

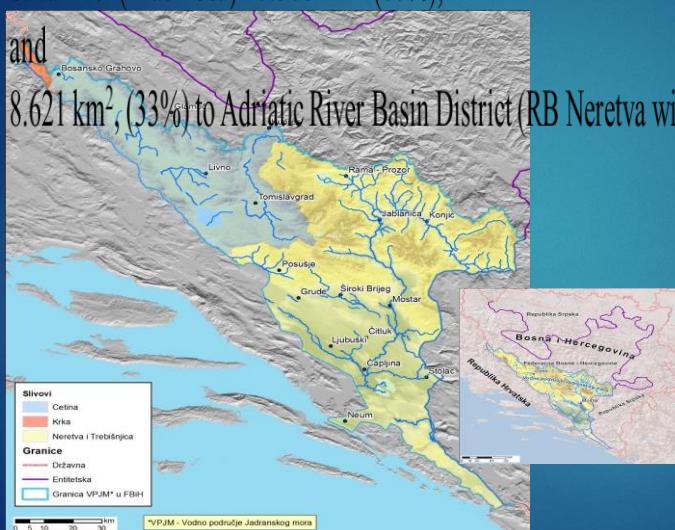
Agency for Watershed of Adriatic Sea Mostar, Bosnia
and Herzegovina
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TAIEX/ECRAN Regional Workshop on WFD: Program of Measures Basic and Supplementary measures

Podgorica, 15-17 February 2016

Total area of Federation of B&H (26 127 km² that is 51% of B&H) belongs to
Sava river (Black Sea) 17.506 km² (67%),

and
8.621 km², (33%) to Adriatic River Basin District (RB Neretva with Trebišnjica, Cetina and Krka)



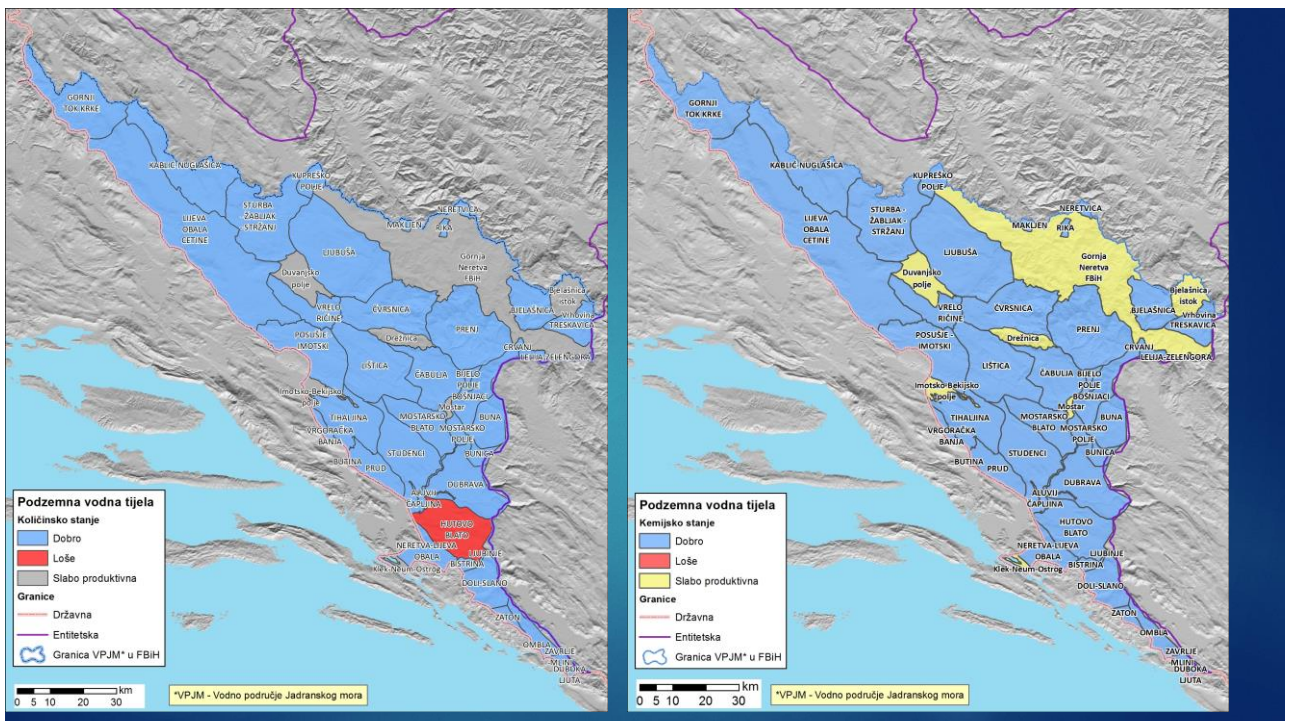
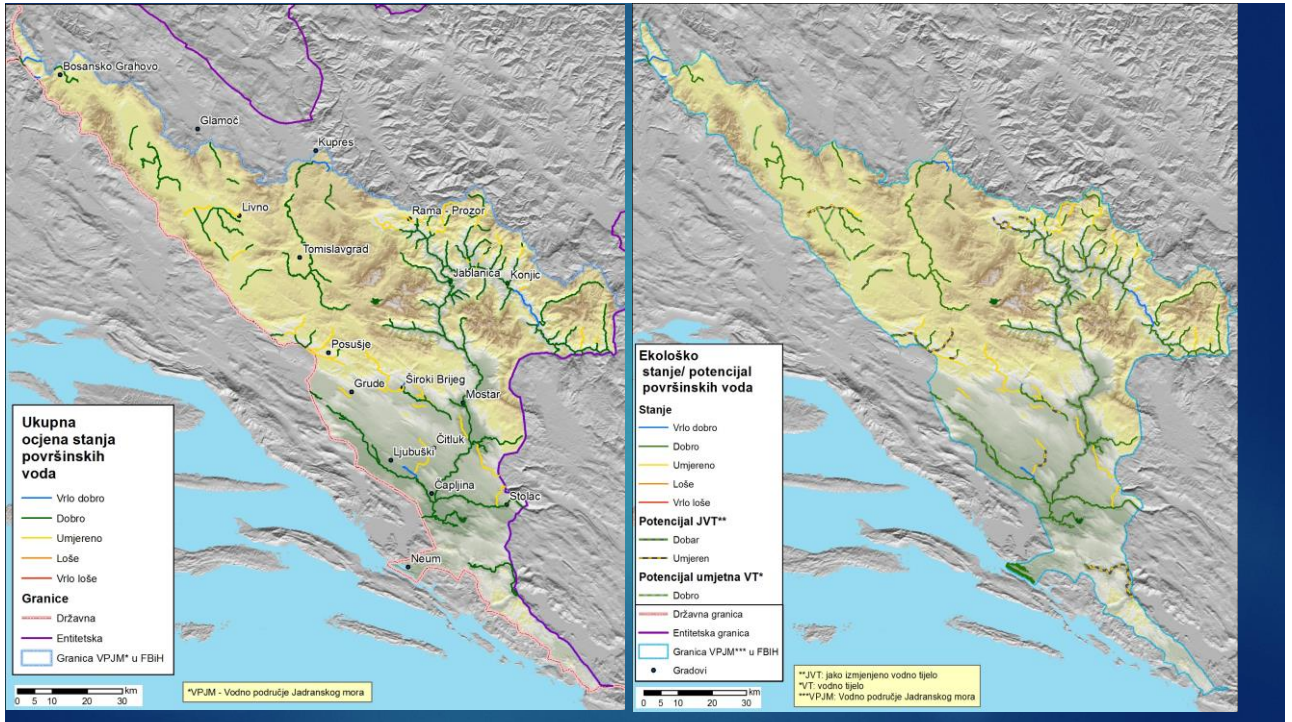
212 WB – rivers

3 WB – lakes

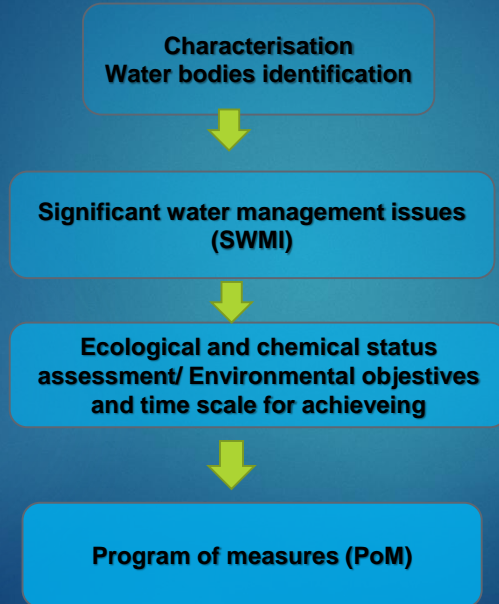
0 WB – transitional water

1 WB – coastal water (Neum)

40 WB - groundwater



Main elements of RBMP



Basic measures - WFD annex VI

- The Bathing Water Directive (76/160/EEC);
- The Birds Directive (79/409/EEC)
- The Drinking Water Directive (80/778/EEC) as amended by Directive (98/83/EC);
- The Major Accidents (Seveso) Directive (96/82/EC)
- The Environmental Impact Assessment Directive (85/337/EEC)
- The Sewage Sludge Directive (86/278/EEC)
- The Urban Waste-water Treatment Directive (91/271/EEC);
- The Plant Protection Products Directive (91/414/EEC);
- The Nitrates Directive (91/676/EEC);
- The Habitats Directive (92/43/EEC)
- The Integrated Pollution Prevention Control Directive (96/61/EC).

+ IF not enough to reach objective supplementary measures are needed



Supplementary measures –WFD annex VI

- legislative instruments
- administrative instruments
- economic or fiscal instruments
- negotiated environmental agreements
- emission controls
- codes of good practice
- recreation and restoration of wetlands areas
- abstraction controls

Supplementary measures –WFD annex VI

- demand management measures, inter alia, promotion of adapted agricultural production such as low water requiring crops in areas affected by drought
- efficiency and reuse measures, inter alia, promotion of water-efficient technologies in industry and water-saving irrigation techniques
- construction projects
- desalination plants
- rehabilitation projects
- artificial recharge of aquifers
- educational projects
- research, development and demonstration projects

Main objectives of RBM

The purpose of the management plan, is to create a framework and determine ways for sustainable water management by objectives of the WFD, such as:

- achieving at least "good" status of all water bodies, ie good ecological potential,
- preservation "very good" and "good" status of water bodies where it is already present, or prevent deterioration of water bodies,
- to meet additional requirements that apply to protected areas of water (water intended for human consumption, water intended for the cultivation of economically important aquatic species, water intended for bathing and recreation, sensitive and vulnerable areas, areas designated for the protection of aquatic and water-dependent habitats and species) in accordance with regulations under which the established protection.

List of key type measures used in RBM

Description of measure	Basic /supplementary	Aim of measure
❖ Construction or upgrade wastewater treatment Water Protection basic reduction of organic matter and nutrients of large and small settlements	Basic	Reduction of organics
❖ Reduction of nutrient pollution (nutrients) from agriculture,	Basic	Protection of water, main reduction of nutrients from agriculture
❖ Reduction pollution of pesticides in agriculture	Basic	reduction of hazardous substances from agriculture
❖ Reclamation of contaminated sites (historical contamination of sediments, groundwater, soil, etc.)	Supplementary	reduction of hazardous substances that may reach the groundwater
❖ Improving longitudinal continuity (flow) (eg establishment of fish passage , upgrade or replacement of the turbine	supplementary	additional reduction of negative hydromorphological impact on the status and / or ecological potential of surface waters

List of key type measures used in RBM

Description of measure	Basic /supplementary	Aim of measure
❖ Improvement of hydro morphological conditions of water bodies other than longitudinal continuity	Supplementary	additional reduction of negative hydromorphological impact on the status and / or ecological potential
❖ establishment of environmental flow	supplementary	reduction of negative impact on the status and / or ecological potential
❖ Technical measures to improve the efficient use of water for irrigation, industry, energy and household	basic	Rational use of water
❖ Progress on policy measures for the implementation of water pricing return costs of water services for households	Basic	Rational use of water
❖ Progress on policy measures for the implementation of water pricing return costs of water services to industry	Basic	Rational use of water
❖ Progress on policy measures for the implementation of water pricing return costs of water services for agricultural use of water	basic	Rational use water

List of key type measures used in RBM

Description of measure	Basic /supplementary	Aim of measure
❖ Advisory services for agriculture	Supplementary	reduction of nutrient and hazardous substances from agriculture
❖ measures to protect drinking water (for example, the establishment of protection zones, buffer zones, etc.)	basic	protection of drinking water
❖ Research study , in order to eliminate the uncertainties reducing uncertainty.	supplementary	Preservation of good status of surface and ground water
❖ measures for the gradual reduction of emissions, discharges and preventing the entry of priority hazardous substances in the environment	Basic	Reducing pollutants from industry
❖ upgrades or improvements to plant for waste water treatment (including industrial farms)	Basic	Reducing intake of nutrients from livestock
❖ Measures to reduce sediment from soil erosion and surface runoff	Supplementary	reduction of water pollution
❖ measures to prevent or control the harmful effects of invasive alien species that transmit diseases	supplementary	to preserve biodiversity of surface water

List of key type measures used in RBM


Description of measure	Basic /supplementary	Aim of measure
❖ measures to prevent or control the adverse effects of tourism, including fishing Water	Supplementary	protection to preserve biodiversity of surface water
❖ Measures to prevent or control the harmful effects of fishing and other exploitation / removal of animals and plants	Supplementary	to preserve biodiversity of surface water
❖ Measures to prevent or control the input of pollution from urban areas, traffic and built infrastructure	supplementary	reduction of pollution from infrastructure
❖ Measures to prevent or control pollution from forestry	supplementary	reduction of pollution from forestry
❖ Establishment of natural retention Measures to adapt to climate change, Flood additional	Supplementary	to preserve biodiversity of surface water
❖ Measures for combating acidification	supplementary	reduction of acidification of surface waters



Significance of pressure on water bodies of surface waters of the Adriatic Sea

elektroprojekt d.d. - zagreb		Gradjevina/Zahvat u prostoru: VODNO PODRUČJE JADRANSKOG MORA									
Rb	Vodno tijelo	Tip	Duljina vodnog tijela (m)	Stanje postojeći monitoring	Hidro-morfološki pritisak značajan	Identificirani izvori značajnih i vjerojatno značajnih pritisaka na vodnom tijelu				Preliminarni odabir mjera	
						BPKS	KPK	Ukupni N	Ukupni P		
							Industrija 1%	Stočarstvo 19% 3Mala naseља 14%	Stočarstvo 31% Mala naseља 9%	Izvi iz poljoprivrede, smanjenje organske i hranjive tvari od malih naseља	
37	BA_NTRB_Trebie_1	12a	1.390	nema	značajan	-	-	-	-	Smanjenje hidromorfoloških promjena	
38	BA_NTRB_Trebie_2	12a	32.000	bio / fiz kem	značajan	-	-	-	-	Smanjenje hidromorfoloških promjena	
39	BA_NTRB_Tres_3	15b	4.117 m	nema	značajan				Stočarstvo 41% Poljoprivreda 37% Mala naseља 21%	Smanjenje unosa hranjivih tvari iz stočarstva	
40	BA_NTRB_Ugr_1	16	5.260 m	nema	morfoloģija	Mala naseља 100%	Mala naseља 100%	Poljoprivreda 49% Mala naseља 47% Stočarstvo 5%	Poljoprivreda 53% Mala naseља 37% Stočarstvo 10%	Smanjenje unosa hranjivih tvari iz poljoprivrede, smanjenje organske i hranjive tvari od malih naseља	
41	BA_NTRB_Ugr_2	16	22.084 m	nema	nema značajan	Mala naseља 78% Industrija 22%	Mala naseља 81% Industrija 19%	Stočarstvo 50% Poljoprivreda 35% Mala naseља 14% Industrija 1%	Stočarstvo 66% Poljoprivreda 26% Mala naseља 8%	Smanjenje unosa hranjivih tvari iz poljoprivrede i stočarstva	
42	BA_NTRB_Vir_1	16	2.582 m	nema	morfoloģija	Mala naseља 100%	Mala naseља 100%			Smanjenje organske tvari od malih naseља	
43	BA_NTRB_Vod_1	9a	9.598 m	nema	nema				Stočarstvo 100%	Smanjenje unosa hranjivih tvari od stočarstva	
44	BA_NTRB_Zuko_1	15a	6.971 m	nema	morfoloģija	Mala naseља 100%	Mala naseља 100%	Poljoprivreda 59% Mala naseља 21% Stočarstvo 20%	Poljoprivreda 52% Stočarstvo 35% Mala naseља 13%	Smanjenje unosa hranjivih tvari iz poljoprivrede, smanjenje organske i hranjive tvari od malih naseља	
45	BA_CE_BI	9a	6.000	bio / fiz kem	nema	Naseља bez UPOV 70% Industrija 22% Mala naseља 8%	Naseља bez UPOV 69% Industrija 23% Mala naseља 8%	Naseља bez UPOV 66% Stočarstvo 17% Mala naseља 8% Industrija 5% Poljoprivreda 4%	Naseља bez UPOV 52% Stočarstvo 31% Industrija 8% Mala naseља 5% Poljoprivreda 4%	Pročišćavanje komunalnih otpadnih voda	
46	BA_CE_Jaz	16	8.300	nema	nema	Mala naseља 100%	Mala naseља 100%	Stočarstvo 59% Mala naseља 15% Poljoprivreda 26%	Stočarstvo 47% Mala naseља 28% Poljoprivreda 25%	Smanjenje unosa hranjivih tvari iz poljoprivrede	
47	BA_CE_Ko_2	9a	4.700	bio / fiz kem	nema	Naseља bez UPOV 100%	Naseља bez UPOV 100%	Stočarstvo 42% Poljoprivreda 33% Naseља bez UPOV 25%	Stočarstvo 58% Poljoprivreda 27% Naseља bez UPOV 15%	Smanjenje unosa hranjivih tvari iz poljoprivrede, pročišćavanje komunalnih 500padnih voda	
48	BA_CE_Su_1	9a	10.300	bio / fiz kem	Nema	Mala naseља 95% Industrija 5%	Mala naseља 96% Industrija 4%	Stočarstvo 65% Poljoprivreda 23% Mala naseља 12%	Stočarstvo 78% Poljoprivreda 17% Mala naseља 5%	Smanjenje unosa hranjivih tvari iz poljoprivrede, pročišćavanje komunalnih	
© Elektroprojekt d.d. pridižava sva neprenesena prava Zagreb, 05.11.2015.						Oznaka projekta-knjige-priloga Y1-G77.00.01-G01.0-002			Revizija: 02	Lis: 218	

Program of measures applied on each WB of surface water



elektroprojekt d.d. - zagreb

Gradjevina/Zahvat u prostoru:
VODNO PODRUČJE JADRANSKOG MORA

Rb	Vodno tijelo	Duljina vodnog tijela (m)	Značajnost pritiska	Rezultati postojećeg monitoringa	Glavni izvor značajnog pritiska	Ocjena rizika od nepostizanja dobrog stanja	Prijedlog provedbe osnovnih mjera									
							1	2	3	8	9	10	11	13	15	16
		4.800	Vjerojatno značajan		Poljoprivreda	Vjerojatno pod rizikom	✓	✓				✓				
59	BA_CE_Su_1	10.300	Značajan		Naseља <2000 stanovnika	Pod rizikom	✓				✓					✓
60	BA_CE_Su_2	38.400	Značajan		Naseља <2000 stanovnika	Pod rizikom	✓				✓					✓
61	BA_CE_To_1a	12.800	Vjerojatno značajan		Stočarstvo	Vjerojatno pod rizikom	✓									✓
62	58 BA_CE_KJ		Značajan		Stočarstvo	Pod rizikom	✓									✓

Legenda: * Jako izmijenjena vodna tijela

Osnovne mjere

1. Izgradnja ili nadogradnje pročišćavanje otpadnih voda

2. Smanjiti onečišćenje nutrijentima (hranjivim solima) iz poljoprivrede

3. Smanjiti onečišćenje pesticidima od poljoprivrede

4. Tehničke mjere poboljšanja učinkovitog iskoristavanja vode za navodnjavanje, industriju, energetiku i kućanstva

5. Napredak u mjerama politike cijene voda za provedbu povratka troškova vodnih usluga za kućanstva

6. Napredak u mjerama politike cijene voda za provedbu povratka troškova vodnih usluga za industriju

7. Napredak u mjerama politike cijene voda za provedbu povratka troškova vodnih usluga za poljoprivredu

8. Zadržati voda za piće (npr. uspostava zaštitnih zona, tampon zone itd.)

9. Postupno smanjenje emisija, ispuštanja i sprječavanja ulaska prioritarnih opasnih tvari u okoliš

10. Nadogradnje ili poboljšanja postrojenja za obradu otpadnih voda (uključujući industrijske farme)

Program of measures applied on each WB of ground water

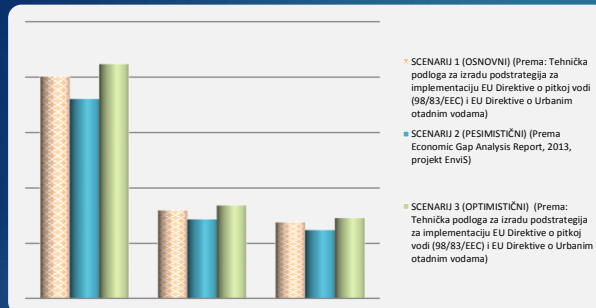
Rb	Vodno tijelo	Procjena stanja kren/količ	Značajnost pritiska	Rezultati postojećeg monitoringa	Glavni izvor značajnog pritiska	Ocjena rizika od nepostizanja dobrog stanja	Prijedlog provedbe c					
							1	2	3	8	9	11
1	LJUBUŠA	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom						
2	ČVRSNICA	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom	✓					
3	ČABULJA	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom						
4	LIŠTICA	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom	✓		✓			
5	POSUŠJE – IMOTSKI	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom	✓		✓			
6	TIHALJINA	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom	✓		✓			
7	MOSTARSKO BLATO	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom			✓			
8	STUDENCI	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom	✓		✓			
9	PRUD	Dobro/ dobro	Vjerojatno nije značajan	*		Nije pod rizikom	✓		✓			
10	DELTA NERETVE LIJ. OBALA	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom			✓			
11	HUTOVO BLATO	Dobro/ loše	Značajan		Poremećaj prirodnog hidrološkog režima rijeke Trebišnjice.	Pod rizikom			✓			
12	ALUVIJ ČAPLJINA	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom	✓		✓			
13	DUBRAVA	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom	✓					
14	ALUVIJ MOSTARSKO POLJE	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom	✓		✓			
15	BOŠNJACI	Dobro/ dobro	Vjerojatno nije značajan			Nije pod rizikom						

Connection to public water supply and sewerage system

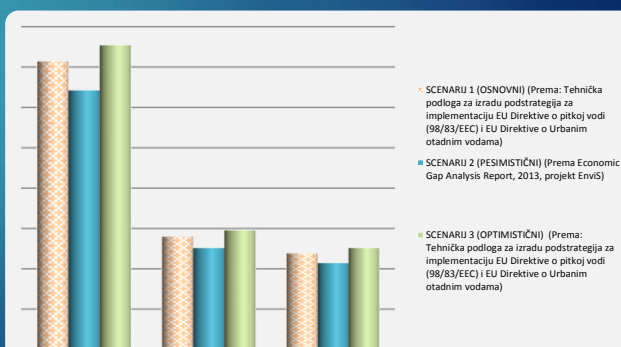
Pokazatelji potrebne priključenosti na vodoopskrbnu mrežu i kanalizaciju na VPJM

Priključenost na vodovod	2014	2015	2016	2017	2018	2019	2020.
Porast priključenosti zbog razvojnih ciljeva FBiH	62,41%	64,5%	71,2%	73,4%	75,6%	77,8%	80 %
Priključenost na kanalizaciju							
Porast priključenosti zbog razvojnih ciljeva FBiH	31,69%	42,7%	45,0%	47,38%	49,8%	52,13%	54,5%

The costs of measures to achieve the objectives of water management



Connected inhabitants of the water supply system per the cantons, three scenarios - 2021.year



Connected inhabitants on sewerage system per the cantons, three scenarios - 2021.year

	INVESTMENT COSTS IN SEWERAGE SYSTEM AND WWTP FROM 2018.	INVESTMENT COSTS IN WATER SUPPLY FROM 2017
ČITLUK		4.940.158,90
ČAPLJINA	30.500.000,00	6.279.587,81
GRUDE		3.114.457,08
JABLANICA		1.540.378,83
KONJIC		3.316.893,06
LJUBUŠKI		3.665.237,76
MOSTAR	65.916.667,00	22.167.117,94
POSUŠJE	8.900.000,00	2.629.647,05
PROZOR - RAMA	6.300.000,00	674.718,36
STOLAC		1.282.978,55
ŠIROKI BRIJEG	8.000.000,00	1.571.527,37
KUPRES		1.342.503,00
LIVNO		5.043.874,10
TOMISLAVGRAD	8.100.000,00	4.354.639,89
GLAMOČ		681.107,91
BOSANSKO GRAHOVO		448.245,16
NEUM		925.483,23
UKUPNO:	127.716.667,00	63.978.556,00

The total cost of supplementary and additional measures planned in the watershed of the Adriatic Sea during the period of the RBM

Mjera	Ukupna cijena za cijelu Federaciju BiH za razdoblje 2012/2023	Razdoblje plana	Sliv Jadranskog mora
2	220.000,00	132.000,00	48.840,00
3	850.000,00	510.000,00	188.700,00
4	220.000,00	132.000,00	48.840,00
5	179.000,00	107.400,00	39.738,00
6	179.000,00	107.400,00	39.738,00
7	179.000,00	107.400,00	39.738,00
8	318.181,00	190.908,60	70.636,18
9	2.543.000,00	1.525.800,00	564.546,00
10	2.543.000,00	1.525.800,00	564.546,00
11	2.543.000,00	1.525.800,00	564.546,00
12	320.000,00	192.000,00	71.040,00
13	37.000.000,00	22.200.000,00	8.214.000,00
14	37.000.000,00	22.200.000,00	8.214.000,00
15	250.000,00	150.000,00	55.500,00
16	250.000,00	150.000,00	55.500,00
17	23.000.000,00	13.800.000,00	4.692.000,00
18	0,00	0,00	0,00
19	0,00	0,00	0,00
20	0,00	0,00	0,00
21	0,00	0,00	0,00
22	250.000,00	150.000,00	55.500,00
23	0,00	0,00	0,00
24	1.500.000,00	900.000,00	333.000,00
25	0,00	0,00	0,00
UKUPNO			23.860.408,18






Agencija za vodno područje ja... x

www.jadran.ba

AGENCIJA ZA VODNO PODRUČJE JADRANSKOG MORA

AGENCIJA DOKUMENTI VODNI AKTI JAVNE NABAVE



DOPUNA OBAVIJESTI O IZRADI NACRTA PLANA UPRAVLJANJA VODAMA ZA VODNO PODRUČJE JADRANSKOG MORA

U Obavijesti objavljenoj dana 6.7.2015. godine, u okviru postupka učešća javnosti, a vezano za izradu Nacrta Plana upravljanja vodama za Vodno područje Jadranskog mora u okviru čega je i Nacrt Karakterizacijskog izvješća za vodno područje Jadranskog mora, pozvani su svi zainteresirani da svoje komentare, sugestije, pitanja, prijedloge i drugo što se odnosi na izradu Plana upravljanja vodama dostave Agenciji do

OBAVIJEST O PREZENTACIJI NACRTA PLANA UPRAVLJANJA VODAMA

Na osnovu Zakona o vodama Federacije BiH („Službene novine FBiH, br. 70/06), a u sklopu izrade Plana upravljanja vodama za Vodno područje Jadranskog mora, Agencija za vodno područje Jadranskog mora je pripremila Nacrt Plana upravljanja vodama za Vodno područje Jadranskog mora u okviru čega je pripremljen i Nacrt Karakterizacijskog izvješća za vodno područje Jadranskog mora sa svoja 3 priloga (Dodatak 1 - Ocjena

NOVOS

THANK YOU - HVALA NA PAŽNJI