181	Reka Vit	H	57.2
BG	BG0000182	Orsoya	H	24.6
BG	BG0000190	Vitata stena	H	26.3
BG	BG0000199	Tzibar	H	23
BG	BG0000204	Vardim	H	11.1
BG	BG0000211	Tvardishka planina	H	256
BG	BG0000213	Tarnovski visochini	H	44.3
BG	BG0000214	Dryanovski manastir	H	29.9
BG	BG0000231	Belenska gora	H	50.4
BG	BG0000232	Batin	H	26.8
BG	BG0000233	Studena reka	H	53
BG	BG0000237	Ostrov Pozharevo	B	9.8
BG	BG0000239	Obnova - Karaman dol	H	107.5
BG	BG0000240	Studenetz	B,H	280.6
BG	BG0000241	Srebarna	B,H	14.5
BG	BG0000247	Nikopolsko plato	H	185
BG	BG0000263	Skalsko	H	21.9
BG	BG0000275	Yazovir Stamboliyski	H	93.5
BG	BG0000308	Verila	H	37.5
BG	BG0000313	Rui	H	16.4
BG	BG0000322	Dragoman	H	213.6
BG	BG0000332	Karlukovski karst	B	142.2
BG	BG0000334	Ostrov	H	34.4
BG	BG0000335	Karaboaz	H	122
BG	BG0000336	Zlatiya	H	32
BG	BG0000339	Rabrovo	H	9.1

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
BG	BG0000340	Tzar Petrovo	H	17.5
BG	BG0000374	Bebresh	H	68.2
BG	BG0000377	Kalimok - Brashlen	H	73.3
BG	BG0000396	Persina	H	223.8
BG	BG0000399	Bulgarka	H	210.9
BG	BG0000432	Golyama reka	H	74.5
BG	BG0000494	Tzentralen Balkan	B,H	312.2
BG	BG0000495	Rila	B,H	206.5
BG	BG0000497	Archar	H	6
BG	BG0000498	Vidbol	H	13.1
BG	BG0000500	Voynitza	H	23.1
BG	BG0000503	Reka Lom	H	14.4
BG	BG0000507	Deleina	H	22.6
BG	BG0000509	Tzibritza	H	9.6
BG	BG0000517	Portitovtsi-Vladimirovo	H	6.6
BG	BG0000518	Vartopski dol	H	9.9
BG	BG0000521	Makresh	H	20.6
BG	BG0000522	Vidinski park	H	15.8
BG	BG0000523	Shishentzi	H	5.7
BG	BG0000529	Marten-Ryahovo	H	11.7
BG	BG0000530	Pozharevo - Garvan	H	58.7
BG	BG0000533	Ostrovi Kozlodui	H	6.1
BG	BG0000569	Kardam	H	9.2
BG	BG0000570	Izvorovo - Kraishte	H	10.8
BG	BG0000572	Rositza - Loznitza	H	18.1
BG	BG0000576	Svishtovska gora	H	19.2
BG	BG0000608	Lomovete	H	324.9
BG	BG0000609	Reka Rositza	H	14.4
BG	BG0000610	Reka Yantra	H	139
BG	BG0000611	Yazovir Gorni Dubnik	H	25.4
BG	BG0000613	Reka Iskar	H	94.6
BG	BG0000614	Reka Ogosta	H	12.5
BG	BG0000615	Devetashko plato	H	150
BG	BG0000616	Mikre	H	154.5
BG	BG0000617	Reka Palakariya	H	31.6
BG	BG0000618	Vidima	H	18.2
BG	BG0000624	Lyubash	H	12.7
BG	BG0001014	Karlukovo	H	288.4
BG	BG0001017	Karvav kamak	H	36.5
BG	BG0001036	Balgarski izvor	H	26.2

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
BG	BG0001037	Pastrina	H	35.5
BG	BG0001040	Zapadna stara planina i Predba	H	2193
BG	BG0001042	Iskarski prolom - Rzhana	H	226.9
BG	BG0001043	Etropole - Baylovo	H	191.3
BG	BG0001307	Plana	H	27.9
BG	BG0001389	Sredna Gora	H	21.4
BG	BG0001493	Tzentralen Balkan - buffer	H	867.2
BG	BG0002001	Rayanovtsi	B	132
BG	BG0002002	Zapaden Balkan	B	1467.7
BG	BG0002004	Dolni Bogrov-Kazichene	B	22.5
BG	BG0002005	Ponor	B	314.1
BG	BG0002009	Zlatiata	B	435.4
BG	BG0002017	Complex Belenski Ostrovi	B	66.8
BG	BG0002018	Ostrov Vardim	B	11.7
BG	BG0002024	Ribarnitsi Mechka	B	27.1
BG	BG0002025	Lomovete	B	43.1
BG	BG0002029	Kotlenska planina	B	196.9
BG	BG0002030	Complex Kalimok	B	92.2
BG	BG0002039	Harsovska reka	B	354
BG	BG0002048	Suha reka	B	257.5
BG	BG0002053	Vrachanski Balkan	B	309.2
BG	BG0002062	Ludogorie	B	913.2
BG	BG0002074	Nikopolsko plato	B	222.3
BG	BG0002083	Svishtovsko-Belenska nizina	B	54.4
BG	BG0002084	Palakaria	B	158.3
BG	BG0002085	Chairya	B	14.5
BG	BG0002088	Mikre	B	123.9
BG	BG0002090	Berkovitsa	B	28
BG	BG0002091	Ostrov Lakat	B	11.6
BG	BG0002095	Gorni Dabnik-Telish	B	34
BG	BG0002096	Obnova	B	54.2
BG	BG0002101	Meshtitsa	B	16.3
BG	BG0002102	Devetashko plato	B	78.9
BG	BG0002104	Tsibarsko blato	B	9.1
BG	BG0002109	Vasilyovska planina	B	454.8
BG	BG0002110	Apriltsi	B	19.4
BG	BG0002111	Velchevo	B	23.1
BG	BG0002112	Ruy	B	173.9
CZ	CZ0314024	Šumava	H	107.1
CZ	CZ0320180	Čerchovský les	H	22.7

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
CZ	CZ0323151	Kateřinský a Nivní potok	H	9.7
CZ	CZ0324026	Niva Nemanického potoka	H	6.7
CZ	CZ0530146	Králický Sněžník	H	17.7
CZ	CZ0614131	Údolí Oslavy a Chvojnice	H	23.4
CZ	CZ0614134	Údolí Jihlavy	H	8.6
CZ	CZ0620009	Lednické rybníky	H	6.2
CZ	CZ0620245	Rakovecké údolí	H	7.6
CZ	CZ0621025	Bzenecká Doubrava - Strážnické Pomoraví	B	117.3
CZ	CZ0621027	Soutok-Tvrdonicko	B	95.8
CZ	CZ0621028	Lednické rybníky	B	6.9
CZ	CZ0621029	Pálava	B	85.4
CZ	CZ0621030	Střední nádrž vodního díla Nové Mlýny	B	10.5
CZ	CZ0624064	Krumlovský les	H	19.5
CZ	CZ0624068	Strážnická Morava	H	6.6
CZ	CZ0624070	Hodonínská doubrava	H	30.3
CZ	CZ0624072	Čertoryje	H	47.6
CZ	CZ0624095	Údolí Dyje	H	18.1
CZ	CZ0624096	Podyjí	H	60.7
CZ	CZ0624099	Niva Dyje	H	32.5
CZ	CZ0624103	Mušovský luh	H	5.6
CZ	CZ0624119	Soutok - Podluží	H	95.8
CZ	CZ0624130	Moravský kras	H	64.9
CZ	CZ0710161	Království	H	5.9
CZ	CZ0711018	Litovelské Pomoraví	B	93.2
CZ	CZ0714073	Litovelské Pomoraví	H	94.6
CZ	CZ0714075	Keprník	H	18.4
CZ	CZ0714077	Praděd	H	29.1
CZ	CZ0714085	Morava - Chropyňský luh	H	32.1
CZ	CZ0714133	Libavá	H	68.2
CZ	CZ0720033	Semetín	H	13.1
CZ	CZ0720192	Velká Vela	H	7.7
CZ	CZ0720422	Valy-Bučník	H	11
CZ	CZ0720428	Na Koncoch	H	17.3
CZ	CZ0720435	Podkrálovec	H	9.6
CZ	CZ0720437	Valentová	H	5.6
CZ	CZ0724089	Beskydy	H	634.9
CZ	CZ0724090	Bílé Karpaty	H	199.2
CZ	CZ0724091	Chřiby	H	192.3
CZ	CZ0724107	Nedakonický les	H	15.3
CZ	CZ0724120	Kněžpolský les	H	5.2

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
CZ	CZ0724121	Nad Jasenkou	H	7.4
CZ	CZ0724429	Hostýnské vrchy	H	24
CZ	CZ0724430	Vlárský průsmyk	H	31.4
DE	DEBW_6927341	Rotachtal	H	6
DE	DEBW_7226311	Heiden und Wälder zwischen Aalen und Heidenheim	H	21.8
DE	DEBW_7226441	Albuch	B	73.6
DE	DEBW_7325341	Steinheimer Becken	H	30
DE	DEBW_7327341	Härtsfeld	H	32
DE	DEBW_7422441	Mittlere Schwäbische Alb	B	52
DE	DEBW_7425311	Kuppenalb bei Laichingen und Lonetal	H	17.3
DE	DEBW_7426341	Hungerbrunnen-, Sacken- und Lonetal	H	9.2
DE	DEBW_7427341	Giengener Alb und Eselsburger Tal	H	9.9
DE	DEBW_7523311	Münsinger Alb	H	48.2
DE	DEBW_7524341	Blau und Kleine Lauter	H	16.3
DE	DEBW_7527341	Donaumoos	H	9.1
DE	DEBW_7527441	Donauried	B	42.5
DE	DEBW_7621341	Gebiete um Trochtelfingen	H	7
DE	DEBW_7622341	Großes Lautertal und Landgericht	H	33.7
DE	DEBW_7623341	Tiefental und Schmiechtal	H	33
DE	DEBW_7625311	Donau zwischen Munderkingen und Ulm und nördliche Iller	H	11.6
DE	DEBW_7722311	Glastal, Großer Buchwald und Tautschbuch	H	35.8
DE	DEBW_7819341	Östlicher Großer Heuberg	H	8.9
DE	DEBW_7820341	Schmeietal	H	9.8
DE	DEBW_7820342	Truppenübungsplatz Heuberg	H	47.4
DE	DEBW_7820441	Südwestalb und Oberes Donautal	B	290.4
DE	DEBW_7821341	Gebiete um das Laucherttal	H	16.4
DE	DEBW_7823341	Donau zwischen Munderkingen und Riedlingen	H	14.3
DE	DEBW_7825311	Rot, Bellamonter Rottum und Dürnach	H	8.4
DE	DEBW_7916311	Baar, Eschach und Südostschwarzwald	H	22.3
DE	DEBW_7919311	Großer Heuberg und Donautal	H	83.4
DE	DEBW_7920342	Oberes Donautal zwischen Beuron und Sigmaringen	H	27
DE	DEBW_7921401	Baggerseen Krauchenwies/Zielfingen	B	7.5
DE	DEBW_7922342	Donau zwischen Riedlingen und Sigmaringen	H	12.8
DE	DEBW_7923341	Federsee und Blinder See bei Kanzach	H	28.3
DE	DEBW_7923401	Federseeried	B	29.3
DE	DEBW_7924341	Umlachtal und Riß südlich Biberach	H	7.1
DE	DEBW_8017341	Nördliche Baaralb und Donau bei Immendingen	H	25.4
DE	DEBW_8017441	Baar	B	280.2
DE	DEBW_8022401	Pfrunger und Burgweiler Ried	B	27.6
DE	DEBW_8025341	Wurzacher Ried und Rohrsee	H	18.9

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
DE	DEBW_8025401	Wurzacher Ried	B	18
DE	DEBW_8116441	Wutach und Baaralb	B	24
DE	DEBW_8117341	Südliche Baaralb	H	10.6
DE	DEBW_8122342	Pfrunger Ried und Seen bei Illmensee	H	16.3
DE	DEBW_8126311	Aitrach, Ach und Dürrenbach	H	5.9
DE	DEBW_8226441	Adelegg	B	17.9
DE	DEBY_6139-371	Waldnaabtal zwischen Tirschenreuth und Windisch-Eschenbach	H	26.2
DE	DEBY_6139-471	Waldnaabaue westlich Tirschenreuth	B	22.6
DE	DEBY_6237-371	Heidenaab, Creussenaue und Weihergebiet nordwestlich Eschenbach	H	18.7
DE	DEBY_6336-301	US-Truppenübungsplatz Grafenwöhr	H	192.7
DE	DEBY_6336-401	US-Truppenuebungsplatz Grafenwoehr	B	192.5
DE	DEBY_6336-471	Vilsecker Mulde	B	9.2
DE	DEBY_6337-371	Vilsecker Mulde mit den Tälern der Schmalnohe und Wiesenohe	H	9.5
DE	DEBY_6338-301	Lohen im Manteler Forst mit Schießlweiher und Straßenweiherkette	H	7.7
DE	DEBY_6338-401	Manteler Forst	B	26.9
DE	DEBY_6537-371	Vils von Vilseck bis zur Mündung in die Naab	H	6.4
DE	DEBY_6541-371	Bayerische Schwarzach und Biberbach	H	5.3
DE	DEBY_6636-371	Lauterachtal	H	8.4
DE	DEBY_6639-371	Talsystem von Schwarzach, Auerbach und Ascha	H	7.8
DE	DEBY_6639-372	Charlottenhofer Weihergebiet, Hirtlohweiher und Langwiedteiche	H	9.3
DE	DEBY_6639-472	Charlottenhofer Weihergebiet, Hirtlohweiher und Langwiedteiche	B	9.3
DE	DEBY_6728-471	Altmuehltal mit Brunst-Schwaigau und Altmuehlsee	B	49.7
DE	DEBY_6734-371	Binnendünen und Albtrauf bei Neumarkt	H	7.4
DE	DEBY_6736-302	Truppenübungsplatz Hohenfels	H	149.2
DE	DEBY_6736-402	Truppenuebungsplatz Hohenfels	B	149.1
DE	DEBY_6741-371	Chamb, Regentalaue und Regen zwischen Roding und Donaumündung	H	32.7
DE	DEBY_6741-471	Regentalaue und Chambtal mit Roetelseeweihergebiet	B	27.8
DE	DEBY_6743-301	Hoher Bogen	H	5.1
DE	DEBY_6830-371	Obere Altmühl mit Brunst-Schwaigau und Wiesmet	H	44.7
DE	DEBY_6834-301	Trauf der mittleren Frankenalb im Sulztal	H	12.3
DE	DEBY_6836-371	Schwarze Laaber	H	11.4
DE	DEBY_6844-371	Oberlauf des Weißen Regens bis Kötzting mit Kaitersbachaue	H	6.4
DE	DEBY_6844-373	Großer und Kleiner Arber mit Arberseen	H	23.2
DE	DEBY_6844-471	Grosser und Kleiner Arber mit Schwarzeck	B	35.7
DE	DEBY_6935-371	Weiße, Wissinger, Breitenbrunner Laaber u. Kreuzberg bei Dietfurt	H	23
DE	DEBY_6937-301	Flanken des Naabdurchbruchtals zwischen Kallmünz und Mariaort	H	14.6

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
DE	DEBY_6937-371	Naab unterhalb Schwarzenfeld und Donau von Poikam bis Regensburg	H	12.2
DE	DEBY_6939-302	Bachtäler im Falkensteiner Vorwald	H	13.8
DE	DEBY_6939-371	Trockenhänge am Donaurandbruch	H	5.2
DE	DEBY_6946-301	Nationalpark Bayerischer Wald	H	244
DE	DEBY_6946-401	Nationalpark Bayerischer Wald	B	242.5
DE	DEBY_7029-371	Wörnitztal	H	38.4
DE	DEBY_7036-371	Trockenhänge im unteren Altmühltal mit Laaberleiten und Galgental	H	27.3
DE	DEBY_7036-372	Hienheimer Forst östlich und westlich Schwaben	H	11.9
DE	DEBY_7037-471	Felsen und Hangwaelder im Altmuehl-, Naab-, Laber- und Donautal	B	48.4
DE	DEBY_7038-371	Standortübungsplatz Oberhinkhofen	H	5.3
DE	DEBY_7040-302	Wälder im Donautal	H	12.9
DE	DEBY_7040-371	Donau und Altwässer zwischen Regensburg und Straubing	H	22.6
DE	DEBY_7040-402	Waelder im Donautal	B	12.8
DE	DEBY_7040-471	Donau zwischen Regensburg und Straubing	B	32.6
DE	DEBY_7043-371	Deggendorfer Vorwald	H	15.1
DE	DEBY_7045-371	Oberlauf des Regens und Nebenbäche	H	19.2
DE	DEBY_7128-371	Trockenverbund am Rand des Nördlinger Rieses	H	9.2
DE	DEBY_7130-471	Noerdlinger Ries und Woernitztal	B	70.3
DE	DEBY_7132-371	Mittleres Altmühltal mit Wellheimer Trockental und Schambachtal	H	42.6
DE	DEBY_7132-471	Felsen und Hangwaelder im Altmuehltal und Wellheimer Trockental	B	36.1
DE	DEBY_7136-301	'Weltenburger Enge' und 'Hirschberg und Altmühlleiten'	H	9.3
DE	DEBY_7136-304	Donauauen zwischen Ingolstadt und Weltenburg	H	27.3
DE	DEBY_7138-372	Tal der Großen Laaber zwischen Sandsbach und Unterdeggenbach	H	6.8
DE	DEBY_7142-301	Donauauen zwischen Straubing und Vilshofen	H	47.8
DE	DEBY_7142-471	Donau zwischen Straubing und Vilshofen	B	67.9
DE	DEBY_7229-471	Riesalb mit Kesseltal	B	120.3
DE	DEBY_7230-371	Donauwörther Forst mit Standortübungsplatz und Harburger Karab	H	23.9
DE	DEBY_7231-471	Donauauen zwischen Lechmuendung und Ingolstadt	B	69.6
DE	DEBY_7232-301	Donau mit Jura-Hängen zwischen Leitheim und Neuburg	H	32.8
DE	DEBY_7233-372	Donauauen mit Gerolfinger Eichenwald	H	29
DE	DEBY_7233-373	Donaumoosbäche, Zucheringer Wörth und Brucker Forst	H	9.4
DE	DEBY_7243-301	Untere Isar zwischen Landau und Plattling	H	13.6
DE	DEBY_7243-302	Isarmündung	H	18.9
DE	DEBY_7243-401	Untere Isar oberhalb Muendung	B	9.8
DE	DEBY_7243-402	Isarmuendung	B	21.2
DE	DEBY_7246-371	Ilz-Talsystem	H	28.4

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DE	DEBY_7329-301	Donauauen Blindheim-Donaumünster	H	12.3
DE	DEBY_7329-372	Jurawälder nördlich Höchstädt	H	38.1
DE	DEBY_7330-301	Mertinger Hölle und umgebende Feuchtgebiete	H	8.8
DE	DEBY_7330-471	Wiesenbrueterlebensraum Schwaebisches Donauried	B	39.6
DE	DEBY_7335-371	Feilenmoos mit Nöttinger Viehweide	H	8.6
DE	DEBY_7341-471	Wiesenbruetergebiete im Unteren Isartal	B	13.9
DE	DEBY_7347-371	Erlau	H	5.7
DE	DEBY_7427-471	Schwaebisches Donaumoos	B	25.8
DE	DEBY_7428-301	Donau-Auen zwischen Thalfingen und Höchstädt	H	58
DE	DEBY_7428-471	Donauauen	B	80.5
DE	DEBY_7433-371	Paar und Ecknach	H	29.5
DE	DEBY_7439-371	Leiten der Unteren Isar	H	6.6
DE	DEBY_7440-371	Vilstal zwischen Vilsbiburg und Marklkofen	H	8.4
DE	DEBY_7446-371	Östlicher Neuburger Wald und Innleiten bis Vornbach	H	12.5
DE	DEBY_7537-301	Isarauen von Unterföhring bis Landshut	H	54
DE	DEBY_7537-401	Naturschutzgebiet "Vogelfreistaette Mittlere Isarstauseen"	B	5.9
DE	DEBY_7630-371	Schmuttertal	H	9
DE	DEBY_7631-371	Lechauen zwischen Königsbrunn und Augsburg	H	23.1
DE	DEBY_7631-372	Lech zwischen Landsberg und Königsbrunn mit Auen und Leite	H	24.8
DE	DEBY_7635-301	Ampertal	H	21.6
DE	DEBY_7636-471	Freisinger Moos	B	11.3
DE	DEBY_7637-471	Nördliches Erdinger Moos	B	45.3
DE	DEBY_7726-371	Untere Illerauen	H	8.3
DE	DEBY_7735-371	Heideflächen und Lohwälder nördlich von München	H	19.2
DE	DEBY_7736-471	Ismaninger Speichersee und Fischteiche	B	10.3
DE	DEBY_7739-371	Isental mit Nebenbächen	H	7.5
DE	DEBY_7742-371	Inn und Untere Alz	H	15.7
DE	DEBY_7828-471	Mindeltal	B	26.5
DE	DEBY_7829-301	Angelberger Forst	H	6.5
DE	DEBY_7832-371	Ampermoos	H	5.5
DE	DEBY_7833-371	Moore und Buchenwälder zwischen Etterschlag und Fürstenfeldbruck	H	7.9
DE	DEBY_7837-371	Ebersberger und Großhaager Forst	H	38.5
DE	DEBY_7932-372	Ammerseeufer und Leitenwälder	H	9.5
DE	DEBY_7932-471	Ammerseegebiet	B	77.1
DE	DEBY_7934-371	Moore und Wälder der Endmoräne bei Starnberg	H	5.8
DE	DEBY_7939-301	Innauen und Leitenwälder	H	35.2
DE	DEBY_7939-401	NSG 'Vogelfreistaette Innstausee bei Attel und Freiham'	B	5.7
DE	DEBY_8031-471	Mittleres Lechtal	B	32.1
DE	DEBY_8032-371	Ammersee-Südufer und Raistinger Wiesen	H	8.9
DE	DEBY_8032-372	Moore und Wälder westlich Dießen	H	25.8

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
DE	DEBY_8033-371	Moränenlandschaft zwischen Ammersee und Starnberger See	H	20.6
DE	DEBY_8034-371	Oberes Isartal	H	46.8
DE	DEBY_8038-371	Rotter Forst und Rott	H	8
DE	DEBY_8039-302	Moore und Seen nordöstlich Rosenheim	H	5.5
DE	DEBY_8040-371	Moorgebiet von Eggstädt-Hemhof bis Seeon	H	21.2
DE	DEBY_8040-471	Moorgebiet von Eggstaett-Hemhof bis Seeon	B	20.1
DE	DEBY_8127-301	Illerdurchbruch zwischen Reicholzried und Lautrach	H	9.8
DE	DEBY_8131-301	Moorkette von Peiting bis Wessobrunn	H	9.3
DE	DEBY_8131-371	Lech zwischen Hirschau und Landsberg mit Auen und Leiten	H	29
DE	DEBY_8133-301	Naturschutzgebiet 'Osterseen'	H	10.9
DE	DEBY_8133-302	Eberfinger Drumlinfeld mit Magnetsrieder Hardt u. Bernrieder Filz	H	10.8
DE	DEBY_8133-371	Starnberger See	H	57.2
DE	DEBY_8133-401	Starnberger See	B	56.9
DE	DEBY_8134-371	Moore südlich Königsdorf, Rothenrainer Moore und Königsdorfer Alm	H	10.7
DE	DEBY_8135-371	Moore zwischen Dietramszell und Deining	H	9.4
DE	DEBY_8136-302	Taubenberg	B,H	18.5
DE	DEBY_8136-371	Mangfalltal	H	13.4
DE	DEBY_8138-372	Moore um Raubling	H	12.3
DE	DEBY_8139-371	Simsseegebiet	H	10.3
DE	DEBY_8140-371	Moore südlich des Chiemsees	H	35.7
DE	DEBY_8140-372	Chiemsee	H	81.5
DE	DEBY_8140-471	Chiemseegebiet mit Alz	B	103.6
DE	DEBY_8141-471	Moore suedlich des Chiemsees	B	27.2
DE	DEBY_8142-371	Moore im Salzach-Hügelland	H	12.9
DE	DEBY_8142-372	Oberes Surtal und Urstromtal Höglwörth	H	8.8
DE	DEBY_8227-373	Kürnacher Wald	H	27.7
DE	DEBY_8228-301	Kempter Wald mit Oberem Rottachtal	H	40.9
DE	DEBY_8232-371	Grasleitner Moorlandschaft	H	20.8
DE	DEBY_8233-301	Moor- und Drumlinlandschaft zwischen Hohenkasten und Antdorf	H	14
DE	DEBY_8234-371	Moore um Penzberg	H	11.6
DE	DEBY_8235-301	Ellbach- und Kirchseemoor	H	11.4
DE	DEBY_8235-371	Attenloher Filzen und Mariensteiner Moore	H	6.5
DE	DEBY_8236-371	Flyschberge bei Bad Wiessee	H	9.6
DE	DEBY_8237-371	Leitzachtal	H	21.6
DE	DEBY_8239-371	Hochriesgebiet und Hangwälder im Aschauer Tal	H	18.3
DE	DEBY_8239-372	Geigelstein und Achentaldurchbruch	H	32.1
DE	DEBY_8239-401	Geigelstein	B	32.1
DE	DEBY_8241-372	Östliche Chiemgauer Alpen	H	129.5
DE	DEBY_8241-401	Naturschutzgebiet "oestliche Chiemgauer Alpen"	B	128.6

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DE	DEBY_8327-304	Rottachberg und Rottachschlucht	H	5.2
DE	DEBY_8329-301	Wertachdurchbruch	H	8.6
DE	DEBY_8329-303	Sulzschneider Moore	H	17.9
DE	DEBY_8329-401	Wertachdurchbruch	B	8.6
DE	DEBY_8330-371	Urspringer Filz,Premer Filz und Viehweiden	H	5.4
DE	DEBY_8330-471	Ammergebirge mit Kienberg und Schwarzenberg sowie Falkenstein	B	300.9
DE	DEBY_8331-302	Ammer vom Alpenrand b. zum NSG 'Vogelfreistätte Ammersee-Südufer'	H	23.3
DE	DEBY_8331-303	Trauchberger Ach, Moore und Wälder am Nordrand des Ammergebirges	H	11.1
DE	DEBY_8332-301	Murnauer Moos	H	42.7
DE	DEBY_8332-371	Moore im oberen Ammertal	H	6.3
DE	DEBY_8332-372	Moränenlandschaft zwischen Staffelsee und Baiersoien	H	25.3
DE	DEBY_8332-471	Murnauer Moos und Pfruehlmoos	B	72.8
DE	DEBY_8334-371	Loisach-Kochelsee-Moore	H	19.7
DE	DEBY_8334-373	Kesselberggebiet	H	6.7
DE	DEBY_8334-471	Loisach-Kochelsee-Moore	B	41.8
DE	DEBY_8336-371	Mangfallgebirge	H	149.2
DE	DEBY_8336-471	Mangfallgebirge	B	158.7
DE	DEBY_8342-301	Nationalpark Berchtesgaden	B,H	213.7
DE	DEBY_8342-302	NSG 'Aschau', NSG 'Schwarzbach' und Schwimmendes Moos	H	8.1
DE	DEBY_8343-303	Untersberg	H	35.3
DE	DEBY_8426-302	Nagelfluhkette Hochgrat-Steineberg	H	19.9
DE	DEBY_8429-303	Kienberg mit Magerrasen im Tal der Steinacher Achen	H	6.2
DE	DEBY_8430-301	Naturschutzgebiet 'Bannwaldsee'	H	5.6
DE	DEBY_8430-303	Falkenstein, Alatsee, Faulenbacher- und Lechtal	H	9.8
DE	DEBY_8431-371	Ammergebirge	H	275.8
DE	DEBY_8432-301	Loisachtal zwischen Farchant und Eschenlohe	H	6.9
DE	DEBY_8433-301	Karwendel mit Isar	H	195.8
DE	DEBY_8433-371	Estergebirge	H	60.7
DE	DEBY_8433-401	Karwendel mit Isar	B	195.8
DE	DEBY_8433-471	Estergebirge	B	119.9
DE	DEBY_8434-372	Jachenau und Extensivwiesen bei Fleck	H	14.4
DE	DEBY_8527-301	Hörnergruppe	H	11.8
DE	DEBY_8528-301	Allgäuer Hochalpen	H	212
DE	DEBY_8528-401	Naturschutzgebiet Allgaeuer Hochalpen	B	207.8
DE	DEBY_8532-371	Wettersteingebirge	H	42.6
DE	DEBY_8532-471	Naturschutzgebiet "Schachen und Reintal"	B	39.6
DE	DEBY_8533-301	Mittenwalder Buckelwiesen	H	19
HR	HR1000001	Pokupski bazen	B	350.4
HR	HR1000002	Sava kod Hrušćice	B	15.3

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
HR	HR1000003	Turopolje	B	200.5
HR	HR1000004	Donja Posavina	B	1211.2
HR	HR1000005	Jelas polje	B	388.4
HR	HR1000006	Spačvanski bazen	B	434.9
HR	HR1000008	Bilogora i Kalničko gorje	B	949.6
HR	HR1000009	Ribnjaci uz Česmu	B	231.1
HR	HR1000010	Poilovlje s ribnjacima	B	135.1
HR	HR1000011	Ribnjaci Grudnjak i Našice	B	207.3
HR	HR1000013	Dravske akumulacije	B	96.6
HR	HR1000014	Gornji tok Drave (od Donje Dubrave do Terezinog polja)	B	230.2
HR	HR1000015	Srednji tok Drave	B	135.6
HR	HR1000016	Podunavlje i donje Podravlje	B	663.6
HR	HR1000019	Gorski kotar i sjeverna Lika	B	2236.6
HR	HR1000020	NP Plitvička jezera	B	296.9
HR	HR1054	Plitvička jezera	O	296.2
HR	HR146755	Jelas polje	O	195.3
HR	HR146758	Bara Dvorina kraj Donje Bebrine	O	7.4
HR	HR15602	Kopački rit	O	231.4
HR	HR15605	U□e podrucje Kopačkog rita	O	72.4
HR	HR15614	Medvednica	O	179.4
HR	HR15615	Bijele i Samarske stijene	O	11.3
HR	HR15618	Crna Mlaka	O	6.9
HR	HR2000174	Trbušnjak - Rastik	H	20
HR	HR2000364	Mura	H	61.5
HR	HR2000369	Vršni dio Ravne gore	H	7.6
HR	HR2000371	Vršni dio Ivančice	H	60.7
HR	HR2000372	Dunav - Vukovar	H	133.5
HR	HR2000394	Kopački rit	H	231.3
HR	HR2000415	Odransko polje	H	136.8
HR	HR2000416	Lonjsko polje	H	511.3
HR	HR2000420	Sunjsko polje	H	195.7
HR	HR2000426	Dvorina	H	14.8
HR	HR2000437	Ribnjaci Končanica	H	12.8
HR	HR2000438	Ribnjaci Poljana	H	16
HR	HR2000440	Ribnjaci Siščani i Blatnica	H	7.6
HR	HR2000441	Ribnjaci Narta	H	6.2
HR	HR2000444	Varoški Lug	H	8.5
HR	HR2000447	Nacionalni park Risnjak	H	63.5
HR	HR2000449	Ribnjaci Crna Mlaka	H	6.9
HR	HR2000459	Petrinjčica	H	8.4

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HR	HR2000463	Dolina Une	H	43
HR	HR2000465	Žutica	H	47
HR	HR2000570	Crni jarki	H	5.2
HR	HR2000580	Papuk	H	374
HR	HR2000583	Medvednica	H	185.3
HR	HR2000586	Žumberak Samoborsko gorje	H	341.2
HR	HR2000589	Stupnički lug	H	7.5
HR	HR2000591	Klek	H	8.5
HR	HR2000592	Ogulinsko-plaščansko područje	H	330.7
HR	HR2000593	Mrežnica - Tounjčica	H	10.6
HR	HR2000594	Povremeno jezero Blata	H	8.2
HR	HR2000609	Dolina Dretulje	H	5.8
HR	HR2000623	Šume na Dilj gori	H	150
HR	HR2000632	Krbavsko polje	H	134.9
HR	HR2000634	Stajničko polje	H	5
HR	HR2000642	Kupa	H	51.8
HR	HR2000646	Polje Lug	H	7.2
HR	HR2000879	Lapačko polje	H	22.1
HR	HR2001069	Kanjon Une	H	8.2
HR	HR2001085	Ribnjak Grudnjak s okolnim šumskim kompleksom	H	124.1
HR	HR2001086	Breznički ribnjak (Ribnjak Našice)	H	14.4
HR	HR2001115	Strahinjčica	H	13.8
HR	HR2001216	Ilova	H	8.1
HR	HR2001281	Bilogora	H	74.9
HR	HR2001293	Livade kod Grubišnog Polja	H	29.7
HR	HR2001307	Drava - akumulacije	H	96.6
HR	HR2001308	Donji tok Drave	H	215.1
HR	HR2001309	Dunav S od Kopačkog rita	H	138.1
HR	HR2001311	Sava nizvodno od Hrušćice	H	129.6
HR	HR2001319	Ris	H	9.1
HR	HR2001324	Bjelopolje	H	9.6
HR	HR2001326	Jelas polje s ribnjacima	H	47.6
HR	HR2001335	Jastrebarski lugovi	H	37.8
HR	HR2001340	Područje oko Kuštrovke	H	32.5
HR	HR2001342	Područje oko špilje Gradusa	H	18
HR	HR2001346	Međimurje	H	25.2
HR	HR2001351	Područje oko Kupice	H	25
HR	HR2001353	Lokve-Sunger-Fužine	H	114.9
HR	HR2001354	Područje oko jezera Borovik	H	72.2
HR	HR2001355	Psunj	H	100.5

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HR	HR2001356	Zrinska gora	H	307.6
HR	HR2001373	Lisac	H	91.9
HR	HR2001379	Vlakanac-Radinje	H	29.2
HR	HR2001387	Područje uz Maju i Brućinu	H	9.7
HR	HR2001409	Livade uz Bednju II	H	11.4
HR	HR2001414	Spačvanski bazen	H	381.6
HR	HR2001415	Spačva JZ	H	53.3
HR	HR2518	Risnjak	O	63.5
HR	HR377823	Vuka	O	5.2
HR	HR377833	Mura	O	143.5
HR	HR377853	Ž umberak - Samoborsko gorje	O	342.4
HR	HR377920	Turopoljski lug i vlaž ne livade uz rijeku Odru	O	33.5
HR	HR378013	Odransko polje	O	94
HR	HR378033	Papuk	O	343.1
HR	HR392915	Sunjsko polje	O	203.2
HR	HR393049	Mura-Drava	O	1448.1
HR	HR5000014	Gornji tok Drave (od Donje Dubrave do Terezinog polja)	H	230.2
HR	HR5000015	Srednji tok Drave (od Terezinog polja do Donjeg Miholjca)	H	135.6
HR	HR5000019	Gorski kotar i sjeverna Lika	H	2173.2
HR	HR5000020	Nacionalni park Plitvička jezera	H	297.8
HR	HR63666	Lonjsko polje	O	511.3
HR	HR81108	Veliki Paž ut	O	12
HR	HR81116	Varoš ki Lug	O	9
HR	HR81145	Jankovac	O	6.5
HU	HU1092	Baradla barlangrendszer és felszíni védőöveze	O	20.6
HU	HU1093	Ipoly-völgy	O	23
HU	HU1099/EL/14	Farkas-sziget	O	11.9
HU	HU109/NP/74	Kiskunsági Nemzeti Park	O	505.2
HU	HU1102/EL/14	Vörös mocsárhoz kapcsolódó láprétek	O	25.6
HU	HU1113/EL/14	Nagy-Csukástó	O	7.5
HU	HU1120/EL/14	Kiskőrösi Őrjeg	O	21.5
HU	HU1121/EL/14	Szücsi erdő - Hortobány	O	7.2
HU	HU112/TK/75	Ócsai Tájvédelmi Körzet	O	36.5
HU	HU1133/EL/14	Csengődi-rét	O	7
HU	HU1175/EL/14	Káposztási-turjános és Rekettyés'	O	6.7
HU	HU1176/EL/14	Balázsrét-Kurjantó-Társasági-rétek	O	26.9
HU	HU118/TK/75	Lázbérci Tájvédelmi Körzet	O	37.1
HU	HU122/TK/76	Pusztaszeri Tájvédelmi Körzet	O	223.3
HU	HU123/TT/76	Szelidi-tó természetvédelmi terület	O	6.5
HU	HU124/TT/76	Péteri-tavi madárrezervátum természetvédelmi terület	O	7.8

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
HU	HU126/TK/76	Zselici Tájvédelmi Körzet	O	83
HU	HU138/NP/76	Bükki Nemzeti Park	O	420.3
HU	HU139/TK/76	Vértesi Tájvédelmi Körzet	O	155.3
HU	HU1409	Csongrád-bokrosi-sóstavak	O	8.7
HU	HU140/TK/77	Soproni Tájvédelmi Körzet	O	50.5
HU	HU1410	Felső-Tisza	O	242.6
HU	HU146/TK/77	Kelet-Mecsek Tájvédelmi Körzet	O	93.4
HU	HU148/TT/77	Tiszadobi-ártér természetvédelmi terület	O	10.2
HU	HU150/TT/77	Nagybereki Fehér-víz természetvédelmi terület	O	15.8
HU	HU152/TK/77	Gerecsei Tájvédelmi Körzet	O	86.8
HU	HU158/TK/78	Közép-tiszai Tájvédelmi Körzet	O	94.6
HU	HU163/TK/78	Budai Tájvédelmi Körzet	O	105
HU	HU1645	Rába-völgy	O	95.5
HU	HU1646	Felső-kiskunsági szikes puszták	O	128.5
HU	HU164/TT/78	Tiszatelek–Tiszaberceli-ártér természetvédelmi terület	O	15.1
HU	HU170/TK/80	Kőszegi Tájvédelmi Körzet	O	43.4
HU	HU171/TK/82	Szatmár-beregi Tájvédelmi Körzet	O	218.9
HU	HU172/TK/84	Zempléni Tájvédelmi Körzet	O	267.7
HU	HU1745	Borsodi-Mezőség	O	175.6
HU	HU1746	Montág-puszta	O	21.9
HU	HU177/NP/85	Aggteleki Nemzeti Park	O	201.8
HU	HU180/TK/85	Mátrai Tájvédelmi Körzet	O	123.8
HU	HU181/TK/86	Sárréti Tájvédelmi Körzet	O	22.2
HU	HU183	Dinnyési-fertő és Velencei-tavi Madárrezervát	O	13.5
HU	HU183/TK/86	Tokaj–Bodrogzug Tájvédelmi Körzet	O	52.9
HU	HU184/TT/86	Bihari-legelő természetvédelmi terület	O	7.7
HU	HU185	Kis-Balaton	O	146.6
HU	HU185/TT/86	Balatonfüredi-erdő természetvédelmi terület	O	8.7
HU	HU186	Mártélyi	O	22.5
HU	HU187	Felső-kiskunsági szikes tavak	O	73.9
HU	HU187/TK/87	Szigetközi Tájvédelmi Körzet	O	96.8
HU	HU188	Pusztaszeri	O	25.6
HU	HU189	Hortobágy	O	330.6
HU	HU1963	Dél-balatoni halastavak és berkek	O	95.1
HU	HU201/TK/88	Hajdúsági Tájvédelmi Körzet	O	70.9
HU	HU210/TK/89	Kelet-cserháti Tájvédelmi Körzet	O	73.1
HU	HU211/TK/89	Karancs–Medves Tájvédelmi Körzet	O	66.7
HU	HU212/TK/89	Borsodi-Mezőség Tájvédelmi Körzet	O	184.7
HU	HU219/TT/90	Császártöltési Vörös Mocsár Természetvédelmi Terület	O	9.3
HU	HU221/TT/90	Kiskőrösi-turjános természetvédelmi terület	O	6.4

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HU	HU230/TT/90	Kecskeri-puszta Természetvédelmi Terület	O	12.6
HU	HU231/TK/90	Gödöllői Dombvidék Tájvédelmi Körzet	O	114.8
HU	HU232/TK/90	Kesznyéteni Tájvédelmi Körzet	O	57.7
HU	HU238/NP/91	Fertő–Hanság Nemzeti Park	O	238.6
HU	HU240/TK/91	Magas-bakonyi Tájvédelmi Körzet	O	87.3
HU	HU242/TK/91	Boronka-melléki Tájvédelmi Körzet	O	85
HU	HU249/TT/92	Debreceni Nagyerdő Természetvédelmi Terület	O	11
HU	HU253/TK/92	Pannonhalmi Tájvédelmi Körzet	O	82.7
HU	HU254/EL/14	Keszthely	O	23.5
HU	HU257/TK/93	Somló Tájvédelmi Körzet	O	5.7
HU	HU258/TK/93	Hevesi Füves Puszták Tájvédelmi Körzet	O	161
HU	HU260/TK/93	Tarnavidéki Tájvédelmi Körzet	O	93.1
HU	HU271/ES/14	Sósér-Böddi-szék	O	14.7
HU	HU271/NP/96	Duna–Dráva Nemzeti Park	O	496.3
HU	HU272/TT/96	Rétszilasi-tavak Természetvédelmi Terület	O	14.9
HU	HU274/TT/96	Long-erdő természetvédelmi terület	O	10
HU	HU276/NP/97	Körös–Maros Nemzeti Park	O	512
HU	HU277/EL/14	Marcal	O	7.2
HU	HU280/TK/97	Sárvíz-völgye Tájvédelmi Körzet	O	34.8
HU	HU282/NP/97	Balaton-felvidéki Nemzeti Park	O	573.2
HU	HU283/NP/97	Duna–Ipoly Nemzeti Park	O	606.9
HU	HU284/TK/98	Bihari-sík Tájvédelmi Körzet	O	166.1
HU	HU287/TK/98	Tápió-Hajta Vidéke Tájvédelmi Körzet	O	41.3
HU	HU293/TK/99	Dél-Mezőföld Tájvédelmi Körzet	O	77.5
HU	HU296/NP/02	Őrségi Nemzeti Park	O	439
HU	HU308/TK/07	Mura-menti Tájvédelmi Körzet	O	19
HU	HU319/TK/09	Nyugat-Mecsek Tájvédelmi Körzet	O	103.6
HU	HU326/TT/12	Pirtói-homokbuckás Természetvédelmi Terület	O	5.9
HU	HU328/EL/14	Principális 2.	O	5
HU	HU329/ES/14	Gátéri Fehér-tó	O	6.2
HU	HU330/TK/12	Körös-éri Tájvédelmi Körzet	O	22.2
HU	HU357/ES/14	Járás-rét	O	10.1
HU	HU418	Ócsai Turjános	O	11.5
HU	HU419	Tatai tavak	O	19
HU	HU420	Fertő	O	84.4
HU	HU421	Balaton	O	594.8
HU	HU422	Bodrog-zug	O	42.2
HU	HU54/TT/54	Ipolytarnóci ősmaradványok természetvédelmi terület	O	5.1
HU	HU56/TT/54	Fenyőfői-ősfenyves természetvédelmi terület	O	5.8
HU	HU64/ES/14	Velencei-tó	O	14.7

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HU	HU671/EL/14	Dabasi turjános	O	17.2
HU	HU711/EL/14	Ladányi tőzegbányák	O	6.5
HU	HU87/TT/66	Dinnyési-fertő természetvédelmi terület	O	5.3
HU	HU899	Rétszilasi-halastavak	O	14.9
HU	HU900	Gemenc	O	197.7
HU	HU901	Béda-Karapancsa	O	86.7
HU	HU902	Izsák Kolon-tó	O	30.6
HU	HU903	Biharugrai	O	27.8
HU	HU94/TK/71	Mártélyi Tájvédelmi Körzet	O	22.8
HU	HU97/NP/73	Hortobágyi Nemzeti Park	O	811.6
HU	HUAN10001	Aggteleki-karszt	B	236.2
HU	HUAN10002	Putnok-dombság	B	71.2
HU	HUAN20001	Aggteleki-karszt és peremterületei	H	231
HU	HUAN20002	Rakaca-völgy és oldalvölgyei	H	20.8
HU	HUAN20003	Bódva-völgy és Sas-patak-völgye	H	27
HU	HUAN20004	Hernád-völgy és Sajóládi-erdő	H	50.4
HU	HUAN20005	Szuha-völgy	H	10.4
HU	HUAN20006	Sajó-völgy	H	20.7
HU	HUAN21007	Bózsva-patak	H	8.3
HU	HUBF10001	Mórichelyi-halastavak	B	6.5
HU	HUBF20001	Keleti-Bakony	H	226.5
HU	HUBF20002	Papod és Miklád	H	77.3
HU	HUBF20003	Kab-hegy	H	80.8
HU	HUBF20004	Agár-tető	H	51.4
HU	HUBF20006	Tihanyi-félsziget	H	7.7
HU	HUBF20007	Monostorapáti Fekete-hegy	H	17.9
HU	HUBF20008	Csatár-hegy és Miklós Pál hegy	H	16.1
HU	HUBF20009	Devecseri Széki-erdő	H	15.9
HU	HUBF20011	Felső-Nyirádi-erdő és Meggyes-erdő	H	41.8
HU	HUBF20014	Pécselyi-medence	H	8.7
HU	HUBF20015	Marcal-medence	H	48.9
HU	HUBF20016	Öreg-hegyi riviéra	H	12.1
HU	HUBF20017	Kádártai dolomitmezők	H	7.9
HU	HUBF20023	Hajmáskéri Törökcsapás	H	9
HU	HUBF20028	Tapolcai-medence	H	23
HU	HUBF20029	Uzsai-erdő	H	27.2
HU	HUBF20033	Dörögdi-medence	H	9
HU	HUBF20034	Balatonfüredi-erdő	H	34.9
HU	HUBF20035	Keszthelyi-hegység	H	149
HU	HUBF20037	Alsó-Zala-völgy	H	65.5

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HU	HUBF20039	Nyugat-Göcsej	H	45.2
HU	HUBF20040	Vétyempuszta	H	41.4
HU	HUBF20043	Mura mente	H	21.5
HU	HUBF20044	Kerka mente	H	73.4
HU	HUBF20045	Szévíz–Principális-csatorna	H	80.2
HU	HUBF20046	Oltárc	H	89.6
HU	HUBF20047	Felső-Zala-völgy	H	11.1
HU	HUBF20048	Kebele	H	19.3
HU	HUBF20049	Dél-zalai homokvidék	H	29.1
HU	HUBF20050	Csörnyeberek	H	21.3
HU	HUBF20052	Sárvíz-patak mente	H	11.9
HU	HUBF20053	Zalaegerszegi Csácsi-erdő	H	11.3
HU	HUBF20054	Nagykapornaki erdő	H	6.4
HU	HUBF20055	Remetekert	H	9.7
HU	HUBF30001	Északi-Bakony	B,H	257.8
HU	HUBF30002	Balaton	B,H	594.8
HU	HUBF30003	Kis-Balaton	B,H	133.4
HU	HUBN10001	Bodrogzug–Kopasz-hegy–Taktaköz	B	226.5
HU	HUBN10002	Borsodi-sík	B	362.4
HU	HUBN10003	Bükk hegység és peremterületei	B	662.1
HU	HUBN10004	Hevesi-sík	B	770.2
HU	HUBN10005	Kesznyéten	B	63.5
HU	HUBN10006	Mátra	B	373.1
HU	HUBN10007	Zempléni-hegység a Szerencsi-dombsággal és a Hernád-völggyel	B	1145.4
HU	HUBN20001	Bükk-fennsík és Lök-völgy	H	143.8
HU	HUBN20002	Hór-völgy és Déli-Bükk	H	55.2
HU	HUBN20004	Szarvaskő	H	6.3
HU	HUBN20005	Kisgyőri Ásottfa-tető–Csókás-völgy	H	24.2
HU	HUBN20006	Miskolctapolcai Tatár-árok–Vörös-bérc	H	5.4
HU	HUBN20007	Kisgyőri Halom-vár–Csincse-völgy–Cseh-völgy	H	10
HU	HUBN20008	Vár-hegy–Nagyeged	H	20.4
HU	HUBN20012	Egerbakta-Bátor környéki erdők	H	26.3
HU	HUBN20013	Hevesaranyosi-Fedémesi dombvidék	H	12.4
HU	HUBN20014	Gyepes-völgy	H	30.1
HU	HUBN20015	Izra-völgy és Arlói-tó	H	13.5
HU	HUBN20018	Upponyi-szoros	H	12.9
HU	HUBN20021	Domaházi Hangony-patak völgye	H	11.7
HU	HUBN20025	Nagybarcai Liget-hegy és sajóvelezdi Égett-hegy	H	12
HU	HUBN20034	Borsodi-Mezőség	H	148.5
HU	HUBN20035	Poroszlói szikesek	H	9.2

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HU	HUBN20040	Nagy-fertő–Gulya-gyep–Hamvajárás szikes pusztái	H	18.2
HU	HUBN20041	Pélyi szikesek	H	27.7
HU	HUBN20047	Mátra északi letörése	H	7.8
HU	HUBN20049	Mátrabérc–Fallóskúti-rétek	H	15.1
HU	HUBN20051	Nyugat-Mátra	H	15
HU	HUBN20055	Szentkúti Meszes-tető	H	8.9
HU	HUBN20056	Tepke	H	24.2
HU	HUBN20057	Bézma	H	8.3
HU	HUBN20062	Középső-Ipoly-völgy	H	16.8
HU	HUBN20063	Karancs	H	8.8
HU	HUBN20069	Kesznyéteni Sajó-öböl	H	47.3
HU	HUBN20071	Bodrogzug és Bodrog hullámtere	H	73.7
HU	HUBN20074	Tállyai Patócs-hegy-Sátor-hegy	H	6.8
HU	HUBN20081	Long-erdő	H	31.6
HU	HUBN20084	Központi-Zempléni-hegység	H	86.7
HU	HUBN20085	Északi-Zempléni-hegység	H	18.5
HU	HUBN20087	Baskói-rétek	H	5.9
HU	HUBN20089	Füzéri Pál-hegy	H	7.3
HU	HUDD10002	Nyugat-Dráva	B	152.4
HU	HUDD10003	Gemenc	B	196.4
HU	HUDD10004	Béda-Karapancsa	B	87.2
HU	HUDD10005	Kisszékelyi-dombság	B	26.4
HU	HUDD10007	Mecsek	B	206.4
HU	HUDD10008	Belső-Somogy	B	333.3
HU	HUDD10012	Balatoni berkek	B	86.5
HU	HUDD10013	Zselic	B	230.5
HU	HUDD20001	Tenkes	H	15.6
HU	HUDD20004	Dél-Zselic	H	68
HU	HUDD20007	Kelet-Dráva	H	66.2
HU	HUDD20008	Ormánsági erdők	H	105.3
HU	HUDD20011	Szekszárdi-dombvidék	H	24.5
HU	HUDD20012	Geresdi-dombvidék	H	65.7
HU	HUDD20014	Jánosházi-erdő és Égett-berek	H	6.2
HU	HUDD20015	Kisbajomi erdők	H	13
HU	HUDD20016	Észak-Zselici erdőségek	H	162.5
HU	HUDD20017	Mocsoládi-erdő	H	25.9
HU	HUDD20020	Közép-mezőföldi löszvölgyek	H	16
HU	HUDD20023	Tolnai Duna	H	71.6
HU	HUDD20026	Lengyel-hőgyészi erdők	H	36.4
HU	HUDD20029	Kisszékelyi-dombság	H	29.8

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HU	HUDD20030	Mecsek	H	261.8
HU	HUDD20031	Fehérvíz	H	15.5
HU	HUDD20032	Gemenc	H	207
HU	HUDD20035	Pogány-völgyi rétek	H	19.9
HU	HUDD20036	Ordacsehi berek	H	7.5
HU	HUDD20039	Dékány-hegy	H	8.9
HU	HUDD20040	Tengelici homokvidék	H	57.9
HU	HUDD20042	Köröshegyi-erdők	H	16.8
HU	HUDD20043	Kopasz-dombi erdő	H	10.5
HU	HUDD20044	Boronka-melléke	H	114.9
HU	HUDD20045	Béda-Karapancsa	H	108
HU	HUDD20046	Törökkoppányi erdők	H	21.6
HU	HUDD20047	Vityai-erdő	H	12.9
HU	HUDD20049	Somogytúri erdők	H	17.3
HU	HUDD20051	Darányi borókás	H	34.8
HU	HUDD20052	Ormánsági vizes élőhelyek és gyepek	H	14.1
HU	HUDD20056	Közép-Dráva	H	62.7
HU	HUDD20057	Somogymeggyesi erdő	H	6.8
HU	HUDD20058	Látrányi-puszta	H	9.8
HU	HUDD20059	Balatonkeresztúri rétek	H	5.9
HU	HUDD20060	Rinyaszentkirályi-erdő	H	5.1
HU	HUDD20061	Holládi-erdő	H	19.8
HU	HUDD20062	Nyugat-Dráva-sík	H	51.8
HU	HUDD20063	Szentai erdő	H	195.3
HU	HUDD20064	Ságvári dombok	H	23.4
HU	HUDD20065	Töttösi-erdő	H	11.9
HU	HUDD20066	Pécsi-sík	H	5.1
HU	HUDD20068	Gyékényesi erdők	H	7.8
HU	HUDD20073	Szedresi Ős-Sárvíz	H	7.5
HU	HUDI10002	Börzsöny és Visegrádi-hegység	B	495.6
HU	HUDI10003	Gerecse	B	296
HU	HUDI10004	Jászkarajenői puszták	B	104.3
HU	HUDI10005	Sárvíz völgye	B	78.6
HU	HUDI10006	Tatai Öreg-tó	B	26.2
HU	HUDI10007	Velencei-tó és Dinnyési-fertő	B	21.8
HU	HUDI10008	Ipoly völgye	B	63.5
HU	HUDI20003	Alapi kaszálórétek	H	5.2
HU	HUDI20005	Bársonyos	H	12.1
HU	HUDI20008	Börzsöny	H	304
HU	HUDI20009	Budai-hegység	H	95.2

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
HU	HUDI20010	Budaörsi kopárok	H	5.7
HU	HUDI20012	Csévharaszti homokvidék	H	12
HU	HUDI20015	Déli-Gerecse	H	48.2
HU	HUDI20016	Epöli szarmata vonulat	H	15.8
HU	HUDI20017	Érd-tétényi plató	H	11.6
HU	HUDI20018	Északi-Gerecse	H	26.9
HU	HUDI20019	Felső-Tápió	H	20.5
HU	HUDI20020	Gerecse	H	24.4
HU	HUDI20021	Gerje mente	H	33.4
HU	HUDI20022	Gógány- és Kőrös-ér mente	H	8.2
HU	HUDI20023	Gödöllői-dombság	H	75.2
HU	HUDI20024	Tápiógyörgye-Újszilvási szikesek	H	17.4
HU	HUDI20025	Hajta mente	H	57.9
HU	HUDI20026	Ipoly-völgy	H	29.4
HU	HUDI20030	Központi-Gerecse	H	59.1
HU	HUDI20031	Lajoskomáromi löszvölgyek	H	9.1
HU	HUDI20033	Móri-árok	H	6.8
HU	HUDI20034	Duna és ártere	H	165.7
HU	HUDI20035	Nagykőrösi pusztai tölgyesek	H	33
HU	HUDI20037	Nyakas-tető szarmata vonulat	H	6.1
HU	HUDI20038	Nyugat-Cserhát és Naszály	H	96.1
HU	HUDI20039	Pilis és Visegrádi-hegység	H	301.5
HU	HUDI20042	Ráckevei Duna-ág	H	31.9
HU	HUDI20044	Sárrét	H	41.1
HU	HUDI20046	Székek	H	36.2
HU	HUDI20047	Szigeti homokok	H	8.5
HU	HUDI20049	Szentgyörgypuszta	H	9.8
HU	HUDI20050	Alsó-Tápió és patakvölgyek	H	18
HU	HUDI20051	Turjánvidék	H	122.1
HU	HUDI20053	Velencei-hegység	H	40
HU	HUDI20054	Velencei-tó	H	10.8
HU	HUDI21056	Jászkarajenői puszták	H	69.7
HU	HUDI30001	Vértes	B,H	255.5
HU	HUDI30002	Zámolyi-medence	B,H	26
HU	HUFH10001	Fertő-tó	B	87
HU	HUFH10004	Mosoni-sík	B	131
HU	HUFH20001	Rábaköz	H	59.7
HU	HUFH20002	Fertő-tó	H	113
HU	HUFH20003	Fertőmelléki dombsor	H	25.6
HU	HUFH20006	Dudlesz-erdő	H	10.9

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
HU	HUFH20008	Pannonhalmi-dombság	H	76.8
HU	HUFH20009	Gönyüi-homokvidék	H	26.9
HU	HUFH20010	Répce mente	H	16.3
HU	HUFH20011	Rába	H	51.1
HU	HUFH20012	Soproni-hegység	H	52.6
HU	HUFH20013	Határ-menti erdők	H	22.5
HU	HUFH30004	Szigetköz	B,H	171.8
HU	HUFH30005	Hanság	B,H	135.5
HU	HUHN10001	Szatmár-Bereg	B	528.5
HU	HUHN10002	Hortobágy	B	1211.1
HU	HUHN10003	Bihar	B	716.1
HU	HUHN10004	Közép-Tisza	B	136.4
HU	HUHN10005	Jászság	B	201.3
HU	HUHN10008	Felső-Tisza	B	148.2
HU	HUHN20001	Felső-Tisza	H	286.8
HU	HUHN20002	Hortobágy	H	1051.7
HU	HUHN20003	Tisza-tó	H	178.3
HU	HUHN20004	Felső-Sebes-Körös	H	5.2
HU	HUHN20007	Szentpéterszeg-Hencidai gyepek	H	10.2
HU	HUHN20008	Kismarj-pocsaj-esztári gyepek	H	24.3
HU	HUHN20009	Derecske-konyári gyepek	H	37.9
HU	HUHN20013	Közép-Bihar	H	120.5
HU	HUHN20014	Kismarjai Nagy-szik	H	8.5
HU	HUHN20015	Közép-Tisza	H	142.4
HU	HUHN20016	Kék-Kálló-völgye	H	15
HU	HUHN20023	Hármashegyi-tölgyesek	H	5
HU	HUHN20032	Gúti-erdő	H	56.8
HU	HUHN20033	Debrecen-hajdúböszörményi tölgyesek	H	56.3
HU	HUHN20035	Ömbölyi-erdő és Fényi-erdő	H	14.3
HU	HUHN20045	Kaszonyi-hegy–Dédai-erdő	H	13.3
HU	HUHN20046	Gelénes–Beregdaróc	H	11.6
HU	HUHN20047	Vámosatya-Csaroda	H	20.1
HU	HUHN20048	Tarpa-Tákos	H	63.5
HU	HUHN20049	Lónya-Tiszaszalka	H	41.4
HU	HUHN20050	Kömörő-Fülesd	H	19.4
HU	HUHN20053	Magosligeti-erdő és gyepek	H	5.6
HU	HUHN20054	Csaholc–Garbolc	H	40.5
HU	HUHN20055	Rozsály–Csengersima	H	9.8
HU	HUHN20058	Teremi-erdő	H	9.1
HU	HUHN20063	Baktai-erdő	H	9.7

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HU	HUHN20069	Hajdúszoboszlói szikes gyepek	H	5.5
HU	HUHN20076	Borsóhalmi-legelő	H	15.6
HU	HUHN20081	Újszász–jászboldogházi gyepek	H	19.6
HU	HUHN20085	Jászapáti–jászkiséri szikesek	H	17.8
HU	HUHN20093	Kaba-földesi gyepek	H	50.8
HU	HUHN20098	Dél-ásványi gyepek	H	14.8
HU	HUHN20100	Gatály	H	7.1
HU	HUHN20101	Bihari-legelő	H	26.4
HU	HUHN20103	Berekböszörmény–körmösdpusztai-legelők	H	13.7
HU	HUHN20105	Csökmői gyepek	H	6.1
HU	HUHN20113	Kisvárdai gyepek	H	6.9
HU	HUHN20114	Tiszalöki szikesek	H	15.9
HU	HUHN20141	Tiszaigar–tiszaörsi Körtvélyes	H	6.1
HU	HUHN20144	Kenderesi-legelő	H	5.3
HU	HUHN20145	Kecskeri-puszta és környéke	H	15.4
HU	HUHN20146	Hegyesbor	H	13.7
HU	HUHN21164	Liget-legelő	H	22.1
HU	HUKM10001	Kígyósi-puszta	B	87.7
HU	HUKM10002	Kis-Sárrét	B	83.4
HU	HUKM10003	Dévaványai-sík	B	252.1
HU	HUKM10004	Vásárhelyi- és Csanádi-puszták	B	218.3
HU	HUKM10005	Cserebökényi-puszták	B	280.7
HU	HUKM20001	Hódmezővásárhely környéki és csanádi-háti puszták	H	164.2
HU	HUKM20002	Hómezővásárhelyi Kék-tó	H	39.1
HU	HUKM20004	Száraz-ér	H	15.2
HU	HUKM20005	Deszki gyepek	H	5.4
HU	HUKM20008	Maros	H	59.6
HU	HUKM20010	Gyula-szabadkígyósi gyepek	H	106.3
HU	HUKM20011	Körösközi erdők	H	56.4
HU	HUKM20012	Fekete-, Fehér- és Kettős-Körös	H	19.8
HU	HUKM20013	Bélmegyeri Fás-puszta	H	6.5
HU	HUKM20014	Dévaványa környéki gyepek	H	140.3
HU	HUKM20015	Hortobágy-Berettyó	H	30.8
HU	HUKM20016	Sebes-Körös	H	14.6
HU	HUKM20017	Hármas-Körös	H	78.2
HU	HUKM20019	Dél-bihari szikesek	H	65.2
HU	HUKM20026	Tóniszállás-szarvasi gyepek	H	5.9
HU	HUKM20027	Cserebökény	H	100
HU	HUKM20028	Tőkei gyepek	H	29.9
HU	HUKM20029	Szentesi gyepek	H	6.1

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
HU	HUKM20030	Lapistó-Fertő	H	19
HU	HUKN10001	Felső-Kiskunsági szikes puszták és turjánvidék	B	418.2
HU	HUKN10002	Kiskunsági szikes tavak és az őrjegi turjánvidék	B	357.2
HU	HUKN10004	Tisza Alpár-Bokrosi ártéri öblözete	B	50.3
HU	HUKN10007	Alsó-Tiszavölgy	B	362.9
HU	HUKN10008	Balástya-Szatymaz környéki homokvidék	B	61.7
HU	HUKN20001	Felső-kiskunsági szikes puszta	H	157.8
HU	HUKN20002	Peszéri-erdő	H	16.3
HU	HUKN20003	Felső-kiskunsági turjánvidék	H	144.4
HU	HUKN20004	Dél-Bácska	H	7.8
HU	HUKN20005	Tass–szalkszentmártoni szikes puszta	H	16.6
HU	HUKN20006	Nagynyíri-erdő	H	7.5
HU	HUKN20008	Déli-Homokhátság	H	23.9
HU	HUKN20009	Felső-kiskunsági szikes tavak és Mikla-puszta	H	196.8
HU	HUKN20011	Fülöpházi homokbuckák	H	21.2
HU	HUKN20013	Fülöpszállás-soltszentimre-csengődi lápok	H	31.2
HU	HUKN20015	Ágasegyháza-orgoványi rétek	H	43.2
HU	HUKN20017	Közép-csongrádi szikesek	H	11.4
HU	HUKN20018	Jánoshalma-kunfehértói erdők	H	13.4
HU	HUKN20019	Baksi-puszta	H	48.8
HU	HUKN20020	Harkai-tó	H	6.6
HU	HUKN20021	Ökördi–erdőteleki–keceli lápok	H	25.2
HU	HUKN20022	Kiskőrösi turjános	H	28.7
HU	HUKN20023	Tázlár–kiskunhalasi homokbuckák	H	19.3
HU	HUKN20024	Bócsa-bugaci homokpuszta	H	116.6
HU	HUKN20026	Móricgáti lápok	H	7.7
HU	HUKN20027	Péteri-tó	H	7.8
HU	HUKN20028	Tisza Alpár-Bokrosi ártéri öblözet	H	32.9
HU	HUKN20031	Alsó-Tisza hullámtér	H	79.3
HU	HUKN20032	Dél-Őrjeg	H	45.9
HU	HUKN20035	Harkakötöny–kiskunmajsai homokbuckák	H	7.1
HU	HUKN20036	Imre-hegy–pirtó–kiskunhalasi homokbuckák	H	15.6
HU	HUKN30001	Csongrád-Bokrosi Sóstó,Csongrád-Bokrosi Sós-tó	B,H	7.1
HU	HUKN30002	Gátéri Fehér-tó	B,H	8.5
HU	HUKN30003	Izsáki Kolon-tó	B,H	35.8
HU	HUON10001	Őrség	B	456.9
HU	HUON20002	Kőszegi-hegység	H	40.2
HU	HUON20003	Ablánc-patak völgye	H	14.7
HU	HUON20005	Váti gyakorlótér	H	6
HU	HUON20008	Rába és Csörnöc-völgy	H	121.5

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HU	HUON20011	Kenyeri reptér	H	7
HU	HUON20012	Kemenessömjéni cserjés legelő	H	6.2
HU	HUON20018	Őrség	H	441.7
MD	MDPA03	Feteti-Fetesti	O	5.6
MD	MDPA04	La Costel-Gordinesti	O	7.4
MD	MDPA05	Zabriceni-Onesti	O	5.9
MD	MDPA06	Suta de Movila-Cobani	O	6.9
MD	MDPA08	Padurea Domneasca-Cobani	O	60.5
MD	MDPA09	Izvoare-Risipeni-Risipeneni	O	15.4
MD	MDPA13	Vila Nisporeni-Nisporeni	O	41.6
MD	MDPA14	Padurea Hincesti-Mereseni	O	46.8
MD	MDPA18	Prutul de Jos-Manta	O	132.5
ME	MEBiogradskaGora	Biogradska Gora National Park	O	56.5
ME	MEDurmitor	Durmitor National Park with the Tara River Gorge	O	390
RO	RO2.104.	Zona carstica - Cheile Dambovita	O	12.5
RO	RO2.125.	Valea Valsanului	O	118.9
RO	RO2.234.	Rezervatia naturala Bucegi (Abruptul Bucsoiu, Malaesti, Gaura)	O	17.2
RO	RO2.243.	Rezervatia naturala Cheile Dopca	O	20.6
RO	RO2.253.	Rezervatia naturala Muntele Postavarul	O	12.4
RO	RO2.257.	Rezervatia naturala Padurea Bogatii	O	63.3
RO	RO2.260.	Lacul Jirlau-Trup Visani	O	5.4
RO	RO2.271.	Balta Alba	O	11.7
RO	RO2.272.	Balta Amara	O	8.1
RO	RO2.276.	Rezervatia Cheile Nerei – Beusnita	O	41.9
RO	RO2.277.	Valea Ciclovei – Ilidia	O	19.6
RO	RO2.282.	Cheile Carasului	O	32.7
RO	RO2.283.	Izvoarele Carasului	O	5.8
RO	RO2.284.	Izvoarele Nerei	O	50.7
RO	RO2.285.	Cheile Garlistei	O	5.1
RO	RO2.298.	Rezervaţia naturala Valea Mare	O	11.6
RO	RO2.334.	Stufarisurile de la Sic I	O	5
RO	RO2.337.	Pestera din Piatra Ponorului	O	17.1
RO	RO2.345.	Vama Veche – 2 Mai (Acvatoriul litoralul marin)	O	55.6
RO	RO2.346.	Grindul Chituc DD– A	O	23
RO	RO2.347.	Grindul Lupilor DD– A	O	20.7
RO	RO2.372.	Mestecanisul de la Reci	O	21.1
RO	RO2.376.	Orzea - Zanoaga	O	7.1
RO	RO2.389.	Gogosu Stefanel	O	8.2
RO	RO2.399.	Cleanov	O	7.4
RO	RO2.414.	Lunca joasa a Prutului	O	11.7

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RO	RO2.422.	Piatra Closanilor	O	23.6
RO	RO2.442.	Cheile Sohodolului	O	6.1
RO	RO2.482.	Cheile Bicazului si Lacul Rosu	O	22
RO	RO2.483.	Masivul Hasmasul Mare, Piatra Singuratica	O	8.8
RO	RO2.485.	Cheile Varghisului si pesterile din chei	O	7.7
RO	RO2.494.	Rezervatia Stiintifica Gemenele	O	19.3
RO	RO2.497.	Complexul carstic Calianu e Ponorici e Ciclovina	O	15.5
RO	RO2.499.	Cheile si Pestera Sura Mare	O	38
RO	RO2.500.	Pestera Tecuri (Complexul carstic Rachitaua v Tecuri)	O	5.4
RO	RO2.525.	Codrii seculari de pe valea Dobrisoarei si Prisloapei	O	5
RO	RO2.530.	Cheile Cernei	O	5.4
RO	RO2.556.	Raul Prut	O	53.2
RO	RO2.580.	Cornu Nedeii-Ciungii Balasanii	O	25.1
RO	RO2.583.	Cheile Lapusului (intre Groape si Impreunaturi)	O	14.9
RO	RO2.589.	Piatra Rea	O	5.2
RO	RO2.597.	Gura Vaii - Varciorova PN - D, Municipiul Drobeta - Turnu Severin, localitatea	O	7.2
RO	RO2.600.	Padurea de liliac Ponoarele Comuna Ponoarele	O	6.2
RO	RO2.601.	Tufarisurile mediteraneene de la Isverna Comuna Isverna	O	5
RO	RO2.602.	Varful lui Stan, PN-B, Comuna Isverna	O	7.1
RO	RO2.603.	Valea Tesna PN-B Comuna Balta	O	10.7
RO	RO2.613.	Complexul carstic de la Ponoarele Comuna Ponoarele	O	6.6
RO	RO2.615.	Cheile Cosustei	O	7.2
RO	RO2.616.	Cornetul Babelor si Cerboaniei Comuna Balta	O	8.5
RO	RO2.619.	Cornetul Baltii, Comuna Balta	O	9.4
RO	RO2.638.	Defileul Deda - Toplita	O	91.6
RO	RO2.643.	Cheile Bicazului	O	17.5
RO	RO2.658.	Rezervatia de zimbri Neamt	O	121.1
RO	RO2.672.	Abruptul Prahovean Bucegi	O	56.3
RO	RO2.673.	Muntii Coltii lui Barbes	O	8.7
RO	RO2.680.	Cursul inferior al raului Tur, Comuna Calinesti Oas	O	15.1
RO	RO2.701.	Valea Balii	O	5.1
RO	RO2.705.	Iezerele Cindrelului	O	14.5
RO	RO2.706.	Parcul Natural Dumbrava Sibiului	O	10.1
RO	RO2.707.	Parcul Natural Cindrel	O	79.1
RO	RO2.709.	Golul Alpin al Munţilor Fagaras	O	48.5
RO	RO2.715.	Tinovul Poiana Stampei	O	6.4
RO	RO2.722.	Pietrele Doamnei-Rarau	O	9.7
RO	RO2.723.	Codrul Secular Slatioara	O	10.1
RO	RO2.730.	Jnepenisul cu Pinus Cembra-Calimani PN-K	O	5.6
RO	RO2.750.	Rosca – Buhaiova DD– A	O	94.6

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km^2
RO	RO2.751.	Padurea Letea DD– A	O	30.9
RO	RO2.752.	Grindul si Lacul Raducu DD– A	O	26.6
RO	RO2.754.	Complexul – Vatafu Lungulet DD– A	O	16.2
RO	RO2.755.	Padurea Caraorman DD– A	O	22.5
RO	RO2.758.	Complexul Sacalin Zatoana DD– A	O	213.9
RO	RO2.761.	Lacul Potcoava DD– A	O	6.3
RO	RO2.798.	Padurea Calinesti - Brezoi	O	9.9
RO	RO2.826.	Rezervaţia naturala Valea Tisitei	O	27.1
RO	RO2.827.	Rezervatia naturala Padurea Neagra	O	6
RO	ROA	Delta Dunarii - zona marina	O	5800
RO	ROA.1	Defileul Muresului Superior	O	94.9
RO	ROA.1.	Defileul Jiului	O	111.4
RO	ROB	Domogled - Valea Cernei	O	611.9
RO	ROC	Retezat	O	381.2
RO	ROD	Portile de Fier	O	1300
RO	ROE	Cheile Nerei - Beusnita	O	367.1
RO	ROF	Apuseni	O	760.2
RO	ROG	Muntii Rodnei	O	472.1
RO	ROH	Bucegi	O	326
RO	ROI	Cheile Bicazului - Hasmas	O	69.3
RO	ROII.1.	Buila - Vanturarita	O	44.9
RO	ROJ	Ceahlau	O	77.4
RO	ROK	Calimani	O	239.2
RO	ROL	Cozia	O	167.2
RO	ROM	Piatra Craiului	O	147.8
RO	RON	Gradistea Muncelului - Cioclovina	O	381.2
RO	ROO	Semenic - Cheile Carasului	O	362.2
RO	ROP	Muntii Macinului	O	111.1
RO	ROR	Balta Mica a Brailei	O	204.6
RO	ROS	Vanatori-Neamt	O	308.4
RO	ROSCI0002	Apuseni	H	758.8
RO	ROSCI0003	Arboretele de castan comestibil de la Baia Mare	H	20.9
RO	ROSCI0004	Bagau	H	31.7
RO	ROSCI0005	Balta Alba - Amara - Jirlau - Lacul Sarat Caineni	H	64
RO	ROSCI0006	Balta Mica a Brailei	H	206.7
RO	ROSCI0007	Bazinul Ciucului de Jos	H	27.6
RO	ROSCI0008	Betfia	H	17.6
RO	ROSCI0009	Bisoca	H	12.2
RO	ROSCI0012	Bratul Macin	H	104.3
RO	ROSCI0013	Bucegi	H	386.9

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RO	ROSCI0014	Bucsani	H	5.1
RO	ROSCI0015	Buila - Vanturarita	H	44.8
RO	ROSCI0019	Calimani - Gurghiu	H	1352.6
RO	ROSCI0020	Campia Careiului	H	236.4
RO	ROSCI0021	Campia Ierului	H	212.3
RO	ROSCI0022	Canaralele Dunarii	H	261.1
RO	ROSCI0024	Ceahlau	H	77.6
RO	ROSCI0025	Cefa	H	52.2
RO	ROSCI0027	Cheile Bicazului - Hasmas	H	76.3
RO	ROSCI0028	Cheile Cernei	H	5.1
RO	ROSCI0029	Cheile Glodului, Cibului si Mazii	H	7.4
RO	ROSCI0030	Cheile Lapusului	H	17.1
RO	ROSCI0031	Cheile Nerei - Beusnita	H	377.2
RO	ROSCI0036	Cheile Varghisului	H	8.7
RO	ROSCI0037	Ciomad - Balvanyos	H	59.8
RO	ROSCI0038	Ciucas	H	219.7
RO	ROSCI0039	Ciuperceni - Desa	H	395.6
RO	ROSCI0042	Codru Moma	H	246.3
RO	ROSCI0043	Comana	H	265.8
RO	ROSCI0044	Corabia - Turnu Magurele	H	83.5
RO	ROSCI0045	Coridorul Jiului	H	713.7
RO	ROSCI0046	Cozia	H	167.3
RO	ROSCI0047	Creasta Nemirei	H	35.9
RO	ROSCI0048	Crisul Alb	H	8.3
RO	ROSCI0049	Crisul Negru	H	18.2
RO	ROSCI0050	Crisul Repede amonte de Oradea	H	20
RO	ROSCI0051	Cusma	H	440.9
RO	ROSCI0056	Dealul Ciocas - Dealul Vitelului	H	9.6
RO	ROSCI0057	Dealul Istrita	H	5.7
RO	ROSCI0058	Dealul lui Dumnezeu	H	7.1
RO	ROSCI0061	Defileul Crisului Negru	H	22.1
RO	ROSCI0062	Defileul Crisului Repede - Padurea Craiului	H	402.7
RO	ROSCI0063	Defileul Jiului	H	109.3
RO	ROSCI0064	Defileul Muresului	H	342
RO	ROSCI0065	Delta Dunarii	H	4536.6
RO	ROSCI0066	Delta Dunarii - zona marina	H	3362.1
RO	ROSCI0069	Domogled - Valea Cernei	H	621.2
RO	ROSCI0070	Drocea	H	261.1
RO	ROSCI0071	Dumbraveni - Valea Urluia - Lacul Vederoasa	H	180.3
RO	ROSCI0074	Fagetul Clujului - Valea Morii	H	16.9

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RO	ROSCI0075	Padurea Patrauti	H	87.7
RO	ROSCI0076	Dealul Mare - Harlau	H	250.6
RO	ROSCI0084	Ferice - Plai	H	19.9
RO	ROSCI0085	Frumoasa	H	1372.6
RO	ROSCI0086	Gaina - Lucina	H	8.4
RO	ROSCI0087	Gradistea Muncelului - Cioclovina	H	398.6
RO	ROSCI0088	Gura Vedei - Saica - Slobozia	H	101.4
RO	ROSCI0089	Gutai - Creasta Cocosului	H	6.9
RO	ROSCI0090	Harghita Madaras	H	133.2
RO	ROSCI0091	Herculian	H	129.2
RO	ROSCI0092	Ignis	H	196.4
RO	ROSCI0094	Izvoarele sulfuroase submarine de la Mangalia	H	57.9
RO	ROSCI0099	Lacul Stiucilor - Sic - Puini - Bontida	H	38.9
RO	ROSCI0101	Larion	H	30.6
RO	ROSCI0102	Leaota	H	13.8
RO	ROSCI0103	Lunca Buzaului	H	95.8
RO	ROSCI0104	Lunca Inferioara a Crisului Repede	H	6.4
RO	ROSCI0105	Lunca Joasa a Prutului	H	57.5
RO	ROSCI0106	Lunca Mijlocie a Argesului	H	36.5
RO	ROSCI0108	Lunca Muresului Inferior	H	174
RO	ROSCI0109	Lunca Timisului	H	101.7
RO	ROSCI0111	Mestecanisul de la Reci	H	21.3
RO	ROSCI0115	Mlastina Satchinez	H	25.2
RO	ROSCI0116	Molhasurile Capatanei	H	8.1
RO	ROSCI0119	Muntele Mare	H	16.4
RO	ROSCI0122	Muntii Fagaras	H	1986.3
RO	ROSCI0123	Muntii Macinului	H	169.3
RO	ROSCI0124	Muntii Maramuresului	H	1068.7
RO	ROSCI0125	Muntii Rodnei	H	479.4
RO	ROSCI0126	Muntii Tarcu	H	586.1
RO	ROSCI0128	Nordul Gorjului de Est	H	492
RO	ROSCI0129	Nordul Gorjului de Vest	H	869.8
RO	ROSCI0130	Oituz - Ojdula	H	153.4
RO	ROSCI0131	Oltenita - Mostistea - Chiciu	H	115.2
RO	ROSCI0132	Oltul Mijlociu - Cibin - Hartibaciu	H	29.1
RO	ROSCI0135	Padurea Barnova - Repedea	H	122.4
RO	ROSCI0137	Padurea Bogatii	H	63.4
RO	ROSCI0138	Padurea Bolintin	H	56.4
RO	ROSCI0149	Padurea Eseschioi - Lacul Bugeac	H	29.4
RO	ROSCI0152	Padurea Floreanu - Frumusica - Ciurea	H	189.2

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RO	ROSCI0154	Padurea Glodeni	H	11.7
RO	ROSCI0156	Muntii Gosman	H	171.5
RO	ROSCI0157	Padurea Hagieni - Cotul Vaii	H	36.8
RO	ROSCI0158	Padurea Balteni - Harboanca	H	5.4
RO	ROSCI0162	Lunca Siretului Inferior	H	249.8
RO	ROSCI0166	Padurea Resca Hotarani	H	16.5
RO	ROSCI0168	Padurea Sarului	H	67.7
RO	ROSCI0172	Padurea si Valea Canaraua Fetii - Iortmac	H	136.4
RO	ROSCI0173	Padurea Starmina	H	27.8
RO	ROSCI0187	Pajistile lui Suciu	H	160.2
RO	ROSCI0188	Parang	H	302.9
RO	ROSCI0190	Penteleu	H	112.8
RO	ROSCI0194	Piatra Craiului	H	159.1
RO	ROSCI0195	Piatra Mare	H	42.8
RO	ROSCI0197	Plaja submersa Eforie Nord - Eforie Sud	H	57.2
RO	ROSCI0198	Platoul Mehedinti	H	535.6
RO	ROSCI0200	Platoul Vascau	H	50
RO	ROSCI0201	Podisul Nord Dobrogean	H	848.8
RO	ROSCI0202	Silvostepa Olteniei	H	93
RO	ROSCI0206	Portile de Fier	H	1255.1
RO	ROSCI0207	Postavarul	H	12.9
RO	ROSCI0208	Putna - Vrancea	H	380.6
RO	ROSCI0211	Podisul Secaselor	H	70
RO	ROSCI0213	Raul Prut	H	105.8
RO	ROSCI0214	Raul Tur	H	205.4
RO	ROSCI0215	Recifii Jurasici Cheia	H	56.6
RO	ROSCI0217	Retezat	H	435.3
RO	ROSCI0218	Dealul Mocrei - Rovina - Ineu	H	41.9
RO	ROSCI0219	Rusca Montana	H	127.7
RO	ROSCI0220	Sacueni	H	7.4
RO	ROSCI0222	Saraturile Jijia Inferioara - Prut	H	106.7
RO	ROSCI0224	Scrovistea	H	33.5
RO	ROSCI0225	Seaca - Optasani	H	21.2
RO	ROSCI0226	Semenic - Cheile Caras	H	374.6
RO	ROSCI0227	Sighisoara - Tarnava Mare	H	892.7
RO	ROSCI0229	Siriu	H	62.4
RO	ROSCI0230	Slanic	H	13.9
RO	ROSCI0231	Nadab - Socodor - Varsad	H	78
RO	ROSCI0233	Somesul Rece	H	85
RO	ROSCI0236	Strei - Hateg	H	249.8

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RO	ROSCI0238	Suatu - Cojocna - Crairat	H	41.6
RO	ROSCI0239	Tarnovu Mare - Latorita	H	13.6
RO	ROSCI0240	Tasad	H	15.9
RO	ROSCI0241	Tinovul Apa Lina - Honcsok	H	78.3
RO	ROSCI0247	Tinovul Mare Poiana Stampei	H	7
RO	ROSCI0250	Tinutul Padurenilor	H	70.6
RO	ROSCI0251	Tisa Superioara	H	62.8
RO	ROSCI0252	Toplita - Scaunul Rotund Borsec	H	56.2
RO	ROSCI0253	Trascau	H	499.7
RO	ROSCI0259	Valea Calmatuiului	H	181.3
RO	ROSCI0260	Valea Cepelor	H	7.8
RO	ROSCI0262	Valea Iadului	H	29.8
RO	ROSCI0263	Valea Ierii	H	62.9
RO	ROSCI0264	Valea Izei si Dealul Solovan	H	469.4
RO	ROSCI0265	Valea lui David	H	14.4
RO	ROSCI0266	Valea Oltetului	H	15.7
RO	ROSCI0267	Valea Rosie	H	7.9
RO	ROSCI0268	Valea Valsanului	H	95.8
RO	ROSCI0269	Vama Veche - 2 Mai	H	123.1
RO	ROSCI0270	Vanatori-Neamt	H	302
RO	ROSCI0273	Zona marina de la Capul Tuzla	H	49.5
RO	ROSCI0275	Barsau - Somcuta	H	47.5
RO	ROSCI0277	Becicherecu Mic	H	20.9
RO	ROSCI0278	Bordusani - Borcea	H	58.5
RO	ROSCI0281	Cap Aurora	H	135.9
RO	ROSCI0283	Cheile Doftanei	H	26.2
RO	ROSCI0285	Codrii seculari de la Strambu - Baiut	H	29.6
RO	ROSCI0286	Colinele Elanului	H	7.4
RO	ROSCI0289	Coridorul Drocea - Codru Moma	H	32.3
RO	ROSCI0290	Coridorul Ialomitei	H	271.1
RO	ROSCI0291	Coridorul Muntii Bihorului - Codru Moma	H	76
RO	ROSCI0292	Coridorul Rusca Montana - Tarcu - Retezat	H	244.3
RO	ROSCI0293	Costinesti - 23 August	H	48.8
RO	ROSCI0294	Crisul Alb intre Gurahont si Ineu	H	11.9
RO	ROSCI0295	Dealurile Clujului de Est	H	196.2
RO	ROSCI0296	Dealurile Dragasaniului	H	76.1
RO	ROSCI0297	Dealurile Tarnavei Mici - Biches	H	373.5
RO	ROSCI0298	Defileul Crisului Alb	H	165.6
RO	ROSCI0299	Dunarea la Garla Mare - Maglavit	H	94.9
RO	ROSCI0301	Bogata	H	36.6

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RO	ROSCI0303	Hartibaciu Sud - Est	H	258.3
RO	ROSCI0304	Hartibaciu Sud - Vest	H	228.4
RO	ROSCI0305	Ianca - Plopu - Sarat - Comaneasca	H	32.4
RO	ROSCI0306	Jiana	H	132.6
RO	ROSCI0308	Lacul si Padurea Cernica	H	32.9
RO	ROSCI0309	Lacurile din jurul Mascurei	H	11.4
RO	ROSCI0310	Lacurile Falticeni	H	8.8
RO	ROSCI0313	Confluenta Mures cu Aries	H	8.6
RO	ROSCI0314	Lozna	H	102.1
RO	ROSCI0315	Lunca Chineja	H	9.2
RO	ROSCI0318	Magura Targu Ocna	H	8.5
RO	ROSCI0319	Mlastina de la Fetesti	H	21.1
RO	ROSCI0320	Mociar	H	39.4
RO	ROSCI0322	Muntele Ses	H	349.8
RO	ROSCI0323	Muntii Ciucului	H	600.5
RO	ROSCI0324	Muntii Bihor	H	209.3
RO	ROSCI0325	Muntii Metaliferi	H	143.2
RO	ROSCI0326	Muscelele Argesului	H	100.4
RO	ROSCI0327	Nemira - Lapos	H	99.8
RO	ROSCI0328	Obcinele Bucovinei	H	322.1
RO	ROSCI0329	Oltul Superior	H	15.4
RO	ROSCI0333	Pajistile Sarmasel - Milas - Urmenis	H	11.3
RO	ROSCI0334	Padurea Buciumeni - Homocea	H	49.9
RO	ROSCI0335	Padurea Dobrina - Husi	H	84.5
RO	ROSCI0337	Padurea Neudorfului	H	45
RO	ROSCI0339	Padurea Povernii - Valea Cernita	H	9
RO	ROSCI0341	Padurea si Lacul Stolnici	H	15.3
RO	ROSCI0344	Padurile din Sudul Piemontului Candesti	H	43.2
RO	ROSCI0345	Pajistea Cenad	H	59.7
RO	ROSCI0350	Lunca Teuzului	H	52.9
RO	ROSCI0351	Culmea Cucuieti	H	65
RO	ROSCI0352	Persani	H	22.5
RO	ROSCI0354	Platforma Cotmeana	H	125.6
RO	ROSCI0355	Podisul Lipovei - Poiana Rusca	H	359.8
RO	ROSCI0357	Porumbeni	H	69.8
RO	ROSCI0358	Pricop - Huta - Certeze	H	31.7
RO	ROSCI0359	Prigoria - Bengesti	H	24.6
RO	ROSCI0360	Raul Barlad intre Zorleni si Gura Garbavotului	H	24.8
RO	ROSCI0361	Raul Caras	H	5.4
RO	ROSCI0362	Raul Gilort	H	8.6

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RO	ROSCI0363	Raul Moldova intre Oniceni si Mitesti	H	33.6
RO	ROSCI0364	Raul Moldova intre Tupilati si Roman	H	47.2
RO	ROSCI0365	Raul Moldova intre Paltinoasa si Rusi	H	53.3
RO	ROSCI0366	Raul Motru	H	18.7
RO	ROSCI0367	Raul Mures intre Moresti si Ogra	H	6.4
RO	ROSCI0370	Raul Mures intre Lipova si Paulis	H	6.1
RO	ROSCI0373	Raul Mures intre Branisca si Ilia	H	18.6
RO	ROSCI0374	Raul Negru	H	23.2
RO	ROSCI0376	Raul Olt intre Maruntei si Turnu Magurele	H	122.2
RO	ROSCI0377	Raul Putna	H	6.5
RO	ROSCI0378	Raul Siret intre Pascani si Roman	H	37.5
RO	ROSCI0379	Raul Suceava	H	11
RO	ROSCI0380	Raul Suceava Liteni	H	12.5
RO	ROSCI0381	Raul Targului - Argesel - Rausor	H	131.8
RO	ROSCI0382	Raul Tarnava Mare intre Copsa Mica si Mihalt	H	8.9
RO	ROSCI0385	Raul Timis intre Rusca si Prisaca	H	14
RO	ROSCI0386	Raul Vedea	H	91.6
RO	ROSCI0387	Salonta	H	37.9
RO	ROSCI0391	Siretul Mijlociu - Bucecea	H	5.9
RO	ROSCI0393	Somesul Mare	H	5.3
RO	ROSCI0395	Soveja	H	45.7
RO	ROSCI0399	Suharau - Darabani	H	19.7
RO	ROSCI0400	Sieu - Budac	H	8.6
RO	ROSCI0406	Zarandul de Est	H	202.6
RO	ROSCI0407	Zarandul de Vest	H	88.7
RO	ROSCI0411	Grosii Tiblesului	H	9.3
RO	ROSCI0424	Padurea si Lacul Margineni	H	22.3
RO	ROSCI0427	Pajistile de la Liteni - Savadisla	H	24.3
RO	ROSCI0434	Siretul Mijlociu	H	29.7
RO	ROSCI0435	Somesul intre Rona si Ticau	H	5
RO	ROSCI0436	Somesul Inferior	H	22
RO	ROSCI0439	Valea Chiurutilor	H	12.5
RO	ROSPA0002	Allah Bair - Capidava	B	117.2
RO	ROSPA0003	Avrig - Scorei - Fagaras	B	29.4
RO	ROSPA0004	Balta Alba - Amara - Jirlau	B	47.5
RO	ROSPA0005	Balta Mica a Brailei	B	258
RO	ROSPA0006	Balta Tataru	B	99.6
RO	ROSPA0007	Balta Vederoasa	B	21.4
RO	ROSPA0008	Baneasa - Canaraua Fetei	B	61
RO	ROSPA0010	Bistret	B	20.6

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RO	ROSPA0011	Blahnita	B	440.1
RO	ROSPA0012	Bratul Borcea	B	133
RO	ROSPA0013	Calafat - Ciuperceni - Dunare	B	293.8
RO	ROSPA0014	Campia Cermeiului	B	244.8
RO	ROSPA0015	Campia Crisului Alb si Crisului Negru	B	391.6
RO	ROSPA0016	Campia Nirului - Valea Ierului	B	383.5
RO	ROSPA0017	Canaralele de la Harsova	B	73.1
RO	ROSPA0018	Cheile Bicazului - Hasmas	B	79.4
RO	ROSPA0019	Cheile Dobrogei	B	109.2
RO	ROSPA0020	Cheile Nerei - Beusnita	B	403
RO	ROSPA0021	Ciocanesti - Dunare	B	8
RO	ROSPA0022	Comana	B	249.8
RO	ROSPA0023	Confluenta Jiu - Dunare	B	195.3
RO	ROSPA0024	Confluenta Olt - Dunare	B	204.9
RO	ROSPA0025	Cozia - Buila - Vanturarita	B	217.4
RO	ROSPA0026	Cursul Dunarii - Bazias - Portile de Fier	B	103.3
RO	ROSPA0027	Dealurile Homoroadelor	B	366.6
RO	ROSPA0028	Dealurile Tarnavelor si Valea Nirajului	B	861.6
RO	ROSPA0029	Defileul Muresului Inferior - Dealurile Lipovei	B	559.5
RO	ROSPA0030	Defileul Muresului Superior	B	101.6
RO	ROSPA0031	Delta Dunarii si Complexul Razim - Sinoie	B	5083.2
RO	ROSPA0033	Depresiunea si Muntii Giurgeului	B	878.7
RO	ROSPA0034	Depresiunea si Muntii Ciucului	B	517.9
RO	ROSPA0035	Domogled - Valea Cernei	B	667.4
RO	ROSPA0037	Dumbravita - Rotbav - Magura Codlei	B	44.3
RO	ROSPA0038	Dunare - Oltenita	B	59.3
RO	ROSPA0039	Dunare - Ostroave	B	162.4
RO	ROSPA0040	Dunarea Veche - Bratul Macin	B	190.1
RO	ROSPA0042	Elesteiele Jijiei si Miletinului	B	190.8
RO	ROSPA0043	Frumoasa	B	1309
RO	ROSPA0044	Gradistea - Caldarusani - Dridu	B	64.7
RO	ROSPA0045	Gradistea Muncelului - Ciclovina	B	381.1
RO	ROSPA0046	Gruia - Garla Mare	B	29.6
RO	ROSPA0047	Hunedoara Timisana	B	15.3
RO	ROSPA0048	Ianca - Plopu - Sarat	B	20.3
RO	ROSPA0049	Iazurile de pe valea Ibanesei - Baseului - Podrigai	B	27.7
RO	ROSPA0050	Iazurile Mihesu de Campie - Taureni	B	11.9
RO	ROSPA0051	Iezerul Calarasi	B	50.1
RO	ROSPA0053	Lacul Bugeac	B	13.9
RO	ROSPA0054	Lacul Dunareni	B	12.7

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RO	ROSPA0055	Lacul Galatui	B	8.1
RO	ROSPA0056	Lacul Oltina	B	33.1
RO	ROSPA0057	Lacul Siutghiol	B	18.6
RO	ROSPA0058	Lacul Stanca Costesti	B	21.9
RO	ROSPA0059	Lacul Strachina	B	20.2
RO	ROSPA0060	Lacurile Tasaul - Corbu	B	27.3
RO	ROSPA0061	Lacul Techirghiol	B	29.5
RO	ROSPA0062	Lacurile de acumulare de pe Arges	B	22.9
RO	ROSPA0063	Lacurile de acumulare Buhusi - Bacau - Beresti	B	56.1
RO	ROSPA0064	Lacurile Falticeni	B	7.9
RO	ROSPA0065	Lacurile Fundata - Amara	B	20.5
RO	ROSPA0066	Limanu - Herghelia	B	8.8
RO	ROSPA0067	Lunca Barcaului	B	52.9
RO	ROSPA0068	Lunca inferioara a Turului	B	205.4
RO	ROSPA0069	Lunca Muresului Inferior	B	174
RO	ROSPA0070	Lunca Prutului - Vladesti - Frumusita	B	146
RO	ROSPA0071	Lunca Siretului Inferior	B	374.8
RO	ROSPA0072	Lunca Siretului Mijlociu	B	103.3
RO	ROSPA0073	Macin - Niculitel	B	673.1
RO	ROSPA0074	Maglavit	B	36.4
RO	ROSPA0075	Magura Odobesti	B	131.7
RO	ROSPA0076	Marea Neagra	B	1491.5
RO	ROSPA0080	Muntii Almajului - Locvei	B	1177.8
RO	ROSPA0081	Muntii Apuseni - Vladeasa	B	928.6
RO	ROSPA0082	Muntii Bodoc - Baraolt	B	566.5
RO	ROSPA0084	Muntii Retezat	B	383.2
RO	ROSPA0085	Muntii Rodnei	B	548.2
RO	ROSPA0086	Muntii Semenic - Cheile Caras	B	362.2
RO	ROSPA0087	Muntii Trascaului	B	931.6
RO	ROSPA0088	Muntii Vrancei	B	380.6
RO	ROSPA0089	Obcina Feredeului	B	637.6
RO	ROSPA0090	Ostrovu Lung - Gostinu	B	25.4
RO	ROSPA0091	Padurea Babadag	B	579.1
RO	ROSPA0092	Padurea Barnova	B	126.9
RO	ROSPA0093	Padurea Bogata	B	63.4
RO	ROSPA0095	Padurea Macedonia	B	45.8
RO	ROSPA0096	Padurea Miclesti	B	86.1
RO	ROSPA0097	Pescaria Cefa - Padurea Radvani	B	120.9
RO	ROSPA0098	Piemontul Fagaras	B	712
RO	ROSPA0099	Podisul Hartibaciului	B	2377.9

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RO	ROSPA0100	Stepa Casimcea	B	219.6
RO	ROSPA0101	Stepa Saraiu - Horea	B	41.3
RO	ROSPA0102	Suhaia	B	45.2
RO	ROSPA0103	Valea Alceului	B	36
RO	ROSPA0104	Bazinul Fizesului	B	16.5
RO	ROSPA0105	Valea Mostistea	B	66.2
RO	ROSPA0106	Valea Oltului Inferior	B	527.9
RO	ROSPA0107	Vanatori - Neamt	B	307.1
RO	ROSPA0108	Vedea - Dunare	B	224.1
RO	ROSPA0109	Acumularile Belcesti	B	21
RO	ROSPA0110	Acumularile Rogojesti - Bucecea	B	21.1
RO	ROSPA0112	Campia Gherghitei	B	76
RO	ROSPA0113	Canepisti	B	62
RO	ROSPA0114	Cursul Mijlociu al Somesului	B	332.1
RO	ROSPA0115	Defileul Crisului Repede - Valea Iadului	B	171.6
RO	ROSPA0116	Dorohoi - saua Bucecei	B	253.6
RO	ROSPA0117	Drocea - Zarand	B	407
RO	ROSPA0119	Horga - Zorleni	B	202.1
RO	ROSPA0120	Kogalniceanu - Gura Ialomitei	B	70.9
RO	ROSPA0121	Lacul Brates	B	158.8
RO	ROSPA0122	Lacul si Padurea Cernica	B	37.8
RO	ROSPA0123	Lacurile de acumulare de pe Crisul Repede	B	18.6
RO	ROSPA0124	Lacurile de pe Valea Ilfovului	B	6
RO	ROSPA0127	Lunca Barzavei	B	23.9
RO	ROSPA0128	Lunca Timisului	B	135.1
RO	ROSPA0129	Masivul Ceahlau	B	277.2
RO	ROSPA0130	Mata - Carja - Radeanu	B	58.7
RO	ROSPA0131	Muntii Maramuresului	B	710.5
RO	ROSPA0132	Muntii Metaliferi	B	266.7
RO	ROSPA0133	Muntii Calimani	B	291.6
RO	ROSPA0134	Muntii Gutai	B	284.4
RO	ROSPA0135	Nisipurile de la Dabuleni	B	110.1
RO	ROSPA0136	Oltenita - Ulmeni	B	124.1
RO	ROSPA0137	Padurea Radomir	B	12.4
RO	ROSPA0138	Piatra soimului - Scorteni - Garleni	B	373.9
RO	ROSPA0139	Piemontul Muntilor Metaliferi - Vintu	B	83.7
RO	ROSPA0140	Scrovistea	B	33.5
RO	ROSPA0141	Subcarpatii Vrancei	B	357.6
RO	ROSPA0142	Teremia Mare - Tomnatic	B	66.1
RO	ROSPA0143	Tisa Superioara	B	28.6

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RO	ROSPA0144	Uivar - Dinias	B	100.1
RO	ROSPA0145	Valea Calmatuiului	B	208.6
RO	ROSPA0146	Valea Calnistei	B	25.8
RO	ROSPA0147	Valea Raului Negru	B	23.2
RO	ROSPA0148	Vitanesti - Rasmiresti	B	11.1
RO	ROSPA0149	Depresiunea Bozovici	B	96.7
RO	ROSPA0150	Acumularile Sarca - Podu Iloaiei	B	19.3
RO	ROSPA0152	Coridorul Ialomitei	B	253.1
RO	ROSPA0153	Defileul Crisului Alb	B	165.6
RO	ROSPA0154	Galicea Mare - Bailesti	B	61.6
RO	ROSPA0156	Iazul Mare - Stauceni - Dracsani	B	22.4
RO	ROSPA0158	Lacul Ciurbesti-Fanatele Barca	B	5.2
RO	ROSPA0159	Lacurile din jurul Mascurei	B	11.4
RO	ROSPA0160	Lunca Buzaului	B	95.8
RO	ROSPA0161	Lunca Mijlocie a Argesului	B	36.5
RO	ROSPA0162	Manjesti	B	10.1
RO	ROSPA0163	Padurea Floreanu - Frumusica - Ciurea	B	189.2
RO	ROSPA0165	Piatra Craiului	B	159.1
RO	ROSPA0167	Raul Barlad intre Zorleni si Gura Garbavatului	B	23.4
RO	ROSPA0168	Raul Prut	B	76.6
RO	ROSPA0169	Tinovul Apa Lina - Honcsok	B	78.3
RO	ROSPA0171	Valea Izei si Dealul Solovan	B	469.4
RO	ROT	Cefa	O	50
RO	ROV.1.	Lunca Muresului	O	173.6
RO	ROV.2	Lunca Joasa a Prutului Inferior	O	72.6
RO	ROV.3.	Comana	O	249.6
RO	ROV.4.	Geoparcul Dinozaurilor Tara Hategului	O	1000
RO	ROV.5.	Muntii Maramuresului	O	1300
RO	ROV.6.	Geoparcul Platoul Mehedinti	O	1100
RO	ROV.7.	Putna - Vrancea	O	381.9
RS	RS121	Nacionalni park Fruška Gora	O	266.5
RS	RS155	Deliblatska pešcara	O	352.9
RS	RS314	Nacionalni park _Djerdap	O	637.3
RS	RS352	Klisura reke Mileševke	O	12.4
RS	RS365	Sicevacka klisura	O	77.4
RS	RS4514	Potamišje	O	239.8
RS	RS4518	Kanjiški jaraši	O	35.5
RS	RS4524	Slatine u dolini Zlatice	O	35.9
RS	RS4525	Gornja Mostonga	O	35.9
RS	RS4526	Slatine srednjeg Banata	O	94.1

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RS	RS4529	Srednja Mostonga	O	31.2
RS	RS4530	Poloj	O	20.3
RS	RS471	Nacionalni park Kopaonik	O	120.8
RS	RS483	Suboticka Pešcara	O	55
RS	RS484	Palic	O	7.4
RS	RS485	Gornje podunavlje	O	193.7
RS	RS50	Obedska bara	O	98.9
RS	RS571	Klisura reke Gradac	O	12.3
RS	RS595	Uvac	O	77.5
RS	RS599	Zasavica	O	11.2
RS	RS601	Pašnjaci Velike Droplje	O	68
RS	RS602	Karadjordjevo	O	42.4
RS	RS603	Selevenjske pustare	O	18.7
RS	RS604	Stara planina	O	1132.8
RS	RS605	Tikvara	O	5.5
RS	RS608	Koviljsko-petrovaradinski rit	O	58.9
RS	RS612	Lazarev kanjon	O	18.1
RS	RS613	Ovcarsko-kablarska klisura	O	22.8
RS	RS615	Golija	O	759.4
RS	RS619	Slano Kopovo	O	9.7
RS	RS64	Ludaško jezero	O	8.6
RS	RS661	Šargan-Mokra Gora	O	108.1
RS	RS663	Jegricka	O	11.4
RS	RS666	Vlasina	O	126.8
RS	RS686	Stara Tisa kod Bisernog Ostrva	O	9.7
RS	RS69	Carska bara	O	47.3
RS	RS706	Okanj bara	O	55
RS	RS709	Mali vršacki rit	O	9.3
RS	RS715	Bojcinska šuma	O	6.7
RS	RS722	Rusanda	O	11.6
RS	RS723	Goc-Gvozdac	O	39.5
RS	RS724	Kamena Gora	O	77.8
RS	RS725	Jerma	O	69.6
RS	RS728	Ozren - Jadovnik	O	102.8
RS	RS729	Ritovi donjeg Potisja	O	30.1
RS	RS732	Karaš-Nera	O	15.4
RS	RS735	Suva planina	O	181.7
RS	RS742	Backotopolske doline	O	5.1
RS	RS743	Radan	O	413
RS	RS744	Zlatibor	O	419.7

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
RS	RS748	Rtanj	O	54.2
RS	RS749	Pancevacke ade	O	13.1
SI	SI3000051	Krakovski gozd	H	34.2
SI	SI3000059	Mirna	H	5.5
SI	SI3000062	Gradac	H	15.1
SI	SI3000075	Lahinja	H	8.5
SI	SI3000100	Gozd Kranj - Škofja Loka	H	19.4
SI	SI3000101	Gozd Olševek - Adergas	H	8.4
SI	SI3000108	Raduha	H	16.3
SI	SI3000110	Ratitovec	H	23.3
SI	SI3000117	Haloze - vinorodne	H	63
SI	SI3000118	Boč - Haloze - Donačka gora	H	108.8
SI	SI3000120	Šmarna gora	H	16.9
SI	SI3000126	Nanoščica	H	7.7
SI	SI3000166	Razbor	H	14.5
SI	SI3000171	Radensko polje - Viršnica	H	5.2
SI	SI3000172	Zgornja Drava s pritoki	H	46.8
SI	SI3000173	Bloščica	H	7.9
SI	SI3000175	Kolpa	H	6.7
SI	SI3000181	Kum	H	59.5
SI	SI3000188	Ajdovska planota	H	24.1
SI	SI3000191	Ajdovska jama	H	17.2
SI	SI3000192	Radulja s pritoki	H	13.1
SI	SI3000205	Kandrše - Drtijščica	H	13.6
SI	SI3000206	Lubnik	H	12.7
SI	SI3000214	Ličenca pri Poljčanah	H	27.3
SI	SI3000215	Mura	H	100.7
SI	SI3000219	Grad Brdo - Preddvor	H	5.8
SI	SI3000220	Drava	H	36.9
SI	SI3000221	Goričko	H	448.2
SI	SI3000224	Huda luknja	H	30.2
SI	SI3000231	Javorniki - Snežnik	H	440.4
SI	SI3000232	Notranjski trikotnik	H	152.3
SI	SI3000253	Julijske Alpe	H	740.9
SI	SI3000256	Krimsko hribovje - Menišija	H	203.3
SI	SI3000257	Rački ribniki - Požeg	H	6.1
SI	SI3000261	Menina	H	41.8
SI	SI3000262	Sava - Medvode - Kresnice	H	11.2
SI	SI3000263	Kočevsko	H	1068
SI	SI3000264	Kamniško - Savinjske Alpe	H	145.7

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
SI	SI3000267	Gorjanci - Radoha	H	118
SI	SI3000268	Dobrava - Jovsi	H	28.7
SI	SI3000270	Pohorje	H	275.7
SI	SI3000271	Ljubljansko barje	H	129.6
SI	SI3000273	Orlica	H	38.3
SI	SI3000274	Bohor	H	68.3
SI	SI3000275	Rašica	H	22.4
SI	SI3000278	Pokljuška barja	H	8.6
SI	SI3000280	Veliko Kozje	H	6
SI	SI3000285	Karavanke	H	230.9
SI	SI3000288	Dolsko	H	8.7
SI	SI3000297	Mišja dolina	H	6.4
SI	SI3000303	Sotla s pritoki	H	5.3
SI	SI3000306	Dravinja s pritoki	H	5.4
SI	SI3000311	Vitanje - Oplotnica	H	13
SI	SI3000313	Vzhodni Kozjak	H	16.9
SI	SI3000335	Polhograjsko hribovje	H	29.7
SI	SI3000338	Krka s pritoki	H	24.5
SI	SI3000348	Bohinjska Bistrica in Jereka	H	7.3
SI	SI5000001	Jelovica	B	97.7
SI	SI5000002	Snečnik - Pivka	B	549.3
SI	SI5000005	Dravinjska dolina	B	19.1
SI	SI5000006	Pohorje	B	186.9
SI	SI5000009	Goričko	B	402
SI	SI5000010	Mura	B	144.6
SI	SI5000011	Drava	B	100.3
SI	SI5000012	Krakovski gozd - Šentjernejsko polje	B	83.5
SI	SI5000013	Kočevsko	B	979.4
SI	SI5000014	Ljubljansko barje	B	123.7
SI	SI5000015	Cerkniško jezero	B	33.5
SI	SI5000016	Planinsko polje	B	10.5
SI	SI5000017	Nanoščica	B	19.3
SI	SI5000019	Julijci	B	886.5
SI	SI5000024	Grintovci	B	319.6
SI	SI5000026	Posavsko hribovje	B	35.2
SI	SI5000027	Črete	B	14.5
SI	SI5000029	Gluha loza	B	14.4
SI	SI5000030	Karavanke	B	43.3
SI	SI5000032	Dobrava - Jovsi	B	28.5
SK	SKCHVU002	Bukovské vrchy	B	409.3

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
SK	SKCHVU003	Cerová vrchovina - Porimavie	B	301.9
SK	SKCHVU005	Dolné Považie	B	312
SK	SKCHVU007	Dunajské luhy	B	165.1
SK	SKCHVU008	Horná Orava	B	587.4
SK	SKCHVU009	Košická kotlina	B	173.5
SK	SKCHVU010	Kráľová	B	12.2
SK	SKCHVU013	Malá Fatra	B	662.3
SK	SKCHVU015	Medzibodrožie	B	337.5
SK	SKCHVU016	Záhorské Pomoravie	B	310.7
SK	SKCHVU019	Ostrovné lúky	B	83
SK	SKCHVU021	Poiplie	B	80.6
SK	SKCHVU023	Úľanská mokraď	B	181.7
SK	SKCHVU024	Senianske rybníky	B	26.7
SK	SKCHVU026	Sĺňava	B	5.1
SK	SKCHVU027	Slovenský kras	B	438.6
SK	SKCHVU037	Ondavská rovina	B	159.1
SK	SKCHVU051	Levočské vrchy	B	456
SK	SKUEV0006	Latorica	H	75
SK	SKUEV0036	Litava	H	26.3
SK	SKUEV0048	Dukla	H	68.6
SK	SKUEV0057	Rašeliniská Oravskej kotliny	H	8.4
SK	SKUEV0064	Bratislavské luhy	H	6.9
SK	SKUEV0090	Dunajské luhy	H	45.4
SK	SKUEV0104	Homoľské Karpaty	H	51.8
SK	SKUEV0110	Levočská dubina	H	6
SK	SKUEV0112	Slovenský raj	H	168.7
SK	SKUEV0125	Gajarské alúvium Moravy	H	12.4
SK	SKUEV0130	Zobor	H	19.1
SK	SKUEV0163	Rudava	H	19.6
SK	SKUEV0168	Horný les	H	5.6
SK	SKUEV0173	Kotlina	H	6.2
SK	SKUEV0188	Pilsko	H	7
SK	SKUEV0189	Babia hora	H	5
SK	SKUEV0192	Prosečné	H	23
SK	SKUEV0194	Hybická tiesňava	H	5.6
SK	SKUEV0197	Salatín	H	33.5
SK	SKUEV0203	Stolica	H	28.1
SK	SKUEV0205	Hubková	H	27.9
SK	SKUEV0209	Morské oko	H	160.1
SK	SKUEV0210	Stinská	H	15.3

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
SK	SKUEV0211	Daňová	H	9
SK	SKUEV0225	Muránska planina	H	202.6
SK	SKUEV0229	Bukovské vrchy	H	292.3
SK	SKUEV0238	Veľká Fatra	H	463.5
SK	SKUEV0251	Zázrivské lazy	H	29.3
SK	SKUEV0252	Malá Fatra	H	222.5
SK	SKUEV0256	Strážovské vrchy	H	299.7
SK	SKUEV0259	Stará hora	H	24
SK	SKUEV0263	Hodrušská hornatina	H	102.7
SK	SKUEV0264	Klokoč	H	22.8
SK	SKUEV0265	Suť	H	90.4
SK	SKUEV0266	Skalka	H	97.2
SK	SKUEV0267	Biele hory	H	101.5
SK	SKUEV0269	Ostrovné lúčky	H	6.3
SK	SKUEV0273	Vtáčnik	H	100.6
SK	SKUEV0274	Baské	H	40.3
SK	SKUEV0275	Kňaží stôl	H	42.3
SK	SKUEV0276	Kuchynská hornatina	H	32.8
SK	SKUEV0278	Brezovské Karpaty	H	26.7
SK	SKUEV0279	Šúr	H	6.6
SK	SKUEV0282	Tisovský kras	H	14.7
SK	SKUEV0287	Galmus	H	32
SK	SKUEV0288	Kysucké Beskydy	H	70
SK	SKUEV0295	Biskupické luhy	H	9.2
SK	SKUEV0299	Baranovo	H	8.6
SK	SKUEV0302	Ďumbierske Tatry	H	440.3
SK	SKUEV0305	Choč	H	16.3
SK	SKUEV0306	Pod Suchým hrádkom	H	7.5
SK	SKUEV0307	Tatry	H	669.9
SK	SKUEV0310	Kráľovohoľské Tatry	H	304.8
SK	SKUEV0313	Devínske jazero	H	12.6
SK	SKUEV0318	Pod Bukovou	H	5.4
SK	SKUEV0319	Poľana	H	30.7
SK	SKUEV0326	Strahuľka	H	11.7
SK	SKUEV0327	Milič	H	51.1
SK	SKUEV0328	Stredné Pohornádie	H	70.9
SK	SKUEV0331	Čergovský Minčol	H	42.6
SK	SKUEV0332	Čergov	H	60.3
SK	SKUEV0337	Pieniny	H	13
SK	SKUEV0356	Horný vrch	H	60.3

Country	Protected Area code	Name of Protected Area	Type(s)	Area in km²
SK	SKUEV0357	Cerová vrchovina	H	26.3
SK	SKUEV0366	Drienčanský kras	H	16.1
SK	SKUEV0367	Holubyho kopanice	H	39
SK	SKUEV0387	Beskyd	H	53.5
SK	SKUEV0393	Dunaj	H	14.3
SK	SKUEV0642	Javornícky hrebeň	H	13.6
SK	SKUEV0663	Šíp	H	17.9
SK	SKUEV1337	Pieniny	H	13.9
UA	UA0000006	Carpathian Biosphere Reserve	O	576.7
UA	UA0000026	Synevyr National Nature Park	O	399.7
UA	UA0000032	Uzhanskyi	O	394.3
UA	UA0000041	Zacharovanyi Krai National Nature Park	O	60.3
UA	UA0000113	Pritisanskij regional landscape park	O	53.1
UA	UA0000259	Skhidnyi Svydovets	O	149.8
UA	UA0000263	Polonyna Borzhava	O	44.6
UA	UA0000269	Vynohradivska Tysa	O	59.6
UA	UA0000270	Ponyzzia Borzhavy	O	40.5
UA	UA01	Danube Biosphere reserve	O	531.6
UA	UA02	Izmail Islands	O	15.7
UA	UA11	Kartal lake	O	7.9
UA	UA12	Kugurlui Lake	O	84.6
UA	UA37	Lung	O	17.5
UA	UA41	Pistenka	O	26.6
UA	UA42	Gutsulshina	O	388.4
UA	UA43	Cheremoshskiy	O	235.3
UA	UA44	Verhovynskiy	O	103.7
UA	UA47	Chernivetskiy	O	201.3
UA	UA48	Vyzhnytskyi	O	128.9
UA	UA50	Carpathian National Park	O	528.9

Overview of key measures to avoid the extinction of Danube sturgeons and necessary supportive actions

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

Draft ANNEX 11 as of 26 February 2021
DRBMP Update 2021

Deutschland //// Österreich //// Česká republika //// Slovensko //// Magyarország //// Slovenija //// Hrvatska //// Bosna i Hercegovina //// Србија //// Crna Gora //// România //// България //// Moldova //// Україна

Overview of key measures to avoid the extinction of Danube sturgeons and necessary supportive actions

1. Ex situ broodstocks/ Reproduction and release programmes

Given the critically endangered status of the Danube sturgeon species and the high risk of their extinction, even in the short term, it is an urgent priority to establish non-commercial/non-private facilities, both in the Upper/Middle Danube and the Lower Danube, for authentic Danube sturgeon broodstocks to secure the genetic diversity of all sturgeon populations by establishing basin-wide so-called ex-situ programmes following best practice guidelines for husbandry with secure funding for construction and operation and jointly managed by catchment countries. Back-up facilities need to be established to minimise the risk of losing the genetic resources due to technical or other failures. Long term breeding plans need to be established and regular control of husbandry methods have to ensure genetic purity and diversity as well as fitness for survival of juveniles from these facilities.

Reproduction and release programmes must be put in place and implemented following the best practice guidelines and monitored to control the success rate of release actions. The regional coherence of measures has to be secured through basin-wide coordination for all population restoration facilities and monitoring actions

2. Follow-up of the We Pass project

The We Pass project is the first concrete project to identify technical solutions for restoring a major ecological corridor for sturgeon migration in the Danube River Basin across the Iron Gate dams. It aims to provide significant benefits at the scale of the River Basin by creating access to sturgeons from the Black Sea to almost 1000 kms of the Danube and its associated habitats for, inter alia, spawning and nursery purposes. The search for solutions, which will benefit all migratory fish in the Danube, has received significant financial support from the EU. The corresponding activities of the ICPDR and Contracting Parties are fully in line with the European Green Deal and the proposed EU Biodiversity Strategy 2030 with its emphasis on restoring freshwater ecosystems, the natural function of rivers and restoration of rivers into free-flowing rivers. The ICPDR is committed to follow through with implementation of solutions to ensure sturgeon migration across the Iron Gate and to ensure that infrastructure development in the Danube River Basin does not prejudice ecological connectivity in the basin and ensure that, with a view to this, Article 4(7) of the Water Framework Directive is strictly applied.

3. Effectively enforced multi-decadal fishing bans

Restoration of habitats and migration corridors will not be effective unless fishing of sturgeon remains prohibited until viable populations are established. For the Danube this will require a multi-decadal approach. Any exceptional catch allowance e.g. for scientific purposes or the establishment of artificially maintained populations in special facilities must also be monitored closely. The implementation and enforcement of existing legislation to prevent illegal, unregulated and undocumented (IUU) fisheries in marine and freshwater must be strengthened and adequate resources as well as continuous capacity building and targeted training for relevant enforcement authorities need to be provided. The fishing sector must be involved and alternative income sources for affected communities developed.

4. Habitats, Migration Corridors and Controls on Infrastructure Development

Successful sturgeon migration, which is a necessary component of their natural lifecycle, depends on the availability of different habitats along their migration route as well as on their ability to overcome any existing barriers which can prevent their migration. The network of habitats and migration routes must extend to the scale of the Basin in order to be effective. Habitat availability is understood in terms of both location and timing of habitat use as well as the resources and conditions needed to enable this use. Mapping of different sturgeon habitats on the Danube River and its tributaries is highly important. A first basin-wide map was developed in the MEASURES project and will need continuous and coordinated updating, based on the shared set of methods and techniques described in the MEASURES project "Danube Migratory Fish Habitat Manual" to ensure comparability and interoperability throughout the basin. It will enable all countries in the Danube River Basin to coordinate their activities concerning mapping sturgeon habitats, mapping and monitoring of any disturbances by human activities (e.g. dredging, port construction, dams or weirs) and potential restoration measures. Special consideration will have to be given to ensure the full implementation of the requirements of Article 4(7) of the WFD to minimize the impact on sturgeon habitats and migration routes due to changes in hydrology and structure of water bodies, e.g. as a result of new infrastructure or activities in the riverbed. A map of sturgeon habitats could be available as a useful tool when assessing future infrastructure works and enabling environmental impact assessment for particular sectors of the Danube River Basin.

5. Monitoring and control of by-catch in marine fisheries

While there are no records of incidental bycatch of sturgeon in Black Sea fisheries, it is equally clear that given the critical state of stocks and the acute risk of extinction of the remaining sturgeons that bycatch in marine fisheries may threaten the effectiveness of conservation action taken in the Danube River Basin. It will therefore be important for ICPDR and Contracting Parties to seek cooperation with fisheries and environmental authorities in non-Danubian Black Sea States, the Black Sea Commission, FAO (GFCM) and the World Bank/GEF to seek improved information on the extent to which such bycatch is taking place and its impact on sturgeon populations and identify coherent regional management options (such as technical solutions, fisheries restrictions, closed areas and seasons) with a view to their implementation and establishing the appropriate monitoring thereof. Action in this respect will bring the ICPDR into line with the proposed EU Biodiversity Strategy 2030 and its emphasis on eliminating by-catch or reducing it to levels allowing full recovery of species threatened with extinction in marine fisheries.

6. Coordination with sturgeon conservation in the Black Sea Basin

As the Danube sturgeon populations are shared with those of the Black Sea Basin, coordination with marine management and conservation efforts in that basin is crucial to ensure the effectiveness of actions in the Danube River Basin. It is therefore important for the ICPDR and its Contracting Parties to seek actively specific and close cooperation on sturgeon conservation in the Black Sea, inter alia with the Black Sea Commission, FAO (GFCM), the World Bank and GEF as well as Black Sea States on issues such as monitoring of sturgeon populations and the impact of marine fisheries on these, protection of sturgeons through technical fisheries regulation and designation of marine protected areas. Furthermore, it will be important to cooperate with non-Danubian States in the Black Sea Basin on protection and conservation of sturgeon in their internal and inland waters.

The objective of the wider cooperation with Black Sea Basin States and the relevant international organisations should be to ensure a regional coherence of measures and approaches to maximise the effectiveness of policies and measures.

The effectiveness of the actions outlined above is critically dependent on a number of additional, supportive actions that are also required to facilitate effective management of sturgeon conservation in the Danube River Basin. The most important issues are the following:

7. Sturgeon Population Monitoring

The impact of implemented measures for improving sturgeon populations in the Danube River Basin is impossible to monitor without prior knowledge of status of native stocks of sturgeons. Due to the migratory nature of the sturgeon, monitoring needs to be based on agreed common metrics and methodologies, a shared monitoring network and interoperable equipment throughout the Danube River Basin and the adjacent Black Sea catchment. It is necessary to integrate sturgeon monitoring into fisheries management plans in each country and to collect monitoring data on a basin-wide scale. It could include monitoring annual recruitment from the wild and capturing young of the year (YOY) sturgeons, sampling and tagging YOY sturgeons and sampling and telemetry study of adult sturgeons. Telemetry is the most effective monitoring technique and will require standardized equipment throughout the monitoring area. As some scientists from Danubian countries are active in COST Action “The European Aquatic Animal Tracking Network” (ETN) this network could be used as scientific base for the preparation of a sturgeon telemetry study. National fisheries authorities, fishermen and relevant international organisations should be involved to enable effective implementation of sturgeon telemetry study.

8. Establishment and maintenance of a Danube Migratory Fish Database

This will support the implementation of “Strategy for ecological corridor conservation in the Danube catchment” developed under the MEASURES project. The MIS will be used to collect relevant information on migratory fish and their habitats in the Danube River Basin and allow users to find and visualise specific information about particular migratory fish and their habitats more easily. MIS has a Library (open access publications, articles and reports), a meta database (relevant datasets in the region) and a Data Centre (monitoring data of migratory fish including habitats and corridors). It will thus also be a one-stop shop for information for use in management of the recovery of sturgeon populations in the Danube River Basin. Like other such databases, MIS will need to be maintained and regularly updated to retain its utility as a management tool.

Economic Analysis

Draft ANNEX 12 as of 26 February 2021
DRBMP Update 2021

The economics analysis of the DRBM Plan – Update 2021 is based on a questionnaire sent out to the Danube countries in Autumn 2019 and spring 2020, for the collection of qualitative information on economics important in the framework of WFD implementation (e.g. cost recovery, water pricing, environmental and resource costs etc.). The questionnaire presented the data which was included in the 2015 Update of the DRBM Plan, and asked the countries to update the information.

The tables in this Annex provide the updated information; the corresponding chapter 7 presents an overview of the approaches which are in place in the Danube countries in text form.

Note: Data from Serbia does not include data from the Autonomous Provinces Kosovo and Metohija.

Table 1: Investment costs for water supply and wastewater*

Country	Demand and Supply Costs[1] [EUR]	Only demand costs [EUR]	Only investment costs (without distinguishing) [EUR]
DE	-	-	Water supply services: 340 million EUR / year (National total in 2017 approx. 2.7 Billon EUR/year) Waste water services: Approx. 610 million EUR/year (National total in 2016 approx. 4.9 Billon EUR)
AT	-	-	3.3 billion (2013 - 2018)
CZ	-	Data not yet available	Data not yet available
SK	-	-	501.41 million EUR** (water supply + wastewater) of which: water supply: 36.52 million, wastewater: 464.89 million
HU***	-	-	Water supply: 59 646 million HUF 192.3 million EUR (2016-2021) Waste water: 300 579 million HUF 959 million EUR (2016-2021)
SI			
HR	-	-	2,9 billion € for waste water; 335 million € for water supply; (investment Plan 2014-2023 for whole territory of Croatia)
BA	-	1.1 billion	Water supply services: 390.82 million EUR (2016-2021) Waste water services: 705.70 million EUR (2016-2021)
ME	n.a.		
RS	-	-	Total investments for DWD approx. 1.4 billion EUR Total investments for UWWT approx. 4.5 billion EUR
RO			29.411.781 EUR – water supply and waste water infrastructure.
BG	-	883.9 mio. EUR (2016-2021; wastewater collection and treatment) Assessment of the investment costs for the time 2022-2027 is forthcoming	-

[1] According to the questionnaires: demand cost are the "total costs related to implementing the EU Directives"; supply costs are the investment costs that could be realistically covered.

		task in the frame of RBMP updating process.	
MD			
UA	-	-	Water supply + wastewater: 13.5 million EUR (DRBD). Capital investments for environmental protection expenditures on return water treatment – 0.25 million EUR (DRBD)

*Timescales: 2015-2021, if not noted otherwise.

** (SK): Data for the whole country (Danube part represents 96.23 % of the total territory of Slovakia) and for 2014-2020.

*** (HU): Drinking water supply includes both the protection of national water resources and the implementation of a drinking water quality improvement program. The public wastewater collection and treatment also includes sewerage, wastewater treatment (below and above 2000 PE) and sewage sludge treatment. The costs were planned on the basis of the relevant EU programs, so do not include reconstructions, only direct compliance with the EU Directives. (The applied EUR/HUF exchange rate for the period of the 2nd RBMP is 310.1)

Table 2: What are water services - what are water uses?

Country	Only water supply and wastewater	Water supply, wastewater AND others	Included in cost recovery calculations (Y/N/Partly)	Other definitions	Is the definition of water services included in the national water legislation (Y/N)
DE	✓		Y		Y
AT		✓	Y (based on estimation)		Y (Water services to which Article 9 par 1 second indent WFD is applied are defined. Other water services are regulated in the frame of water uses)
CZ		✓ Rivers and river basin management; surface water abstraction; GW abstraction; discharge of wastewater into surface water; discharge of wastewater into GW; impoundment for the energy production; navigation – only recreation	Y		Y (§ 2 let. a) of Decree No. 24/2011 Coll.) - Any activity which provides for abstraction, retention, collection, treatment and distribution of surface water or GW, or the removal and treatment of waste water with subsequent discharge into surface water, for households, public institutions or any economic activity
SK		✓ Use of hydro-energy potential of water-course; abstraction of energy water from watercourse; abstraction of surface water from water-course	Y (water supply, wastewater, use of hydroenergy potential, abstraction of energy water, abstraction of surface water)	Navigation is defined as a "public service - paid by the state"	Y
HU		✓ Public water supply, public wastewater collection and treatment,	Y	✓ (the other different water uses are taken into consideration as "water uses"	Y

		agricultural water supply (irrigation, fishponds, other), damming and storage for hydropower production, own water abstraction		(according to WFD Article 2 Definition 39))	
SI					
HR	✓		Y	Additional definition of water activities has been enacted. Water activities are all activities that provide for households, public institutions or economic entities: a) abstraction, impoundment, storage, treatment and distribution of surface or groundwater, and b) collection and treatment of wastewater, subsequently discharged into the water. Water activities include but they are not limited to water services. CR calculation includes all water activities.	Y
BA		✓ 13 other water services defined	N		
ME	n.a.				
RS			N		N There is no definition of water services in WL, but WL sets the charges/fees for water abstraction and waste water disposal for different purposes (water use: public water supply, irrigation, industries, hydropower, bottling, etc., and waste water

					disposal: municipal, industrial, cooling, etc.), sediment abstraction, etc.
RO		✓ Contributions for using water resource for hydropower, thermal plants, nuclear power plant for aquaculture, irrigation, industry, households. Structured on type of water resource (surface and groundwater).	Y		Yes (Water Law)
BG	-	-	Y All costs considered(financial, environmental and resource costs)	✓ Public water supply; public collection of waste water; public treatment of wastewater; individual water supply in industry; individual water supply in agriculture for irrigation; individual water supply for stockbreeding; producing of electric power by water electric plant; protection of harmful impact of water; conservation of water; navigation and other activities connected with navigation; individual drinking water supply	Y
MD	n.a.				
UA	-	Water supply, wastewater collection and treatment; agricultural; fish farming; surface water abstraction; use of hydro-energy potential.	Y	Water use - the use of water (water bodies) to meet the needs of the population, industry, agriculture, transport and other sectors of the economy,	Y Water Code

				including the right to water intake, wastewater discharge and other uses of water (water bodies).	

Table 3: Water pricing policies in place, and prices of water services/uses

Country	Water service	Environmental cost [EUR/m^3, EUR/?, not assessed]	Resource cost [EUR/m^3, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m^3, no payment]	Payment for resource cost recovery [EUR/m^3, no payment]
DE	Water supply	ERC are considered in the recovery of the costs of water supply services (EUR/m^3); they are not quantified individually		ERC are considered in the recovery of the costs of water supply services (EUR/m^3); they are not quantified individually	
	Waste water treatment	ERC are considered in the recovery of the costs of waste water services; they are not quantified individually		ERC are considered in the recovery of the costs of waste water services; they are not quantified individually	
AT	Water supply	ERC are internalized in the price for drinking water (EUR/m^3) but they are not yet quantified individually		Payments for ERC are internalized in the price for drinking water (EUR/m^3) but they are not yet quantified individually	
	Waste water treatment	ERC are internalized in the price for wastewater treatment (EUR/m^3) but they are not yet quantified individually		Payments for ERC are internalized in the price for wastewater treatment (EUR/m^3) but they are not yet quantified individually	
	Others (e.g. hydropower for electricity production, navigation, aquaculture)	ERC are internalized in environmental requirements but they are not yet quantified individually		Payments are internalized in environmental requirements but they are not yet quantified individually	
CZ	Drinking water supply	ERC costs in the form of charges for groundwater and surface water abstraction is internalized in the price for drinking water (EUR/m3)		No separate payment exists. ERC recovery costs are internalized.	
	Wastewater treatment	ERC are in the form of charges for pollution and volume of discharged wastewater.		See the answer above.	
	Water storage and impoundment for energy production	ERC costs in the form of charges for impoundments are internalized in the price which is agreed between the customer and State Enterprises of River Basin Management(EUR/m^3)		No separate payment exists. ERC recovery costs are internalized.	
	Navigation	Not assessed	Not assessed	No payment	No payment
SK	Water supply for households, industry and agriculture	Not assessed	Resource cost in the form of charges for groundwater abstraction as well as payments for surface water abstraction is internalized in the price for drinking water (EUR/m^3)	No payment	No separate payment, only the internalized one
	Collection and treatment of wastewater	Environmental cost in the form of charges for discharge of wastewater is internalized in the price for the collection and treatment of wastewater (EUR/m^3)	Not assessed	No separate payment, only the internalized one	No payment

Country	Water service	Environmental cost [EUR/m³, EUR/?, not assessed]	Resource cost [EUR/m³, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m³, no payment]	Payment for resource cost recovery [EUR/m³, no payment]
	Use of hydro-energy- potential of watercourse	Not assessed	Not assessed	No payment	No payment
	Abstraction of energy water from watercourse	Not assessed	Not assessed	No payment	No payment
	Abstraction of surface water from watercourse	Not assessed	Not assessed	No payment	The payment for surface water abstraction is determined in EUR/m³ and is a component of the price for drinking water. This payment is considered as covering a part of resource costs.
HU	Public wastewater collection and treatment	EC were assessed in 2006-2007 based on the 2005 data. EC are partly internalized in the water load fee and wastewater fine and this is covered by the water price.	Not assessed	Unit water load fee (WLF) in average (depends on different loads) WLF: 4.4 HUF/m³ (2018) Wastewater fine: 519.9 million HUF (2018) In the case of a wastewater fine, it does not make sense to calculate a specific m³ for all wastewater volumes, because only a part of it is fined.	No payment Up to RBMP2, the water resource fee (WRF) could only been considered as an environmental cost, but since the WRF rate for water bodies in poor status differs from the others (20% higher), it can also be considered as a partial resource cost.
	Public water supply	EC were assessed in 2006-2007 based on the 2005 data. EC are partly internalised in the water resource fee and this is covered by the water price	Not assessed	2018 water resource fee (WRF) data: 4.42 HUF/m³	No payment
	Own water abstraction	EC are partly internalized in water resource fee	Not assessed	2018 water resource fee (WRF) data: Industry and other economic sector: 2.43 HUF/m³ Agriculture: 1.1 HUF/m³ Others: 11.9 HUF/m³	Water resource fee is partially serves as resource cost
	Agricultural water supply (irrigation, fishponds, other)	EC are partly internalized in water resource fee	Not assessed	2018 water resource fee (WRF) data:	Water resource fee is partially serves as resource cost

Country	Water service	Environmental cost [EUR/m³, EUR/?, not assessed]	Resource cost [EUR/m³, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m³, no payment]	Payment for resource cost recovery [EUR/m³, no payment]
				Irrigation:1.15 HUF/m³ Fish pond: 0.045 HUF/m³ Rice production: 0.044 HUF/m³ Animal husbandry: 13.24 HUF/m³	
	Damming and storage for hydropower production	EC are partly internalized in water resource fee	Not assessed	2018 water resource fee (WRF) data: In situ water use: 0.0045 HUF/m³	Water resource fee is partially serves as resource cost
SI					

Country	Water service	Environmental cost [EUR/m³, EUR/?, not assessed]	Resource cost [EUR/m³, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m³, no payment]	Payment for resource cost recovery [EUR/m³, no payment]
HR	Water Services				
	Water supply	0,40 EUR/m3 - an estimation based on annual Financial Plan of Croatian Waters		water abstraction fee - 0,38 EUR/m3	
	Waste water collection and treatment	0.22 EUR/m3 - an estimation based on annual Financial Plan of Croatian Waters		water pollution charge - 0,18 EUR/m3 (subject to load coefficients for industrial waters discharge)	
	Other Water Services				
	Abstraction of surface water (excluding water supply and specified activities below)	not assessed (only internalized part was assessed, additional assessments are in progress)		water abstraction charge - 0,11, 0,09, 0,07 and 0,04 EUR/m3 depending on water status (very good, good, moderate, bad and very bad)	
	Abstraction of groundwater (excluding water supply and specified activities below)	not assessed (only internalized part was assessed, additional assessments are in progress)		water abstraction charge - 0,11 and 0,04 EUR/m3 depending on water status (good or bad) and 0,15 EUR/m3 for mineral, thermos-mineral and thermal waters	
	Water power for electricity production	not assessed (only internalized part was assessed, additional assessments are in progress)		water abstraction charge - 7.5% (for plants over 5 MW) or 5% (for plants up to 5MW) of the average price per 1 kWh electricity produced	

Country	Water service	Environmental cost [EUR/m³, EUR/?, not assessed]	Resource cost [EUR/m³, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m³, no payment]	Payment for resource cost recovery [EUR/m³, no payment]
	Water power for plant operation (other than electricity production)	not assessed (only internalized part was assessed, additional assessments are in progress)		water abstraction charge - 0,26 EUR per 1 kWh of total installed capacity of the plant	
	Heating and cooling of households and offices	not assessed (only internalized part was assessed, additional assessments are in progress)		water abstraction charge - 0,013 EUR/m3	
	Rafting and canoeing (as business activities)	not assessed (only internalized part was assessed, additional assessments are in progress)		water abstraction charge - 6,57 EUR/yr per passenger seat	
	Anchoring floating vessels for catering and similar businesses	not assessed (only internalized part was assessed, additional assessments are in progress)		water abstraction charge - 13,14 EUR/yr per m2 of water surface occupied	
	Irrigation	not assessed (only internalized part was assessed, additional assessments are in progress)		65,68 EUR/yr per ha - if the quantity is not measured, if it is measured - the tariffs for surface water and groundwater abstraction apply	
	Water discharges (other than through public wastewater facilities)	not assessed (only internalized part was assessed, additional assessments are in progress)		water pollution charge (i) 0,18 EUR/m3 od water discharged (subject to load coefficients for industrial waters discharge), (ii) 0,000177 EUR/m3 of cooling water discharged and (iii) 0.000486 EUR/kg of nitrogen as active substance in mineral fertilizer	
BA	Public water supply	-	-	-	0.005 Euro/ m³ of abstracted water
	Bottling of water & mineral water	-	-	-	1.00 Euro/ m³ of abstracted water
	Water supply to industry and others (abstraction)	-	-	-	0.01/0.015 Euro/m³ (RS/FBiH)
	Irrigation (abstraction)	-	-	-	0.001 Euro/m³ (RS)
	Fish farming (abstract)	-	-	-	0.0005 Euro/m³ (RS only) abstr. water
	Fish farming (pollution)	-	-	0.01/0.025 (RS/FBiH) Euro/kg produc. fish	-

Country	Water service	Environmental cost [EUR/m³, EUR/?, not assessed]	Resource cost [EUR/m³, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m³, no payment]	Payment for resource cost recovery [EUR/m³, no payment]
	Electricity production	-	-	0.0005 Euro/kWh of produced electricity	-
	Wastewater discharge	-	-	1.00 Euro/PE	-
	Pollution caused by vehicles	-	-	1.00 Euro/PE	-
	Pollution caused by use of artificial fertilizer	-	-	0.0025 Euro/kg prod. / imported fertilizer	-
	Pollution caused by use of pesticides	-	-	0.04 Euro/kg of prod. / imported pesticides	-
	Sediment extraction	-	-	0.75 Euro/m³ of the extracted material	-
	General water charge	-	-	0.5% of the net salary (FBiH only)	0.5% of the net salary (FBiH only)
ME	n.a.				
RS	Fee for water use (public utilities), population	-	-	-	Extracted amount 0.002
	Fee for water use (public utilities), legal entities	-	-	-	Extracted amount 0.004
	Fee for raw water use	-	-	-	0.003
	Fee for irrigation water use	-	-	-	0.001
	Fee for water bottling	-	-	-	0,010 (EUR/l)
	Fee for abstracted water for electricity production in hydropower plants below 10 MW	-	-	-	0.708 (EUR/MWh)
	Fee for abstracted water for electricity production in hydropower plants of 10 MW and above	-	-	-	0.772 (EUR/MWh)

Country	Water service	Environmental cost [EUR/m³, EUR/?, not assessed]	Resource cost [EUR/m³, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m³, no payment]	Payment for resource cost recovery [EUR/m³, no payment]
	Fee for abstracted water for thermal power plants with recirculating cooling system	-	-	-	0.420 (EUR/MWh)
	Municipal waste water disposal	-	-	For the disposal of municipal waste water in general, as well as for the disposal of municipal wastewater into hydromelioration systems, there is methodology prescribed for calculation of environmental fee that takes into account certain parameters and their ELVs.	0.002
	Industrial waste water disposal (depending on type of industry)	-	-	For the disposal of industrial waste water in general, as well as for the disposal of industrial wastewater into hydromelioration systems, there is methodology prescribed for calculation of environmental fee that takes into account certain parameters and their ELVs.	0.044/0.026/0.024/0.012
	Fee for disposal of water from thermal power plants with runoff cooling system	-	-	-	0.420 (EUR/MWh)
	Fee for sediment extraction (depending on location of extraction point)	-	-	-	0.500/0.620/1.000
RO	Water supply	-	0 RC=foregone opportunities that other uses suffer due to the depletion of the resource beyond its natural rate of recharge or recovery based on the assessment of availability of the water resource in one section	-	-0

Country	**Water service**	**Environmental cost** [EUR/m³, EUR/?, not assessed]	**Resource cost** [EUR/m³, EUR/?, not assessed]	**Payment for environmental cost recovery** [EUR/m³, no payment]	**Payment for resource cost recovery** [EUR/m³, no payment]
			comparing to the present and future water demand		
	Wastewater treatment (* includes sewerage)	0,43EUR/cm Only Monitoring costs considered Approximated EC= costs of measures whose primary aim is to protect the water environment based on existing legal (environmental) standards	-	0,43 EUR/cm	-
	Water abstraction for households from surface waters				
	Water abstraction for industry from surface waters				
	Water abstraction for irrigation				
	Water abstraction for aquaculture				
	Water abstraction for hydropower				
	Water abstraction for thermo power plants				
	Water abstraction for households from groundwater waters				
	Navigation (lock)				
	Receive pollutants in the surface waters				
	Water supply and waste water treatment	Approximated by looking at the costs of measures whose primary aim is to protect the water environment	Costs of foregone opportunities which other uses suffer due to the	Internalized in waste water treatment costs Level still in progress	Level still in progress

Country	Water service	Environmental cost [EUR/m³, EUR/?, not assessed]	Resource cost [EUR/m³, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m³, no payment]	Payment for resource cost recovery [EUR/m³, no payment]
		based on existing legal (environmental) standards	depletion of the resource beyond its natural rate of recharge or recovery (e.g. linked to the over-abstraction of groundwater). Based on the assessment of availability of the water resource in one section comparing to the present and future water demand		
BG	Public water supply	105,837.42 EUR (2012) (According Methodology: Costs for removal of damages, caused by diffuse pollution from agriculture, stock-breeding and fish- breeding)	3,765,664.71 EUR (in 2012) 1.Costs connected with present lack of water 2.Costs connected with future lack of water	Recovery through water price paid by households, industry, agriculture and services Price for water supply by water companies/drinking water: 0.41 €/m3; Price for water supply for irrigation/supply by “Irrigation systems”: 0.18 €/ m3	Recovery through water price paid by households, industry, agriculture and branch of services Price for water supply by water companies/drinking water: 0.41 €/ m3 Price for water supply for irrigation/supply by “Irrigation systems”:0.18 €/ m3
	Public collection of waste water	13,260,866.23 EUR (in 2012) (Costs for removal of damages, caused by diffuse pollution from settlements without sewage system)	No identified resource costs	Recovery through prices of public collection of waste water Price for collection of waste water: 0.09 €/ m3	N
	Public treatment of waste water	27 240 608,85 EUR (in 2012) (1.Costs for removal of damages, caused by point pollution of waste water from households and industry /building of WWT-Plants 2. Costs for removal of damages, caused by diffuse pollution from landfills)	No identified resource costs	Recovery through prices of treatment of waste water Price for treatment of waste water: 0.14 €/ m3	N

Country	Water service	Environmental cost [EUR/m³, EUR/?, not assessed]	Resource cost [EUR/m³, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m³, no payment]	Payment for resource cost recovery [EUR/m³, no payment]
	Individual water supply in industry	No identified environmental costs	Costs in case of future water scarcity (no resource costs for 2008-2012: 0 €/m3)	N	Recovery through fee for water use according to National Tariff for fees: 0.045€/m3 – surface water. 0.07€/m3 – ground water.
	Individual water supply in agriculture for irrigation	7,669.38 EUR (in 2012) (Costs for removal of damages, caused by diffuse pollution from agriculture)	Costs in case of future water scarcity (no resource costs for 2008-2012: 0 €/m3)	Recovery through fee for water use according to National Tariff for fees: 0.0005€/m3 – surface water 0.005€ m3 – ground water	Recovery through fee for water use according to National Tariff for fees 0.0005€/m3 – surface water 0.005€/m3 – ground water
	Individual water supply for stock-breeding and fish-breeding	750,065.19 EUR (in 2012) (Costs for removal of damages, caused by diffuse pollution from stock-breeding and fish-breeding)	Costs in case of future water scarcity (no resource costs for the period 2008-2012: 0 €/m3)	Recovery through fee for water use according to National Tariff for fees: 0.0005€/m3 – surface water 0.005€/m3 – ground water	Recovery through fee for water use according to National Tariff for fees 0.0005€/m3 – surface water 0.005€/m3 – ground water
	Producing of electric power by water electric plant	16,361.34 EUR (in 2012) (1.Costs for removal of damages, caused by drying of rivers due to water use of hydro power plants; 2. Costs for removal of damages, caused by interruption of continuation of the rivers due to water use of hydro power plants /costs for building of fish-passages)	Costs in case of future water scarcity, but no resource costs for the period 2008-2012: 0 €/ m3	Recovery through fee for water use according to National Tariff for fees: 0.0008 €/m3	Recovery through fee for water use according to National Tariff for fees: 0.0008 €/m3
	Protection of harmful impact of water	Costs for measures for recovery of damages due to gravel extraction: 2008-2012: 0 €/ m3	No identified resource costs	No fee. Cost recovery: - Own incomes of municipalities - State financing for "Irrigation systems" -State transfers Total amount for 2012: 20,577,453.03 EUR;	No

Country	Water service	Environmental cost [EUR/m³, EUR/?, not assessed]	Resource cost [EUR/m³, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m³, no payment]	Payment for resource cost recovery [EUR/m³, no payment]
	Water conservation	No identified environmental costs (only financial costs)	No identified resource costs (only financial costs)	No fee. Cost recovery of financial costs only	No fee. Cost recovery of financial costs only
	Navigation and other activities connected with navigation	Costs for removal and prevention of damages, caused by navigation :2008-2012 for Danube - 0 €/m3	No identified resource costs	Cost recovery through harbor fees paid by shipping sector: 2008-2012 for Danube - 0 €/ m3	No
	Individual drinking water supply	No identified environmental costs	Costs in case of future water scarcity, but no resource costs for the period 2008-2012: 0 €/m3	No	Cost recovery through fees for issue of permits 0.02 €/m3 – surface water 0.75 €/m3 – ground water
MD					
UA	Water supply for industry			Recovery through water price paid by industry Tariff 0,25 – 0,75 €/ m3	Recovery through water price paid by industry Tariff 0,25 – 0,75 €/ m3
	Water supply for population			Recovery through water price paid by houshold Tariff 0,22 – 0,57 €/ m3	Recovery through water price paid by houshold Tariff 0,22 – 0,57 €/ m3
	Wastewater treatment for industry			Recovery through water price paid by industry Tariff 0,15– 0,69 €/ m3	Recovery through water price paid by industry Tariff 0,15– 0,69 €/ m3
	Wastewater treatment for population			Recovery through fee for water use according to National Tariff for fees: 0,16 – 0,48 €/ m3	Recovery through fee for water use according to National Tariff for fees: 0,16 – 0,48 €/ m3

Country	Water service	Environmental cost [EUR/m³, EUR/?, not assessed]	Resource cost [EUR/m³, EUR/?, not assessed]	Payment for environmental cost recovery [EUR/m³, no payment]	Payment for resource cost recovery [EUR/m³, no payment]
	Wastewater treatment	ERC are in the form of charges for pollution and volume of discharged wastewater.			
	Drinking water supply	ERC costs in the form of charges for groundwater and surface water abstraction is internalized in the price for drinking water		ERC are in the form of charges for pollution and volume of discharged wastewater.	Cost recovery through fees for issue of permits 1,74 €/m3 – surface water 2,02 €/m3 – ground water
	Producing of electric power by water electric plant		ERC are in the form of charges for pollution and volume of discharged wastewater.		Cost recovery through fees for issue of permits 0,36 €/10 ths m3 – surface water
	Fish farming		ERC are in the form of charges for pollution and volume of discharged wastewater.		Cost recovery through fees for issue of permits 1,87 €/10 ths m3 – surface water 2,24 €/ 10 ths m3 – ground water

Table 4: Use and calculation of ERC

Country	ERC estimations available [Y/N/partly]	Clear Methodology for calculating ERC [Y/N/partly]	Clear Methodology for cross subsidies [Y/N/partly]
DE	N	Partly - Issue of operationalizing the concept of ERC remains challenging.	N
AT	Partly The internalized parts of EC in AT are estimated through the quantified costs of measures.	Partly (expert judgment involved)	Y According to the polluter pays principle, water users pay the environmental costs they cause in form of water charges as well as implementation of technical measures in order to prevent cross subsidies.
CZ	Y	Partly The calculation of EC in CZ is based on the costs of renewal and saved costs. It determines the costs that would be necessary for compensation of impacts of water management services on environment, respectively for the compensation of the impacts disturbing the state of surface and GW from the quantitative, qualitative and hydromorphological point of view.	N (Subsidies do not play a role in CZ)
SK	N No "full estimations of ERC for single water services"; only the "internalized parts are quantified"[2].	Partly For the estimation of EC, the cost-based approach is used which involves the costs for certain groups of measures. The evaluation of RC is also based on a cost-based approach (e.g. construction of long-distance pipelines to areas failing to achieve good quantitative status of GWBs). As there have not been applied regulatory measures and restrictions, the RC which appear due to non-coverage of water requirements of specific sectors (foregone costs approach) is not yet actual.	Partly (subsidies play little role)
HU	Partly EC are partly quantified, only the internalized parts are quantified. EC were assessed in 2006-2007 based on the 2005 data for waste water and drinking water. Taking the international experience into account we chose the cost-based approach, so we consider the cost	Y EC calculation methodology is clear (cost-based methodology), but the cost of measures is missing. The Water Load Fee (WLF) and water resource fee is internalized of (a part of the) external environmental costs. The rate of the water load fee is defined by the product of: 1) the total	Y There are subsidies for covering a part of the financial cost for households when the service costs are extremely high, the cost are above a certain threshold.

[2] The share of the charges for the discharge of wastewater into the water courses on the total costs of water companies in providing of wastewater services (i.e. wastewater collection and treatment) is ca. 1,69 % (2018) – these charges are considered as environmental costs. Charges for groundwater abstraction and payments for surface water abstraction are considered as a part of the resource costs (which are paid by those who have the permission to use the water source). The share of these charges and payments for the abstraction on the total costs of water companies in providing of water supply service is about 17,96 % (2018). However, the abstraction of water could be also seen as a form of the environmental costs (because an abstraction represents one of the biggest pressures on water body)…The charges for discharge of wastewater do not represent full estimation of environmental costs. These charges are stipulated by the Decree of the Government and represent only a part (approximately 30%) of the real costs necessary for the wastewater treatment in the wastewater treatment plants.

Country	ERC estimations available [Y/N/partly]	Clear Methodology for calculating ERC [Y/N/partly]	Clear Methodology for cross subsidies [Y/N/partly]
	of the remaining measures needed in order to achieve "good status" as EC.	amount of the annual discharge of the contaminant measured in kilograms, 2) multiplied by a specific rate per pollutant, 3) a measure of area sensitivity and 4) sludge disposal factors. Water resource fee (abstraction fee) is depend on the water resource type and water uses (and some another element). New development: there is a new so called "overload factor" in the calculation, which depends on the quantitative status of each water body. In general, all water users have to pay the water resource fee (WRF) for the amount of water used. The paid amount is received by the state budget.	
SI			
HR	Partly ERC are partly quantified, only the internalized parts are quantified.	Partly (cost-based approach) Assessment of ERC is ongoing.	N
BA	Partly ERC are partly quantified, only the internalized parts are quantified.	Partly (cost-based approach and expert judgment)	N
ME	n.a.		
RS	N No "full estimations of ERC for each water service", but parts are included in charges/fees.	Partly (cost-based approach)	N
RO	Partly ERC are partly quantified, only the internalized parts are quantified.	Partly (cost-based approach) A revise of the assessment is ongoing.	No cross subsidy between different water uses is legally provided.
BG	Y ERC are quantified (2008-2012)	Y (Methodology is developed)	N
MD			
UA		Partly (cost-based approach)	

Table 5: Cost Recovery (CR)

Country	Prices and costs for water services available[3] [Y/N/partly]	Levels of CR stated [Y/N/partly]	Levels of CR for all defined water services [Y/N]	Clear methodology for calculating CR [Y/N/partly]
DE	Y (water supply and waste water services)	Y (water supply and waste water services)	Y	Y
AT	Y (total costs and total revenues of water services [water supply and wastewater treatment] are available, as well as bandwidths/ ranges of average water prices)	Y	Y	Y (based on expert judgement)
CZ	Y (abstraction, water supply and wastewater)	Partly (all O&M costs are fully covered, when including also subsidies on investment we would not reach 100% of cost recovery)	N (only water supply services and wastewater treatment)	N
SK	Y (for all five water services)	Y	Y	Partly (only financial costs, including depreciation and internalized part of environmental and resource costs are considered).
HU	Y Costs, prices, revenues are available for public water supply, for public waste water collection and treatment, agricultural water supply, damming and storage for hydropower production. Internalized ERC costs for industry, agriculture and other/own well.	Y	Yes for public water supply, public waste water collection and treatment, agricultural water supply, damming and storage for hydropower production Partly for public water supply for industry and agriculture/own well).	Y Financial cost recovery rates are calculated (including internationalized ERC costs) for water services (public water supply, public wastewater collection and treatment, agricultural water supply, damming and storage for hydropower production).
SI				
HR	Partly (Y water supply for households and industry, N for other water activities)	Y	Y	Y (methodology and CR calculation will be included in National RBMP)
BA	Y (water supply and wastewater, excluding treatment)	Y	Y	Partly (depreciation, water loses, environmental

[3] For exact amounts, see table 3 above.

Country	Prices and costs for water services available[3] [Y/N/partly]	Levels of CR stated [Y/N/partly]	Levels of CR for all defined water services [Y/N]	Clear methodology for calculating CR [Y/N/partly]
				and resource costs are not included)
ME	n.a.			
RS	Partly (water supply for households and industry)	N	N	N
RO	Y	Y	Y	Partly. Clear methodology for Water supply and waste water services. Ongoing assessment for other services.
BG	Y (for all water services)	Y	Y	Y
MD				
UA	Y (water supply for households and industry and waste water services)	Y	Y	Y Resolutions of the Cabinet of Ministers of Ukraine

Table 6: The links between ERC and payments

Country	CR through fees/charges/taxes	CR through permits	CR through mitigation/supplementary measures	Clear definition of water services paying for RC and/or EC?
DE	✓	✓	✓	Concerted definition across Germany.
AT	✓	✓	Through the Programme of Measures the cost recovery regarding ERC was carried out.	Y (water supply and wastewater)
CZ	✓	-	(CR through mitigation/supplementary measures)	Y (water supply: RC; wastewater: EC)
SK	✓	-	✓ (CR through mitigation/supplementary measures)	Y (water supply: RC; wastewater: EC)
HU	✓	✓ (at least for abstraction)	✓	Y
SI				
HR	✓	-	Through the PoM the cost recovery analysis regarding ERC was carried out	Y
BA	✓	-	-	Y

Country	CR through fees/charges/taxes	CR through permits	CR through mitigation/supplementary measures	Clear definition of water services paying for RC and/or EC?
				(see table 3)
ME	n.a.			
RS	✓	✓	-	-
RO	✓	-	-	Y (wastewater: EC)
BG	✓ (for some water services)	N	-	Costs for some measures of the PoM will be covered by incomes of water services and fees
MD				
UA	✓	✓		

Table 7: CEA used on the national level (whether a cost-effectiveness analysis has been carried out for supporting the selection of measures proposed under the 2015-2021 PoM)

Country	No CEA was used	A qualitative CEA was used	A quantitative CEA was used	A combination of qualitative and quantitative CEA was used
Austria	N	Y	N	N
Bosnia and Herzegovina	Y	N	N	N
Bulgaria*	N	N	N	N
Croatia	N	N	N	N
Czech Republic	N	N	N	Y
Germany	N	N	N	Y
Hungary**	N	Y	N	N
Moldova	n.a.			
Montenegro				
Romania	N	N	N	Y
Serbia	N	N	N	N
Slovak Republic	N	N	N	Y
Slovenia				
Ukraine	n.a.			

*Bulgaria: The lack of CEA for selection of measures in the RBMP 2015-2021 was identified as gap in the previous cycle. In the update of the economic analysis, the implementation of a CEA is included.

**Hungary: Hungary undertook a cost-effectiveness analysis for the first Programme of Measures, but this was not carried out at a water body level. Hungary clarified subsequently that cost effectiveness analysis (CEA) was not carried out in the second cycle because the measures did not change substantially and noted that a general description of the method of prioritisation could be found in chapter 7.2 of the RBMP2.

This question is also a reporting requirement according to the EC WFD Reporting Guidance 2022 (Version: FINAL DRAFT V4, dated 30-04-2020).

Table 8: Use of Disproportionality of Costs in the Danube countries

Country	"Disproportionality of costs" used as a justification for exemptions (Y/N)*	Disproportionality applied for justifying Article 4.4 exemptions (Y/N)*	Disproportionality applied for justifying Article 4.5 exemptions (Y/N)*	Methodology/analysis tools used#
Austria	Y	Y	N	CEA
Bosnia and Herzegovina	N (or partly)	-	-	-
Bulgaria	Y	Y	Y	Cost-benefit-Analyses Affordability*
Croatia	Y	Y	Y	Cost-benefit-Analyses Affordability, Cost-Effectiveness Analysis
Czech Republic	Y	Y	N	-
Germany (Danube RB)	Y	Y	N	Cost effectiveness analysis and in specific cases targeted evaluation of costs and benefits
Hungary	Y	Y	Y	Financial possibilities, Affordability for sectors, for households, for state budget in general, CBA in the case of Article 4.5 exemptions
Moldova	n.a.			
Montenegro				
Romania	Y	Y	Y	Cost-benefit-Analyses Productivity loss (in case of restoring the longitudinal connectivity for hydropower chain assessment)
Serbia	-	-	-	-
Slovak Republic	Y	Y	Y	Affordability, Cost-Effectiveness Analysis
Slovenia				
Ukraine	n.a.			

*Bulgaria: The approach to the analysis of disproportionality of costs is set out in the national "Methodology for application of the exemptions" but not used in 2nd RBMP cycle in Bulgaria.

Questions marked with * are reporting requirements for the next reporting period, as listed in the EC WFD Reporting Guidance 2022 (Version: FINAL DRAFT V4, dated 30-04-2020).

Questions marked with # are "conditional" reporting requirements, i.e. required if disproportionality of costs has been used (EC WFD Reporting Guidance 2022 (Version: FINAL DRAFT V4, dated 30-04-2020).

Table 9: Socio-economic Trends in Danube countries until 2027

Economic growth in general until 2027	Economic growth in agriculture until 2027	Economic growth in industry until 2027	Growth in electricity production (thermal) until 2027	Growth in electricity production (hydropower) until 2027 (change in GWh/a produced 2020-2027)	Growth in energy production (biomass) until 2027 (change in GWh/a produced 2020-2027)	Population growth until 2025 (changes in total population 2020-2025 at constant fertility rates)	Water demand per capita (development until 2027)
Austria							
Remark: changed situation due to "Corona".	Agricultural area will slightly decrease. Agricultural production output on a constant level.	Remark: changed situation due to "Corona".	-	< 5 %	-	+3% (2020 - 2027)	130l/day
Bosnia and Herzegovina							
Average economic growth: 3,5% p.a. until 2027. Overall economic output-growth: 3,8%	-	Average economic growth in industry until 2027: 1,6% (sp. Manufacturing industry)	Average economic growth in electricity production (thermal) until 2027: 1,1%	Average economic growth in el. production (hydropower) until 2027:1,89%	Average economic growth in energy production (Biomass) until 2027: 1,1%	Negative (2,6%)	506 l/capita/day
Bulgaria							
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Croatia							
2,4 % per/yr before Corona	No data	No data	Gas and coal: 2.923 GWh	HP: 7.012 Gwh Nuclear: 2.683 GWh	781 GWh	4.299,3 mil.	Decrease due to the decrease in population

			Geothermal, wind and solar: 5.789 GWh				
Czech Republic							
n.a.	Stagnation	Stagnation	Stagnation	Expected to remain on the current level	n.a.	241.000	89.2 l/cap/day
Germany							
expected to grow moderately	expected to remain on the current level	expected to grow moderately	expected to remain on the current level or to fall slightly	expected to remain on the current level	expected to remain on the current level	expected to grow moderately	Long term average expected to remain on the current level or to continue to fall
Hungary							
Official Projection 2020-2024 (Based on the Convergence Program) GDP growth per year (%) 2020: -3 2021: 4,8 2022: 4,6 2023: 4,3 2024: 4,2 According to the assumptions used in	Economic growth in agriculture (in %) until 2027 is not available. The Hungarian Food Economics Concept (2017–2050) provides a detailed description of the expected development of the sector.	Economic growth in industry (in %) until 2027 is not available. The expected development of the sector is described in detail in the Convergence Program and the “Irinyi Plan”.	Together with other renewables, the growth is 329% 2020: 78 GWh/a 2027: 335 GWh/a According to Hungary's National Energy and Climate Plan.	0% growth, unchanged production 2020-2027: 244 GWh /a According to Hungary's National Energy and Climate Plan.	Biomass and renewable waste together increase by 30%: 2020: 2332 GWh/a 2027: 3029 GWh/a According to Hungary's National Energy and Climate Plan.	2.6% decrease is projected based on 1.6 constant fertility rates, according to the Central Statistics Office (CSO) "Population Forecast 2015"	During the preparation of the 3rd RBMP, based on the assumptions used in the socio-economic forecasts, an increase in the specific water consumption of households can be expected, but the growth rate does not reach the projected annual increase in household consumption (of

RBMP3, the growth rate will be similar until 2027, i.e. a minimum annual rate of 4%.							around 4%) in the Convergence Program. The 96 liters/capita/day in 2018 could increase by 6% to 2027, i.e. to 102 liters/capita/day, taking into account the temporary decline expected in 2020 due to the epidemic.
Moldova							
n.a.							
Montenegro							
Romania							
Medium term forecast – National commission for prognosis.- 2025 Estimated a yearly increase of GDP with an	Medium term forecast – National commission for prognosis.- 2025 Estimated an yearly increase appr. 2%	Medium term forecast – National commission for prognosis.- 2025 Estimated a yearly increase appr. 1.9%	Expected to remain on the current level or slightly decrease as result of new regulations regarding the air pollution	Expected to remain on the current level or slightly increase	According to National Energy Strategy an increasing with 10%-20% in biomass production is estimated till 2030	In progress	A slightly decrease (appr. 5%) is estimated till 2030

average appr. 1.8%							
Serbia							
+3.58% per year (2022-2023), +3.63% per year (2024-2027)	+0.66% per year (2022-2023), +1.52% per year (2024-2027)	+3.22% per year (2022-2023), +3.44% per year (2024-2027)	+0.97% per year (2022-2025), +1.38% per year (2026-2027)	+0.97% per year (2022-2025), +0.79% per year (2026-2027)	+1.35% per year (2022-2025), +1.39% per year (2026-2027)	-0.24% per year (2022-2026), -0.15% per year (2026-2027)	No changes
Slovak Republic							
According to the available forecast (June 2020, Ministry of Finance) for 2020-2023 the Slovak economy will fall by 9.8% in 2020 due to the global pandemic (baseline scenario). In the second half of 2020, the economy should gradually recover,	Economic growth in agriculture (in %) until 2027 is not available. The COVID-19 pandemic has also caused a crisis in the agricultural sector. In the current CAP reform, which was to apply from 2021, a transitional period of two years is necessary to ensure stability. Support for farmers under the current legal framework will continue until the end of 2022. Over the next two years, the strategic plan in line with the new CAP	Economic growth in industry (in %) until 2027 is not available. For more particular information on the possible development of industry – see the separate part "Summary assessments of trends for some Danube countries".	Forecast of the share of disposable electricity production (*in fossil power plants)* according to expected development in electricity consumption of Slovakia in% is as follows: 2020: 23,3 % 2025: 13,4 % 2030: 13,8 %. The Ministry of Economy expects the electricity consumption in	+7,19% (4,464 to 4,785 GWh/a) 2020: 4,464 GWh 2021: 4,467 GWh 2022: 4,470 GWh 2023: 4,473 GWh 2024: 4,476 GWh 2025: 4,507 Gwh 2026: 4,754 GWh 2027: 4,785 GWh All the data/information given above is at the national level.	+43,9% (1,848 to 2,660 GWh/a). Note: pumped storage power plants are eliminated) The data/informatio n given above is at the national level.	+ 0,22 % The data given above is at the national level.	Changes in specific water consumption per capita 2020-2027: + 12,6% 2020: 79,3 liters 2021: 80,2 litres 2022: 81.3 liters p.c. 2023: 82.6 liters 2024: 84.0 liters 2025: 85.6 liters 2026: 87.4 liters 2027: 89.3 liters The data/information given above is at the national level.

bringing GDP growth to 7.6% in 2021. However, the economy should not catch up with the pre-crisis level until the end of 2022 (but economic growth in 2022 will reach only 1.8%). At the end of the forecast period (2023), economic growth will be supported by drawing on EU funds of the third programming period. The main negative risk to the forecast is the re-spread	legislation has to be prepared. The *strategic planning* can be considered as the biggest change in the CAP. More responsibility will shift to Member States to formulate a strategy that each state wants to achieve by 2027. Through the CAP Strategic Plan, Member States have the opportunity to design their agricultural policy according to their needs. This plan is also approved by the European Commission. The main objectives and priorities of the agricultural sector in Slovakia for the period up to 2027 are mentioned in the separate part “Summary assessments of trends for some Danube countries”.		Slovakia will increase. Thermal power plants will gradually lose importance. In the long term, the operation of the Nováky Thermal Power Plant (2x110 MW) is not planned any more, due to the termination of support for the production of electricity from domestic coal in 2023. As mentioned above, production in coal-fired power plants will gradually decrease. The share of power stations producing carbon-free electricity should be increased. More than 90% of				

of the pandemic. Economic growth until 2027 is not available.			electricity should be generated in Slovakia, of which 67% through nuclear power plants. The rest is renewable energy. All data/information above is at the national level.				
Slovenia							
Ukraine (for DRBR)							
Expected to grow moderately National level: GDP growth at 4.6% in 2021, 4.3% in 2022 and 4.7% in 2023 (Medium term forecast – Resolutuion	Average growth in agriculture until 2027: 1,5 %	Average economic growth in industry until 2027: 1,3% (sp. Manufacturing industry)	Expected to grow moderately	Expected to grow moderately	Expected to slightly increase	Expected to slightly increase	No changes

of the Cabinet of Ministers of Ukraine of July 29, 2020 № 671, On approval of the Forecast of economic and social development of Ukraine for 2021-2023).							

Summary Assessments of trends for some Danube countries

Slovakia

Agriculture:

Main objectives and priorities of the agricultural policy for the next period include: *sustainability of Slovak agriculture*, *food self-sufficiency* and *development and implementation of strategic plan*. However, the relevant documents currently being prepared by the management of the agricultural sector, linked to the CAP, will not be ready until next year (2021). Based on all previous knowledge optimal solutions should be applied.

The agro-sector identified ***increasing the food self-sufficiency of Slovakia*** as the main priority and committed itself to ***developing a long-term strategy for agriculture and the food industry***. (In May 2020, the European Commission presented two key strategies that will have a major impact on the agricultural sector: the Biodiversity Strategy to 2030 and the Farm-to-Table Strategy).

The goal is also changes in payment settings - e.g. not to support only the area itself, but producers of specific foods, i.e. to support production and farmers who want to contribute to the food basket (without division into small and large farmers). The aim is to link financial support from the 1st and 2nd pillars of the CAP to specific production. E.g. the 1st pillar itself has three parts: area payments, eco-schemas and the tying of money to production (coupled payments). Eco-schemas settings are also important, as they can also be linked to production. Tying money to production is a way to recover Slovak agriculture, while coupled payments need to be increased from Eurofunds, but own state participation is also necessary to increase the current low percentage of self-sufficiency (approximately 40%). It is desirable to achieve self-sufficiency, especially in basic commodities (poultry and pork, fruits, vegetables, potatoes), so the priority is to support special animal and plant production. There are also measures to support food production in Slovakia in the government's program statement, for which financial support is necessary (approximately EUR 1 billion must be invested in food production in the next five to seven years). It should be supported that the domestic food industry processes all raw materials grown and bred in Slovakia, as financial support for food processing has been underestimated in previous years. All major steps to increase and achieve food self-sufficiency should be included in ***The Strategic Plan*** and the so-called ***Intervention Strategy***.

Industry:

General statement: Slovak industry is currently not doing well (as in Germany; there is a great link between Slovak industry and Germany - for Slovakia, Germany is the largest trading partner).

The automotive industry has a decisive influence on the Slovak industry.

According to Ministry of Finance's February 2020 macroeconomic forecast, the Slovak economy under foreign influence continued to perform at a slower pace, but was still progressing. Cooling is particularly noticeable in the export-oriented industry. After reaching its peak in 2018, the Slovak economy slowed significantly in 2019 to an estimated 2.3% (Ministry of Finance´s forecast, February 2020). The unfavorable development of foreign demand was predominantly reflected in the Slovak export-oriented industry. The February forecast projected a continuation of the economic slowdown in 2020 with GDP growth of 2.2% and expected to support exports through new production at Jaguar Land Rover, whose dynamics were expected to be dampened by weaker external demand.

According to Statistical Office of the Slovak Republic industrial production in April 2020 reached an all-time low since the establishment of the independent Slovak Republic, falling by 42 percent year on year. The decrease was mainly due to a sharp drop in the production of means of transport by 78.9 percent. This situation was significantly affected by the stop or restriction of production at four Slovak car manufacturers, as well as production restrictions at subcontractors throughout the automotive industry, which responded to the measures taken against the spread of COVID-19 in Europe.

According to Eurostat, in May 2020, in a year-on-year comparison, Slovakia recorded the sharpest drop in industrial production within the EU countries, by 33.5 percent.

However, it should be noted that at present all car manufacturers have already carried out a partial resumption or are trying to fully resume production.

Due to the occurrence of the second wave of the pandemic, it is currently not possible to estimate future developments regarding the sector's performance.
The document "Low Carbon Strategy of Slovakia" was approved by the Slovak Government. This Strategy will include effective and cost-effective measures in the sectors of industry, energy, energy efficiency, transport, agriculture and forestry and waste management. The Strategy is a cross-cutting document across all sectors of the economy, which must pursue individual policies so as to complement each other towards the common goal of completely decarbonising Slovakia by 2050.
Energy:
With an estimated 1.23% year-on-year growth, electricity consumption in Slovakia will reach 36.4 TWh in 2030. In terms of electricity demand coverage, the focus will be on the completion of Units 3 and 4 of the Mochovce Nuclear Power Plant (2x471 MW). As mentioned above, by putting these units into operation, the balance between production and consumption of electricity in the ES SR should be changed to export. The export balance of the Slovak Republic should be maintained even after the termination of operation of the Nováky thermal power plant (2x110 MW) in 2023 due to the termination of support for electricity production from domestic coal.

<u>Bosnia and Herzegovina</u>
By increase in capacity of the urban waste water treatment through construction and reconstruction of the WWTPs the water quality should be positively affected.
Also in Bosnia and Herzegovina there is in strategic document planned to increase development of hydropower –electricity production and it is planned till 2021 to grow agricultural sector.

<u>Germany</u>
No new analysis of future anthropogenic developments was performed for the period until 2027 as the analysis for the period 2015-2021 remains broadly valid. The development of the different sectors remains widely interconnected though economic growth and use of resources, like water, are decoupled in an economy largely based on the provision of services. Even though interactions clearly exist, changes of economic parameters don't necessarily induce direct changes of ecologic parameters, e.g. concerning the use of water resources and the hydrological balance.
Overall, the pressure situation due to the observable trends in anthropogenic activities in the considered timeframe can be expected to remain on the current level. More detailed information on the driving forces affecting pressures on water bodies and, consequently potentially affecting water status as well as updated figures on the provision of water services, can be obtained in the River Basin Management Plan for the German share of the Danube Basin.

<u>Austria</u>
Agriculture
Owing to the studied indicators of potential water pollution (livestock or landuse) and accordingly to the prognosis of the Austrian Institute of economic research (WIFO) in the background document for the Economic Analysis 2019 the following things are predicted till 2030:

- in regions with favourable conditions for the expansion of milk production a slight increase of the application of organic fertilizer will take place;
- an overall slight decrease of the agricultural area will happen;
- the reason for regional differences in the river basins of Rhine and Danube will be led back to structural facts in these regions.

The reason for the expected increase in beef production results from the increase of milk production. The impact of climate change could enhance an intensification in the coming decades. However, the agri-environmental program and conditions of the 1st pillar of the CAP weaken these trends.

Industry, Production of goods
Given the observed development of water intensity and the expected production growth, it should be expected, that industrial water consumption will slightly decline until 2030.
It is assumed that the amount of waste water will continue to develop in line with water use; a moderate reduction of amount of waste water is to be expected in the period to 2030.

Electricity generation
The electricity generation by hydro power (excluding Pumped storage power plants) will increase till 2025 by an annual average of 0.9% from 132 PJ (2010) to 152 PJ. The share of hydropower (excluding Pumped storage power plants) in domestic generation falls during this period from 54% to 52%. The share of fossil fuel power decreases from almost a quarter to 17%. The share of electricity produced from renewable energy sources (wind, photovoltaic, biomass) increases from 7% to almost 15%.
Due to WFD requirements it was assumed that production losses in small hydropower and run-of-river power (> 10 MW) occur from 2011 and increase linearly until 2027. The losses in storage power plants on the other hand will be limited until 2027. Furthermore, it was assumed that at the same time the existing potential for plant optimization for existing small hydro- and run-of-river power plants is used. Thus, the (2005) calculated losses are largely compensated.

Czech Republic
Water abstraction and waste water discharge for/from agriculture and industry in the Czech Republic are not expected to increase and the likely scenario (in abstraction and discharge) for the two sectors is stagnation. On the other hand, water abstraction and waste water discharge are expected to increase in case of households. Number of inhabitants supplied with water from water supply systems and inhabitants connected to sewerage systems and WWTPs is also expected to increase. Water quality should be positively affected by construction and improvements of WWTPs.

Romania
The trend of water demand for all water users has been assessed having in view the 2030-time horizon (with 2011 as the reference year). A specific methodology has been developed as basis for the 2nd and 3rd RBMPs.
The methodology comprises of prognosis methods of water demand for population, industry, aquaculture, livestock farms, animal breeding and irrigation. It is based on 3 scenarios (base scenario-medium, minimal and optimistic scenario):
The prognosis of water demand for population considered the population trend at national/county/local level. The prognosis of water demand for irrigation considered the abstraction water for irrigation based on future irrigated area and irrigation specific values according to the type of crops. The prognosis of water demand for livestock considered the water demand based on different livestock specific values of water consumption. The prognosis of water demand for aquaculture considered the related aquaculture surface and related volume.

Trends values Medium Scenario:

- Total demand: 12300 mil. cm;
- Population: 2100 mil. cm;
- Industry: 7400 mil. cm;
- Irrigation: 1700 mil. cm.

Trends values Optimistic Scenario:

- Total demand: 15500 mil. cm (an increase of 26% compared to the medium scenario trend);
- Industry: increase of 34% compared to the medium scenario;
- Irrigation: increase of 25% compared to the medium scenario;
- For population, livestock and aquaculture the optimistic scenario indicates a relatively stable demand compared to the medium scenario.

Hungary
Agriculture: By the Governmental Decision 1335/2017 (VI. 9.), the Government approved Hungary's Food Economics Concept for 2017–2050.
With 5.4 million hectares of agricultural land and 2 million hectares of forest, Hungary has a food production potential that is far from being exploited. According to professional estimates, the Hungarian food economy has a 60% higher production potential by more efficient organization of domestic production and the market, by increasing processing and by purposefully responding to the solvent demand in the world. Hungary's strategic goal is a competitive, economically, environmentally and

socially sustainable food economy, which actively contributes to the development of the national economy and the growth of jobs in rural areas through the continuous growth of its performance and added value, guarantees the country's secure food supply and maintains GMOs. -protect our natural values, preserve biodiversity, protect the environment and manage natural resources in a sustainable way. In the course of its development, agriculture must preserve the natural values of our landscapes, the fertility of the soil, the purity of water resources, protect forests and other important ecosystems, and maintain the ecological balance. Increased state involvement and intervention are needed in the management and conservation of key scarce natural resources, such as land and water.

In the case of consistent adherence to the directions formulated in the Concept and the implementation of the set tasks, there is a reasonable expectation that in 2050 the added value of agribusiness sector within the national economy will reach 25%.

According to the Concept, the conditions for efficient agricultural irrigation must be created in Hungary, thus increasing the proportion of irrigable areas, partly by reducing the damage related to water scarcity, partly by the safety of growing water-intensive, high value-added crops (seeds, field vegetables, fruits) and for more efficient farming in areas with good and medium production conditions but often exposed to droughts. In addition to the water demand of the given crop type, the water demand of agriculture is determined by the size of the area to be irrigated and the development of the irrigation infrastructure.

According to the Concept, farmers can reduce the negative effects of climate change to the crop production by improving soil water management, soil-friendly farming, selecting the appropriate form of land use according to the current condition of the site, using water-saving and soil-retaining cultivation methods and by using micro-irrigation at a higher rate. In animal husbandry, the same goal can be achieved by developing husbandry technology.

Industry: Hungary's reindustrialization strategy is the "Irinyi Plan" on defining the directions of innovative industrial development. The Plan supports energy and material-efficient production, employment and vocational training, the use of renewable energy sources (mainly biomass and geothermal energy), transport development, and the production of second-generation biofuels. Under the “Irinyi Plan”, export capacity should be increased and the development of a higher value-added industrial structure should be encouraged. Domestic raw materials must also be processed with high added value. The Irinyi Plan emphasizes the circular economy with zero waste, which also mitigates the effects of climate change.

As stated in the "Irinyi Plan", significant demand can be generated by state funds for the manufacture of vehicles (public transport), the defense industry, the construction industry, the textile industry and the production of medical devices.

As described in the "Hungary's Convergence Program (2020-2024)", the already announced and implemented in the coming years, with a total value of more than HUF 4,000 billion in corporate investment and manufacturing developments, will grow more dynamically than average the food industry, the chemical industry, metal processing, mechanical engineering (especially the automotive industry).

As a result of the developments, Hungary's export performance may increase by 34-56% after the implementation of the developments, and in the coming years they may add a 12-16 percentage point boost to the growth rate of the Hungarian economy. In addition to large investments, a 30-50% non-repayable investment subsidy was made available by a decree of the Ministry of Foreign Affairs and Trade on the competitiveness-enhancing subsidy required as a result of the coronavirus epidemic. The total value of the investments that have been supported so far and will be completed by 30 June 2021 is HUF 377 billion.

Electricity production: In January 2020, the Government adopted the new National Energy Strategy, which sets Hungary's energy and climate policy priorities until 2030, with a 2040 perspective.

According to the strategy, our final energy consumption - while maintaining dynamic economic growth - in 2030 will not exceed the 2005 level of 785 PJ. After 2030, the source of the increase in final energy consumption can only be a carbon-neutral energy source. The cumulative end-use energy saving obligation for the period from 2021 to the end of 2030 is 331.23 PJ, which assumes a steady saving of 0.8% per year. The share of our renewable energy use within gross final energy consumption will increase to a minimum of 21%.

In Hungary, the installed electricity capacity of hydropower production has been 57 MW since 2013, and according to the latest factual data, its production in 2018 was 234.4 GWh. According to Hungary's

National Energy and Climate Plan (ITM 2020), the electricity generation capacity of hydropower will continue to be 57 MW in 2027, and its production will be 244 GWh / year.
According to the WAM (with additional measures) scenario, the combined capacity of biomass and renewable waste will increase from 519 MW in 2020 to 796 MW by 2027, and its production from 2332 GWh to 3029 GWh. According to the WEM (with existing measures) scenario, there is a forecast only for 2020, 2025 and 2030, but the value for 2020 does not reach the actual data for 2018 below, so we use the WAM forecast.
The Hungarian Energy and Utilities Regulatory Authority "Report on the use of renewable energy in Hungary 2010-2018" , the installed electricity capacity of biomass in 2018 was 461 MW (solid 385, biogas 76 MW), its production was 2134 GWh (solid 1799, biogas 335 GWh). The use of geothermal energy is currently typical in the heating sector, with 3.35 MW of installed capacity entering electricity generation in 2017, and with production 1 GWh in 2017 and 12 GWh in 2018. There is no specific target for the application to electricity generation, only with other renewables in total, but according to Hungary's National Energy and Climate Plan, a slight increase in geothermal capacity is expected (with built-in capacity 60 MW by 2030 and 104 MW by 2040).
The spread of electricity-producing geothermal power plants covered by the Swiss-Hungarian Cooperation Program II is planned from 2020 onwards, which may be encouraged by the pilot project for the Geothermal Guarantee Fund.
According to the 2018 report "Medium- and long-term source capacity development of the Hungarian electricity system" of MAVÍR Zrt., the use of geothermal energy is constantly increasing, reaching 4.8 PJ by 2016. By the end of 2016, geothermal energy was used for district heating in 13 settlements in Hungary (which was 56% of geothermal energy consumption). Of this, the agricultural sector mainly utilizes the extracted geothermal energy for heating greenhouses (29%), and the commercial and public service sector for the supply of spas, hospitals and other public institutions (14%).

Ukraine
The forecast of economic and social development of Ukraine for 2021-2023 was approved by the resolution of the Cabinet of Ministers of Ukraine (CMU) from 29.07.2020 №671 "About approval of the Forecast of economic and social development of Ukraine for 2021-2023". The baseline scenario envisages a resumption of the positive trend of economic development after significant losses caused by the global COVID-19 pandemic in 2020, and GDP growth at 4.6% in 2021, 4.3% in 2022 and 4.7% in 2023.
In August 2020 CMU was approved the State Strategy for Regional Development for 2021-2027. The priority tasks of the new regional policy are to accelerate the economic growth of the regions, increase their competitiveness. A number of measures are envisaged in the direction of "Development of the territories of the Ukrainian part of the Danube region and cross-border cooperation". In particular

- taking into account in the sectoral strategies the priorities of the EU Strategy for the Danube Region in the areas of transport sector development, agricultural production, environmental protection, tourism development, promotion and protection of cultural heritage, etc .;
- promoting international technical assistance and international financial organizations to promote regional development, in particular in the Danube River Basin;
- introduction of mechanisms to support cross-border industrial and technological parks, economic and industrial zones on the territory of Ukraine in order to stimulate regional economic development;
- creating conditions for socio-economic and environmental development of the Ukrainian part of the Danube region, which includes, in particular, the development of transport infrastructure with the Danube countries and crossing the state border, addressing the issue of quality water supply and flood protection.

In Danube region the volume indices of industrial and agricultural production (as a percentage of the previous year) will maintain positive dynamics and in 2027 will reach the level of 103.3 and 104.0 interest respectively. Further development of agriculture is envisaged. In the context of smart specialization, a significant effect can be given by strengthening the link between agriculture and the food industry, which will increase the added value of the final product. Agricultural production will grow by an average of 1.5% per year.
The volume of sold industrial products (goods, services) will gradually increase.

The foundations for the formation of a forest cluster on the basis of deep wood processing and increase in value added, furniture production will be laid. Under the implementation of the optimistic scenario with an emphasis on innovative modernization, the volume of industrial production will increase at least 3 times, which will increase jobs 2 times.

High rates of capacity modernization will also be observed in the food industry, sectors related to wood processing.

The growth of the tourism industry is forecast. The revenue from the tourist tax to local budgets will increase significantly - almost 1.7 times.

Significant growth of investments in the region's economy is forecast. Thus, fixed capital investment should more than double, and foreign direct investment by one-fifth.

Progress on measures addressing hydromorphological alterations

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

Draft ANNEX 15 as of 26 February 2021

DRBMP Update 2021

This Annex includes information on progress in measures implementation for the following hydromorphological alterations for each country and on the basin-wide scale:

- Hydrological alterations – Impoundments
- Hydrological alterations – Water abstractions
- Hydrological alterations – Hydropeaking
- Interruptions of river and habitat continuity
- Morphological alterations – River morphology
- Morphological alterations – Disconnection of adjacent floodplains / wetlands

It provides further detailed information on data already provided in the JPM Chapter 8.1.5 of the DRBM Plan – Update 2021.

For particular measures involving construction or building works (e.g. a fish pass, a river restoration project, etc.), the following status-classes were reported, whereby the implementation status refers to the status expected at the end of 2021.

- **Not started** means the technical and/or administrative procedures necessary for starting the construction or building works have not started.
- **Planning on-going** means that administrative procedures necessary for starting the construction or building works have started but are not finalised. The simple inclusion in the RBMPs is not considered as planning in this context.
- **Construction on-going** means the construction or building works have started but are not finalised.
- **Completed** means the works have been finalised and the facilities are operational (maybe only in testing period in case e.g. a waste water treatment plant).

1 Hydrological alterations - impoundments

Measures on impoundments										
COUNTRY	NUMBER OF IMPOUNDMENTS TO BE IMPROVED BY 2021		IMPLEMENTATION STATUS (reference to measures as agreed on national level)							
	As indicated in the JPM of the 2nd DRBM Plan	Updated information as agreed on national level	Not started		Planning on-going		Construction on-going		Completed	
			[No.]	[%]	[No.]	[%]	[No.]	[%]	[No.]	[%]
DE	1	1	0	0	0	0	0	0	1	100
AT	36	29	22	76	2	7	1	3	4	14
CZ	0	0	0	0	0	0	0	0	0	0
SK	0	0	0	0	0	0	0	0	0	0
HU	1	1	0	0	0	0	0	0	1	100
SI	0	0	0	0	0	0	0	0	0	0
HR	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0
ME	0	0	0	0	0	0	0	0	0	0
RS	0	0	0	0	0	0	0	0	0	0
RO	3	1	0	0	0	0	0	0	1	100
BG	0	0	0	0	0	0	0	0	0	0
MD	0	0	0	0	0	0	0	0	0	0
UA	0	0	0	0	0	0	0	0	0	0
TOTAL	41	**32**	**22**	**69**	**2**	**6**	**1**	**3**	**7**	**22**

2 Hydrological alterations – water abstractions

Measures on water abstractions										
COUNTRY	NUMBER OF WATER ABSTRACTIONS TO BE IMPROVED BY 2021		IMPLEMENTATION STATUS (reference to measures as agreed on national level)							
	As indicated in the 2nd DRBM Plan	Updated information as agreed on national level	Not started		Planning on-going		Implementation on-going		Completed	
			[No.]	[%]	[No.]	[%]	[No.]	[%]	[No.]	[%]
DE	8	8	0	0	4	50	3	37,5	1	12,5
AT	13	8	1	13	6	75	0	0	1	13
CZ	0	0	0	0	0	0	0	0	0	0
SK	0	0	0	0	0	0	0	0	0	0
HU	0	0	0	0	0	0	0	0	0	0
SI	0	0	0	0	0	0	0	0	0	0
HR	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0
ME	0	0	0	0	0	0	0	0	0	0
RS	0	0	0	0	0	0	0	0	0	0
RO	0	0	0	0	0	0	0	0	0	0
BG	0	0	0	0	0	0	0	0	0	0
MD	0	0	0	0	0	0	0	0	0	0
UA	0	0	0	0	0	0	0	0	0	0
TOTAL	**21**	**16**	**1**	**6**	**10**	**62**	**3**	**19**	**2**	**13**

3 Hydrological alterations – hydropeaking

Measures on hydropeaking										
COUNTRY	NUMBER OF HYDROPEAKING SECTIONS TO BE IMPROVED BY 2021		IMPLEMENTATION STATUS (reference to measures as agreed on national level)							
	As indicated in the 2nd DRBM Plan	Updated information as agreed on national level	Not started		Planning on-going		Implementation on-going		Completed	
			[No.]	[%]	[No.]	[%]	[No.]	[%]	[No.]	[%]
DE	4	4	0	0	2	50	1	25	1	25
AT	0	0	0	0	0	0	0	0	0	0
CZ	0	0	0	0	0	0	0	0	0	0
SK	0	0	0	0	0	0	0	0	0	0
HU	0	0	0	0	0	0	0	0	0	0
SI	0	0	0	0	0	0	0	0	0	0
HR	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0
ME	0	0	0	0	0	0	0	0	0	0
RS	0	0	0	0	0	0	0	0	0	0
RO	0	0	0	0	0	0	0	0	0	0
BG	0	0	0	0	0	0	0	0	0	0
MD	0	0	0	0	0	0	0	0	0	0
UA	0	0	0	0	0	0	0	0	0	0
TOTAL	**4**	**4**	**0**	**0**	**2**	**50**	**1**	**25**	**1**	**25**

4 Interruptions of river and habitat continuity

Measures on restoration of river continuity for fish migration										
COUNTRY	NUMBER OF MEASURES TO BE IMPLEMENTED BY 2021		IMPLEMENTATION STATUS (reference to measures as agreed on national level)							
	As indicated the 2nd DRBM Plan	Updated information as agreed on national level	Not started		Planning on-going		Construction on-going		Completed	
			[No.]	[%]	[No.]	[%]	[No.]	[%]	[No.]	[%]
DE	22	22	0	0	14	64	0	0	8	36
AT	85	43	28	65	4	9	3	7	8	19
CZ	8	8	0	0	0	0	0	0	8	100
SK	19									
HU	0	0	0	0	0	0	0	0	0	0
SI	0	0	0	0	0	0	0	0	0	0
HR	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0
ME	0	0	0	0	0	0	0	0	0	0
RS	1									
RO	1	1	0	0	1	100	0	0	0	0
BG	10	8	1	13	2	25	3	38	2	25
MD	0	0	0	0	0	0	0	0	0	0
UA	0	0	0	0	0	0	0	0	0	0
TOTAL	**146**	**102**	**29**	**28**	**21**	**21**	**6**	**6**	**26**	**25**

5 Morphological alterations – river morphology

Measures for improvement of river morphology										
COUNTRY	NUMBER OF MEASURES TO BE IMPLEMENTED BY 2021		IMPLEMENTATION STATUS (reference to measures as agreed on national level)							
	As indicated the 2nd DRBM Plan	Updated information as agreed on national level	Not started		Planning on-going		Construction on-going		Completed	
			[No.]	[%]	[No.]	[%]	[No.]	[%]	[No.]	[%]
DE	40	40	2[1]	5	4	10	21	52,5	13	32,5
AT	25	17	3	18	0	0	0	0	14	82
CZ	7	7	0	0	6	86	0	0	1	14
SK	0	0	0	0	0	0	0	0	0	0
HU	0	0	0	0	0	0	0	0	0	0
SI	0	0	0	0	0	0	0	0	0	0
HR	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0
ME	0	0	0	0	0	0	0	0	0	0
RS	0	0	0	0	0	0	0	0	0	0
RO	2	2	1[2]	50	0	0	0	0	1	50
BG	3	3	0	0	3	100	0	0	0	0
MD	0	0	0	0	0	0	0	0	0	0
UA	0	0	0	0	0	0	0	0	0	0
TOTAL	**77**	**69**	**6**	**9**	**13**	**19**	**21**	**30**	**29**	**42**

[1] Measures were no longer necessary as good ecological potential was already reached.

[2] Conflicts with land reclamation owners due to technical solutions proposed

6 Morphological alterations – disconnection of floodplains/wetlands

Measures on disconnected adjacent floodplains / wetlands - AREA												
COUNTRY	AREA OF FLOODPLAINS / WETLANDS TO BE ADDRESSED BY MEASURES UNTIL 2021		IMPLEMENTATION STATUS (reference to measures as agreed on national level)									
	As indicated in the 2nd DRBM Plan	Updated information as agreed on national level	Not started		Planning on-going		Construction on-going		Completed			
									partially re-connected		totally re-connected	
	[ha]		[ha]	[%]	[ha]	[%]	[ha]	[%]	[ha]	%	[ha]	%
DE	2,926	2,926	0	0	0	0	2,926	100	0	0	0	0
AT	9,554	9,554	0	0	0	0	1,600	17	7,954	83	0	0
CZ	0	0	0	0	0	0	0	0	0	0	0	0
SK	0	0	0	0	0	0	0	0	0	0	0	0
HU	0	0	0	0	0	0	0	0	0	0	0	0
SI	0	0	0	0	0	0	0	0	0	0	0	0
HR	0	0	0	0	0	0	0	0	0	0	0	0
BA	0	0	0	0	0	0	0	0	0	0	0	0
ME	0	0	0	0	0	0	0	0	0	0	0	0
RS	0	0	0	0	0	0	0	0	0	0	0	0
RO	2,650	2,650	0	0	2,650	100	0	0	0	0	0	0
BG	0	0	0	0	0	0	0	0	0	0	0	0
MD	0	0	0	0	0	0	0	0	0	0	0	0
UA	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**15,130**	**15,130**	**0**	**0**	**2,650**	**17**	**4,526**	**30**	**7,954**	**53**	**0**	**0**

Detailed list of hydrological alterations in the DRBD

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

Draft ANNEX 17 as of 25 March 2021
DRBMP Update 2021

Hydrological alterations include pressures that are causing changes to the hydrological regime, i.e. quantity and dynamics of water flow and connection to groundwater bodies, whereby impoundments, water abstractions and hydropeaking were recognized as the main pressure types.

The provoked alterations and applied criteria used for the assessment are provided in the Table.

Hydrological pressures, impacts and criteria for the significant pressure assessment

Hydrological pressure	Impacts	Criteria for significant pressure assessment
Impoundment	Alteration/reduction in flow velocity and flow regime of the river sections caused by artificial transversal structures, alteration of connection to groundwater bodies	Danube River: Impoundment length during low flow conditions >10 km Danube tributaries: Impoundment length during low flow conditions >1 km
Water abstraction /residual water	Alteration in quantity and dynamics of discharge/flow in water, alteration of connection to groundwater bodies	Flow below dam <50% of mean annual minimum flow[1] in a specific time period (comparable with Q95)
Hydropeaking	Alteration of flow dynamics/discharge pattern in river and water quantity, alteration of connection to groundwater bodies	Water level fluctuation >1 m/day or less in the case of known/observed negative effects on biology

Since one hydrological alteration can impact more than one water body and since one water body may be impacted by more than one hydrological alteration, they are listed separately.

Explanation for table

n.a. = Not Applicable

[1] A pressure provoked by these uses is considered as significant when the remaining water flow below the water abstraction (e.g. below a hydropower dam) is too small to ensure the existence and development of self-sustaining aquatic populations and therefore hinders the achievement of the environmental objectives. Criteria for assessing the significance of alterations through water abstractions vary among EU countries. Respective definitions on minimum flows should be available in the national RBM Plans.

List of impoundments

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT007BAB5A-4C1B-48B6-AB66-3360F9FE04E4	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT016BA3D2-0D89-47EB-A00A-75A76533B0D3	7.4	Enns	ATOK411250025	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT01ABFFD8-1A79-4DDF-9A4C-BA91734B5786	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT0320EA39-EB95-49D9-B61F-9E6BFE4113A8	0.6	Raab	ATOK1001040105	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT037410C0-0D9C-451A-A3DB-528BA25206C7	6.3	Drau	ATOK900470061	HMWB	Yes		Unknown
AT	AT04769C89-1AC6-4654-9960-48E902043849	1.1	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT09501331-AD50-494F-82B3-A48AEA8923C8	1	Mur	ATOK802710002	HMWB	Yes		Unknown
AT	AT099FCC03-E3B9-4D03-AA64-05107EE0E7E9	0.6	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT0A244B57-C606-4E1B-89B5-3199801C7F89	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT0C409E0C-46F9-4E19-9E9A-24C24E168ED4	5.6	Enns	ATOK411250016	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT0EC1F431-A78B-4D55-8A76-BA8B3AC5A540	1.4	Enns	ATOK411250008	HMWB	Yes		Unknown
AT	AT0F258C31-0FC8-4FAC-8390-CE6A11B694DD	1.7	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT0FAB00AC-9CCB-45FE-93BA-BBB15A05647F	0.4	Raab	ATOK1001040122	NWB	Not yet	Implemented by 2027	Unknown
AT	AT1099B080-2051-46ED-B14F-7C3C1A1119B9	0.3	Salzach	ATOK305350004	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT11B5594D-7DEF-4350-A8BD-AFE316BBC8EE	0.5	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	AT12A54BBC-D1AC-40EE-8E68-0886E0E5E63E	2.4	Mur	ATOK802710009	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT136CEC1A-01C3-41D2-B51B-6A3443DF7C38	3	Mur	ATOK802710009	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT1AE623A0-B191-4431-BAD7-74FD396FAFE0	0.2	Raab	ATOK1001040122	NWB	Not yet	Implemented by 2027	Unknown
AT	AT1C3C04FA-D0B1-46A7-9256-1E8DE51131E6	0.6	Mur	ATOK802720005	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT1C5C764C-4B3A-4B01-9095-13A74435838E	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT1F430DB6-FD91-42E8-850C-037E0BB81630	1.4	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT1FB8EE8A-851E-4B96-A58F-8FE5BF712DB0	4	Salzach	ATOK305350004	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT219FE306-35C3-449E-B3C1-388F3E52B6EA	0.1	Traun	ATOK411980002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT227E1796-AA42-42F5-8272-1A6C8DD1A311	12.1	Inn	ATOK305340009	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT2382C436-6140-4E82-9E59-E865204B057F	0.1	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	AT24243381-33DF-40DB-90EB-CC5D32373DB5	1.3	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT25C2BFB3-68AD-4260-A4A9-E50E433D5A76	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT27AFD996-67AC-4362-BF73-90BB7A56518D	0.8	Mur	ATOK802720001	HMWB	Yes		Unknown
AT	AT27BB34D8-2A4E-4EDD-839D-AAF289D9420F	1.2	Raab	ATOK1001040105	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT2B12C29C-4534-48D5-BC57-FF9CC3B4E7A0	3	Enns	ATOK411250006	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT2B12C29C-4534-48D5-BC57-FF9CC3B4E7A0	3	Enns	ATOK411250036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT2B4B46BD-B1A7-4A60-BB43-E25C9A51D0A2	3.8	Mur	ATOK802710012	HMWB	Yes		Unknown
AT	AT2B86D98A-BF00-4ECD-9B33-FADB2BCF994A	7.3	Inn	ATOK307030000	HMWB	Yes		Unknown
AT	AT2E180A15-8637-4D76-A310-F0DF35B19955	0.6	Thaya	ATOK500010031	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT2E180A15-8637-4D76-A310-F0DF35B19955	0.6	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	AT2F000441-9D78-49E4-A586-75C80BFF109A	0.3	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT30B7FC96-EE00-4363-B77E-4AB61DAF1437	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT3386D4BE-D1DB-49F1-AB0E-8F6EC3B4D325	16.4	Inn	ATOK305340005	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT382F1560-E942-47B5-BF0E-A8C9FCD351B1	5.3	Mur	ATOK802710014	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT390D2AE6-3A40-427A-9058-4A3C482303B6	3.1	Enns	ATOK411250012	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT3B24D32A-EAE5-430A-AD5E-0CB19669AA39	0.9	Mur	ATOK802710009	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT3DF4C81B-53FA-4B55-AFEB-2CB39EC5B5EF	26.9	Donau	ATOK410360007	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT4075D148-829C-4C5A-AB33-CA091F36A08F	2.4	Mur	ATOK802720003	HMWB	Not yet	Implemented by 2027	Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT41392463-4F94-4E6B-9E79-BF2301608D6F	2.8	Enns	ATOK411250012	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT41A44A64-D0F4-4EC4-84A1-74C53B66A1B5	1.2	Mur	ATOK802710002	HMWB	Yes		Unknown
AT	AT43970952-CB52-4725-9592-139130595453	0.8	Traun	ATOK412090020	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT43970952-CB52-4725-9592-139130595453	0.8	Traun	ATOK412090024	NWB	Not yet	Implemented by 2027	Unknown
AT	AT453EE84A-F214-4FCE-8649-7B1BD4866B23	1.2	Thaya	ATOK500010031	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT457BAB1B-BB2F-41F3-8EC0-56457C1B15DC	1.1	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	AT4622D3C3-477E-48B4-B474-E34815448E99	1.5	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT4D405CBD-DCF9-4469-948D-B2D4A28297E6	0.6	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	AT4E332287-7446-4523-8F84-E5A37720F39C	27.1	Donau	ATOK409040013	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT4E3795A7-329E-4895-B90B-C24A74AF0671	7.5	Inn	ATOK305340010	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT4F4748B8-5864-4637-B7BA-23AB8D69F68D	7.6	Traun	ATOK412090016	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT50B66DA6-7AA2-49CD-846E-8F1ED206DDA8	4.1	Salzach	ATOK305360002	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT50B66DA6-7AA2-49CD-846E-8F1ED206DDA8	4.1	Salzach	ATOK305350001	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT511088C0-5250-4057-A97C-01373ECE0233	39.9	Donau	ATOK303070000	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT511088C0-5250-4057-A97C-01373ECE0233	39.9	Donau	ATOK410360003	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT52CE2AB3-8B5B-46D6-9982-16F88275CDD6	0.3	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT548C0E32-86F9-484B-BF1C-BA7E6FF633E0	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT56FE6DBE-DD05-457B-BD16-46D2177FC6BD	1.6	Thaya	ATOK500010031	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT57FE85F8-FF4C-4A79-B651-7B3412E122BC	0.4	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT580ECA2A-54EC-4C5D-88FC-AAF63F20E6C1	25.9	Donau	ATOK409040012	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT580ECA2A-54EC-4C5D-88FC-AAF63F20E6C1	25.9	Donau	ATOK409040011	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT59348639-7D11-4DB9-A739-C570FC1C51AF	23.8	Donau	ATOK410360009	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT59A7B06D-276D-403C-BE36-405923B6A1FB	1.1	Traun	ATOK412090030	HMWB	Not yet	Implemented by 2027	Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT59B0266D-620E-4F71-8FBE-5962B9BE2561	0.3	Mur	ATOK801180008	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT5AB2D8E3-4048-47CF-82A5-34ABEC828892	0.3	Traun	ATOK412090042	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT5B24F9D3-AC5B-4B87-9611-D8F4263DA0C5	1.3	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT5B49977B-0887-4B6E-A098-B1280A549C07	1.4	Traun	ATOK412090037	NWB	Yes		Unknown
AT	AT5B49977B-0887-4B6E-A098-B1280A549C07	1.4	Traun	ATOK412090032	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT5B97B038-7514-4A4F-8DD6-A703D1B0EA06	2.7	Inn	ATOK307210002	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT5D2352B0-2DB0-45E2-9E9F-EE06A6DB9A78	12.4	Inn	ATOK305340007	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT5D619D09-40D8-44D6-A7CF-CEA1ACCFEBBF	0.5	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT5DE96A5A-171E-4706-8D54-A7BC68CEB3D0	1.7	Traun	ATOK412100002	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT5EBADECE-CB46-478B-934C-634D28FE031C	0.2	Raab	ATOK1001040122	NWB	Not yet	Implemented by 2027	Unknown
AT	AT6021FA96-F34B-4749-AC6E-B937EE61DE9B	0.9	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT603D53CE-DB6B-494B-8BDF-312D67E77FCF	8.7	Enns	ATOK411250020	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT603D53CE-DB6B-494B-8BDF-312D67E77FCF	8.7	Enns	ATOK411250018	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT61277085-86ED-4875-98BC-0A280587A273	3.1	Mur	ATOK802710009	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT6223E68C-11FA-449C-B9F1-FBD6FF31143F	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT634383E0-6445-45EE-BFEA-E3C6AAA2FE92	0.5	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	AT6486239D-A062-4AC0-9BD6-D1D1431C2C3B	0.5	Mur	ATOK801180007	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT64DF40C1-F179-43A9-B7DF-9FE7DEE7CE1F	0.2	Traun	ATOK412090042	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT65EC9A86-C703-4173-987B-D7A83D276B5E	1.4	Traun	ATOK412090042	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT69EE9BAA-F6E3-408B-A010-F22C8413EC6D	0.1	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT6A4C9AF6-CBBB-4659-BBC1-8903A6C64C61	1.8	Salzach	ATOK305360002	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT6CD6561D-7CC2-4ECE-B1ED-04D9FF292D61	2.7	Mur	ATOK802710015	HMWB	Yes		Unknown
AT	AT6D68A93E-263D-4955-B2DF-BDC5BECF3ADD	7.2	Mur	ATOK802710014	HMWB	Not yet	Implemented by 2027	Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT6F12C754-C8EB-4306-9876-6485EA645153	5	Salzach	ATOK307200001	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT6FF5917E-6640-42E5-ADF5-0798B911A60D	0.6	Traun	ATOK412090042	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT701AE2C2-2628-4B24-BD91-8F9A8B3558E3	2.8	Salzach	ATOK305360002	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT71679324-08FB-4B52-89D1-67C051543851	12.6	Enns	ATOK411250029	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT718CC288-56D1-47ED-BF70-4FA429604894	30.1	Donau	ATOK409040011	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT718CC288-56D1-47ED-BF70-4FA429604894	30.1	Donau	ATOK409040013	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT74448A36-CBB6-4585-8E2E-54F72DFA7D8C	0.3	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT7883CAF1-07FC-48AC-8D91-F7BB73EB40F4	22	Donau	ATOK410360012	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT7883CAF1-07FC-48AC-8D91-F7BB73EB40F4	22	Donau	ATOK410360002	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT78C152F6-90D7-4925-BEA6-03271A2A0F45	0.5	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT78C9BCA1-DBA2-49DC-9DCB-CEB11ACBA786	0.2	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	AT7900E8ED-C338-4FBF-884A-A0B0E8C1697E	14.3	Inn	ATOK305340012	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT796586FC-399B-4D05-8EE7-D7A1D2D9457E	0.2	Raab	ATOK1001040108	NWB	Not yet	Implemented by 2027	Unknown
AT	AT79F345B6-AA1F-4475-A7CA-B8DD6011EE69	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT7A5FD0A3-38CB-4178-9713-AE99AE020E53	0.9	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT7B4805F3-2F4A-454E-9279-B9987DB9DBDA	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	AT7C741EC2-204A-4B57-A157-40419792CE46	2.7	Inn	ATOK304980003	HMWB	Yes		Unknown
AT	AT7D767453-BC59-404D-893A-EC6D0336A1F6	10.3	Drau	ATOK900470069	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT7D767453-BC59-404D-893A-EC6D0336A1F6	10.3	Drau	ATOK900470071	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT7E2F2A8F-7F5B-42A8-8423-3ADC93BCFD9C	1.3	Raab	ATOK1001040105	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT7F3C7DB2-FD56-4BDC-9BBE-36545D0B6E6D	0.8	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT81CE3CDD-B0F2-4C81-8203-B5F9BADC46CF	15.7	Donau	ATOK410360005	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT81CE3CDD-B0F2-4C81-8203-B5F9BADC46CF	15.7	Donau	ATOK410360003	HMWB	Not yet	Implemented by 2027	Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT8352A1F7-E0DB-47F4-AE30-59034593E06C	4.8	Enns	ATOK411250014	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT8352A1F7-E0DB-47F4-AE30-59034593E06C	4.8	Enns	ATOK411250037	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT8352A1F7-E0DB-47F4-AE30-59034593E06C	4.8	Enns	ATOK411250036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT845DFA45-5211-4C63-A6CB-2F084DC964D1	0.8	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT8605AE15-E065-4632-B8FF-69DA56EAFED6	0.8	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT863CDDD4-AC98-40BE-82A9-6D1947DB487C	2.4	Salzach	ATOK305350003	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT863CDDD4-AC98-40BE-82A9-6D1947DB487C	2.4	Salzach	ATOK305350006	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT8884F50E-20B7-4582-8061-C6B2981BFCBB	0.2	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT88A1E606-BA96-44AE-9161-4A5E023AA6C7	0.1	Raab	ATOK1000960019	NWB	Not yet	Implemented by 2027	Unknown
AT	AT895670FA-A9FE-4E0A-847A-1717BAFC1607	3.2	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT8B7F24ED-D2DC-4896-BEA9-70439610EE16	1.5	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT8D3A035A-D81F-4856-9387-71635699E0CD	1	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT8F89BA64-AB32-4786-9E31-6926C8607033	1	Raab	ATOK1001040122	NWB	Not yet	Implemented by 2027	Unknown
AT	AT9276B696-9851-442A-BAA9-4C108599A2B4	13.7	Drau	ATOK900470071	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT9276B696-9851-442A-BAA9-4C108599A2B4	13.7	Drau	ATOK900470072	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT9276B696-9851-442A-BAA9-4C108599A2B4	13.7	Drau	ATOK900470056	NWB	Yes		Unknown
AT	AT93F54126-FDD4-4824-BC2F-D3C7C9EC136C	0.8	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT94DA41AB-891D-4282-9519-AA82A7785E2C	3.5	Traun	ATOK412090027	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT94DA41AB-891D-4282-9519-AA82A7785E2C	3.5	Traun	ATOK412090028	NWB	Not yet	Implemented by 2027	Unknown
AT	AT952C555E-FF82-40D3-878A-FDCA1E714AA9	0.2	Traun	ATOK409920005	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT9543CF55-ABA0-477A-B8A4-DA52B0DD493F	1.3	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT97889EFC-42A9-42EC-BAAF-DC2D7D280139	34.3	Donau	ATOK410360009	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT97889EFC-42A9-42EC-BAAF-DC2D7D280139	34.3	Donau	ATOK410360012	HMWB	Not yet	Implemented by 2027	Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT978AA4AF-9BF7-475A-9A0D-DAFAE8E20CBC	0.9	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT982BA4B0-E7B4-4963-8E87-92132AD5C906	4.4	Salzach	ATOK305350001	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT993ADBA2-34BE-499F-8AC0-674AE83C003B	2.3	Mur	ATOK802710008	HMWB	Yes		Unknown
AT	AT993ADBA2-34BE-499F-8AC0-674AE83C003B	2.3	Mur	ATOK802710012	HMWB	Yes		Unknown
AT	AT9AF11E95-76EB-4F07-8ADF-2285F91CD05C	1.8	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT9B4EE28B-75E1-4334-9B9B-AC18230D601D	1.2	Raab	ATOK1001040121	NWB	Not yet	Implemented by 2027	Unknown
AT	AT9C2D7D64-479C-4065-B1CC-89662487F6DA	2.1	Raab	ATOK1001040105	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT9DEDB864-AFDE-42B8-96B8-CE1456AEACC6	5.3	Salzach	ATOK305350006	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT9EB36E8B-C4F1-4AE4-9591-F7262252266D	4.6	Mur	ATOK802720005	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT9EF2FBA3-23C3-4B1B-9354-21033F08A492	4.2	Mur	ATOK802710014	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT9F862E09-4406-4161-AF7B-5526CD25B8EC	1.8	Lech	ATOK302370007	NWB	Yes		Unknown
AT	AT9F862E09-4406-4161-AF7B-5526CD25B8EC	1.8	Lech	ATOK302370010	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA047D015-5A7C-46BC-92CE-9C6A15C2CFFD	0.4	Raab	ATOK1001040108	NWB	Not yet	Implemented by 2027	Unknown
AT	ATA1911C67-37F4-4E86-AC4A-7FD41953769B	0.2	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA1993814-53AB-4748-80DC-C8FF332DEBFC	12.2	Inn	ATOK304980003	HMWB	Yes		Unknown
AT	ATA1993814-53AB-4748-80DC-C8FF332DEBFC	12.2	Inn	ATOK307030000	HMWB	Yes		Unknown
AT	ATA293DD81-56D5-4160-8157-B2C8DF433F07	3.4	Salzach	ATOK305350001	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA3BD596F-B07B-4581-986A-658DC99663B0	1.8	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA440E65C-FD87-4800-B940-3DD7F1257BF0	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	ATA4FEDBDF-B0DC-42AE-96E0-077575239A91	0.9	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA63F9EBB-1B08-4B0E-90D7-5DF861AD237C	1.5	Traun	ATOK412090042	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA71531B9-5750-4915-8DAC-7A23EB2234AF	5.3	Enns	ATOK411250014	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA79429B9-BC1F-48CA-96F8-9E635F875AEA	5.3	Mur	ATOK802710014	HMWB	Not yet	Implemented by 2027	Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	ATA81311B6-8D8B-4B73-A8DF-808D91FC8790	0.5	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA93A52D7-E55D-4D64-8F60-7B4C4BF5CFE5	0.1	Thaya	ATOK500010031	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATAA033890-80DA-4F10-AB93-FD5D6D53FD87	3	Mur	ATOK802710014	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATAA03A39C-C098-44BE-9C56-7F35D3BE3CA5	1.2	Salzach	ATOK304690262	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATABA30667-9593-44B8-9246-3B03A0A3A1F7	0.9	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATAD8FFCA8-7929-4560-A917-8C3CABCEEDF8	1.6	Mur	ATOK801180029	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATAE504DE1-0E31-4BFB-9586-A2924F1DF2AC	1	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB15FC3A4-6E2E-4E97-BCA8-A23A9C42C651	5	Traun	ATOK412090013	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB3BE207D-3129-49C9-B4E0-B23AB6DE0F18	2.5	Mur	ATOK801180029	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB47275D1-18C1-41D3-8715-DC576917DDB1	9.8	Drau	ATOK900470061	HMWB	Yes		Unknown
AT	ATB47275D1-18C1-41D3-8715-DC576917DDB1	9.8	Drau	ATOK900470076	HMWB	Yes		Unknown
AT	ATB47275D1-18C1-41D3-8715-DC576917DDB1	9.8	Drau	ATOK900470077	HMWB	Yes		Unknown
AT	ATB60AA07F-2C8B-4B38-8833-E62B78F79F84	0.7	Raab	ATOK1001040122	NWB	Not yet	Implemented by 2027	Unknown
AT	ATB6AC7CEA-7300-45E1-A04B-60E3CE963F27	17.2	Drau	ATOK900470076	HMWB	Yes		Unknown
AT	ATB6AC7CEA-7300-45E1-A04B-60E3CE963F27	17.2	Drau	ATOK900470075	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB8618037-1E1A-4592-9CD7-D77040056AE3	0.8	Raab	ATOK1001040122	NWB	Not yet	Implemented by 2027	Unknown
AT	ATB9C0A421-2ECB-40D7-898D-DFCBFF51E8B9	1.7	Salzach	ATOK305350003	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB9C2B78A-7564-4649-BE5F-E6E743D4C322	2.7	Salzach	ATOK305350001	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATBAD326F3-DBEE-4C54-A8B4-C614796A67A0	1.2	Mur	ATOK802710002	HMWB	Yes		Unknown
AT	ATBC2A5F78-7972-40DB-BE2A-0F35E7FA32BF	2.3	Mur	ATOK802710009	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATBD3D4A31-845B-4DA1-9A44-AA5BEF7B72C2	1.1	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATBF1D4A32-F439-4A28-8B14-61DDBC6FF6FE	1	Raab	ATOK1001040121	NWB	Not yet	Implemented by 2027	Unknown
AT	ATC0C04DB9-701C-4E57-AD84-69EE293DED24	0.1	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	ATC15AECD8-ED2C-4934-A7F1-B93383AAE153	24.2	Drau	ATOK900470068	HMWB	Yes		Unknown
AT	ATC15AECD8-ED2C-4934-A7F1-B93383AAE153	24.2	Drau	ATOK900470065	HMWB	Yes		Unknown
AT	ATC278A4B5-0BC0-44AB-A473-0806D1DC3026	3.5	Salzach	ATOK305350002	NWB	Not yet	Implemented by 2027	Unknown
AT	ATC2E65C52-4D45-44F8-ACD1-C7C7FF5FABFE	1	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATC34B4428-19AE-4F5E-B986-092C239845A0	0.4	Raab	ATOK1000960015	NWB	Not yet	Implemented by 2027	Unknown
AT	ATC55FA429-CDA5-4A3B-967B-BF164BA76656	1.1	Traun	ATOK401220017	NWB	Not yet	Implemented by 2027	Unknown
AT	ATC55FA429-CDA5-4A3B-967B-BF164BA76656	1.1	Traun	ATOK409920005	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATC55FA429-CDA5-4A3B-967B-BF164BA76656	1.1	Traun	ATOK401220016	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATC57DC470-87A2-421B-B701-442FF043798E	0.6	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	ATC649AB33-2E13-4961-8F1E-A8E5ECF04D4C	16.6	Drau	ATOK900470064	HMWB	Yes		Unknown
AT	ATC649AB33-2E13-4961-8F1E-A8E5ECF04D4C	16.6	Drau	ATOK900470065	HMWB	Yes		Unknown
AT	ATC8474795-EDEC-4BFD-B649-AA925FD09816	10	Traun	ATOK412090014	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATCB190E1B-1BAF-4D23-A553-7458B6E96A54	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	ATCB8431FF-D7F9-43D7-8109-1414D3FD3BDA	1.7	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATCD36BE15-96B8-4F2B-9333-700633C25842	0.4	Traun	ATOK411980001	NWB	Not yet	Implemented by 2027	Unknown
AT	ATD029EB60-F6F2-41C4-A53A-FC0346A6BDBE	0.2	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	ATD0CD028C-390E-4D99-8305-6A31C763F4A2	1.2	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATD150B73D-0840-48F0-8B5E-D4EEE5D592DA	3	Traun	ATOK412090031	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATD1C9A62E-89B9-4325-9BEF-620E62C1739E	1.2	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATD4CA67BD-DA83-43F7-AE83-99E5925EF87E	1.2	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATD5151239-66D2-449F-80C2-CF4A927FA505	20	Donau	ATOK303070000	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATD622F2F5-3C14-4E18-92FB-F3C9EE97A4F0	7.3	Enns	ATOK411250023	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATDB73CA95-D6EA-4117-AEEC-E574C9DE1AD0	4.5	Salzach	ATOK304690262	HMWB	Not yet	Implemented by 2027	Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	ATDC7BD9C6-5D14-4D6A-B55D-CB8AE78AB404	0.1	Traun	ATOK411980001	NWB	Not yet	Implemented by 2027	Unknown
AT	ATDCCAB743-AAFE-4EC5-A180-E37CBF92B151	0.1	Enns	ATOK400240106	NWB	Not yet	Implemented by 2027	Unknown
AT	ATE07FDAD4-A183-4535-B9ED-4D266F798678	10.3	Drau	ATOK900470076	HMWB	Yes		Unknown
AT	ATE0AE24B8-BE26-43F5-8736-7646AE4E9419	9	Enns	ATOK411250031	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATE2D00FA6-71BF-4B78-8604-67515F9C3832	3.6	Mur	ATOK802710014	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATE2D7EDFE-95B0-4C69-BE15-4BB83FFC59B7	2.6	Enns	ATOK411250012	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATE2D7EDFE-95B0-4C69-BE15-4BB83FFC59B7	2.6	Enns	ATOK411250008	HMWB	Yes		Unknown
AT	ATE5623BFC-35F4-405C-92BB-B8CDE7F45C9D	3.1	Mur	ATOK802720005	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATE6505AE9-D590-4F91-832F-BD9A4BCEC6D8	1.1	Thaya	ATOK500010031	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATE7C6EE31-9C05-437B-B880-5FDC651C3394	3.1	Salzach	ATOK305360002	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATE9B2617C-0BE3-4BD6-B283-24EF5F12F6F2	1.1	Thaya	ATOK500010043	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATEA543FAB-6B4F-4109-9337-C8C0337C88CB	0.2	Traun	ATOK412090042	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATEA64571C-03EF-4D63-99BA-CBE976A277A9	0.1	Traun	ATOK411970000	NWB	Not yet	Implemented by 2027	Unknown
AT	ATEAE80C15-1C83-43E2-8C6D-24AFA69262F5	0.3	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATEB1FE373-492A-4EAF-A997-E15B4B0D9771	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	ATEC675936-0CAE-4A4A-B457-861C2D639B56	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	ATEE158E89-A2E3-4D0A-9398-9127E0D65591	0.7	Mur	ATOK802710002	HMWB	Yes		Unknown
AT	ATEEC7F1CF-5253-41A9-946E-39A2E0676F05	0.6	Mur	ATOK802710002	HMWB	Yes		Unknown
AT	ATEEE013C9-2835-4287-B863-D7AD05DAED47	1.6	Mur	ATOK802710009	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATEEE33E71-0166-461A-8D3B-E7C3F638A436	0.1	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	ATEF150111-EF6A-4733-A058-70C6360792D4	5.1	Mur	ATOK802710009	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATEF5C2307-EFCD-4849-A1CC-F9580C14FA10	3.6	Mur	ATOK802710015	HMWB	Yes		Unknown
AT	ATEF647B9A-357B-4328-AD53-E1E8ED80293F	5	Enns	ATOK411250021	HMWB	Not yet	Implemented by 2027	Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	ATF003E678-F5A1-44D5-B7D8-C270B1A8924E	8.6	Enns	ATOK411250027	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATF351C60D-3132-478F-B2FD-FE786B04B1CF	12	Enns	ATOK411250012	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATF351C60D-3132-478F-B2FD-FE786B04B1CF	12	Enns	ATOK411250031	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATF351C60D-3132-478F-B2FD-FE786B04B1CF	12	Enns	ATOK411250035	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATF406AE44-90BB-483B-9AD7-DC68E93237DF	0.1	Raab	ATOK1000960019	NWB	Not yet	Implemented by 2027	Unknown
AT	ATF6DEC6DB-D961-4141-9FF1-CBE454B720CB	6.5	Inn	ATOK304980003	HMWB	Yes		Unknown
AT	ATF70E2A75-D811-42CE-B1D1-FC99D96ED084	14.3	Drau	ATOK900470069	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATF70E2A75-D811-42CE-B1D1-FC99D96ED084	14.3	Drau	ATOK900470068	HMWB	Yes		Unknown
AT	ATF97612D3-041B-4585-A85C-921CC1E39891	0.2	Thaya	ATOK500010038	NWB	Not yet	Implemented by 2027	Unknown
AT	ATFAC5C7D6-E8DF-412A-81A5-0A49378DD348	1.3	Thaya	ATOK500010030	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATFBD53526-C303-485E-BF75-49185ECBF162	1	Raab	ATOK1001040042	NWB	Not yet	Implemented by 2027	Unknown
AT	ATFBDEDE34-7009-4DAE-9C96-44DBC0DC045D	1.1	Thaya	ATOK500010036	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATFC122FCE-E9C2-44ED-9E57-ED3F08867AC4	0.2	Thaya	ATOK500040002	NWB	Not yet	Implemented by 2027	Unknown
AT	ATFF1E58E5-714E-41A6-8CAD-E131D15A902A	3.3	Inn	ATOK305850011	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATFF5BDF74-A068-49BE-8E8A-BD3C6B186602	6.3	Drau	ATOK900470064	HMWB	Yes		Unknown
BG	BG1_IMP_100792_2007	1.5	Iskar	BG1IS135R1226	NWB	Yes		No
BG	BG1_IMP_100979_2005	3.4	Iskar	BG1IS135R1126	NWB	Yes		No
BG	BG1_IMP_11140040_2009	1.1	Iskar	BG1IS135R1226	NWB	Yes		No
BG	BG1_IMP_11140042_2009	1.6	Iskar	BG1IS135R1126	NWB	Yes		No
BG	BG1_IMP_11140090_2010	1.1	Ogosta	BG1OG307R1213	NWB	Yes		No
BG	BG1_IMP_11140093_2010	2.5	Iskar	BG1IS135R1226	NWB	Yes		No
BG	BG1_IMP_11140101_2011	1.2	Iskar	BG1IS135R1326	NWB	Yes		No
BG	BG1_IMP_11140102_2011	2.2	Iskar	BG1IS135R1326	NWB	Yes		No
BG	BG1_IMP_11140103_2011	1.9	Iskar	BG1IS135R1326	NWB	Yes		No

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
BG	BG1_IMP_11140104_2011	1.4	Iskar	BG1IS135R1326	NWB	Yes		No
BG	BG1_IMP_11140113_2011	1.2	Yantra	BG1YN900R1015	NWB	Not yet	Implemented by 2027	No
BG	BG1_IMP_11140117_2011	1.3	Iskar	BG1IS135R1226	NWB	Yes		No
BG	BG1_IMP_12140019_2009	3.1	Ogosta	BG1OG307R1013	NWB	Yes		No
CZ	CZ500011723	30.9	Dyje	CZDYJ_0155_J	HMWB	Not yet	Implemented by 2027	Yes
CZ	CZ500011854	8.6	Dyje	CZDYJ_1205_J	HMWB	Not yet	Implemented by 2027	Yes
CZ	CZ500011915	10	Dyje	CZDYJ_0295_J	HMWB	Not yet	Implemented by 2027	Yes
CZ	CZ500011919	7.7	Dyje	CZDYJ_1195_J	HMWB	Not yet	Implemented by 2027	Yes
CZ	CZ500026036	8.7	Svratka	CZDYJ_0485_J	HMWB	Not yet	Implemented by 2027	Yes
CZ	CZ500026562	6.7	Svratka	CZDYJ_0345_J	HMWB	Not yet	Implemented by 2027	Yes
DE	DEBY_IMP_1_F030_BW	32	Donau	DERW_DEBY_1_F030_BW	HMWB	Yes		Unknown
DE	DEBY_IMP_1_F062	44.4	Donau	DERW_DEBY_1_F062	HMWB	Yes		Unknown
DE	DEBY_IMP_1_F074	15.4	Donau	DERW_DEBY_1_F074	NWB	Yes		Unknown
DE	DEBY_IMP_1_F122	19.7	Lech	DERW_DEBY_1_F122	HMWB	Not yet	Implemented by 2027	Unknown
DE	DEBY_IMP_1_F127	9.8	Lech	DERW_DEBY_1_F127	NWB	Not yet	Implemented by 2027	Unknown
DE	DEBY_IMP_1_F128	14.7	Lech	DERW_DEBY_1_F128	HMWB	Not yet	Implemented by 2027	Unknown
DE	DEBY_IMP_1_F131	23.5	Lech	DERW_DEBY_1_F131	HMWB	Not necessary		Yes
DE	DEBY_IMP_1_F132	44.6	Lech	DERW_DEBY_1_F132	HMWB	Not necessary		Yes
DE	DEBY_IMP_1_F163	53.5	Donau	DERW_DEBY_1_F163	HMWB	Yes		Unknown
DE	DEBY_IMP_1_F223	26.2	Donau	DERW_DEBY_1_F223	HMWB	Yes		Unknown
DE	DEBY_IMP_1_F226	34.3	Main-Donau-Kanal	DERW_DEBY_1_F226	HMWB	Not yet	Implemented by 2027	Unknown
DE	DEBY_IMP_1_F273	97.6	Naab	DERW_DEBY_1_F273	NWB	Yes		Unknown
DE	DEBY_IMP_1_F348	59.5	Donau	DERW_DEBY_1_F348	HMWB	Not yet	Implemented by 2027	Unknown
DE	DEBY_IMP_1_F375	23.5	Isar	DERW_DEBY_1_F375	NWB	Yes		Unknown
DE	DEBY_IMP_1_F376	8	Isar	DERW_DEBY_1_F376	NWB	Yes		Unknown
DE	DEBY_IMP_1_F429	67.6	Isar	DERW_DEBY_1_F429	HMWB	Not yet	Implemented by 2027	Unknown
DE	DEBY_IMP_1_F430	10.6	Isar	DERW_DEBY_1_F430	NWB	Yes		Unknown

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
DE	DEBY_IMP_1_F478	23.8	Donau	DERW_DEBY_1_F478	HMWB	Yes		Unknown
DE	DEBY_IMP_1_F509	4.6	Inn	DERW_DEBY_1_F509	NWB	Yes		Unknown
DE	DEBY_IMP_1_F556	16.2	Inn	DERW_DEBY_1_F556	HMWB	Yes		Unknown
DE	DEBY_IMP_1_F557	32.5	Inn	DERW_DEBY_1_F557	NWB	Yes		Unknown
DE	DEBY_IMP_1_F558	56.4	Inn	DERW_DEBY_1_F558	HMWB	Yes		Unknown
DE	DEBY_IMP_1_F633	23.3	Donau	DERW_DEBY_1_F633	HMWB	Not necessary		Yes
DE	DEBY_IMP_1_F654	48.8	Inn	DERW_DEBY_1_F654	HMWB	Yes		Unknown
DE	DEBY_IMP_1_F655	14.4	Inn	DERW_DEBY_1_F655	HMWB	Not necessary		Yes
DE	DEBY_IMP_1_F656	13.5	Inn	DERW_DEBY_1_F656	HMWB	Yes		Unknown
DE	DEBY_IMP_1_F657	19.5	Inn	DERW_DEBY_1_F657	HMWB	Yes		Unknown
HR	HRLINHAIMP00001	9	Drava	HRCDRN0002_017	HMWB	Not yet	Implemented by 2027	Yes
HR	HRLINHAIMP00002	11	Drava	HRCDRN0002_015	HMWB	Not yet	Implemented by 2027	Yes
HR	HRLINHAIMP00003	3.6	Drava	HRCDRI0002_020	HMWB	Not yet	Implemented by 2027	Yes
HU	HU1	75.5	Tisza	HUAEQ059	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU100	1.1	Zagyva-patak	HUAEQ138	NWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU14	22	Sió	HUAEP959	AWB	Not necessary	Not necessary for achievement of GES/GEP	No
HU	HU15	6.7	Rába	HUAEP900	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU2	116.1	Tisza	HUAIW389	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU4	26.7	Kettős-Körös	HUAEP668	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU5	57.8	Hármas-Körös	HUAOC779	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU64	42.3	Sebes-Körös	HUAEP954	HMWB	Not necessary	Not necessary for achievement of GES/GEP	No
HU	HU65	2.8	Sebes-Körös	HUAEP953	NWB	Not necessary	Not necessary for achievement of GES/GEP	No
HU	HU66	3.5	Zagyva	HUAEQ139	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU67	3.7	Zagyva	HUAEQ139	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU68	7.6	Duna	HUAEP443	HMWB	Not necessary	Not necessary for achievement of GES/GEP	No

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
HU	HU69	4.8	Mosoni-Duna	HUAEP812	NWB	Not necessary	Not necessary for achievement of GES/GEP	No
HU	HU70	4.9	Rába	HUAEP899	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU71	6.9	Rábca	HUAEP904	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU72	5.5	Rábca	HUAEP904	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU73	4.8	Rábca	HUAEP904	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU74	4.4	Répce	HUAEP920	HMWB	Not necessary	Not necessary for achievement of GES/GEP	No
HU	HU76	3.7	Rába	HUAEP900	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU77	5.2	Rába	HUAEP903	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU78	2.8	Rába	HUAEP903	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU79	1.1	Rába	HUAEP903	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU81	2.4	Fehér-Körös	HUAEP471	AWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU82	3.3	Berettyó	HUAEP322	HMWB	Not necessary	Not necessary for achievement of GES/GEP	No
HU	HU90	6	Hernád	HUAEP579	NWB	Not necessary	Not necessary for achievement of GES/GEP	No
HU	HU91	3.9	Hernád	HUAEP580	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU92	4.9	Hernád	HUAEP580	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU93	2	Hernád	HUAEP580	HMWB	Not necessary	Not necessary for achievement of GES/GEP	Yes
HU	HU94	2	Sajó	HUAEP932	NWB	Not necessary	Not necessary for achievement of GES/GEP	No
HU	HU95	1.3	Sajó	HUAEP931	NWB	Not necessary	Not necessary for achievement of GES/GEP	No
HU	HU97	1.5	Zagyva-patak	HUAEQ137	NWB	Not necessary	Not necessary for achievement of GES/GEP	No
HU	HU98	0.8	Zagyva-patak	HUAEQ138	NWB	Not necessary	Not necessary for achievement of GES/GEP	No
RO	ROHA01.14.1.0.0.0.0.0	146.2	Dunarea	RORW14-1_B1	HMWB	Not necessary		Yes
RO	ROHA02.14.1.0.0.0.0.0	82.3	Dunarea	RORW14-1_B2	HMWB	Not necessary		Yes
RO	ROHAI01.10.1.0.0.0.0.0	11	Arges	ROLW10-1_B1	HMWB	Not necessary		Yes

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
RO	ROHAI01.11.1.0.0.0.0.0	2.7	Ialomita	ROLW11-1_B1	HMWB	Not necessary		Yes
RO	ROHAI01.12.1.0.0.0.0.0	11	Siret	ROLW12-1_B1	HMWB	Not necessary		Yes
RO	ROHAI01.12.1.53.0.0.0.0	25.4	Bistrita	ROLW12-1-53_B3	HMWB	Not necessary		Yes
RO	ROHAI01.12.1.82.0.0.0.0	7.8	Buzau	ROLW12-1-82_B1	HMWB	Not necessary		Yes
RO	ROHAI01.13.1.0.0.0.0.0	19.1	Prut	ROLW13-1_B2	HMWB	Not necessary		Yes
RO	ROHAI01.2.1.0.0.0.0.0	0.2	Somes	RORW2-1_B3	HMWB	Not yet	Implemented by 2027	Yes
RO	ROHAI01.3.1.44.0.0.0.0	2.3	Crisul Repede	ROLW3-1-44_B5	HMWB	Not necessary		No
RO	ROHAI01.4.1.0.0.0.0.0	2.8	Tarnava Mare	ROLW4-1-96_B2	HMWB	Not necessary		No
RO	ROHAI01.5.1.0.0.0.0.0	2.4	Bega	RORW5-1_B2	NWB	Not necessary		No
RO	ROHAI01.5.2.0.0.0.0.0	1.9	Timis	ROLW5-2_B1	HMWB	Not necessary		Yes
RO	ROHAI01.7.1.0.0.0.0.0	0.8	Jiu	RORW7-1_B4	NWB	Not necessary		No
RO	ROHAI01.8.1.0.0.0.0.0	31.1	Olt	RORW8-1_B2	HMWB	Yes		No
RO	ROHAI02.10.1.0.0.0.0.0	6.1	Arges	ROLW10-1_B2	HMWB	Not necessary		Yes
RO	ROHAI02.12.1.0.0.0.0.0	6.3	Siret	ROLW12-1_B3	HMWB	Not necessary		Yes
RO	ROHAI02.12.1.53.0.0.0.0	2.4	Bistrita	ROLW12-1-53_B5	HMWB	Not necessary		Yes
RO	ROHAI02.12.1.82.0.0.0.0	4.1	Buzau	ROLW12-1-82_B2	HMWB	Not necessary		Yes
RO	ROHAI02.13.1.15.0.0.0.0	5.2	Jijia	ROLW13-1-15_B2	HMWB	Not necessary		Yes
RO	ROHAI02.3.1.44.0.0.0.0	5.1	Crisul Repede	ROLW3-1-44_B5	HMWB	Not necessary		No
RO	ROHAI02.5.1.0.0.0.0.0	0.9	Bega	RORW5-1_B3	HMWB	Not necessary		Yes
RO	ROHAI02.5.2.0.0.0.0.0	2.3	Timis	RORW5-2_B5	HMWB	Not necessary		Yes
RO	ROHAI02.7.1.0.0.0.0.0	4.4	Jiu	ROLW7-1_B26	HMWB	Not necessary		Yes
RO	ROHAI02.8.1.0.0.0.0.0	63.8	Olt	ROLW8-1_B7	HMWB	Not necessary		No
RO	ROHAI03.10.1.0.0.0.0.0	8.3	Arges	ROLW10-1_B3	HMWB	Not necessary		Yes
RO	ROHAI03.12.1.0.0.0.0.0	5.4	Siret	ROLW12-1_B6	HMWB	Not necessary		Yes
RO	ROHAI03.12.1.53.0.0.0.0	3.2	Bistrita	ROLW12-1-53_B5	HMWB	Not necessary		Yes
RO	ROHAI03.5.1.0.0.0.0.0	5.3	Bega	RORW5-1_B3	HMWB	Not necessary		Yes
RO	ROHAI03.5.2.0.0.0.0.0	3	Timis	RORW5-2_B5	HMWB	Not necessary		Yes
RO	ROHAI03.7.1.0.0.0.0.0	2.9	Jiu	ROLW7-1_B26	HMWB	Not necessary		Yes

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
RO	ROHAI03.8.1.0.0.0.0.0	84.2	Olt	ROLW8-1_B9	HMWB	Not necessary		No
RO	ROHAI04.10.1.0.0.0.0.0	7.8	Arges	ROLW10-1_B4	HMWB	Not necessary		Yes
RO	ROHAI04.12.1.0.0.0.0.0	13.8	Siret	ROLW12-1_B6	HMWB	Not necessary		Yes
RO	ROHAI04.12.1.53.0.0.0.0	2.1	Bistrita	ROLW12-1-53_B5	HMWB	Not necessary		Yes
RO	ROHAI04.3.1.44.33.0.0.0	2.3	Barcau	ROLW3-1-44-33_B4	HMWB	Not necessary		No
RO	ROHAI04.5.1.0.0.0.0.0	8.4	Bega	RORW5-1_B3	HMWB	Not necessary		Yes
RO	ROHAI04.7.1.0.0.0.0.0	8.1	Jiu	ROLW7-1_B56	HMWB	Not necessary		Yes
RO	ROHAI04.8.1.0.0.0.0.0	111.5	Olt	ROLW8-1_B10	HMWB	Yes		No
RO	ROHAI05.10.1.0.0.0.0.0	5.5	Arges	ROLW10-1_B5	HMWB	Not necessary		Yes
RO	ROHAI05.11.1.0.0.0.0.0	2.4	Ialomita	ROLW11-1_B2	HMWB	Not necessary		Yes
RO	ROHAI05.12.1.0.0.0.0.0	15.8	Siret	ROLW12-1_B6	HMWB	Not necessary		Yes
RO	ROHAI05.5.1.0.0.0.0.0	14.6	Bega	RORW5-1_B4	AWB	Not necessary		No
RO	ROHAI05.7.1.0.0.0.0.0	3.6	Jiu	ROLW7-1_B120	HMWB	Not necessary		Yes
RO	ROHAI05.8.1.0.0.0.0.0	29.3	Olt	ROLW8-1_B11	HMWB	Yes		No
RO	ROHAI06.10.1.0.0.0.0.0	6.9	Arges	RORW10-1_B4a	NWB	Not necessary		No
RO	ROHAI06.11.1.0.0.0.0.0	13.6	Ialomita	ROLW11-1_B3	HMWB	Not necessary		Yes
RO	ROHAI06.12.1.0.0.0.0.0	7.7	Siret	ROLW12-1_B8	HMWB	Not necessary		Yes
RO	ROHAI06.12.1.53.0.0.0.0	2	Bistrita	ROLW12-1-53_B7	HMWB	Not necessary		Yes
RO	ROHAI06.5.1.0.0.0.0.0	15.1	Bega	RORW5-1_B4	AWB	Not necessary		No
RO	ROHAI07.10.1.0.0.0.0.0	11.8	Arges	ROLW10-1_B7	HMWB	Not necessary		Yes
RO	ROHAI07.12.1.0.0.0.0.0	2	Siret	ROLW12-1_B8	HMWB	Not necessary		Yes
RO	ROHAI07.12.1.53.0.0.0.0	4.3	Bistrita	ROLW12-1-53_B7	HMWB	Not necessary		Yes
RO	ROHAI07.5.1.0.0.0.0.0	15.1	Bega	RORW5-1_B4	AWB	Not necessary		No
RO	ROHAI08.12.1.53.0.0.0.0	2.5	Bistrita	ROLW12-1-53_B7	HMWB	Not necessary		Yes
RO	ROHAI09.12.1.53.0.0.0.0	0.6	Bistrita	ROLW12-1-53_B7	HMWB	Not necessary		Yes
RS	RSBEG_ust_Stajicevo	25.3	Begej	RSBEG	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSD_02_ak_DjerdapII	80.3	Dunav	RSD_02	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSD_03_ak_DjerdapI	137.6	Dunav	RSD_03	HMWB	Not yet	Not implemented by 2027	Yes

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
RS	RSD_04_ak_DjerdapI	43.8	Dunav	RSD_04	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSD_05_ak_DjerdapI	114.1	Dunav	RSD_05	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSD_06_ak_DjerdapI	60.8	Dunav	RSD_06	NWB	Not yet	Not implemented by 2027	No
RS	RSD_07_ak_DjerdapI	63.8	Dunav	RSD_07	NWB	Not yet	Not implemented by 2027	No
RS	RSDR_2_ak_Zvornik	21.3	Drina	RSDR_2	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSDR_4_ak_BBasta	23.6	Drina	RSDR_4	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSIB_5_ak_Gazivode	26.7	Ibar	RSIB_5_B	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSIB_5_ak_Pridvorica	5.2	Ibar	RSIB_5_A	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSLIM_3_ak_Potpec	14	Lim	RSLIM_3	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSNIS_2_ust_Sicevo	2.4	Nišava	RSNIS_2	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSNIS_3_A_ust_Vrgudinac	1.4	Nišava	RSNIS_3_A	NWB	Not yet	Not implemented by 2027	No
RS	RSSA_1_ak_DjerdapI	30.7	Sava	RSSA_1	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSTAM_1_ust_Pancevo	42.3	Tamiš	RSTAM_1	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSTAM_2_ust_Opovo	43.9	Tamiš	RSTAM_2	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSTAM_3_ust_Tomasevac	12.5	Tamiš	RSTAM_3	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSTAM_4_ust_Tomasevac	11.1	Tamiš	RSTAM_4	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSTAM_5_ust_Tomasevac	13.2	Tamiš	RSTAM_5	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSTIM_3_ak_Sokolovica	6.4	Timok	RSTIM_3	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSTIS_1_ak_Djerdap_I	41.1	Tisa	RSTIS_1	NWB	Not yet	Not implemented by 2027	Yes
RS	RSTIS_2_ak_Djerdap_I	26	Tisa	RSTIS_2	NWB	Not yet	Not implemented by 2027	Yes
RS	RSTIS_3_ak_Novi_Becej	25.2	Tisa	RSTIS_3	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSTIS_4_ak_Novi_Becej	22.5	Tisa	RSTIS_4	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSTIS_5_ak_Novi_Becej	54.6	Tisa	RSTIS_5	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSVMOR_1_ak_Djerdap_I	22.3	Velika Morava	RSVMOR_1	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSZMOR_2_C_ak_Parmenac	2	Zapadna Morava	RSZMOR_2_C	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSZMOR_3_A_ak_Parmenac	3.2	Zapadna Morava	RSZMOR_3_A	NWB	Not yet	Not implemented by 2027	Yes
RS	RSZMOR_3_B_ak_Medjuvrsje	11.8	Zapadna Morava	RSZMOR_3_B	HMWB	Not yet	Not implemented by 2027	Yes

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
RS	RSZMOR_3_C_ak_Ovcar_Banja	4.2	Zapadna Morava	RSZMOR_3_C	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSZMOR_3_D_ak_Ovcar_Banja	1.7	Zapadna Morava	RSZMOR_3_D	HMWB	Not yet	Not implemented by 2027	Yes
RS	RSZMOR_3_E_ak_Ovcar_Banja	3	Zapadna Morava	RSZMOR_3_E	HMWB	Not yet	Not implemented by 2027	Yes
SI	SI01	16.5	Sava	SI1VT739	NWB	Not yet	Implemented by 2027	No
SI	SI02	4.3	Drava	SI3VT197	HMWB	Not yet	Implemented by 2027	Yes
SI	SI03	65.2	Drava	SI3VT359	HMWB	Not yet	Implemented by 2027	Yes
SI	SI04	5.4	Drava	SI3VT5172	HMWB	Not yet	Implemented by 2027	Yes
SI	SI05	13.2		SI1VT1707		Not yet	Implemented by 2027	Yes
SI	SI06	10.6	Sava	SI111VT7	HMWB	Not yet	Implemented by 2027	Yes
SI	SI07	2.9	Drava	SI3VT950	HMWB	Not yet	Implemented by 2027	Yes
SI	SI08	16.9		SI1VT7137		Not yet	Implemented by 2027	Yes
SI	SI09	22.3	Sava	SI1VT913	NWB	Not necessary	Not necessary for achievement of GES/GEP	No
SK	SKBIMP004	1.2	Laborec	SKB0142	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKBIMP005	1.6	Laborec	SKB0144	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKDIMP001	17.4		SKD0019		Not yet	Implemented by 2027	Yet to be determined
SK	SKHIMP001	1.4	Hornád	SKH0003	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKHIMP002	20	Hornád	SKH1001	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKHIMP003	2.6	Hornád	SKH1001	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKHIMP004	1.2	Hornád	SKH0004	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKIIMP001	3.7	Ipeľ	SKI1001	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKIIMP002	3.2	Ipeľ	SKI0004	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKIIMP003	6.5	Ipeľ	SKI0004	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKIIMP004	5.8	Ipeľ	SKI0004	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKIIMP005	6	Ipeľ	SKI0004	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKIIMP006	9.1	Ipeľ	SKI0004	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKIIMP007	9.1	Ipeľ	SKI0004	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKIIMP008	6.2	Ipeľ	SKI0004	NWB	Not yet	Implemented by 2027	Yet to be determined

Country	Impoundment code	Length in km	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
SK	SKIIMP009	7	Ipeľ	SKI0004	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKNIMP001	4	Nitra	SKN0004	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKNIMP002	6.3	Nitra	SKN0004	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKNIMP003	7.1	Nitra	SKN0004	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKNIMP004	12.2	Nitra	SKN0004	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKRIMP001	4	Hron	SKR0005	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKRIMP002	4	Hron	SKR0005	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKRIMP003	2.5	Hron	SKR0005	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP001	8.4	Váh	SKV1001	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP002	2.8	Váh	SKV1001	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP003	3.7	Váh	SKV0006	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP004	7.3	Váh	SKV0007	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP005	10	Váh	SKV0007	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP006	10	Váh	SKV0007	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP007	7.6	Váh	SKV0007	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP008	4.4	Váh	SKV0007	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP009	5.9	Váh	SKV1002	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP010	11.8	Váh	SKV1003	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKVIMP011	19.2	Váh	SKV0027	HMWB	Not yet	Implemented by 2027	Yet to be determined

List of water abstractions

Country	Abstraction Code	River	RWB Code	RWB Type	First Usage	Second Usage	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT06EB8028-A7E3-4F5B-A920-15B2EFDD7D2E	Salzach	ATOK304690078	NWB	Hydropower	n.a.	Yes		Unknown
AT	AT06EB8028-A7E3-4F5B-A920-15B2EFDD7D2E	Salzach	ATOK304690006	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT0AB9EDFF-404F-498F-80D8-504F528C45FB	Traun	ATOK412090042	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT0F3C8D0E-F6C0-48E7-9121-BC6576662A00	Raab	ATOK1001040108	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT1D1260CB-15C1-438A-9A16-B37DDCD66E24	Traun	ATOK411980001	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT1E7771E1-9C03-4D68-9A81-463E9C16AB66	Traun	ATOK412090042	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT1F544182-846E-4F56-BCE8-D4AA013FFD61	Enns	ATOK400240106	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT210C0543-5FA2-425D-89F7-944B08AE0546	Thaya	ATOK500010036	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT2D68D283-12D6-4A2B-90FA-0AA537E9FAC7	Lech	ATOK301500004	NWB	n.a.	n.a.	Yes		Unknown
AT	AT2D692767-E219-4A25-B4B9-29A26AB1B206	Salzach	ATOK304690001	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT2D692767-E219-4A25-B4B9-29A26AB1B206	Salzach	ATOK305360001	NWB	Hydropower	n.a.	Yes		Unknown
AT	AT2D692767-E219-4A25-B4B9-29A26AB1B206	Salzach	ATOK305360002	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT322DAF04-E753-4C01-A5C3-DC36B4AF434C	Traun	ATOK411980002	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT3D8F9DEE-FF83-485D-A8EF-6D92498994DD	Raab	ATOK1000960015	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT3D8F9DEE-FF83-485D-A8EF-6D92498994DD	Raab	ATOK1002160000	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT3ECEA338-4F58-4D78-8FAA-6A0B7E230148	Mur	ATOK801180007	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT4681E59B-3FCA-4FB6-938D-3816DD36381D	Mur	ATOK801180008	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT4A0A4133-28A1-4314-B479-065DBBC931FC	Thaya	ATOK500010036	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT5C52E50D-0BE5-4E46-8839-290796D62D98	Mur	ATOK802710002	HMWB	Hydropower	n.a.	Yes		Unknown
AT	AT5F55A0AC-BFFD-4081-A3B5-0B16D0B1D410	Thaya	ATOK500010031	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT666C624A-7D7A-4977-A036-0ACEC99AC028	Raab	ATOK1000960019	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown

Country	Abstraction Code	River	RWB Code	RWB Type	First Usage	Second Usage	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT66ABB6F1-8A37-4561-9064-349C1296F905	Thaya	ATOK500010043	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT66E57869-61DE-4065-A65B-2F4E147BB163	Enns	ATOK411250012	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT7E04FA14-BEBB-4CC8-82D1-B8DF57F1EBE0	Mur	ATOK802720005	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT818D6271-2013-4839-9E00-C30F7FE3222D	Mur	ATOK802710008	HMWB	Hydropower	n.a.	Yes		Unknown
AT	AT818D6271-2013-4839-9E00-C30F7FE3222D	Mur	ATOK802710009	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT851F483C-CDD7-457C-84FA-91B640F642AE	Raab	ATOK1000960020	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT891ECA8B-38DE-4DC8-996F-30C4DEA06FA3	Traun	ATOK412090028	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT891ECA8B-38DE-4DC8-996F-30C4DEA06FA3	Traun	ATOK412090013	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT891ECA8B-38DE-4DC8-996F-30C4DEA06FA3	Traun	ATOK412090027	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT8C9DA7BE-7DD1-487D-840A-6CF6FFE48587	Mur	ATOK802710002	HMWB	Hydropower	n.a.	Yes		Unknown
AT	AT8E083EAC-3F3F-4A15-9D72-847DCC40118F	Thaya	ATOK500010043	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT91CE1EA9-0115-44EC-A8A2-1F20F2AB33AF	Drau	ATOK903540003	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	AT939AC56B-6905-4642-A6A1-E0609E01A2FB	Thaya	ATOK500010030	HMWB	Agriculture, forestry and fishing (including fish farms) canals	n.a.	Not yet	Implemented by 2027	Unknown
AT	ATA45174B7-EF7C-4AB5-85AB-CD98709307E4	Mur	ATOK802720005	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	ATA45174B7-EF7C-4AB5-85AB-CD98709307E4	Mur	ATOK802720006	NWB	Hydropower	n.a.	Yes		Unknown
AT	ATB55059DD-D0C9-49C6-8C48-45B91ADC4447	Raab	ATOK1000960019	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	ATC818BA23-4A0F-47A9-85E1-634A52E4C3BC	Mur	ATOK802720005	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	ATC82ABC5F-3C15-4EAA-AD38-57776D2026CA	Enns	ATOK411250012	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	ATE5B35378-1B1E-4E81-9853-0EC5D50FA179	Traun	ATOK411980001	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	ATEDEE2554-FB4A-4EC0-B69A-F0FE148DC5D4	Mur	ATOK802710009	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	ATFA53BF52-77F1-4F3F-892C-E67F772A40D1	Mur	ATOK802710009	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
AT	ATFDCD0C6C-76AC-4870-BD83-8D354E0CD5FA	Enns	ATOK411250012	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown

Country	Abstraction Code	River	RWB Code	RWB Type	First Usage	Second Usage	Restored 2021	Measure 2027	Decisive Impact HMWB
DE	DEBW_WA_6-01	Donau	DERW_DEBW_6-01	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	No
DE	DEBW_WA_6-02	Donau	DERW_DEBW_6-02	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	No
DE	DEBW_WA_6-03	Donau	DERW_DEBW_6-03	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	No
DE	DEBW_WA_6-04	Donau	DERW_DEBW_6-04	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	No
DE	DEBW_WA_6-05	Donau	DERW_DEBW_6-05	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Yes
DE	DEBY_WA_1_F124	Lech	DERW_DEBY_1_F124	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
DE	DEBY_WA_1_F128	Lech	DERW_DEBY_1_F128	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
DE	DEBY_WA_1_F132	Lech	DERW_DEBY_1_F132	HMWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
DE	DEBY_WA_1_F227	Main-Donau-Kanal	DERW_DEBY_1_F227	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
DE	DEBY_WA_1_F229	Main-Donau-Kanal	DERW_DEBY_1_F229	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
DE	DEBY_WA_1_F251	Naab	DERW_DEBY_1_F251	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
DE	DEBY_WA_1_F252	Naab	DERW_DEBY_1_F252	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
DE	DEBY_WA_1_F253	Naab	DERW_DEBY_1_F253	NWB	Hydropower	n.a.	Not yet	Implemented by 2027	Unknown
DE	DEBY_WA_1_F273	Naab	DERW_DEBY_1_F273	NWB	Hydropower	n.a.	Yes		Unknown
DE	DEBY_WA_1_F373	Isar	DERW_DEBY_1_F373	NWB	Hydropower	n.a.	Yes		Unknown
DE	DEBY_WA_1_F402	Isar	DERW_DEBY_1_F402	NWB	Other major abstractions	n.a.	Yes		Unknown
RO	ROHA01.10.1.0.0.0.0.0	Arges	ROLW10-1_B1	HMWB	Hydropower	n.a.	Not necessary		No
RO	ROHA01.3.1.44_B2	Crisul Repede	RORW3-1-44_B2	NWB	Hydropower	n.a.	Not necessary		No
RO	ROHA01.8.1.0.0.0.0.0	Olt	RORW8-1_B2	HMWB	Public water supply	n.a.	Yes		No
RO	ROHA02.10.1.0.0.0.0.0	Arges	RORW10-1_B2	HMWB	Hydropower	n.a.	Not yet	Not implemented by 2027	Yes
RO	ROHA03.10.1.0.0.0.0.0	Arges	ROLW10-1_B2	HMWB	Hydropower	Public water supply	Not necessary		No
RO	ROHA03.3.1.44_B6	Crisul Repede	RORW3-1-44_B6	NWB	Hydropower	n.a.	Not necessary		No
RO	ROHA04.10.1.0.0.0.0.0	Arges	ROLW10-1_B3	HMWB	Hydropower	Public water supply	Not necessary		No
RO	ROHA05.10.1.0.0.0.0.0	Arges	ROLW10-1_B4	HMWB	Hydropower	Manufacturing industry	Not necessary		No

Country	Abstraction Code	River	RWB Code	RWB Type	First Usage	Second Usage	Restored 2021	Measure 2027	Decisive Impact HMWB
RO	ROHA06.10.1.0.0.0.0.0	Arges	ROLW10-1_B5	HMWB	Public water supply	n.a.	Not necessary		No
RO	ROHA07.10.1.0.0.0.0.0	Arges	RORW10-1_B4a	NWB	Public water supply	n.a.	Not necessary		No
RO	ROHA08.10.1.0.0.0.0.0	Arges	ROLW10-1_B7	HMWB	Hydropower	n.a.	Not necessary		No
SI	SI1	Drava	SI3VT930	NWB	Hydropower	n.a.	Not necessary	Not necessary for achievement of GES/GEP	No
SI	SI2	Drava	SI3VT5171	NWB	Hydropower	n.a.	Not necessary	Not necessary for achievement of GES/GEP	No
SI	SI3	Sava	SI1VT137	NWB	Hydropower	n.a.	Not necessary	Not necessary for achievement of GES/GEP	No
SK	SKABSTR001	Váh	SKV0006	HMWB	Hydropower	Other major abstractions	Not necessary		No
SK	SKABSTR002	Váh	SKV0007	HMWB	Hydropower	Other major abstractions	Not necessary		No
SK	SKABSTR003	Váh	SKV0007	HMWB	Hydropower	Other major abstractions	Not necessary		No
SK	SKABSTR004	Váh	SKV0007	HMWB	Hydropower	Other major abstractions	Not necessary		No
SK	SKABSTR005	Váh	SKV0007	HMWB	Hydropower	Other major abstractions	Not necessary		No
SK	SKABSTR006	Váh	SKV0007	HMWB	Hydropower	Other major abstractions	Not necessary		No
SK	SKABSTR007	Váh	SKV1002	HMWB (lake)	Hydropower	Other major abstractions	Not necessary		No

List of hydropeaking

Country	Hydropeaking Code	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT011AECA1-204F-4D5F-8178-C8F6F41B0DBC	Inn	ATOK304980003	HMWB	Yes		Unknown
AT	AT011AECA1-204F-4D5F-8178-C8F6F41B0DBC	Inn	ATOK304980006	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT011AECA1-204F-4D5F-8178-C8F6F41B0DBC	Inn	ATOK304980005	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT020660C3-038E-4F23-97C1-94DAFE80974E	Drau	ATOK903540002	NWB	Yes		Unknown
AT	AT020660C3-038E-4F23-97C1-94DAFE80974E	Drau	ATOK903540001	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT04ABC100-3A62-446C-B484-EBD6B156CADD	Salzach	ATOK305350003	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT04ABC100-3A62-446C-B484-EBD6B156CADD	Salzach	ATOK305350006	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT206BB26C-3B35-44E2-AB47-151927231040	Salzach	ATOK305350001	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT211C7D8D-B8AA-4F8D-B1A6-5569C9695131	Raab	ATOK1001040108	NWB	Not yet	Implemented by 2027	Unknown
AT	AT211C7D8D-B8AA-4F8D-B1A6-5569C9695131	Raab	ATOK1001040109	NWB	Not yet	Implemented by 2027	Unknown
AT	AT211C7D8D-B8AA-4F8D-B1A6-5569C9695131	Raab	ATOK1002160000	NWB	Not yet	Implemented by 2027	Unknown
AT	AT2237FAC0-F3C6-4D7A-B4E3-911E39E3BBD7	Inn	ATOK304980009	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT2237FAC0-F3C6-4D7A-B4E3-911E39E3BBD7	Inn	ATOK304980010	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT3387C1C0-3EB4-48AF-90E5-1BB0EBE5C01F	Thaya	ATOK501870001	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT46C46D07-C510-4567-B38C-40135A49DF62	Lech	ATOK307080000	NWB	Yes		Unknown
AT	AT4A153931-2560-4F9B-BE34-7FC49A47FC28	Salzach	ATOK305360002	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT58F7DB2C-6D47-47AE-9BC7-61F4141E31DA	Inn	ATOK304980009	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT58F7DB2C-6D47-47AE-9BC7-61F4141E31DA	Inn	ATOK304980006	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT5AA1D134-6A23-463A-876C-2D2573DC9735	Inn	ATOK305850011	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT687026EF-6390-4F64-B317-11657D86D032	Salzach	ATOK305350006	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT7AF7C89D-361A-464B-9A41-39B47659C7F4	Inn	ATOK304980009	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT7B9B2D7E-7D97-4F51-882B-D4E385B9702C	Drau	ATOK900470022	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT7B9B2D7E-7D97-4F51-882B-D4E385B9702C	Drau	ATOK900470021	NWB	Not yet	Implemented by 2027	Unknown
AT	AT86D2B40B-52E5-4C1A-B7BF-7FE7C1043BC7	Salzach	ATOK304690004	HMWB	Not yet	Implemented by 2027	Unknown
AT	AT86D2B40B-52E5-4C1A-B7BF-7FE7C1043BC7	Salzach	ATOK304690005	NWB	Yes		Unknown

Country	Hydropeaking Code	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	ATA5F03313-E588-4711-98C0-D72340D09E3A	Enns	ATOK411250010	NWB	Not yet	Implemented by 2027	Unknown
AT	ATA5F03313-E588-4711-98C0-D72340D09E3A	Enns	ATOK400240092	NWB	Not yet	Implemented by 2027	Unknown
AT	ATA5F03313-E588-4711-98C0-D72340D09E3A	Enns	ATOK409970000	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA6CEB206-B169-4073-AF7F-F6DD28C6D082	Salzach	ATOK305360002	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA7116E17-266B-4FDD-AE35-3130DB06EA55	Enns	ATOK411250020	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATA7116E17-266B-4FDD-AE35-3130DB06EA55	Enns	ATOK411250021	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB1D2DC67-EC16-4ADA-898B-4D3D6BD38C85	Salzach	ATOK307200003	NWB	Not yet	Implemented by 2027	Unknown
AT	ATB1D2DC67-EC16-4ADA-898B-4D3D6BD38C85	Salzach	ATOK307200002	NWB	Not yet	Implemented by 2027	Unknown
AT	ATB2EE16C5-FA4E-412D-A347-DD95DBE2FF47	Salzach	ATOK305350001	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB2EE16C5-FA4E-412D-A347-DD95DBE2FF47	Salzach	ATOK305350003	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB2EE16C5-FA4E-412D-A347-DD95DBE2FF47	Salzach	ATOK305350002	NWB	Not yet	Implemented by 2027	Unknown
AT	ATB95E7EE8-A2E6-4160-8A30-5A1D5E29EE39	Salzach	ATOK305360002	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB95E7EE8-A2E6-4160-8A30-5A1D5E29EE39	Salzach	ATOK305350001	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB95E7EE8-A2E6-4160-8A30-5A1D5E29EE39	Salzach	ATOK305350002	NWB	Not yet	Implemented by 2027	Unknown
AT	ATB95E7EE8-A2E6-4160-8A30-5A1D5E29EE39	Salzach	ATOK305350003	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATB95E7EE8-A2E6-4160-8A30-5A1D5E29EE39	Salzach	ATOK305350006	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATD49938BB-DB9B-4429-9E08-5498116ACB54	Salzach	ATOK305350001	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATD49938BB-DB9B-4429-9E08-5498116ACB54	Salzach	ATOK305360002	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATE8E67B4A-C6D6-4B4C-AE6C-C637BDA3F9BA	Salzach	ATOK305350001	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATE99B6E17-B7CE-4EEC-B732-ECDD2E79FFDE	Drau	ATOK903540003	NWB	Not yet	Implemented by 2027	Unknown
AT	ATFC098661-D3EC-4478-8129-EA99C9B7F82E	Salzach	ATOK305350001	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATFC8D1ACB-054E-4661-84B9-44F99DC4E155	Inn	ATOK305850011	HMWB	Not yet	Implemented by 2027	Unknown
AT	ATFF65EE0D-5B75-4AC6-AD22-96CBF26A8BC8	Mur	ATOK801180006	NWB	Yes		Unknown
AT	ATFF65EE0D-5B75-4AC6-AD22-96CBF26A8BC8	Mur	ATOK801180005	NWB	Yes		Unknown
AT	ATFF65EE0D-5B75-4AC6-AD22-96CBF26A8BC8	Mur	ATOK801180004	NWB	Yes		Unknown
DE	DEBY_HP_1_F122	Lech	DERW_DEBY_1_F122	HMWB	Not yet	Implemented by 2027	Unknown

Country	Hydropeaking Code	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
DE	DEBY_HP_1_F124	Lech	DERW_DEBY_1_F124	HMWB	Yes		Unknown
DE	DEBY_HP_1_F125	Lech	DERW_DEBY_1_F125	NWB	Yes		Unknown
DE	DEBY_HP_1_F128	Lech	DERW_DEBY_1_F128	HMWB	Not yet	Implemented by 2027	Unknown
DE	DEBY_HP_1_F131	Lech	DERW_DEBY_1_F131	HMWB	Not yet	Implemented by 2027	Unknown
DE	DEBY_HP_1_F132	Lech	DERW_DEBY_1_F132	HMWB	Not yet	Implemented by 2027	Unknown
DE	DEBY_HP_1_F163	Donau	DERW_DEBY_1_F163	HMWB	Yes		Unknown
DE	DEBY_HP_1_F429	Isar	DERW_DEBY_1_F429	HMWB	Not yet	Implemented by 2027	Unknown
HR	HRTABHPEAK00001	Drava	HRCDRI0002_010	HMWB	Not yet	Implemented by 2027	No
HR	HRTABHPEAK00001	Drava	HRCDRI0002_012	NWB	Not yet	Implemented by 2027	No
HR	HRTABHPEAK00001	Drava	HRCDRN0002_011	HMWB	Not yet	Implemented by 2027	No
HR	HRTABHPEAK00001	Drava	HRCDRN0002_013	NWB	Not yet	Implemented by 2027	No
HU	HUDrava	Dráva	HUAEP439	HMWB	Not yet	Not yet determined	Yes
HU	HUSebesKoros	Sebes-Körös	HUAEP953	NWB	Not yet	Not yet determined	No
SI	SI_HE1	Sava	SI1VT137	NWB	Not necessary	Not necessary for achievement of GES/GEP	No
SI	SI_HE2	Sava	SI1VT310	NWB	Not necessary	Not necessary for achievement of GES/GEP	No

Hydromorphological lighthouse projects in the Danube River Basin District (2015-2021)

ICPDR IKSD
International Commission for the Protection of the Danube River
Internationale Kommission zum Schutz der Donau

Draft ANNEX 18 as of 26 February 2021

DRBMP Update 2021

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Table of content

1. Overall context

Over the last century, legitimate water uses (hydropower generation, navigation and flood protection as well as activities related to urban settlements or agriculture) significantly changed the habitat and hydrological conditions of surface waters and thus impacted the ecological status and functioning of river systems.

The alteration of natural hydromorphological conditions can have negative effects on aquatic populations. Based on increased knowledge on hydromorphological alterations and their relevance for the achievement of the environmental objectives, measures have to be taken to restore natural or near-natural conditions. Measures to improve the hydromorphological conditions aiming at improved water status and increasing habitat diversity include

- Hydrological measures (e.g. increase of residual flow, dampening of hydropeaking),
- Restoration of river continuity for fish and sediment (e.g. construction of fish migration aids, improvement of sediment transport),
- Morphological improvements (e.g. removal of bank fixation, reconnection of floodplains).

During the last water management planning cycle (2015-2021), a significant number of appropriate hydromorphological measures were identified, many of them only started or already implemented by Danube countries. Table 1 shows, that most measures are related to the restoration of river morphology and continuity for fish, but also hydrological measures were implemented.

Table 1: Number of hydromorphological measures and their implementation status

	Planning on-going	Implementation on-going	Completed
Hydrological improvements	14	5	10
Restoration of river continuity	21	6	26
Morphological improvements	14	22	29

* for more details, see Annex 15 of the DRBM Plan 2021

To highlight the importance of hydromorphological measures, this brochure presents some lighthouse projects in the Danube River Basin District that were started or implemented since 2015.

2. Overview of measures

Overall, ten measures were reported by Danube countries. Their location within the Danube catchment is shown in Figure 1.

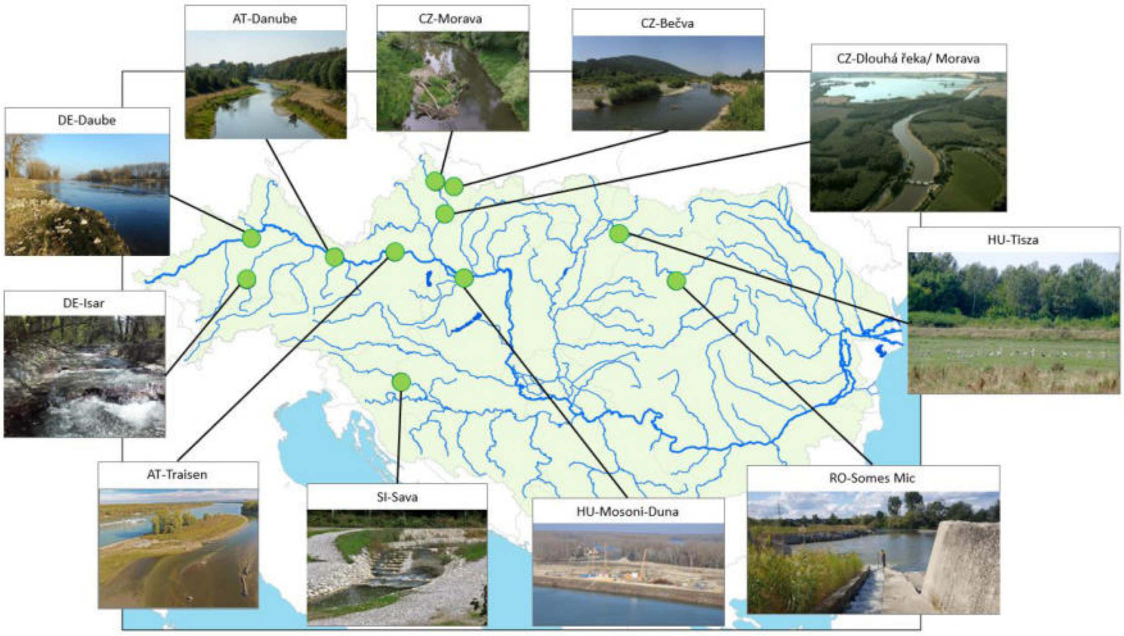


Figure 1: Overview map of hydromorphological measures in the Danube catchment

The main driving forces reported for the eleven lighthouse projects are hydropower (5 cases), flood protection (7 cases) as well as irrigation, land use and navigation (2 cases each). For five locations, several driving forces were reported, while six locations are dominantly changed by one driving force.

At most sites (i.e. 8) measures which serve the restoration of more than one hydromorphological impact type (i.e. related to hydrology, morphology, connectivity) are implemented. The here presented sites provide examples for restoration of river morphology and the riparian zone (7 sites), and/or floodplain areas (8 sites), connectivity for fish (7 sites) and sediment (3 sites). Furthermore, four sites provide examples for hydrological restorations, e.g. by improvement of water retention and flow variability.

Table 2: Overview of hydromorphological measures

Term used	Hydrology	Connectivity[1]	Morphology[2]	Benefitting directives	Status
AT-Danube		F	R, F	WFD, Habitats-D, Birds-D	Partly finished (2019, 2023)
AT-Traisen		F	R, F	WFD, Habitats-D, Birds-D	Finished (2019)
CZ-Becva		S	R ,F	WFD	Ongoing
CZ-Dhoulá reka	X	F	R, F	WFD, Habitats-D	Finished (2021)
CZ-Morava	X	F, S	R, F	WFD, Habitats-D, Birds-D	Finished
DE-Danube		F	R, F	WFD, Habitats-D	Finished (2018, 2019)
DE-Isar		F, S		WFD, Habitats-D	Finished (2018)
HU-Tisza	X		R, F	WFD, Habitats-D	Finished (2019)
HU-Monsoni-Duna	X		F	WFD, Floods-D	Finished (2021)
RO-Somes Mic		F		WFD, Habitats-D	Finished (2017)
SI-Sava		F	R, F	WFD, Habitats-D	Finished (2017)

1) Measures for fish (F) and/or sediment (S); 2) Measures for river/riparian (R) and/or floodplain areas (F)

Nine out of the eleven sites report that the planned or performed measures serve more than one directive (see Table 2). While all restoration measures serve the fulfilment of the European Water Framework Directive (WFD), nine are expected to bring benefits for the Habitats Directive (Habitats-D) and three for the Birds Directive (Birds-D). One is reported to be beneficial for the Floods Directive (Floods-D). Those projects are thus also highlighting the importance of implementation of synergetic measures that are bringing achievement of different goals related to water management.

Nine lighthouse projects are already finished or expected to be finished by the end of 2021, while one is still ongoing. Another example (AT-Danube) comprises of two projects of which one was finished (2019) and one is still ongoing (2023).

Overall, more than 200 mill. were invested in the measures, whereby costs range from 38,000 € to 82 mill. These costs were often shared between EU, national and other funds (6 cases), or rely entirely on EU- (1 case), national- (3 cases) or other funds (1 case).

Monitoring results are available for five cases. The two fish passes in Romania and Slovenia were proven to be functional. In some cases, an improvement of the ecological status (e.g. from moderate to good status at AT-Traisen) or individual quality elements (e.g. from moderate to good fish-ecological status at DE-Danube) was achieved. A preliminary monitoring at AT-Danube also showed promising results with an increase in endemic species and juvenile life-stages. Further improvements area also expected for the remaining lighthouse projects.

The following chapter provides a more detailed description of the individual lighthouse projects.

3. Lighthouse projects

3.1 AT-Traisen: Creation of a meandering river section in the River Traisen

3.1.1 Initial (impacted) situation

The river Traisen is one of the biggest tributaries of the river Danube in Lower Austria. The river stretch runs through the Natura 2000 site “Tullnerfelder Donauauen”, Austria’s largest enclosed wetland. It contains twelve protected habitat types acc. Annex I and 30 protected species acc. Annex II of the Habitats Directive as well as 24 protected bird species acc. Annex I of the Birds Directive.

The Danube floodplains were cut off from the river due to river regulation measures for navigation already in the 19th century. The Danube Hydropower Plant “Altenwörth” was built in the 1970ies and is operated by the VERBUND, Austria's leading electricity company. With a design flow rate of 2,700 m³/s, the run-of-river plant has a standard working capacity 1,967.6 GWh per year. This power plant thus generates about one sixth of the electricity generated on the Austrian Danube.

During the construction of the Danube hydropower plant of Altenwörth, in 1976 the mouth of the river Traisen was relocated about 7.5 km further downstream. The new river course was heavily regulated disconnecting the river from the surrounding riparian forest and supressing aquatic and terrestrial habitats that are usually found in floodplains. This situation led to an unfavourable conservation status for the whole Natura 2000 site. Additionally, the estuary was not passable for fish to migrate from the Danube into the river Traisen. For those reasons the concerned water body of the river Traisen reached only poor ecological status according to the Austrian National River Basin Management Plan 2009.

3.1.2 The measure

During the LIFE+ project a meandering river segment was built with a total length of approx. 10 km, which is allowed to develop dynamically during flood events and provides multiple habitats for aquatic species. The old channelized river course was maintained as backwater and flood drainage. The adjacent area of the Traisen was lowered to create about 60 ha of active floodplain habitats and approximately 30 ha of typical river habitats. Furthermore, the river Traisen was re-connected to the Danube and its fish population.

Figure 2: Construction works in the Traisen-area © Verbund

Figure 3: Restored section of the river Traisen, next to the Danube River (upper right) © Verbund

The large-scale excavations during the construction of the riverbed and its adjacent floodplain resulted in a material surplus of approx. 1.5 mill. m³, which was partly reintroduced downstream the Danube hydro power plant "Wien-Freudenau" to counteract riverbed incision.

The project has started in 2013 and the overall measure was finished in 2019. The costs of 30 mill. € were split between EU (5.3 mill. €, provided by LIFE funds), the national Environment Fund (3.3 mill. €), VERBUND as the operator of the hydropower plant (15 mill. €), regional funds (1.9 mill. €; Federal State Lower Austria, Fishery Association of Lower Austria, via donau) and revenue from the excavated and sold gravel (4.5 mill. €).

3.1.3 Conclusion

The LIFE+ project "Traisen" is one of the largest ecological river engineering projects in Austria and in Europe and could only be realized through close cooperation of all project partners.

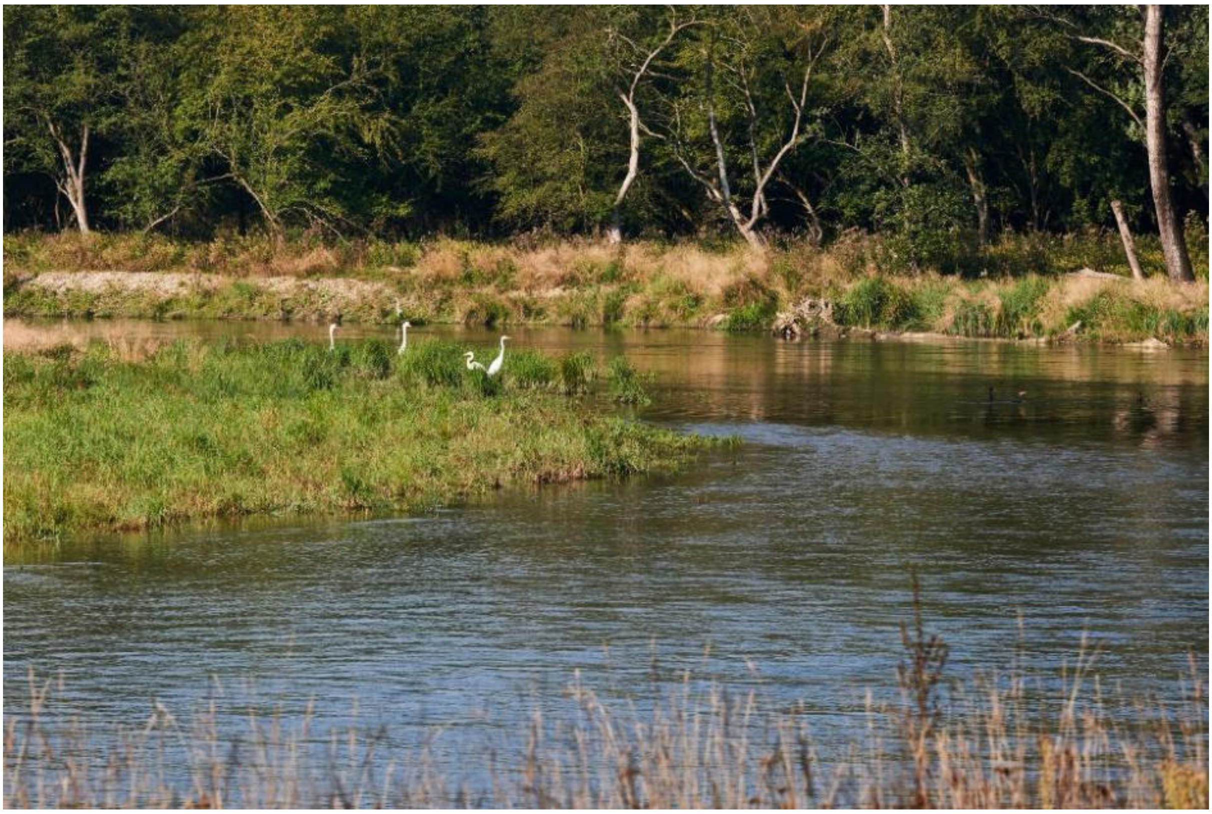


Figure 4: Restored river section of the river Traisen © Verbund

Monitoring of the fish biocenosis was carried out during and after finalization (i.e. in 2014, 2016 and 2017). Focus of the monitoring was also laid on the assessment of juvenile fish, of spawning grounds and on temperature changes. Results show an increase from 20 to 33 species. While the old channel of the river Traisen did not provide suitable spawning- and rearing habitats, a high density of juvenile fish of various species were found in the new channel. The re-opening of the continuum to the Danube has directly led to an increase and reproduction of typical Danubian fish species. To sum up, the monitoring showed an increase in the number of species, an improvement in population structures due to higher reproduction rates and an increase in population density. The assessment reveals an improvement of the fish ecological status from moderate (status class 3) in 2014 to good status (status class 2) in 2017. Furthermore, the "good ecological potential" was achieved in the adjacent water body of river Danube.

The approach of providing both – fish migration and high-quality key habitats – ensures a significant contribution to the goals of the Habitats Directive, the Bird Directive, as well as the WFD, thus implementing EU legislation with the aim of best value for money.

3.2 AT-Danube: LIFE “Network Danube” and “Network Danube Plus”

3.2.1 Initial (impacted) situation

The Austrian share of the Danube has a length of 352 km. VERBUND, Austria's leading electricity company, is operating ten large run-of-river hydropower plants along the Austrian Danube which generate about 20% of the public electricity production in Austria

Large sections of the course of the Austrian Danube have been shaped by river regulation and damming measures already in the 19th century. The development of the Danube for hydroelectric power in the 20th century has additionally reshaped about 80% of its course. The ten existing hydropower plants have a significant ecological impact on the Danube river and its floodplains. They cause long stretches with reduced flow velocity and the dams have fragmented the river into environmentally disconnected sections. Moreover, the floodplains and floodplain water bodies along the river are for the most part cut off from the Danube by dams. In the Danube and its floodplains, the key habitat of permanently connected side arms, which provide spawning grounds and nurseries for rheophilic fish species and shelter from ship-induced waves, is missing. As a result of these alterations, the good ecological status/ potential is currently not reached in most of the Austrian waterbodies of the Danube.

3.2.2 The measure

Along the Austrian Danube there are several Natura 2000 protected areas and a National Park. The Natura 2000 area “Tullnerfelder Donau-Auen”, Austria’s largest enclosed wetland, contains 42 species protected under the EUs Birds Directive and Annex II of the Habitats Directive. The National Park “Donau-Auen” in the most eastern section of the Austrian Danube with an extent of over 9,600 ha is the largest complete, (near) ecologically intact natural riverine environment of its kind in Central Europe and provides home and refuge to many endangered plant and animal species.

Figure 5: Continuity restoration in the area of Abwinden-Asten © Verbund

These areas are not ecologically connected due to the existing hydropower dams and flood protection measures. By restoring the continuity of the river and creating new habitats in the river and its floodplains, the protected areas can be interconnected by a network of ecological stepping stones.

The two EU-funded projects "Network Danube" and "Network Danube Plus" aim for the restoration of connectivity and habitat improvements in the whole Danube upstream Vienna to the border with

Germany. Thereby, they pursue objectives related to the WFD as well as the Habitats and the Birds directive.

Figure 6: Bypass channel at Ottensheim-Wilhering ("LIFE Network Danube") © Verbund

The first project "LIFE Network Danube" started in 2011 and was finished in 2019. The following measures were successfully implemented:

- Construction of bypass channels at three hydropower dams to facilitate fish migration in the Danube
- Creation of gravel habitats (gravel banks, gravel islands) in the reservoirs of five hydro power plants on the Danube entailing 325,000 m³ of gravel; and
- Creation of 500 m of branches and side arms on the shores of the Danube.

The project is co-funded by the EU LIFE Programme. The total costs of the measure were 25.3 mill. Euro, whereby 4.3 mill. were funded by EU, 3.8 mill. by national funds, 16.7 mill. by Verbund and 0.5 mill. by the Fishery Associations of Lower and Upper Austria.

The second project "LIFE Network Danube Plus: Closing the gaps and promoting a river corridor system with an European perspective" started in 2019 and is scheduled until 2023. The main aims of the projects are the following:

- Restoring the passability of the Danube for all fish species: In addition to the construction of fish migration facilities at three Danube power plants, feasibility studies on restoring the continuity are being carried out for the two remaining non-passable dams in the Austrian Danube. By the end of the project, unhindered fish migration will be possible between the Iron Gates gorge in Serbia and the Ybbs-Persenbeug hydropower plant in Austria (over 1,100 km) including the two last free-flowing stretches of the Austrian Danube;
- Creation of habitats by building gravel structures and lateral re-connection with tributaries
- Interlinking Natura 2000 sites (stepping stone biotopes between protected areas)

- Strengthening of fish populations also in the Danube floodplains and tributaries
- Closing the gaps between already implemented LIFE-Projects in Lower Austria
- Strengthening and appreciating the positive impacts of former ecological projects (e.g. the project Life-Traisen)

The project is co-funded by the EU LIFE Programme and the total costs are expected to be 10.1 mill. Euro, whereby 4.2 mill. will be funded from EU, 0.9 mill. from national funds, 4.9 mill. from Verbund and 0.1 mill. from the Fishery Association of Lower Austria.

3.2.3 Conclusion

For the fish passes Ottensheim and Greifenstein interim results of the monitoring are available showing very good results. In Greifenstein 46 out of 58 endemic species could be evidenced. Furthermore, all stages of age were observed. Using pit-tags long-term monitoring is possible. With the upcoming fish passes and their monitoring more fish will be marked and can give new inputs on the topic of far-distance migration of fish.

Figure 7: Fish pass Greifenstein © Verbund

The projects “LIFE Network Danube” and “LIFE Network Danube Plus” are demonstrating the suitability of a targeted stepwise approach for achieving the goals of the Habitats and Birds directives and the EU Water Framework Directive on a large spatial scale. The two projects complement each other with interlinking sets of measures and thus are multiplying the overall benefits of each individual project. Additionally, the measures to improve the river’s continuity enhance the positive effects of other renaturation projects. By re-connecting habitats in the Danube and its tributaries the biodiversity and the ecological status in the Danube itself as well as in its floodplains can be improved.

3.3 DE-Isar: Restoration of the ecological continuity in the Upper Isar Valley

3.3.1 Initial (impacted) situation

Due to river construction works in the river Isar for infrastructure protection (flood protection and agricultural land use) erosion caused a continuity interruption between the Isar and its tributary Aumühlbach. Important spawning areas and habitats for juvenile fish could not be reached and thus, the waterbody failed to achieve the good ecological status (in particular for fish).

3.3.2 The measure

In order to re-established the ecological continuity for biota (e.g. European grayling, barbal, nase) a structured ramp was established. It includes ten pools with a length of 4.3 m, which are connected by slots of 0.45 m in width and 0.52 m in height to overcome a fall height of 0.15 m each. As a consequence, important refuges and habitats in the near-natural tributary are once more accessible. The functionality of the structure for fish migration was ensured for a wide range of flow situations.

The measure was finished in March 2018. The overall costs of 90,000€ were covered by national funds.

Figure 8: Construction of the measure

Figure 9: View in upstream direction

3.3.3 Conclusion

The measure is expected to have a positive effect on the fish fauna in the Isar, which showed only a moderate ecological status with regard to its fish fauna before the measure was implemented. The success of the measure will be visible in the Isar in the medium term.

This measure is part of a bundle of measures that support and promote the development of a natural, species-rich and diverse fish community in order to achieve the good ecological potential/ status in the Isar by 2021.

From a nature conservation perspective, the measures are also suitable to support the conservation goals for the protected area (habitats directive) “Oberes Isartal” (Upper Isar Valley). Consequently, the measure supports the achievement of both, the WFD and the Habitats directive.

Figure 10: Finished bypass

3.4 DE-Danube: Improving a Danube water body in the Upper Danube by – inter alia – removal of bank fixations and creation of gravel banks

3.4.1 Initial (impacted) situation

One main reason for not achieving good status in the Danube between Vohburg and Staubing is a severe hydromorphological alteration of this water body at a length of about 20 km.

2015, the ecological status was „moderate“, because of the assessment of invertebrates und macrophytes/phytoplankton. An additional problem is caused by invasive species, which benefit from the bank protection with (armour-)stones.

3.4.2 The measure

In order to improve the ecological status of the river body and to ensure that a good ecological status could be maintained for the future, a comprehensive programme of measures for this river stretch was set up.

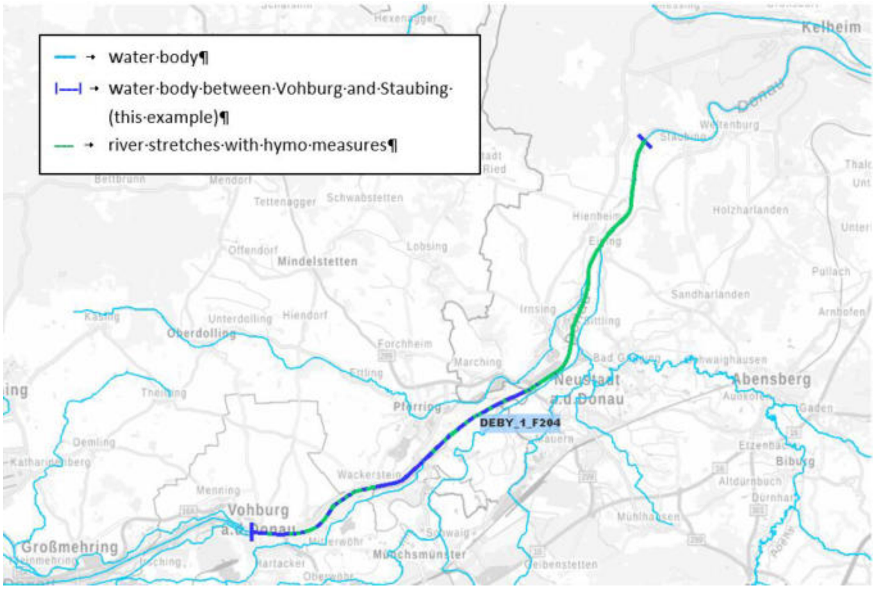


Figure 11: Overview map – location of water body and hydromorphological measures

The complete hydromophological measures for this river stretch includes the following activities:

1. Structural measures to promote natural retention (~3.8 km)

The natural water retention in the Danube floodplain increases by removing riparian deposits along the riverbank. This was already done on a large scale during the last years and will be continued. In addition, a flood storage basin is to be reactivated by the removal of riparian land and artificial bank protection.

2. Removal/ reduction of bank reinforcement (15 locations, approx. 14 km)

The massive bank protection on the Danube is to be partially or completely removed in areas where it is not indispensable for the protection of settlements, bridges, roads and flood protection facilities.

3. Inserting structural elements in the existing water profile (11 locations, 11.6 km)

Armourstones that are left over from the removal of the bank protection can partly be placed in the river profile. Short groynes (up to about mean water level) increase the variety of currents in the Danube and promote bank erosion, flow diversity and morphological development in adjacent downstream areas.

4. Creating and redesigning gravel banks
One additional gravel bank is to be created through the introduction of gravel around armourstones. Two existing gravel banks will be redesigned in order to create new spawning habitats for characteristic Danube fish species.

5. Developing floodplain habitats
The development of an approx. 900 m long and 50 – 80 m wide strip with typical floodplain habitats (succession areas, grassland, wet areas) and the development of alluvial forest areas on former intensively used meadows on a stretch of approx. 1.3 km is to be realised.

6. Recreating alluvial waters (5 locations, approx. 3.5 km)
In order to be able to develop a more natural watercourse again, it is planned to divert water from the Danube into new branches to be created at several points. These measures are also intended to improve the habitat conditions for typical fish species.

7. Connecting backwaters
Several backwaters are currently not or not permanently connected to the Danube river. Improvement measures are proposed for four areas.

8. Improving lateral connectivity
The three tributaries to the Danube are not optimally passable for fish, thus the mouth areas will be redesigned. Thereby, the backwaters in the floodplain could also be linked with the Danube.

9. Improving the sediment situation
Due to sediment retention upstream causing a strong bedload deficit, gravel was introduced into the river at two places. It is very likely that sediment input will have to be repeated every 5 to 7 years.

Example for realisation of measures: Creation of a gravel bank for rheophilic fish

A structured gravel bank located in the area of mean flow (~250m long, gradient of ~1:25) was created near the left bank of the Danube for which about 3,000 m³ of Danube gravel were used. A basic structure of hydraulic building blocks serves to stabilize the gravel bank and offers protection against erosion.

The measure was finished in July 2018. The overall costs of 100,000 € were entirely covered by national funds.

Figure 12: Finished gravel bank from (aerial view)

Since the measure is situated in a protected area (Habitats directive, "Donauauen zwischen Ingolstadt und Weltenburg"), the measure aligns with the WFD and the Habitats directive.

Example for realisation of measures: Removal of bank fixations

The bank fixation of the Danube was removed at approx. 500 m in order to promote the development of structures typical of natural rivers such as bank breaks, backwash and potholes. The lining material was used for creating different groynes. Due to the generous denudation of bank material, a softwood site with high flood dynamics has been created. The measure was finished in November 2018, whereby the overall costs of 60,000 € were entirely covered by national funds.

Figure 13: Removal of the bank fixation

The removal of the bank fixation and the flattening of the steep bank sections also improves access to the Danube and makes the river more tangible for the population.

Since the measure is situated in the protected area (Habitats directive): “Donauauen zwischen Ingolstadt und Weltenburg” (Danube floodplain between Ingolstadt and Weltenburg) the measure aligns with the WFD and the Habitats directive.

3.4.3 Conclusion

The habitat conditions in the river have improved and will further improve as measures are implemented step-by-step. Measure implementation will continue during the next management cycle as well as monitoring of the progress of status improvement. Until now, inter alia, spawning grounds for typical Danube fish species have been created and the floodplain has been reconnected to the river. This is vital for typical Danube fish species. The quality element “fish fauna” has already reached “good status”, invertebrates are still “moderate”.

We expect that the water body will be in good ecological status in the medium term, as the ecosystem needs some time to establish a new “good” equilibrium.

3.5 CZ-Dlouhá řeka/ Morava: Nedakonice water management node

3.5.1 Initial (impacted) situation

Nedakonice water management junction was created in connection with the navigation of the Morava River in the first half of the last century. A weir with a navigation lock was placed in the newly created river channel. By this solution a big part of the original Morava river bed was cut off from the rest of the river. In this section, the mouth of the Dlouhá řeka River was connected to the side arm of Morava, called Morávka. Due to the water management alteration, these flows were also separated from Moravia, which stopped the Morávka from being supplied with water from Moravia and became a continuation of the Dlouhá řeka River. The problems with siltation started very soon, because discharges of Dlouha řeka River was not sufficient to transport bigger gravel of Morávka. Morávka river gradually started to fall dry for most of the year. The river stretch locked with sediments was no longer sufficient to transport flood water out of the area and problems with flood protection started on the Dlouhá řeka River at municipalities upstream of the locality.

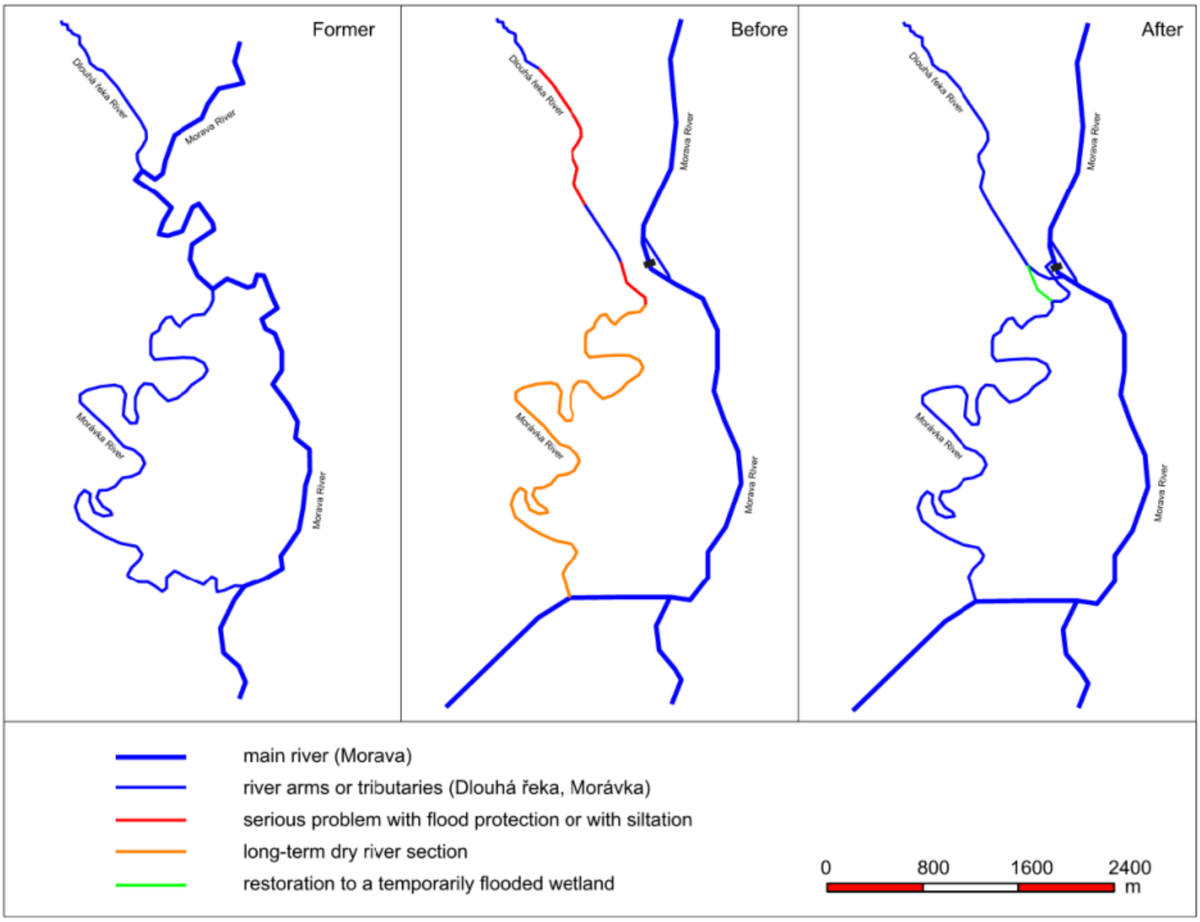


Figure 14: Historic (former), impacted (before) and restored situation (after) at the Nedakonice water management node

3.5.2 The measure

The aim of the revitalization measure is to ensure sufficient flow through the Morávka while at the same time limiting the entry of sediment from the Dlouhá řeka River into the system. Dlouhá řeka River will be taken downstream of the Nedakonice-weir. The new mouth of the Dlouhá řeka River will be created downstream of the weir ❶ . The solution also will have a positive effect on the runoff conditions in the village of Nedakonice. The fish migration passage on the Morava River will be ensured by a new fish pass ❸ . The water for the Morávka will be collected from the Morava River upstream of weir ❷ by a new channel. The solution will respect the requirements of the water regime of the floodplain and floodplain forest as well as the requirements of municipal flood protection. The solution restores a situation similar to the situation before water management and eliminates their negative impact. Only the siltation will be removed from Morávka River ❺, the rest of this river will be cleaned by river flow itselve. The part of river bed, which will be no longer used for Dlouha řeka river ❹, will be re-created to a temporally flooded wetland.

The implementation of the measure is ongoing and is expected to be finished in 2021. The expected costs are around 3.2 mill. € (without VAT) which will be covered by EU and national funds.

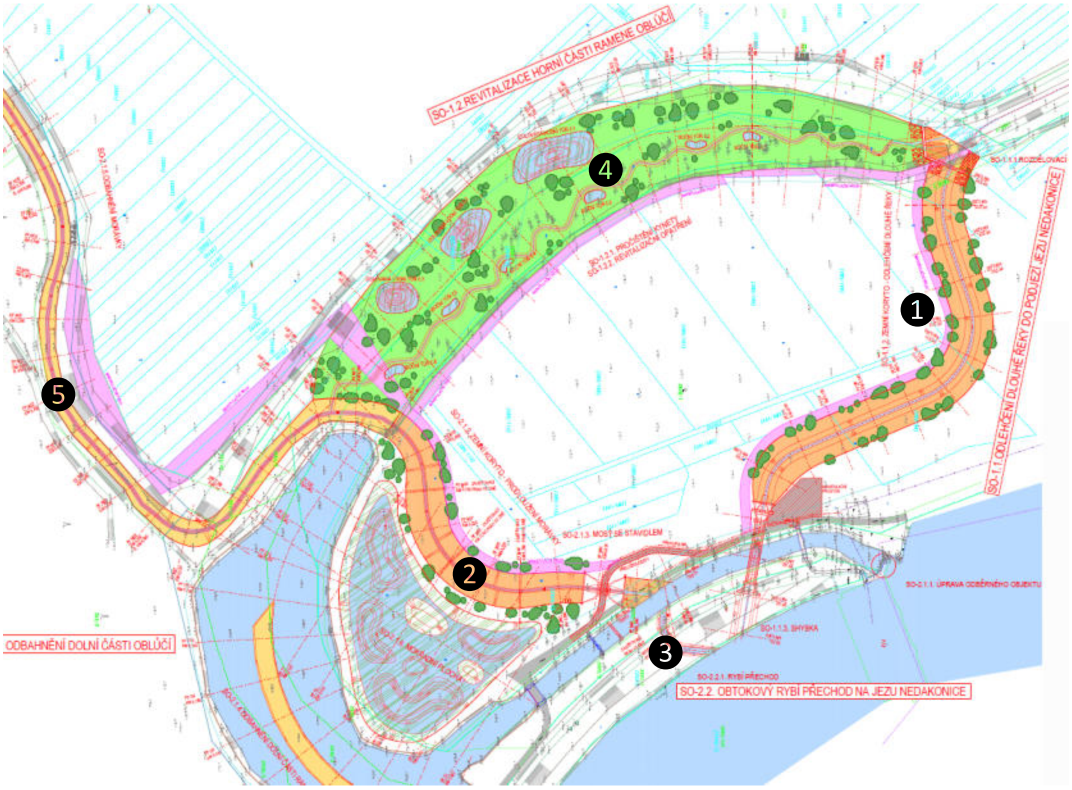


Figure 15: Overview of the measure

3.5.3 Conclusion

The measure is expected to have a positive effect on the runoff conditions in the village of Nedakonice and migration passage on the Morava River. The solution will respect the requirements of the water regime of the valley floodplain and floodplain forest as well as the requirements of municipal flood protection. The solution restores a situation similar to the situation before water management and eliminates their negative impact. Dlouha řeka and Moravka River are connected directly to the Morava River again which restores their flow regime and increase theirs morphological condition. More than 7 km of previously dry river bed of Morávka River are restored to a functioning river with full discharge again. Consequently, the measure serves both, the EU WFD and the Habitats Directive.

Figure 16: Morava river and Nedakonice water management node (on the lower right side)

3.6 CZ-Bečva*:* Restoration of the Bečva River

3.6.1 Initial (impacted) situation

Naturally, the Bečva River was a wild gravel flowing stream, but in the last century it was gradually modified to a monotonous capacity channel with a profile of a simple trapezoid. The effort of the river for shore erosion was suppressed by repeated building interventions. Restrictions on shore erosion and natural gravel run have led to the acceleration of bottom erosion and the gradual decomposition of the flow channel.

3.6.2 The measure

Until the extreme floods in 1997, there was a spontaneous renaturation of several sections. These sites have become inspiration for revitalization. At present, a four-kilometre natural river bed rehabilitation project is being prepared. The narrow trapezoidal riverbed will be transformed into a triple-walled gravel stream with a moving shallow cunette and a large expanse of exposed gravel. The project envisages the restoration of the morphological processes within the created river corridor, the restoration of the natural regime of the gravel sediment load and the improvement of the river's function during the floods.

The measure is still ongoing and the expected costs of 13,4 mill. € (without VAT) will be covered by EU and national funds.

3.6.3 Conclusion

Restorations in larger rivers should always consider impacts on the catchment scale. Often, problems arise at the tributaries (e.g. sediment deficit) and are consequently inherited by the Danube itself. Disturbed gravel flows, which form a significant part of the hydrographic network, represent a fundamental problem. One older project coined the name "gravel crown Danube" for them. Bečva is just one of the typical gravel streams. For this reason, the solution of its revitalization is an important stone in the mosaic of achieving good status of the entire Danube basin.

Figure 17: Already restored section of the Bečva River

3.7 CZ-Morava: Morphological restoration of the Morava river

3.7.1 Initial (impacted) situation

In the 1970s, the Morava River was heavily stabilized by stone riprap between the confluence with Cholinka River and "Štěpánovska smuha". Nevertheless, it is still currently reported to exhibit unaffected flow conditions. Bank stabilization prevents lateral erosion processes and increases bottom erosion. The result is the unnatural recess of the river below the terrain of the surrounding floodplain (i.e. river bed incision). Although everything seemed fine at the first sight, it caused a significant deterioration of the morphological condition. This was unacceptable, especially because of the location in the Landscape Protected Area Litovelské Pomoraví.

3.7.2 The measure

To improve the situation, the heavy stone riprap will be locally removed along a 2.6 km long section of the Morava River. In order to reduce the transport of material inside the protected landscape area, this material will be reintroduced directly in the stream on site. Initial channelling elements (stone shoots, islands and bottom elements) combined with wood mass (anchored strains) will be created. The initiating elements in combination with the riverwood contribute to the decaying of the bank and accelerate the desirable morphological development that has long been unnaturally suppressed.

The measure itself is already finished and caused expenses of 160,976 € (without VAT). However, the purchase of land, which accounts for 742,115 €, makes up a large proportion of the overall costs.

Figure 18: Restored section of the Morava river with a man-made peninsula

3.7.3 Conclusion

If the revitalization is well done, human intervention on the river should not be noticeable. This applies here. The river again develops freely and increases its morphological value of protected landscape area. The whole area is better adapted to climatic change, the ability to better manage water supplies is improved. The measure supports the achievement of the EU WFD. However, the restoration measure is also expected to have a positive effect on the Habitats- and Birds Directive (Litovelské Pomoraví"; EVL CZ0714073, CZ0711018).

3.8 RO-Somes Mic: Restoration of connectivity in the Somes Mic River

3.8.1 Initial (impacted) situation

The Manastirea River Dam is located on the river Someşul Mic, at a distance of approx. 3.5 km from the confluence with Someşul Mare river, on the territory of Mănăstirea locality, upstream of Dej municipality.

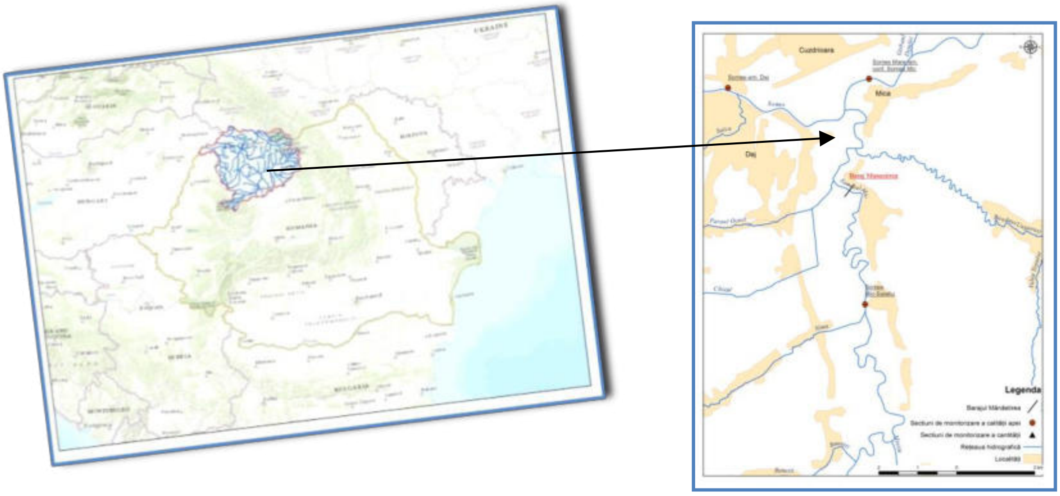
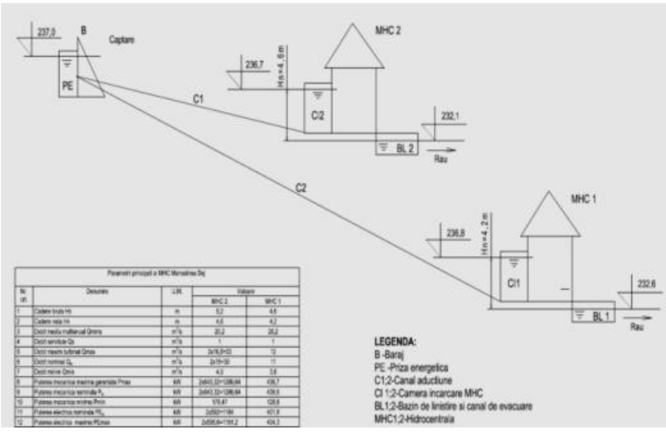


Figure 19: Location scheme- Monastery dam

The river dam and the hydropower plants were built a century ago, in the place where there used to be a water mill. Thus, in 1910, the Monastery was the first electrified rural locality in Eastern Europe. The current purpose of the river dam is the water intake for hydropower production in the hydropower plants (HPP) Manastirea 1 and 2, according to the planning scheme below (see Figure 20):



Characteristics

- $P_{installed}$ = 0.8 MW,
- $V_{turbined}$ = 168.16 mill. m^3/year
- Energy produced =5.91 GWh/year.
- The maximum flow that can be transited through the arrangement section is 138m^3/s.
- Main features of the dam:
  - dam length = 47.6 m
  - dam elevation = 238 m above sea level
  - dam height = 4.5 m at the overflow ridge (7.5 m in total)

Figure 20: Planning scheme of HPPs Manastirea 1 and 2

Two small hydropower plants are included in the hydropower planning scheme, Dej Manastirea 1 and 2, located on the banks of the Someşul Mic river, on both sides of the dam.

The water body RORW2-1-31_B4 / Someşul Mic - cf. Nadăş -cf. Someş Mare, on which the dam is located, has been designated a heavely modified water body (typology RO05CAPM) due to the hudromorphological pressures and transversal barrierres (3 obstacles with a height >0.5 m).

3.8.2 The measure

The measure of equipping the dam with a fish pass facility has been etablished in the frame of River Management Plan of the Someș-Tisa hydrographic area, estimated to be implement in the period 2015-2021. The following considerations have been taken into account:

1. The presence of migratory fish species downstream of the transversal barrier and their absence at the upstream monitoring sections. The monitoring of the quality element (QE) fish, performed in 2020, indicated the presence of migratory species nase (*Chondostroma nasus*), barbel (*Barbus barbus*) and vimba bream (*Vimba vimba*) in the monitoring section located after the confluence with Someș Mare river.

2. According to the distribution of the ichthyofauna in Romania (after Bănărăscu, 1964), on the respective segment of the river the barbel (*Barbus barbus*) is indicated as the dominant species.

3. The dam is located in a site of community importance (ROSCI0394 Someșul Mic) which was designated in 2011. Three fish species can be found on the list of protected species within this site.

4. An acceptable level of implementation costs, compared to environmental benefits.

Figure 21: Construction scheme / Photo - fish pass

In the period 2015-2017, the measure was implemented, together with the rehabilitation works of the dam, hydroelectromechanical equipment and HPP made by the new owner of the dam.

The fish pass is located on the left bank of the dam with a total length of 28 m, the upstream level is 236.25 m above sea level, and the downstream is 230.0 mdMN. The flow through the fish pass is 1 m^3/s. Constructively, it consists of a system of pools with a size of 1.20x1.40 m, located at different heights and communicating through slots with a size of 20x60 cm. The thickness of the walls of the pools is 30 cm. The project was funded by Somes Tisa RB Administration budget. The total costs of the measure were 38.000 €.

3.8.3 Conclusion

Following the monitoring of the ichthyofauna on the water body RORW2-1-31_B4 / Someşul Mic -cf. Nadas-cf. Someş Mare carried out by the laboratory of the Someş-Tisa hydrographic space in 2020, in the upstream section of the Manastirea dam, *Barbus barbus* species were identified, which indicates a properly functioning of the fish pass. The fish migration route was thus extended by 20.4 km .

Also, when monitoring the biological elements carried out by the owner of the small hydro power plant, according to the obligations contained in the water management permit, specimens belonging to the species *Barbus barbus* were caught, even in the fish pass.

Figure 22: Photo Collage - MHC fish fauna monitoring (source: SC Limnades LLC)

In the 3rd planning cycle of the RBMP, works for restoring the longitudinal connectivity on the water body RORW2-1-31_B4 are foreseen for another two transversal barriers, in the area of Gherla and Apahida localities. The implementation of these measures will lead to the complete restoration of longitudinal connectivity on this water body.

3.9 HU-Tisza: Measures to improve water retention in Bereg

3.9.1 Initial (impacted) situation

The landscape unit Bereg (579 km² in total) is located in Hungary and Ukraine. In Hungary 54% of the area is nature protected by Hungarian laws and/or part of Nature 2000. The area is situated between the Carpathians and the Tisza river which is flowing at the borders of Nyírség, a sandy hilly area. The area is typically characterised by small settlements having declining birth-rate and aging population.

Before river restorations, Bereg used to be an area of little waters; creeks running from the mountains, and swamps situated between these creeks. The mosaics of this landscape are still to be found and stand under nature protection.

The flood protection management technics since the 1870s of the river Tisza, the irrigation and land use changes formed the water system of the area. The floodplain became disconnected from its main river and the creeks channelized. New drainage and irrigation channels were built which do not necessarily follow the former river beds. The onetime wetlands are often under agricultural use, where water still appears in form of excess water. On average 26% of the area is affected by excess water. Maximal excess water inundation is affecting 44% of the area. It can also be mentioned that the area is within drought zones of medium and high intensity. The excess water channels are 935 km long in Bereg.

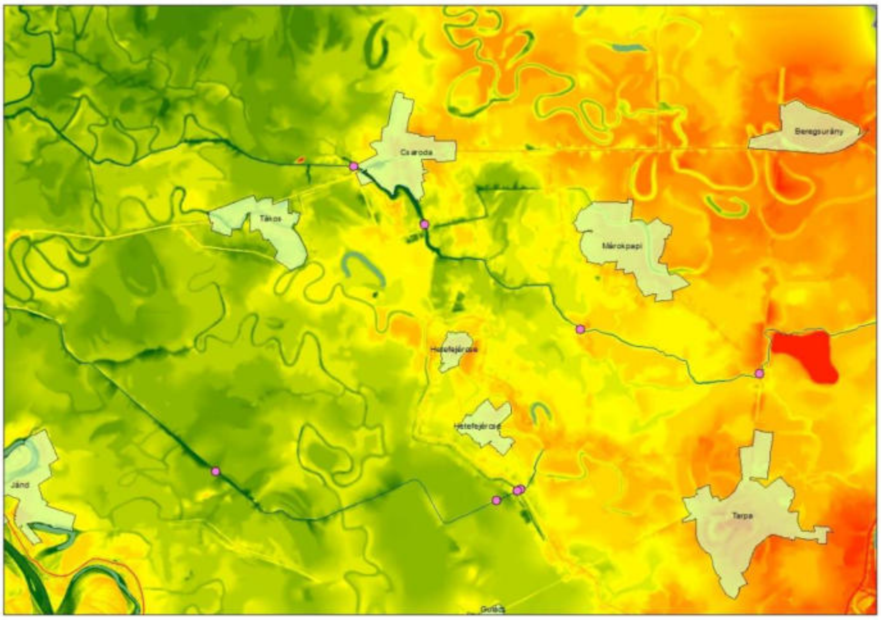


Figure 23: Original river system

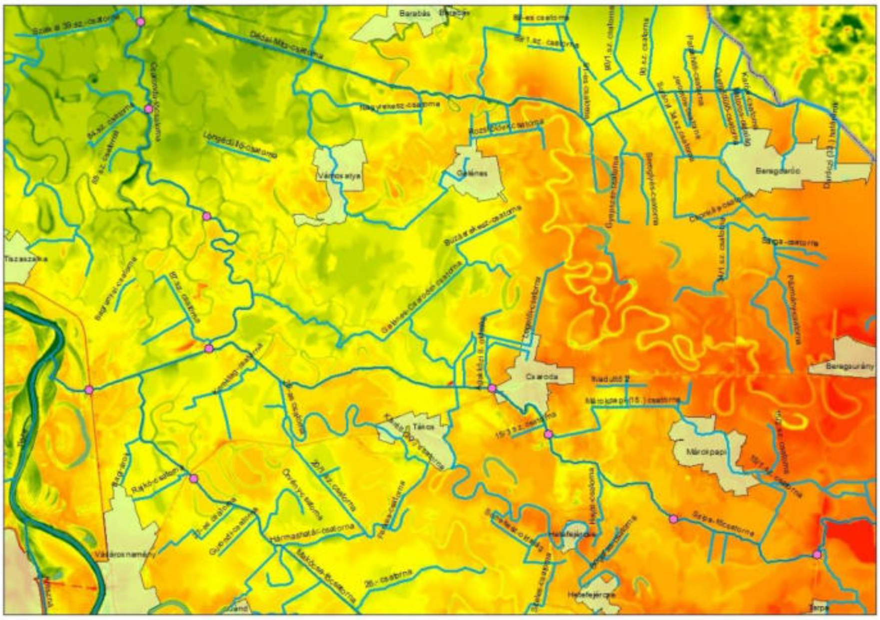


Figure 24: Drainage channels

The river regulations resulted in less water in the area, as swamps were drained, creeks abolished and new channels constructed also with the aim to drain the land. Excess water is regarded as a problem on the agricultural land. Climate change, the need for agricultural production and nature protection aims changed the relation to water, which is not regarded as part of the landscape.

The water managing structures of the area are mainly suitable for the drainage of water and not for managing/ retaining it. Furthermore, the agricultural use not fully takes into account the water regime characteristics of Bereg, which makes the agricultural production vulnerable. Nature protection is of high importance in the area, but is also not fully sustained by the existing water infrastructure.

The restoration aimed to change the water infrastructure to better accommodate it to landscape characteristics (small creeks, more water) and to make a land use change possible.

3.9.2 The measure

The Bereg project aimed to raise water retention possibilities by ensuring more water in the area and helping better water regulation. The concrete measures involve two new water abstraction possibilities from the river Tisza, three new channels for water supply, channel rehabilitations, building/reconstruction of structures to ensure water retention, rehabilitation of former mine pits to create wetlands as also building/modernisation of new monitoring stations. Also, a water supply possibility was analysed from the Borzsa river in Ukraine.

The creation of water retention possibilities has multiple effects:

- it sustains the water supply of dead arms and backswamps in Bereg
- landscape management can be now based on the concept of water retention. More water is available in the area in low water situations, it also sustains the quality of available water resources
- the new infrastructure ensures the basis for an optimal land use for e.g. forestry, nature protection, agriculture. It adumbrates the improvement of the environmental status of the area but also farmers' living conditions.

- landscape management can be attached to the function of overflow reservoirs. Two overflow reservoirs of the river Tisza are situated in Bereg. In case of high floods, the reservoirs will be able to transfer water to Bereg.
- Monitoring system (also structure operation monitoring) development in the area ensures the continuous information on water quality and quantity.

The project was finished in 2019. The overall costs of 34 mill. € were entirely covered by EU funds.

3.9.3 Conclusion

The project was initiated by foresters, nature protection experts, farmers and water managers. It was a good example for stakeholder participation where the change of water management principles was originating from local residents and famers.

More water in the area enables higher groundwater levels. During arid summer periods forests and agricultural land benefit from available groundwater as also protected water dependent wetlands do. It makes the change in land use possible that fits more to landscape characteristics.

The project is beneficial for the EU WFD, Habitats directive and the European Landscape Convention and has connection to FD. Hungary built overflow reservoirs which intended to be multifunctional. By retaining water from floods/ excess water the water can be used for other aims as nature protection, landscape unit characteristic based agriculture. The project builds on the overflow reservoirs as also on other water resources (Tisza, Borzsa) by using a holistic view.

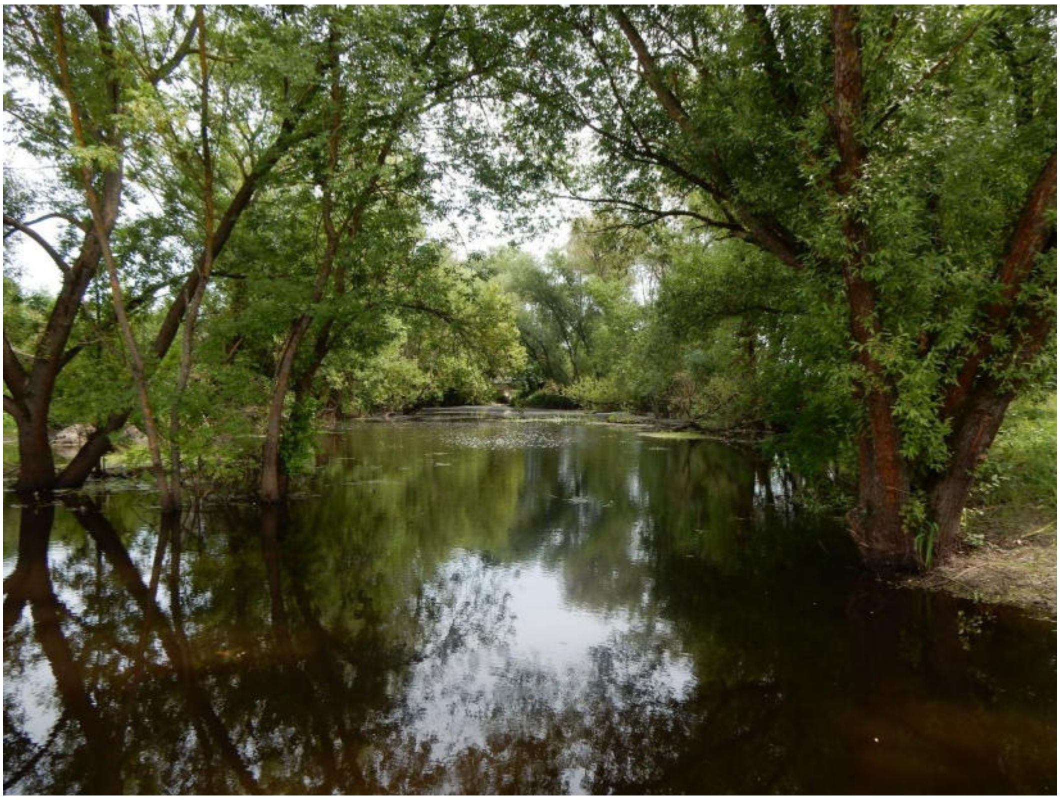


Figure 25: Restored section

3.10 HU-Monsoni-Duna: Measures at Mosoni-Duna estuary section

3.10.1 Initial (impacted) situation

Szigetköz is situated in north-western Hungary and depends on Danube water. This river stretch still shows the anabranching pattern of the Danube, while the river branches are already stationary. The regulated water levels and transfers are ensuring this situation. Still, this area has high values in nature protection, landscape management and recreation. The Szigetköz with its water dependent habitats is representing a unique value.

Szigetköz is depending on the water transferred from the Gabcikovo reservoir on the Danube. After the building of the HPP the arms of the anabranching river lost water. Several measures have been taken since 1992 on the Hungarian side to reduce the impacts of less water, mainly smaller and larger dams/ weirs were built to ensure water retention in the side arms.

Since the 1960s, the Danube is suffering from river bed incision, as a consequence of HPPs and river regulation in Germany and Austria.

The river bed incision of about two meters has a suction effect on the Szigetköz side arms and the groundwater. The dam newly built at the mouth of the Mosoni-Duna arm is situated on the lowest point of the area, where the anabranching character ends. It helps to sustain water retention on the lower part of the area (the mitigation measures started on the upper part of Szigetköz and continued on the middle part while the lower part was less taken into account until now).

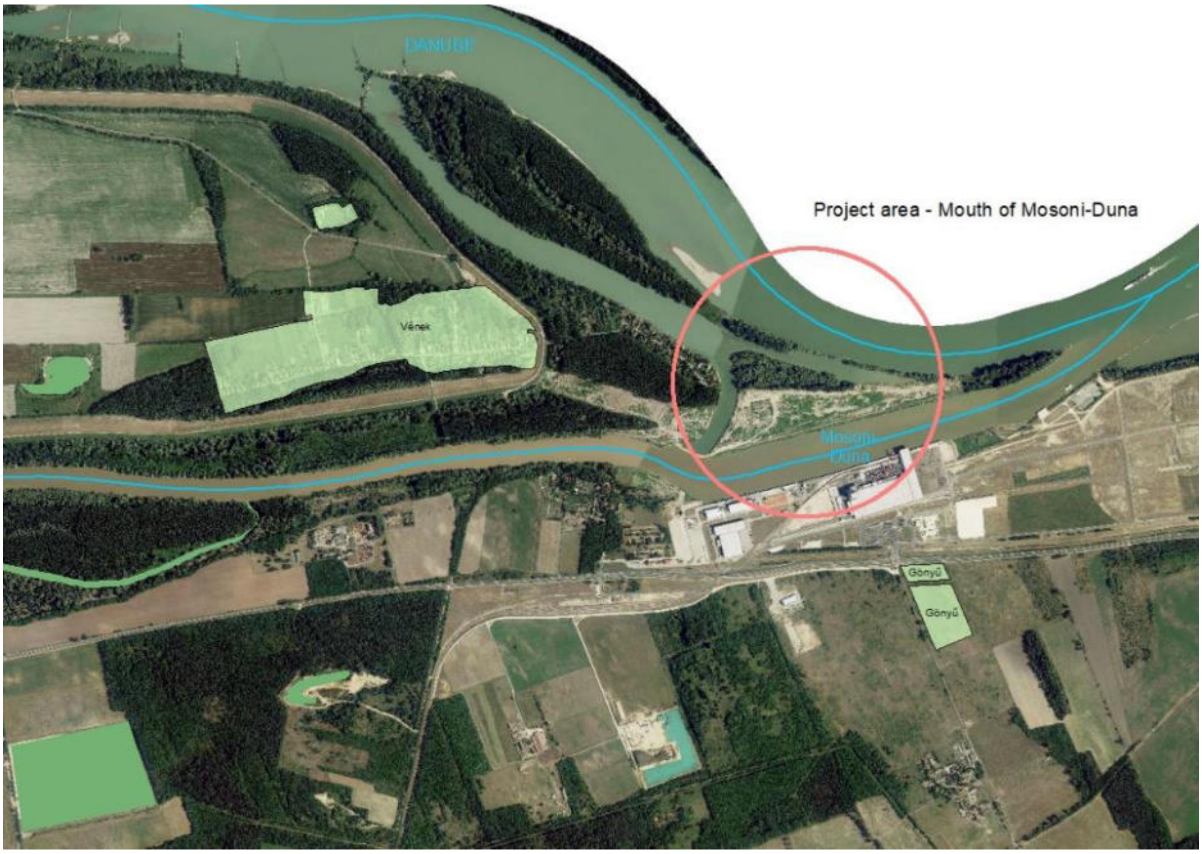


Figure 26: Project area (confluence of Mosoni-Duna with Danube)

3.10.2 The measure

The main aim of the project was to raise the medium and low water levels in the lower section of Mosoni-Danube and the connected area of Szigetköz, but also to restore the estuary water level corresponding to the supporting effect of the Danube. It was realised by the building of a new dam at the mouth of Mosoni-Duna.

The higher water levels in the lower Szigetköz will enable water supply for wetlands and floodplains in Szigetköz where the former Danube branches have important values with their colourful ecosystems.

Figure 27: Before the construction works started at Mosoni-Danube and Danube estuary section

Figure 28: Construction works – funding the structure

The building of the dam also sustains other water uses. Higher water levels ensure navigation of the Mosoni-Duna: The Győr-Gönyü national port –built from 1992 – and situated near the mouth of Mosoni-Duna will be better available for ships due to higher water levels. Also, the results of the project will provide a more attractive view of the city Győr, where river bed incision also indicated changes. The dam will also ensure the exclusion of too high water levels of the Danube reducing the flood risk of the cities along the lower Mosoni-Duna. The project is ongoing and expected to be finished in 2021. The overall costs of 82 mill. € will be shared between EU (50%) and national funds (50%).

3.10.3 Conclusion

The new dam raises the medium and low water levels and ensure higher water levels in lower Szigetköz. This higher water level will be adjusted to original water levels (before the HPP was built and the Danubean incision reduced water levels here), while ecosystem needs will be considered. It will enable better water supply of river branches, wetlands and floodplains, and connect their woody and water related ecosystems. The main aim is to have a more natural conditions in this area. The measure serves the EU WFD by reducing the risk of low water situations in Szigetköz (and reaching good status) as also Floods Directive by increasing the flood safety for the city Győr. Furthermore, the Fertő-Hanság National park under the name Szigetközi Landscape Conservation Area and the Natura 2000 site as Szigetköz (HUFH30004) may benefit from the measure.

3.11 SI-Continuity restoration in the Sava River

3.11.1 Initial (impacted) situation

There are 8 HPPs built on the Slovenian part of the Sava River. Between the most downstream HPPs there is an additional dam that is needed for operation of a nuclear power plant. Fish passes are built on the three most downstream HPPs. With construction of the last HPP also the dam at the nuclear power plant becomes passable for fishes due to an increase in water level caused by the downstream HPP. The construction of a fish pass is one of numerous mitigation measures on the HPP. There were also other mitigation measures implemented, i.e. dynamic river banks, sand banks for kingfishers, floating islands for terns, banks for sand martins, riparian vegetation, passages for amphibians, passability between Sava River and tributaries etc.

3.11.2 The measure

The fish pass is located on the run-of-river HPP Brežice, on the left bank of the Sava River. The fish pass is divided in two parts – first, a near-natural part, designed as a side channel of the river and second, a technical part, designed as sequence of pools. The first part is 830 m long and is created as meandering channel with two larger resting places, five spawning grounds, six larger pools and nine sequences of rapids. At the inflow to the technical part of the fish pass, an automatic system of one main lock and six regulative locks enables inflow of the necessary discharge for every water level condition. The water flow in the fish pass is changing depending on the fish species needs in each particular season of the year. There is a higher discharge guaranteed in spring (800 l/s) during spawning season. Also, in summer and early spring discharge is slightly higher (650 l/s) and then reduced in autumn and winter time (500 l/s).

Figure 29: HPP Brežice and the fish pass on the Sava River after construction

Figure 30: HPP Brežice and the fish pass on the Sava River one year after construction

The operation of the fish pass is also adjusted to high water flow conditions (when discharge of Sava is higher than 700 m^3/s). In these conditions the main lock is partially closed (7%), one of the regulative locks is opened and the other regulative locks are closed in order to guarantee a reduced inflow of suspended sediment into the fish pass and to prevent siltation in the fish pass. In high water conditions fishes are hidden in pools created within the fish pass.

The operation of the fish pass is also adjusted to winter conditions. In order to prevent freezing of water in the inflow part (when air temperature is lower than 3°C), only the first and sixth regulatory lock is opened.

3.11.3 Conclusion

After the fish pass construction in 2017, fish monitoring was established. Results showed appropriate functioning of the fish pass. 27 different fish species were identified, whereby the near-natural part of the fish pass featured a higher diversity of fish species.

Maintenance work on the fish passes is recognised as very important for their appropriate working. It is very important that flow variability is guaranteed and that flow conditions prevent siltation of substrate within the fish pass.

Figure 31: HPP Brežice on the Sava River 3 years after construction

4. Final remarks - Outlook

Most of the here presented lighthouse projects aim for the restoration of more than one impact type (e.g. hydrology, morphology, connectivity). Furthermore, most examples also serve the fulfilment of more than one directive (e.g. WFD, Habitats Directive, Birds Directive, Floods Directive). They therefore provide best-practice examples on how synergies can be used.

Four examples are located in the Danube or in the vicinity of the Danube. All of these projects focus on morphological restorations, while three also serve continuity restoration. Six examples are located in Danube tributaries. Since the Danube often inherits problems arising in tributaries (e.g. sediment deficit), restorations in tributaries are not only relevant locally but may also be beneficial for the Danube, in the long run.

The here presented lighthouse projects represent just an extract of many implemented measures in the DRBD between 2015 and 2021 (see Table 1). Since efforts to restore the Danube and DRBD tributaries will have to continue in the future, the here presented examples should provide some inspiration for future measure implementation.

Of course, several additional measures are planned for the DRBD. While several fish passes and river restoration projects are currently in planning or in construction phase, there are also additional measures planned for the period 2021-2027. With 211 measures, a clear focus is given to continuity restoration. But also 50 morphological and 25 hydrological restoration projects are foreseen. Finally, the reconnection of 30,845 ha of wetlands/floodplains are planned until 2027. Further exchange on their planning and implementation, the best use of synergies and contribution to fulfilment of the WFD are encouraged in order to make the best use of available resources.

5. Projects related to hydromorphology and supported by the ICPDR

Beside implemented hydromorphological measures, important progress in the field of hydromorphology in the Danube River Basin was made through the implementation of different projects supported by the ICPDR, mainly the DanubeSediment project, the Danube Floodplain project and the MEASURES project (on restoring corridors for migratory fish species), which results are presented in the DRBMP Update 2021.

Additionally, also other important projects, supported by the ICPDR, were implemented, including projects Aquacross (hydromorphological restoration, mitigation and conservation), coopMDD (restoration of ecological connectivity), DANUBEparksCONNECTED and WILDislands initiative (Danube wild islands habitat corridor), DriDanube (management of drought related risks), FRAMWAT (small water retention measures) and MARS (managing of aquatic ecosystems) or are in implementation phase in the Danube River Basin, including projects Living Danube Partnership (rivers, floodplains and wetlands restoration), IDES (integrative floodplain management), LIFELINE MDD (restoration of ecological connectivity).

Several of these projects like DriDanube, FRAMWAT, MARS or IDES are also of pollution relevance and supported and/or support ICPDR.

More information about the projects, including a short description and weblinks, can be found in the table below.

Name of the project	Duration	Aim/results of the project with particular relevance for HYMO activities/objectives	Web page
AQUACROSS: Knowledge, Assessment and Management for **AQUA**tic Biodiversity and Ecosystem Services a**CROSS** EU policies	2015-2019	An assessment of pressures on inland waters was performed identifying the extent of hydromorphological alterations, and specifically for the Danube River Basin a prioritisation of the river-floodplain systems along the navigable stretch of the Danube for hydromorphological restoration, mitigation and conservation was conducted. Therefore, a novel integrative modelling approach was developed that used different data sets (inlcuding hydromorphological assessments) and considered multiple targets related to biodiversity, ecosystem services and socio-economic benefits, in line with Ecosystem-based management.	https://aquacross.eu/
Coca Cola Living Danube Partnership	2014-2021	Regional partnership between WWF, COKE system and ICPDR covering river and floodplain,wetland restoration projects across six countries (Austria, Hungary, Croatia, Serbia, Romania and Bulgaria). The partnership is working closely with local stakeholders and relevant authorities to restore areas and connect river stretches or , inclfloodplains to the river system by opening dams, reconnect side-arms, installing water retention artefacts, improving water supply channels, forest habitats or creating open water surface. At the same time regional movement is being created for river, wetland conservation and restoration.	https://www.icpdr.org/main/publications/working-together-living-danube
coopMDD	2017-2019	In the frame of the coop MDD project, a Transboundary Management Programme for the future 5-country UNESCO Biosphere Reserve "Mura-Drava-Danube" (TBR MDD) was jointly	https://www.wwf.at/de/coopmdd/

		developed. The "Guidelines for a dynamic river corridor" as one of the project outputs show which objectives need to be reached to protect and restore the dynamic river corridor for the rivers Mura, Drava and Danube, also with regard to "River management and engineering".	
DANUBEparksCONNECTED: Bridging the Danube Protected Areas towards a Danube Habitat Corridor	2017-2019	Within DANUBEparksCONNECTED (funded by the Interreg Danube Transnational Programme), the Danube River Network of Protected Areas (DANUBEPARKS) implemented transnational measures to counteract habitat fragmentation, and to strengthen the Danube as ecological corridor. The WILDisland initiative has been launched: Based on a Danube-wide inventory of all islands, the conservation campaign for these "flagship sites of river dynamics" resulted in pilot river restoration measures. Additionally, project actions preserved and restored riparian soft wood forests, promoted coherent management of Danube dry habitats, and protected thousands of bird lives against collision at electric powerlines (DANUBE FREE SKY initiative).	www.danubeparks.org http://www.interreg-danube.eu/
DriDanube	2017-2019	The project aimed at increasing the society's resilience to the occurrence of drought in the Danube region by developing a regional drought monitoring tool[1] and a strategic document on improved national response to drought[2]. The project results with particular relevance for HYMO activities/objectives is the drought monitoring tool "Drought Watch", developed for better drought characterisation and early warning over the region by allowing a spatial and temporal view of the state of soil moisture and vegetation through various	http://www.interreg-danube.eu/approved-projects/dridanube [1] https://droughtwatch.eu/ [2] http://www.interreg-danube.eu/uploads/media/approved_project_out put/0001/38/0363f7bdde74184f0f372bc04744650d46445c49.pdf

		drought-related datasets at regional and national level. The tool integrates also the results of the project-established "National Reporting Networks" in 10 Danube basin countries, which gather weekly observations on the state of soil and plants, and this way help deliver early awareness of drought damage in place. The other product of this project, also integrated into Drought Watch, are informative cross-border comparable maps of drought risk in the Danube region, prepared both in climatological sense and in relation to expected yield loss. They allow to recognise the areas prone to rainfall deficit or considerable crop losses.	
FramWat: **Fram**ework for improving water balance and nutrient mitigation by applying small **wat**er retention measures	2017-2020	The main aim of the FramWat project was to support and boost knowledge on more systematic approaches towards the application of N(S)WRM in river basins. One of the main tools developed within the project is FroGIS – GIS based tool to analyse the needs and possibilities of water retention. The rest of the tools and outputs developed within the project, best practices from participating countries, and practical recommendations from pilot catchments are collected into 5-step process of N(S)WRM planning and presented in the Practical Guidelines on Planning Small Water Retention in River Basins. Addition to the Guidelines is the Decision Support System, created for people involved in planning water retention measures. The goal of the application is to familiarise the user with the catalogue of N(S)WRM and the planning process, as well as to survey their preferences for their area of interest.	www.interreg-central.eu/FramWat http://WaterRetention.sggw.pl https://www.interreg-central.eu/Content.Node/DT353-Guidelines.pdf https://planning.waterretention.sggw.pl/

IDES: **I**mproving water quality in the **D**anube river and its tributaries by integrative floodplain management based on **E**cosystem **S**ervices	2020-2022	IDES aims to identify the retention potential of floodplains by applying the model MONERIS and to integrate multiple interests along the river to accelerate the joint implementation of a sustainable water quality management along the Danube. The new IDES tool will help to derive optimized, nature-based solutions by assessing all relevant ecosystem services in an unbiased way, their trade-offs and synergies. Based on the results of Danube wide assessment and in pilot areas, national action plans with prioritized areas and a joint strategy for improving water quality at transnational level will be developed regarding the Danube river basin management plan and targets of PA4 and PA6 of the EUSDR.	http://www.interreg-danube.eu/ides
lifelineMDD	2020-2022	The project lifelineMDD addresses the issue of an insufficient knowledge base and unused synergies within the transboundary MDD river corridor with a cross-sectoral partnership that aims to improve connectivity and biodiversity. The development of a strategic integrated approach to river restoration will be based on scientific studies of bio-indicators (fish and river birds) and abiotic framework conditions (sediment transport and climate change). A cross-sectoral learning process between nature protection and water management authorities based on pilot restoration actions will raise institutional competences and cooperation between key stakeholders.	http://www.interreg-danube.eu/approved-projects/lifelinemdd http://www.amazon-of-europe.com/en/lifelinemdd/ https://www.wwf.at/de/lifeline-mdd/
MARS:	2014-2018	Aim/results of the project with particular relevance for HYMO activities/objectives (2-3 sentences): MARS has analysed data from various spatial scales, i.e. local water body, single river basin and	http://www.mars-project.eu https://freshwaterblog.net

Managing **A**quatic ecosystems and water **R**esources under multiple **S**tress		European scale, in order to better understand and disentangle complex interactions between pressures (including HYMO), resulting stressors and their effects on aquatic biota. Multi-stressor situations require knowledge on the relative importance of different stressors (stressor hierarchy, including dominating stressors) and their impacts in order to find the best combination of mitigation or restoration measures. MARS therefore has generated a general framework supported by MARS tools for tackling multi-stressor conditions in River Basin Management and to select appropriate management strategies concerning the level and type of necessary mitigation measures, which are described in the MARS Recommendations document.	

Disconnected wetlands and former floodplains with potential for reconnection in the DRBD

ICPDR IKSD

International Commission for the Protection of the Danube River

Internationale Kommission zum Schutz der Donau

Draft ANNEX 19 as of 25 March 2021
DRBMP Update 2021

List of wetlands/floodplains

Country	Floodplain code	Name	Area (ha)	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
AT	AT1204000	Donau-Auen östlich von Wien	9554	Donau	ATOK409040008	NWB	Partly	Implemented by 2027	Unknown
DE	DEBY_LAT_NB_IN	Dynamisierung der Donauauen	3038	Donau	DERW_DEBY_1_F163	HMWB	Yes, completely		No
DE	DEBY_LAT_IS	Isarmuendung	2926	Isar	DERW_DEBY_1_F430	NWB	Partly	Implemented by 2027	No
HU	HUBivaly	Bivaly-tó	552	Tisza	HUAEQ060	HMWB	Yes, completely		No
RO	ROLA01.13.1.15.0.0.0.0	Meandre/brate secundare Jijia intre Cotu Morii si Cristesti	2650	Jijia	RORW13-1-15_B4	AWB	Partly	Implemented by 2027	No
RO	ROLA29.14.1.3.0.0.0.0	Badalan	1593	Dunarea	RORW14-1_B3	HMWB	Not yet	Not yet determined	No
RO	ROLA02.14.1.0.0.0.0.0	Bistret	17300	Dunarea	RORW14-1_B3	HMWB	Not yet	Not yet determined	Yes
RS	RS50	Obedska bara	9820	Sava	RSSA_3	NWB	Partly	Implemented by 2027	No
RS	RS4514	PotamiĹˇje	23989	Tamiš	RSTAM_2	HMWB	Partly	Not yet determined	No
RS	RS729	Ritovi donjeg Potisja	3010	Tisa	RSTIS_2	NWB	Partly	Not yet determined	No
RS	RS686	Stara Tisa kod Bisernog ostrva	970	Tisa	RSTIS_2	NWB	Not yet	Not yet determined	No
SK	SKLAD0002	Devinske a Karloveske rameno Dunaja	266	Dunaj	SKD0016	NWB	Partly	Implemented by 2027	Yet to be determined
SK	SKLAD0005	Medvedovsko-Klucovecka sustava -lavostranne ramena Dunaja	533	Dunaj	SKD0017	HMWB	Partly	Implemented by 2027	Yet to be determined
SK	SKLAD0004	Biskupicke rameno Dunaja	420	Dunaj	SKD0017	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKLAD0003	Pravostranne ramena Dunaja - Bratislava	496	Dunaj	SKD0017	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKLAD0001	Ramenna sustava stareho koryta Dunaja - lava strana	2966	Dunaj	SKD0017	HMWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKLAD0006	Lavostranne rameno Dunaja -obec Klizska Nema	69	Dunaj	SKD0017	HMWB	Partly	Implemented by 2027	Yet to be determined
SK	SKLAD0009	Lavostranne rameno Dunaja - obec Muzla	59	Dunaj	SKD0018	NWB	Partly	Implemented by 2027	Yet to be determined
SK	SKLAD0007	Velkolelske rameno Dunaja	280	Dunaj	SKD0018	NWB	Partly	Implemented by 2027	Yet to be determined
SK	SKLAD0008	Lavostranne rameno Dunaja - obec Nova Straz	21	Dunaj	SKD0018	NWB	Not yet	Implemented by 2027	Yet to be determined
SK	SKLAH0001	Lavostranne rameno Hornadu - pri obci Trstena pri Hornade	7	Hornád	SKH0004	NWB	Yes, completely		Yet to be determined
UA	UA01renkag	Reniyskiy	800	Danube	UADB_UA_01	NWB	Not yet	Not implemented by 2027	Yet to be determined

Country	Floodplain code	Name	Area (ha)	River	RWB Code	RWB Type	Restored 2021	Measure 2027	Decisive Impact HMWB
UA	UA06izmkug	Matroskiy	1195	Danube	UADB_UA_02	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA05izmkug	Repida	2799	Danube	UADB_UA_02	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA04renkug	Kugurluiskiy	1270	Danube	UADB_UA_02	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA03renkag	Orlovskiy	795	Danube	UADB_UA_02	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA02renkag	Kagulskiy	1300	Danube	UADB_UA_02	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA18kilszp	SZP	4772	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA17kilszp	SZP	2653	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA14kilvil	Vilkovskiy	1180	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA15kilsol	Solomonov	1850	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA13kilszp	Liskivskiy	3400	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA19kilkil	Kiliiskiy	2600	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA12kilstp	Stepovoi	870	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA11kilkit	Vasilevskiy	1346	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA10izmkit	Kamyshovskiy	4281	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA09izmkis	Kislitskiy	5650	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA08izmkat	Lung	1730	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA07izmkat	Staronekrasovskiy	671	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UA16kilerm	Ermakov	2670	Danube	UADB_UA_03	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UAPolder_6	6	1204	Tisza	UATISR05	NWB	Not yet	Not implemented by 2027	Yet to be determined
UA	UAPolder_3	3	520	Tisza	UATISR05	NWB	Not yet	Not implemented by 2027	Yet to be determined
RS	RS69	Carska bara	4726		RSBEG_1		Not yet	Not yet determined	No
RS	RS602	Karadjordjevo	2955		RSD09		Partly	Not yet determined	No
RS	RS605	Tikvara	554		RSD09		Partly	Not yet determined	No
RS	RS485	Gornje podunavlje	19604		RSD10		Partly	Not yet determined	No
RS	RS608	Koviljsko-petrovaradinski rit	5895		RSD07		Partly	Implemented by 2027	No
RS	RS749	Pancevacke ade	1309		RSD05		Partly	Not yet determined	No

Financing Joint Programme of Measures

ICPDR IKSD
International Commission for the Protection of the Danube River
Internationale Kommission zum Schutz der Donau

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DRBMP Update 2021

Financing Program	Organisation	Description	Significant Water Management Issue targeted	Other eligibility criteria	Sources/further information regarding application
European Regional Development Fund (ERDF)	EU (European Structural and Investment Funds/ESIF)	The ERDF aims to strengthen economic, social and territorial cohesion in the EU by correcting imbalances between regions. The ERDF supports regional and local development to contribute to all of the thematic objectives, laid down in the CPR[1].	TO 5 (climate change adaptation, risk prevention and management): ecosystem-based approaches for hydromorphological alterations (reconnection of wetlands/floodplains), possibly nutrient pollution (diffuse pollution from agriculture). TO 6 (preserving and protecting the environment and promoting resource efficiency): organic pollution (UWWTP, industrial point sources), nutrient pollution (UWWTP, industrial point sources), hazardous substances pollution (UWWTP industrial point sources), hydromorphological alterations (reconnection of wetlands/floodplains). The TOs are accompanied by five specific objectives (POs), of which PO2 is of special importance for environmental issues: "a greener, low-carbon Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate adaptation and risk prevention and management[2]"	Only EU Member States eligible MS/regions are classified according to "more developed regions/transition regions/less developed regions" (influencing minimum allocations set for a number of priority areas, such as "low carbon economy").	*Common Provisions Regulation[3]. *ESIF general: http://ec.europa.eu/contracts_grants/funds_en.htm *ERDF general: https://ec.europa.eu/regional_policy/en/funding/erdf/ *Project database: http://ec.europa.eu/regional_policy/index.cfm/en/projects/?LAN=EN&pay=ALL&region=ALL&the=97&type=ALL&per=2

[1] The thematic objectives, applicable to all ESI Funds, are: 1. research and development, and innovation; 2. information and communication technologies; 3.competitiveness of SMEs; 4. shift towards a low-carbon economy; 5. climate change adaptation, risk prevention; 6. protecting the environment and promotion resource efficiency; 7. promoting sustainable transport; 8. employment and labor mobility; 9. social inclusion and poverty; 10. education, and training; 11. institutional capacity and efficiency of public administration.

TO 5 and 6 are particularly relevant for water and marine policy.

[2] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the European Regional Development Fund and on the Cohesion Fund: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A372%3AFIN

[3] More detailed information on eligibility, financial instruments, ex-ante conditionalities and management and control principles, as well as common elements on strategic planning and programming, thematic objectives linked to the Europe 2020 Strategy and visions on the Common Strategic Framework and on the Partnership Agreements to be agreed between the Commission and each Member State can be found in the Common Provisions Regulation/CPR (No 1303/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013, amended 24th April 2020), to be found here: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02013R1301-20200424.

European Social Fund Plus (ESF+)	EU (European Structural and Investment Funds/ESIF)	The European Social Fund Plus (ESF+) is the main financial instrument to strengthen Europe's social dimension, for investing in employment opportunities (especially of young people), better education, improvement of the situation of the most vulnerable people; capacity building/training in the environment is also being supported.	No direct linkage to the Danube SWMIs. Possible indirect linkages in all areas regarding capacity building/training.	Organisations based in EU Member States, associated countries and under certain conditions third countries are eligible for funding.	*Common Provisions Regulation (see footnote 3 above) *ESF/ESF+ general: https://ec.europa.eu/esf/home.jsp?langId=en *Project database: see link under ERDF
Cohesion Fund (CF)	EU (European Structural and Investment Funds/ESIF)	The Cohesion Fund 2021-2027 invests in all regions, still on the basis of 3 categories (less-developed; transition; more-developed), determined by Gross National Income (GNI) and GDP/capita. New criteria are youth unemployment, low education level, climate change, and the reception and integration of migrants.	<u>TO5 and 6 of the CPR as well as the new PO2 apply to the CF (see footnote 2):</u> <u>- Climate change adaptation and risk prevention:</u> hydromorphological alterations (reconnection of wetlands/floodplains). <u>- Investment in the water and waste sectors, and the urban environment:</u> organic pollution (UWWTP, industrial point sources), nutrient pollution (UWWTP, industrial point sources, urban run-off), hazardous substances pollution (UWWTP, industrial point sources, urban run-off). <u>- Investment in energy, provided it has positive environmental benefits:</u> possibly all hydromorphological pressures if linked to hydropower.	Only EU Member States eligible	*Common Provisions Regulation (see footnote 3 above) *CF general: https://ec.europa.eu/regional_policy/en/funding/cohesion-fund/ *Project database: see link under ERDF
European Maritime and Fisheries Fund (EMFF)	EU (European Structural and Investment Funds/ESIF)	The EMFF is the primary financing instrument for the reformed Common Fisheries Policy (CFP) and the Integrated Maritime Policy (IMP), including the	No direct linkage to the Danube SWMIs. Possible indirect linkages in transitional/coastal water, e.g. with regard to data collection on fish species, or the management, restoration and monitoring of coastal Natura2000 sites.	Only EU Member States eligible	*Common Provisions Regulation (see footnote 3 above) *EMFF general: https://ec.euro

		Marine Strategy Framework Directive (MSFD). It is aimed at supporting the European fisheries sector towards more sustainable fishing practices, with a particular focus on supporting small-scale fishermen.	A new focus in 2021-2027 is on protecting marine ecosystems with an expected contribution of 30% of its budget to climate change mitigation and adaptation, in line with the commitments agreed under the Paris Agreement.		pa.eu/fisheries/cfp/emff/
CAP/European Agricultural Fund for Rural Development (EAFRD)	EU (European Structural and Investment Funds/ESIF)	The EAFRD is one of the primary financing instruments for the Pillar II of the CAP (Rural Development). The post 2020 CAP (whose budget is allocated for the multiannual financial network 2021-2027 but the provisional start date of the proposed CAP reform is 1 January 2023, with a transitional regulation for the period of 2021-2022) is proposed to be implemented through national CAP Strategic Plans, a programming tool that will define, for each Member State, the key parameters for the implementation of all CAP instruments (direct payments, rural development and sectorial interventions). The CAP Strategic Plans will be bound to conditionalities, e.g. in the field "climate and environment".	SWMI targeted through Pillar II payments (rural development), which will continue to fund investments also in the field of environment and climate. This includes the agri-environment-climate payments supporting environmental-friendly farming methods and practices beneficial for the environment and climate, and providing environmental public goods in the fields of climate change mitigation and adaptation, the protection and improvement of the environment, including water quality and quantity, air quality, soil, biodiversity, landscapes and ecosystem services. Hence, all SWMIs (except hydromorphology) and cross-cutting issues are also in future potentially covered by EAFRD payments. Additionally, rural development will continue to support organic farming, areas composing the Natura 2000 EU network, and also environment/climate-related investments, knowledge-building, innovation as well as co-operation.	Only EU Member States eligible	*Common Provisions Regulation (see footnote 3 above) *EAFDR general: https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/rural-development#eafrd *CSWD on the proposed CAP and the environment: https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/sustainability_and_natural_resources/documents/analysis-of-links-between-cap-and-green-deal_en.pdf
LIFE	EU	The LIFE programme is the only EU fund	Potentially addresses all SWMIs through the "LIFE Integrated Projects"	EU and non-EU countries (candidate	*General information: http://ec.euro

		entirely dedicated to environmental and climate objectives. It supports the implementation of relevant EU legislation and the development of key policy priorities, by co-financing projects with European added value. In June 2018, the European Commission submitted a proposal on a regulation establishing a new LIFE programme for 2021-2027. It has two main fields of action, covering four sub-programmes. 1: Environment field with the Nature and Biodiversity and the Circular Economy and Quality of Life sub-programmes. 2: Climate Action field with the Climate Change Mitigation and Adaptation and the Clean Energy Transition sub-programme.	(organic pollution indirectly). Foci are ecosystem-based approaches: organic pollution (indirectly through natural buffer zones), nutrient pollution (diffuse sources from agriculture and agricultural atmospheric emissions, urban run-off), hazardous substances pollution (diffuse sources, mainly from agriculture, but potentially also from urban and landfill/mining sites), hydromorphological alterations (longitudinal river continuity, reconnection of wetlands/floodplains, hydrological alterations). Also measures targeting sediments (retention measures) and IAS. Through the many links to climate and resilience, synergy effects between climate change adaptation, mitigation and water/biodiversity protection are manifold (keywords: NWRM, green infrastructure).	countries and the Western Balkan countries involved in the Stabilisation and Association Process, as well as countries to which the European Neighbourhood Policy applies).	pa.eu/environment/life/ *Information on COM proposal: https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/628294/EPRS_BRI(2018)628294_EN.pdf *LIFE regulation (proposal): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A385%3AFIN *National contact points: https://ec.europa.eu/easme/en/section/life/life-national-contact-points
Horizon Europe	EU	Horizon Europe is the funding program for research and innovation for the period 2021-2027.	No direct link to Danube SWMIs, but research to support measures/knowledge on any SWMI is possible.	EU and non-EU countries (associated countries). Research program, SME participation possible. Most projects require at least three partners.	*General information on Horizon Europe: https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme_en

INTERREG VI/European Territorial Cooperation (ETC)	EU	INTERREG programs are a specific strand of funding possibilities within the cohesion policy funding, under the European Territorial Cooperation (ETC) goal. INTERREG programs typically focus on cooperation between regions and Member States, and are generally aimed at enabling exchange of experience, knowledge and good practices among relevant stakeholders from different MS and/or regions.	No direct link to Danube SWMIs, but enabling exchange of experience, knowledge and good practices can benefit implementation of measures in all areas.	EU and non-EU countries. Programs can be cross-border (along internal EU borders), transnational (cover larger areas of co-operation such as the Danube Basin), and interregional at EU-28 level (between regional and local bodies in different countries belonging also to different regions).	*Information on Interreg VI (legislative process): https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/628228/EPRS_BRI(2018)628228_EN.pdf *Information on ETC and INTERREG V: http://ec.europa.eu/regional_policy/index.cfm/en/policy/cooperation/european-territorial/ *Project database: http://ec.europa.eu/regional_policy/index.cfm/en/projects/?LAN=EN&pay=ALL&region=ALL&the=97&type=ALL&per=2 List of programs: http://www.danube-region.eu/2014-03-21-07-28-38/etc-ipa-cbc-and-enpi-cbc-programmes
Neighbourhood, Development and International Cooperation Instrument (NDICI)	EU	NDICI (replacing ENI) is providing direct financial support for the EU´s external actions.	Support for non-EU countries participating in cross-border ERDF/INTERREG programs possible. Otherwise, potential link to Danube SWMIs through various funding opportunities (in July 2020, not yet adopted).	Non-EU (candidates, possible candidates and neighbouring countries; in the Danube region: Moldova and Ukraine)	*General information on the new policy (proposal): https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/628251/EPRS_BRI(2

					018)628251_EN.pdf *Proposal for the new regulation: https://www.europarl.europa.eu/RegData/docs_autres_institutions/commission_europeenne/com/2018/0460/COM_COM(2018)0460_EN.pdf
Instrument for Pre-Accession Assistance (IPA III)	EU	Since 2007, the Instrument for Pre-Accession Assistance (IPA) replaces a series of EU programs and financial instruments for candidate countries or potential candidate countries (such as PHARE, ISPA, SAPRD etc.). It is organized along five components, which are: C1. assistance for transition and institution building; C2- cross-border cooperation (with EU MS and other countries eligible for IPA); C3. regional development (transport, environment, regional and economic development); C4. human resources (strengthening human capital and combating exclusion); C5. rural development.	In the Danube RB, only C1 and C2 are being funded: 1. assistance for transition and institution building; 2- cross-border cooperation (with EU MS and other countries eligible for IPA). Hence, no direct link to Danube SWMIs, although institution building and cross-border cooperation can benefit implementation of measures in all areas.	EU candidate countries (Turkey and FYROM) are eligible for all five components of IPA, potential candidate countries in the Western Balkans (Albania, Bosnia-Herzegovina, Montenegro, Serbia, and Kosovo under UN Security Council Resolution 1244/99) are eligible only for the first two components.	*Information on IPAIII: https://ec.europa.eu/regional_policy/de/2021_2027/ *More general information: http://www.welcomeurope.com/european-funds/ipa-ii-instrument-pre-accession-assistance-2014-2020-838+738.html#tab=onglet_details *More information: http://ec.europa.eu/regional_policy/index.cfm/EN/funding/ipa/ List of programs: http://www.danube-region.eu/2014-03-21-07-28-38/etc-ipa-cbc-and-enpi-cbc-programmes
International Bank for		The World Bank is an international	No direct link to Danube SWMIs, although a	IBRD: middle	*Products and Services:

Reconstruction and Development (IBRD) International Development Association (IDA)	World Bank (WB)	financial institution that provides loans to developing countries. It consists of two agencies (IBRD and IDA) and focuses on the following fields: - human development (e.g. education, health); - agriculture and rural development (e.g. irrigation and rural services); - environmental protection (e.g. pollution reduction, establishing and enforcing regulations); - infrastructure (e.g. roads, urban regeneration, and electricity); - large industrial construction projects; - governance (e.g. anti-corruption, legal institutions development). The IBRD and IDA provide loans at preferential rates to member countries, as well as grants to the poorest countries.	multitude of projects/measures benefitting WFD implementation can be financed by WB loans (see also the examples listed under GEF). It has to be remarked, however, that IBRD provides only loans (though at preferential rates), not grants. IDA also provides grants.	income and creditworthy low-income countries (all Danube except DE and AT). IDA: Moldova (and Kosovo)	http://www.worldbank.org/en/projects-operations/products-and-services *IBRD: https://www.worldbank.org/en/who-we-are/ibrd *IDA: https://ida.worldbank.org/
Global Environment Facility (GEF)	GEF	The Global Environment Facility is a partnership for international cooperation where 183 countries work together with international institutions, civil society organizations and the private sector, to address global environmental issues.	GEF provides grants to various types of projects (Climate Change Adaptation Projects and Small Grants Programme (SGP) most relevant) ranging from several thousand dollars to several million dollars. Projects are supported in several "focal areas", of which the most relevant are: Biodiversity, Climate Change, Chemicals and Waste. Financing is provided through grants and non-grants.	Most countries should be eligible, depending on the focal area, eligibility criteria established by the relevant COP of the respective convention, and some others.	*Templates and guidelines available at: http://www.thegef.org/gef/guidelines_templates *Project types: http://www.thegef.org/gef/project_types *Example from Moldova: http://www.worldbank.org/

			Funding possible with regard to all Danube SWMIs.		projects/P075995/agricultural-pollution-control-gef-project?lang=en&tab=overview *Example from Romania: http://www.worldbank.org/projects/P093775/romania-integrated-nutrient-pollution-control-project?lang=en
European Investment Bank (EIB)	EU	The EIB is the EU's bank, offering loans (individual for projects over 25 Mio. €, intermediate to other banks/institutions for SME with projects under 25 Mio. €). The EIB finances a broad range of projects in all sectors of the economy, adhering to one of the six priority objectives, of which 2Climate and Environment" is of special importance for WFD implementation in the Danube.	No direct link to Danube SWMIs, but the EIB´s financing can help to unlock financing from other sources, particularly from the EU budget. It has to be remarked, however, that the EIB provides loans, not grants.	EU and non-EU countries (all Danube countries).	*Applying for a loan: http://www.eib.org/projects/cycle/applying_loan/index.htm *For the Western Balkans, see Western Balkans Investment Framework: http://www.wbif.eu/
European Bank for Reconstruction and Development (EBRD)	International	The EBRD is a development bank offering loans and other financial products (like equities) in more than 30 countries from central Europe to Central Asia. Although the name suggests European ownership, the biggest shareholder is the United States.	No direct link to Danube SWMIs, although a multitude of (mostly private sector) projects/investments can be supported (such as improving animal feeding/breeding lots etc.). The "Sustainable Energy Initiative" (including renewable energy and adaptation projects) finances projects in energy efficiency, renewable	All countries in the Danube RB - except Austria and Germany - are eligible for loans.	*Products and Services: http://www.ebrd.com/what-we-do/products-and-services.html *Sustainable Energy Initiative: https://www.ebrd.com/what-we-

		The EBRD supports private sector development (meeting the requirements, of which to "satisfy banking and environmental standards" is a part) in the relevant sectors agribusiness, energy efficiency & climate change (see Sustainable Energy Initiative), municipal & environmental infrastructure; power and energy.	energy and climate change adaptation/resilience. It has to be remarked, however, that the EIB provides loans, not grants.		do/sectors-and-topics/sustainable-energy-initiative.html

Funding Instruments used in the 2nd Management Cycle

Country/Funding Instrument	National Funding	European Regional Development Fund (ERDF)	European Social Fund (ESF)	Cohesion Fund (CF)	European Maritime and Fisheries Fund (EMFF)	LIFE	HORIZON 2020
Austria	yes	Information not available	Information not available	Information not available	Information not available	yes	yes
Bosnia and Herzegovina	yes	no	no	no	no	yes	yes
Bulgaria	Data not available yet.						
Croatia	yes	yes	yes	yes	yes	yes	yes
Czech Republic	yes	yes	yes	yes	no	yes	yes
Germany	yes	no	no	no	no	yes	no
Hungary	yes	yes	yes	yes	yes	yes	yes
Moldova	Data not available yet.						
Montenegro	Data not available yet.						
Romania	yes	yes	no	yes	yes	yes	no
Serbia	yes	no	no	no	no	no	yes
Slovak Republic	yes	yes	no	yes	no	yes	yes
Slovenia	Data not available yet.						
Ukraine	yes	no	no	no	no	no	yes

Note: CAP/European Agricultural Fund for Rural Development (EAFRD) is excluded, as all EU countries use this fund.
Note: Ukraine is only starting to develop RBMPs, information listed here hence covers only financing some activities in the water sector in this region.

Country/Funding Instrument	INTERREG V/European Territorial Cooperation (ETC)	European Neighbourhood Instrument (ENI)	Instrument for Pre-Accession Assistance (IPA II)	International Bank for Reconstruction and Development (IBRD)/ International Development Association (IDA)	Global Environment Facility (GEF)	European Investment Bank (EIB)	European Bank for Reconstruction and Development (EBRD)
Austria	yes	Information not available	Information not available	Information not available	Information not available	Information not available	Information not available
Bosnia and Herzegovina	no	yes	yes	yes	yes	yes	yes
Bulgaria	Data not available yet.						
Croatia	yes	yes	yes	yes	yes	yes	yes
Czech Republic	yes	no	no	no	no	yes	yes
Germany	no	no	no	no	no	no	no
Hungary	yes	yes	yes	yes	yes	yes	yes
Moldova	Data not available yet.						
Montenegro	Data not available yet.						
Romania	no	no	no	yes	no	yes	yes
Serbia	yes	no	yes	yes	yes	yes	yes
Slovak Republic	yes	no	no	no	no	no	no
Slovenia	Data not available yet.						
Ukraine	yes	yes	no	yes	yes	yes	yes

Note: CAP/European Agricultural Fund for Rural Development (EAFRD) is excluded, as all EU countries use this fund.
Note: Ukraine is only starting to develop RBMPs, information listed here hence covers only financing some activities in the water sector in this region.