The loss of fertilisers (N and P) through run off or percolation are extremely reduced because of the very small amount of those chemicals used (38 kg N based s.a./ ha and 18 kg P based s.a. / ha). On the other hand, the soils in the biggest part of the area have medium to heavy texture, or with the doses mentioned above the losses are theoretically possible only on sands which in Romania occupies about 540,000 ha (2,2 % of the total Romania surface).

3.1.4. The total agricultural production in the country which is more than 98 % part of the Danube Catchment Area is as follows :

Table 3.1.4. [thousand tons]

	1993	1994	1995
• Cereal grains:	15493.0	18183.8	19882.8
• Leguminous crops for grains:	85.2	76.1	97.0
• Technical crops			
- Flax fibre	7.2	4.8	7.2
- Hemp fibre	7.4	4.5	5.9
• Oilseed crops	820.8	874.1	1055.4
• Crops for other industrial purposes :			
- Sugar beet	1776.3	2763.8	2654.8
- Tobacco	10.5	13.0	13.4
• Medicinal and aromatic herbs:	12.1	6.3	12.1
• Potatoes	3709.9	2946.7	3019.9
• Vegetables	2871.7	2568.9	2870.6
• Water melons and melons	601.4	611.1	639.4
• Fodder crops	11758.2	11669.4	12209.9
• Annuals for hay and green fodder	3971.9	4155.9	4127.4
• Plants used for silage	3029.2	2335.4	1892.1
• Fodder rots	1465.1	1245.3	1332.4
• Grapes	1339.2	1032.7	1313.9
• Total fruit production	2183.0	980.4	917.4

The intensity of soil erosion of the agricultural and forestry land (based on data from ICPA - ASAS) - (t / year)

Table 3.1.5.

Nr.	County	Agricultural land	Forestry land	Total
1.	Alba	$51.3*10^5$	$2.7*10^5$	$54.0*10^5$
2.	Arad	$12.6*10^5$	$1.6*10^5$	$4.2*10^5$
3.	Arges	$44.5*10^5$	$5.7*10^5$	$50.2*10^5$
4.	Bacau	$43.9*10^5$	$2.9*10^5$	$46.8*10^5$
5.	Bihor	$17.8*10^5$	$0.9*10^5$	$18.7*10^5$
6.	Bistrita - Nas	$32.2*10^5$	$1.1*10^5$	$33.3*10^5$
7.	Botosani	$47.4*10^5$	$0.7*10^5$	$48.1*10^5$
8.	Brasov	$20.4*10^5$	$1.1*10^5$	$21.5*10^5$
9.	Braila	-	-	-
10.	Buzau	$50.6*10^5$	$4.0*10^5$	$54.6*10^5$
11.	Caras - Severin	$35.8*10^5$	$2.3*10^5$	$38.1*10^5$
12.	Calarasi	$0.5*10^5$	-	$0.5*10^5$
13.	Cluj	$65.8*10^5$	$1.9*10^5$	$67.7*10^5$
14.	Constanta	$15.0*10^5$	$0.2*10^5$	$15.2*10^5$
15.	Covasna	$6.2*10^5$	$0.5*10^5$	$6.7*10^5$
16.	Dambovita	$16.8*10^5$	$2.3*10^5$	$15.1*10^5$
17.	Dolj	$15.2*10^5$	$1.0*10^5$	$16.3*10^5$
18.	Galati	$11.0*10^5$	$0.4*10^5$	$11.4*10^5$
19.	Giurgiu	$1.3*10^5$	-	$1.3*10^5$
20.	Gorj	$43.4*10^5$	$4.9*10^5$	$48.3*10^5$
21.	Harghita	$27.9*10^5$	$0.9*10^5$	$28.8*10^5$
22.	Hunedoara	$46.5*10^5$	$1.9*10^5$	$48.4*10^5$
23.	Ialomita	$0.3*10^5$	-	$0.3*10^5$
24.	Iasi	$36.5*10^5$	$1.2*10^5$	$37.7*10^5$
25.	Maramures	$28.8*10^5$	$1.3*10^5$	$30.1*10^5$
26.	Mehedinti	$28.8*10^5$	$3.0*10^5$	$31.8*10^5$
27.	Mures	$48.0*10^5$	$2.1*10^5$	$50.1*10^5$
28.	Neamt	$24.7*10^5$	$2.1*10^5$	$26.8*10^5$
29	Olt	$9.1*10^5$	$0.7*10^5$	$9.8*10^5$
30.	Prahova	$36.3*10^5$	$3.5*10^5$	$39.8*10^5$
31	Satu Mare	$4.8*10^5$	$4.5*10^5$	$9.3*10^5$
32.	Salaj	$30.3*10^5$	$0.7*10^5$	$31.0*10^5$
33.	Sibiu	$36.0*10^5$	$1.3*10^5$	$37.3*10^5$
34.	Suceava	$28.9*10^5$	$1.7*10^5$	$30.6*10^5$
35.	Teleorman	$3.3*10^5$	-	$3.3*10^5$
36.	Timis	$6.6*10^5$	$0.3*10^5$	$6.9*10^5$
37.	Tulcea	$10.0*10^5$	$1.3*10^5$	$11.3*10^5$
38.	Vaslui	$50.8*10^5$	$1.0*10^5$	$51.8*10^5$
39.	Valcea	$47.6*10^5$	$5.3*10^5$	$52.9*10^5$
40.	Vrancea	$29.6*10^5$	$4.6*10^5$	$34.2*10^5$
41.	Sect. Agr. Ilfov	$0.2*10^5$	-	$0.2*10^5$
	TOTAL	$1066.4*10^5$	$67.3*10^5$	$1133.7*10^5$

3.1.5. The total amount of fertilisers and pesticides used were presented in the subchapters 3.1.2. and 3.1.3.

In the map (annex 2.1.5.2) with hot spots and water quality control stations selected upstream and downstream by the respective hot spots are included in the basic structure the hydrographical basins borders and the country borders as well. A new map in original format (coloured) based on the same type of map is attached in this Final Report with the special drawings added for wetlands and flood plains location (Map 4.4.4.1.).

3.1.6. Half of agricultural land of Romania may be affected by erosion especially in the hills area where slopes are over 5 %. Erosion affects seriously 3.97 millions hectares (about 26 % of agricultural surfaces). General losses of soil are estimated to about 107 millions tons / year and from forestry area to about 7 millions tons / year.

The great loss of soil leads to clogging of the storage lakes also to increasing of amounts of the N and P in surface waters, creating conditions for eutrophication. The rain regime is more intense in the springtime, coinciding with the season of fertilisers application, therefore exists a non-point source pollution risk. Over a dozen of Romania's storage lakes were totally or partially clogged.

3.1.7. Romania has a transitional type of continental temperate climate influenced by the Mediterranean from South - West, but with strong continental characteristics in the East and South - East. The mean annual temperature range extends from 11^0 C along the Danube River Valley in the South, to 8^0 C in the Northern regions. The annual mean rainfall is 640 mm. In the mountain region the average value of the annual rainfall is between 1200 mm and 1400 mm whereas along the Black Sea Coast these values are below 400 mm.

Regarding the wind directions the Carpathian Mountains have a major influence. During the winter seasons, in the mountain region the average values of the wind velocities exceed 10 m / s decreasing to 5 - 6 m /s in the summer time. The maximum average values of the wind velocities in the plain regions are 5.5 - 6.5 m / s. As examples for the Danube River Valley vicinity there are winds with dominant directions in Drobeta Tr. Severin 4.7 - 5.9 m / s from West and North - West, in Sulina 5.3 - 6.1 m / s from North and North - East. In the cold seasons the wind has velocities between 11 m / s and 30 m / s with 35 days average in Sulina and 70 days in Calarasi. With regard to the total radiation, in the North half of the country is 110 - 117 Kcal / cm^2 / year and in the South half of the country is 120 - 127 Kcal / cm^2 / year. The maximum duration of the sun brightness has values measured for the South half of the country (measured in Bucharest) with maximum 407.1 hours in July and 0.7 hours in December. The average annual duration obtained for the South half is about 2100 hours / year.

3.1.8. The land used for grazing in Romania as part of Danube Catchment area is 3378.4 thousand hectares out of which the distribution is:

- 20 % in mountainous area
- 80 % in hilly area
- 0 % in plain area

Distribution and size of animal feedlots and other intensive animal rearing installations are:

Table 3.1.6 Live stock number at the beginning of the years

	1994	1995	1996
• Cattle [thousand heads]	3597	3481	3496
• Pigs [thousand heads]	9262	7758	3496
• Sheep [thousand heads]	11499	10897	10381
• Goats [thousand heads]	776	745	705
• Horses [thousand heads]	751	784	806
• Poultry [thousand heads]	76532	70157	80524
• Bees [thousand families]	759	747	696

Nearby the private owners which normally have 15 - 50 heads of animals there are some units where this activity is done at the industrial scale within farms with 500 - 10,000 heads for cattle, 1000 - 100,000 heads for pigs, over one million birds and 500 - 5000 heads for sheep.

The import of those, is in a serious declining process because in the last 8 years more than 60 % of those farms were closed and the remainders have 40 - 50 % activity.

4. Updating and Validation of Water Quality Data

Identification and description of hot spots (HS) is necessary to be done in close correlation with the impact created by those H.S. in the receiving waters. Therefore, a main part of the work for this report was dedicated for data and information collection, which was necessary to describe this impact. In Romania, the responsibilities for water management belong to Regia Autonoma “Apele Romane” (RAAR), under the jurisdiction of Ministry of Water, Forest and Environmental Protection. In Romania, the water management activity is done through a number of very important activities out of which the monitoring is one of the most important. The hydrological network, which is measuring about 75,000 km length, about 1000 reservoirs and natural lakes, Danube Delta and Black Sea Coast, is monitored from the quantitative and qualitative point of view. National Information System (NIS) for water is organised for these two specific characteristics of water as a Hydrometeorological Network and respectively as a Water Quality National Monitoring System (WQNMS) with its network.

There are 216 meteorological stations, 943 pluviometric stations (for rain characteristic measurements), 916 hydrometrical stations (gauging station for flow measurement direct or indirect) and 413 water quality stations (divided in two classes: I st and IInd order).

A number of hierarchical levels are structured within the National Information System at the:

- local level where the data are produced (at the county level, 41 counties);
- zone level (filiala) which has to manage 1 catchment area for the big and average tributaries or 3 - 4 catchment areas for the small tributaries. There are 11 “Filiala” within RAAR;
- central level, which is the headquarter of RAAR and
- National Institute for Hydrology and Meteorology.

4.1. Index of Water Quality Monitoring Records

Regarding the Water Quality National Monitoring System (WQNMS) this one is organised for 5 subsystems based on the different types of water which is necessary to be monitored.

There are:

- surface running water subsystem
- natural lakes and reservoirs subsystem
- ground waters subsystem
- coastal marine waters
- wastewater

From the total length of surface running waters of about 75,000 km, more than 20,000 km are monitored based on a monitoring network with 320 stations of the first order and about 93 stations of second order. The frequency for the second class is more reduced, there are mainly reference stations or located on some small tributaries (third category as length and flow). The network consisting of the 320 first class stations (included in the table 4.1.1) is organised also on the catchment area approach, frequency is 12 times per year for about 30 - 35 physico-chemical parameters, 4 - 6 times per year for 3-4 biological indicators and 4-6 times for 6 microbiological parameters. For the lakes subsystem, there are about 98 lakes monitored out of which, 60 -75 are permanently and others are rotated from total number of 550 (average and large lakes). For coastal marine waters there are 254 km monitored within 9 stations and 6 sampling campaigns / year and for ground waters from a total of 9988 hydrological wells there are 1712 under observation and studying.

Regarding the wastewaters the self-monitoring procedures are widely used for 1437 WWTP owners and the rest, which is not completed, is covered with testing surveillance.

A table with the WQNM system network (320 station) is attached (table 4.1.1.) the main code number (first column) being used on the map with hot spots, for to identify the upstream and downstream gauging stations against the discharge location of HS.

The table 4.1.1. is extracted from an Annual Report (1996) of Water Quality with reference to the running surface waters. In this table are included information about:

Column 1 – river on which the w.q. stations located

Column 2 – the number of the w.q. station within the cachment area (basin hidrografic)

Column 3 – river on which the w.q. station is located

Column 4 – name of the w.q. station

Water quality category for a number of general indicators:

Column 5 – RO = dissolved oxygen regime general parameter referring to the DO, BOD_5, COD-Mn

Column 6 – GM = Mineralisation degree for conductivity, Total dissolved salts, chloride, sulphate, etc.

Column 7 – TS = toxic specific parameters like heavy metals, pesticides, Cn, etc.

Column 8 – Water quality general global category in the 2 years before (1994)

Column 9 – water quality general global category in the 1 year before (1995)

Column 10 – The trend of evolution:

r – wrong

b – improving

s – stable

All the data produced within the water quality monitoring in the field and / or laboratories are collected at the zone level (in the Filiala), where are organised in the same type of data base, and than in accordance with the planned deadlines or at the special request are reported, according with an operational procedure to the central level where the National Report is produced annually. The reports from zone level are produced in hard copy format and also in electronic format (diskettes) for transfer.

The W.Q.N.M.S. is working based on this concept from 1975 experimentally and from 1978 regularly.

In the Annex 3.1.1 the information referring to a selected number of water quality stations are presented. Those information are referring to the period of records for the selected stations which are:

- the TNMN - 7 stations on Danube and 3 on tributaries
- the downstream stations against the hot spots from High Priority lists for municipal, industrial and agricultural groups and also for Medium Priority
- the upstream stations against the hot spots from High Priority lists for municipal, industrial and agricultural groups and also for Medium Priority

A map with the locations of the stations mentioned above is included in this Report. On the same map there are also placed all the High Priority and Medium Priority hot spots for the three mentioned categories of discharges. The respective map is 1:1.000.000 scale and contains also information about other hidrotechnical works done in the country (annex 2.1.5.1).

SITUAȚIA CALITĂȚII GLOBALE A APELOR CURGĂTOARE DE SUPRAFAȚĂ ÎN ANUL 1994, COMPARATIV CU ANUL 1993

Nr. crt. tot.	Nr. crt. b.h.	Cursul de apă	Secțiunea de control	Categoria de calitate					Tendința de evoluție: r : *înrăutățire* b : *ameliorare* s : *staționar*
				RO	GM	TS	Generală		
							1994	1993	
1	2	3	4	5	6	7	8	9	10
		I. Bazinul hidrografic TISA							
1	1	Tisa	Valea Vișeului	I	I	I	I	-	-
2	2	Vișeu	Poiana Borșa	I	I	I	I	I	s
3	3	Vișeu	Bistra	I	I	I	I	I	s
4	4	Iza	Săcel	I	I	I	I	-	-
5	5	Iza	Vadu Izei	I	I	I	I	I	s
6	6	Tisa	Teceu mic	I	I	I	I	-	-
7	7	Tur	Negrești	I	I	II	II	II	s
8	8	Tur	Turulung	II	I	D	D	D	s
		II. Bazinul hidrografic SOMEȘ							
9	1	Someșul Mare	amonte Rodna	I	I	I	I	I	s
10	2	Sălăuța	amonte Romuli	I	I	I	I	-	-
11	3	Sălăuța	Salva	I	I	I	I	I	s
12	4	Șieu	amonte Șieu	I	I	I	I	-	-
13	5	Bistrița	Colibița (av.acumulare)	I	I	I	I	-	-
14	6	Bistrița	Sărata (av.Bistrița)	I	I	I	I	I	s
15	7	Șieu	Sintereag	II	I	I	II	I	r
16	8	Someșul Mare	Beclean	I	I	II	II	I	r
17	9	Someșul Cald	Smida	I	I	I	I	-	-
18	10	Someșul Mic	Cluj	I	I	I	I	II	b
19	11	Someșul Mic	Salatiu	I	I	III	III	III	s
20	12	Someș	amonte Dej	I	I	II	II	-	-
21	13	Someș	Răstoci	I	I	II	II	D	b
22	14	Someș	Ulmeni	I	I	II	II	D	b
23	15	Lăpuș	Răzoare	I	I	II	II	II	s
24	16	Cavnic	aonte Cavnic	I	I	I	I	-	-
25	17	Cavnic	Copalnic	I	I	II	II	III	b
26	18	Lăpuș	Lăpușel	I	I	II	II	II	s
27	19	Săsar	amonte Baia Sprie	I	I	I	I	-	-
28	20	Săsar	Baia Mare	I	I	D	D	D	s
29	21	Lăpuș	Bușag	I	I	D	D	D	s
30	22	Someș	Cicârlău	I	I	III	III	D	b
31	23	Someș	Ambud (am.Satu Mare)	I	I	II	II	D	b
32	24	Someș	Oar (frontieră)	I	I	II	II	D	b
33	25	Crasna	Crasna	II	I	II	II	III	b
34	26	Crasna	amonte Moiad	I	I	III	III	-	-
35	27	Crasna	Supuru de Jos	III	I	III	III	III	s
36	28	Crasna	Berveni	II	I	II	II	III	b
		III. Bazinul hidrografic CRISURI							
37	1	Crișul Alb	Crișcior	I	I	II	I	I	s
38	2	Crișul Alb	Gurahonț	I	I	I	I	II	s

1	2	3	4	5	6	7	8	9	10
39	3	Crişul Alb	Bocsig	I	I	II	I	II	b
40	4	Crişul Alb	Vărşand	I	I	II	I	I	s
41	5	Crişul Negru	amonte Vaşcău	I	I	II	I	-	-
42	6	Crişul Băiţa	Băiţa Plai	I	I	I	I	-	-
43	7	Crişul Băiţa	Ştei	I	I	I	I	I	s
44	8	Crişul Negru	Beiuş	I	I	I	I	I	s
45	9	Crişul Negru	Tăut	I	I	I	I	-	-
46	10	Crişul Negru	Zerind	I	I	I	I	I	s
47	11	Crişul Repede	Şaula	I	I	I	I	I	s
48	12	Crişul Repede	Ciucea	I	I	II	I	I	s
49	13	Crişul Repede	aval Aleşd	I	I	II	I	I	s
50	14	Crişul Repede	Oradea	I	I	II	I	I	s
51	15	Crişul Repede	Cheresig	I	I	II	II	II	s
52	16	Barcău	Valcău de Sus	I	I	II	I	-	-
53	17	Barcău	av.Suplacu de Barcău	I	I	II	II	II	s
54	19	Barcău	Parhida	I	I	II	II	II	s
		IV. Bazinul hidrografic MUREŞ-ARANCA							
55	1	Mureş	Izvoru Mureş	I	I	I	I	I	s
56	2	Mureş	Stânceni	I	I	I	I	I	s
57	3	Mureş	Glodeni	I	I	I	I	I	s
58	4	Mureş	Ungheni	I	I	II	II	II	s
59	5	Niraj	Eremitu	I	I	I	I	-	-
60	6	Niraj	Ungheni	I	I	II	II	II	s
61	7	Mureş	Cheţani	I	I	II	II	II	s
62	8	Arieş	Scărişoara	I	I	I	I	I	s
63	9	Arieş	amonte Baia de Arieş	I	I	II	II	II	s
64	10	Arieş	Buru	I	I	II	II	I	r
65	11	Arieş	Gligoreşti	I	I	II	II	-	-
66	12	Mureş	amonte Ocna Mureş	I	I	II	II	II	s
67	13	Târnava Mare	am.acumulare Zetea	I	I	I	I	-	-
68	14	Târnava Mare	Cristuru Secuiesc	I	I	I	I	I	-
69	15	Târnava Mare	Vânători	I	I	I	I	I	s
70	16	Târnava Mare	amonte Mediaş	I	I	II	II	II	s
71	17	Târnava Mare	amonte Blaj	I	I	D	D	D	s
72	18	Târnava Mică	Sărăţeni	I	I	I	I	I	s
73	19	Târnava Mică	Bălăuşeri	I	I	I	I	-	-
74	20	Târnava Mică	amonte Târnăveni	I	I	I	I	I	s
75	21	Târnava Mică	Petrisat	I	I	III	III	III	s
76	22	Târnave	Mihalţ	I	I	D	D	D	s
77	23	Ampoi	Izvoru Ampoiului	I	I	I	I	-	-
78	24	Ampoi	Bărăbanţ	I	I	D	D	II	r
79	25	Mureş	Alba Iulia	I	I	II	II	II	b
80	26	Sebeş	Gâlceag	I	I	I	I	-	-
81	27	Sebeş	amonte lac Petresşti	I	I	I	I	I	s
82	28	Sebeş	Oarda (am.confl.Mureş)	I	I	I	I	I	s
83	29	Mureş	Gelmar	I	I	II	II	II	s
84	30	Strei	Pui	I	I	I	I	I	s
85	31	Strei	Petreni	I	I	II	II	I	r

1	2	3	4	5	6	7	8	9	10
86	32	Cerna	Teliucu Superior	I	I	I	I	-	-
87	33	Cerna	Sântuhalm	I	I	D	D	III	r
88	34	Mureș	Brănișca	I	I	III	II	II	s
89	35	Mureș	Lipova	I	I	II	II	III	b
90	36	Mureș	amonte Arad	I	I	II	II	III	b
91	37	Mureș	Nădlac	I	I	II	II	III	b
92	38	Aranca	am.Sânnicolau Mare	I	I	II	II	II	s
93	39	Aranca	Valcani	II	II	II	II	III	b
V. Bazinul hidrografic BEGA-TIMIȘ									
94	1	Bega	Luncani	I	I	I	I	I	s
95	2	Bega	Balinț	I	I	I	I	I	s
96	3	Bega	amonte Timișoara	I	I	I	I	I	s
97	4	Bega	Otelec	D	I	III	D	D	s
98	5	Bega Veche	Pișchia	I	I	I	I	I	s
99	6	Bega Veche	Cenei	D	II	D	D	D	s
100	7	Timiș	Sadova	I	I	I	I	I	s
101	8	Timiș	amonte Caransebeș	I	I	I	I	-	-
102	9	Bistra	Voislova-Bucova	I	I	I	I	-	-
103	10	Bistra	Obreja	I	I	I	I	I	s
104	11	Timiș	amonte Lugoj	I	I	I	I	I	s
105	12	Pogăniș	Brebu	I	I	I	I	-	-
106	13	Pogăniș	Otvești	I	I	I	I	-	-
107	14	Timiș	Șag	I	I	I	I	II	b
108	15	Timiș	Grăniceri	II	I	II	II	II	s
109	16	Bârzava	Crivaia	I	I	I	I	I	s
110	17	Bârzava	Moniom	II	I	II	II	II	s
111	18	Bârzava	Gătaia	II	I	II	II	II	s
112	19	Bârzava	Partoș	II	I	II	II	II	s
113	20	Caraș	Carașova	I	I	I	I	I	s
114	21	Caraș	Vărădia	I	I	I	I	I	s
VI. Bazinul hidrografic NERA-CERNA									
115	1	Nera	Patăș	I	I	I	I	-	-
116	2	Nera	Naidăș	I	I	I	I	I	s
117	3	Cerna	amonte Herculane	I	I	I	I	I	s
118	4	Cerna	Pecinișca	I	I	I	I	-	-
119	5	Cerna	Topleț	I	I	I	I	I	s
VII. Bazinul hidrografic JIU									
120	1	Jiu de Vest	Câmpu lui Neag	I	I	I	I	I	s
121	2	Jiu de Vest	Iscroni	II	I	II	II	III	b
122	3	Jiu de Est	am.Cimpa (Răscoala)	I	I	I	I	I	s
123	4	Jiu de Est	Livezeni	II	I	II	II	III	b
124	5	Jiu	am.confl.Sadu	II	I	II	II	III	b
125	6	Jiu	Bâlteni	III	I	II	III	III	s
126	7	Gilort	Novaci	I	I	I	I	-	-
127	8	Gilort	Turburea	I	I	I	I	I	s
128	9	Motru	Cloșani	I	I	I	I	-	-
129	10	Motru	Broșteni	I	I	I	I	-	-
130	11	Motru	Fața Motrului	I	I	I	I	I	s

1	2	3	4	5	6	7	8	9	10
131	12	Jiu	Răcari	I	I	II	II	-	-
132	13	Amaradia	Albeşti	III	D	I	D	-	-
133	14	Jiu	Podari	I	I	II	II	II	s
134	15	Jiu	Zăval	I	I	III	III	III	s
		VIII. Bazinul hidrografic OLT							
135	1	Olt	amonte Bălan	I	I	I	I	I	s
136	2	Olt	Tomeşti	I	I	II	II	II	s
137	3	Olt	Sâncrăieni	I	I	II	II	II	s
138	4	Olt	Micfalău	I	I	II	II	D	b
139	5	Olt	Ilieni	I	I	II	II	-	-
140	6	Râul Negru	Tinoasa	I	I	II	II	-	-
141	7	Râul Negru	Chichiş	III	I	D	D	D	s
142	8	Olt	Araci	I	I	II	II	D	b
143	9	Bârsa	amonte Zărneşti	I	I	I	I	-	-
144	10	Ghimbăşel	amonte Râşnov	II	I	II	II	-	-
145	11	Ghimbăşel	aval Bod (am.cf.Olt)	III	I	III	III	D	b
146	12	Bârsa	am.confl.Olt	D	I	III	D	D	s
147	13	Olt	Feldioara	III	I	III	III	D	b
148	14	Olt	Hoghiz	III	I	III	III	D	b
149	15	Homorodul Mare	Homorod Băi	I	I	I	I	-	-
150	16	Homorod	Rupea - gară	D	I	D	D	D	s
151	17	Olt	Făgăraş	III	I	II	III	D	b
152	18	Olt	Cârţa (Arpaş)	III	I	II	III	D	b
153	19	Olt	Sebeş-Olt	III	I	II	III	III	s
154	20	Cibin	Gura Râului	I	I	I	I	-	-
155	21	Cibin	Mohu (am.Sibiu)	D	I	D	D	II	r
156	22	Hârtibaciu	amonte Agnita	II	I	I	II	-	-
157	23	Hârtibaciu	Cornăţel	II	I	I	II	-	-
158	24	Cibin	aval Tălmaciu	III	I	D	D	D	s
159	25	Olt	Câineni	I	I	II	II	II	s
160	26	Lotru	Gura Lotrioarei	I	I	I	I	-	-
161	27	Lotru	Valea lui Stan	I	I	I	I	I	s
162	28	Olt	Râmnicu Vâlcea	I	I	I	I	II	b
163	29	Olt	Drăgăşani	II	I	I	II	III	b
164	30	Olt	Slatina	II	I	II	II	III	b
165	31	Olteţ	Nistoreşti	I	I	I	I	-	-
166	32	Olteţ	Fălcoiu	I	I	II	II	III	b
167	33	Teslui	amonte Pieleşti	D	D	D	D	-	-
168	34	Teslui	Reşca	I	I	II	II	III	b
169	35	Olt	Stoeneşti	I	I	II	II	II	s
170	36	Olt	Izbiceni	I	I	II	II	II	s
		IX. Bazinul hidrografic VEDEA							
171	1	Vedea	Buzeşti	I	I	I	I	I	s
172	2	Cotmeana	Răchiţele de Sus	D	D	D	D	-	-
173	3	Cotmeana	Ciobani	I	III	III	III	II	r
174	4	Vedea	Văleni	I	D	I	D	D	s
175	5	Vedea	Alexandria	I	III	II	III	III	s
176	6	Teleorman	Tătărăştii de Sus	I	II	II	II	II	s

1	2	3	4	5	6	7	8	9	10
177	7	Teleorman	Mărzănești	I	II	I	II	II	s
178	8	Vedea	amonte confl. Dunăre	I	II	II	II	II	s
		X. Bazinul hidrografic ARGEȘ							
179	1	Argeș	Căpățâneni	I	I	I	I	-	-
180	2	Argeș	aval lac Zigoneni	I	I	I	I	I	s
181	3	Vâlsan	Brădet	I	I	I	I	-	-
182	4	Vâlsan	Valea Mărului	I	I	I	I	-	-
183	5	Râul Doamnei	Bahna Rusului	I	I	I	I	-	-
184	6	Râul Doamnei	Dârmănești	I	I	I	I	I	s
185	7	Râul Târgului	Voina	I	I	I	I	-	-
186	8	Râul Târgului	Piscani	I	I	I	I	I	s
187	9	Argeșel	Nămăiești	I	I	I	I	-	-
188	10	Argeșel	Mioveni	I	I	I	I	-	-
189	11	Râul Doamnei	Ciumești	I	I	I	I	-	-
190	12	Argeș	Pitești	I	I	I	I	-	-
191	13	Argeș	Căteasca	I	I	I	I	I	s
192	14	Argeș	Malu Spart	I	I	I	I	I	s
193	15	Neajlov	Oarja	III	I	II	II	-	-
194	16	Neajlov	Vadu Lat	I	I	II	II	II	s
195	17	Dâmbovnic	Suseni	D	I	D	D	D	s
196	18	Dâmbovnic	Uești	II	I	II	II	II	s
197	19	Câlniștea	Moșteni	II	II	II	II	-	-
198	20	Glavacioc	Baciu	I	II	II	II	-	-
199	21	Glavacioc	Ghimpați	I	II	II	II	-	-
200	22	Câlniștea	Călugăreni	I	I	II	II	-	-
201	23	Neajlov	Comana	II	I	II	II	III	b
202	24	Sabar	Glâmbocata	I	I	I	I	-	-
203	25	Sabar	Poenari	I	III	II	III	II	r
204	26	Sabar	Vidra	D	I	III	D	-	-
205	27	Argeș	Budești	II	I	II	II	-	-
206	28	Dâmbovița	Podu Dâmboviței	I	I	I	I	-	-
207	29	Dâmbovița	Malu cu Flori	I	I	I	I	I	s
208	30	Dâmbovița	Lunguleţu (Brezoaiele)	I	I	I	I	I	s
209	31	Dâmbovița	Dragomirești	I	I	II	II	-	-
210	32	Colentina	Colacu	I	I	I	I	I	s
211	33	Colentina	aval lac Cernica	II	II	II	II	II	s
212	34	Dâmbovița	Budești	D	I	D	D	D	s
213	35	Argeș	Clătești	II	I	III	III	III	s
		XI. Bazinul hidrografic IALOMIȚA							
214	1	Ialomița	Moroieni	I	I	I	I	I	s
215	2	Ialomița	amonte Târgoviște	I	I	I	I	I	s
216	3	Ialomița	Băleni	I	I	I	I	II	b
217	4	Cricovul Dulce	amonte Moreni	I	II	I	II	-	-
218	5	Cricovul Dulce	Băltița	I	D	II	D	-	-
219	6	Ialomița	Siliștea Snagovului	I	II	II	II	D	b
220	7	Prahova	Predeal	I	I	I	I	I	s
221	8	Prahova	Cornu	I	I	II	II	D	b
222	9	Prahova	Prahova (Tinosu)	II	II	D	D	D	s

1	2	3	4	5	6	7	8	9	10
223	10	Teleajen	Cheia	I	I	I	I	I	s
224	11	Teleajen	Gura Vitioarei	I	II	II	II	D	b
225	12	Teleajen	Moara Domnească	III	D	D	D	D	s
226	13	Cricovul Sărat	Sângeru	I	D	I	D	-	-
227	14	Cricovul Sărat	Ciorani	I	D	III	D	-	-
228	15	Prahova	Adâncata	II	D	III	D	D	s
229	16	Ialomița	Coșereni	I	D	III	D	D	s
230	17	Ialomița	Ciochina	II	D	III	D	-	-
231	18	Ialomița	Slobozia	II	D	III	D	D	s
232	19	Ialomița	Țăndărei	II	D	D	D	D	s
XII. Bazinul hidrografic SIRET									
233	1	Siret	pod Siret	I	I	I	I	I	s
234	2	Siret	Huțani	I	I	I	I	II	b
235	3	Suceava	Brodina	I	I	I	I	I	s
236	4	Suceava	Ițcani	I	I	I	I	I	s
237	5	Suceava	Liteni	II	I	I	II	III	b
238	6	Șomuzul Mare	Vornicelu (am.ac.Șomuz I)	I	I	I	I	-	-
239	7	Șomuzul Mare	Dolhești	III	I	III	III	III	s
240	8	Siret	Lespezi	I	I	I	I	II	b
241	9	Moldova	amonte Fundu Moldovei	I	I	I	I	I	s
242	10	Moldova	Câmpulung Moldovenesc	I	I	I	I	I	s
243	11	Moldova	Gura Humorului	I	I	I	I	I	s
244	12	Moldova	Timișești	I	I	I	I	-	-
245	13	Ozana (Neamț)	Boboiești	I	I	I	I	-	-
246	14	Ozana (Neamț)	Dumbrava (Târgu Neamț)	I	I	I	I	I	s
247	15	Moldova	Roman	I	I	I	I	I	s
248	16	Siret	Drăgești	II	I	I	II	II	s
249	17	Bistrița	Cârlibaba	I	I	I	I	-	-
250	18	Bistrița	Argestru	I	I	I	I	I	s
251	19	Bistrița	Frumosu	I	I	I	I	I	s
252	20	Bistrița	Straja	I	I	I	I	I	s
253	21	Bistrița	Frunzeni	D	I	II	D	-	-
254	22	Bistrița (can.UHE)	Zănești	I	I	II	II	I	r
255	23	Bistrița (can.UHE)	Bacău (Șerbănești)	II	I	II	II	-	-
256	24	Bistrița	av.lac agrement Bacău	II	I	I	II	-	-
257	25	Siret	Galbeni (Răcătău)	D	I	II	D	III	r
258	26	Trotuș	Ghimeș-Făget	I	I	I	I	-	-
259	27	Trotuș	amonte Târgu Ocna	I	I	II	II	D	b
260	28	Trotuș	Adjud	III	I	III	III	D	b
261	29	Siret	Cosmești	II	I	II	II	III	b
262	30	Bârlad	Băcești	I	I	I	I	I	s
263	31	Bârlad	amonte Negrești	I	I	I	I	II	b
264	32	Bârlad	amonte Vaslui	II	I	II	II	-	-
265	33	Vasluieț	Satu Nou	II	I	I	II	-	-
266	34	Vasluieț	av.Vaslui (Muntenii de Jos)	II	I	II	II	-	-
267	35	Bârlad	amonte Bârlad	II	I	II	II	II	s
268	36	Tutova	Rădeni	I	I	I	I	-	-
269	37	Tutova	Pogonești	I	I	I	I	II	b

1	2	3	4	5	6	7	8	9	10
270	38	Berheci	Bosia	I	I	I	I	-	-
271	39	Zeletin	Colonești	II	I	I	II	-	-
272	40	Zeletin	Galbeni	II	I	I	II	-	-
273	41	Berheci	Gara Berheci	I	I	I	I	-	-
274	42	Bârlad	Tecuci	III	I	III	III	III	s
275	43	Bârlad	Umbrărești	II	I	III	III	-	-
276	44	Putna	Tulnici	I	I	I	I	I	s
277	45	Putna	Boțârlău	I	II	II	II	II	s
278	46	Siret	Lungoci	II	I	II	II	-	-
279	47	Râmnicu Sărat	Tulburea	I	D	II	D	-	-
280	48	Râmnicu Sărat	Măicănești	II	D	III	D	D	s
281	49	Buzău	Vama Buzăului	I	I	I	I	I	s
282	50	Buzău	Nehoiu	I	I	I	I	II	b
283	51	Buzău	Măgura	I	I	I	I	-	-
284	52	Buzău	amonte municipiul Buzău	I	II	I	II	II	s
285	53	Buzău	Banița	I	I	II	II	II	s
286	54	Buzău	Racovița	I	I	II	II	III	b
287	55	Siret	Șendreni	I	I	II	II	III	b
		XIII. Bazinul hidrografic Prut							
288	1	Prut	Dărăbani	I	I	I	I	-	-
289	2	Prut	Stânca	I	I	I	I	I	s
290	3	Bașeu	Hăvârna	III	I	I	III	-	-
291	4	Bașeu	Ștefănești	III	II	I	III	III	s
292	5	Prut	Ungheni	I	I	II	II	I	r
293	6	Jijia	Dorohoi	III	I	I	III	III	s
294	7	Jijia	Todireni	D	II	I	D	III	r
295	8	Sitna	amonte Leorda	II	I	II	II	-	-
296	9	Sitna	amonte Botoșani	II	I	I	II	-	-
297	10	Sitna	Todireni	D	D	II	D	-	-
298	11	Miletin	amonte Flămânzi	II	II	I	II	-	-
299	12	Miletin	Șipote	D	D	II	D	-	-
300	13	Jijia	Victoria	D	I	III	D	D	s
301	14	Bahlui	amonte Hârlău	II	I	II	II	III	b
302	15	Bahlui	Podu Iloaiei	D	I	II	D	D	s
303	16	Bahlui	Holboca	D	II	D	D	D	s
304	17	Jijia	Chiperești	D	I	II	D	-	-
305	18	Prut	Drânceni	II	I	II	II	II	s
306	19	Prut	Oancea	I	I	II	II	II	s
307	20	Prut	Șivița	I	I	II	II	-	-
		XIV. Bazinul hidrografic Dunăre							
308	1	Dunăre	Baziaș	I	I	I	I	I	s
309	2	Dunăre	am.Turnu Severin	I	I	I	I	I	s
310	3	Dunăre	Gruia-Radujevac	I	I	I	I	-	-
311	4	Dunăre	Pristol - Novo Selo	I	I	I	I	-	-
312	5	Dunăre	Turnu Măgurele	I	I	I	I	-	-
313	6	Dunăre	amonte Giurgiu	I	I	II	II	-	-
314	7	Dunăre	amonte Oltenița	I	I	II	II	-	-
315	8	Dunăre	Chiciu - Silistra	I	I	II	II	-	-

1	2	3	4	5	6	7	8	9	10
316	9	Dunăre	Giurgeni	I	I	II	II	-	-
317	10	Dunăre	amonte Brăila	I	I	I	I	-	-
319	11	Dunăre	Grindu - Reni	I	I	II	II	-	-
319	12	Dunăre	Periprava - Vâlcov	II	I	III	II	-	-
320	13	Dunăre	amonte Sulina	I	I	I	I	-	-

4.2. Data Quality Control and Quality Assurance

The existing Analytical Quality Control System takes into consideration several important items regarding sampling and laboratory analysis control in order to get data of stated accuracy.

The sampling control protocol that has been established deals with time and location of sampling and the technique of sampling. An effective sampling protocol controls possible errors such as contamination and loss or transformation of an analyte. The specific control test referring to sampling consists of:

- routine test on the effectiveness of the cleaning of sampling equipment and sample containers;
- field blanks for routine checks on contamination and sample stability;

Concerning the laboratory analysis, attention is focused on the following aspects:

- use of validated analytical methods;
- properly maintained and calibrated equipment;
- use of reference materials;
- effective internal analytical control;
- properly trained staff;
- participating in interlaboratory studies.

Taking into consideration that the Quality Assurance activity is needed to be permanently improved, one of the necessary tools for this is participation in interlaboratory studies. Therefore, eight international programmes for intercalibration are following compared, taking in the view: (I) objectives, (ii) common and specific elements, (iii) results, (iv) selective outputs. (see table 4.2.1).

Table 4.2.1

No.	PROGRAMME	PERIOD	REMARKS
1.	W.H.O. - UNDP	1976	- two lake sample - pH, Alk., Cl^- , conductivity - Youden procedure
2.	BUCHAREST DECLARATION (1985) ROMANIA	1988 - 1992	- Danube River samples - data calibration
3.	QUALCO DANUBE - HUNGARY VITUKI - Environmental Programme for Danube River Basin	1993 - 1997	- National Reference Labs - Youden procedure, two samples - R_{AB} / $R_{assigned}$
4.	AQUACHECK Wrc - UK EPDRB - Danube	1993,1995,1996,1997	- National Reference Labs. - Known addition - R_f (reference value) - $z = \frac{v_{med.} - \mathbf{Re}\,f}{Er.\mathbf{lim}}$ - $z \leq 1 \rightarrow$ OK - $z \geq 1 \rightarrow$ not OK

Table 4.2.1. continued

5.	IMEP - 6 CEE Belgium	1994 - 1998	- water - heavy metals - certified value - isotopic dilution
6.	EQUATE - “COPERNICUS” RIZA - NL, MMI - NL, IES - NL	1995 - 1998	- $z_i = \frac{(x_i - x_r)}{\sigma}$ - z< 2 → OK - 2 < z < 3 → ≈ - z> 3 → not OK
7.	QUALITY MANAGEMENT IN ENVIRONMENTAL LABS. VRIJE UNIV., Inst. Env. Study, (NL), Univ. of Barcelona, ISPRA Inst.	1996 - 1997	- water, sediment, soil - heavy metals - PCBs - AOX - general determinants
8.	EPDRB - MLIM Subgroup LMW6, NRL Managers PHARE CEE	1992 - present	- training courses AQC - intercalibration - VKI Denmark - M_4 - project _ CARLBRO

In the TNMN framework, the inter-comparison exercise is provided by VITUKI from Hungary called QUALCO Danube Programme.

The need for Interlaboratory comparison studies in the Bucharest Declaration Danube monitoring was discussed during the 5th expert meeting in October 1992, held in Bucharest. This meeting agreed to organise an interlaboratory comparative exercise in 1993. The institute for Water Pollution control of VITUKI, Budapest, Hungary, took responsibility for organising the first laboratory comparative runs under the name of QUALCO Danube. As part of the AQC for the Bucharest Declaration monitoring, the first distribution from 1993 of the samples for analysis has included three determinants: pH, conductivity and total hardness. By the end of 1995, four more distributions had been made for analysis of the following determinants: chlorides, COD, nutrients (ammonium, nitrates, Kjeldahl - Nitrogen, ortho-phosphate and total - P), as well as different metals (Fe, Mn, Ca, Mg, Cd, Cu,Hg, Pb, Ni, Zn). The end of 1995 had conducted five distributions.

Also since 1995, this programme has been extended to the National Reference Laboratories (NRLs) in the TNMN network and in the 1996/2 distribution already included all Danubian laboratories - 11 NRLs and 18 national laboratories - implementing the monitoring programme.

In the QUALCO proficiency test scheme, check samples are distributed as follows:

- standard solutions (concentrates) which should be diluted with own “blank” water, usually de-ionised water, according to provided instructions, will result in concentration of the determinants at the level generally observed in surface water (SW) or waste water (WW).
- reference materials, prepared from “real world” samples having the relevant matrix effect in the case of surface water sediment (SS), or waste water sludge (WS), as well as preserved surface water (SW).

Another interlaboratory exercise in which NRL from Romania has attended, is EQUATE - Copernicus, from 1995 to 1998, programme which included fifteen laboratories from Central And Eastern European countries and five laboratories from Western Europe; meanwhile, this project offered a good opportunity for provisions of reference materials, interlaboratories studies and the transfer of knowledge on quality systems, quality control and quality audits.

The results obtained in this project are illustrated in table 4.2.2.

Table 4.2.2

Score " z"	Determinants	Level of conc.	Matrix	Remarks
GENERAL PARAMETERS				
$0 < \|z\| < 2$	COD	high and low	surface water	- good results
	BOD_5, o - PO_4	low	distilled water	
	Cl	more than 1M	distilled water	
	EGV, t - PO_4 , K, Na, SO_4 , NO_3	high and low	distilled water	
	o - PO_4	low	surface water	
	NO_3	high	surface water	
$2 < \|z\| < 3$	Cl	less than 1M	distilled water	- questionable (inappropriate method)
	o - PO_4	low	distilled water	- approach of the assigned value
	o - PO_4	high	surface water	- probably, a systematic error
$\|z\| > 3$	BOD_5	high	distilled water	- random error
	NH_4	high and low	surface water	- matrix effect
No result	TOC, N - Kjeldahl			
HEAVY METALS				
$0 < \|z\| < 2$	Mn , Zn	high	surface water	- good results
	Ni , Cr, Cu	low	surface water	
$2 < \|z\| < 3$	Ni , Cu	low	surface water	- random error
$\|z\| > 3$	Pb	low	surface water	- furnace not available
No results	As, Fe, Hg, Cd			

4.3. Data Consistency, Compatibility and Transparency

Table 4.3.1. illustrates the list of determinants and the main characteristics in TNMN activity (see the note below), mainly for nutrients and pollutants:

Table 4.3.1.

Class	Parameter	Pre-treatment sampling handling	Analysis	Remarks
Nutrients	N - NH_4	centrifuge	colorimetric - indophenol blue-	-
	N - NO_2	filtration	colorimetric	-
	N - NO_3	filtration	colorimetric	-
	N - Kjeldahl	-	Kjeldahl - titration (>2ppm); colorimetric (<2 ppm)	- needs centrifugation or filtration
	P- PO_4 (soluble reactive phosphorous)	filtration	colorimetric	
	Total P	Digestion on homogenous sample	colorimetric	-
Heavy metals	Fe, Mn, Zn, Cu, Cr, Pb, Cd, Hg, Ni, As	- for Hg - digestion - for As - hydride	AAS - instrumental	-
Organic micropollutants	Phenol index	distillation	colorimetric	-
	MBAS	-	colorimetric	-
	Pesticides (O-Cl)	extraction	GC - MS instrumental	-

Note: the Standard Operational Procedures followed in national monitoring activity match with the TNMN agreed ones.

It has to be mentioned that, in the case of nitrogen, there are no measurements for organic compounds.

Concerning the water quality data used in the study, there are no data derived from simulation modelling or interpolation, but only from original measurements (primary data).

4.4. River Channel Characteristics

4.4.1. Network

The hydrographical network of Romania, which is included 98 % from the total surface of the country in the Danube River catchment area, is presented the Map attached. Some specific information for description of the main rivers in the country parts of the network mentioned above are presented in the table 4.4.1.1.

Attached to this chapter there are the hydrographs build with monthly average, maximum and minim discharges values for major gauging stations of the Danube (fig. 4.4.1.1 … 4.4.1.9) which are currently used in the TNMN and a number of tributaries direct or indirect discharging tributaries from Romania in the Danube. (fig. 4.4.1.10…4.4.18) Also a schematic map(Map

4.4.1.1) with the locations of the respective water courses and the last gauging station before confluence respective border crossing is attached. With reference to the flow duration curve because there are not routinely used in our hydrological activity in the National Institute for Hydrology and Meteorology or National Water Authorities, those relations are established only for special purposes and this needs a longer time and resources. In this report are included the flow duration curves for gauging stations located on the Danube river (table 4.4.1.2. and figures 4.4.1.19.a, b, c, d, and 4.4.1.20.a, b, c, d)

In addition for a better understanding of the Romanian network in the figure number 2.1.5.1 from the chapter 2.1.5. there are presented 2 cross sections of the Romanian relief from West-East and from North to South.

ROMANIA RIVER NETWORK DIAGRAME
TransNational Monitoring Network - TNMN - Phase 1

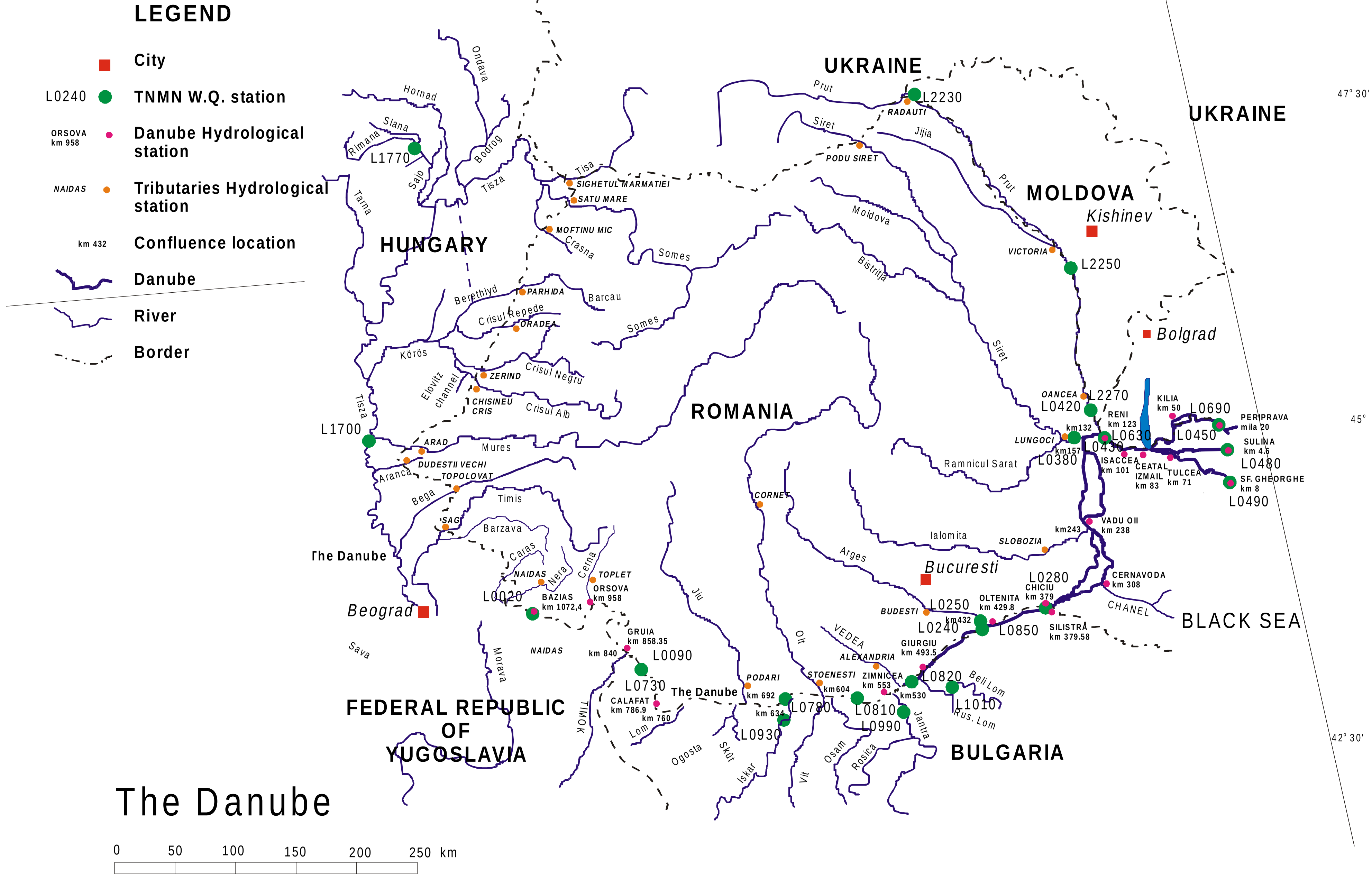
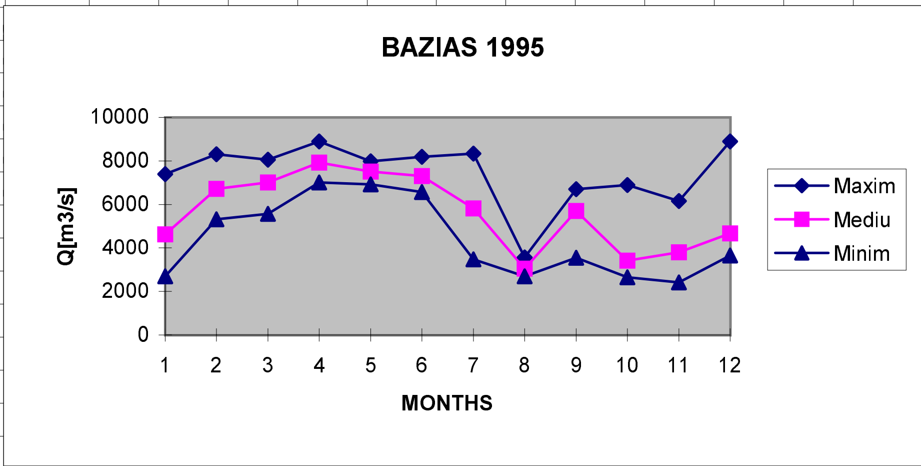
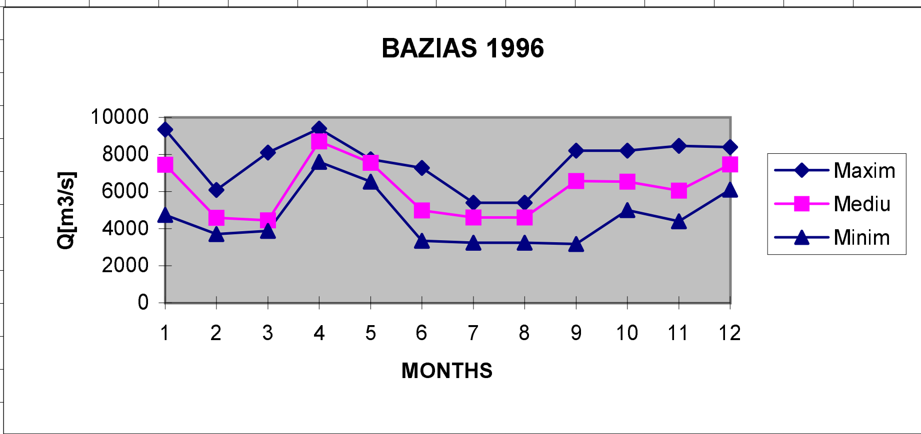


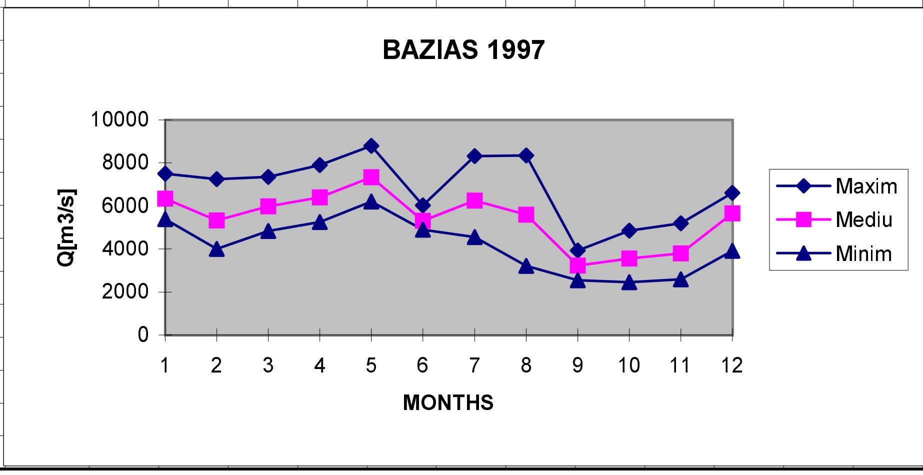
Table 4.4.1.1. Main characteristics of the hydrographical network of Romania.

Hydrographical basin of tributary	Tisa	Somes	Crisuri	Mures	Bega	Timis	Jiu	Olt	Vedea	Arges	Ialomita	Siret	Prut	Dunare
Place of river spring Reference point Orientation of flow	Carpatii Padurosi (Ucraina) N N – V	Carpatii Orientali Muntiii Rodnei N - V NE - NV	Carpatii Apuseni Muntii Bihor V E -V	Carpatii Orientali Depresiunea Giurgeului Centru E –V	Carpatii Apuseni M-tii Poiana Rusca V E - V	Carpatii Meridionali Muntii Semenic V E - V	Carpatii Meridionali Retezatu Mic Parang S N - S	Carpatii Orientali Centru S EV; NS	Zona Subcarpatica Platforma Cotmeana S	Carpatii Meridionali Muntii Fagaras S NV - SE	Carpatii Meridionali Muntii Bucegi S NV - SE; VE	Carpatii Padurosi Ucraina N - E	Carpatii Padurosi Ucraina E N - S	Muntii Padurea Neagra (Germania) sub Vf. Kandel S V - E
Main course length (km)	61	376	234	761	170	244	339	615	224	350	417	559	742	1075
Total length of hidrographical network (km)	1592	5528	5785	10800	1418	2434	3867	9872	2036	4579	3131	15157	4551	4540
Length of monitored course (km)	467	1602	1093	2402	350	633	944	1567	875	2221	1193	4135	1655	1200
Number of tributaries	123	403	365	797	80	150	233	622	81	178	145	1013	248	179
Main tributaries	Viseu Iza Tur	Siret Almas Lapus	Crisul Negru Crisul Repede	Aries Tarnavele (Mica, Mare) Sebes Strei	Bega Veche	Bistra Barzava	Tismana Gilort	R.aul Negru Barsa Homorod Cibin Lotru Topolog Oltet	Teleorman	Raul Doamnei Neajlov Dimbovita	Cricov Prahova	Suceava Moldova Bistrita Trotus Barlad Putna Rm. Sarat Buzau	Basev Jijia Elan Chineja	mentioned above
Catchment area surface	4540	15740	14860	27890	4470	7310	10080	24050	5430	12550	10350	42890	10990	33250
Percentage from total surface of country	1.9	6.6	6.3	11.7	1.9	3.1	4.2	10.1	2.3	5.3	4.4	18.1	4.6	14
Filiala RAAR	Cluj	Cluj	Oradea	Tg. Mures	Timisoara	Timisoara	Craiova	Rm. Valcea	Pitesti	Pitesi	Buzau	Bacau	Iasi	Constanta Bucuresti

	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	7400	8300	8059	8896	7980	8187	8343	3570	6700	6890	6160	8900	8900
	1995	Mediu	4624	6715	7008	7929	7505	7299	5821	3048	5696	3421	3804	4675	5629
		Minim	2700	5320	5569	7008	6928	6572	3477	2696	3555	2654	2417	3650	2417
BAZIAS		Maxim	9350	6091	8100	9393	7740	7280	5392	5392	8200	8200	8460	8400	9393
Km.1072,5	1996	Mediu	7455	4579	4444	8713	7547	4987	4602	4602	6572	6529	6045	7468	5945
		Minim	4750	3710	3880	7600	6539	3350	3250	3250	3180	5000	4400	6110	3000
		Maxim	7500	7250	7350	7900	8800	6020	8320	8350	3930	4850	5200	6600	8800
	1997	Mediu	6340	5330	5980	6400	7340	5310	6250	5590	3230	3560	3800	5660	5400
		Minim	5380	4010	4840	5250	6200	4900	4550	3220	2550	2450	2590	3920	2450







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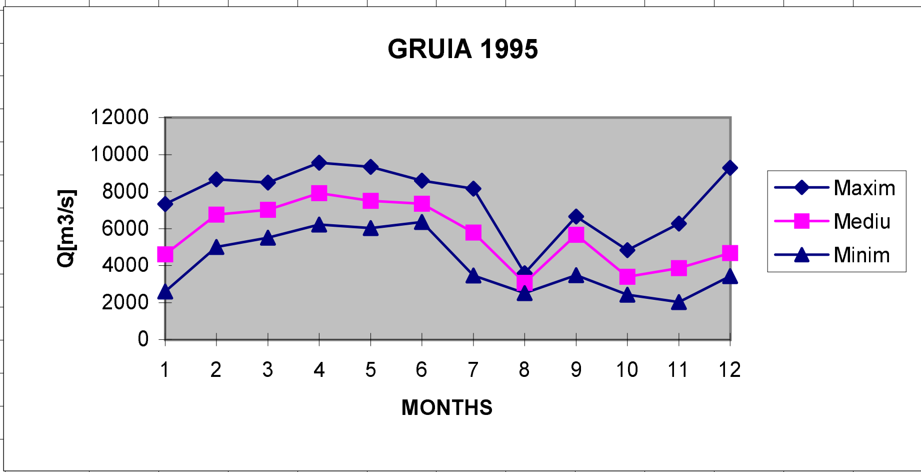
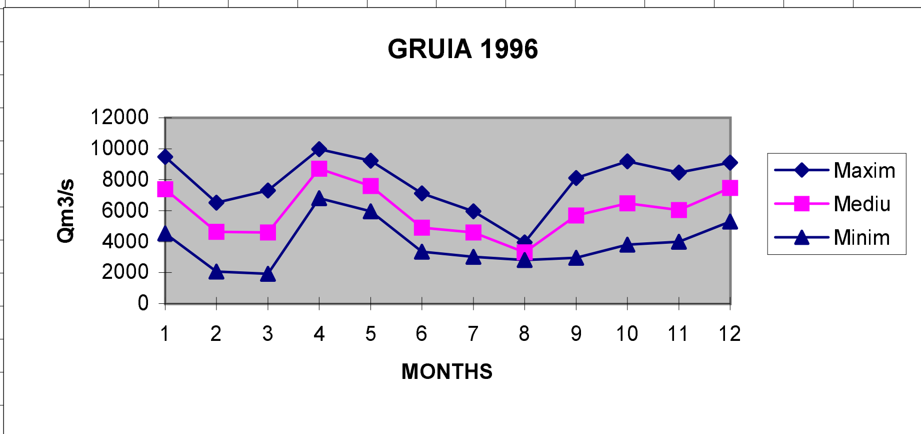
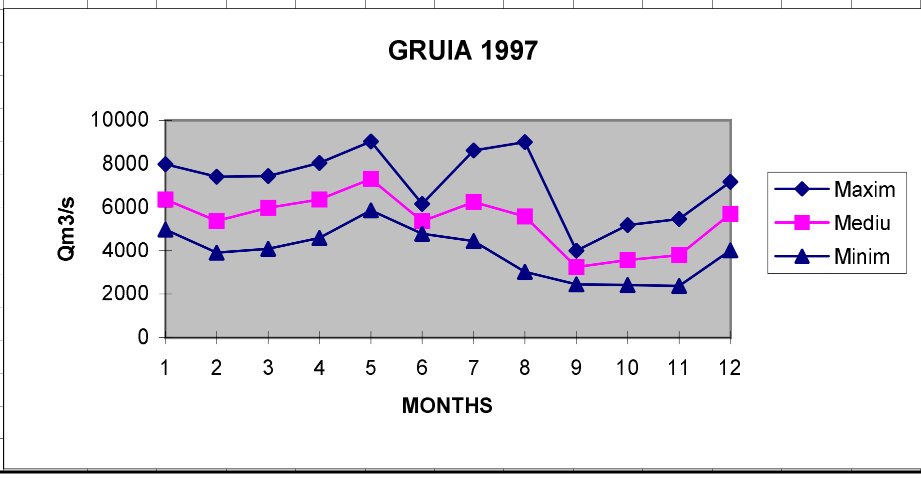
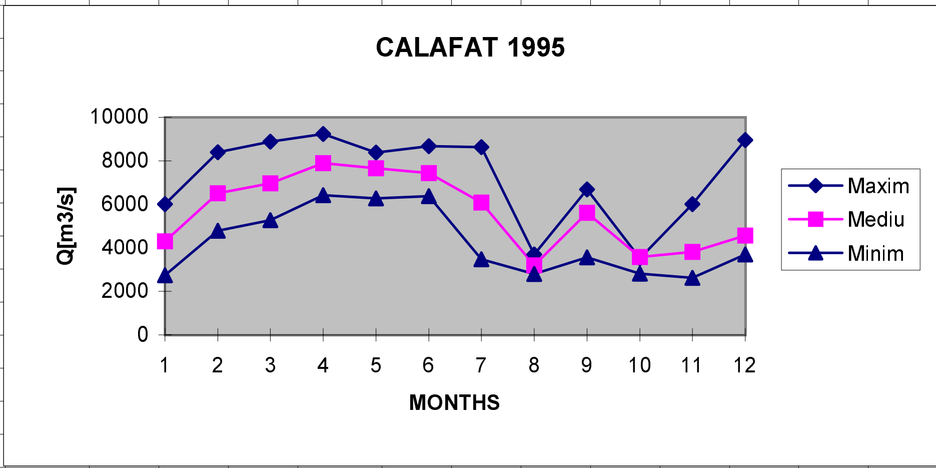
		Maxim	7328	8655	8482	9557	9328	8591	8162	3579	6646	4824	6262	9289	9557
	1995	Mediu	4612	6749	7009	7907	7504	7338	5786	3065	5669	3401	3854	4674	5631
		Minim	2595	5012	5506	6214	6023	6356	3460	2518	3478	2422	2018	3431	2018
GRUIA		Maxim	9479	6510	7307	9968	9225	7108	5958	3957	8104	9191	8472	9096	9968
Km.856,5	1996	Mediu	7387	4639	4596	8709	7589	4911	4601	3309	5684	6478	6044	7470	5951
		Minim	4530	2074	1924	6810	5960	3344	3014	2805	2956	3816	3995	5303	1924
		Maxim	7980	7400	7440	8040	9030	6150	8610	9000	3990	5170	5450	7170	9030
	1997	Mediu	6360	5370	5980	6350	7300	5360	6240	5580	3240	3570	3790	5700	5400
		Minim	4970	3910	4080	4590	5850	4780	4440	3030	2450	2420	2370	4010	2370

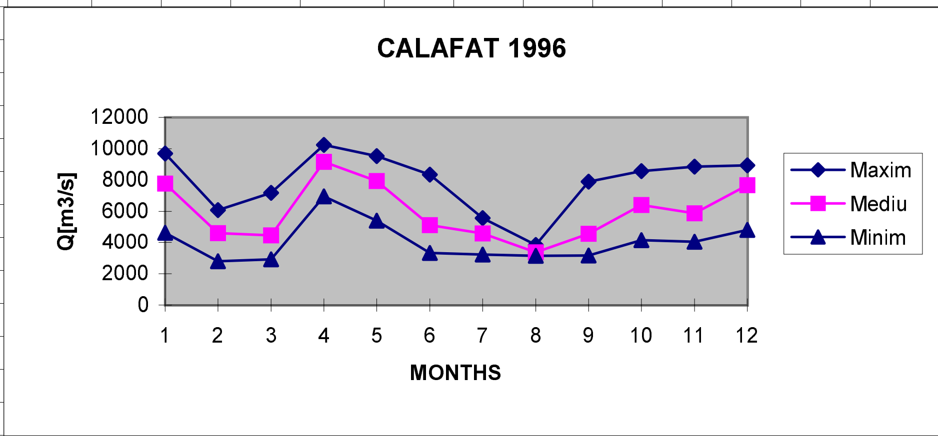


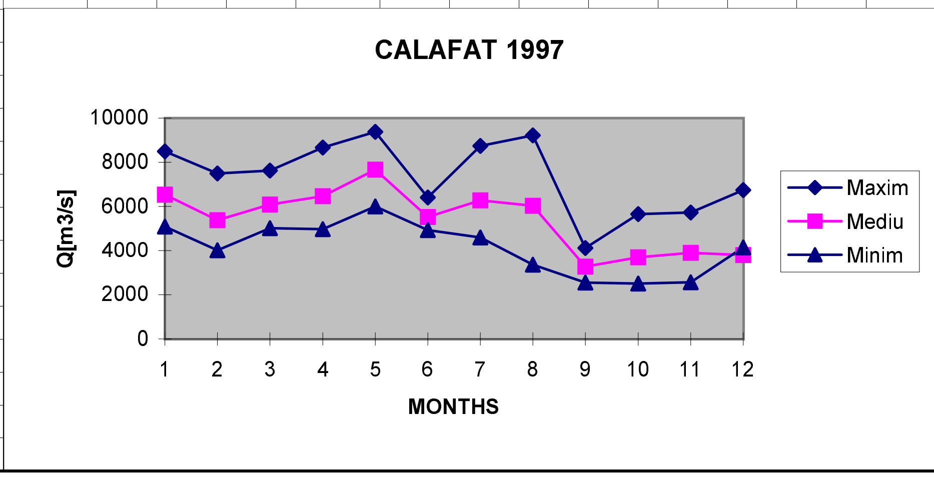




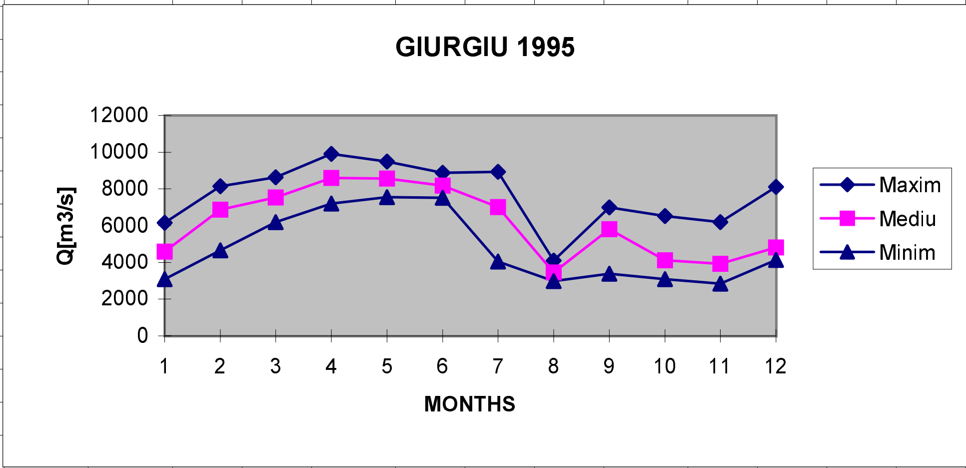
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	6002	8390	8877	9238	8375	8668	8630	3690	6680	3518	6002	8953	9238
	1995	Mediu	4298	6513	6962	7887	7658	7441	6081	3200	5605	3582	3816	4560	5634
		Minim	2742	4785	5270	6425	6279	6380	3470	2796	3570	2814	2616	3690	2616
CALAFAT		Maxim	9685	6068	7175	10246	9517	8344	5552	3840	7888	8572	8853	8936	10246
Km.786,9	1996	Mediu	7768	4594	4463	9163	7924	5110	4588	3378	4550	6393	5865	7669	6030
		Minim	4622	2792	2920	6950	5405	3336	3224	3152	3176	4140	4044	4809	2792
		Maxim	8500	7490	7630	8660	9380	6400	8740	9220	4120	5650	5720	6740	9380
	1997	Mediu	6530	5380	6080	6460	7660	5520	6270	6030	3280	3700	3900	3790	5550
		Minim	5080	4010	5010	4970	6000	4930	4590	3360	2550	2500	2570	4140	2500

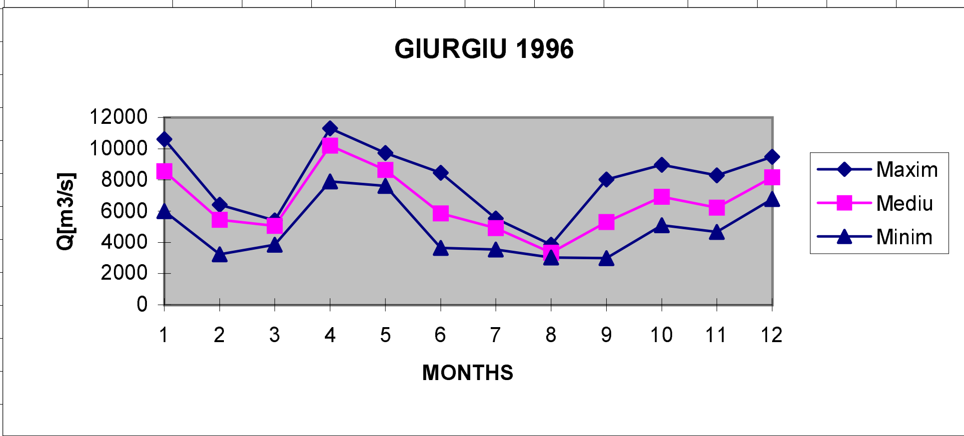


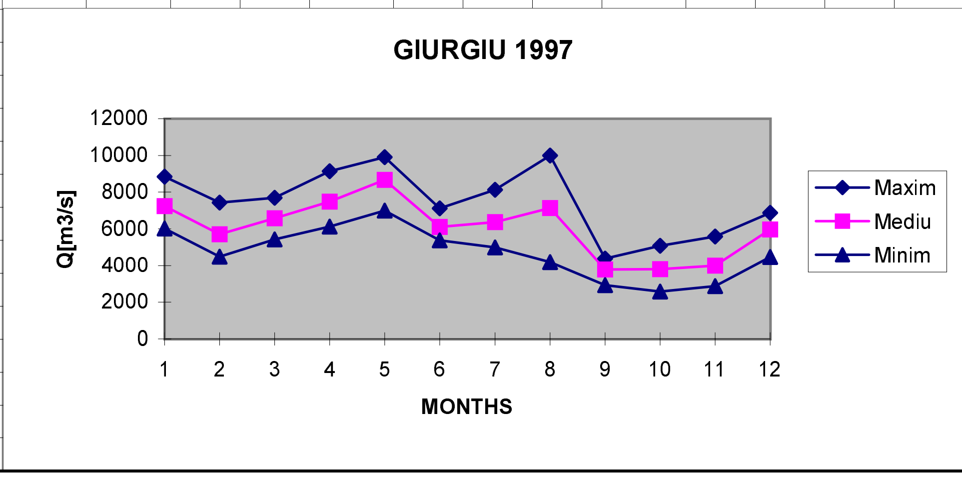




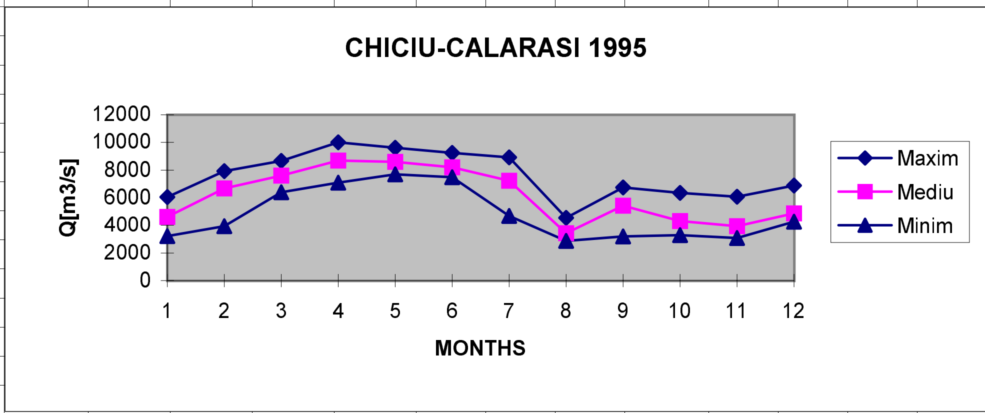
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	6160	8140	8640	9900	9490	8880	8930	4100	7000	6520	6200	8110	9900
	1995	Mediu	4590	6880	7530	8600	8570	8180	7020	3450	5800	4120	3920	4820	6120
		Minim	3080	4650	6200	7200	7550	7510	4040	2990	3390	3090	2840	4130	2840
GIURGIU		Maxim	10600	6400	5410	11300	9730	8460	5530	3840	8030	8960	8300	9481	11300
Km.493,05	1996	Mediu	8550	5440	5060	10200	8650	5850	4920	3330	5310	6930	6220	8180	6520
		Minim	5990	3240	3860	7900	7620	3650	3540	3030	3000	5090	4670	6770	3000
		Maxim	8850	7430	7690	9140	9910	7120	8130	10000	4370	5070	5580	6880	10000
	1997	Mediu	7240	5700	6580	7490	8660	6110	6360	7140	3790	3800	4000	5970	6070
		Minim	6010	4480	5420	6120	7000	5380	4990	4190	2930	2580	2870	4470	2580

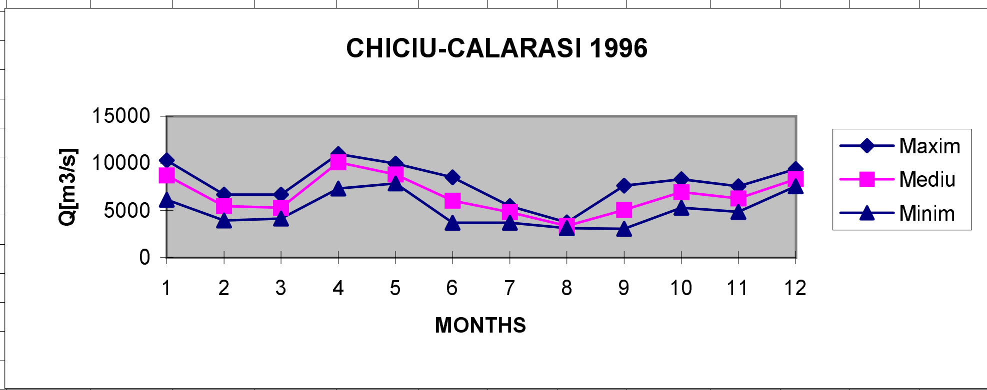


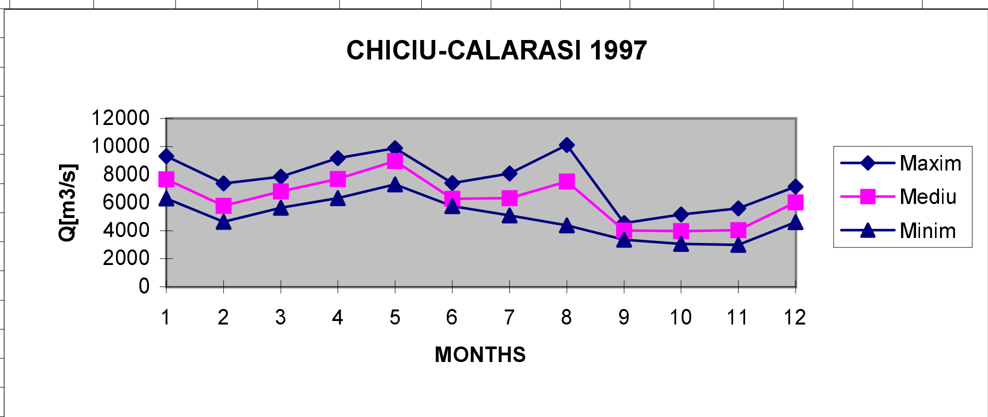




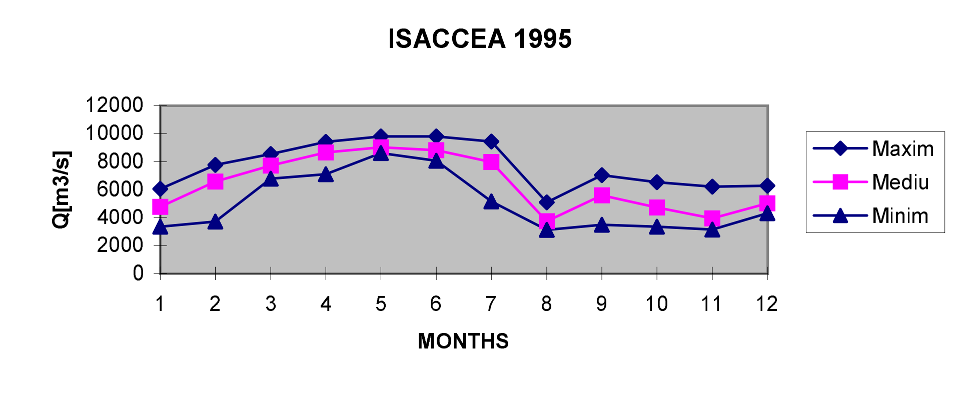
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	6050	7920	8670	10000	9610	9240	8930	4540	6740	6340	6070	6890	6130
	1995	Mediu	4620	6680	7590	8680	8590	8190	7220	3440	5430	4320	3930	4860	10000
		Minim	3230	3930	6400	7080	7680	7480	4670	2880	3190	3300	3090	4270	2880
CHICIU		Maxim	10300	6680	6700	11000	9980	8520	5450	3740	7630	8320	7570	9390	11000
CALARASI	1996	Mediu	8730	5480	5280	10100	8820	6040	4820	3350	5040	6960	6270	8310	6600
Km.379,58		Minim	6130	3920	4130	7320	7890	3700	3710	3110	3040	5290	4840	7560	3040
		Maxim	9300	7370	7840	9180	9880	7390	8080	10100	4540	5160	5600	7130	10100
	1997	Mediu	7670	5770	6800	7690	8960	6280	6320	7510	4010	3970	4030	6020	6250
		Minim	6300	4640	5640	6330	7290	5740	5090	4380	3360	3060	2990	4600	2990

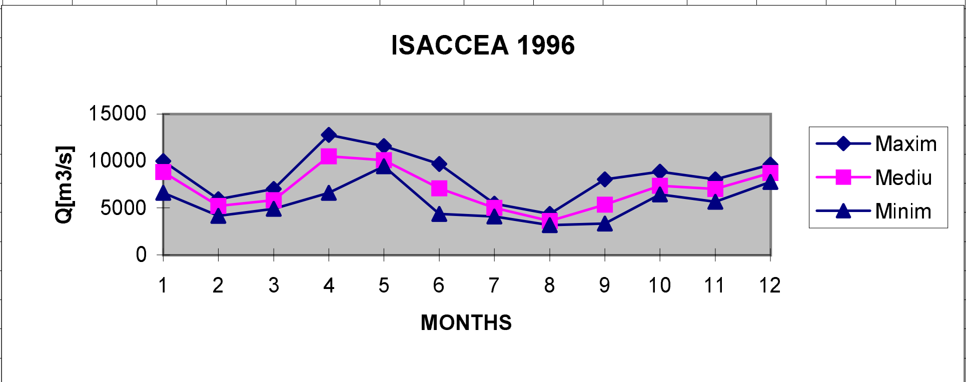


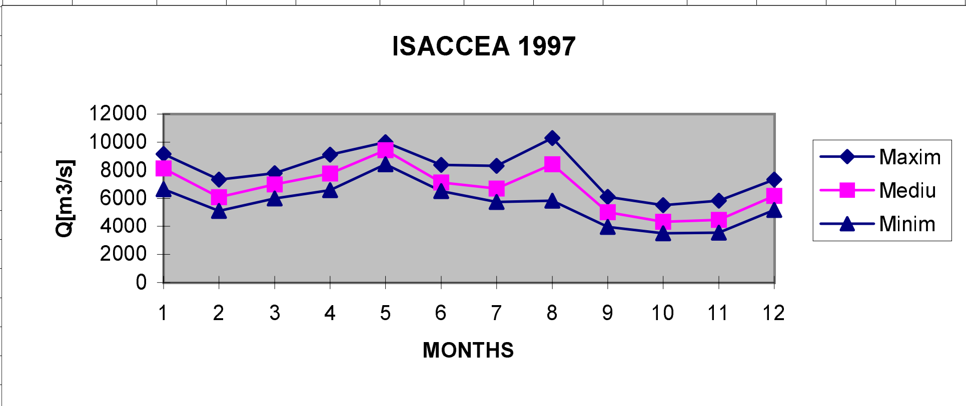




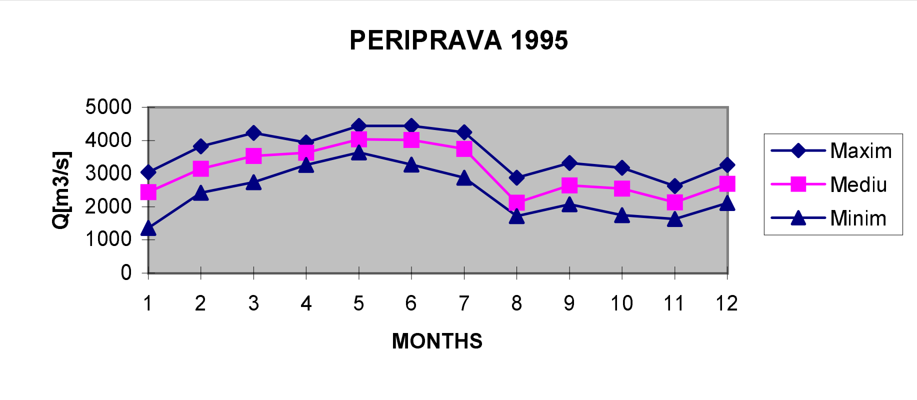
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	6050	7760	8550	9420	9810	9810	9440	5080	7020	6520	6200	6280	9810
	1995	Mediu	4760	6570	7710	8660	9030	8820	7970	3740	5580	4720	3940	5020	6380
		Minim	3340	3720	6790	7110	8600	8050	5160	3120	3480	3340	3140	4310	3120
ISACCEA		Maxim	10000	5940	7030	12800	11600	9680	5450	4380	8050	8870	8050	9600	12800
Km.101,0	1996	Mediu	8830	5230	5820	10500	10100	7100	5000	3630	5340	7380	7020	8740	7150
		Minim	6620	4170	4900	6620	9430	4350	4090	3180	3340	6460	5670	7760	3180
		Maxim	9160	7330	7780	9110	9990	8380	8310	10300	6100	5500	5820	7330	10300
	1997	Mediu	8130	6080	6980	7760	9430	7130	6700	8430	5010	4330	4470	6160	6720
		Minim	6640	5090	5980	6590	8420	6510	5740	5840	3960	3500	3550	5170	3500

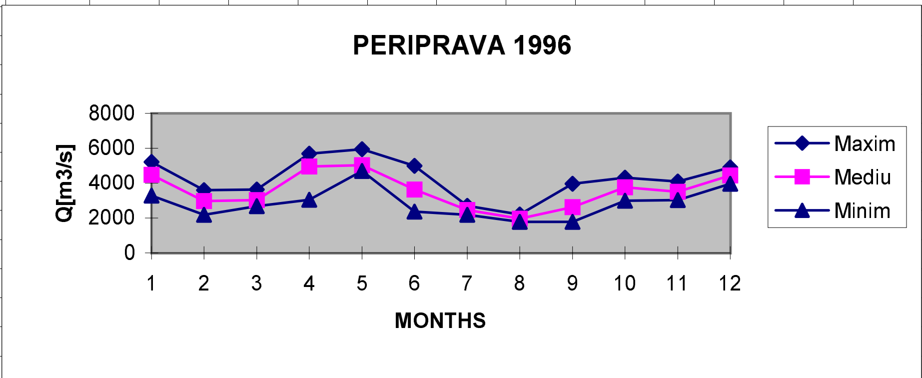


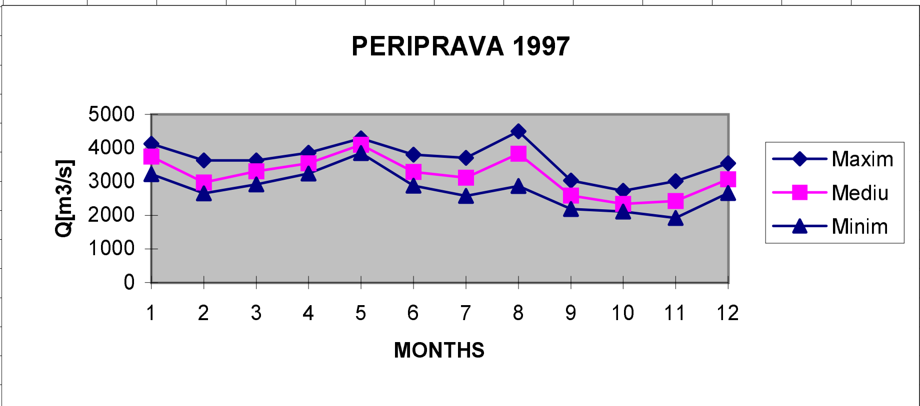




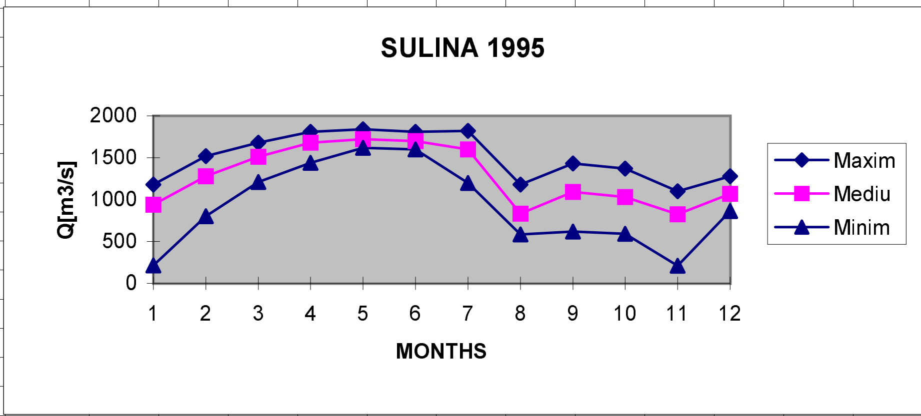
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	3040	3820	4230	3940	4440	4440	4250	2880	3320	3180	2630	3260	4440
	1995	Mediu	2440	3150	3530	3630	4030	4020	3750	2120	2640	2550	2130	2690	3060
		Minim	1360	2420	2740	3260	3640	3270	2880	1720	2080	1750	1630	2110	1360
PERIPRAVA		Maxim	5210	3600	3630	5680	5940	5000	2690	2210	3960	4320	4100	4890	5940
Km.20,0	1996	Mediu	4480	2980	3020	4950	5030	3640	2460	1970	2620	3760	3500	4440	3570
		Minim	3280	2190	2680	3050	4690	2370	2190	1780	1780	3000	3030	3960	1780
		Maxim	4130	3630	3630	3860	4290	3800	3710	4500	3030	2730	3010	3550	4500
	1997	Mediu	3750	2980	3310	3550	4100	3290	3120	3830	2590	2340	2420	3070	3200
		Minim	3220	2650	2920	3240	3850	2880	2580	2870	2190	2110	1920	2660	1920

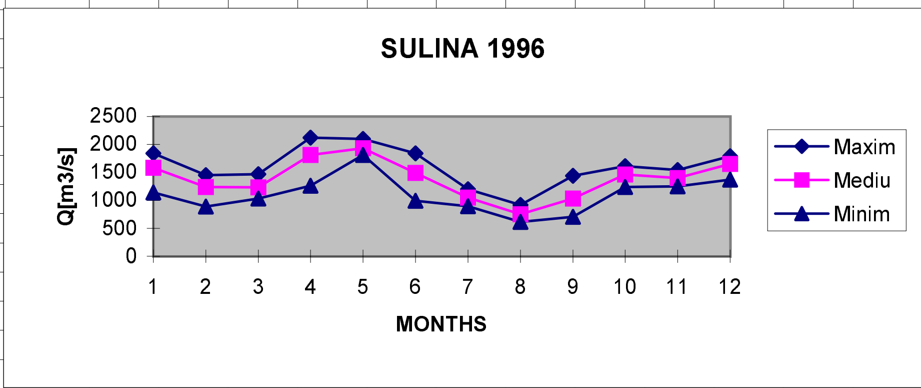


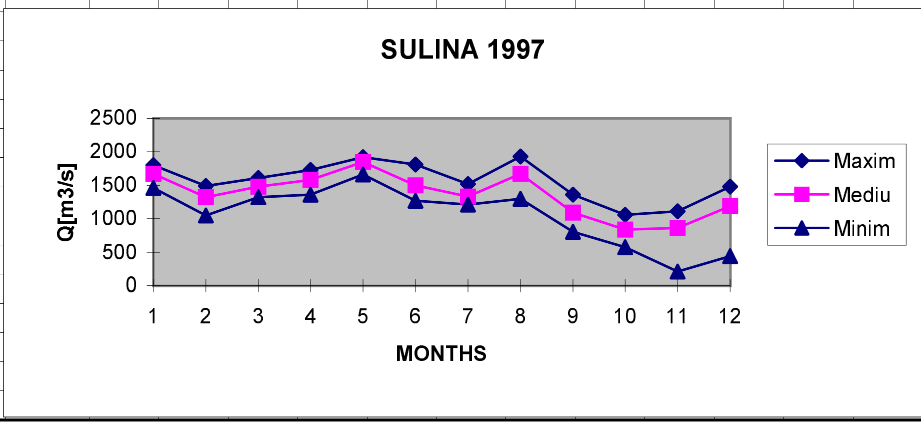




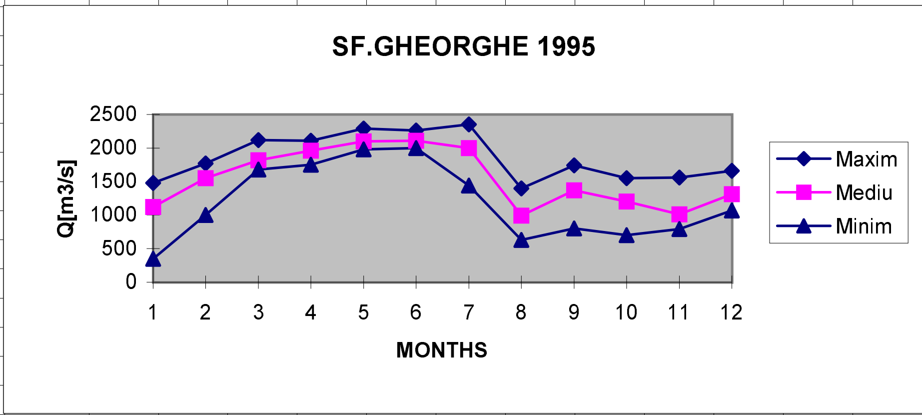
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	1180	1520	1680	1810	1840	1810	1820	1180	1430	1370	1100	1280	1840
	1995	Mediu	938	1280	1510	1680	1720	1700	1600	831	1090	1030	823	1070	1270
		Minim	212	802	1210	1440	1620	1600	1200	584	620	593	209	862	209
SULINA		Maxim	1840	1450	1470	2120	2100	1840	1200	915	1440	1610	1540	1790	2120
Km.4,6	1996	Mediu	1580	1240	1230	1810	1930	1490	1050	753	1030	1460	1400	1650	1390
		Minim	1140	891	1030	1260	1810	990	896	615	706	1240	1250	1370	615
		Maxim	1800	1490	1610	1730	1920	1810	1520	1930	1360	1060	1110	1480	1930
	1997	Mediu	1670	1320	1480	1580	1850	1500	1330	1670	1090	840	860	1190	1370
		Minim	1460	1050	1320	1360	1660	1270	1210	1300	806	575	212	440	212

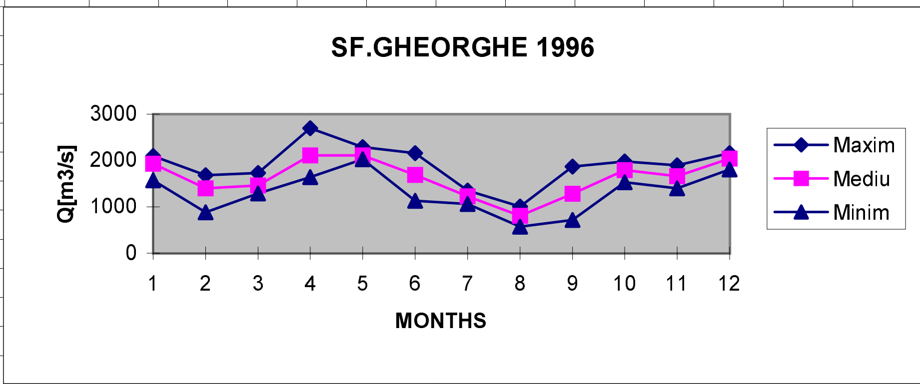


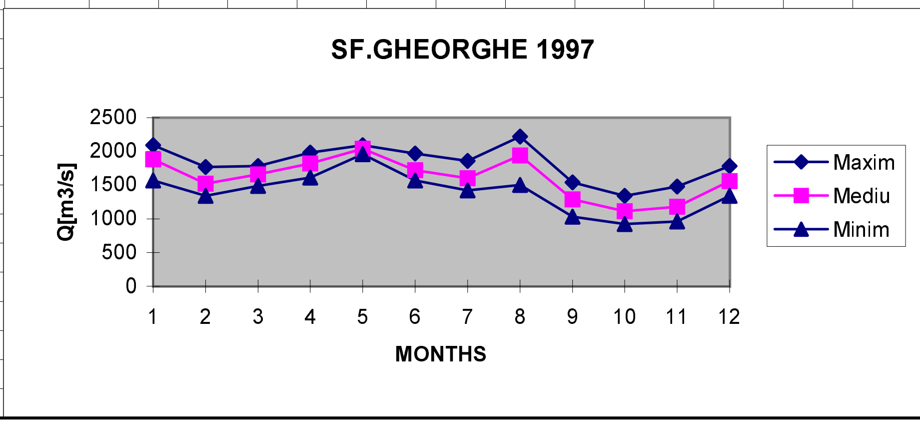




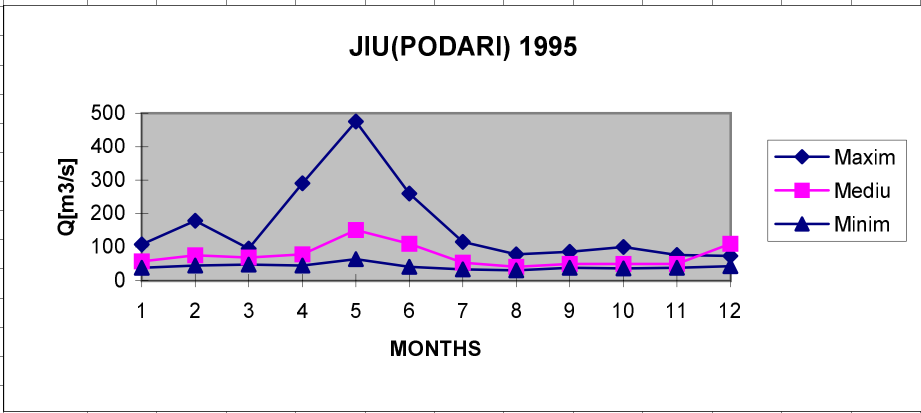
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	1480	1770	2120	2110	2290	2260	2350	1400	1740	1550	1560	1660	2350
	1995	Mediu	1120	1550	1820	1960	2100	2110	2000	992	1370	1200	1010	1310	1540
		Minim	350	1000	1680	1750	1980	2000	1440	630	800	700	790	1070	350
SF.GHEORGHE		Maxim	2100	1680	1730	2700	2290	2160	1350	1010	1870	1980	1900	2160	2700
Km.8,0	1996	Mediu	1930	1400	1460	2110	2110	1690	1230	806	1280	1790	1660	2040	1630
		Minim	1570	880	1290	1640	2030	1130	1060	570	720	1530	1400	1810	570
		Maxim	2090	1770	1780	1980	2090	1970	1860	2220	1540	1340	1480	1780	2220
	1997	Mediu	1880	1520	1660	1820	2040	1720	1600	1940	1290	1110	1180	1560	1610
		Minim	1570	1340	1490	1610	1960	1570	1420	1500	1030	920	960	1340	920

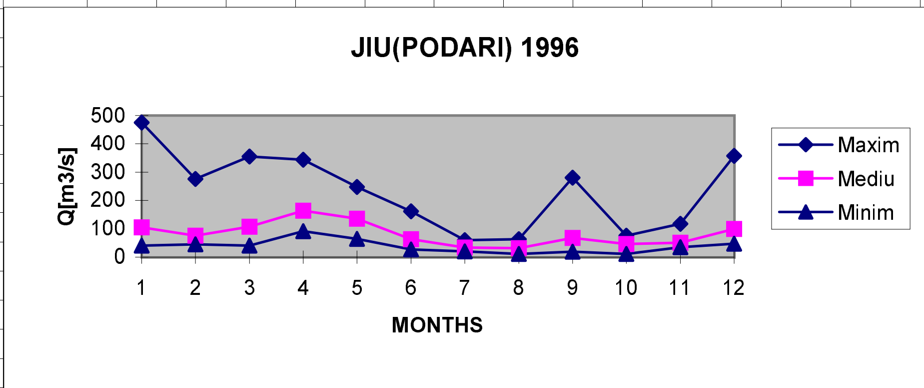


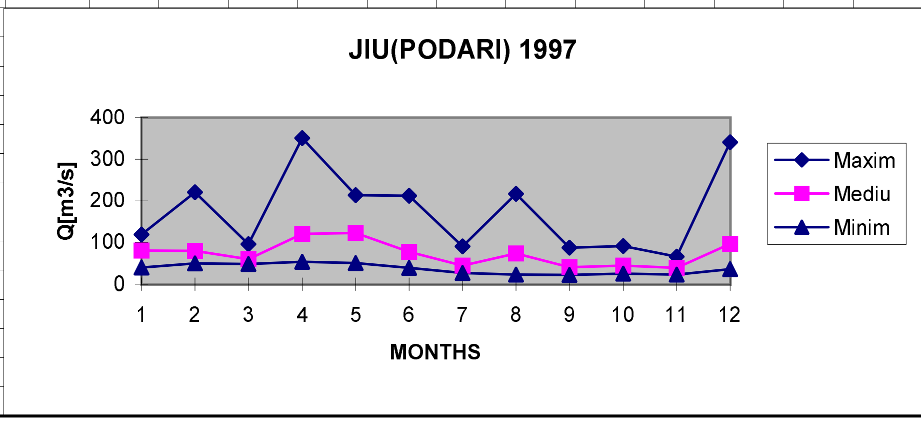




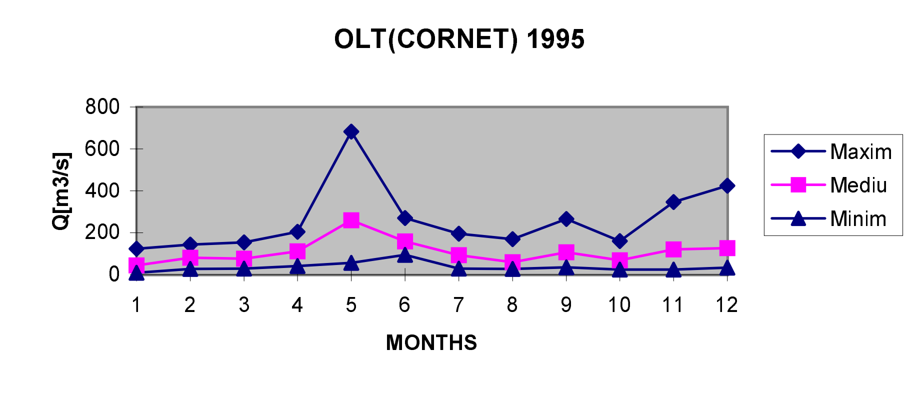
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	108	179	95,4	291	475	260	116	78	85,8	100	76,5	73,5	475
	1995	Mediu	56,9	75,9	69,1	78,8	151	110	53,5	40,8	49,8	49,7	50,1	110	74,6
		Minim	38,4	45,4	47,4	44,7	64,1	41,1	33	30,3	38,4	36,6	38,4	42,9	30,3
JIU		Maxim	475	276	355	344	248	162	60	63	280	75,9	118	358	475
PODARI	1996	Mediu	105	76,2	107	164	136	63,6	33,8	31,3	68	46,5	51	100	81,8
		Minim	41	45	40,8	91,3	64	26,7	20,1	11	18,8	11	34,8	47	11
		Maxim	119	221	96	351	214	212	90,5	217	87,7	91,5	66,2	341	351
	1997	Mediu	80,7	80	60,3	121	123	77,5	44,3	74,2	41	44,5	39,6	96,6	73,6
		Minim	40	50,2	48,6	53,7	51	39	27	23	22,1	25,3	23	36	22,1

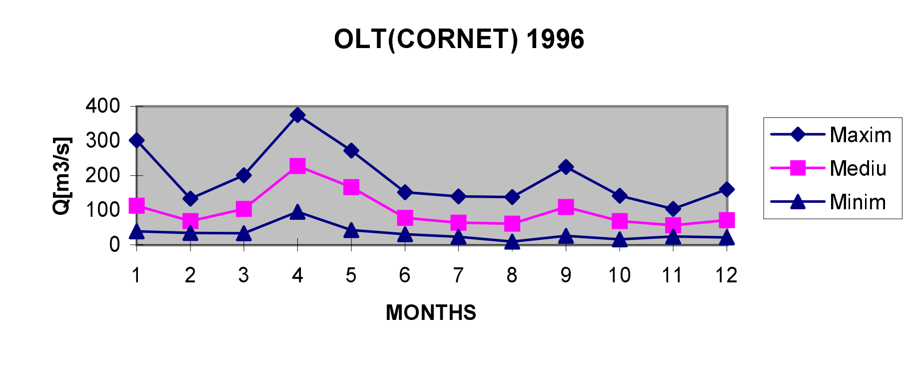


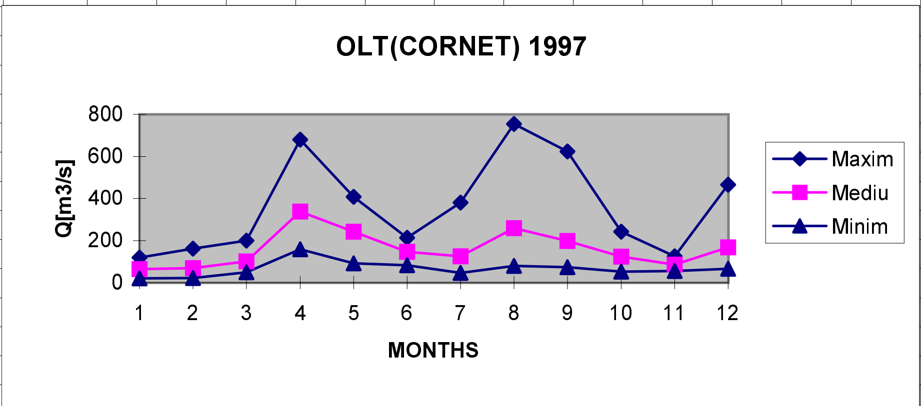




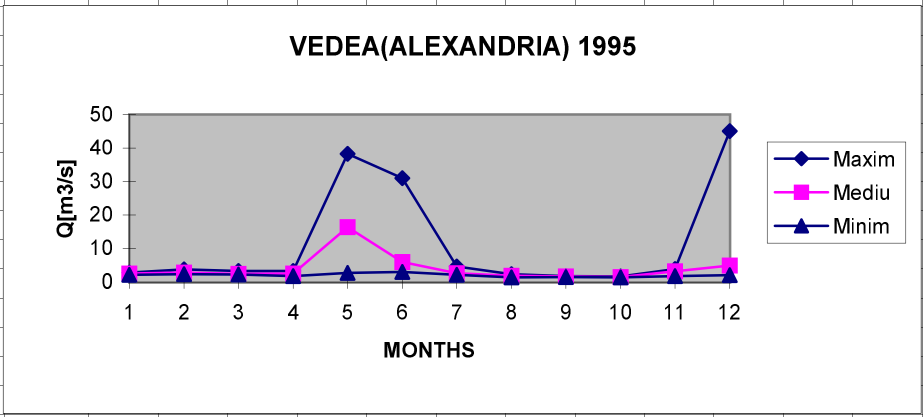
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	124	144	154	204	682	270	195	170	266	161	347	424	682
	1995	Mediu	44,6	81	76,1	111	260	159	92,9	60,2	107	68,7	120	127	109
		Minim	9,1	27,3	28,4	41	57	95,2	28,4	26,8	35,8	25,1	25,1	34,2	9,1
OLT		Maxim	302	133	201	375	272	152	140	138	225	142	104	160	375
CORNET	1996	Mediu	113	68,8	104	228	167	78	63,6	60,9	109	68,9	56,6	71,6	99,2
		Minim	39	34,4	33,6	95	43	31	22,7	8,8	25,5	15,4	23,7	21	8,8
		Maxim	118	161	200	680	408	213	380	754	623	242	125	465	754
	1997	Mediu	64,4	68,7	101	337	242	146	124	258	197	123	85,8	167	159
		Minim	20,4	21,9	48	158	91	82	45,2	79	72,4	52	54,6	66	20,4

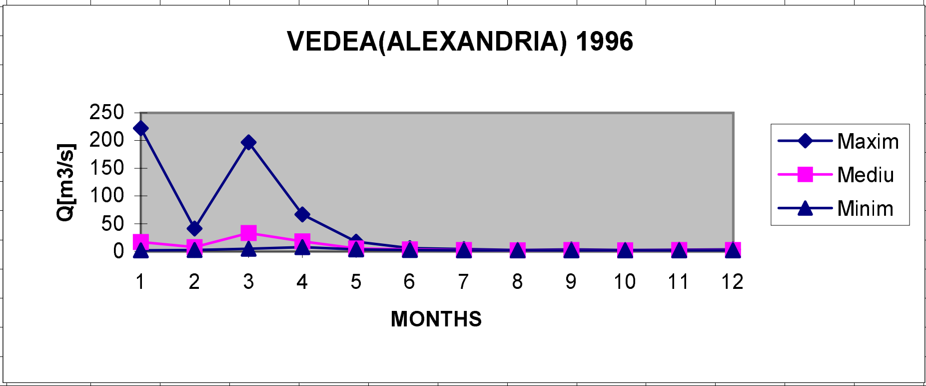


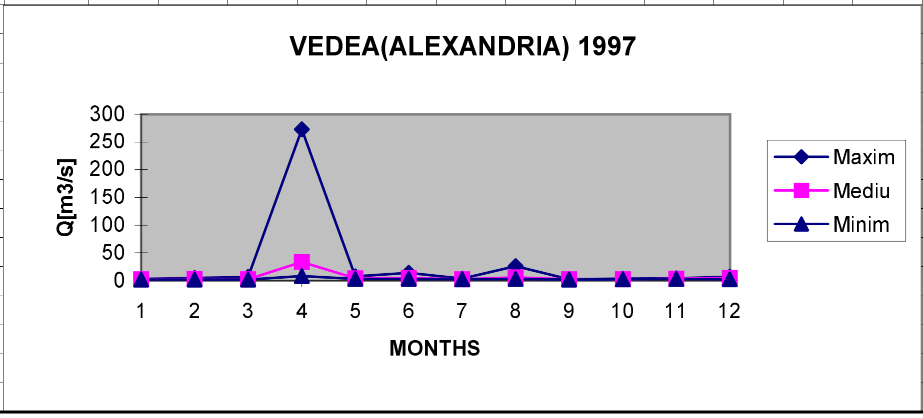




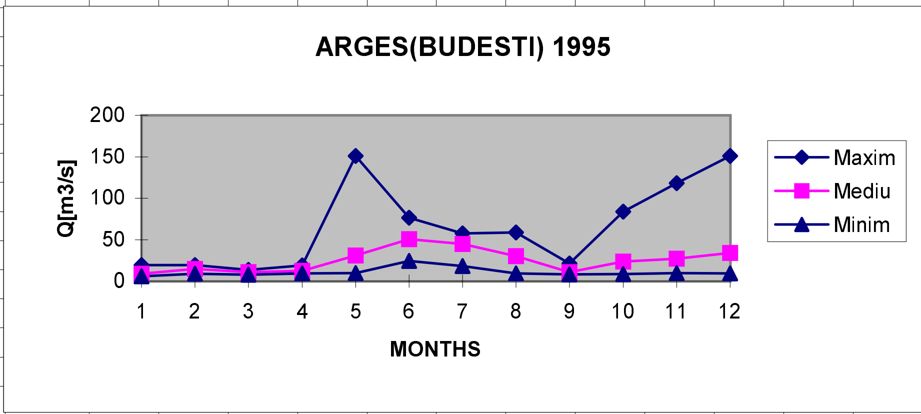
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	2,9	3,77	3,3	3,3	38,3	31	4,7	2,4	1,8	1,7	3,9	45	38,3
	1995	Mediu	2,58	2,91	2,44	2,61	16,4	6,04	2,7	1,87	1,73	1,54	3,21	4,95	4,08
		Minim	2,23	2,4	2,3	1,77	2,79	3,1	2,2	1,39	1,51	1,4	1,78	2,14	1,39
VEDEA		Maxim	222	41	197	66,5	17,6	5,89	4,25	2,16	3,4	2,13	2,62	3,28	222
ALEXANDRIA	1996	Mediu	16,9	7,64	32,9	18	5,28	3,64	2,54	1,87	2,03	1,87	2,04	2,49	8,1
		Minim	2	2,18	4,6	7,71	3,28	2,48	1,88	1,71	1,76	1,83	1,86	1,69	1,69
		Maxim	2,8	4,5	6,21	273	7,71	14	3,7	26	2,38	3,5	4,1	6,85	273
	1997	Mediu	2,34	3,1	2,38	33,2	4,12	4,88	2,41	5,63	2,26	2,53	3,33	4,39	5,88
		Minim	1,8	2	2	8,14	2,74	2,74	2,02	2,74	2,01	2,05	2,74	2,58	1,8

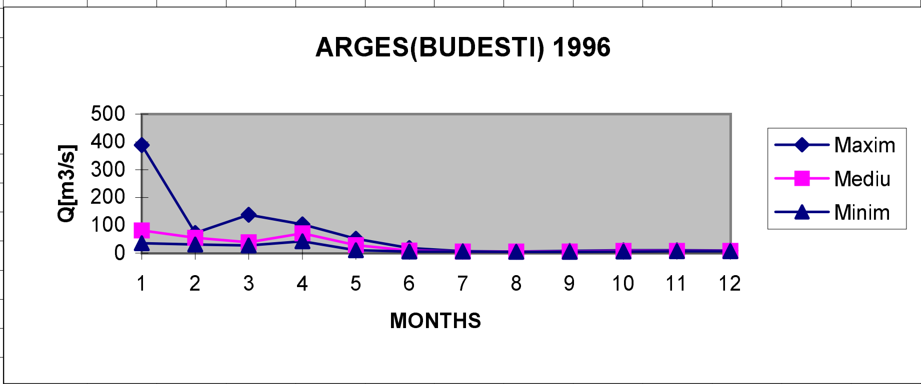


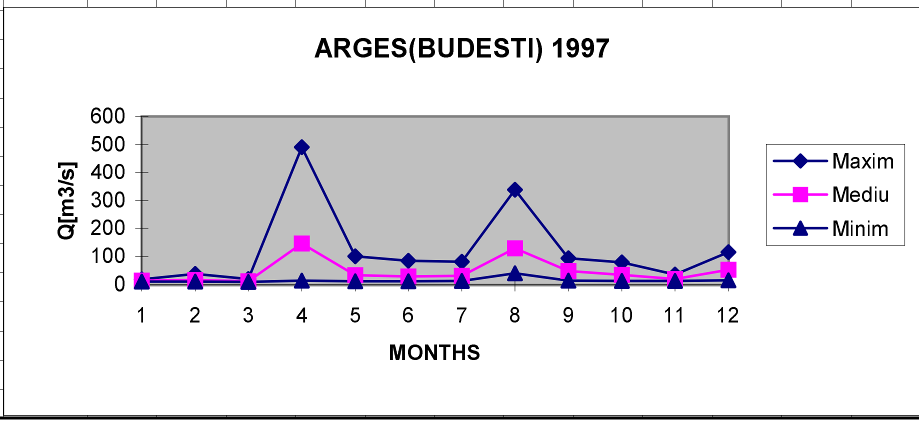




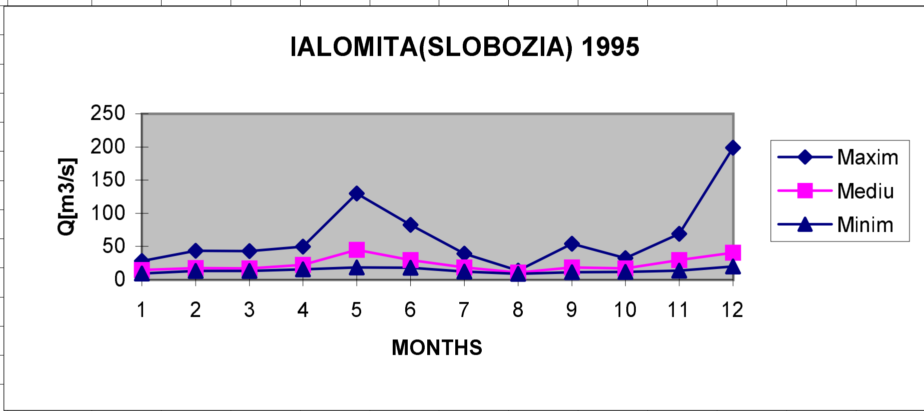
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	19,4	19,4	13,4	18,9	151	76,5	57,5	58,8	21,3	83,66	118	151	151
	1995	Mediu	8,75	14,6	10,8	12,5	31	50,4	44,6	30,2	10,7	23,7	27,2	33,8	24,8
		Minim	5,8	8,72	7,56	9,18	9,59	24,2	18,3	9,18	8,14	8,31	9,5	9,16	5,8
ARGES		Maxim	388	72,6	138	103	51,3	18,2	6,88	5,5	7,98	10,1	9,8	8,9	388
BUDESTI	1996	Mediu	81,8	54,6	39,3	71,4	28,7	9,16	5,82	5,21	5,27	8,12	7,83	7,69	28,8
		Minim	36,2	31,6	27,2	42,3	10,7	6	5,5	4,9	4,9	6,14	7,11	7,36	4,9
		Maxim	19,5	38,5	20,8	491	102	85	82,2	339	94,8	79,5	36	116	491
	1997	Mediu	15,3	17,2	12,2	147	33,8	29,3	31,4	130	48,8	34,9	20,4	53,6	47,8
		Minim	11,7	11	9,78	14,5	12,6	12,2	13,2	40,5	14,7	13,2	13,7	15,9	9,78

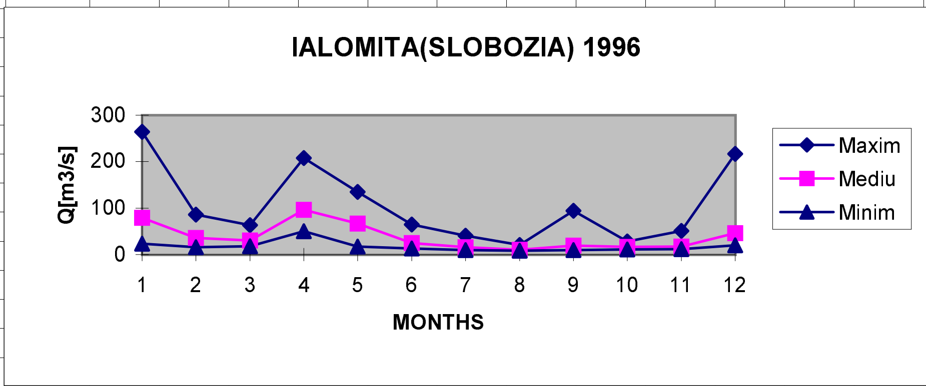


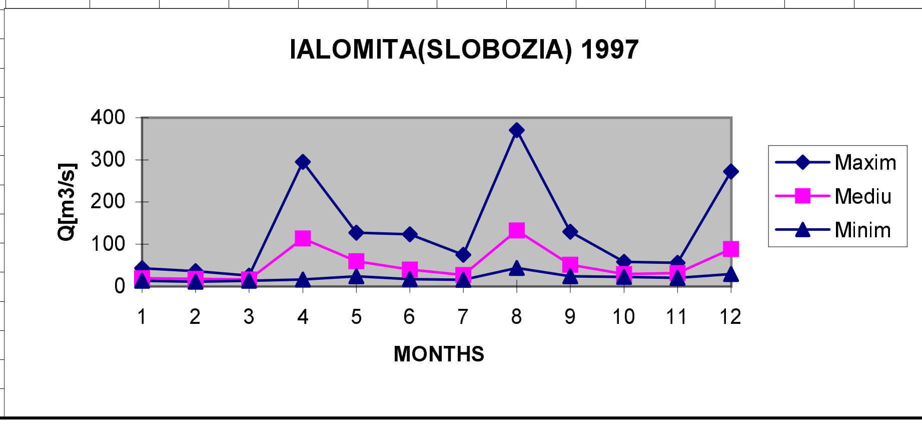




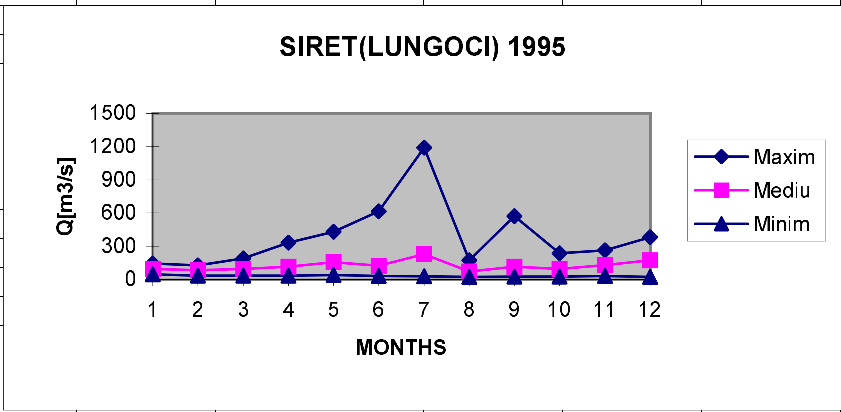
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	28,1	43,5	42,9	49,7	130	82,3	38,9	13,7	54,1	32,3	68,9	199	199
	1995	Mediu	14,4	17,4	17,1	22	44,8	29,3	18,1	10,6	18,5	16,8	29,4	40,6	23,1
		Minim	9,17	12,8	12,8	15,4	18,4	18	11,9	8,87	10,9	11,8	13,4	19,6	8,87
IALOMITA		Maxim	264	86,2	63,4	208	135	64,7	40,9	20,9	94,2	28,1	50,8	217	264
SLOBOZIA	1996	Mediu	79,3	36	30,2	96,2	66,9	24,8	16	10,6	19,5	16,4	17	46,1	38,2
		Minim	23,7	15,5	18	50,4	16,9	12,8	9,45	8,29	9,45	11,2	11,5	20	8,29
		Maxim	42,9	35,8	25,1	295	127	123	74,4	370	129	57,9	55,7	272	370
	1997	Mediu	19,2	17,4	16,1	113	59,5	39,5	26,4	132	50,7	29	31	88	51,8
		Minim	13,1	10,9	13,1	16,2	23,6	16,9	15,1	43,5	23,6	21,7	20,1	29,1	10,9

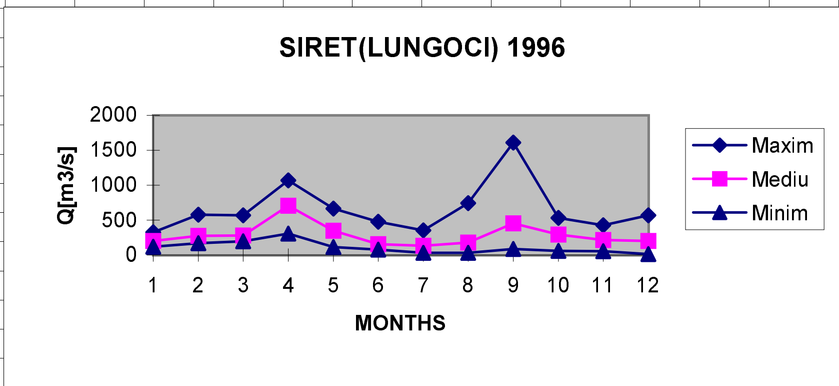


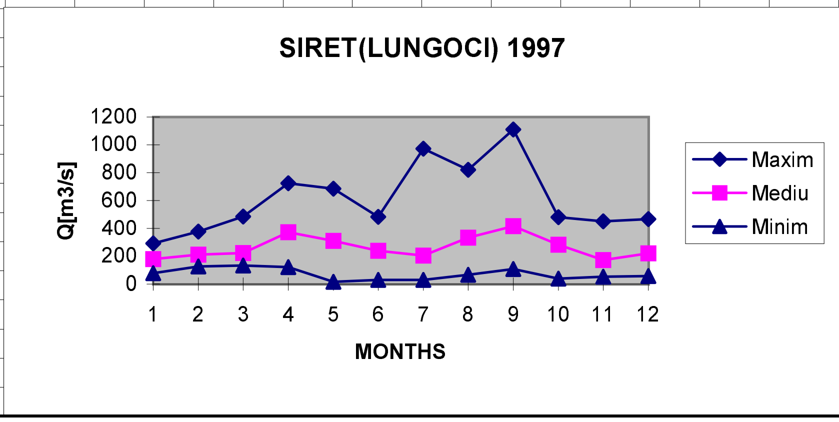




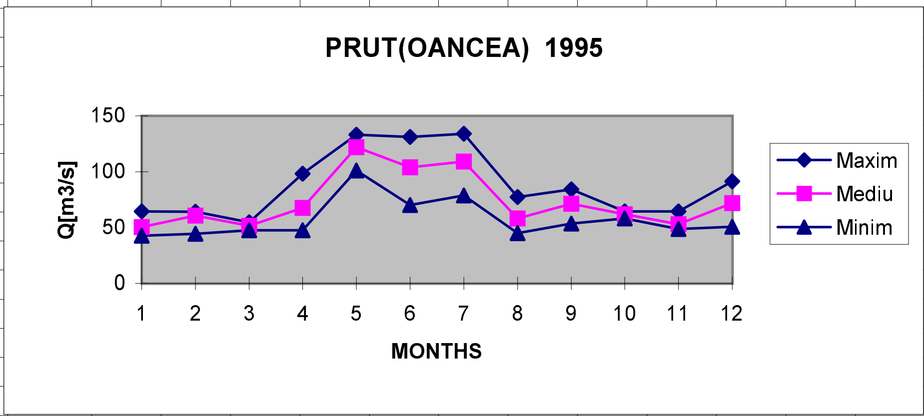
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	144	128	192	333	430	615	1190	174	571	237	264	381	1190
	1995	Mediu	95,2	82,7	94,8	116	155	125	228	72,9	115	95,3	129	174	128
		Minim	46	35,3	35,8	35,3	41,5	32,6	28,2	22,3	25,9	25,4	30,6	23	22,3
SIRET		Maxim	324	576	567	1070	667	475	355	745	1612	534	428	570	1612
LUNGOCI	1996	Mediu	200	276	280	706	348	158	133	178	455	295	214	202	287
		Minim	121	168	199	308	116	76,6	34,2	31,3	85,1	60,4	54,8	14,2	14,2
		Maxim	291	378	486	724	685	483	972	820	1110	481	451	467	1110
	1997	Mediu	180	212	223	372	311	238	204	334	417	283	173	220	264
		Minim	79	127	133	122	16,5	29,3	30,3	65,7	109	40,1	52,6	56,5	16,5

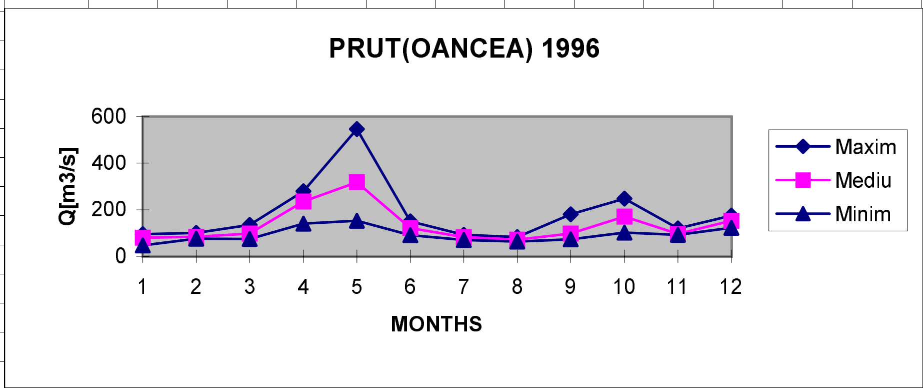


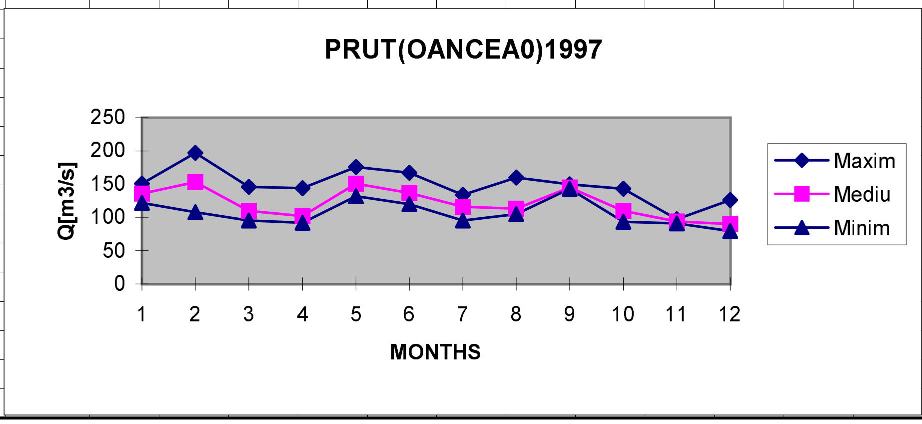




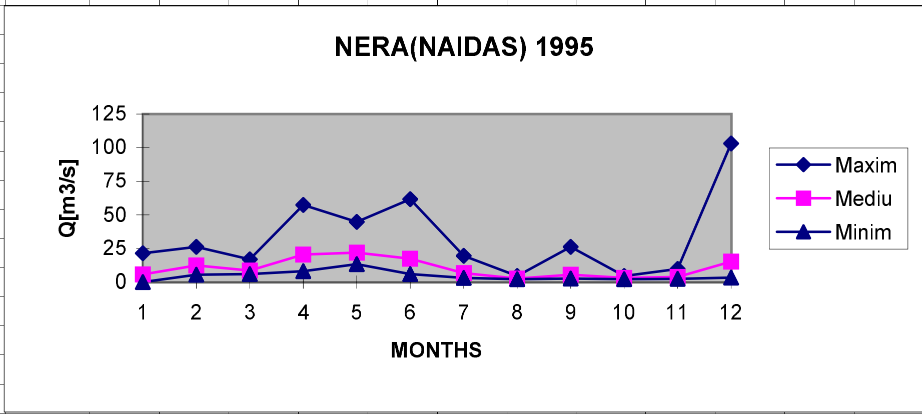
	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	64,5	64,2	54,7	98,2	133	131	134	77,4	84,3	64,5	64,5	91,2	134
	1995	Mediu	50,5	60,7	51,4	67,6	122	104	109	58	71,4	61,7	53,1	71,8	80
		Minim	42,6	44,3	47,5	47,5	101	70,1	78,7	44,9	53,4	58	48,8	50,8	42,6
PRUT		Maxim	95,2	100	135	280	547	150	92,5	82,6	180	248	120	175	547
OANCEA	1996	Mediu	79,2	84,4	97,6	235	318	121	83,1	70,9	97,3	171	96	153	139
		Minim	46,2	75,6	75	141	153	90,3	69,7	63,8	73,1	102	92,5	122	46,2
		Maxim	151	197	146	144	176	167	134	160	150	143	97,4	126	197
	1997	Mediu	136	153	110	102	151	137	116	113	145	110	93,9	89,9	120
		Minim	122	108	95,6	92,1	132	120	95,6	105	143	93,4	91,2	79,6	79,6

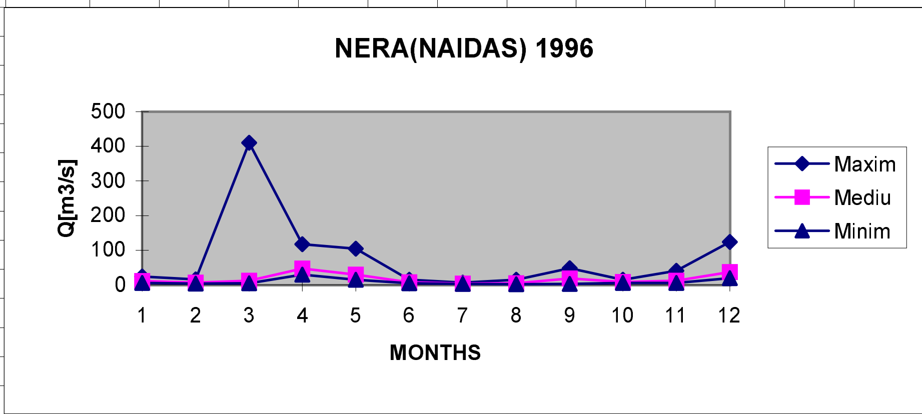


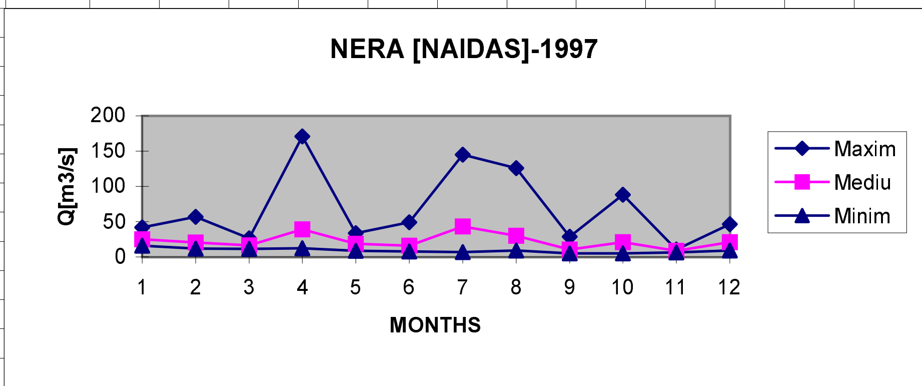




	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	21,4	26,1	16,9	57,4	44,8	61,6	19,6	4,6	26,1	4,48	9,8	103	103
	1995	Mediu	5,73	12,4	8,52	20,5	21,9	17,3	6,57	2,65	5,46	3,04	3,8	15,2	10,2
		Minim	0	5,47	6	8	13,4	6	3,1	2,19	2,64	2,25	2,5	3,27	1,6
NERA		Maxim	24,2	16,1	410	117	104	14,4	6,16	14,4	47,9	14,6	41	124	124
NAIDAS	1996	Mediu	11,4	6,6	11,6	46,7	29,3	7,47	3,35	4,19	18,5	8,62	11,8	37,1	16,4
		Minim	5,67	3,25	4,46	29,5	15,2	4,63	2,35	1,64	3,22	5,47	5,09	19,1	1,64
		Maxim	41,66	57	26,5	171	33,5	49,2	145	126	28,5	88,1	10,4	46,2	171
	1997	Mediu	25,2	20,5	16,2	39,2	18,7	16,1	43,2	29,8	10,3	21,1	8,62	21,1	22,5
		Minim	16	11,6	11,3	12,2	8,7	7,54	6,96	9,28	5,22	5,22	6,59	9,28	5,22

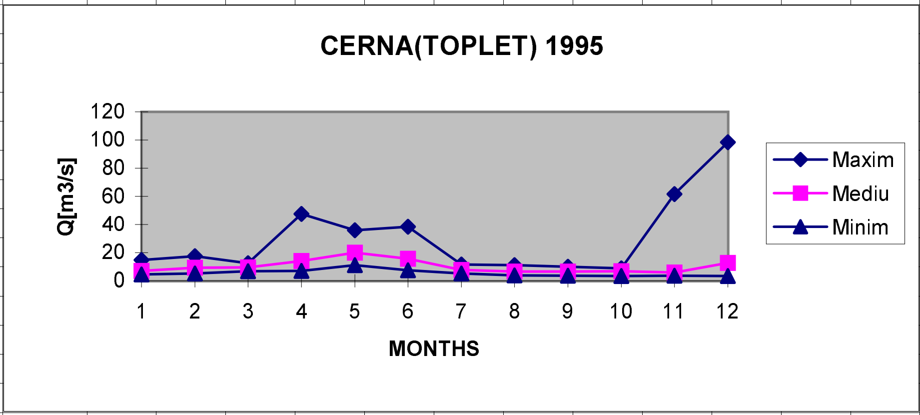


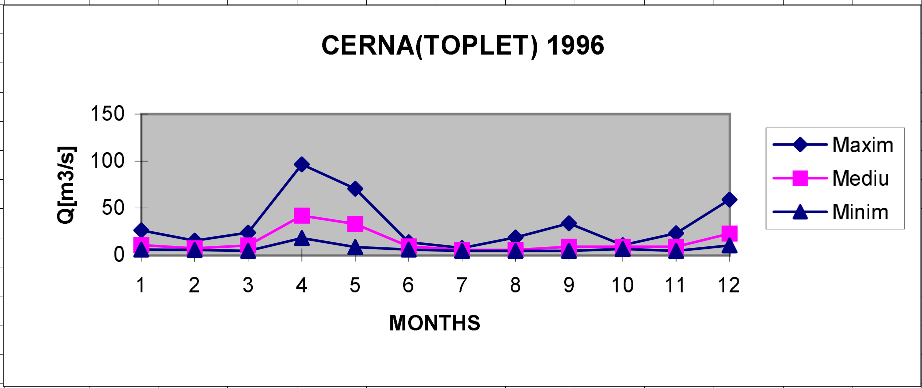


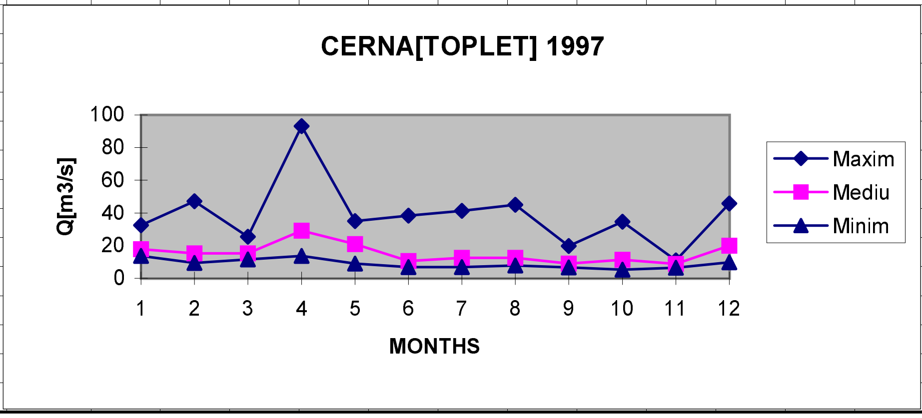


4.4.1.18

	ANUL	Qm3/s	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Val.anuala
		Maxim	14,7	17,5	12,4	47,6	35,8	38,5	11,7	11,1	9,96	8,82	61,6	98,4	98,4
	1995	Mediu	6,95	9,43	9,57	14	20	15,7	7,72	6,55	6,64	6,73	5,98	12,7	10,2
		Minim	4,48	5,34	6,74	7,12	11,2	7,5	5,19	3,78	3,74	3,51	3,74	3,51	3,51
CERNA		Maxim	26,3	15,4	23,9	96,6	70,4	13,7	7,65	18,7	33,6	10,4	23,2	59,1	96,6
TOPLET	1996	Mediu	10,7	7,19	10,2	41,9	33,2	9,13	5,52	5,41	8,82	8,71	8,89	22,9	14,4
		Minim	5,75	5,4	4,38	18	8,66	5,9	4,3	4,3	4,5	6,34	4,5	10,3	4,3
		Maxim	32,4	47,2	25,5	93,2	35	38,3	41,3	45	19,8	34,6	10,9	45,7	93,2
	1997	Mediu	17,9	15,2	15,2	29,1	20,9	10,6	12,5	12,5	9,08	11,3	8,79	19,9	15,2
		Minim	13,7	9,38	11,6	13,7	8,95	6,92	6,77	7,86	6,58	5,29	6,52	9,7	5,29

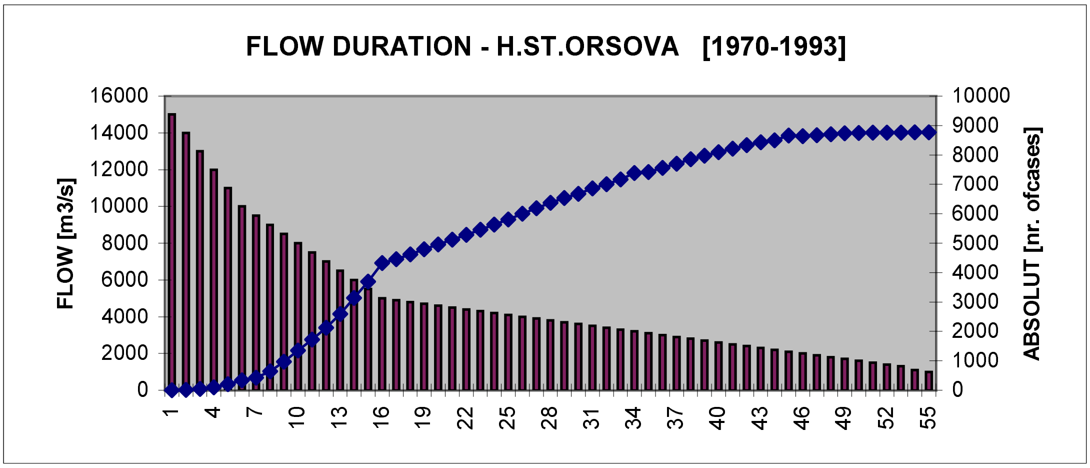


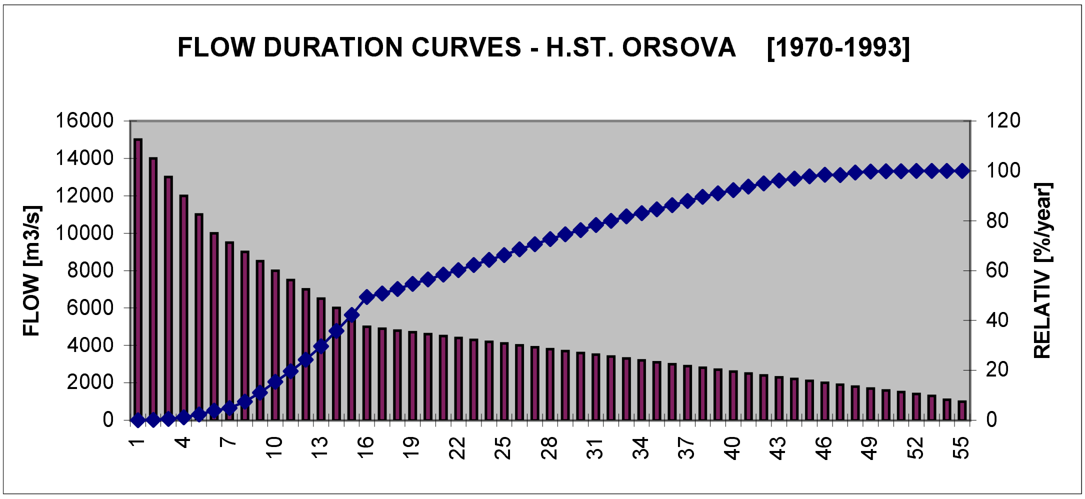


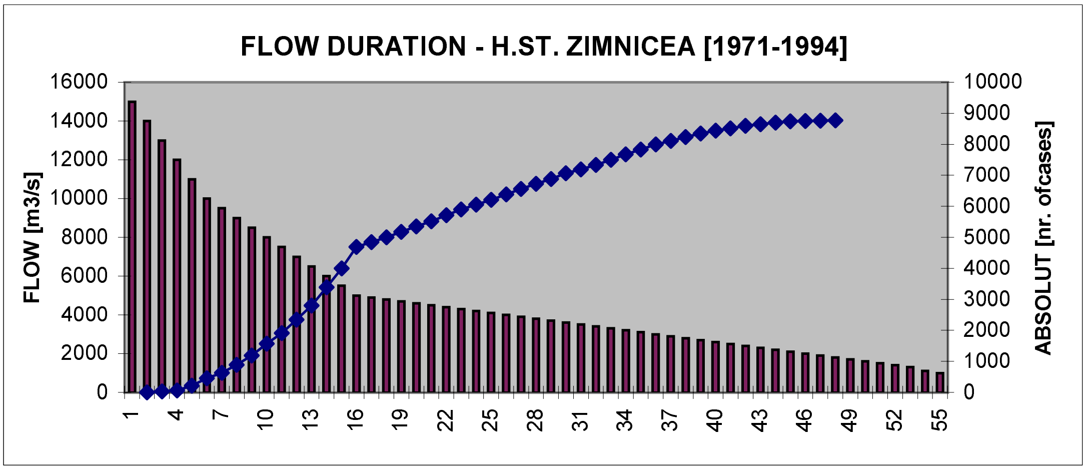


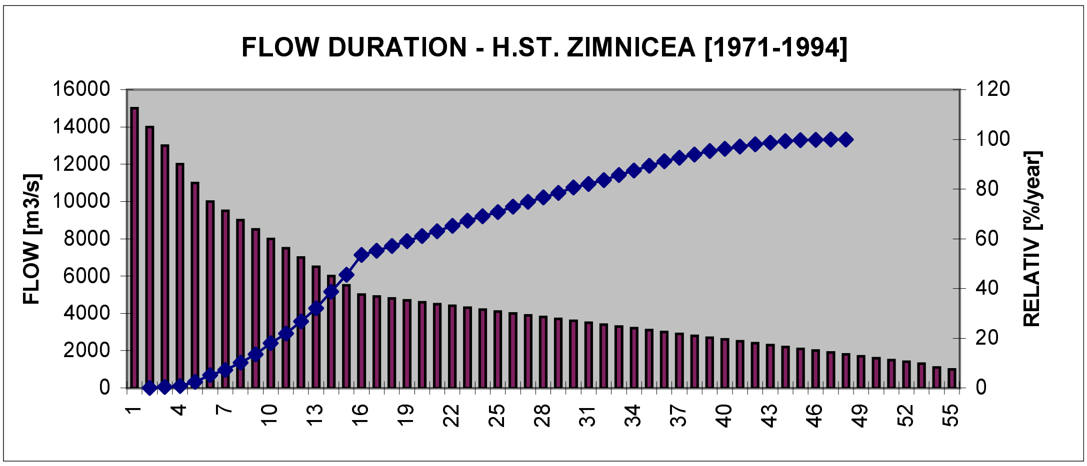
Tabel 4.4.1.

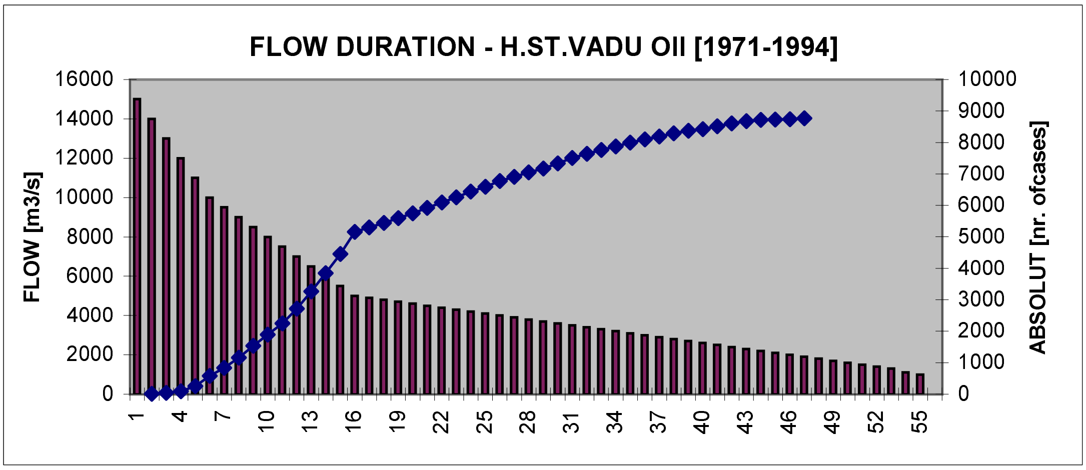
Flow duration curves in absolut cases and relativ values for Danube River at the hidrological stations									
Water flow	**H. St.ORSOVA**		**H.St.ZIMNICEA**		**H.St. VADUL OII**		**H.St. CEATAL IZMAIL**		
[m3/s]	**[1970-1993]**		[1971-1994]		[1971-1994]		[1971-1994]		
	Absolut	Relativ	Absolut	Relativ	Absolut	Relativ	Absolut	Relativ	
	nr. ofcases	[%/year]	nr. ofcases	[%/year]	nr. ofcases	[%/year]	nr. ofcases	[%/year]	
15000	1	0,011							
14000	8	0,091	3	0,034	10	0,114	14	0,16	
13000	40	0,456	29	0,331	37	0,422	44	0,502	
12000	97	1,107	67	0,764	91	1,038	100	1,141	
11000	202	2,304	216	2,464	252	2,285	288	3,285	
10000	343	3,913	454	5,179	581	6,628	774	8,83	
9500	428	4,883	632	7,21	833	9,503	1160	13,233	
9000	648	7,392	886	10,107	1163	13,267	1486	16,952	
8500	969	11,054	1186	13,53	1541	17,579	1878	21,424	
8000	1346	15,355	1573	17,944	1893	21,595	2270	25,896	
7500	1726	19,69	1915	21,846	2248	25,645	2664	30,39	
7000	2124	24,23	2349	26,797	2714	30,961	3152	35,957	
6500	2594	29,592	2804	31,987	3266	37,258	3723	42,471	
6000	3134	35,752	3390	38,672	3850	43,92	4271	48,722	
5500	3698	42,186	3993	45,551	4451	50,776	4855	55,384	
5000	4329	49,384	4690	53,502	5154	58,795	5550	63,313	
4900	4459	50,867	4841	55,225	5301	60,472	5709	65,127	
4800	4618	52,681	5002	57,061	5442	62,081	5863	66,833	
4700	4795	54,7	5175	59,035	5595	63,826	6023	68,709	
4600	4952	56,491	5354	61,077	5747	65,56	6175	70,443	
4500	5115	58,35	5520	62,971	5923	67,568	6348	72,416	
4400	5281	60,244	5711	65,149	6089	69,462	6494	74,082	
4300	5453	62,206	5896	67,26	6260	71,412	6648	75,834	
4200	5635	64,282	6054	69,062	6437	73,431	6817	77,766	
4100	5804	66,21	6204	70,773	6597	75,257	6939	79,158	
4000	6007	68,526	6389	72,884	6772	77,253	7079	80,755	
3900	6183	70,534	6557	74,8	6910	78,827	7228	82,455	
3800	6368	72,644	6721	76,671	7049	80,413	7346	83,801	
3700	6535	74,549	6880	78,485	7173	81,828	7508	85,649	
3600	6683	76,238	7069	80,641	7336	83,687	7644	87,201	
3500	6865	78,314	7193	82,056	7507	85,638	7772	88,661	
3400	7007	79,934	7334	83,664	7635	87,098	7887	89,973	
3300	7167	81,759	7505	85,615	7761	88,535	8001	91,273	
3200	7383	83,082	7671	87,509	7869	89,767	8107	92,482	
3100	7417	84,611	7831	89,379	7997	91,227	8196	93,498	
3000	7562	86,265	7994	91,193	8098	92,38	8291	94,581	
2900	7705	87,896	8114	92,562	8192	93,452	8389	95,699	
2800	7858	89,642	8229	93,874	8288	94,547	8482	96,76	
2700	7976	90,988	8351	95,266	8371	95,494	8564	97,696	
2600	8094	92,334	8437	96,247	8427	96,133	8624	98,38	
2500	8212	93,749	8517	97,159	8519	97,182	8667	98,171	
2400	8330	95,026	8590	97,992	8611	98,232	8705	99,304	
2300	8430	96,167	8650	98,677	8682	99,042	8719	97,464	
2200	8499	96,954	8701	99,258	8715	99,418	8746	99,772	
2100	8659	97,753	8739	99,692	8727	99,555	8766	100	
2000	8633	98,483	8752	99,84	8740	99,703			
1900	8676	98,373	8762	99,954	8766	100			
1800	8707	99,327	8766	100					
1700	8736	99,658							
1600	8752	99,84							
1500	8758	99,909							
1400	8761	99,943							
1300	8762	99,954							
1100	8765	99,989							
1000	8766	100							

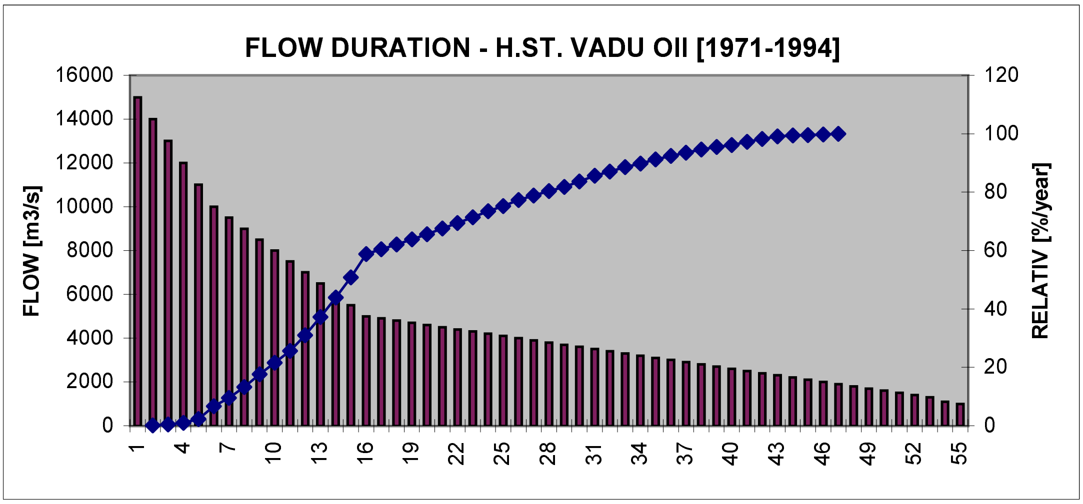

FLOW DURATION - H.ST.ORSOVA [1970-1993]
FLOW [m3/s]
ABSOLUT [nr. ofcases]

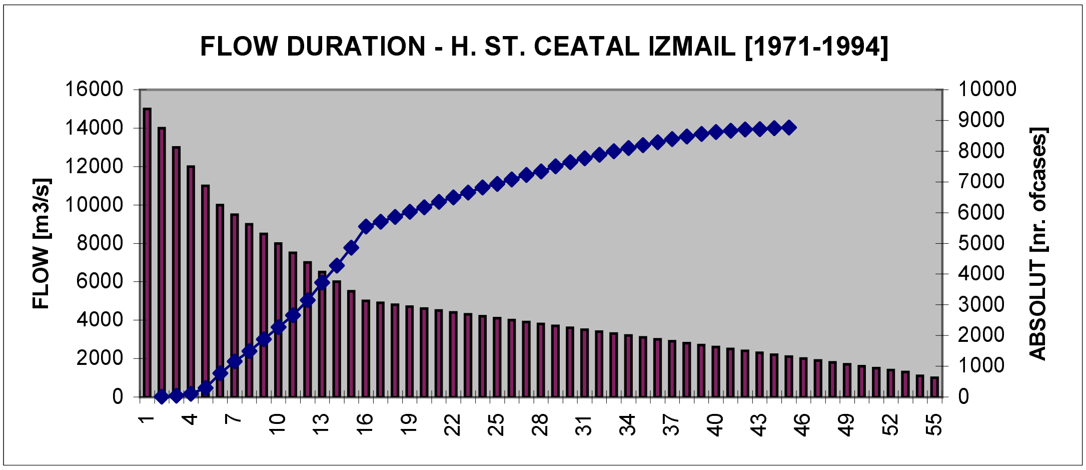

FLOW DURATION CURVES - H.ST. ORSOVA [1970-1993]
FLOW [m3/s]
RELATIV [%/year]

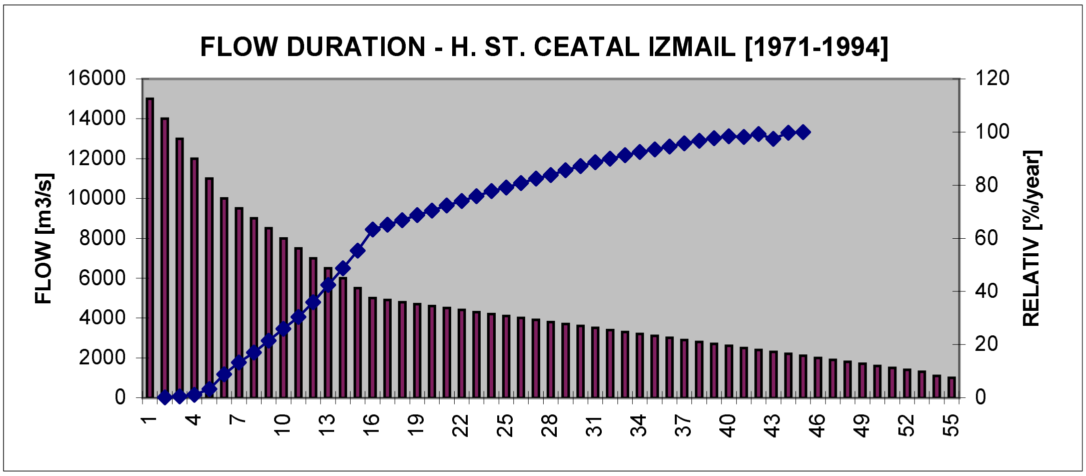

FLOW DURATION - H.ST. ZIMNICEA [1971-1994]
FLOW [m3/s]
ABSOLUT [nr. ofcases]


FLOW DURATION - H.ST. ZIMNICEA [1971-1994]
FLOW [m3/s]
RELATIV [%/year]

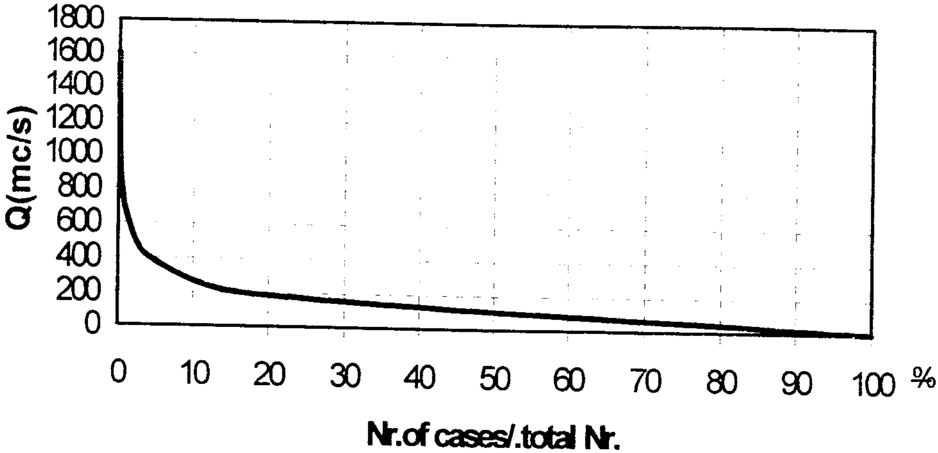

FLOW DURATION - H.ST.VADU OII [1971-1994]
FLOW [m3/s]
ABSOLUT [nr. ofcases]


FLOW DURATION - H.ST. VADU OII [1971-1994]
FLOW [m3/s]
RELATIV [%/year]

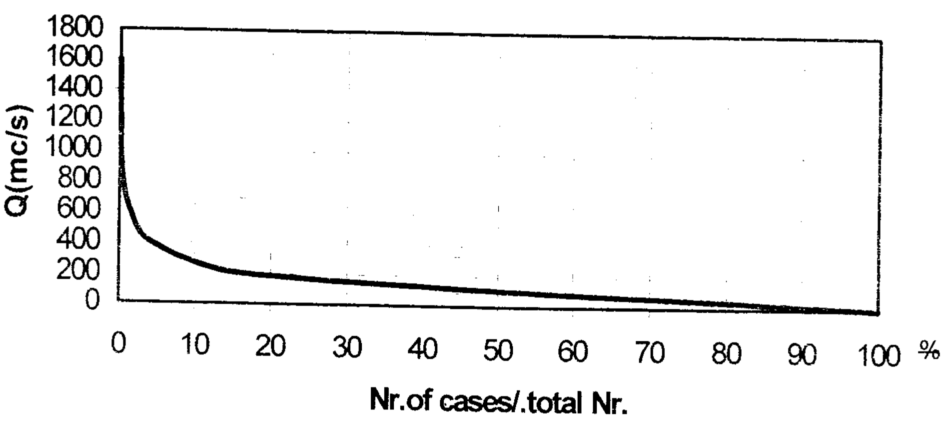

FLOW DURATION - H. ST. CEATAL IZMAIL [1971-1994]
FLOW [m3/s]
ABSOLUT [nr. ofcases]


FLOW DURATION - H. ST. CEATAL IZMAIL [1971-1994]
FLOW [m3/s]
RELATIV [%/year]

DURATION CURVE for River: SOMES - S.H. SATU MAR



DURATION CURVE for River: SOMES - S.H. SATU MARE



4.4.2. Channel Cross Sections

The main features of the channel profiles were selected and collected for the main course of the Danube River in the gauging stations correspondent for water quality stations from TNMN - Romanian part and also for the main tributaries in the last gauging stations before the confluence and from which the flow discharged are used.

In the tables 4.4.2.1 a & b and 4.4.2.2 a & b there are synthesised the main hydrological characteristics for the Danubian gauging stations and respectively for the main tributaries before the confluence.

These information were collected basically when the TNMN was design in 1994 - and they are stored in an electronic form in the data base of the TNMN designer Mr. Anders Lynggaard - Jensen from V.K.I. - Aarhus - Denmark:

fax number: + 45.8619.7511

tel. number: + 45.8620.2000

E-mail: alj@aar-vki.dk

The information are referring to the two specific situations: the values in the high flow regime and values in the small flow regime for the next parameters: width, mean speed, depth with maximum values and minimum values for each regime mentioned above. There are, also, mentioned the bottom altitude (against the reference sea). For all those gauging stations there are available the cross sections in drawings (which were not included in this report).

Table 4.4.2.1.a.

No	River	Gauging station	Position:km from mouth	**VALUES IN HIGH FLOW REGIME**						
				Maximum values				**Minimum values**		
				width [m]	mean speed [m/s]	depth [m]	bottom altitude* z [m]	width [m]	mean speed [m/s]	Depth [m]
1.	Dunarea	Bazias	1072 + 400	960	0.90	14.5	58.37	932	0.42	11.5
2.	Dunarea	Calafat	786 + 900	820	1.36	15.4	18.56	780	0.56	8.28
3.	Dunarea	Giurgiu	493 + 0.50	828	1.29	16.8	2.31	760	0.62	10.0
4.	Dunarea	Chiciu - Silistra	379 + 580	800	1.40	15.3	- 2.10	738	0.58	8.85
5.	Dunarea	Isaccea	101	811	1.31	21.2	- 15.5	754	0.39	16.8
6.	Dunarea	Periprava	20	567	1.51	11.7	- 10.0	552	0.35	9.0
7.	Br. Sulina	Sulina -gura	-7 + 218	160	1.40	10.2	- 10.0	156	0.84	10.0
8.	Br. Sf. Gheorghe	Sf. Gheorghe	8	371	0.75	8.0	- 8.0	367	0.29	7.5

** Black Sea level reference*

Table 4.4.2.1.b.

No	River	Gauging station	Position km from mouth	VALUES IN SMALL FLOW REGIME						
				Minimum values				**Maximum values**		
				width [m]	mean speed [m/s]	depth [m]	bottom altitude* z [m]	width [m]	mean speed [m/s]	depth [m]
1.	Dunarea	Bazias	1072 + 400	916	0.22	11.0	58.37	920	0.83	11.4
2.	Dunarea	Calafat	786 + 900	682	0.50	8.2	18.68	808	1.16	13.5
3.	Dunarea	Giurgiu	493 + 0.50	743	0.57	9.0	2.1	816	1.21	15.5
4.	Dunarea	Chiciu - Silistra	379 + 580	730	0.51	7.0	- 1.2	776	1.22	13.3
5.	Dunarea	Isaccea	101	752	0.35	15.8	-15.0	818	1.12	20.0
6.	Dunarea	Periprava	20	554	0.22	11.5	- 11.0	564	0.42	12.6
7.	Br. Sulina	Sulina gura	-7 + 218	160	0.60	10.3	- 10.7	160	0.90	10.7
8.	Br. Sf. Gheorghe	Sf. Gheorghe	8	368	0.20	7.3	- 7.3	370	0.25	7.5

** Black Sea level reference*

Table 4.4.2.2.a

No	River	Gauging station	Position km from mouth	VALUES IN HIGH FLOW REGIME						
				Maximum values				Minimum values		
				width [m]	mean speed [m/s]	depth [m]	bottom altitude* z [m]	Width [m]	mean speed [m/s]	depth [m]
1.	Cerna	Toplet	12.0	29.5	2.26	3.79	82.23	21.7	0.11	1.69
2.	Jiu	Podari	49.0	267	1.67	7.03	64.18	72	0.66	1.82
3.	Olt	Stoenesti	63.0	252	1.90	9.60	57.6	103	0.40	3.00
4.	Arges	Budesti	31.0	87	1.25	2.54	26.7	74	0.44	1.00
5.	Ialomita	Slobozia	77.0	75.4	1.20	5.46	16.59	57.6	0.58	1.46
6.	Siret	Lungoci	76.4	350	1.72	10.20	98.98	73	0.19	5.45
7.	Prut	Oancea	79.2	350	0.55	6.90	5.52	56	0.34	2.19

Table 4.4.2.2.b.

No	River	Gauging station	Position km from mouth	VALUES IN SMALL FLOW REGIME						
				Minimum values				Maximum values		
				width [m]	mean speed [m/s]	depth [m]	bottom altitude* z [m]	Width [m]	mean speed [m/s]	depth [m]
1.	Cerna	Toplet	12.0	21.7	0.07	1.80	82.23	24.3	0.88	2.60
2.	Jiu	Podari	49.0	48.3	0.336	0.24	67.1	154	1.46	4.14
3.	Olt	Stoenesti	63.0	35	0.27	2.05	60.02	220	1.40	7.70
4.	Arges	Budesti	31.0	28.5	0.224	0.94	25.8	74	0.71	1.60
5.	Ialomita	Slobozia	77.0	4	0.46	0.16	17.02	56.4	0.73	4.45
6.	Siret	Lungoci	76.4	37	0.228	8.00	4.88	370	1.52	14.23
7.	Prut	Oancea	79.2	61	0.34	2.85	5.3	340	0.55	6.65

** Black Sea level reference*

4.4.3. Gradients

The graphical summaries of the gradients (elevation vs. river km) are presented for the Danube River (Danube River - Longitudinal profile) and also for the main tributaries respective: Jiu, Olt, Vedea, Arges, Ialomita, Siret and Prut. Those are included in annex 4.4.3.a,b,c,d,e,f,g,h (same number with the chapter number; letters for the tributaries mentioned above). A longitudinal diagram of the discharging points of the Danube tributaries on the Romanian stretch is represented in the drawing no. 4.4.3.1. extracted from International Association for the Danube Research (IAD) and its relevance to the Danube basin paper. In this drawing the flows are also estimated using the graphical presentation

4.4.4. Flood plains

According to the local procedures, information referring to the flood plains (FP) are collected and organised with reference to the surface and the location within the cachment areas as well as the counties where they are located.

In map 4.4.4.1 are represented the location of the main flood plains (from the table 4.4.4.1) with yellow and the main wetlands (from the table 4.4.5.1) with orange. The selection of the map 4.4.4.1 was based on the fact that this is a specialised map in which are presented the main hydrotechnical works like derivations embankments, resources, roads, towns, countries and hydrographical basin (B.H.).

The two legends attached to this map are relevant for informational content of this map, which is showing the main works presented in the next chapters.

There are included also the erosion annual degradation process, natural and artificial (reservoirs) lakes, dams, embankments, riverbanks works and underground, drainage channels etc.

Table 4.4.4.1

No.	Flood Plain - name	Surface [ha]	County
Danube River Basin + Danube Delta			
1.	Bistret – Vedea - Jiu	21536	Dolj
2.	Seaca – Suhaia - Zimnicea	12933	Olt
3.	Zimnicea – Nasturelu	3280	Olt
4.	Pietrosani - Vedea	4858	Giurgiu
5.	Gostinu – Greaca - Arges	25235	Giurgiu + Calarasi
6.	Chirnogi – Arges	1840	Calarasi
7.	Oltenita – Surlari - Dorobantu	12617	Calarasi
8.	Boianu – Sticleanu	22584	Calarasi
9.	Calarasi – Raul	10825	Calarasi
10.	Borcea de Jos	31296	Ialomita
11.	Pecineaga - Turcoaia	3433	Tulcea
12.	Insula Mare a Brailei	70411	Braila
13.	Braila – Dunare - Siret	5345	Braila
Prut River Basin			

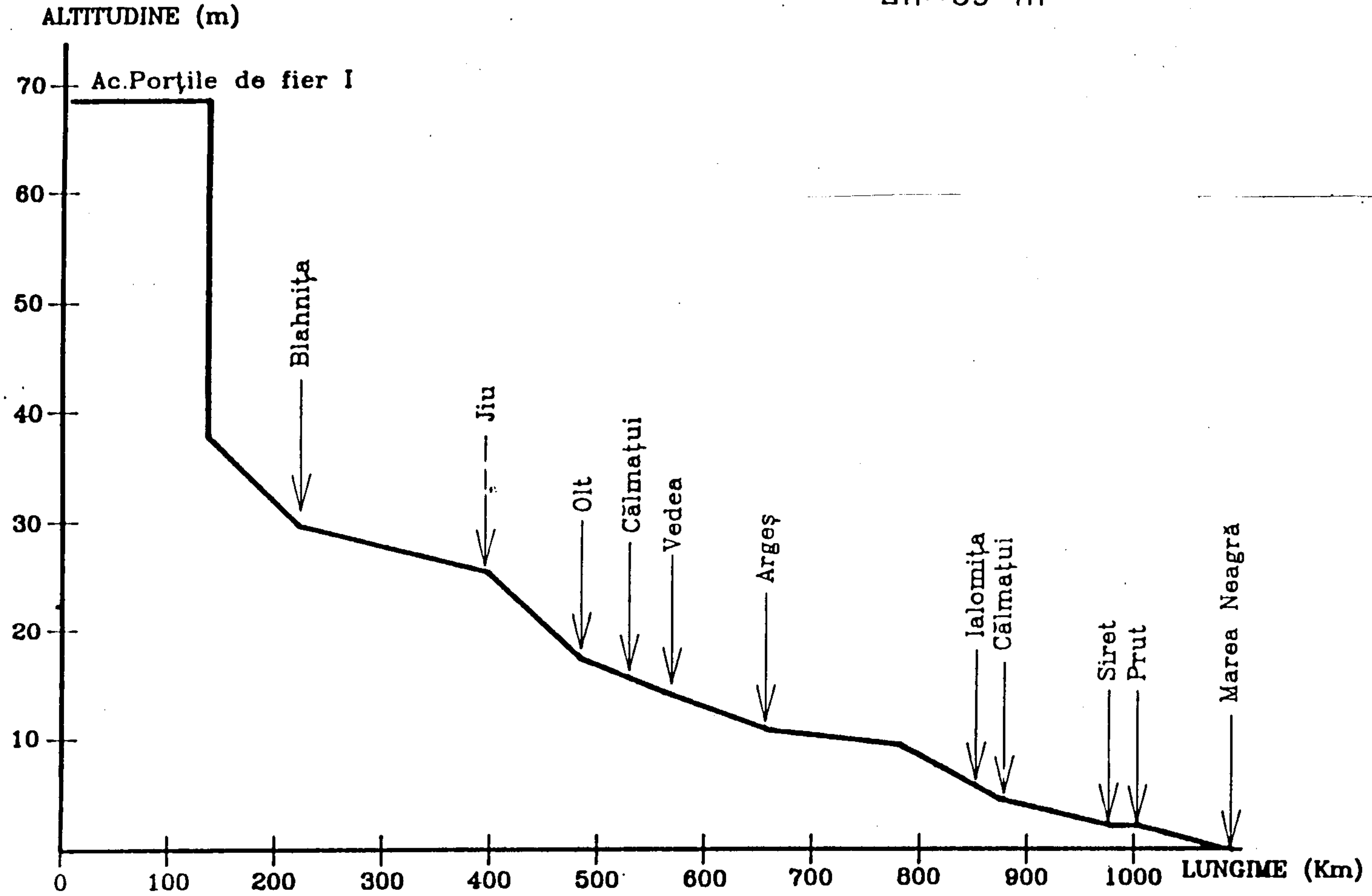
Table 4.4.4.1. continued

1.	Albita – Falciu	15855	Vaslui
2.	Bratesul de Sus	12097	Galati
	Siret River Basin		
1.	Guguesti – Veresti - Rocsani	1252	Suceava
2.	Saucesti	1260	Bacau
3.	Adjud	1236	Vrancea
	Ialomita River Basin		
1.	Ialomita – Cricov	4233	Prahova
2.	Valea Vlasiei - saftica	2309	Ilfov
3.	Albesti – Urlati	1234	Prahova
4.	Albesti – Ciorani	2350	Prahova
5.	Glodeanu Sarat	3250	Buzau
6.	Glodeanu Silistea	14694	Buzau
7.	Sf. Gheorghe - Cazanesti	2439	Ialomita
	Arges River Basin		
1.	Potopu – Rostoaca	6287	Dambovita
2.	Titu – Ogrezeni	22685	Dambovita + Giurgiu
3.	Colentina – Tartasesti	4406	Dambovita
4.	Valea Dambovitei	4599	Calarasi + Ilfov
5.	Giurgiu – Razmiresti A + C	35878	Giurgiu + Teleorman
	Vedea River Basin		
1.	Giurgiu – Razmiresti B	5300	Giurgiu + Teleorman
2.	Contesti – Pietrosani	4069	Teleorman
	Jiu - Olt River Basin		
1.	Vladeni – Dambovita - Feldioara	3213	Brasov
2.	Homorodul Mare	1903	Brasov
3.	Sambata – Vistea	5795	Brasov
4.	Mihailesti – Babeni	1371	Valcea
5.	Frunzaru	4129	Teleorman
6.	Beciu – Lita	7840	Teleorman
7.	Bucsani – Cioroiu	27320	Valcea + Olt
	Barzava - Nera Caras - Timis		

Table 4.4.4.1. continued

1.	Greoni – Ticveni	2009	Caras - Severin
2.	Barzava mijlocie	13720	Timis
3.	Partos – Glogani	2875	Timis
4.	Bistra – Otelu Rosu	2885	Caras Severin
5.	Cernobara - Timisoara	8310	Timis
6.	Poganis	11067	Timis
Bega River Basin			
1.	R. Glavita	8480	Timis
2.	Becherul Vechi - Timisoara	10050	Timis
3.	Aranca	6400	Timis
4.	Aranca sect. IV	5582	Timis
Mures River Basin			
1.	Valea Lut	2267	Mures
2.	Valea Hirajului	6150	Mures
3.	Valea Cerghid	1000	Mures
4.	Secasul Mare	1356	Sibiu
5.	Orastie – Remus - A. Vlaicu	3000	Hunedoara
6.	Ostrov – Clopotiva - Totesti	3315	Hunedoara
7.	Mures – mal drept	20234	Arad
Crisuri Rivers Basin			
1.	Valea Holod	3849	Bihor
2.	Crisul Negru - mal stang	4083	Bihor
3.	Teuz	53674	Arad
4.	Crisul Repede - mal drept am. Oradea	2970	Bihor
5.	Valea Peta - Hidisel	1314	Bihor
6.	Valea Bistra - Voievozi	1105	Bihor
7.	Barcau – mal stang aval Salard	7541	Bihor
8.	Barcau – mal drept aval Salard	3162	Bihor
9.	Valea Ierului	70000	Bihor + Satu Mare
Somes River Basin			
1.	Valea Dipsa	2930	Bistrita Nasaud
2.	Valea Rosna	1850	Bistrita Nasaud
3.	Amonte Beclean	1945	Bistrita Nasaud
4.	Valea Salajului	1900	Salaj
5.	Somes – mal stang	4779	Maramures
6.	Somes – mal drept	6180	Maramures
7.	Homorod – mal drept	9171	Satu Mare
8.	Somes – Crasna	8317	Satu Mare
9.	Crasna - mal stang	27502	Satu Mare
Tisa River Basin			
1.	Valea Viseului	1000	Maramures

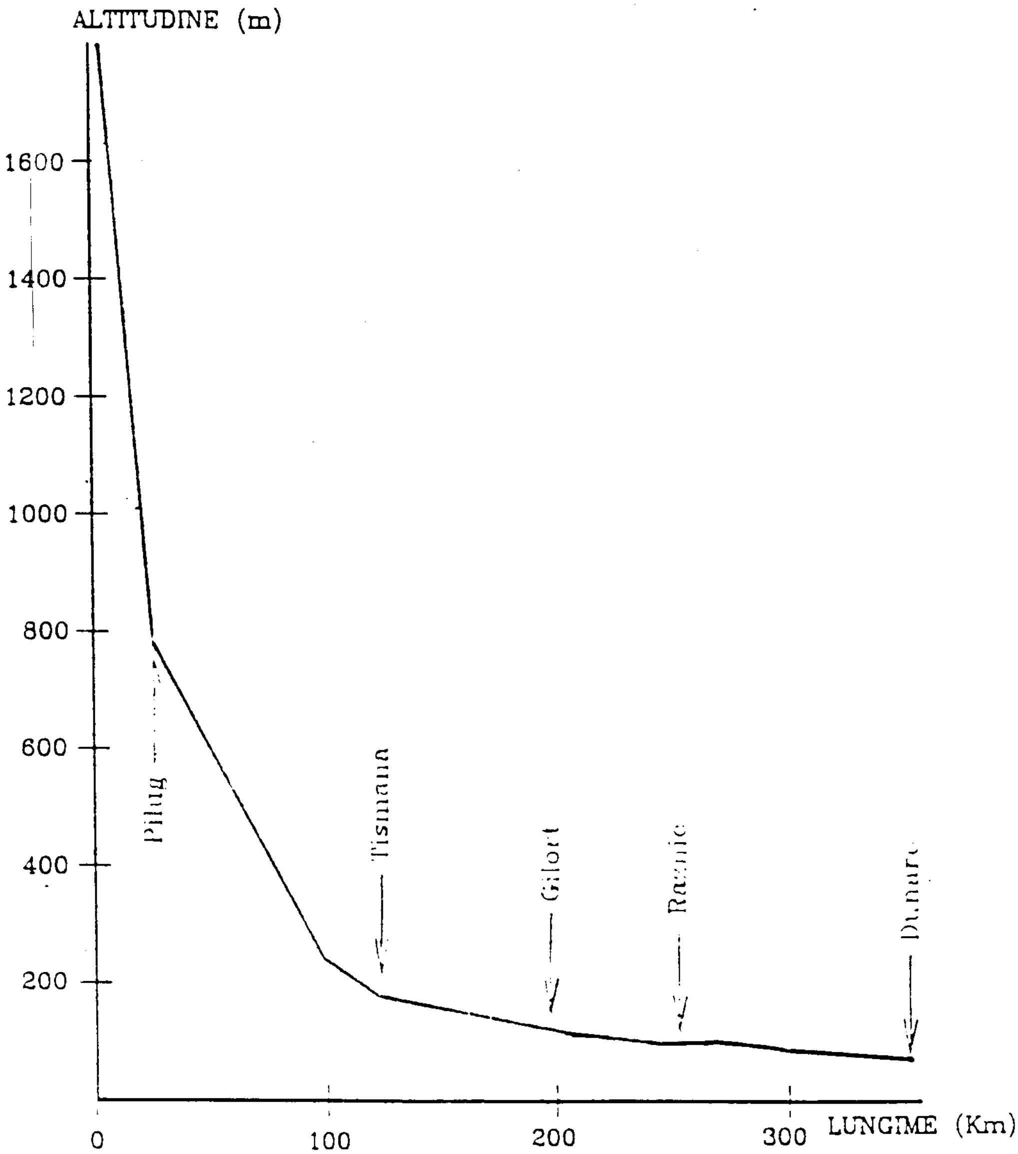
PROFIL LONGITUDINAL PE **DUNĂRE**
(pe teritoriul românesc) L=1075 Km
Δh=69 m



Annex 443 a

-PROFIL LONGITUDINAL PE JIU

L=339 Km
Δh=1694 m

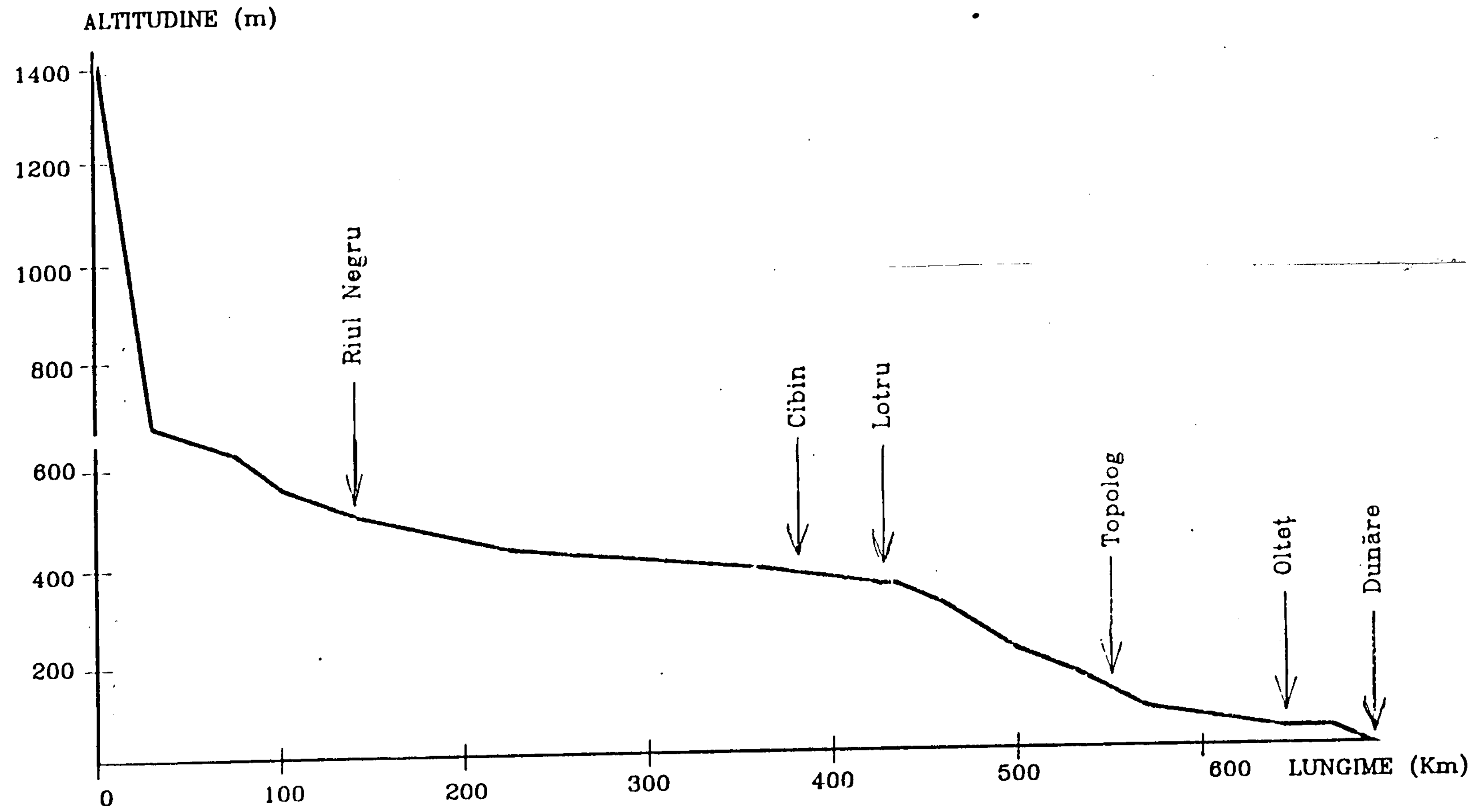


Annex 44.3.6

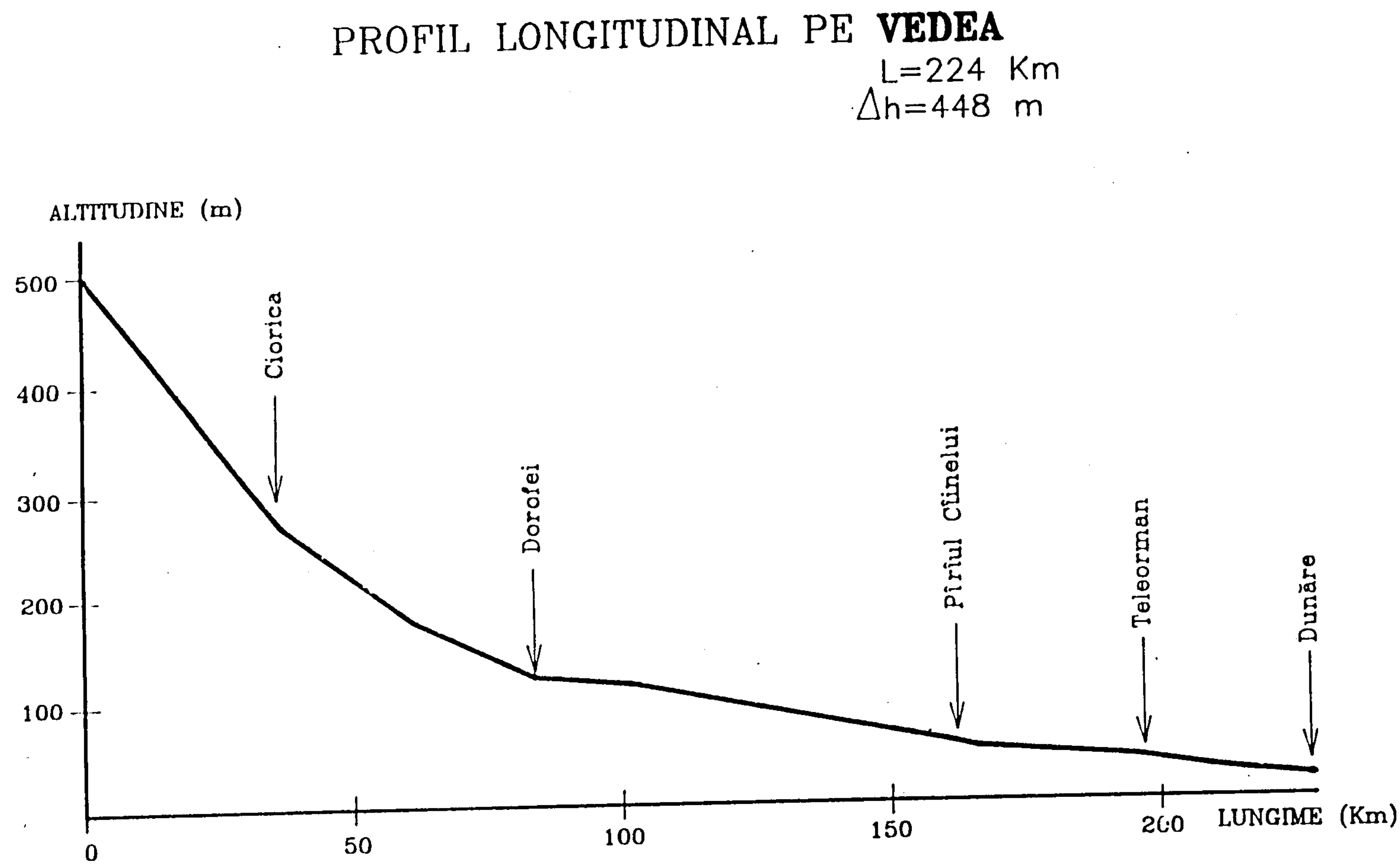
PROFIL LONGITUDINAL PE **OLT**

L=615 Km

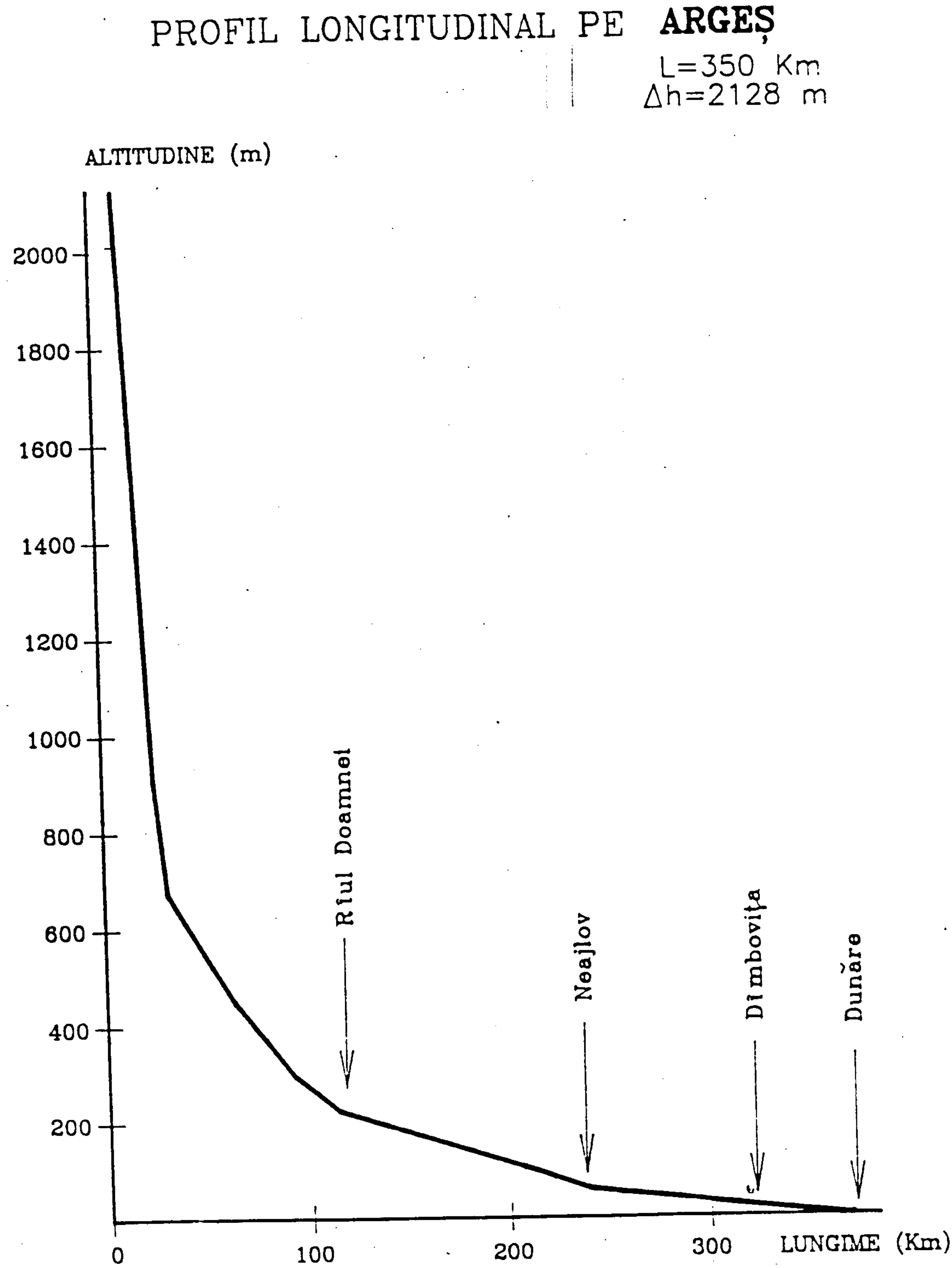
Δh=1422 m



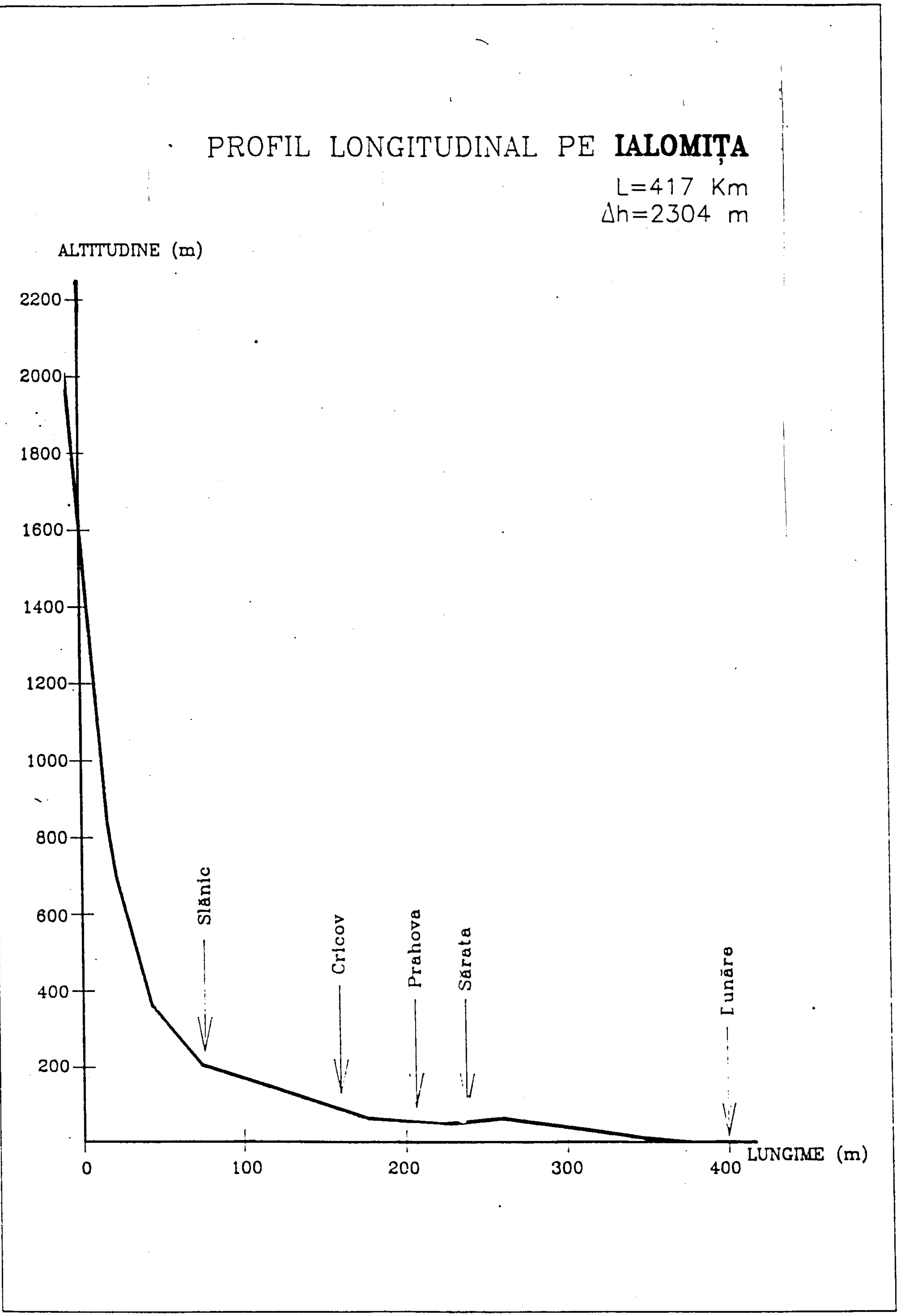
Annex. 4.4.3. c.


PROFIL LONGITUDINAL PE VEDEA
L=224 Km
Δh=448 m
ALTITUDINE (m)
500
400
300
200
100
Ciorica
Dorofei
Pîrîul Cîinelui
Teleorman
Dunăre
0
50
100
150
200
LUNGIME (Km)

Annex 4.4.3.d.


PROFIL LONGITUDINAL PE ARGEȘ
L=350 Km
Δh=2128 m
ALTITUDINE (m)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
100
200
300
LUNGIME (Km)
Rîul Doamnei
Neajlov
Dîmbovița
Dunăre

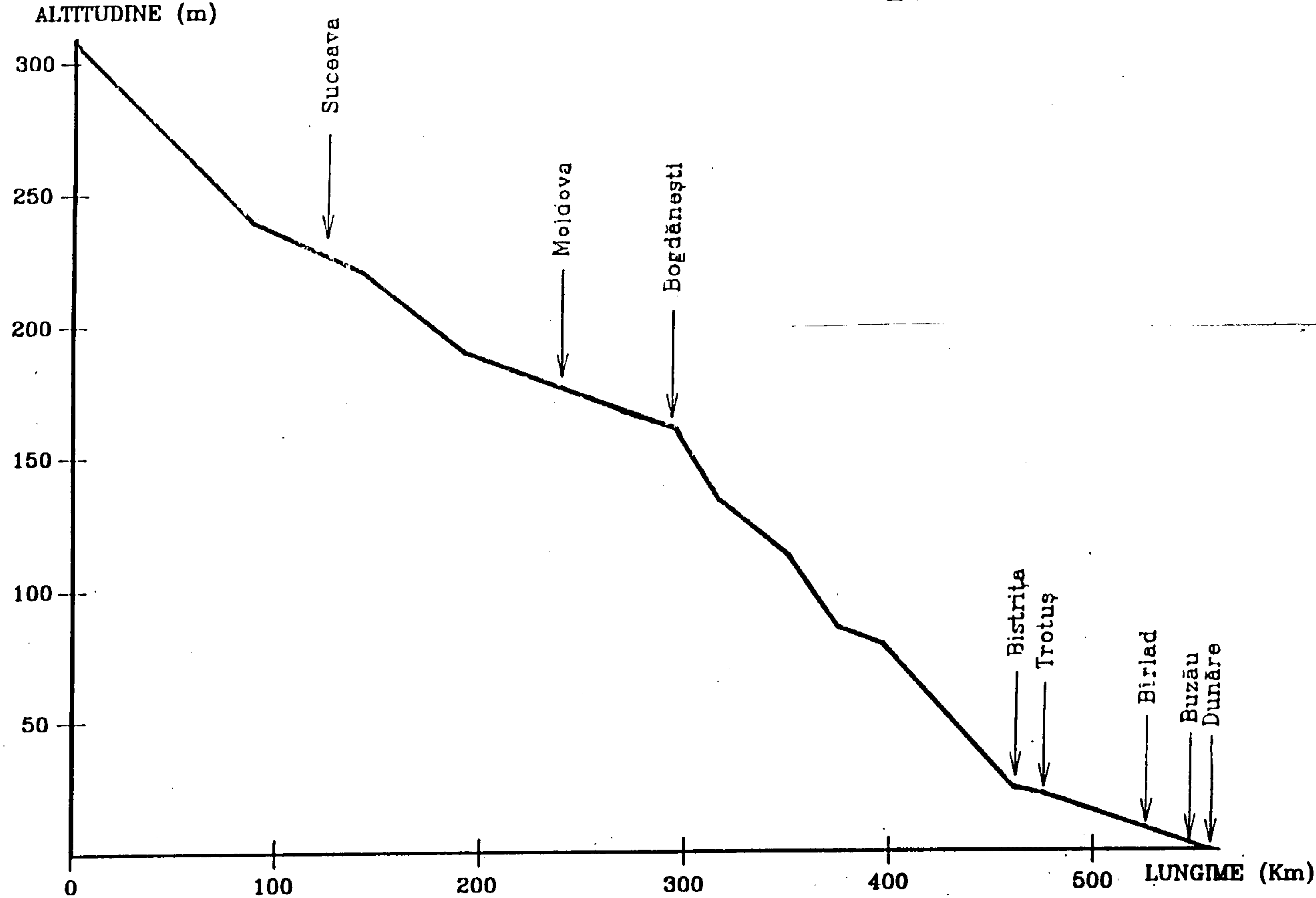
Annex 4.4.3.e.


PROFIL LONGITUDINAL PE IALOMIȚA
L=417 Km
Δh=2304 m
ALTITUDINE (m)
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
100
200
300
400
LUNGIME (m)
Slănic
Cricov
Prahova
Sărata
Lunăre

Annex 4.4.3. f.

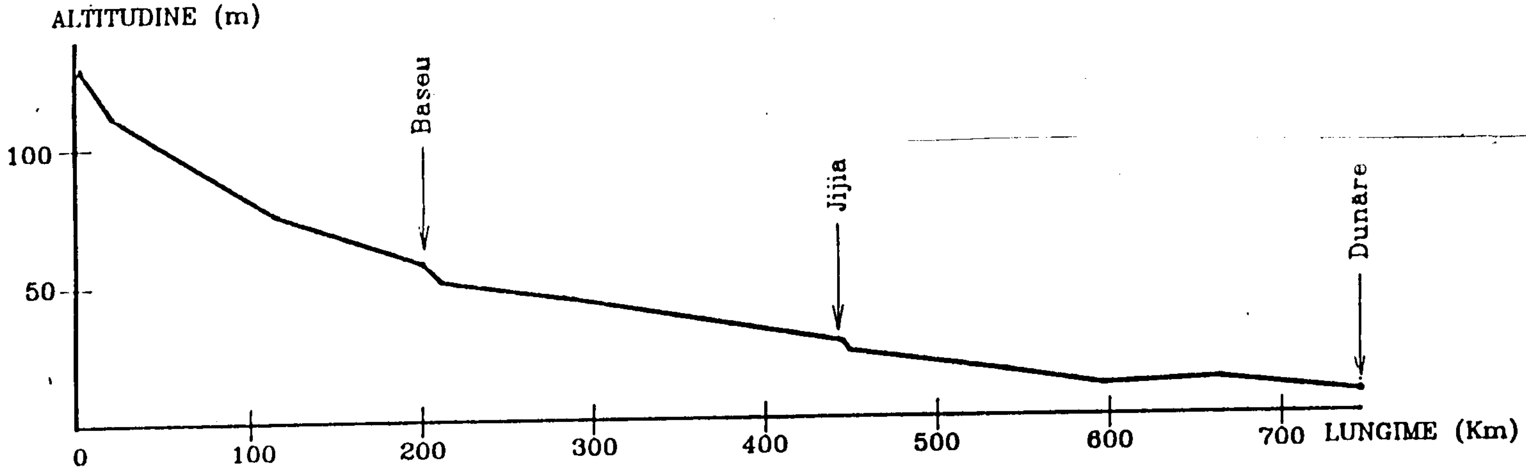
PROFIL LONGITUDINAL PE **SIRET**

L=559 Km
Δh=303 m



Annex 4.4.3.g

PROFIL LONGITUDINAL PE **PRUT**
(pe teritoriul românesc) L=742 Km
Δh=128 m



Annex 44.3.h.

4.4.5. Wetlands

Based on the same procedure the information presented below are referring to the wetlands which contains the name of wetlands and the catchment area where is located.

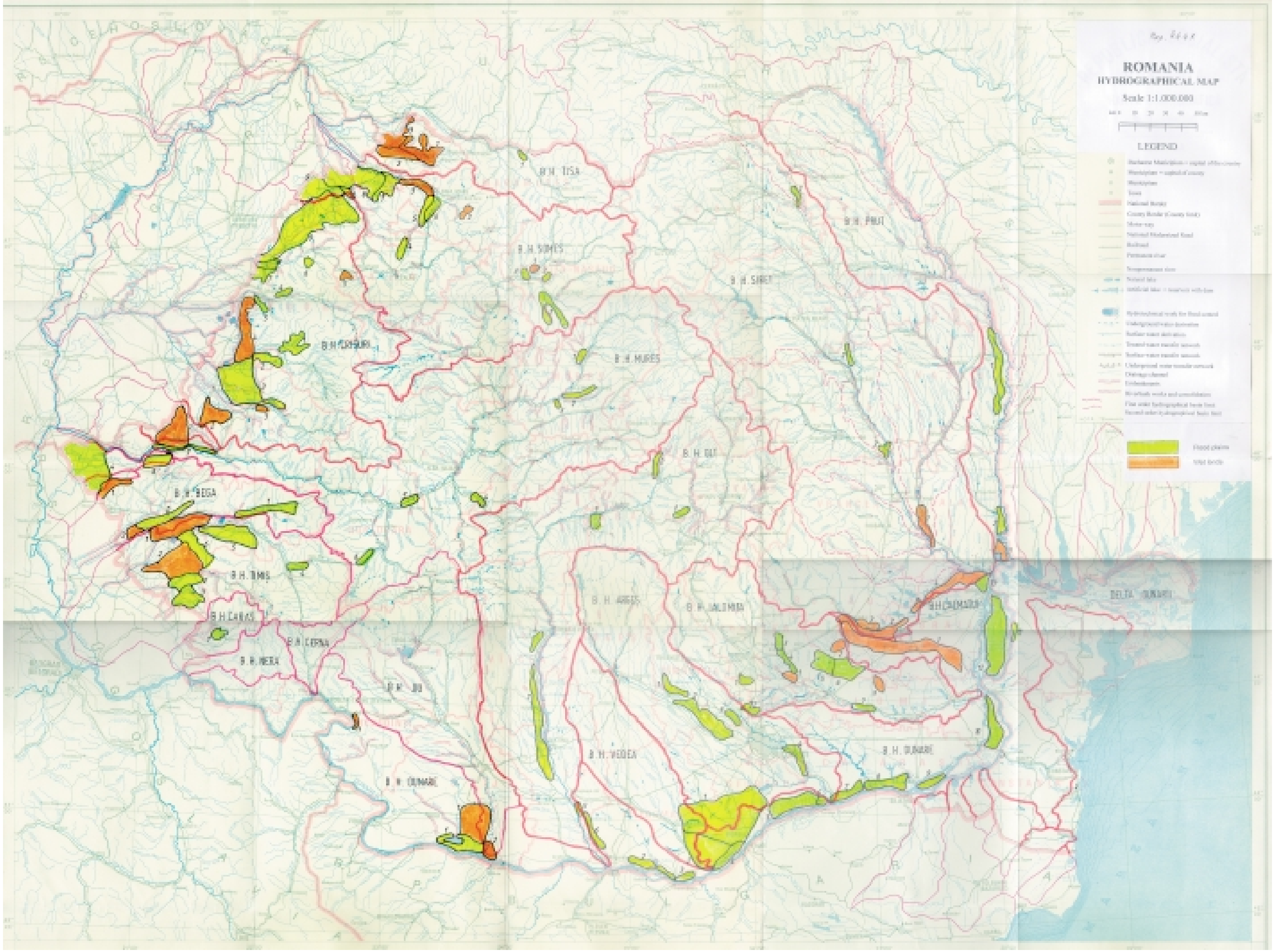
In the map 4.4.4.1 the location of wetlands is presented with orange color.

Table 4.4.5.1.

No.	Wetland - name	Surface [ha]	County
Danube River Basin + Danube Delta			
1.	Ostrovul Corbului	1005	Mehedinti
2.	Ghidia – Rest - Bistret	10992	Dolj
3.	Bratesul de Jos	13331	Galati
4.	Ostrovul Tataru	2618	Tulcea
Siret River Basin			
1.	Borcea – Hanul Conachi	5698	Galati
2.	Campia Buzaului	15348	Buzau + Prahova
3.	Sageata	6306	Buzau
4. .	Latinu – Vadeni	15392	Braila
Calmatui River Basin			
1.	B.H. Calmatui	29548	Braila + Buzau
Ialomita River Basin			
1.	Cricov – Prahova - Ciorani	2363	Prahova
2.	Amara	3656	Buzau
3.	Cocora – est	4923	Ialomita + Buzau
Jiu - Olt River Basin			
1.	Nedeia – Macesu	4500	Dolj
Barzova - Nera Caras - Timis			
1.	Sag – Topolovat	27653	Timis
2.	Lanca – Birda Nord	3356	Timis
Bega River Basin			
1.	Amonte Beresgau	1518	Timis
2.	Rauti – Sanmihaiu	5126	Timis
Crisuri Rivers Basin			

Table 4.4.5.1. continued

1.	Ier - Arad – frontiera	33249	Arad
2.	Morilor	16836	Arad
3.	Ineu – Bogsig	2541	Arad
4.	Canal Colector - mal stang	45227	Bihor
5.	Barcau – Drighiu - Groapa	1499	Bihor
Somes River Basin			
1.	Valea Brateasa	995	Bistrita Nasaud
2.	B.H. Cavnic	1378	Maramures
3.	Coraseu – Valea Vinului	9876	Satu Mare
Tisa River Basin			
1.	Turulung – Negresti	13954	Maramures
2.	Tur - mal stang	9630	Maramures
3.	Tur - mal drept	9793	Maramures


ROMANIA
HYDROGRAPHICAL MAP
Scale 1:1.000.000
LEGEND
Flood plains
Wet lands
B.H. TISA
B.H. SOMES
B.H. CRISURI
B.H. MURES
B.H. SIRET
B.H. PRUT
B.H. BEGA
B.H. TIMIS
B.H. CARAS
B.H. NERA
B.H. CERNA
B.H. JIU
B.H. OLT
B.H. ARGES
B.H. IALOMITA
B.H. VEDEA
B.H. DUNARE
DELTA DUNARII

4.4.6. Erosion and Degradation

The main channels affected by bank erosion are presented in the next table. This is referring to the situation from 1995 when the total volume of water discharged in the country had an average level near equal in comparison with the multiannual volumes.

Table 4.4.6.1.

			Bank erosion
1.	Tisa	=	83 km (left - right bank)
2.	Somesuri	=	332 km
3.	Crisuri	=	177 km
4.	R. Mures	=	188 km (right bank till Troias confluence; left bank till Arad)
5.	R. Bega	=	7.8 km (right bank)
6.	R. Timis	=	27 km (left bank)
7.	R. Caras	=	cca. 1.00 km (left bank)
8.	R. Nera	=	4.5 km (right bank)
9.	R. Cerna	=	0.6 km (right bank)
10.	R. Jiu	=	192 km (left bank till Tg. Jiu; right bank till Danube confluence)
11.	R. Olt	=	31 km (right bank)
12.	R. Calmatui - Teleorman	=	1.01 km
13.	R. Vedea	=	62.0 km (left bank)
14.	R. Arges	=	139 km
15.	R. Ialomita	=	144.7 km (right bank)
16.	R. Buzau	=	125 km
17.	R. Siret	=	284 km (right bank)
18.	R. Prut	=	122 km (right bank)
19.	R. Barlad	=	32.8 km (left bank)
20.	R. Danube	=	148 km (on the Filiala Severin - Resita - Timis sector)
21.	R. Danube	=	223 km (total

4.5. Dams and Reservoirs

Out of the whole length of the rivers existing in Romania, the embankments represent about 14 percent and the length of the trained rivers, about 7 percent. More than one-third of the whole arable area of the country is provided with irrigation and drainage systems.

More than 500 lakes keep at least one third of the annual average storage of water.

It is estimated that the hydropower potential of the country is 38 billion kWh, yearly, out of which Danube River can theoretically convey 26 percent. In 1994, the hydropower plants contribution at the national electrical production was 6.4 percent of the whole production of the electric power.

The main engineering structures on the Danube River are hydropower plants Iron Gates I and II and the Danube - Black Sea Channel.

The reservoir created at the Iron Gate I hydropower plant (2100 MW) is about 117 length and contains about 3.5 billion m^3 of water.

The Iron Gates II hydropower plant had been built in 1980 with a capacity of 432 MW.

The Danube - Black Sea Channel has been put in operation in 1984 connecting two localities : Cernavoda and Agigea. The channel is 64.2 km length, 70 / 90 m width (trapezoidal form in cross-section) and 7.5 m depth.

With four daily sluicing, about 320 thousand m^3 of water from the Danube River is discharged into the Black Sea. There are 190 m^3 / s of water abstracted from the channel for irrigation purpose and another 54 m^3 / s of water abstracted for Nuclear Power Plant in Cernavoda.

The main catchment areas within the country are also better equipped with hydrotechnical works. Those are: Prut catchment area with 303 reservoirs, Siret catchment area with 233 reservoirs and Arges catchment area with 221 reservoirs. Regarding the water volumes stored within catchment areas, the biggest utilise volume is in the Danube River - 2840 million cm, Siret catchment area - 1597 million cm and Prut catchment area - 960 million cm (from which the biggest part are for flood protection and flood control) and Olt catchment area with 794 million cm.

In Romania in the phase of design of the reservoirs and respective dams there are used so called “accumulation coefficient” which is defined as:

$$\alpha = \frac{\text{V. reservoir}}{\text{Wstoc}}$$

Where V is the volume of the reservoir and W is stored water and is equal with the average flow Qm [m^3/s] multiplied by $31.56*10^6$ seconds. When α is smaller than 0.6 the reservoir has annual or subannual retention regime. If α is higher than 0.6 then the reservoir has superannual retention regime. Within the table 4.5.1 there are 17 reservoirs with superannual retention regime (α=0.65-1), respective no: 2,11, 12, 20, 22, 42, 62, 63, 67, 69, 70, 71, 75, 76, 77, 78, 79. The others are with subannual regime of retention and with α around 0.15-0.2

Table 4.5.1. The main reservoirs from Romania for different kind of usage and with volumes greater than 20 millions m^3

No.	Catchment area	Location on water course	Volume [m^3]		Surface [ha]	Type of usage
	Name of reservoir		TOTAL volume	Volume at N.N.R.*	N.N.R.*	
B.H. SOMES (4)						
1.	Cotibita	Bistrita	90.00	65.00	270.00	complex
2.	Fantanele	Somesul Cald	250.40	212.90	884.00	electricity
3.	Tarnita	Somesul Cald	77.30	70.30	215.00	electricity
4.	Varsolt	Crasna	40.70	12.80	500.00	complex
TOTAL			**458.40**	**361.00**	**1869.00**	
B.H. CRISURI (11)						
5.	Taut	Cigher	33.70	14.60	240.00	complex
6.	Tamasda	Crisul Negru	20.50	-	507.00	flood protection
7.	Zerindu Mic	Crisul Negru	23.50	-	485.00	flood protection
8.	Carand - Rapsig	Teuz	20.20	-	1060.00	Non-permanent
9.	Lugasu	Crisul Repede	74.30	63.40	538.00	complex

Table 4.5.1. continued

10.	Tileagd	Crisul Repede	63.70	53.20	503.00	complex
11.	Dragan	V. Draganului	127.00	112.00	290.00	complex
12.	Lesu	V. Iadei	33.80	27.10	148.00	complex
13.	Felix	V. Hidisei	24.80	-	41.30	Non-permanent
14.	Martihaz	V. Mare	131.00	1.96	131.00	fisheries
15.	Homorog	V. Mare	100.00	1.50	100.00	fisheries
TOTAL			**652.50**	**273.76**	**4043.30**	
B.H. MURES (8)						
16.	Zetea	Tarnava Mare	43.00	14.00	142.00	complex
17.	Vanatori	Tarnava Mare	25.00	-	328.00	flood protection
18.	Balauseri	Tarnava Mare	24.50	-	320.00	flood protection
19.	Bezid	Cusmed	31.00	14.00	170.00	complex
20.	Oasa	Sebes	142.00	131.00	447.00	electricity
21.	Tau	Sebes	25.00	21.00	81.00	electricity
22.	Gura Apelor	Raut Mare	227.00	210.00	420.00	electricity
23.	Teliuc	Cerna	41.00	26.80	190.00	complex
TOTAL			**558.00**	**416.80**	**2098.00**	
B.H. BEGA (1)						
24.	Surduc	Rau Gladna	66.27	51.08	538.00	complex
TOTAL			**66.27**	**51.08**	**538.00**	
B.H. JIU (2)						
25.	Rovinari	Jiu	100.00	-	1200.00	Non-permanent
26.	Vija	Bistrita	30.40	28.50	96.00	electricity
TOTAL			**130.40**	**28.50**	**1296.00**	
B.H. OLT (15)						
27.	Venetia	Olt	375.00	316.00	3640.00	electricity
28.	Babeni	Olt	78.30	59.60	905.00	electricity
29.	Ionesti	Olt	35.00	24.90	466.00	electricity
30.	Zavideni	Olt	63.00	45.00	839.00	electricity
31.	Dragasani	Olt	73.00	48.00	825.00	electricity
32.	Strejesti	Olt	249.00	202.70	2204.00	electricity
33.	Arcesti	Olt	61.60	43.40	837.00	electricity
34.	Slatina	Olt	31.00	19.20	540.00	electricity
35.	Ipotesti	Olt	110.00	110.00	1692.00	electricity
36.	Draganesti	Olt	76.00	76.00	1080.00	electricity
37.	Frunzaru	Olt	96.00	96.00	1280.00	electricity
38.	Rusanesti	Olt	78.00	78.00	1100.00	electricity
39.	Izbiceni	Olt	74.00	74.00	1095.00	electricity
40.	Vidra	Lotru	340.00	340.00	950.00	electricity
41.	Bradisor	Lotru	38.00	38.00	230.00	electricity
TOTAL			**177.90**	**1570.80**	**17683.00**	
B.H. ARGES (9)						
42.	Vidraru	Arges	473.00	469.00	870.00	complex
43.	Valcele	Arges	44.00	41.55	429.00	electricity
44.	Budeasa	Arges	55.00	27.80	412.90	electricity

Table 4.5.1. continued

45.	Golesti	Arges	86.00	58.20	646.50	complex
46.	Mihailesti	Arges	102.13	76.31	1013.00	complex
47.	Maracineni	Raul Doamnei	38.70	-	395.00	flood protection
48.	Rausor	Raul Targului	67.98	52.80	160.00	electricity
49.	Pecineagu	Dambovita	69.00	63.00	182.00	electricity
50.	Vacaresti	Dambovita	54.00	14.10	234.00	electricity
TOTAL			**909.81**	**802.76**	**4342.40**	
B.H. IALOMITA						
51.	Dridu	Ialomita	60.00	45.00	996.00	complex
52.	Caldarusani	Cociovalistea	24.00	16.00	460.00	complex
53.	Paltinu	Doftana	62.30	56.00	275.00	complex
54.	Maneciu	Teleajen	58.00	50.00	192.00	complex
55.	Lata Sarata	Strachina	34.50	19.20	680.00	complex
TOTAL			**238.80**	**186.20**	**2603.00**	
B.H. SIRET (17)						
56.	Rogojesti	Siret	48.40	38.40	800.00	complex
57.	Bucecea	Siret	24.50	10.00	500.00	complex
58.	Galbeni	Siret	71.00	39.65	1123.00	electricity
59.	Racaciuni	Siret	146.40	103.60	2003.00	electricity
60.	Beresti	Siret	160.00	120.00	1800.00	electricity
61.	Calimanesti	Siret	44.30	44.30	740.00	electricity
62.	Izvoru Muntelui	Bistrita	1230.00	1130.00	3100.00	electricity
63.	Poiana Uzului	Uz	90.00	80.00	320.00	drinking water
64.	Tungujei	Sacovat	25.00	9.00	320.00	complex
65.	Cazanesti	Durduc	20.60	5.90	180.00	complex
66.	Puscasi	Racova	20.70	8.00	230.00	complex
67.	Solesti	Vasluet	47.00	15.80	452.00	complex
68.	Manjesti	Crasna	40.70	8.70	326.00	complex
69.	Rapa Albastra	Simila	25.80	10.60	230.00	complex
70.	Ciubul Vulturilor	Tutova	54.60	9.20	110.00	complex
71.	Siriu	Buzau	158.00	126.00	360.00	complex
72.	Ciresu	Basca Mare	320.00	190.00	1060.00	complex
TOTAL			**2527.00**	**1949.15**	**13654.00**	
B.H. PRUT (7)						
73.	Stanca Costesti	Prut	1400.00	735.00	5900.00	complex
74.	Brates	Prut	45.00	30.00	2111.00	complex
75.	Halcieni	Miletin	49.50	12.80	385.00	complex
76.	Tansa	Bahlui	33.00	10.00	352.00	complex
77.	Plopi	Gurguiata	24.00	5.00	137.00	complex
78.	Podu Iloaiei	Bahluet	35.00	2.70	128.00	complex
79.	Sarca	Valea Oii	23.40	4.00	104.00	complex
TOTAL			**1609.00**	**799.00**	**9117.00**	
B.H. DUNARE (7)						

Table 4.5.1. continued

80.	Portile de Fier I	Dunare	2900.00	2400.00	10000.00	electricity
81.	Portile de Fier II	Dunare	1000.00	800.00	40000.00	electricity
82.	Fantanele	Desnatui	31.70	13.00	325.00	irrigation
83.	Fundulea	Mostistea	49.50	18.40	429.00	complex
84.	Gurbanesti	Mostistea	124.50	51.00	880.00	complex
85.	Frasinet	Mostistea	180.00	133.00	1880.00	complex
86.	Iezer	Mostistea	280.00	160.00	1860.00	complex
TOTAL			**4565.00**	**3575.00**	**55374.00**	

** NNR – Normal level of retention*

4.6. Other Major Structures and Encroachments

The main engineering structures on the Danube River and also on a number of the tributaries are the hydropower plants, the channel for navigation and the embankments and training of the rivers for protection of different objectives. Also the irrigation and drainage systems are developed, especially in the South part of the country.

The main hydropower plants are located on the Danube River, Iron Gates I and II, with 2100 MW and 432 MW, these reservoirs having 117 km length (the biggest one) and about 62 km the second.

The Danube - Black Sea Channel has been put in operation in 1984 for the first stretch with 64.2 km length, 70/90 width (trapezoidal cross section) and 7.5 m depth, connecting two localities, Cernavoda and Agigea. The second one has been put in operation in 1988, with another 33 km length, same size for cross section, going from Poarta Alba to Navodari (this is also the name Poarta Alba - Midia Navodari Channel) – presented on the map 4.4.4.1.

About 320 thousand cm/s of water from the Danube River are discharged into Black Sea through these channels. The main objectives for building the channels were:

- the navigation shortening the way with about 200 km
- protection of the Danube Delta by reducing the traffic
- irrigation and drinking water supply for a number of localities and for a surface covering 500,000 ha.

The major embankments are presented in the table 4.6.1., together with information regarding the number of dykes, the length, protected surfaces and the types and number of protected objectives. Their location is presented in the map 4.4.1.1.

Table 4.6.1.

No	Hydrographical basin	No. of dykes	Length (km)	Protected objectives		
				Surfaces (ha)	Industrial objectives	Houses
1	Tisa	43	233.4	0	3	5742
	Somes	91	463.9	0	71	25005
	Crisuri	205	1136.3	263021	155	78296
	Mures	199	769.8	10832	379	68553
	Bega-Timis-Caras	138	1118.1	348270	46	63881
	Nera - Cerna	3	2.1	25	0	152
	Jiu	130	432.2	32471	65	5593
	Olt	416	828.9	48296	83	5432
	Vedea	13	87.2	5845	6	1443
	Arges	57	213.1	21718	46	3805
	Ialomita	35	218.9	32649	16	4738
	Siret	285	1304.2	172294	241	13537
	Prut	46	459.8	115603	92	9643
	Dunare	176	2401.1	558946	108	19226
	Litoral	1	1.8	0	2	79
	TOTAL TARA	**1838**	**9671.1**	**1609970**	**1313**	**305125**

The main drainage systems in the country are organised in the Olt catchment area (c.a.) - 377 systems, Mures c.a. - 337 systems, Somes c.a. - 246 systems and the biggest surfaces drainage are in Bega - Timis c.a. for 463.5 thousand ha, Crisuri c.a. 341.5 thousand ha, Dunare c.a. - 593.1 thousand ha.

4.7. Major Water Transfers

At the end of 1996 maxim volumes of the main major water transfer systems had a total of 2640 cm/s water capacity of structures, out of which the main are located in the Arges catchment area (c.a.) with 1415 cm/s and Spatiul Banat (with 4-5 medium tributaries contained) with 523 cm/s.

In the table 4.7.1 are presented the main transfer systems existing in the country in different catchment areas with the number of derivations, the transferred flow, the total length of the system and the purpose of water transferred. Their location is presented in the map 4.4.1.1.

Table 4.7.1. Main existing derivations

No	Catchment area	No. of derivations	Transferred flow (cm/s)	Total length (km)	Purpose of water transferred
1	Tisa	1	1.400	8.4	drinking water
2.	Somes	10	62.561	170.0	drinking water - 4 electricity + drinking water - 6
3.	Crisuri	10	33.300	296.0	drinking water irrigation's - 5 electricity -5
4.	Mures	13	10.866	142.0	drinking water + irrigation's - 10
5.	Spatiul Banat (Timis-Bega-Barzava-Caras-Cerna-Neva)	4	407.660	46.7	drinking water - 3 flood protection -1
6.	Jiu	4	75.800	343.0	electricity - 4
7.	Olt	32	37.720	235.17	electricity - 6 drinking water - 26
8.	Arges	27	1415.00	175.5	
9.	Ialomita	4	9.200	101.7	irrigation's+fisheries - 4
10	Buzau	5	225.000	31.12	Irrigation's - 1 drinking water - 1 flood protection -1
11	Siret	3	31.000	168.7	Drinking water + irrigation's - 3
12	Prut - Barlad	3	6.200	315.3	drinking water - 3
13	Spatiul Dobrogea (Danube, Danube Delta)	9	309.500	92.0	drinking water - 1 navigation - 8

4.8. Preferred Sampling Stations and Data Sets

According to the recommendations from the National Review producing Guidelines the data sets were selected from the existing data bases for all sampling stations from TNMN and the closest stations of the identified hot spots from High Priority and Medium Priority groups. The Annexes 3.11 - 1 were used for this purpose and the tables from those annexes were fulfilled with the available data for the recommended years. Also nearby the analytical values in those annexes are included information about the river (name and place - km) where the respective sampling stations are located. General quality against Romanian Standards for the years from which the data were extracted and also the numerical code of the station based on the coding list used within Water Quality National Monitoring System (WQNMS) table 4.1.1. The same code numbers was used on the Romanian map on which the Hot Spots (HP and MP) were placed, also for all sampling stations identified upstream and downstream by the respective Hot Spots annex 2.1.5.2. Obviously, for most of the quality stations located upstream of some Hot Spots closed by the Romanian border with our neighbours, the respective stations are also border stations.

In the tables containing the Hot Spots, there are also included the UPSTREAM and DOWNSTREAM stations for each of them. The number I, II, III or letter D nearby the name represents the general quality of water in the respective section for a more relevance of the impact created by the effluent discharged (the roman numbers I, II, III and D are the categories of water quality according to Romanian Standard 4706 / 88, which is also attached at the end of this report.

In the case of the Danube tributaries, the stations before confluence were selected for 3 of them as part of TNMN and for others, just because those respective stations are upstream of some Hot Spots.

In the Annex corresponding to chapter 4, there are included all the 3.11 - 1 Annexes for about 71 Hot Spots which is the total number for (IHP + IMP + MHP + MMP + AHP + AMP) all groups except LOW PRIORITY (ILP, MLP, ALP).

In the group of chapter 4.8, Annexes, there is also included one page with the names and addresses of the National Water Authorities (Regia Autonoma “Apele Romane”), basin units, called “Filiala”, one map with the area of jurisdiction for each of them (which is also one the cover page of Report).

Nearby those units there is a number of research institutes which are responsible for managing from quality assurance point of view and also with elaboration of a number of National Reports or different Reports requested by different external users.

These are:

- ICIM - Research and Engineering Institute for Environment, Splaiul Independentei 294, sector 6, 77703, Romania, tel. + 40 - 1 . 6373060, fax + 40 .1 3121393.
- INMH - National Institute for Hydrology and Meteorology, Bucharest, Soseaua Bucuresti - Ploiesti nr. 97, Romania, tel. + 40. 1. 2303240, fax + 40.1. 2303130.
- R.A.A.R. – National Water Authorities – EDGAR QUINET street, no. 6 sect. 1 cod 70106, Bucharest, Romania, tel/fax +40.1.312.21.74; tel: 312.54.68, 311.03.96.

4.9. Water Discharges

Data referring to the discharges are also included in the Annex 3.11 - 1; these data are, also, the used ones in our National Report and are obtained from the gauging stations which are closest upstream or downstream by the quality station and without any interference's like discharges or abstractions. The Hydrographical data were obtained in digital format for all stations included in TNMN (7 on main course, 3 on the biggest tributaries on Romanian territory) with daily values and also with maximum, mean and minimum for every month, for 1996 and 1997, the years with operational activity for TNMN).

In the chapter 4.4 are presented the hydrographs with monthly average, maximum and minimum flow for major gauging station in the network that was mainly analysed in this report all the data are from 3 years respective 1995, 96, 97.

Flow derivation curves are only for a number of 4 gauging stations as tables and graphs attached to the chapter 4.4.1.

4.10. Sediment Discharges

The Danube river carries 70.7 million tones of suspended matter / year to the Delta (this is an average value calculated for the last 28 years). Out of this quantity, 0.7 million tones are retained in the Delta and the other part is discharged into the Black Sea. During this time, the average flow of suspended matter at the entering point into the Delta has been diminished as it follows:

1921 - 1958 : 1558 kg/s
1959 - 1980 : 1395 kg/s
1981 - 1987 : 700 kg/s

The total length of the river network in Romania is about 75,000 km and the diversions represent about 10 % of this length, with reservoirs, channels etc.

The water volume accumulated in the impoundment reservoirs represents about 13 billion m^3, that is about 33 % of the annual average storage of water in the country, which means all water capable to be stored in the country including as well natural lakes and Danube Delta.

The total natural lakes surface area represents 1.1 % of the total surface area of the country.

The run-off water volume is represented by 55 percent - from the mountain region areas, 35 percent - from the hill region and 10 percent - from the flat regions of the country.

In average, on the whole country 1550 kg of suspended matter per second are carried to the rivers or lakes. This means about 49 million tones / year, that is 2.6 tones per hectare and per year. And this is quite a high average value. This highest value of the dislocated material is met in the hill region, especially in the exterior Carpathian curve and in the flat land regions (25 tones per hectare, yearly), and the lowest value, of 0.5 tones per hectare yearly, is met in the mountain regions.

The whole amount of suspended matter is distributed to the lakes and rivers in the country, as is follows:

- 14 percent from the mountain regions;
- 73 percent from the hill regions;
- 13 percent from the flat regions.

The average deposition rates of suspended matter are 0.01 to 0.28 percent in the mountain region lakes and sometimes more than 10 percent in the hill region lakes.

The high rates of soil erosion contribute to increased sediment levels in the Danube River.

Due to the lake created by the construction of the Iron Gates Hydropower plant, the suspended matter transit has been diminished from 615 - 2210 kg/s (measured in 1948 - 1970) to 160 - 530 kg/s (measured in 1971 - 1974 downstream the dam). About 65 percent of the solid material entered in the Bazias section of the Danube (km 1072) was deposited in the lake (measurements made in the period of time 1970 - 1974). The National Institute performed special studies referring to the total sediments transported in Romania for Hydrology and Meteorology

For the years requested for this Report as well as for the Danube River in the gauging stations corresponding to the quality station from TNMN in the table 4.10.1 are included the results found in the data bases of the respective institute.

In the table 4.10.1 the data presented are referring to the sediments measured in the gauging stations correlated with the TNMN water quality stations. In the column 2 are presented the data referring to the total suspended load and in column 3 the data are referring to the bed loads percentage that are transported by the water flow. In connection with Iron Gate the data presented in the table 4.10.1 for gauging station Bazias and Gruia may reflect the settlement process from the Iron Gate I reservoir, those station being located upstream by Iron Gate. Bazias (Goging station) is located at 1072.4.; Iron Gate I dam at 931 km and Gruia at 858.35 km on the Danube measured from the mouths.

The data included in the table 4.10.1 are from the years 1994, 1995, and 1996.

Table 4.10.1.

Gauging station / Location on Danube (km)	Date	Total alluvial flow of suspended matters, R, [kg/s]	Alluvial pulled flow of suspended matters, G [kg/s]	Water flow [m^3/s]
		1994		
Bazias / 1072.40	31.05	71	-	5900
	15.06	74	-	5870
	16.06	72	-	5980
	17.10	36	-	2980
Gruia / 858.35	16.03	70	-	5750
	19.03	80	-	5750
	03.06	75	-	6160
	20.07	35	-	3070
	21.10	30	-	2550
	04.11	40	-	4180
Calafat / 786.90	17.03	66	2.52	5744
	18.03	54	2.82	5288
	27.05	55	4.55	6222
	03.06	95	6.07	6409
	22.07	21	1.31	3143
	14.10	29	2.03	3098
	22.10	18	0.205	2416
	02.11	21	0.595	2780
Giurgiu / 493.05	17.01	542	-	8960
	18.04	564	-	8770
	26.04	865	-	9870

Table 4.10.1. continued

	17.05	459	1.23	7120
	25.05	717	8.90	5670
	07.06	171	7.02	6750
	26.07	6.41	1.10	3470
	29.07	7.91	0.58	3620
	04.08	6.06	0.37	3150
	18.08	9.63	0.00	2230
	26.10	21.70	1.87	2960
	23.12	75.70	4.64	4460
Chiciu - Calarasi / 379.58	20.01	1040	-	9410
	07.02	360	-	9410
	09.03 13.04	593 627	- -	6130 6970
	27.05	299	-	5390
	08.06	315	13.4	6700
	22.07	167	-	4140
	24.09	134	-	2740
	13.10	89.8	-	2920
	27.10	30.9	3.86	3300
Isaccea / 100.20	23.03	256	-	6570
	25.04	840	-	10200
	06.05	1120	-	11200
	15.06	386	-	6600
	11.07	147	-	4610
	23.08	102	-	2690
	01.11	192	-	3140
	04.11	38.4	-	2890
	10.11	279	-	4240
Periprava / 20.00	06.04	212	0.960	3840
	25.05	177	1.77	3260
	17.06	336	0.592	3420
	03.08	120	0.00	1900
	09.11	26.5	0.00	1900
	22.11	102	0.00	2310
Sulina / 4.22	26.04	101	0.202	1530
	10.05	208	2.32	1730
	08.06	87.0	0.161	1220
	19.06	80.3	0.785	1320
	08.08	19.1	0.035	732
	05.09	41.9	-	650
	28.09	38.2	-	670
	12.11	8.09	-	779
Sf. Gheorghe / 8.00	18.05	201	1.83	2280
	22.06	111	0.412	1570
	24.07	82.1	0.00	1170
	20.08	30.5	0.00	710
	25.09	34.1	0.00	771
	14.11	17.0	0.00	1040
	08.12	46.4	0.00	1030

Table 4.10.1. continued

1995				
Bazias / 1072.40	06.06	95	-	6550
	04.10	75	-	5470
Gruia / 858.35	16.05	80	7.6	6800
	21.05	100	8.4	7750
	10.06	90	8.2	7100
	16.08	30	2.0	2700
	01.10 08.10	45 64	6.8 6.8	4650 4100
Calafat / 786.9	18.05	124	3.78	7890
	19.05	125	4.05	7825
	20.05	118	4.2	8352
	11.06	55	2.56	7199
	17.07	35	0.317	3004
	17.08	37	0.257	3010
	30.09	72	2.3	5731
	9.10	67	2.29	6114
Giurgiu / 493.05	24.03	365	6.06	6200
	17.04	613	-	9500
	27.04	478	12.0	7560
	09.05	381	16.2	8070
	01.06	289	-	8050
	13.06	100	14.6	8570
	24.07	176	8.91	4520
	31.08	105	2.70	3400
	13.10	55.0	4.01	4390
	23.10	127	2.11	3090
Chiciu - Calarasi / 379.58	22.03	451	-	6730
	12.04	967	-	9900
	13.05	945	-	8500
	16.06	135	15.3	8320
	24.06	913	-	9100
	13.09	225	-	5930
	14.09	246	-	6120
	14.10	67.9	7.14	4610
	21.10	55.5	-	3630
	22.10	63.2	-	3660
Isaccea / 100.2	06.05	771	-	8660
	20.06	783	-	8050
	22.06	312	-	8400
	24.07	288	-	5810
	14.08	92.0	-	3740
	19.09	732.0	-	7020
	16.10	270	-	4820
	24.10	47.0	-	3720
Periprava / 20.00	23.06	126	3.77	3270
	20.07	270	1.19	3730
	22.08	67.5	0.00	1740

Table 4.10.1. continued

	29.09	234	0.587	3320
	26.10	35.1	0.00	2030
	28.10	79.6	0.00	1990
	24.09	143	0.00	2460
Sulina / 4.22	26.06 28.06	51.6 47.8	6.17 2.75	1680 1700
	11.09	27.7	0.023	1060
	10.10	11.2	0.020	1110
	30.10	13.9	0.00	829
Sf. Gheorghe / 8.00	29.06	98.9	10.3	2210
	02.07	190	4.10	2300
	30.08	65.6	0.00	1070
	08.10	91.2	0.00	1340
	01.11	10.7	0.00	912
	12.12	56.0	0.00	1280
1996				
Bazias / 1072.4	18.05	350	0.00	8710
	15.06	60	0.00	4300
	13.10	73	0.00	6100
Gruia / 856.5	19.05	134	9.1	8920
	21.05	324	9.2	8110
	11.07	61	0.00	5120
	12.07	56	0.00	4980
	17.10	39	0.00	5620
Calafat / 787	17.05	107	4.15	8897
	21.05	265	9.6	9649
	12.07	60	2.5	52.45
	13.07	56	2.2	5130
	18.10	65	12.3	5458
Giurgiu / 493.05	16.04	694	44.0	11300
	25.05	304	40.6	9730
	24.07	120	3.66	4860
	31.07	56.5	3.47	3630
	09.09	173	6.52	4440
	24.09	99.3	3.01	6700
	30.09	132	14.7	7870
	08.10	130	5.83	7540
	21.10	73	5.61	5970
	20.11	209	3.34	4810
	10.12	255	18.5	7280
	16.12	124	22.1	7370
Chiciu - Calarasi / 379.58	27.03	650	-	4980
	28.03	623	-	4860
	08.04	1510	-	10000
	09.04	1450	-	10100
	27.05	494	12.0	9930
	17.07	191	-	5450
	18.07	152	-	5370
	25.09	488	-	6620

Table 4.10.1. continued

	22.10	75.0	8.91	5830
	12.12	140	-	8780
Isaccea / 100.20	01.04	1840	-	7740
	08.04	3260	-	9890
	17.04	1660	-	11500
	26.04	1210	-	12800
	07.06	287	-	8430
	25.06	133	-	4790
	06.08	56.1	-	3270
	28.08	196	-	4380
	31.10	197	-	7800
Periprava / 20.00	21.03	257	0.540	2980
	02.05	648	5.02	5940
	26.05	817	4.81	5100
	09.06	319	4.44	4250
	19.07	67.5	0.294	2690
	07.09	57.2	0.00	2000
	20.09	44.0	0.210	2850
	03.11	114	2.76	4100
Sulina / 4.63	02.04	205.1	0.142	1200
	05.05	157.7	1.6	2220
	28.05	150.7	2.83	1870
	11.06	25.06	2.79	1700
	03.07	74.8	0.064	904
	17.08	50	0.052	712
	24.09	194.2	0.177	1270
	09.10	288.2	2.72	1620
	06.11	30.9	0.77	1520
Sf. Gheorghe / 8.00	27.04	653	2.20	2700
	15.06	108	3.79	1840
	05.07	35.9	0.00	1170
	25.08	31.0	0.00	1040
	13.10	125	0.639	1920
	15.10	96.0	0.511	1790
	09.11	39.3	1.65	1904

4.11. Suspended Sediments Concentrations for 1994 - 1997 Reported as Completed

Suspended sediments transported by the water is one of water quality physical parameters measured and all values measured in the stations which are considered in this Report are also included in the Annex 3.11 - 1, column 2.

4.12. Water Quality Data

In the normal activity of the National Water Authorities within the Monitoring Branches of the basin units (filiala) there are measured in the field or / and in the laboratories about 35 water quality and quantity parameters (water flow, TDS, SS). Those are grouped in the main categories, which are used for assessing the water quality state, and also in the national synthesis of the water quality. Those groups are:

- Oxygen regime parameters group (RO) in which are included DO, BOD_5 (CBO_5 in Romanian), COD (CCO in Romanian) which in most of the cases is done by using the permanganate value method (COD - Mn) and in some cases by dichromate method (COD - Cr). In all recordings and / or reports the method used is specified.
- Mineralisation Degree (GM) in which are included the water quality parameters referring to this, like TDS, conductivity, chloride, sulphate, carbonates, calcium, magnesium, sodium.
- Nutrients in which are included the N and P species.
- TS - toxic and specific pollutants like heavy metals.

All those parameters have values for the 3 + one (over) categories within the water quality standard (STAS) 4706 / 1988 (which is attached in annex belonging to the chapter 4.12). In this standard are also included recommendations for each parameter referring to the analytical method, which is legally allowed, be applied for the respective analysis.

In the annexes 3.11 -1 there are included nearby the requested parameters specially for this Report (nutrients, organic matters flow, sediment), also the relevant and significant for impact assessment of the hot spots, other parameters like heavy metals or others. Those are also included in annexes information about the location of the respective stations, like river name and km.

For the data included in the columns the units used are the standard units applied within the Danube laboratories and those are for:

- water discharge cm/s
- sediment discharge which in fact are suspended sediments; are expressed in mg/l
- TOTAL N and TOTAL P where are expressed in mg/l N
- NO_2, NO_3, NH_4 in mg/l N
- CCO-Mn in mg O_2/l
- CN - mg/l
- Fe, Mn, Cu, Zn, Pb, Cr, Ni – mg/l
- Phenols – mg/l
- For other parameters if the units are different, those are expressed clear.

All the 3.11 - 1 annexes (tables) are included in the Annexes that belong to the chapter 4.8.

It should be mentioned that these values are obtained through the Romanian Standards for analytical activity, for the stations from national network. The data reported for all stations from TNMN Romanian stretch, were produced through the analytical procedures that were agreed within the MLIM / SG and also in the previous activities of the Bucharest Declaration network. As a conclusion referring to the comparability of these data, it has to be mentioned that in the 10 years of the Bucharest Declaration work, a very important step was realised between the Danubian countries laboratories and experts, and this is that, the analytical methods were assessed and harmonised; reports for these 10 years were produced with the reliable data from this point of view. Also once the MLIM / SG has started the work (1994) all analytical procedures were assessed again, some new more preferment and modern instrumental procedures were agreed and the NRL's have applied them in the operational activity of the TNMN (1996 and 1997). The same way was followed for the new parameters that were entered to be monitored within TNMN. As an overall conclusions the data that are reported are comparable from analytical procedure point of view.

It should to be mentioned also that in the tables for hot spot characterisation, some data are also included for the relevant and significant wastewater contaminants.

4.12.1. Nitrogen

Within the WQNMS, the Nitrogen species are usually measured as NO_2, NO_3 and NH_4 and rarely, the Total Nitrogen because of the lack of digestion equipment and reliable analysers having in mind the great number of samples, which need to be analysed in every laboratory. In the Annexes 3.11 - 1 are collected all the results of the analyses made during the period of time 1994 -1996 which were extracted from official and approved Reports. For 1997, the data for the water quality synthesis for the entire country will, probably, be finalised by the end of June.

For Danube River and for a number of tributaries as well, from the statistical point of view, the Organic Nitrogen percentage in Total N was assessed at about 18 - 20 %. These figures were established in the Report of Haskoning Company from 1994 in which I.C.I.M. has made a part of the work dedicated to the Romanian stretch of the Danube as well.

So, the N mineral content is established by totalling the N from analysed species, as it follows: total mineral N [mg/L] = N - NH_4 [mg/L] + N - NO_3 [mg/L] + N - NO_2 [mg/L]; To this for assessing the TOT N an 18/20 % should to be added

4.12.2. Phosphorus

In the same mentioned above frame, the P analysis is done for Total P and for orthophosphates. All the analysis results, for the selected stations are included in the Annexes 3.11 - 1.

4.12.3. COD

For most of the reported data (in the annexes 3.11 - 1) with regard to the organic pollution, the water quality parameters are BOD_5 and COD - Mn. In a way according to the Laboratory Management Working Group (LMWG) from MLIM / SG experts, discussions were agreed that those data are more relevant for the Danube River condition

For the rivers with a higher organic pollution degree and with smaller flows, the COD - Cr method is more relevant, but it is not on large scale used in Romanian laboratories, because of the lack of equipment's.

4.12.4. Heavy Metals

For all water quality stations downstream and upstream of the important hot spots discharging waste waters with heavy metals, in the Annexes 3.11 - 1 were included heavy metals data as well.

4.12.5. Oil and Other Hazardous Chemicals

The same approach explained in the Chapter mentioned above was applied also for oil or other chemicals identified to be problems in the hot spots waste water discharged and then identified in the receiving waters.

4.12.6.Special Linkages

The identified data and information with regard to the subpoints requested in the Guidelines for this chapter were presented in the previous chapters like for example:

- for point a - chapter 3 point 3.1.7
- for point b - chapter 3 point 3.1.3
- for point c - chapter 3 point 3.1.3.

Also from EU/AR/102 A /91 project “Nutrient Balances for Danube Countries” report same synthetically data with reference to Romania may be mentioned in this chapter. Those data are relevant for all a, b, c, e points. The total population of Romania is about 22.7 million inhabitants (1996). Out of this, there are 12.3 millions living in settlement with over 10,000 inhabitants and 10,4 in the rural area.

The total number of settlements over 100,000 is 25, and 171 between 10,000 and 100,000. The average population density is 96 inhabitants / km^2.

From those settlements the number of population equivalent is assessed to be equal with 27 million p.e. in wastewaters production.

Regarding the P detergent utilisation in Romania, about 0.15 - 0.20 g P/inhabitant/day was assessed to be used. (EU/AR/205/91 project)

From the total population (22.7 M), about 64 % are connected to the centralised drinking water networks, about 40% to the centralised sewage networks and about 28 % are connected to the WWTP.

The average precipitation are between 690 mm (1989) - 515 mm (1992) - 632.27 mm (1996) with an average net outflow of 174 mm (1988) - 130 mm (1992) and 159 .45 mm (1996) or about 6 - 5 - 6 L/s/km^2 (88-92-96).

The specific net volume of water used was assessed to be:

- 5 m^3 / inhabitant / day (1989)
- 4 m^3 / inhabitant / day (1992)
- 4 m^3 / inhabitant / day (1996)

With a consumption of mineral nutrients of 47 kg N / ha (1989) - 17 kg N / ha (1992) - 38 kg N / ha (1996) and 23 kg P / ha / (1989) - 9 kg P / ha / (1992) - 18 kg P / ha / (1996), with a production of 22 kg / N / ha / (1989) - 11 kg / N / ha / (1992) - 20 kg / N / ha / (1996) and 4 kg P / ha / (1989) - 2 kg P / ha / (1992) - 3 kg P / ha / (1996) of natural nutrients and with an average plant uptake of 66 kg N / ha / (1989) - 60 kg N / ha / (1992) - 58 kg N / ha / (1996) and 11 kg P / ha / (1989) - 9 kg P / ha (1992) - 8 kg P / ha (1996). The average percolation rate was estimated to 17 kg N / ha (1989) - 11 kg N / ha (1992) and 10 kg N / ha (1996).

It was also assessed that the average rate of erosion for Romania is 3 kg N / ha (1989, 1992, 1996) and 0.5 kg P / ha (1989, 1992, 1996) and the average denitrification rate in the groundwater at 65 % (1989), 78 % (1992) and 68 % (1996) from input.

In the EU / AR / 205 / 91 Project: “Removal of Phosphate from detergents in the Danube basin” final report, there are relevant information referring to the detergents used in Romania, about 66,000 tones / year (1993 - 1995) which corresponds to 3,432 tones P / year. The annual specific consumption of detergents / inhabitant was for Romania in 1995: 2.90 kg / year, out of which 5 % of this quantity is P content.

The total production of detergent in Romania was:

- 1993 - 42,900 tons
- 1994 - 32,000 tons
- 1995 - 20,000 tons.

The major Romanian detergents factories have indicated the P content as an average of: P -use 0.2 t tripoliphosphate / t detergent with limits of 0.18 - 0.22 t tripoliphosphate /t detergent.

Based on the assessment done in the respective AR project report, the P loads indicators in surface waters in the Danube Basin in Romania are:

Indicator	Value	M.U.
Total P - on km 1075 (Danube entrance in Romania)	28,000	t/year
Total P - on km 18 (Danube discharge in Black Sea)	37,000	t/year
Total P non-point sources Danube River	45 %	% from total P load
Total P point sources Danube River	55 %	% from total P load
Direct discharge in Danube River (population + industry)	1645	t/year
Romanian Danube tributaries discharge	3249	t/year

Some information about air and precipitation are presented in the Environmental Protection Strategy [1], produced and published in Bucharest, 1996, by the Ministry of Water, Forests and Environment Protection and which was also delivered to different users, including Environmental Programme of the Danube River Basin - PCU. The data included are referred to the 1991 and 1994.

Air pollution is evident in areas of high industrial activity, which are usually near highly populated areas. The country as a whole, however may not be experiencing a significant decrease in air quality based on measurements from remote monitoring stations placed above 1000 m level and which operate as part of the World Meteorological Organisation Background Air Pollution Monitoring Network (BAPMN) with 4 stations. The monitoring network for precipitation's consisting of 141 measuring points. Besides, there are 50 networks with 405 imission measurement points situated in the urban and industrial zones measuring average daily concentrations of SO_2, NO_2, NH_3, particulate and other specific pollutants where they are expected; these networks belong to the Ministry of Water, Forests and Environment Protection and to the Ministry of Health.

The BAPMN network measurements showed that ionic concentrations of rain water are quite the same as in Western Europe with 1 to 3 mg / L of sulphates. The pH values of 4 to 5.6 and the nitrate concentrations of the rainwater have put in evidence the long distance transport of pollutants.

The rainwater collected in the BAPMN stations has concentrations in ozone, sulphur dioxide and nitrogen dioxide of a few micrograms per cubic meter, which are quite the same for the last 10 years.

Throughout the country, the acid rain is observed in the highly industrialised zone, which are usually placed near by large cities:

city	pH (average value)		pH (minimum value)		conductivity µS/cm (average value)	
	1994	1995	1994	1995	1994	1995
Baia Mare	6.7		5.1	6.0	270	1100
Timisoare				5.6		
Zlatna	6.3		5.0		247	
Oradea				6.0		
Rm. Valcea	6.4		4.0	5.0	150	
Zalau				4.5		
Bucuresti	6.3		5.0		308	
Copsa Mica				5.5		1460
Rovinari	5.9		5.5		360	
Braila				6.5		1200
Slobozia				5.9		671

The frequency of samples with pollutants concentration higher than maximum admissible values (MAV) for cities mentioned above in Romania were 20 - 40 % in average out, in comparison with annual average value.

The allowable values of the main pollutants in the atmosphere are put into evidence based on the Romanian Standard 12574 - 87 updated 1996. According to this standard, the maximum allowable values are for settable suspended matter: 17 grams / sq m and per month; for SO_2: 250 micrograms / c.m. of air / 24 hours; for NO_x: 100 micrograms / c. m. / 24 hours. Rain water with pH values lower than 5.9 (MAV) is considered very acid.

5. Brief Overview of Legal and Institutional Framework for Water Quality Control

5.1. Laws and Policies

The Romanian Government has established that the environmental protection represents a national priority and must be addressed by all governmental and non-governmental institutions, associations, organisations and political movements and parties.

In order to promote and enforce the environmental protection and sustainable development through proper environmental management systems, protection methods and adequate means of enforcement, has been developed a National Environmental Strategy Paper.

The Ministry of Water, Forest and Environmental Protection has the overall responsibility for environmental management in Romania, but in close co-operation with other central and local authorities. The assignments of MWFEP are sufficiently comprehensive to ensure an integrated approach to environmental management, by drafting, executing and enforcing:

- environmental policies and strategies on national and sectorial levels, including setting water management and forestry policy as well as being responsible for nuclear issues;
- operational actions and programs;
- environmental projects.

The objectives of the environmental policy consists of preventing further degradation of the environment, correcting past deficiencies and supporting sustainable use of renewable natural resources and habitats.

Current legislation dates from 1973 and, due to both the political and economic changes were proposed to be replaced by the new one, which is awaiting debate and enactment by Parliament. The new proposed draft will establish a coherent and comprehensive legal framework for environmental management and will develop the mechanism to disseminate information regarding environmental strategies, regulations, and standards to the authorities and public.

According to the market sectors changes and in order to achieve satisfactory environmental changes, the new laws provides the introduction of economic incentives as an incentive for changing the behaviour of companies or individuals and various forms of prices paid by the polluter for polluting. The Polluter Pays Principle is an useful starting point to design cost-effective policies as a specific approach of allocating the costs of environmental improvements between polluters or resources users and beneficiaries.

The revision of the legislation will include the rules and procedures of enforcement, operational guidelines and implementation of the environmental policy. Effective implementation is the key to a strong and successful system of environmental controls and this concept has been incorporated in the provisions of the new laws The implementation of environmental laws which will include the Environmental law, Water law, Forest conservation law and other specific laws will require consideration of institutional factors and the problems will be addressed on a national, regional or local level. At each level of government policy markers implementing new or restructured environmental protection system will allocate, according the existing resources for promulgating, administrating and enforcing the new requirements. also, developing clearer, more specific standards will increase the polluter’s understanding of the environmental goals and the ability of the authority to identify and prove the violations.

The main concern of the MWFEP in order to ensure that the proposed environmental law is effective is to establish and carry goals that will be achieved through the permitting process, creative public participation's in the permitting process.

➢ Law of Environmental Protection	Nr. 137 / 1995
➢ Order with the approved Procedures regarding the regimentation of the economical and social activities	Nr. 125 / 1996
➢ Order for approving the procedures regarding the Environmental Balance and Impact Assessment Studies elaboration	Nr. 184 / 1997
➢ Law of Water	Nr. 107 / 196
➢ River Water Quality Standard	R.S. 4706 / 1988
➢ Government Decision concerning unitary system of payments for water management products and services	Nr. 1001 / 1990
➢ Technical Regulation for water emission discharges into water resources	TNWP 001 / 1997
➢ Technical Regulation for water emission discharges into public sewage system	TNWP 002 / 1997

5.2. International Conventions Ratified by Romanian Parliament

- Convention on Wetlands of International Importance Especially as Waterflow Habitat - RAMSAR 1971;
- Convention on Long - range Transboundary Air Pollution - GENEVA 1979;
- Convention on the Protection of the Black Sea against Pollution - Bucharest 1992;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal - BASE 1989;
- Convention on the Conservation of European Wildlife and Natural Habitats - BERNE 1979;
- Vienna Convention for the Protection of the Ozone Layer - VIENNA 1985;
- Montreal Protocol on Substances that Deplete the Ozone Layer - Montreal 1989;
- Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer - LONDON 1990;
- Convention on the Protection of the Danube River - SOFIA 1994.

5.3. International Agreements Signed by the Romanian Ministry of Environment

- Convention on Environmental Impact Assessment in a Transboundary Context - ESPOO 1991;
- Convention on the Protection and Use of Transboundary Watercourses and International Lakes - HELSINKI 1992;
- Convention on Biodiversity Conservation - RIO DE JANEIRO 1992;
- Convention on Climate Change - RIO DE JANEIRO 1992;

5.4. International Agreements the Romanian Ministry of Waters, Forests and Environmental Protection Intents to Adopt/Sign in the Future

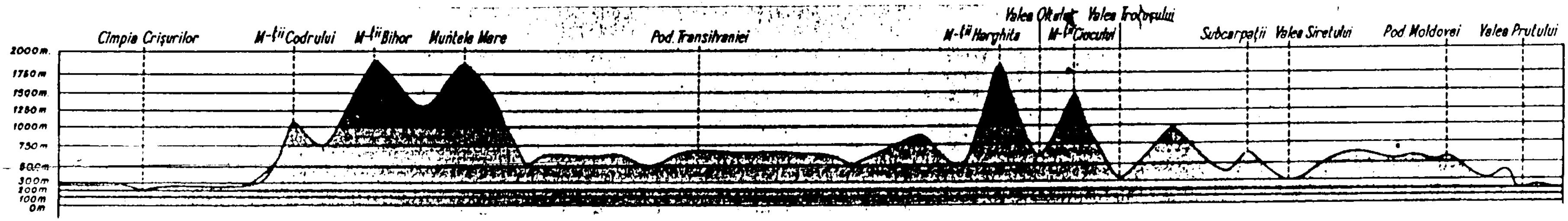
- Convention on International Trade in Endangered Species of Wild Fauna and Flora - WASHINGTON 1973;
- Convention on Transboundary effects of Industrial Accidents - HELSINKI 1992.

Annexes

Annexes for Chapter 2

Annex 2.1.5.1
Romanian Relief Cross Section

Romanian relief West – East cross section



Romanian relief North – South cross section

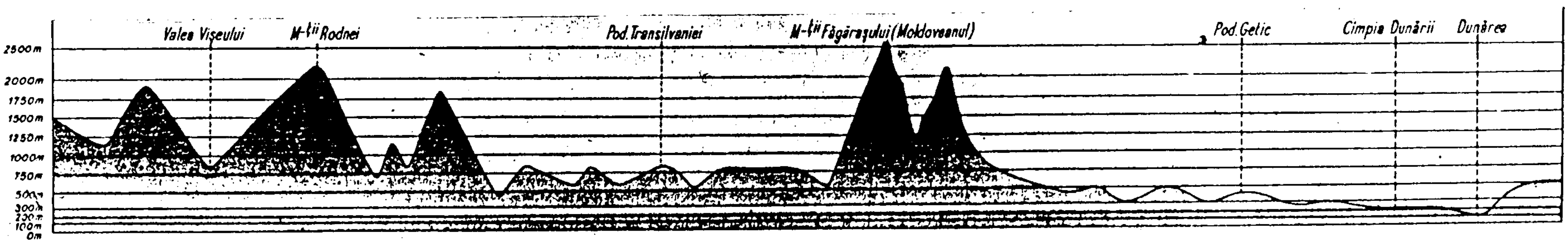
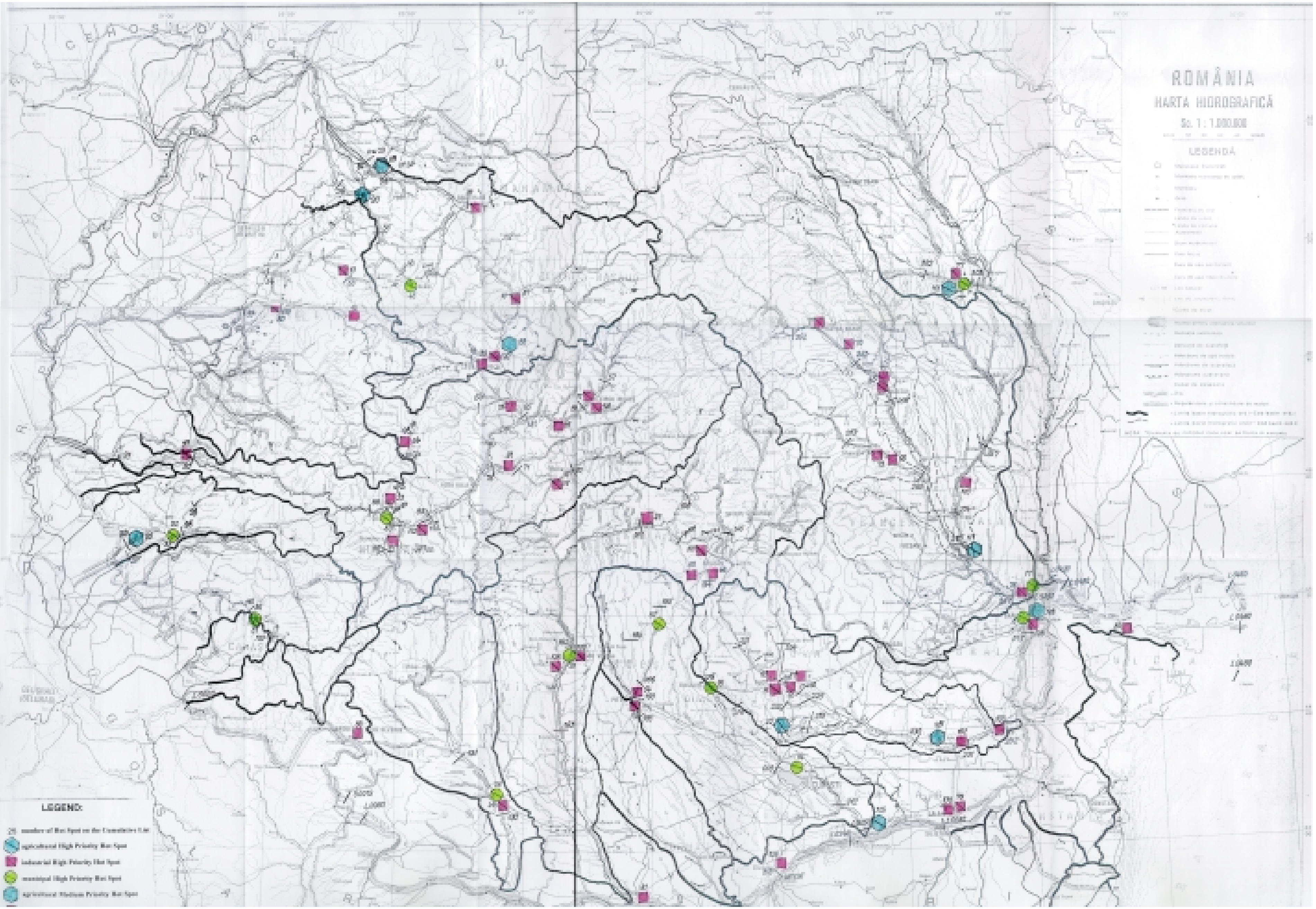


Fig. 2.1.5.1.

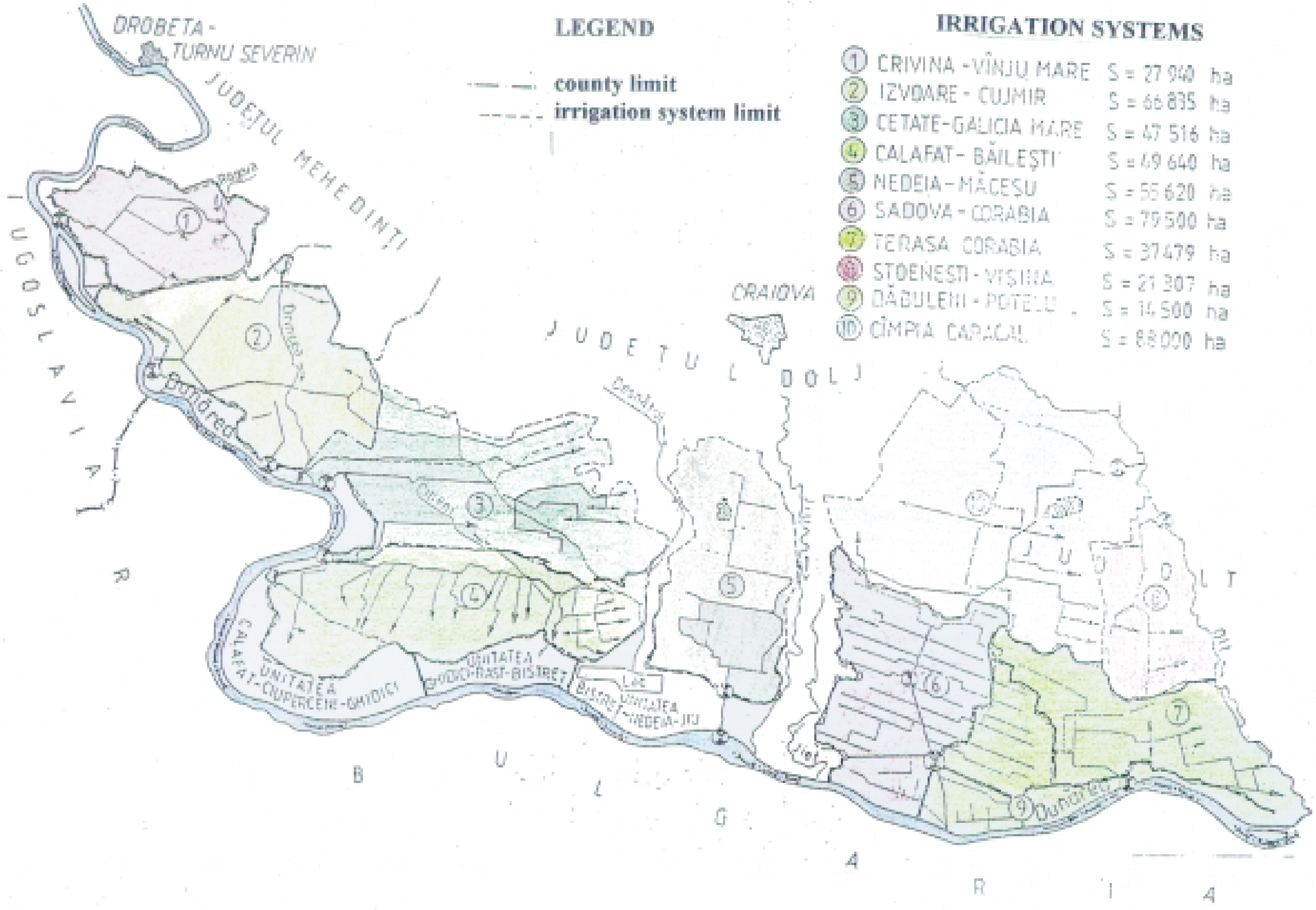
Annexes for Chapter 2

Annex 2.1.5.2
Map of Romania with Hot Spots
(Scale 1:1.000.000)


ROMÂNIA
HARTA HIDROGRAFICĂ
Sc. 1 : 1.000.000
LEGENDĂ
LEGEND:
29 number of Hot Spot on the Cumulative List
agricultural High Priority Hot Spot
industrial High Priority Hot Spot
municipal High Priority Hot Spot
agricultural Medium Priority Hot Spot

Annexes for Chapter 3

Annex 3.1.
Maps with Irrigated Surfaces



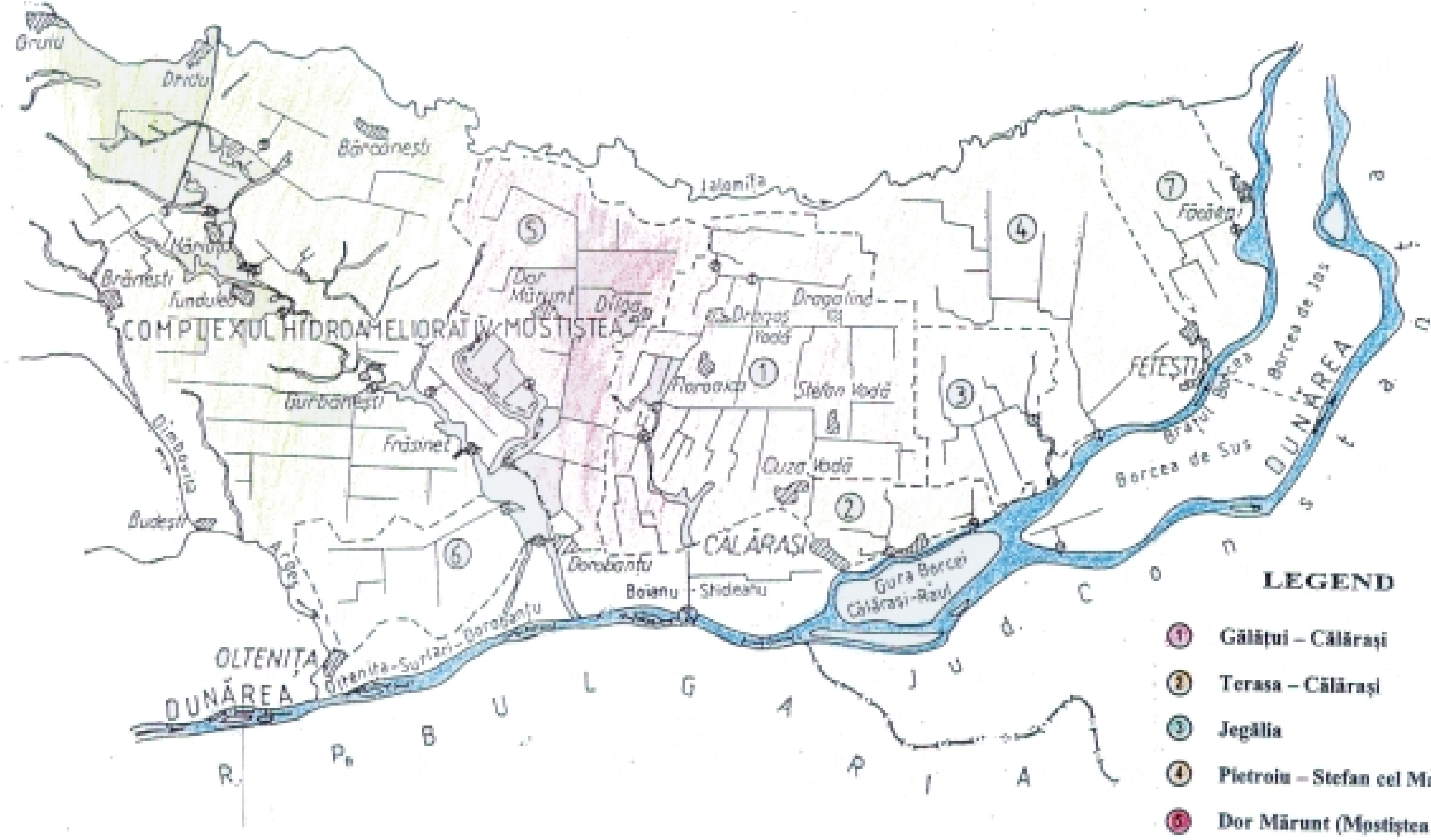
Diffused pollution sources within South-West part of Romanian Danube River Valley Plain
(between Turnu Severin – Jiu River – Olt River)

Annex 3.1.a

1	Olt – Calmatui irrigation system	S=46.700 ha
2	Viisoara Terrace irrigation system	S=99.573 ha
3	Giurgiu-Rasmiresti irrigation system	S=140.790 ha
4	Mihai Bravu Terrace irrigation system	S=21.369 ha

Diffused pollution sources within the irrigation systems and impounded systems from Danube River meadow area (between Olt River and Arges River)

Annex 3.1.6.

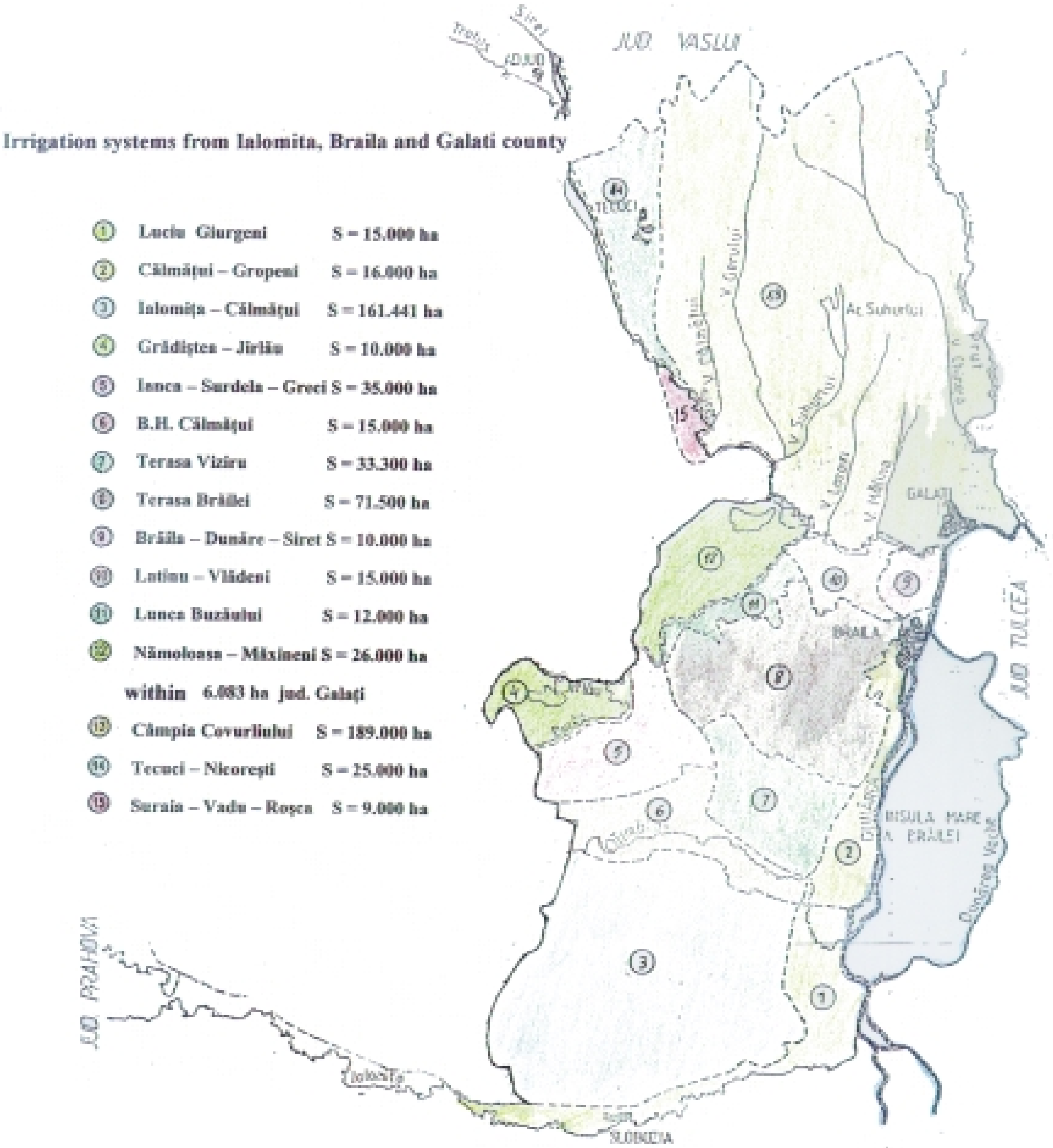


LEGEND

1	Gălățui – Călărași	S = 86.660 ha
2	Terasa – Călărași	S = 9.000 ha
3	Jegălia	S = 21.900 ha
4	Pietroiu – Stefan cel Mare	S = 54.400 ha
5	Dor Mărunt (Moștiștea VI)	S = 60.500 ha
6	Ulmeni (Moștiștea I)	S = 21.000 ha
7	Terasa Făcăeni-Bordușani	S = 40.000 ha
8	Compl. hid. Moștiștea	S = 240.000 ha

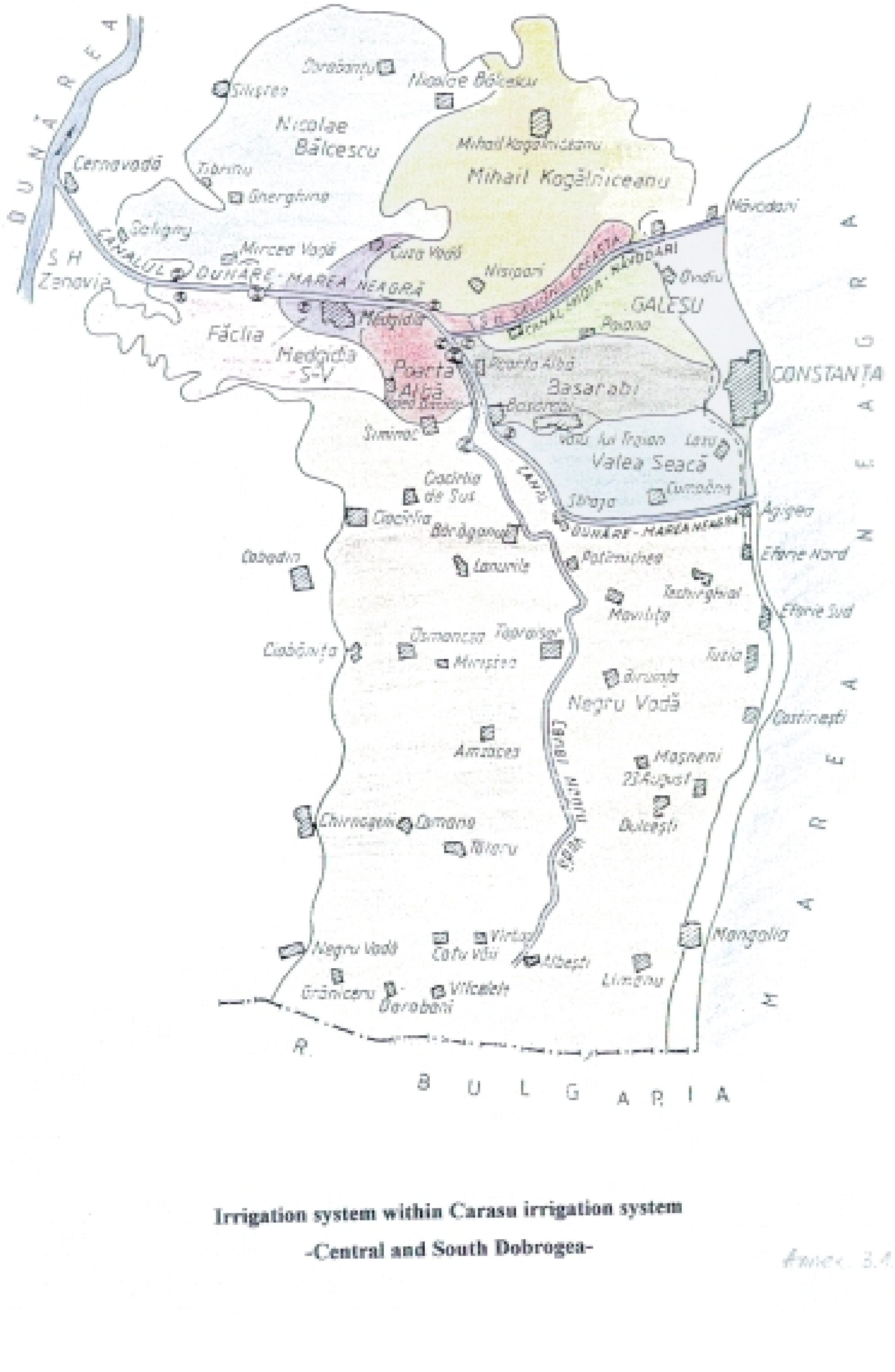
Diffused pollution sources within the irrigation systems and impounded systems from Danube River meadow area (between the Arges River – Ialomita River and Danube River)

Annex 3.1.c.



Diffused pollution sources between Ialomita River and Siret River

Annex 31.d



Irrigation system within Carasu irrigation system

-Central and South Dobrogea-

Anex 3.1.d.

Annexes for Chapter 3

Annex 3.1.1
Table with Index of Water Quality and Discharges Records

Index of Water Quality and Discharge Records

Sampling station name	River name	River Bank	Number of years of records and the latest year of record for each of the following categories of parameters						
			Water discharge	Sediment discharge 2	N 3	P	BOD or COD	Heavy metals	Other toxic
Baia Mare	Sasar	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Salatiu	Somesul Mic	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Berveni	Crasna	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Parhida	Barcau	M	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98
Cheresig	Crisul Repede	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Branisca	Mures	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Am. Blaj	Tarnava Mare	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Ungheni	Mures	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Nadlac	Mures	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Santuhalm	Cerna	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Gligoresti	Aries	M	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98
Mihalt	Tarnava	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Chetani	Mures	M	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98
Otelea	Bega	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Cenei	Bega - Veche	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Moniom	Barzava	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Podari	Jiu	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Dragasani	Olt	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Fagaras	Olt	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Am. conf. Olt	Ghimbasel	M	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98
Budesti	Dambovita	M	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98
Piscani	Targului	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Suseni	Dambovnic	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98

Ciumesti	Doamnei	M	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98
Baleni	Ialomita	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Silistea Snagovului	Ialomita	M	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98
Tinosu	Prahova	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Moara Domneasca	Teleajen	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Av. Slobozia	Ialomita	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Av. Tandarei	Ialomita	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Av. Bacau	Bistrita	M	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98
Frunzeni	Bistrita	M	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98
Adjud	Trotus	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Sendreni	Siret	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Am. Tecuci	Barlad	M	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98	20 / 98
Umbraresti	Barlad	M	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98	5 / 98
Holboca	Bahlui	M	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98	6 / 98
TNMN station - Romanian Stretch [1]									
Bazias	Danube	L, M, R	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98
Pristol Novo - Selo	Danube	L, M, R	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98
Am. Arges	Danube	L, M, R,	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98
Chiciu - Silistra	Danube	L, M, R	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98
Reni	Danube	L, M, R	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98
Valcov	Danube	L, M, R	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98	10 / 98
Sulina	Danube	L, M, R	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98
Sf. Gheorghe	Danube	L, M, R	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98
Arges conf.	Arges	M	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98
Siret conf.	Siret	M	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98
Prut conf.	Prut	M	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98	1,8 / 98

Notes:

1. Number of records are referring to the suspended solids measurements
2. Sediment discharge records include any combination of suspended sediment and bed load
3. N and P records include any combination of nitrogen parameters or fractions
4. BOD and COD records include any combination of BOD and COD by any method
5. Heavy metals include any combination of heavy metals
6. Other toxins include any combination of other hazardous substances, including oil
7. Stating «NR» should identify stations with no record (i.e., no measurements) for a particular parameter
8. Example - Station 1 is a gauging station where there are 32 years of records including 1998 for water discharge, but where there are no water quality measurements.
9. Example - station 2 is gauging station where there are 2 years of records for all parameters, including 1998.

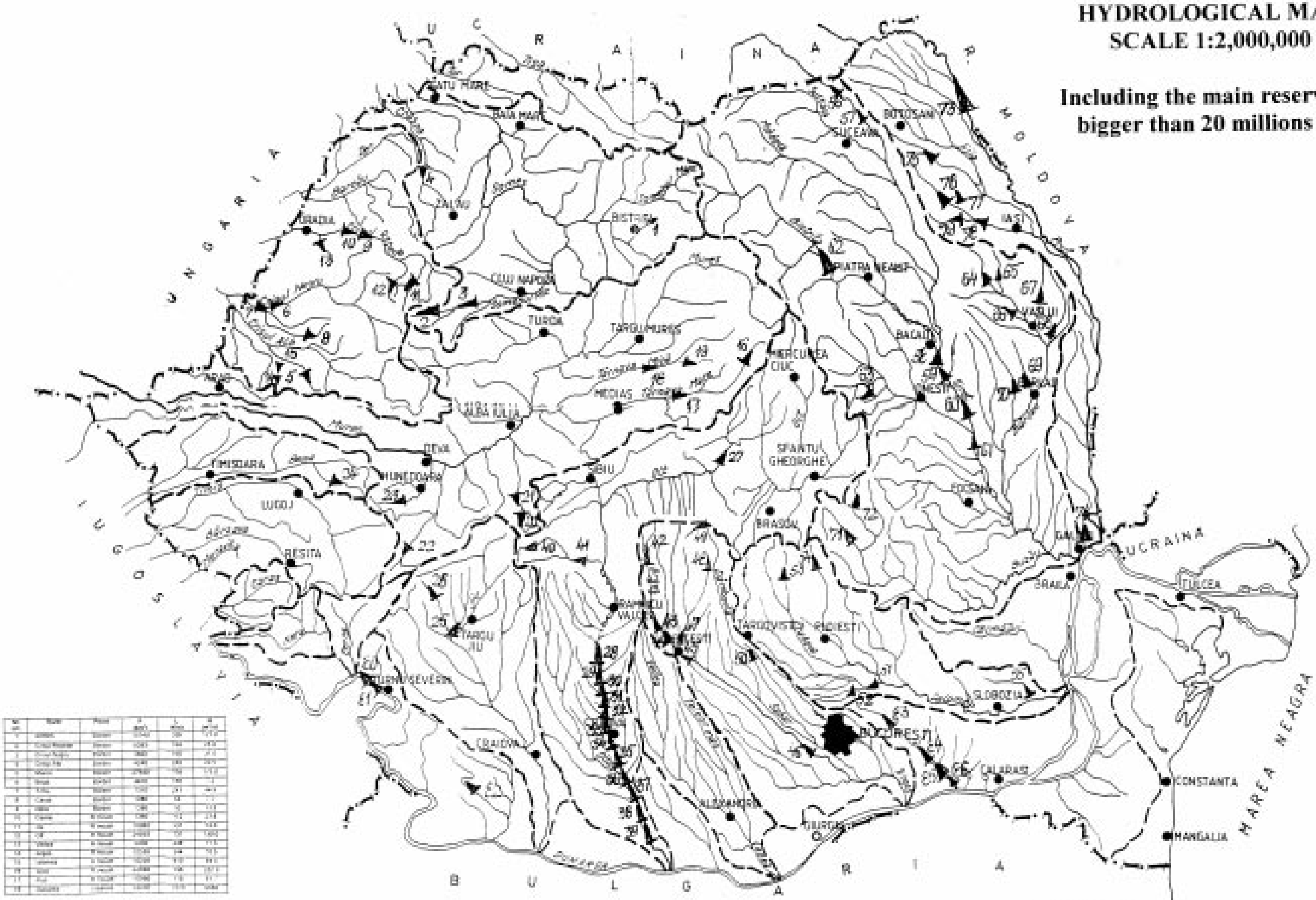
Annexes for Chapter 4

Annex 4.5.1
Hydrological Map (Scale 1:2.000.000) Including the Main Reservoirs from Romania

ROMANIA

HYDROLOGICAL MAP
SCALE 1:2,000,000

Including the main reservoirs bigger than 20 millions m^3



Annex 4.6.1

Annexes for Chapter 4

Annex 4.8.1
Gauging Stations Located Upstream and Downstream by the 71 Hot Spots from Industrial, Agricultural and Municipal Hot Spots - High Priority and Medium Priority (similar to Annex 3.1.1)

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Bazias Gauging Station L0020 M

(according with TNMN list)

River: Danube Km. 1071 Quality: 1994-I; 1995-I; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
6600	18		0,16	0,05	1,35	0,12	2,1									27.01.1994
5800	30		0,06	0,06	1,5	0,17	1,8									10.02.1994
6600	24		0,08	0,04	0,98	0,19	3,4									10.03.1994
7800	45		0,05	0,06	1,52	0,45	2,4									15.04.1994
6300	28		0,08	0,04	1,21	0,23	4									16.05.1994
5600	38		0,07	0,04	1,44	0,18	2,1									10.06.1994
3500	20		0,08	0,04	0,89	0,23	1,7									14.07.1994
2150	8		0,13	0,05	0,9	0,15	2,9									09.08.1994
2700	28		0,15	0,04	0,98	0,37	4,2									08.09.1994
2900	21		0,1	0,03	1,7	0,2	3,4									11.10.1994
3330	30		0,08	0,06	1,89	0,53	2,2									10.11.1994
2822	16		0,05	0,04	1,42	0,19	2									08.12.1994
5671	19		0,12	0,02	2,01	0,16	2,2									10.01.1995
6800	28		0,17	0,04	1,93	0,42	2,6									09.02.1995
7980	22		0,07	0,01	1,75	0,22	2,7									09.03.1995
8800	34		0,17	0,03	1,82	0,25	2,2									08.04.1995
7800	22		0,09	0,02	1,63	0,33	2,3									11.05.1995
6800	41		0,15	0,07	1,62	0,12	2									08.06.1995
6506	16		0,07	0,02	1,12	0,21	2,7									13.07.1995
2600	24		0,07	0,05	1,3	0,17	3,1									10.08.1995
6475	28		0,09	0,02	1,12	0,68	3,5									12.09.1995
4600	14		0,08	0,02	0,83	0,15	2,8									05.10.1995
2850	28		0,07	0,03	1,35	0,19	5,8									08.11.1995
2305	30		0,06	0,02	1,2	0,41	4,2									07.12.1995
8120	28		0,08	0,03	1,52	0,27	3,4									11.01.1996
3800	32		0,08	0,03	2,12	0,18	3,5									15.02.1996
3520	43		0,08	0,03	2,1	0,2	3,1									12.03.1996
9274	12		0,08	0,05	2,54	0,14	1,7									11.04.1996
7150	32		0,09	0,07	1,771	0,2808	2,9									09.05.1996
6539	23		0,07	0,05	1,21	0,12	2,7									06.06.1996
5217	16		0,08	0,018	1,656	0,118	1,5									11.07.1996
3228	24		0,08	0,07	0,94	0,19	2,8									08.08.1996
3950	20		0,07	0,07	1,288	0,23	2,7									05.09.1996
8100	20		0,04	0,06	0,9	0,16	2,4									03.10.1996
5829	18		0,08	0,018	1,587	0,0624	1,7									07.11.1996
7961	22		0,1	0,015	1,748	0,117	1,9									05.12.1996
7400	20		0,17	0,027	0,874	0,546	0									09.01.1997
4200	65		0	0,33	1,91	0,83	7,31									11.02.1997
6700	75		0	0,036	0,94	0,512	7,11									11.03.1997
6100	37		0,08	0,05	3,81	0,18	1,5									16.04.1997
7800	64		0,1	0,04	1,12	0,17	3,4									13.05.1997
4700	27		0,1	0,06	1,12	0,18	4									06.06.1997
6800	54		0,08	0,05	1,17	0,12	6,9									22.07.1997
4600	27		0,08	0,05	1,3	0,18	3,1									19.08.1997
3350	75		0,05	0,04	1,51	0,1	5,4									16.09.1997
3285	27		0,06	0,02	1,25	0,11	3,4									10.10.1997
3050	82		0,11	0,02	1,78	0,12	4,1									05.11.1997
5420	65		0,07	0,02	1,82	0,33	5,1									09.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Bazias Gauging Station L0020 R

(according with TNMN list)

River: Danube Km. 1071 Quality: 1994-I; 1995-I; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
6600	24		0,16	0,05	1,87	0,09	2,4									27.01.1994
5800	32		0,08	0,06	1,6	0,17	2,2									10.02.1994
6600	32		0,08	0,04	1,2	0,24	3,4									10.03.1994
7800	50		0,08	0,06	1,62	0,38	2,5									15.04.1994
6300	36		0,09	0,03	1,12	0,21	3,8									16.05.1994
5600	35		0,08	0,05	1,62	0,18	2									10.06.1994
3500	18		0,07	0,04	0,9	0,21	1,8									14.07.1994
2150	14		0,12	0,04	1,2	0,12	3									09.08.1994
2700	32		0,15	0,05	1,12	0,29	4,2									08.09.1994
2900	32		0,09	0,03	1,52	0,21	3,2									11.10.1994
3330	32		0,08	0,07	1,9	0,53	2,3									10.11.1994
2822	20		0,05	0,05	1,56	0,21	2,4									08.12.1994
5671	21		0,11	0,03	1,94	0,25	2,4									10.01.1995
6800	32		0,16	0,04	2,11	0,37	2,8									09.02.1995
7980	18		0,07	0,01	1,38	0,18	2,7									09.03.1995
8800	38		0,17	0,03	1,74	0,23	2,3									08.04.1995
7800	18		0,07	0,03	1,43	0,3	2,2									11.05.1995
6800	40		0,12	0,07	1,68	0,16	2									08.06.1995
6506	18		0,08	0,01	0,89	0,22	2,7									13.07.1995
2600	21		0,07	0,05	1,28	0,17	3									10.08.1995
6475	24		0,09	0,02	1,21	0,47	3,2									12.09.1995
4600	18		0,08	0,02	0,91	0,15	3,2									05.10.1995
2850	34		0,07	0,04	1,12	0,17	6,1									08.11.1995
2305	25		0,07	0,02	1,24	0,38	4,1									07.12.1995
7400	37		0,13	0,02	0,62	0,38	2,5									09.01.1997
4200	63		0,1	0,027	2,25	0,489	5,86									11.02.1997
6700	72		0,07	0,036	1,39	0,582	6,58									11.03.1997
6100	35		0,08	0,05	3,12	0,19	1,8									16.04.1997
7800	60		0,11	0,04	0,97	0,38	4,1									13.05.1997
4700	29		0,1	0,06	1,02	0,16	3,6									06.06.1997
6800	63		0,09	0,05	1,3	0,17	7,1									22.07.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Pristol Gauging Station L0090 L

(according with TNMN list)

River: Danube Km. 838 Quality: 1994-I; 1995-I; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
8250	36		0,15	0,03	1,75	0,12	3,3									19.01.1994
6060	46		0,14	0,03	2,15	0,4	3,8									16.02.1994
5980	31		0,14	0,02	1,28	0,18	3,2									16.03.1994
9820	17		0,12	0,04	1,92	0,12	1,7									27.04.1994
6260	37		0,15	0,03	1,36	0,15	3,5									18.05.1994
6980	45		0,12	0,05	1,78	0,2	2									15.06.1994
3420	36		0,1	0,05	0,85	0,05	2,2									20.07.1994
2090	7		0,12	0,05	1,1	0,08	2,3									10.08.1994
2640	26		0,1	0,05	1,12	0,11	2,1									14.09.1994
2760	27		0,1	0,03	1,52	0,1	3,5									12.10.1994
2978	30		0,1	0,03	1,61	0,39	2,9									16.11.1994
2969	24		0,15	0,04	1,62	0,31	2,7									14.12.1994
4135	37		0,14	0,03	1,22	0,4	2,8									18.01.1995
5799	36		0,09	0,03	2,49	1,04	3,4									15.02.1995
8207	50		0,09	0,01	1,35	0,12	4									15.03.1995
6830	23		0,17	0,05	1,93	0,15	2,1									26.04.1995
7735	23		0,06	0,04	1,4	0,45	1,6									17.05.1995
7310	31		0,12	0,07	1,68	0,18	1,8									27.06.1995
5338	28		0,09	0,03	1,27	0,03	2,1									19.07.1995
2590	27		0,07	0,06	1,76	0,19	3,1									12.08.1995
6425	22		0,12	0,03	1,44	0,05	2,2									13.09.1995
4100	19		0,11	0,03	0,8	0,12	3,6									07.10.1995
2880	52		0,1	0,04	1,05	0,12	5,9									15.11.1995
3699	54		0,1	0,05	1,46	0,4	6,2									15.12.1995
7776	59		0,1	0,01	1,96	0,217	3									17.01.1996
5058	87		0,12	0,03	0,9	0,21	3,7									14.02.1996
5302	37		0,09	0,02	1,79	0,82	3,4									14.03.1996
9273	16		0,11	0,06	2,29	0,12	2,2									11.04.1996
7697	68		0	0,03	1,8	0,04	1,9									15.05.1996
4220	18		0,1	0,06	0,45	0,23	3									19.06.1996
5151	29		0,15	0,03	1,5	0,05	1,2									17.07.1996
3192	35		0,12	0,07	0,94	0,25	3,2									13.08.1996
4915	27		0,17	0,04	1,1	0,03	1,8									11.09.1996
8370	27		0,06	0,06	1,15	0,16	2,4									02.10.1996
5325	66		0,1	0,019	2,205	0,34	2,5									13.11.1996
7019	63		0,09	0,023	2,205	0,31	2,1									11.12.1996
5170	66		0,11	0,01	2,21	0,2	4,7									21.01.1997
3880	62		0,1	0,027	1,77	0,334	5,08									12.02.1997
6530	71		0,06	0,027	2,63	0,077	6,16									12.03.1997
6226	33		0,07	0,06	2,75	0,17	2									17.04.1997
7988	70		0,11	0,03	1,98	0,4	4,1									14.05.1997
4772	29		0,11	0,06	1,33	0,14	3,2									12.06.1997
6187	65		0,09	0,07	2,45	0,21	5,8									23.07.1997
3712	30		0,1	0,06	1,14	0,2	3,4									24.08.1997
3102	67		0,06	0,03	1,57	0,4	5,8									17.09.1997
3230	38		0,06	0,02	1,52	0,1	3,4									12.10.1997
2767	67		0,1	0,04	2,2	0,42	5,1									06.11.1997
6150	69		0,08	0,04	1,3	0,51	11,6									10.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Pristol Gauging Station L0090 M

(according with TNMN list)

River: Danube Km. 838 Quality: 1994-I; 1995-I; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
8250	33		0,16	0,03	1,7	0,1	2,9									19.01.1994
6060	42		0,15	0,03	1,97	0,32	3,2									16.02.1994
5980	30		0,12	0,02	1,29	0,18	3									16.03.1994
9820	22		0,12	0,03	1,8	0,12	1,7									27.04.1994
6260	30		0,13	0,02	1,32	0,14	2,7									18.05.1994
6980	43		0,12	0,04	1,84	0,2	1,9									15.06.1994
3420	35		0,09	0,06	1,1	0,07	2,3									20.07.1994
2090	7		0,12	0,05	1,11	0,08	2,4									10.08.1994
2640	26		0,1	0,06	1,08	0,1	3									14.09.1994
2760	28		0,09	0,02	1,53	0,08	3,2									12.10.1994
2978	33		0,12	0,03	1,54	0,62	2,7									16.11.1994
2969	25		0,1	0,04	1,65	0,36	2,9									14.12.1994
4135	29		0,14	0,02	1,31	0,31	2,6									18.01.1995
5799	40		0,09	0,03	2,26	0,9	3,3									15.02.1995
8207	38		0,09	0,02	1,3	0,11	2,5									15.03.1995
6830	21		0,17	0,05	1,7	0,15	2,2									26.04.1995
7735	21		0,06	0,04	1,52	0,34	2,1									17.05.1995
7310	27		0,13	0,07	1,76	0,17	1,9									27.06.1995
5338	26		0,08	0,02	1,27	0,05	2,6									19.07.1995
2590	34		0,09	0,05	1,37	0,17	3,3									12.08.1995
6425	20		0,13	0,03	1,41	0,05	2									13.09.1995
4100	18		0,09	0,03	0,82	0,12	3,3									07.10.1995
2880	50		0,1	0,04	0,79	0,12	6,5									15.11.1995
3699	40		0,09	0,04	1,52	0,32	6									15.12.1995
7776	52		0,09	0,01	1,89	0,202	2,3									17.01.1996
5058	75		0,1	0,03	1,2	0,25	3,1									14.02.1996
5302	25		0,09	0,02	1,85	0,86	3,7									14.03.1996
9273	22		0,09	0,05	2,65	0,14	1,8									11.04.1996
7697	53		0	0,03	1,9	0,04	2									15.05.1996
4220	15		0,1	0,06	1,22	0,18	2,7									19.06.1996
5151	30		0,17	0,02	1,9	0,04	1,4									17.07.1996
3192	21		0,1	0,07	0,94	0,2	2,9									13.08.1996
4915	29		0,15	0,04	1,1	0,02	1,2									11.09.1996
8370	28		0,05	0,06	0,97	0,16	2,5									02.10.1996
5325	64		0,1	0,027	1,53	0,38	2,1									13.11.1996
7019	56		0,09	0,018	1,957	0,33	2,3									11.12.1996
5170	52		0,1	0,02	1,97	0,28	4,5									21.01.1997
3880	54		0	0,021	1,8	0,334	5,31									12.02.1997
6530	69		0	0,028	2,18	0,139	6,2									12.03.1997
6226	31		0,07	0,06	2,84	0,18	1,8									17.04.1997
7988	68		0,08	0,03	1,17	0,14	4,3									14.05.1997
4772	30		0,09	0,06	1,15	0,14	3									12.06.1997
6187	58		0,08	0,06	1,91	0,47	6,1									23.07.1997
3712	22		0,09	0,06	1,26	0,24	3,2									24.08.1997
3102	61		0,05	0,02	1,95	0,54	5,1									17.09.1997
3230	32		0,06	0,03	1,52	0,1	3,5									12.10.1997
2767	65		0,09	0,04	1,77	0,39	4,3									06.11.1997
6150	63		0,08	0,04	1,69	0,58	11,9									10.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Pristol Gauging Station L0090 R

(according with TNMN list)

River: Danube Km. 838 Quality: 1994-I; 1995-I; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
8250	29		0,15	0,04	1,65	0,15	2,8									19.01.1994
6060	43		0,15	0,02	2,2	0,38	3,3									16.02.1994
5980	31		0,14	0,03	1,31	0,2	3,4									16.03.1994
9820	27		0,18	0,04	1,85	0,19	1,8									27.04.1994
6260	33		0,15	0,03	1,41	0,16	2,7									18.05.1994
6980	35		0,12	0,04	1,78	0,16	1,9									15.06.1994
3420	35		0,09	0,06	0,85	0,05	1,8									20.07.1994
2090	7		0,12	0,05	1,15	0,1	2,7									10.08.1994
2640	24		0,1	0,05	1,2	0,15	3,2									14.09.1994
2760	29		0,16	0,03	1,52	0,06	3,5									12.10.1994
2978	26		0,1	0,03	1,56	0,49	2,7									16.11.1994
2969	24		0,1	0,04	1,65	0,34	3									14.12.1994
4135	35		0,16	0,02	1,18	0,34	2,8									18.01.1995
5799	37		0,09	0,03	2,25	1,02	3,3									15.02.1995
8207	40		0,14	0,02	1,35	0,11	2,9									15.03.1995
6830	18		0,17	0,05	1,28	0,19	1,9									26.04.1995
7735	19		0,07	0,04	1,41	0,47	2,1									17.05.1995
7310	25		0,15	0,06	1,75	0,16	1,7									27.06.1995
5338	26		0,08	0,02	1,35	0,04	2,2									19.07.1995
2590	40		0,07	0,06	1,39	0,17	3									12.08.1995
6425	18		0,09	0,03	1,48	0,05	2									13.09.1995
4100	27		0,09	0,03	0,77	0,17	3,2									07.10.1995
2880	54		0,09	0,04	0,94	0,19	6,1									15.11.1995
3699	50		0,09	0,05	1,58	0,41	6,2									15.12.1995
7776	53		0,11	0,01	1,99	0,396	2,7									17.01.1996
5058	82		0,12	0,05	1,2	0,18	3,2									14.02.1996
5302	25		0,11	0,02	1,95	0,93	3,8									14.03.1996
9273	18		0,1	0,06	2,94	0,16	2,1									11.04.1996
7697	49		0	0,03	1,9	0,05	2,1									15.05.1996
4220	25		0,09	0,07	1,22	0,23	2,8									19.06.1996
5151	33		0,17	0,02	1,5	0,04	1									17.07.1996
3192	19		0,12	0,08	0,98	0,25	3									13.08.1996
4915	29		0,17	0,03	1,1	0,02	1,2									11.09.1996
8370	21		0,06	0,06	0,9	0,2	2,2									02.10.1996
5325	62		0,1	0,035	2,407	0,32	2,5									13.11.1996
7019	64		0,08	0,021	2,565	0,34	2,1									11.12.1996
5170	46		0,09	0,02	1,85	0,25	4,8									21.01.1997
3880	66		0,12	0,021	1,91	0,357	4,29									12.02.1997
6530	73		0,06	0,027	2,34	0,209	5,87									12.03.1997
6226	37		0,07	0,06	3,31	0,19	2,1									17.04.1997
7988	66		0,19	0,03	1,98	0,49	4,3									14.05.1997
4772	34		0,11	0,07	1,33	0,18	3,3									12.06.1997
6187	68		0,09	0,06	1,53	0,38	6,3									23.07.1997
3712	34		0,12	0,07	1,3	0,2	3,5									24.08.1997
3102	65		0,06	0,02	1,91	0,85	4,9									17.09.1997
3230	30		0,08	0,03	1,46	0,12	3,2									12.10.1997
2767	61		0,09	0,04	1,77	0,36	6,1									06.11.1997
6150	66		0,09	0,05	1,39	0,53	12,1									10.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the us. Arge• Gauging Station L0240 L

(according with TNMN list)

River: Danube Km. 432 Quality: 1994-II; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
10630	19		0,11	0,05	3,8	0,21	2,5									16.04.1996
4110	25		0,07	0,07	0,88	0,23	3,2									27.06.1996
3770	34		0,13	0,08	1,05	0,25	3,4									22.08.1996
7516	38		0,08	0,01	1,88	0,2	2,6									01.10.1996
7,68	78		0,19	0,01	2,18	0,22	2,5									14.11.1996
8033	56		0,14	0,02	1,2	0,18	2,8									13.12.1996
7590	50		0,08	0,02	1,81	0,45	2,3									16.01.1997
4840	66		0,04	0,02	2,02	0,3	3,5									13.02.1997
7330	72		0,1	0,02	2,4	0,18	3,8									13.03.1997
6740	37		0,09	0,04	2,21	0,19	2,3									22.04.1997
9191	66		0,1	0,04	2,21	0,25	3,8									15.05.1997
5870	37		0,09	0,06	0,99	0,27	3,6									18.06.1997
7910	68		0,08	0,02	1,81	0,28	3,3									24.07.1997
4406	30		0,06	0,03	1,28	0,25	4									28.08.1997
3722	52		0,09	0,02	2,1	0,35	3,4									18.09.1997
3830	32		0,06	0,03	1,62	0,25	4									20.10.1997
3350	63		0,12	0,03	1,6	0,38	3,1									07.11.1997
5972	72		0,1	0,01	2	0,15	3,1									11.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the us. Arge• Gauging Station L0240 M

(according with TNMN list)

River: Danube Km. 432 Quality: 1994-II; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
10630	23		0,16	0,06	3,59	0,16	2,1									16.04.1996
4110	16		0,13	0,06	0,95	0,21	2,9									27.06.1996
3770	25		0,12	0,07	1,17	0,23	3,1									22.08.1996
5455	70		0,15	0,01	1,8	0,18	2,1									14.11.1996
8033	58		0,15	0,02	1,3	0,17	2,9									13.12.1996
7590	42		0,09	0,02	2,02	0,29	2,8									16.01.1997
7330	60		0,1	0,01	2,4	0,16	3,3									13.03.1997
6740	39		0,1	0,05	2,31	0,18	2,1									22.04.1997
9191	58		0,08	0,04	1,82	0,15	3,7									15.05.1997
5870	29		0,1	0,05	0,96	0,17	3,4									18.06.1997
7910	60		0,06	0,02	1,45	0,26	3,8									24.07.1997
4406	30		0,07	0,03	1,32	0,2	3,6									28.08.1997
3722	45		0,07	0,01	2	0,28	3,3									18.09.1997
3830	32		0,07	0,03	1,5	0,2	3,5									20.10.1997
3350	78		0,09	0,02	1,3	0,29	3,5									07.11.1997
5972	65		0,1	0,01	2,1	0,17	3,7									11.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the us. Arge• Gauging Station L0240 R

(according with TNMN list)

River: Danube Km. 432 Quality: 1994-II; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
7590	39		0,09	0,02	1,94	0,38	3,1									16.01.1997
7330	64		0,1	0,02	2,6	0,18	3,4									13.03.1997
6740	34		0,1	0,04	2,4	0,15	2,2									22.04.1997
9191	62		0,09	0,04	1,93	0,15	3,6									15.05.1997
5870	31		0,12	0,05	0,96	0,16	3,5									18.06.1997
7910	64		0,06	0,03	1,63	0,26	3,9									24.07.1997
4406	32		0,06	0,03	1,25	0,22	3,9									28.08.1997
3722	49		0,09	0,02	2,2	0,3	3,3									18.09.1997
3830	34		0,06	0,03	1,52	0,22	3,8									20.10.1997
3350	69		0,12	0,02	1,5	0,3	3,9									07.11.1997
5972	77		0,11	0,02	2	0,18	3,6									11.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Chiciu Gauging Station L0280 L

(according with TNMN list)

River: Danube Km. 375 Quality: 1994-II; 1995-II; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
7340	62		0,18	0,05	1,8	0,39	3,3									31.01.1994
6020	39		0,14	0,03	2,2	0,32	4,5									22.02.1994
6100	40		0,15	0,02	1,55	0,24	3,5									22.03.1994
10140	34		0,17	0,04	2,08	0,18	2,6									19.04.1994
4480	25		0,14	0,03	1,72	0,07	4									26.05.1994
6330	45		0,12	0,05	1,8	0,13	1,8									21.06.1994
3550	44		0,16	0,03	1,02	0,37	4,2									26.07.1994
2290	4		0,11	0,07	1,15	0,19	3,3									17.08.1994
2530	12		0,13	0,03	1,64	0,32	4,5									20.09.1994
3070	32		0,17	0,04	1,67	0,3	4,8									19.10.1994
3760	16		0,16	0,04	1,98	0,45	2,5									22.11.1994
3420	13		0,12	0,03	1,82	0,91	4,1									15.12.1994
4240	51		0,13	0,02	1,4	0,67	3									24.01.1995
6055	57		0,14	0,05	2,85	2,02	3,1									21.02.1995
7790	62		0,13	0,03	2,24	2,47	4									21.03.1995
8170	40		0,11	0,04	1,67	0,19	2,1									03.05.1995
8990	52		0,06	0,09	1,73	1,11	2,6									23.05.1995
8750	30		0,16	0,09	1,38	0,14	2,5									05.07.1995
5450	45		0,12	0,04	1,28	0,1	3,8									25.07.1995
3515	32		0,08	0,05	0,85	0,21	3,4									18.08.1995
6770	98		0,11	0,02	0,49	0,4	3,1									19.09.1995
3510	28		0,15	0,03	1,12	0,2	3,7									18.10.1995
4150	62		0,12	0,03	1,24	0,45	4,9									21.11.1995
4460	56		0,09	0,04	2,02	0	3,4									14.12.1995
6130	93		0,08	0,029	1,31	0,401	3,7									31.01.1996
4930	64		0,12	0,02	1,87	0,77	3,3									20.02.1996
5380	58		0,15	0,01	1,76	1,78	3,2									19.03.1996
10700	36		0,09	0,06	2,66	0,16	2,4									17.04.1996
9270	134,2		0,101	0,0783	0,805	0,368	3,13									20.05.1996
9100	36		0,101	0,01	1,3	0,41	3,2									21.05.1996
3890	20		0,12	0,06	0,95	0,21	2,9									28.06.1996
5490	22		0,11	0,02	1,47	0,77	1,9									23.07.1996
3300	20		0,12	0,07	1,08	0,23	3,1									23.08.1996
6830	34,8		0,12	0,0477	1,71	0,187	3,07									27.09.1996
6960	25		0,13	0,04	1,78	0,37	3									30.10.1996
5920	10		0,12	0,027	1,6	0,3	2,04									26.11.1996
7370	18		0,13	0,04	1,77	0,27	3									18.12.1996
6280	15		0,156	0,023	1,8	0,675	4,16									30.01.1997
6130	16		0,081	0,017	1,7	0,768	4,37									18.02.1997
5860	21		0,156	0,019	1,5	0,12	3									17.03.1997
7166	36		0,1	0,05	3	0,16	2,2									22.04.1997
9200	13		0,08	0,03	2,15	0,23	3									20.05.1997
5890	36		0,11	0,02	0,76	0,18	3,2									19.06.1997
6740	10		0,07	0,07	1,53	0,39	4,4									22.07.1997
4446	32		0,12	0,06	0,85	0,21	3,4									28.08.1997
4030	66		0,1	0,03	1,6	0,37	4,1									16.09.1997
4810	33		0,07	0,03	1,5	0,19	3,5									21.10.1997
3800	12		0,06	0,03	1,47	0,46	3,9									18.11.1997
5610	29		0,05	0,02	1,98	0,71	2,1									09.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the us. Arge• Gauging Station L0240 M

(according with TNMN list)

River: Danube Km. 432 Quality: 1994-II; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
10630	23		0,16	0,06	3,59	0,16	2,1									16.04.1996
4110	16		0,13	0,06	0,95	0,21	2,9									27.06.1996
3770	25		0,12	0,07	1,17	0,23	3,1									22.08.1996
5455	70		0,15	0,01	1,8	0,18	2,1									14.11.1996
8033	58		0,15	0,02	1,3	0,17	2,9									13.12.1996
7590	42		0,09	0,02	2,02	0,29	2,8									16.01.1997
7330	60		0,1	0,01	2,4	0,16	3,3									13.03.1997
6740	39		0,1	0,05	2,31	0,18	2,1									22.04.1997
9191	58		0,08	0,04	1,82	0,15	3,7									15.05.1997
5870	29		0,1	0,05	0,96	0,17	3,4									18.06.1997
7910	60		0,06	0,02	1,45	0,26	3,8									24.07.1997
4406	30		0,07	0,03	1,32	0,2	3,6									28.08.1997
3722	45		0,07	0,01	2	0,28	3,3									18.09.1997
3830	32		0,07	0,03	1,5	0,2	3,5									20.10.1997
3350	78		0,09	0,02	1,3	0,29	3,5									07.11.1997
5972	65		0,1	0,01	2,1	0,17	3,7									11.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Chiciu Gauging Station L0280 R

(according with TNMN list)

River: Danube   Km. 375   Quality: 1994-II; 1995-II; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
7340	59		0,15	0,04	1,79	0,22	2,9									31.01.1994
6020	32		0,12	0,02	2,05	0,2	4									22.02.1994
6100	28		0,13	0,03	1,5	0,14	3,6									22.03.1994
10140	31		0,15	0,03	1,65	0,16	2,6									19.04.1994
5770	20		0,15	0,03	1,76	0,18	4,2									26.05.1994
6330	47		0,12	0,04	1,75	0,13	2									21.06.1994
3550	42		0,12	0,02	1,1	0,32	4,1									26.07.1994
2290	2		0,09	0,07	1,08	0,19	3,2									17.08.1994
2530	18		0,13	0,03	1,57	0,24	4,5									20.09.1994
3070	26		0,14	0,02	1,62	0,27	4,3									19.10.1994
3760	13		0,17	0,03	1,94	0,76	2,6									22.11.1994
3420	12		0,09	0,03	2,04	0,41	4									15.12.1994
4240	43		0,13	0,02	1,44	0,62	2,6									24.01.1995
6055	51		0,1	0,03	2,89	0,9	2									21.02.1995
7790	60		0,1	0,02	2,23	0,6	2,8									21.03.1995
8170	33		0,19	0,04	1,82	0,19	2									03.05.1995
8990	59		0,09	0,05	1,6	0,89	1,2									23.05.1995
8750	26		0,18	0,09	1,23	0,12	2,6									05.07.1995
5450	31		0,09	0,01	1,09	0,03	2,6									25.07.1995
3515	27		0,06	0,06	0,95	0,19	3,5									18.08.1995
6770	72		0,11	0,02	0,65	0,5	3,5									19.09.1995
3510	22		0,15	0,04	1,22	0,19	3,5									18.10.1995
4150	76		0,12	0,03	1,17	0,42	4,3									21.11.1995
4460	32		0,08	0,05	1,89	0	2									14.12.1995
6130	99		0,08	0,03	1,37	0,407	2,9									31.01.1996
4930	46		0,12	0,02	1,71	0,32	2,1									20.02.1996
5380	49		0,13	0,01	1,68	0,63	2,3									19.03.1996
10700	39		0,08	0,06	2,23	0,16	2,2									17.04.1996
9270	147,2		0,098	0,072	0,782	0,381	3,13									20.05.1996
9100	40		0,098	0,02	1,6	0,31	4									21.05.1996
3890	27		0,12	0,06	1,02	0,21	2,8									28.06.1996
5490	20		0,1	0,01	1,28	0,85	1,8									23.07.1996
3300	33		0,12	0,07	1,26	0,23	3									23.08.1996
6830	35,8		0,12	0,0501	1,83	0,186	3,4									27.09.1996
6960	24		0,13	0,04	1,65	0,39	3,1									30.10.1996
5920	15		0,13	0,022	1,6	0,201	2,7									26.11.1996
7370	18		0,12	0,04	1,59	0,27	3,1									18.12.1996
6280	19		0,119	0,031	1,5	0,567	3,56									30.01.1997
6130	19		0,113	0,019	1,5	0,443	2,89									18.02.1997
5860	27		0,127	0,015	1,8	0,09	2,27									17.03.1997
7166	22		0,11	0,07	3,12	0,16	2,1									22.04.1997
9200	10		0,08	0,03	2,37	0,16	2,8									20.05.1997
5890	30		0,11	0,03	0,91	0,15	3,4									19.06.1997
6740	10		0,08	0,06	1,54	0,46	4									22.07.1997
4446	34		0,1	0,08	0,9	0,21	3,5									28.08.1997
4030	40		0,1	0,02	1,38	0,34	4,3									16.09.1997
4810	35		0,06	0,04	1,52	0,2	3,6									21.10.1997
3800	15		0,1	0,02	1,66	0,84	4,8									18.11.1997
5610	8		0,07	0,03	1,76	0,16	3,4									09.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Chiciu Gauging Station L0280 L

(according with TNMN list)

River: Danube Km. 375 Quality: 1994-II; 1995-II; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
7340	62		0,18	0,05	1,8	0,39	3,3									31.01.1994
6020	39		0,14	0,03	2,2	0,32	4,5									22.02.1994
6100	40		0,15	0,02	1,55	0,24	3,5									22.03.1994
10140	34		0,17	0,04	2,08	0,18	2,6									19.04.1994
4480	25		0,14	0,03	1,72	0,07	4									26.05.1994
6330	45		0,12	0,05	1,8	0,13	1,8									21.06.1994
3550	44		0,16	0,03	1,02	0,37	4,2									26.07.1994
2290	4		0,11	0,07	1,15	0,19	3,3									17.08.1994
2530	12		0,13	0,03	1,64	0,32	4,5									20.09.1994
3070	32		0,17	0,04	1,67	0,3	4,8									19.10.1994
3760	16		0,16	0,04	1,98	0,45	2,5									22.11.1994
3420	13		0,12	0,03	1,82	0,91	4,1									15.12.1994
4240	51		0,13	0,02	1,4	0,67	3									24.01.1995
6055	57		0,14	0,05	2,85	2,02	3,1									21.02.1995
7790	62		0,13	0,03	2,24	2,47	4									21.03.1995
8170	40		0,11	0,04	1,67	0,19	2,1									03.05.1995
8990	52		0,06	0,09	1,73	1,11	2,6									23.05.1995
8750	30		0,16	0,09	1,38	0,14	2,5									05.07.1995
5450	45		0,12	0,04	1,28	0,1	3,8									25.07.1995
3515	32		0,08	0,05	0,85	0,21	3,4									18.08.1995
6770	98		0,11	0,02	0,49	0,4	3,1									19.09.1995
3510	28		0,15	0,03	1,12	0,2	3,7									18.10.1995
4150	62		0,12	0,03	1,24	0,45	4,9									21.11.1995
4460	56		0,09	0,04	2,02	0	3,4									14.12.1995
6130	93		0,08	0,029	1,31	0,401	3,7									31.01.1996
4930	64		0,12	0,02	1,87	0,77	3,3									20.02.1996
5380	58		0,15	0,01	1,76	1,78	3,2									19.03.1996
10700	36		0,09	0,06	2,66	0,16	2,4									17.04.1996
9270	134,2		0,101	0,0783	0,805	0,368	3,13									20.05.1996
9100	36		0,101	0,01	1,3	0,41	3,2									21.05.1996
3890	20		0,12	0,06	0,95	0,21	2,9									28.06.1996
5490	22		0,11	0,02	1,47	0,77	1,9									23.07.1996
3300	20		0,12	0,07	1,08	0,23	3,1									23.08.1996
6830	34,8		0,12	0,0477	1,71	0,187	3,07									27.09.1996
6960	25		0,13	0,04	1,78	0,37	3									30.10.1996
5920	10		0,12	0,027	1,6	0,3	2,04									26.11.1996
7370	18		0,13	0,04	1,77	0,27	3									18.12.1996
6280	15		0,156	0,023	1,8	0,675	4,16									30.01.1997
6130	16		0,081	0,017	1,7	0,768	4,37									18.02.1997
5860	21		0,156	0,019	1,5	0,12	3									17.03.1997
7166	36		0,1	0,05	3	0,16	2,2									22.04.1997
9200	13		0,08	0,03	2,15	0,23	3									20.05.1997
5890	36		0,11	0,02	0,76	0,18	3,2									19.06.1997
6740	10		0,07	0,07	1,53	0,39	4,4									22.07.1997
4446	32		0,12	0,06	0,85	0,21	3,4									28.08.1997
4030	66		0,1	0,03	1,6	0,37	4,1									16.09.1997
4810	33		0,07	0,03	1,5	0,19	3,5									21.10.1997
3800	12		0,06	0,03	1,47	0,46	3,9									18.11.1997
5610	29		0,05	0,02	1,98	0,71	2,1									09.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Reni Gauging Station L0430 M

(according with TNMN list)

River: Danube Km. 131,5 Quality: 1994-II; 1995-II; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
4361	48		0,18	0,05	1,43	0,27	2,7									27.01.1994
4389	49		0,18	0,02	1,41	0,27	2,8									24.02.1994
4416	51		0,09	0,02	0,55	0,24	2									23.03.1994
4446	33		0,12	0,05	1,48	0,16	2									22.04.1994
4480	79		0,02	0,04	1,07	0,12	4,3									26.05.1994
4508	33		0,16	0,06	2,14	0,27	2,1									23.06.1994
4543	27		0,08	0,01	0,85	0,14	2,4									28.07.1994
4564	19		0,01	0,09	1,33	0,23	2,4									18.08.1994
4602	34		0,11	0,04	1,85	0,25	2,5									25.09.1994
4629	22		0,16	0,05	1,6	0,3	4,2									22.10.1994
4662	60		0,19	0,1	0,96	0,45	3,2									24.11.1994
4687	173		0,11	0,02	1,7	0,35	2,7									19.12.1994
4430	51		0,15	0,02	1,22	0,67	2,9									26.01.1995
6200	60		0,19	0,02	2,08	0,49	3									23.02.1995
7650	63		0,13	0,02	0,37	0,17	2,7									23.03.1995
7390	41		0,2	0,05	2,42	0,19	1,9									05.05.1995
9200	72		0,17	0,02	0,42	0,08	2,8									25.06.1995
9010	56		0,18	0,1	1,65	0,16	2,2									~~06.07.1995~~
5860	38		0,09	0,06	1,25	0,36	4,5									27.07.1995
3280	24		0,1	0,06	0,95	0,19	3,7									20.08.1995
6790	22		0,13	0,04	0,85	0,16	3,1									21.09.1995
4060	18		0,18	0,05	0,85	0,14	3,5									20.10.1995
4200	50		0,14	0,06	1,81	0,41	4,1									23.11.1995
5270	26		0,12	0,03	1,45	0,52	3,3									08.12.1995
8350	36		0,08	0,03	2,08	0,32	2,1									25.01.1996
4170	44		0,12	0,03	2,27	0,39	1,9									22.02.1996
5930	24		0,11	0,02	2,16	0,25	3,3									21.03.1996
11400	55		0,1	0,07	2,13	0,16	2,2									18.04.1996
9890	17		0,12	0,05	2,07	0,2	3									23.05.1996
4500	30		0,1	0,06	1,02	0,16	2,8									29.06.1996
5450	100		0,1	0,05	1,29	0,15	2,8									25.07.1996
3800	28		0,09	0,07	1,01	0,19	3									25.08.1996
5580	38		0,0913	0,06	1,77	0,311	3,8									19.09.1996
7030	27		0,11	0,04	1,7	0,41	3,4									29.10.1996
6730	32		0,1	0,032	2	0,28	2,84									28.11.1996
8350	14		0,11	0,04	1,93	0,39	2,3									19.12.1996
6630	8		0,104	0,021	1,9	0,63	4,6									27.01.1997
5130	4		0,163	0,038	1,2	0,619	4,95									20.02.1997
6990	8		0,195	0,012	1,7	0,149	3,54									19.03.1997
7800	69		0,13	0,05	1,6	0,18	2,1									23.04.1997
8650	14		0,1	0,02	1,46	0,2	2,4									27.05.1997
6674	24		0,16	0,06	0,84	0,15	6,4									22.06.1997
7060	20		0,06	0,07	0,91	0,43	2,8									24.07.1997
6030	57		0,08	0,05	0,84	0,18	3,5									30.08.1997
4120	12		0,06	0,02	1,74	0,45	3,4									24.09.1997
5450	38		0,06	0,04	1,57	0,2	3,5									22.10.1997
5690	23		0,08	0,02	2,01	0,69	3,2									28.11.1997
6400	12		0,03	0,02	2,19	0,26	2,9									17.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Reni Gauging Station L0430 R

(according with TNMN list)

River: Danube Km. 131,5 Quality: 1994-II; 1995-II; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
4361	68		0,2	0,06	1,6	0,36	2,6									27.01.1994
4389	56		0,17	0,03	1,94	0,29	3									24.02.1994
4416	60		0,1	0,02	0,44	0,33	2,2									23.03.1994
4446	25		0,14	0,05	2,4	0,23	2,2									22.04.1994
4480	84		0,02	0,01	0,99	0,15	4,6									26.05.1994
4508	38		0,17	0,06	2	0,22	2									23.06.1994
4543	45		0,07	0,01	0,85	0,18	2,6									28.07.1994
4564	16		0,1	0,08	0,68	0,25	2,5									18.08.1994
4602	44		0,12	0,05	1,67	0,29	2,5									25.09.1994
4629	26		0,18	0,05	1,56	0,32	4,2									22.10.1994
4662	65		0,17	0,1	0,96	0,41	2,9									24.11.1994
4687	200		0,12	0,02	1,83	0,4	3									19.12.1994
4430	60		0,15	0,02	1,26	0,71	3,6									26.01.1995
6200	58		0,2	0,02	2,64	0,78	3,6									23.02.1995
7650	98		0,12	0,02	0,42	0,21	2,8									23.03.1995
7390	69		0,21	0,05	2,2	0,25	2,1									05.05.1995
8924	69		0,07	0,02	0,36	0,08	2,8									25.05.1995
9010	41		0,18	0,09	1,95	0,17	2,5									06.07.1995
5860	40		0,08	0,04	1,22	0,22	4,3									27.07.1995
3280	29		0,1	0,07	1,2	0,23	3,4									20.08.1995
6790	62		0,13	0,04	0,72	0,16	3,2									21.09.1995
4060	29		0,18	0,04	1,24	0,16	3,6									20.10.1995
4200	48		0,14	0,06	1,78	0,38	4									23.11.1995
5270	22		0,12	0,03	1,39	0,57	4,3									08.12.1995
8350	24		0,09	0,03	1,76	0,28	2									25.01.1996
4170	34		0,11	0,03	2,27	0,39	2									22.02.1996
5930	30		0,11	0,03	2,16	0,38	3,1									21.03.1996
11400	45		0,11	0,06	2,01	0,19	2,5									18.04.1996
9890	11		0,12	0,05	2,07	0,2	3,2									23.05.1996
4500	21		0,1	0,07	1,44	0,21	3									29.06.1996
5450	88		0,1	0,04	1,29	0,15	2,3									25.07.1996
3800	27		0,1	0,08	1,03	0,23	3,2									25.08.1996
5580	36		0,0913	0,06	1,68	0,233	3,7									19.09.1996
7030	21		0,11	0,04	1,65	0,43	3,5									29.10.1996
6730	30		0,113	0,029	1,8	0,352	2,41									28.11.1996
8350	17		0,1	0,04	1,89	0,39	2,6									19.12.1996
6630	11		0,169	0,031	1,12	0,815	3,77									27.01.1997
5130	5		0,11	0,092	1,6	0,236	3,77									20.02.1997
6990	15		0,123	0,012	1,9	0,129	3,07									19.03.1997
7800	41		0,14	0,09	1,8	0,19	2,2									23.04.1997
8650	16		0,08	0,02	1,46	0,33	3,5									27.05.1997
6674	21		0,16	0,07	0,9	0,16	6,3									22.06.1997
7060	18		0,06	0,07	1,55	0,4	2,8									24.07.1997
6030	50		0,09	0,07	0,84	0,2	3,6									30.08.1997
4120	84		0,05	0,02	1,48	0,43	3,1									24.09.1997
5450	38		0,07	0,03	1,52	0,22	3,8									22.10.1997
5690	19		0,06	0,03	2,04	0,94	3,9									28.11.1997
6400	25		0,03	0,02	2,22	0,44	2,5									17.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Vâlcov Gauging Station L0450 L

(according with TNMN list)

River: Danube Km. 33,34 Quality: 1994-II; 1995-I; 1996-III

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
4690	70		0,09	0,06	1,66	0,21	1,6									28.01.1994
3460	50		0,1	0,02	2,11	0,17	2,8									25.02.1994
3450	25		0,04	0,05	2,38	0,05	3,2									25.03.1994
4360	42		0,14	0,04	2	0,23	2,5									22.04.1994
3580	34		0,05	0,03	1,41	0,29	3,2									27.05.1994
3750	34		0,15	0,06	1,77	0,18	2,4									24.06.1994
2280	36		0,1	0,04	1,38	0,1	3,1									29.07.1994
1580	28		0,11	0,08	1,31	0,23	2,3									18.08.1994
1760	47		0,11	0,05	1,41	0,32	2,8									26.09.1994
1950	31		0,26	0,06	1,1	0,32	3,2									22.10.1994
2220	34		0,07	0,05	1,85	0,15	2,6									25.11.1994
2000	38		0,12	0,04	1,95	0,51	3,4									20.12.1994
2550	86		0,16	0,03	2	0,24	3,3									27.01.1995
3330	50		0,1	0,05	2,24	0,14	2,5									24.02.1995
4290	96		0,09	0,03	1,77	0,11	2									24.03.1995
5170	54		0,2	0,05	2,42	0,25	2									05.05.1995
4920	93		0,09	0,09	1,73	0,35	3,4									26.05.1995
4680	52		0,18	0,1	2,03	0,16	2,2									06.07.1995
3260	18		0,1	0,07	1,05	0,31	3,5									28.07.1995
1960	28		0,09	0,07	1,42	0,21	3,5									20.08.1995
3710	37		0,09	0,03	1,21	0,78	3									22.09.1995
2530	21		0,22	0,04	1,05	0,19	3,7									20.10.1995
2420	121		0,12	0,05	1,28	0,59	3,6									24.11.1995
2650	39		0,1	0,03	1,31	0,63	4,3									19.12.1995
4070	121		0,09	0,038	1,026	0,3	2,2									26.01.1996
2470	50		0,1	0,05	2,24	0,14	2,5									24.02.1996
3000	71,8		0,09	0,032	1,7	0,23	2,84									21.03.1996
5410	61		0,1	0,05	1,32	0,19	2,3									18.04.1996
4990	81,75		0,09	0,072	1,28	0,31	1,91									26.05.1996
2430	23		0,11	0,07	1,45	0,31	3,1									29.06.1996
2550	27,1		0,09	0,03	1,39	0,21	3									26.07.1996
2090	37		0,07	0,06	0,92	0,27	3,3									25.08.1996
2680	70,1		0,08	0,06	1,12	0,19	2,94									20.09.1996
4290	17		0,12	0,03	1,81	0,41	2,9									23.10.1996
3000	17		0,1	0,03	1,81	0,31	2,9									29.10.1996
3210	16		0,09	0,038	1,66	0,27	1,87									20.11.1996
4540	42,9		0,08	0,025	1,17	0,18	1,88									17.12.1996
4230	36,5		0,071	0,017	1,39	0,463	2,19									21.01.1997
3780	58		0,033	0,059	1,53	0,93	2,89									26.02.1997
3330	41,87		0,143	0,025	1,98	0,555	1,77									24.03.1997
3860	65		0,14	0,05	1,6	0,21	2,3									23.04.1997
4300	19		0,08	0,03	0,94	0,34	2,7									28.05.1997
4047	34		0,12	0,06	0,98	0,24	3,6									23.06.1997
3380	62		0,06	0,06	0,68	0,36	2,5									25.07.1997
3000	76		0,08	0,06	0,84	0,24	3,8									30.08.1997
2540	14		0,07	0,03	1,34	0,35	3,9									19.09.1997
3120	42		0,08	0,03	1,5	0,23	3,7									22.10.1997
2900	9		0,08	0,03	1,78	0,71	3,2									26.11.1997
3290	34		0,05	0,01	2,28	0,26	2,4									16.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Vâlcov Gauging Station L0450 M

(according with TNMN list)

River: Danube Km. 33,34 Quality: 1994-II; 1995-I; 1996-III

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals				Date
				NO2	NO3	NH4	CBO_5	
4690	60		0,1	0,04	1,64	0,36	1,7	28.01.1994
3460	40		0,1	0,02	1,94	0,17	2,8	25.02.1994
3450	45		0,1	0,05	2,27	0,03	3,1	25.03.1994
4360	35		0,12	0,05	2,03	0,16	2,6	22.04.1994
3580	35		0,07	0,04	1,77	0,17	3,3	27.05.1994
3750	48		0,15	0,06	2,12	0,24	2	24.06.1994
2280	40		0,09	0,04	1,38	0,16	3,5	29.07.1994
1580	18		0,11	0,08	1,36	0,21	2,3	18.08.1994
1760	37		0,14	0,05	1,52	0,29	2,7	26.09.1994
1950	32		0,15	0,05	1,6	0,3	3,5	22.10.1994
2220	30		0,07	0,05	1,86	0,14	2,6	25.11.1994
2000	35		0,12	0,04	1,94	0,5	3,2	20.12.1994
2550	86		0,16	0,02	1,55	0,22	3,5	27.01.1995
3330	50		0,1	0,05	2,16	0,13	2,8	24.02.1995
4290	96		0,09	0,03	1,86	0,1	1,8	24.03.1995
5170	31		0,2	0,04	2,51	0,19	2,2	05.04.1995
4920	90		0,09	0,09	1,79	0,34	2,7	26.05.1995
4680	43		0,16	0,09	1,63	0,15	2,3	06.06.1995
3260	17		0,1	0,07	1,06	0,3	4,6	28.07.1995
1960	29		0,06	0,05	1,37	0,17	3,8	20.08.1995
3710	38		0,09	0,03	1,21	0,82	2,7	22.09.1995
2530	16		0,22	0,05	1,18	0,13	3,6	20.10.1995
2420	118		0,14	0,05	1,26	0,56	4,7	24.11.1995
2650	37		0,11	0,04	1,34	0,72	3,2	19.12.1995
4070	119		0,1	0,038	1	0,28	2,1	26.01.1996
2470	50		0,1	0,05	2,16	0,13	2,8	24.02.1996
3000	72		0,11	0,031	1,68	0,27	2,05	21.03.1996
5410	51		0,1	0,07	1,2	0,16	2,5	18.04.1996
4990	80		0,09	0,075	1,32	0,28	1,63	26.05.1996
2430	18		0,12	0,06	1,07	0,28	2,9	29.06.1996
2550	24,4		0,09	0,031	1,39	0,21	3,8	26.07.1996
2090	21		0,08	0,07	0,91	0,21	3,1	25.08.1996
2680	65,2		0,07	0,05	1,12	0,14	3,27	20.09.1996
4290	14		0,11	0,04	1,7	0,39	3	23.10.1996
3000	14		0,1	0,04	1,7	0,29	3	~~29.10.1996~~
3210	17,6		0,09	0,038	1,68	0,27	3,06	20.11.1996
4540	32,8		0,09	0,024	1,17	0,17	1,54	17.12.1996
4230	40,4		0,056	0,017	1,39	0,455	2,08	21.01.1997
3780	55,8		0,33	0,057	1,53	0,915	2,73	26.02.1997
3330	47,2		0,148	0,024	1,95	0,551	4,14	24.03.1997
3860	61		0,14	0,08	1,5	0,19	2,2	23.04.1997
4300	16		0,06	0,03	0,94	0,31	3,6	28.05.1997
4047	34		0,13	0,05	0,99	0,16	3,3	23.06.1997
3380	63		0,06	0,06	0,66	0,42	2,2	25.07.1997
3000	88		0,09	0,07	0,8	0,17	3,6	30.08.1997
2540	15		0,07	0,03	1,21	0,38	2,6	19.09.1997
3120	38		0,06	0,03	1,65	0,2	3,6	22.10.1997
2900	18		0,08	0,04	1,81	0,92	3,6	26.11.1997
3290	24		0,04	0,01	2,03	0,44	2,4	16.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Vâlcov Gauging Station L0450 R

(according with TNMN list)

River: Danube Km. 33,34 Quality: 1994-II; 1995-I; 1996-III

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
4690	57		0,09	0,05	1,59	0,28	1,8									28.01.1994
3460	44		0,09	0,02	1,95	0,12	2,5									25.02.1994
3450	44		0,09	0,06	2,33	0,04	3									25.03.1994
4360	28		0,12	0,04	2,14	0,28	2,5									22.04.1994
3580	28		0,08	0,04	1,5	0,2	3,5									27.05.1994
3750	36		0,15	0,07	1,95	0,2	2,2									24.06.1994
2280	37		0,09	0,05	1,36	0,18	3,5									29.07.1994
1580	28		0,1	0,08	1,39	0,25	2,5									18.08.1994
1760	45		0,14	0,05	1,86	0,33	2,8									26.09.1994
1950	48		0,17	0,05	1,49	0,32	3,7									22.10.1994
2220	35		0,07	0,04	1,94	0,16	3,3									25.11.1994
2000	44		0,12	0,04	1,97	0,5	3,5									20.12.1994
2550	86		0,16	0,02	0,77	0,21	3,5									27.01.1995
3330	48		0,11	0,04	2,13	0,14	2,8									24.02.1995
4290	96		0,09	0,03	1,93	0,18	1,9									24.03.1995
5170	34		0,21	0,05	2,32	0,3	2,1									05.05.1995
4920	98		0,08	0,09	1,76	0,35	2									26.05.1995
4680	54		0,18	0,09	2,02	0,18	2,4									06.07.1995
3260	15		0,12	0,06	1,03	0,3	3,1									28.07.1995
1960	34		0,08	0,07	1,12	0,23	3,6									20.08.1995
3710	37		0,1	0,03	1,21	0,81	2,8									22.09.1995
2530	26		0,18	0,05	1,22	0,23	3,8									20.10.1995
2420	125		0,16	0,05	1,24	0,58	3,8									24.11.1995
2650	33		0,11	0,04	1,28	0,67	3,4									19.12.1995
4070	116		0,1	0,039	0,983	0,27	2,1									26.01.1996
2470	48		0,11	0,04	2,13	0,14	2,8									24.02.1996
3000	79		0,1	0,031	1,71	0,21	3,13									21.03.1996
5410	61		0,1	0,06	1,8	0,19	2,3									18.04.1996
4990	92,5		0,08	0,072	1,26	0,2	1,27									26.05.1996
2430	22		0,1	0,07	1,04	0,2	3									29.06.1996
2550	29,3		0,09	0,03	1,37	0,21	3,2									26.07.1996
2090	25		0,07	0,06	0,96	0,23	3,2									25.08.1996
2680	60,8		0,08	0,06	1,14	0,18	1,28									20.09.1996
4290	19		0,12	0,04	1,65	0,39	2,8									23.10.1996
3000	19		0,1	0,04	1,65	0,29	2,8									29.10.1996
3210	18,22		0,09	0,038	1,68	0,25	2,39									20.11.1996
4540	46,6		0,09	0,025	1,21	0,18	1,5									17.12.1996
4230	38,5		0,087	0,016	1,42	0,46	1,99									21.01.1997
3780	57,2		0,032	0,058	1,57	0,984	2,56									26.02.1997
3330	46		0,151	0,024	1,93	0,55	1,46									24.03.1997
3860	80		0,13	0,05	1,4	0,17	2,4									23.04.1997
4300	15		0,08	0,03	0,93	0,31	3,1									28.05.1997
4047	30		0,13	0,06	1	0,17	3,4									23.06.1997
3380	44		0,08	0,06	0,86	0,33	2,6									25.07.1997
3000	73		0,07	0,08	0,8	0,2	3,5									30.08.1997
2540	23		0,07	0,03	1,26	0,42	2,9									19.09.1997
3120	40		0,08	0,03	1,57	0,25	3,9									22.10.1997
2900	32		0,05	0,03	1,76	0,87	3,4									26.11.1997
3290	20		0,05	0,02	2,19	0,36	2,2									16.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Sulina Gauging Station L0480 L

(according with TNMN list)

River: Danube   Km. 0   Quality: 1994-I; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
1405	20		0,1	0,05	1,48	0,31	3									24.10.1996
1260	13,5		0	0,033	1,65	0,11	2,33									20.11.1996
1890	49,2		0	0,032	1,46	0,13	1,48									10.12.1996
1700	35		0,074	0,016	1,35	0,49	1,43									16.01.1997
1450	64,5		0,017	0,047	1,62	0,66	3,36									27.02.1997
1200	32,1		0,085	0,028	1,83	0,24	3,92									25.03.1997
1857	79		0,1	0,07	1,2	0,19	2,3									26.04.1997
2150	30		0,02	0,05	0,64	0,41	2,8									26.05.1997
1503	31		0,12	0,05	1	0,05	3,2									25.06.1997
1380	9		0,09	0,04	1,5	0,45	3,5									28.07.1997
1268	63		0,08	0,06	0,8	0,17	3,5									31.08.1997
1070	31		0,05	0,02	1,31	0,26	2,4									21.09.1997
1395	34		0,06	0,03	1,57	0,21	3,6									23.10.1997
1200	20		0,05	0,07	2,01	0,81	3,5									26.11.1997
1360	23		0,05	0,02	2,22	0,43	2									15.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Sulina Gauging Station L0480 M

(according with TNMN list)

River: Danube　　Km. 0　　Quality: 1994-I; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
2519	42		0,19	0,05	3,59	0,16	2,5									18.04.1996
1129	18		0,16	0,06	1,06	0,19	2,8									30.06.1996
864	27		0,08	0,07	0,77	0,21	3									26.08.1996
1405	18		0,09	0,04	1,59	0,37	3,2									24.10.1996
1260	11,6		0	0,034	1,64	0,113	3,27									20.11.1996
1890	47,2		0	0,033	1,44	0,125	1,43									10.12.1996
1700	32		0,072	0,015	1,37	0,488	1,34									16.01.1997
1450	65		0,013	0,048	1,59	0,65	3,53									27.02.1997
1200	33,6		0,088	0,029	1,84	0,24	3,11									25.03.1997
1857	83		0,11	0,08	1,3	0,2	2,1									26.04.1997
2150	23		0,02	0,05	0,62	0,44	2,7									26.05.1997
1503	30		0,14	0,06	1	0,06	3									25.06.1997
1380	14		0,1	0,03	1,45	0,33	3,1									28.07.1997
1268	55		0,09	0,05	0,79	0,18	3,6									31.08.1997
1070	13		0,05	0,02	1,31	0,25	2,5									21.09.1997
1395	38		0,06	0,03	1,38	0,22	3,8									23.10.1997
1200	24		0,05	0,08	2,02	1,07	3,8									26.11.1997
1360	20		0,04	0,03	2,28	0,34	2,4									15.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Sulina Gauging Station L0480 R

(according with TNMN list)

River: Danube Km. 0 Quality: 1994-I; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
1405	23		0,11	0,04	1,63	0,35	3,1									24.10.1996
1260	17,2		0	0,033	1,62	0,1	1,26									20.11.1996
1890	50,4		0	0,032	1,48	0,124	1,36									10.12.1996
1700	34		0,058	0,012	1,35	0,493	1,32									16.01.1997
1450	64		0,023	0,048	1,66	0,655	2,89									27.02.1997
1200	37,4		0,086	0,028	1,82	0,241	3,71									25.03.1997
1857	84		0,12	0,05	1,4	0,17	2									26.04.1997
2150	26		0,02	0,05	0,64	0,43	4,8									26.05.1997
1503	31		0,15	0,06	1,21	0,05	3,1									25.06.1997
1380	22		0,1	0,04	1,37	0,4	3,1									28.07.1997
1268	51		0,08	0,06	0,79	0,19	3,4									31.08.1997
1070	16		0,07	0,02	1,76	0,44	3									21.09.1997
1395	36		0,07	0,03	1,49	0,2	3,5									23.10.1997
1200	30		0,05	0,04	1,95	0,99	3,9									26.11.1997
1360	20		0,05	0,02	2,24	0,61	2,1									15.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Sf. Gheorghe Gauging Station L0490 L

(according with TNMN list)

River: Danube Km. 0 Quality: 1994-I; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
1105	23		0,11	0,04	1,59	0,39	3,3									25.10.1996
1610	12,8		0	0,039	1,73	0,14	1,36									20.11.1996
2260	96,5		0	0,027	1,42	0,155	0,57									14.12.1996
1930	24,8		0,064	0,014	0,82	0,315	2,94									21.01.1997
1630	24		0,008	0,047	1,41	0,965	2,39									25.02.1997
1410	47,2		0,055	0,024	1,89	0,501	4,23									26.03.1997
1840	61		0,12	0,06	1,9	0,18	2,1									24.04.1997
2010	32		0,02	0,03	0,84	0,32	2,8									28.05.1997
1580	29		0,09	0,04	0,96	0,06	3,3									24.06.1997
1760	25		0,09	0,03	1,31	0,22	2,7									30.07.1997
1480	49		0,08	0,06	0,79	0,21	3,3									31.08.1997
1030	17		0,05	0,03	1,4	0,33	2,5									24.09.1997
815	38		0,06	0,02	1,62	0,19	3,3									23.10.1997
1460	20		0,06	0,08	1,95	1,05	4,2									27.11.1997
1460	28		0,05	0,03	2,37	0,42	2,2									12.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Sf. Gheorghe Gauging Station L0490 M

(according with TNMN list)

River: Danube Km. 0 Quality: 1994-I; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
2120	48		0,19	0,06	3,48	0,12	2,2									18.04.1996
951	17		0,17	0,06	1,01	0,17	2,7									30.06.1996
1026	29		0,08	0,07	0,82	0,18	2,9									26.08.1996
1105	20		0,12	0,03	1,63	0,35	3									25.10.1996
1610	14,65		0	0,04	1,75	0,14	1,87									20.11.1996
1930	23,2		0,045	0,013	0,81	0,34	3,18									21.01.1997
1630	23		0,014	0,048	1,44	0,96	2,2									25.02.1997
1410	41,6		0,052	0,023	1,91	0,5	2,87									26.03.1997
1840	86		0,12	0,04	1,9	0,19	2									24.04.1997
2010	26		0,02	0,03	0,86	0,32	3									28.05.1997
1580	28		0,12	0,05	0,97	0,06	3,1									24.06.1997
1760	29		0,09	0,03	1,45	0,43	2,6									30.07.1997
1480	54		0,09	0,06	0,98	0,17	3,4									31.08.1997
1030	18		0,08	0,03	1,34	0,33	2,8									24.09.1997
815	32		0,07	0,02	1,48	0,16	3,5									23.10.1997
1460	22		0,06	0,07	1,76	1,39	4,6									27.11.1997
1460	15		0,05	0,04	2,3	0,4	2,1									12.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Sulina Gauging Station L0480 R

(according with TNMN list)

River: Danube   Km. 0   Quality: 1994-I; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
1405	23		0,11	0,04	1,63	0,35	3,1									24.10.1996
1260	17,2		0	0,033	1,62	0,1	1,26									20.11.1996
1890	50,4		0	0,032	1,48	0,124	1,36									10.12.1996
1700	34		0,058	0,012	1,35	0,493	1,32									16.01.1997
1450	64		0,023	0,048	1,66	0,655	2,89									27.02.1997
1200	37,4		0,086	0,028	1,82	0,241	3,71									25.03.1997
1857	84		0,12	0,05	1,4	0,17	2									26.04.1997
2150	26		0,02	0,05	0,64	0,43	4,8									26.05.1997
1503	31		0,15	0,06	1,21	0,05	3,1									25.06.1997
1380	22		0,1	0,04	1,37	0,4	3,1									28.07.1997
1268	51		0,08	0,06	0,79	0,19	3,4									31.08.1997
1070	16		0,07	0,02	1,76	0,44	3									21.09.1997
1395	36		0,07	0,03	1,49	0,2	3,5									23.10.1997
1200	30		0,05	0,04	1,95	0,99	3,9									26.11.1997
1360	20		0,05	0,02	2,24	0,61	2,1									15.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Arge• Gauging Station L0250 M

(according with TNMN list)

River: Arge• Km. 0 Quality: 1994-III; 1995-II; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
61,8	71		0,48	0,02	0,93	14,2	32,4									16.04.1996
8	183		0,96	0,02	0,24	0,95	58,4									27.06.1996
6,1	37		0,77	0,03	0,52	1,15	62,5									22.08.1996
7	94		0,18	0,03	2,86	0,54	5,1									01.10.1996
7,68	86		0,26	0,02	2,46	0,6	4,8									14.11.1996
7,44	112		0,28	0,05	2,66	0,34	4,8									13.12.1996
13,6	92		0,18	0,04	2,86	0,4	4,6									16.01.1997
9,1	124		0,06	0,06	2,88	1,6	5,1									13.02.1997
9,05	138		0,19	0,06	3,6	0,24	5,2									13.03.1997
40	49		0,23	0,07	5,4	1,17	28,7									22.04.1997
20	98		0,18	0,04	2,81	0,5	5									15.05.1997
32	51		0,42	0,06	0,19	0,88	71,2									18.06.1997
30	114		0,19	0,05	3,2	0,56	4,8									24.07.1997
31	58		0,23	0,05	0,86	1,59	75,4									28.08.1997
43	168		0,21	0,08	4,6	2,4	18,4									18.09.1997
13,6	64		0,04	0,01	0,43	1,8	58,2									20.10.1997
11,7	1337,6		0,07	0,03	1,05	5,5	17,7									07.11.1997
39	175		0,04	0,04	0,68	2,5	23,7									11.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the conf. Danube-•endreni Gauging Station L0380 M

(according with TNMN list)

River: Siret Km. 0 Quality: 1994-II; 1995-II; 1996-III

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
1150	168		0,54	1,2	3,41	1,52	4,8									17.04.1996
196	302		0,6	0,2	1,34	1,02	5,6									29.06.1996
384	62		0,05	0,24	1,87	1,14	5,9									24.08.1996
424	221		0,27	0,05	1,9	0,35	4,5									30.10.1996
242	112		0,1	0,041	2,4	1,2	6,55									28.11.1996
283	22		0,15	0,03	2,17	1,47	0									19.12.1996
99,6	22		0,159	0,031	1,4	2,62	7,62									27.01.1997
182	33		0,47	0,043	1,3	3,4	7,07									20.02.1997
202	41		0,018	0,03	1,07	3,1	4,91									19.03.1997
221	251		0,22	0,12	3	0,24	5,6									23.04.1997
221	27		0,13	0,03	2,41	0,86	4,5									27.05.1997
129	42		0,12	0,09	0,76	0,2	3,6									22.06.1997
145	89		0,1	0,01	1,81	0,8	4,9									24.07.1997
599	270		0,06	0,12	1,37	0,9	6,4									29.08.1997
330	108		0,08	0,02	3,87	0,57	4,7									18.09.1997
313	85		0,07	0,03	1,2	0,32	7									21.10.1997
182	173		0,08	0,04	2,27	2,61	5,2									20.11.1997
191	84		0,08	0,03	2,62	1,07	5,6									10.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the conf. Danube-Giurgiule•ti Gauging Station L0420 M

(according with TNMN list)

River: Prut Km. 0 Quality: 1994-II; 1995-II; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5									
103	67		0,13	0,03	2,02	0,49	3,8									29.10.1996
165	88		0,166	0,033	1,4	0,575	4,33									28.11.1996
1,65	20		0,1	0,04	2,16	0,47	0									19.12.1996
117	10		0,107	0,032	1,4	1,76	5,1									27.01.1997
155	7		0,159	0,042	1,8	0,554	4,93									20.02.1997
102	25		0,048	0,029	1,4	0,139	2,07									19.03.1997
97	132		0,21	0,07	2	0,24	3,1									23.04.1997
149	22		0,16	0,04	1,82	0,86	4,2									27.05.1997
161	56		0,12	0,09	0,76	0,2	3,6									22.06.1997
106	47		0,08	0,02	1,41	0,4	3,6									24.07.1997
1,37	147		0,1	0,05	0,83	0,29	4,1									30.08.1997
140	115		0,28	0,01	3,84	1,1	4,3									18.09.1997
94,3	78		0,09	0,04	1,4	0,28	6,2									22.10.1997
95	124		0,07	0,02	3,02	1,38	5,3									20.11.1997
115	62		0,06	0,04	3,57	1,26	5,5									10.12.1997

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the St.Hidrom.Cluj Gauging Station 18

(according with WQNMS list)

River: Somesul Mic Km. 91 Quality: 94-I; 95-I; 96-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
				NO2	NO3	NH4	CBO_5	CCO-Mn							Date
5	18,7			0,05		1,7	2,8	3,1							16.01.94
3,11	15,7			0,04		0,04	2,2	2,6							10.02.94
2,96	17		0,013	0,03		3,26	2,9	2,9							11.03.94
	27		0,006	0,04		1,55	3,2	3,2							15.04.94
3,22	24		0,013	0,17	0,4	2,66	3	3,2							13.05.94
2,89	44,7		0	0,06	0,7	1,11	3	3,5							11.06.94
4,52	7				0,4		2,8	5,6							14.07.94
18	32,3		0,009	0,05	0,6	0,14	2,3	2,7							11.08.94
3,8	21,3		0,02	0,04	0,6	2,99	3,6	5,5							14.09.94
2,5	36,7			0,19	0,6	1,64	2,1	2,2							11.10.94
8,2	11,3		0,016	0,1	0,5	1,63	3,1	4,6							11.11.94
27,2	18,7		0	0,18	0,3	1,08	3	4,1							09.12.94
26	15,3		0,02	0,06	0,2	0,82	3,2	3,3							13.01.95
3,89	19		0,05	0,17	2,2	1,78	3,5	3,7							11.02.95
3,92	16		0	0,25	2,4	1,56	4,3	5							12.03.95
10,7	13,3		0,01	0,06	1,5	0,55	2,5	3,3							16.04.95
4	17,3		0,01	0,05	3,7	0,24	3,2	3,3							13.05.95
9,98	48,3		0,05	0,15	1,8	2,35	4,3	4,7							10.06.95
15,3	9,7		0	0,09	2,9	1,17	4	4,8							14.07.95
52,8	18		0,05	0,02	3,3	2,63	2,8	3,3							11.08.95
8,81	28		0,01	0,11	2,1	1,44	4,8	5,8							16.09.95
51	26,3		0,101	0,06	3,3	0,6	4,5	5,7							13.10.95
66,8	15,3		0,02	0,17	2,7	2,76	2,6	5,1							11.11.95
55,4			0,02	0,05	3,2	1,56	3,2	3,5							15.12.95
25,2	28,3		0,02	0,03	2,5	1,72	3,3	3,8							16.01.96
25,6	18,7		0,02	0,52	2,7	4,1	3	3,7							15.02.96
2,16	13,3			0,05	2,6	1,35	3	5							10.03.96
7,28	16,3		0,11	0,23	2,4	2,28	2,7	6,6							08.04.96
12,3	258		0,05	0,19	0,4	9,2	5,9	14,9							15.05.96
58,1	24,7		0,066	0,07		0,49	3,5	5,9							12.06.96
4,54	100,3		0,08	0,04	0,7	0,47	4,1	8,6							16.07.96
7,8	16		0,026	0,03	0,8	0,8	2,6	4,5							15.08.96
5,2	21		0,31	0,1	5,2	3,08	2,6	5,3							10.09.96
55,2	22		0,11	0,04	0,6	0,58	2,6	3,9							17.10.96
5,2	21,3		0,05	0,03	0,4	0,21	2,9	5,7							12.11.96
4,91	31			0,06	1	0,22	4,3	4,7							08.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Salatiu Gauging Station 19

(according with WQNMS list)

River: Somesul Mic Km. 170 Quality: 1994-III; 1995-III;1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals													Date
				NO2	NO3	NH4	CBO_5	CN									
11,3	64,7			0,61		10,8	6,6	0,01									17.01.94
9,83	46,3			0,27		10	7,2	0,33									2.12.94
9,54	31,7		0,09	0,3		14,7	6,2	0,06									14.03.94
	96,3		0,08	0,09		9,4	7,2	0,044									18.04.94
11,4	28		0,09	1,09	1,7	7,01	7										16.05.94
16,6	52,7		0,08	0,04	1,2	10	3,5										13.06.94
13,8	57,7				1,7		2,7										16.07.94
40	103,3		10	0,21	0,9	2,02	3,1	0									16.08.94
26	98,7		0,06	0,2	0,6	10,5	3,6	0,07									16.09.94
12	10,7			1,45	1,5	8,32	5,1	0,05									14.10.94
26,8	83		0,06	0,69	0,8	6,08	4,6										13.11.94
30,5	32,2		0,15	0,46	8,8	3,33	5,8	0,016									12.12.94
25,3	83,7		0,08	0,13	0,4	4,89	6,9										15.01.95
9,26	48,7		24	1,08	3,3	5,86	6,8										13.02.95
6,2	57,5		0,09	0,54	3,5	7,52	5,5										14.03.95
17,8	32		0,13	0,55	1,5	4,98	5,1										17.04.95
8,8	57		0,37	0,97	4,8	7,38	5										16.05.95
13,5	48,7		0,15	1,36	5,8	4,85	4,4										12.06.95
14,4	21		0,13	1,3	3,5	3,63	3,6										17.07.95
47,5	69,3		0,1	0,57	5,3	3,5	3,4										12.08.95
13,9	59,7		0,27	1,4	5,6	4,3	6,2										17.09.95
60,4	130,7		0,31	0,76	4,8	5,93	4,3										16.10.95
57,5	33,7		0,04	0,3	3,8	2,76	5,3										11.12.95
34,4	44,3		0,03	0,16	2,3	2,27	2,4										17.12.95
39	178,7		0,34	0,33	5,1	1,54	7,6	0,009									18.01.96
39	65,7		0,1	0,19	2,7	4,61	6,7	0,002									16.02.96
8,18	52,7			0,18	2,5	4,24	6,2	0,002									13.03.96
19,5	34,7		0,09	0,53	8,4	10	6,6	0,001									10.04.96
72,9	1215		0,31	1,1	9,6	8,81	4,8	0,016									17.05.96
27,4	46,3		0,035	0,64	7,1	3,49	5,5										14.06.96
11,6	57,7		0,21	1,5	2,8	9,69	3,6	0,023									19.07.96
16	21,7		0,09	0,27	1,9	12,2	4,2	0,01									16.08.96
13,4	30		0,38	0,8	0,6	6,88	4,2	0,003									13.09.96
16,9	54		0,3	0,8	5	1,94	4,9	0,003									18.10.96
12,1	17,3		0,08	0,65	2,8	7,56	5	0,002									14.11.96
14	29,3			0,34	3,6	8,21	6,7	0,003									11.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Baia Mare Gauging Station 28

(aacording with WQNMS list)

River: SASAR Km. 25 Quality: 1994-D 1995-D 1996-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Zn	Cu	Mn	CN	Cco-Mn	Rez.fix	Deterg.		
2,47	89,7			0,11	4,1	2,5	3,7	0,728	0,187	4,5	0,053	3,8	453,6	0,03		19/01/94
2,43	80,7			0,13	4	2,33	3,8	3,109	0,164	6,36	0,033	5,2	345	0,03		16/02/94
14,3	73,9			0,08	4,1	1,66	4,2	0,596	0,093	1,31	0,02	4,6	157	0,03		16/03/94
18,3	174,8			0,03	2,4	1,13	3,1	0,116	0,129	1,32	0,023	3,6	171	0,02		20/04/94
3,1	78,3			0,12	2,9	1,2	2,6	0,127	0,14	1,59	0,014	3,9	201	0,02		18/05/94
3,77	60,3			0,12	3,3	1,1	3,2	0,739	0,05	4,7	0,01	3,5	312,7	0,02		15/06/94
1,29	27,1		0,04	0,21	3,3	2,86	2,1	1,344	0,271	5,88		2,3	379	0,02		19/07/94
0,704	113,5		0,3	0,14	2,5	4	3,1	1,03	0,16	5,88		3,6	430,6			16/08/94
3,16	116,8		0,05	0,16	2,9	1,43	4,7	0,279	0,263	7,64	0,013	7,6	439	0,03		20/09/94
1,04	54,1		0,04	0,14	3,6	1,43	3,5	0,279	0,133	6,47	0,013	3,7	286,6	0,02		19/10/94
2,47	108,5		0,06	0,23	2,5	1,85	7,4	0,537	0,255	2,41		13,3	279,6			16/11/94
9,02	236,5		0,06	0,21	1,4	2,57	5,8	0,089	0,044	2,86	0,08	7,3	272	0,02		13/12/94
2,95	131,3		0,02	0,15	4,6	2,11	3,6	2,688	0,119	5,19	0,03	3,8	370	0,04		18/01/95
15,9	105,5		0,05	0,14	2,5	0,79	4,6	0,301	0,05	3,23	0,05	6,4	198,3	0,02		15/02/95
3,43	137,7		0,07	0,19	4,4	3,77	3,1	0,188	0,07		0,02	4,5	259	0,06		15.03/95
9,7	82,7		0,03	0,11	4,4	1,35	3,1	0,13	0,068	5	0,21	3,4	273	0,04		19/04/95
4,33	89,9		0,07	0,16	4,3	1,6	2,7	2,16	0,178	3,87		3,2	219,3			17/05/95
2,41	32,6		0,06	0,18	2,9	2	4,6	0,391	0,127	5,88	0,013	6,1	265,3	0,07		14/06/95
2,89	85,3		0,09	0,15	3,4	1,07	4,7	0,257	0,064	2,29	0,021	6,9	267	0,03		19/07/95
1,5	131,5		0,07	0,14	3	2,63	3,5	0,821	0,068	3,43	0,015	4,1	249			16/08/95
2,36	96,5		0,01	0,31	3,6	1,74	4,9	0,246	0,155	4,74	0,031	7	354	0,03		19/09/95
1,58	111,1		0,26	0,15	1,6	4,67	4,6	0,178	0,125	4,2	0,011	6,4	269	0,11		18/10/95
2,95	88,1		0,06	0,14	4,3	2,43	4,3	0,42	0,114	5,01	0,004	4,8	215			15/11/95
2,31	110,5		0,07	0,16	4,3	0,92	3,3	0,08	0,116	2,8	0,01	3,3	243,6	0,16		19/12/95
3,1	24,7		0,18	0,14	1,2	4,44	4,2	0,15	0,067	3,7	0,012	5,2	232,7	0,06		21/01/96
2,09	72,4		0,22	0,15	2,3	1,53	4,3	0,202	0,77	3,32	0,021	5,7	216,6	0,39		18/02/96
5,05	93,4		0,012	0,14	4,1	2,51	5,8	0,386	0,059	2,71	0,02	7	266	0,07		17/03/96
3,27	35,1		0,08	0,1	2,7	2,52	2,6	0,06	0,097	1,77	0,09	2,8	276	0,1		04/04.96
2,49	100,8		0,136	0,28	0,5	3,58	3,3	0,59	0,058	2,81	0,005	5,1	370			19/05/96
1,57	192		0,74	0,5	1,4	4,95	8,9	0,14	0,056	5,26	0	10,9	881,6	0,14		17/06/96
1,52	97,1		0,959	0,31	1,5	2,9	4,3	0,23	0,105	2,89	0	7	136,7	0,11		21/07/96
2,42	25,5		0,29	0,46	1,4	2,08	4,9	0,27	0,04	1,71	0	6,1	337,6	0,1		19/08/96
11,8	71,6		0,1	0,19	4,1	1,79	2,5	0,145	0,064	0,94	0	5,7	206	0,08		18/09/96
21,1	72,1		0,1	0,07	2,9	0,47	1,3	0,094	0,058	0,46		1,8	152,6			21/10/96
2,14	64		0,1	0,06	3,3	2,79	5,1	0,684	0,125	3,2	0,002	6,3	484	0,07		17/11/96
2,1	52,2		0,09	0,06	2,8	0,86	2,4	0,099	0,047	1,11		2,6	261			14/12/96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Oar Gauging Station 32

River: Somes Km. 24 Quality: 94-II;95-III;96-II; (according wi

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fenoli	S.extr.	Fe					
95,9	27,8		0,09	0,04	4,9	1,36	6,6	12	0,017	1,2	0,46					21.01.94
89,4	25,5		0,25	0,04	2,9	1,56	6,7	12,4	0,01	0,97	0,29					17.02.94
208	36,3		0,18	0,09	2,4	1,19	5,3	15,4	0,019	1	0,36					17.03.94
395	74		0,19	0,1	3,8	0,91	4,6	11,4	0,023	0,2	0,28					21.04.94
88,5	24		0,23	0,07	3,2	0,9	3,9	18,1	0,013	2	0,32					19.05.94
129	37		0,22	0,16	3,7	1,14	3,9	13,2	0,012	1,35	1,08					16.06.94
32,2	30		0,23	0,13	2,2	0,68	3,8	15,7	0,02	2	0,98					21.07.94
33,8	36		0,25	0,11	1,3	0,91	4,4	11	0,038	2,4	0,47					18.08.94
50,8	38,3		0,04	0,4	2,3	1,1	3,4	15,1	0,02	1,02	1,39					22.09.94
36,7	26		0,13	0,29	3,8	1,19	3,8	14,4	0,03	0,81	0,13					20.10.94
60	28		0,04	0,15	3,6	1,01	4,4	11,6	0,03	0,92	0					17.11.94
264	25		0,09	0,08	2,1	1,36	3,3	10,8	0,017	0,72						15.12.94
32,3	34		0,06	0,03	6,3	2,6	4,8	18,8	0	0,25	0					19.01.95
220	33		0,06	0,14	4,5	0,84	3,3	10,5	0	2	0,42					16.02.95
101	27		0,07	0,1	4,7	1,01	3,1	9,7	0,01	2						16.03.95
217	26		0,16	0,12	5,8	0,47	3	9,2	0,032	0,4	0,21					20.04.95
166	32		0,075	0,08	4,3	1,01	3,3	14	0,008	0,4	0,5					18.05.95
86,5	20		0,08	0,18	5,4	0,3	2,3	8,6	0,021	0,8	0,03					15.96.95
61,6	20			0,14	2,9	0,61	2,1	11,1	0,006	1,3	0,15					20.07.95
41,2	23		0,07	0,07	3,4	0,38	3,3	10,1	0,015	1,6	0,24					17.08.95
62,9	25,6		0,07	0,18	5,9	1,16	3,9	8,7	0,002	0,8	0,9					21.09.95
46,5	20,3		0,06	0,18	6,5	1,13	2,7	8,4	0,002	0,6	0					19.10.95
75	27		0,06	0,14	7,2	1,29	2,6	8,8	0,012	0,6	0,35					16.11.95
68,3	24		0,07	0,14	3,7	2,38	2,5	12,4	0,008	1	1,26					20.12.95
132	28		0,1	0,1	3,5	1,68	2,8	12,8	0,006	1,6	0,57					21.01.96
68,2	22,3		0,146	0,11	6,2	2,53	2,4	10,8	0,004	0,8	0,63					19.02.96
470	30,6		0,3	0,26	6,9	3,13	5,1	18,4	0,005	1,2	0,44					18.03.96
124	32		0,23	0,16	5,9	1,53	3,2	14,9	0,002	0,8	0,41					13.04.96
142	33		0,16	0,38	9,1	0,77	3,6	26,6	0,006	1,8	0,5					20.05.96
55,8	27,6		0,03	0,07	9,6	0,39	2	9,9	0,009	0,8	0,91					18.06.96
48,5	28,6		0,49	0,12	1,8	0,49	3	14,5	0,008	0,4	1,17					22.07.96
48	21,6		0,04	0,23	5,4	0,59	2	7,8	0,006	0,8	1,02					20.08.96
220	39,3		0,03	0,16	4,3	0,89	3,5	11,2	0,003	0,2	0,09					19.09.96
481	24		0,05	0,19	2,8	0,7	3,3	14,4	0,003	1,4	0,61					22.10.96
57,2	28		0,08	0,29	3,9	1,98	3,6	10,9	0,004	1,8	0,23					18.11.96
75,1	26,7		0,1	0,26	5,4	1,93	3,9	14	0,003	1,6	0,7					15.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Supur Gauging Station 35

(according with WQNMS list)

River: Crasna Km. 76 Quality: 1994-III; 1995-II; 1996-II;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fier	Mn	Fenoli					
1,96	135		0,69	0,32	1,9	9,59	7,3	13,9	0,44	0,42	0,002					18.01.94
1,25	33,7		0,51	0,3	1,6	6,19	8,2	18,3	0,39	0,17	0,03					15.02.94
1,53	60,6		0,85	0,37	1,2	6,63	6,2	13,9	0,39	0,15	0,017					16.03.94
2,4	57,6		0,4	0,36	2,7	7,37	4,6	16,4	0,3	0	0,021					18.04.94
1,32	40		0,46	0,66	2,6	6,49	4,8	18,8	0,37	0,17	0,043					17.05.94
2,16	278		0,42	0,38	2	9,06	5,2	42,8	11,06		0,021					14.06.94
0,798	32,6		1,19	0,37	3,5	9,38	4,8	18,6	3,44	0,24	0,05					18.07.94
0,738	43		0,25	0,76	6,3	6,96	4,2	15,7	0,48	0,51	0,04					11.08.94
0,684	40,9		0,25	0,41	5,6	7,96	6	26,4	1,76	0,52	0,17					17.09.94
0,618	32		0,23	0,38	4,8	5,46	5,2	20,4	0,36	0,03	0,07					14.10.94
0,598	35		0,23	0,19	8,1	8,08	4,2	20,1	0	0	0,01					08.11.96
0,738	32		0,16	0,27	3,1	6,89	4,5	16,1			0,019					11.12.94
0,727	34		0,09	0,11	2,8	5,83	5,6	15	0,46	0,32	0,004					16.01.95
1,83	23		0,25	0,25	10,1	3,43	4,1	14,9	0,61	0,77	0					14.02.95
2,15	28		0,31	0,28	5,9	1,88	3,3	14,2			0,01					14.03.95
1,42	34		0,28	0,33	3,3	3,24	3,4	10,9	0,37	0,26	0,002					17.04.95
1,23	35		0,31	0,73	17	3,31	3,4	17,7	0,7	0,21	0,007					16.05.95
1,21	32		0,34	1,25	4,4	2,72	2,5	21,5	0,02	0,05	0,017					12.06.95
1,34	27		0,73	1,35	10,7	1,96	3	18	1,91		0,09					17.07.95
1,04	20		0,35	0,81	12,4	1,51	4,2	14,8	0,24	0,031	0,018					12.08.95
1,09	25,7		0,44	0,87	11,5	0,7	3,6	12,8	0	0	0,012					17.09.95
1,04	27,3		0,66	0,73	11,9	0,94	3,9	13,5	0	1,62	0,01					16.10.95
1,14	27		0,51	0,2	9,5	2,03	3,3	18,4	0,04	0,18	0,01					13.11.95
1,27	24		0,5	0,22	13,2	4,61	2,7	14,3	2,91	0,79	0,01					17.12.95
4,47	22		0,52	0,34	1,5	1,64	2,6	13,8	0,19	0,4	0,002					16.01.96
6,43	31		0,48	0,11	9,5	0,63	3,4	21,8	0,2	0,11	0,004					10.02.96
3,49	30		0,5	0,46	7,5	4,8	3,9	15,3	0,31	0,34	0,006					12.03.96
2,5			0,32	0,32	9,5	3,4	2,9	13,5	0,23	0,35	0,004					10.04.96
3,48	35		0,54	0,57	8,9	2,87	4,1	21,2	0,75	0,01	0,005					15.05.96
1,23	28,3		0,18	0,46	7,9	2,1	2,6	14,5	0,64		0,01					11.06.96
1,31	31,3		0,48	0,87	8,7	1,9	3,8	16,7	0,08	0,07	0,03					16.07.96
1,22	30,6		0,14	0,96	8,7	6,76	3,6	21,2	0,36		0,006					19.08.96
2,55	32,6		0,1	0,78	9,2	1,14	3,6	20,2	0		0,01					15.09.96
2,07	30,6		0,1	0,47	11,4	1,19	3,5	11,9	0,96	0,01	0,013					16.10.96
2,3	28,6		0,2	0,36	3,8	2,5	4,1	18,1	0,06	0	0,018					13.11.96
9,78	28,9		0,12	0,27	10,2	0,85	4,1	18,9	0,15	0,8	0,8					10.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Berveni Gauging Station 36

(according with WQNMS list)

River: Crasna Km. 132 Quality: 1994-II; 1995-II; 1996-II

Water Discharge	Sediment Discharge		Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											Date
				NO2	NO3	NH4	CBO_5	Mn	Fe	CCO-Mn					
3,02	71,3		0,66	0,16	5,9	8,75	7,7	0,48	0,51	19					19/01/94
2,4	52,9		0,45	0,14	3,3	5,09	7,4	0,2	0,36	9,1					17/02/94
2,68	24,3		0,6	0,21	3	5,71	6,2	0	0,55	12,8					17/03/94
5,23	45,3		0,62	0,53	5,1	2,4	5,1	0	0,34	13					20/04/94
2,58	38		1,17	0,87	3,4	4,7	5,2	0,06	0,46	14,1					18/05/94
6,63	45		0,8	1,37	3,4	6,62	5	0,02	0,81	14					15/06/94
1,73	46		2,69	1,32	7,8	3,73	5,8	0,3	3,12	14					10.07/94
0,654	50		0,74	1,3	5,5	0,75	5,6	0,42	0,33	10,7					17/08/94
0,731	50,6		0,23	2,06	2,9	2,88	4,5	0,03	0,27	13,6					21/09/94
0,68	25		0,23	2,44	7,9	2,54	5,5	0,41	1,13	11,6					19/10/94
0,927	27		0,25	0,72	2,8	5,27	5,2	0,24	0,52	16,7					16/11/94
1,35	38		0,19	0,61	3,7	4,39	4,3			39,8					14/12/94
1,01	28		0,11	0,17	5,1	6,01	11,3	0,23	0,23	12,1					18/01/95
2,89	31		0,19	1,03	11,6	2,25	3,8	0,56	0,54	8,3					15/02/95
2,33	27		0,29	1,05	6,6	1,86	3,6			8,3					15/03/95
2,84	30		0,3	0,65	7,6	1,07	3,4	0,31	0,42	11,2					19/04/95
2,17	36		0,29	0,59	12,3	2,14	1,8	0,27	0,8	8,5					17/05/95
4,24	21		0,4	1,76	11,6	0,7	3,3	0,06	0,05	10,1					14/06/95
1,48	25		0,53	0,69	7,4	1,29	3,3	0,15	1,68	9,6					19/07/95
0,97	25		0,51	0,6	7	1,29	3,1	0,38	0,28	8,3					16/08/95
1,15	25,1		0,49	0,35	9,3	0,96	3,7	0	0	9,2					20/09/95
1,17	28,6		0,73	0,25	13	0,63	3,4	1,92	1,54	9,9					18/10/95
1,34	29,6		0,67	0,34	14,3	4,89	3	0,13	0,03	17,2					15/11/95
1,4	25,6		0,43	0,73	12,2	6,55	3,2	0,93	2,21	20,2					19/12/95
4,83	26,3		0,49	0,67	1,4	1,71	2,9	0,28	0,33	21,1					17.01.96
4,77	23		0,46	0,98	7,4	2	2,5	0,33	0,29	12,6					14.02.96
3,04	30,3			0,5	3	6,5	3,4	0,12	0,07	10,3					14.03.96
4,19	23,3		0,34	0,81	9,3	1,83	2,1	0,12	0,3	9,6					11.04.96
2,1	24		0,25	1,52	9,7	2,46	1,6		0,7	7,6					13.06.96
1,99	28,6		0,319	2,61	9,4	2,5	3,4	0	0,11	13,7					18.07.96
1,73	26		0,18	3,42	9,1	3,04	3,1	0,18	0,4	12,4					21.08.96
6,02	35		0,09	0,41	8,6	1,83	3,5		0,05	16,2					18.09.96
2,45	29		0,14	0,41	12	1,83	2,7	0,11	1	8,9					17.10.96
3,52	28		0,07	0,43	4,7	3,2	4,2	0	0,07	9,6					14.11.96
13,1	28,5		0,1	0,39	11,5	0,81	3	0,7	0,25	9,6					11.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Ambud (am.Satu Mare) Gauging Station 39

(according with WQNMS list)

River: Somes Km. 353 Quality: 1994-II;1995-III;1996-II;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fenoli	S.extr.	Fe					
98,5	47,1		0,06	0,02	5,2	2,45	6,4	9,5	0,015	0,07	0,4					20.01.94
102	45,7		0,2	0,05	2,3	1,3	6,5	10,6	0,03	0,52	0,26					16.02.94
208	37		0,016	0,1	2,2	0,85	5,7	14,4		0,75	0,38					17.03.94
395	77,6		0,16	0,1	2,3	1,04	4,9	16,3		0,87	0,24					21.04.94
88,7	30		0,2	0,06	2,5	0,84	3,4	16,1		2,2	0,4					19.05.94
135	32		0,21	0,18	3,3	1,05	3,7	13,1		1,25	1,35					16.06.94
32,2	30		0,13	0,14	2,1	0,57	3,6	16,1	0,019	1,6	1,05					21.07.94
33,8	32		0,24	0,11	1,1	0,73	4,2	10,5		2,2	0,71					18.08.94
50,4	37,6		0,2	0,46	2,9	1,04	4,5	11,6	0,008	1,22	0,31					21.09.94
36,7	25		0,05	0,31	6,9	1,02	4,4	15		0,81	0,08					20.10.94
60	29		0,05	0,2	3,1	0,68	4,7	12,9		0,68	0,26					17.11.94
264	26		0,07	0,1	2,8	1,32	3,9	10,7		0,65						15.12.94
32,3	23		0,04	0,08	6,3	2,35	4,5	10,4		0,2	0,23					19.01.95
220	28		0,05	0,11	5,1	0,71	3,5	9,7		1,8	0,21					16.02.95
101	24		0,07	0,08	3,6	0,87	3,1	9,4		1						16.03.95
217	22		0,17	0,12	5,4	0,52	3,1	11,5		0,8						20.04.95
166	30		0,05	0,17	3,7	0,91	2,7	7,6		0,6	0,48					18.05.95
86,5	25		0,07	0,15	1,9	0,27	2,1	9,5		0,6	0					15.06.95
61,6	18			0,11	2,7	0,58	2,6	10,9		1,2	0,03					20.07.95
41,2	24		0,057	0,06	4,8	0,44	3,3	10,7		1,2	1,39					17.08.95
62,9	24,1		0,055	0,19	5,6	1,15	3,2	9,2		0,4	0,9					21.09.95
53	21		0,08	0,17	6,7	0,93	2,7	7,9	0,001	0,2	0					19.10.95
75	19,6		0,05	0,15	8,1	0,81	2,4	8,8		0,4	0,17					16.11.95
68,3	21,3		0,12	0,1	3,2	1,58	2,2	11,4		0,8	0,95					20.12.95
132	28		0,1	0,1	3,5		2,8	12,8	0,006	1,6	0,57					21.01.96
68,2	22,3		0,146	0,11	6,2	2,53	2,4	10,8	0,004	0,8	0,63					10.02.96
470	30,6		0,3	0,26	6,9	3,13	5,1	18,4	0,005	1,2	0,44					18.03.96
124	32		0,23	0,16	5,9	1,53	3,2	14,9	0,002	0,8	0,41					13.04.96
142	33		0,16	0,38	9,1	0,77	3,6	26,6	0,006	1,8	0,5					20.05.96
55,8	27,6		0,03	0,07	9,6	0,39	2	9,9	0,009	0,8	0,91					18.06.96
48,5	28,6		0,49	0,12	1,8	0,49	3	14,5	0,008	0,4	1,17					22.07.96
48	21,6		0,04	0,23	5,4	0,59	2	7,8	0,006	0,8	1,02					20.08.96
220	39,3		0,03	0,16	4,3	0,89	3,5	11,2	0,003	0,2	0,09					19.09.96
481	24		0,05	0,19	2,8	0,7	3,3	14,4	0,003	1,4	0,61					22.10.96
57,2	28		0,08	0,29	3,9	1,98	3,6	10,9	0,004	1,8	0,23					18.11.96
75,1	26,7		0,1	0,26	5,4	1,93	3,9	14	0,003	1,6	0,7					15.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the am.Oradea Gauging Station 50

(according with WQNMS list)

River: Crisul Repede Km: 133 Quality: 1004-I;1995-I;1996-I;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fe	Pb	Zn					
39,9	29		0,03	0,06	5	0,15	4,2	3,5	0,1	0	0,008					13.01.94
48,3	15		0,03	0,04	3,1	0,18	2,5	2,9	0,08	0,006	0,013					02.02.94
9,8	6		0,01	0,03	2,8	0,05	2,8	2,4	0,2	0	0,007					02.03.94
34,3	12		0,09	0,03	2,3	0,25	2,6	3,5	0,19	0,006	0,002					06.04.94
22,4	9		0,036	0,05	3,6	0,29	2,2	2,9	0,16	0,006	0,005					05.05.94
28,9	39		0,075	0,03	4,3	0,12	2,8	3,4	0,27	0,002	0,002					08.06.94
22,1	12		0,018	0,04	2,7	0,79	2	2,1	0,09	0,003	0,008					07.07.94
8,17	6		0,102	0,03	3,7	0,08	4,3	4,8	0,17	0,038	0,033					03.08.94
6,25	8			0,03	1,2	0,08	6,9	3,7	0,02							08.09.94
3,02	12		0,033	0,03	2,9	0,02	2,4	5,3	0,11	0	0,025					06.10.94
4,95	3			0,01	2,3	0,06	5,7	3,2	0,38	0	0,006					02.11.94
4,95	6		0,007	0,24	6,7	0,15	4,7	6,2	0,12	0,002	0,039					07.12.94
5,6	10		0,038	0,04	3,9	0,04	3,6	6,6	0,08	0	0,008					12.01.95
35,7	23		0,066	0,03	4,1	0,03	2,3	2,6	0,07	0	0,006					02.02.95
20,2	15		0,005	0	3,5	0,07	2,8	3,8	0,19	0	0,011					23.03.95
34,3	15		0,051	0,004	3,9	0,1	1	4,3	0,13	0,004	0,003					05.04.95
69	44		0,013	0,02	4,4	0,2	2,2	3,8	0,2	0,007	0,011					03.05.95
63,8	28		0,054	0,04	3,8	0,18	2,2	3,5	0,27	0,009	0,014					07.06.95
14,6	37		0,02	0,03	3,7	0,99	3,4	5,8	0,08	0,003	0,005					05.07.95
10,6	9		0,07	0,01	2,5	0,03	4,4	1,9	0,13	0	0,005					02.08.95
11,4	16		0,01	0,03	3,9	0,17	1,6	2,7	0,03	0,003	0,007					07.09.95
12,3	19			0,02	2,9	0	4,6	10,6	0,24	0	0,015					04.10.95
21,9	13		0,007	0,02	2,3	0,03	4,4	4,6	0,08	0	0,007					14.11.95
30	22				2,6	0,23	3,8	4,5	0,05	0	0					07.12.95
71,6	58		0,024	0,14	8,4	0,45	3,9	4,8	0,09	0	0,014					11.01.96
40	44		0,058	0,04	10,9	0,32	4,7	5	0,07	0	0,02					06.02.96
11,5	20		0,029	0,04	5,6	0,02	4,1	4,8	0,09	0	0,011					13.03.96
38,5	68		0,017	0,07	7,8	0,27	2,2	5	0,09	0,012	0					10.04.96
39	25		0,046	0,12	6,5	0,15	4,8	4,2	0,06	0	0,002					21.05.96
12,7	16		0,01	0,07	23,5	0,17	3	2,2	0,19	0,003	0,013					11.06.96
18,2	23		0	0,03	7,5	0,19	3,8	2,6	0,02	0,014	0,003					09.07.96
21,1	30		0,04	0,02	15,3	0,15	4,3	3,8	0,1	0,007	0,001					20.08.96
44,1	69		0,05	0,07	3,8	0,37	2,5	3,5	0,07	0,018	0,011					18.09.96
12,2	34		0,024	0,03	4,2	0,14	1,5	3,2	0,09	0	0,002					08.10.96
16,2	15		0,012	0,02	4,8	0,09	2,1	3,6	0,08	0,002	0,008					12.11.96
45,5	11		0,01	0,03	5	0,12	1,2	2,2	0,14	0	0,022					05.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Cheresig Gauging Station 51

(according with WQNMS list)

River: Crisul Repede Km. 168 Quality: 1994-II; 1995-II; 1996-I)

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Fenoli	Pb	Zn	Fe					
43,8	37		0,16	0,31	6	0,15	3,5	0,004	0,002	0,003						13.01.94
46,1	15		0,13	0,06	3,4	0,3	1	0,006	0,01	0,017						02.02.94
13,2	8		0,19	0,12	5,2	0,17	3,3	0,002	0,006	0,014						02.03.94
37,4	12		0,48	0,21	2,6	0,26	4,5	0,009	0,016	0,003						06.04.94
25,3	22		0,13	0,44	5,8	0,3	2,6	0,002	0	0,005						05.05.94
31,6	19			0,04	3,5	0,14	5,3	0,002	0,002	0,003						08.06.94
20,3	12		0,2	0,44	6,7	0,32	11,8	0,003	0,028	0,003						07.07.94
5,06	8		0,29	1,3	4	0,15	6,1	0,001	0,042	0,03						03.08.94
6,27	9		0,24	0,08	6,7	0,53	6,8	0,002								06.09.94
4,34	13		0,08	1,14	14,3	0,97	1,9	0	0	0,011						06.10.94
5,84	3			0,45	6,8	1,07	5,5		0,05	0,009						02.11.94
5,24	16		0,52	0,03	2,9	2,29	1,2	0	0,06	0,046						7.12.94
6,43	15		0,4	0,12	5,7	1,52	3,9	0,009	0,005	0,008						12.01.95
8,5	21		0,69	0,06	5,4	0,5	2,9	0,009	0	0,018						02.02.95
16,4	10		0,11	0	4,6	0,15	8,8	0,004	0,01	0,025						23.03.95
35,1	21		0,12	0,7	6,3	0,2	2,7	0,004	0,06	0,01						05.04.95
36,4	22		0,11	0,9	4,5	0,57	3,7	0,006	0,014	0,014						03.5.95
6,4	30		0,13	0,9	4,5	0,21	4,8	0,01	0,01	0,02						07.06.95
16	19		0,23	0,7	4,3	0,68	5,9	0,006	0,006	0,012						05.07.95
11,8	13		0,18	0,26	6,5	0,03	4,8	0,008	0,006	0,01						02.08.95
7,65	15		0,16	0,81	7,7	0,79	3,1	0,007	0,004	0,008						07.09.95
13,2	24		0,14	0,31	6,2	0,61	2,6	0,008	0	0,021						04.10.95
23,8	15		0,1	0,11	3,6	0,79	4,7	0,006	0,004	0,015						14.11.95
31,5	23			0,08	6,6	1,7	2,8	0,005	0	0,021						07.12.95
76,1	46		0,058	0,06	10,5	0,77	4		0,011	0,02	0,09					11.01.96
46,2	48		0,111	0,05	8,9	0,78	4,4		0	0,022	0,13					06.02.96
7,08	24		0,192	0,1	9,4	1,24	4,8		0	0,016	0,18					13.03.96
36,5	62		0,07	0,13	9,2	0,4	2,9		0,025	0	0,13					10.04.96
40	13		0,092	0,29	7,4	0,25	4,1		0	0,001	0,06					21.05.96
10,6	18		0,2	1,13	22	0,81	7		0,005	0,014	0,03					11.06.96
17,1	32		0,094	0,59	9,6	0,98	4,9		0,004	0,007	0,11					09.07.96
17,5	30		0,224	1,1	11,2	1,42	4,3		0,02	0,005	0,08					20.08.96
53,5	83		0,102	0,18	8,9	0,88	2,2		0,011	0,01	0,26					18.09.96
17,4	38		0,11	0,15	6,7	0,17	2,5		0	0,002	0,07					08.10.96
25,6	40		0,12	0,14	5,9	0,33	3,1		0,004	0,004	0,2					12.11.96
45,9	20		0,07	0,09	7,3	0,39	3,5		0	0,035	0,12					05.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Parhida Gauging Station 54

(according with WQNMS list)

River: Barcau Km. 128 Quality: 1994-II;1995-II;1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Fenoli	Fe	Cco-Mn	S.extr.					
4,56	62			0,22	6,8	0,05	2,5	0,009	0,42	6,7	0,2					11.01.94
3,7	34			0,22	1,9	0,24	6,6	0,007	0,36	7,4	2,3					02.02.94
5,27	53			0,16	3,2	0,45	4,3	0,004	0,63	5,6	0,5					10.03.94
6,62	48			0,26	4,5	0,41	1,9	0,022	0,74	5,4	1,1					13.04.94
3,31	33			0,11	3,8	0,27	3,7	0,002	0,24	7,7	0,5					11.05.94
3,8	556			0,17	5,3	0,37	2	0	0,15	16,2	0,1					15.06.94
1,86	45			0,41	7,8	0,6	3	0	0,48	7,2	0,5					13.07.94
0,612	15			0,29	5,7	0,15	3	0,012	0,28	9,4						10.08.94
1,14	34			0,71	7,5	0,29	2,4	0	0,28	7,2						01.09.94
1,27	12			0,62	3,6	1,15	2,8	0,002	0,15	6,4						12.10.94
0,955	16			0,07	3,2	1,9	3,2	0,003	0,32	8,6	0,2					10.11.94
1,24	17			0,06	5	3,73	3,4	0,002	0,39	5,8						07.12.94
1,08	19			0,12	5,1	3,08	8,3	0,005	0,72	7	0,5					10.01.95
4,15	126			0,18	7,2	0,51	2,5	0,009	0,54	4,8	0,1					08.02.95
34,2	245			0,09	11,9	1,39	4,3	0		8,3	0					02.03.95
3,69	99			0,15	6,3	0,4	4,3	0,006	0,52	2,2	0,1					11.04.95
4,68	104			0,32	2,7	1,36	2,3	0,03	0,61	8	0,4					10.05.95
3,69	190			0,05	6,6	0,26	2,2	0,007	0,65	8	0,6					21.06.95
2,18	34			0,29	8,8	0,34	2,2	0,003	0,51	7,5	1,5					11.07.95
1,14	20			0,37	8,1	0,44	2,7	0,019	0,49	5,8	0,2					08.08.95
5,44	83			0,41	4,7	0,7	2,3	0,007	0,16	5,8	0,2					13.09.95
1,27	49			0,56	7,1	1,49	2,3	0,006	0,79	5,7	0					10.10.95
1,11	26			0	10,1	1,44	3,2	0,042	0,48	9,6	1,3					02.11.95
2,63	68			0,69	9,6	1,36	6,4	0,01	0,37	8,2	0,5					04.12.95
11,1	59		0,128	0,11	11,1	0,43	4	0,043	0,24	5,9	0,1					09.01.96
3,53	68		0,046	0,08	8,1	1,09	6,4	0,012	0,14	6,4	0,2					01.02.96
4,15	48		0,129	0,12	10,3	0,89	4,7	0,011	0,16	3,2	0					05.03.96
10,8	103		0,128	0,09	9,1	0,38	5,1	0,007	0,72	7	0					02.04.96
4,57	61		0,063	0,17	8,4	0,63	3	0,004	0,16	6,6	1					07.05.96
3,12	98		0,104	0,35	4,2	0,56	6	0,006	0,09	5	1,6					04.06.96
2,18	53			0,44	8,6	0,64	3,1	0,006	0,04	2,1	1,5					02.07.96
3,54	87		0,11	0,41	6,3	1,13	5,1	0,007	0,26	9,8	1,3					07.08.96
4,07	389			0,21	5,5	0,67		0,006	2,9	33,6	3,6					03.09.96
9,76	130		0,206	0,05	9,1	0,39	8,2	0,007	0,19	10,8	0,8					02.10.96
7,4	89		0,08	0,15	1	0,32	6,3	0,003	0,17	4,6	1,3					05.11.96
39,6	85		0,085	0,05	15	0,98	3,9	0,002	1,71	23,6	4,1					02.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Ungheni Gauging Station 58

(according with WQNMS list)

River: Mures Km. 212 Quality: 1994-II; 1995-II; 1996-II;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											Date
				NO2	NO3	NH4	CBO_5	Fenoli	Fe	CCO-Mn					
32,7	10		0,09	0,23	13,2	1,7	2		0,41	3,3					10.01.94
45,3	29,6		0,06	0,17	12,1	1	2,4	0,001	0,37	3,3					09.02.94
36,2	24		0,04	0,2	10,6	1,2	2,8	0,002	0,13	2,1					09.03.94
68,2	81,6		0,05	0,17	9,3	1,3	4	0,004	0,67	3,6					13.04.94
28,4	5		0,06	0,3	10	2,1	3,9	0,001	0,2	3,2					11.05.94
28,4	92,2		0,08	0,23	6,8	1	4,2	0,002	0,79	7,1					08.06.94
16,2	22,6		0,17	1,1	13,8	4,1	3,7	0,003	0,4	3,5					13.07.94
10,2	34		0,17	1,74	17,4	4,9	4,3	0,002	0,6	4,9					10.08.94
9,2	17,2		0,22	1,74	21,8	5,9	4,1	0,002	0,32	4,8					07.09.94
12,4	116,4		0,12	0,92	16,6	4,7	2,5	0,007	0,64	4,9					12.10.94
7,9	21,8		0,05	0,47	2,4	7	5		0,35	5,2					09.11.94
6,17	17,2		0,07	0,44	27	6,8	7,4	0,002	0,45	5,8					07.12.94
8,9	5		0,17	0,57	27,9	6,18	5,4		0,23	3,3					12.01.95
16,4	14,6		0,13	0,15	30,3	3,5	3,8	0,002	0,23	3,4					08.02.95
57,2	74,2		0,06	0,05	11,1	0,9	4,9	0,002	0,82	6,1					07.03.95
50,8	26,2		0,07	0,09	10,2	0,98	2		0,38	3,6					12.04.95
72,4	51		0,06	0,14	6,3	0,94	3,1	0,006	0,65	5,4					10.05.95
51,8	33,2		0,1	0,57	19,8	2,15	3,5	0,003	0,45	4,3					07.06.95
13,2	19,8		0,13	1,17	14,3	3,1	4,4	0,003	0,36	4,7					12.07.95
10,8	11		0,13	1,7	13,5	4	2,1	0,001	0,24	4,9					09.08.95
33,5	157		0,01	0,21	7,3	1,66	2,7	0,004	1,25	9,3					06.09.95
13,2	13,4		0,01	0,36	14	3,32	4,2	0,003	0,13	4,4					11.10.95
10,2	17,6		0,07	0,21	18,2	6,1	4,6	0,002	0,28	4,2					08.11.95
14,6	6		0,04	0,1	11,7	3	5,6	0,003	0,34	3,2					06.12.95
29,9	38,8		0,065	0,17	14,1	1,73	4,1	0,001	0,44	6,2					10.01.96
9,9	18,8		0,081	0,12	18,6	3,32	3,8	0,003	0,02	3,3					07.02.96
6,35	8,6		0,06	0,38	21,1	5,84	2,9	0,006	0,09	3,6					06.03.96
32,6	36,2		0,055	0,19	17,9	2,87	3	0,004	0,25	7,8					03.04.96
54	34		0,023	0,17	7,2	1,69	3,2	0,004	0,03	5,2					08.05.96
15,6			0,118	0,29	15,1	3,6	3,7	0,008	0,02	7,5					12.06.96
14,1	101,8		0,157	1,07	14,4	2,67	3,8	0	0,22	6,8					10.07.96
13,4	12,8		0,121	1,04	11,3	2,05	3,2	0,001	0,02	5,8					07.08.96
19,8	33,8		0,105	0,57	14,2	2,67	4,3	0,001	0,06	6,5					11.09.96
20,5	36,6		0,049	0,27	10,9	2,7	3,8	0,001	0,01	5,6					09.10.96
18,3	10,4		0	0,13	8,4	2,4	4		0,02	3,6					06.11.96
27,3	4,4		0,025	0,08	8,6	2,69	3,7	0,004	0,22	3,9					11.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Chetani Gauging Station 61

(according with WQNMS list)

River: Mures Km. 290 Quality: 1994-II; 1995-II; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Fenoli	Fe							
45	67,4		0,08	0,27	14,6	1,8	2,3	0,002	0,58							10.01.94
67,3	92		0,04	0,2	11,9	0,8	2,8	0,001	0,7							09.02.94
48,1	25,4		0,05	0,34	11,3	1,1	2,1	0,003	0,11							09.03.94
87,8	200		0,04	0,32	9,7	2,5	4,5	0,004	1,83							13.04.94
43,3	44,2		0,09	0,53	14,3	0,8	2,6	0,003	0,34							11.05.94
35,7	79,2		0,1	0,75	13,1	1,3	3,8	0,003	0,69							08.06.94
23,4	17,4		0,19	1,4	22,5	1,6	2	0,003	0,21							13.07.94
12,5	24		0,24	1,74	21,1	1,9	2,2	0,001	0,24							10.08.94
1	21,8		0,29	2,35	34,7	3,1	2,6	0,001	0,21							07.09.94
24,5	53,4		0,19	1,47	23,8	2	2,3	0,005	0,69							12.10.94
11	18,4		0,03	0,61	27,2	2,3	5,6		0,4							09.11.94
9,2	20,8		0,07	0,59	27,5	1,6	10,9	0,003	0,5							07.12.94
14,2	18,2		0,21	0,53	36,8	3,93	2,7		0,29							12.01.95
22,2	54,6		0,27	0,1	26,6	4,4	5,7	0,001	0,65							08.02.95
56,3	37		0,13	0,14	16	1,26	3,2		0,53							08.03.95
60,8	25,2		0,06	0,14	9,6	0,8	2,3		0,37							12.04.95
56,3	20		0,15	1,44	4,9	1,6	3,3	0,005	0,82							07.05.95
15	23,8		0,1	0,8	15,4	1,12	3,6	0,003	0,21							12.07.95
14,2	8		0,17	1,48	24,3	3,65	7,3	0,001	0,2							09.08.95
33,8	32,4		0,09	0,68	12,6	0,89	3,6	0,002	0,35							06.09.95
16	22		0	1,05	22,1	1,26	2,8		0,22							11.10.95
14,2	2		0,02	0,69	19,4	1,83	7,3		0,27							08.11.95
20	7,6		0,04	0,16	12,8	3	6,6		0,28							06.12.95
56	105,5		0,053	0,15	19,6	2,28	3,2		0,44							10.01.96
21,2	19,8		0,1	0,2	23,3	5,6	3,8		0,01							07.02.96
15,2	4		0,062	0,3	25,2	4,35	3,3		0,07							06.03.96
51,5	209		0,06	0,14	12,3	3,71	5,5		0							03.04.96
56	1700		0,089	0,58	11	2,38	51,6		0,45							08.05.96
11,3	8		0,019	0,68	25,6	3,7	3,4		0,06							12.06.96
20,4	77,8		0,176	0,59	23,1	1	2,4		0,32							10.07.96
14	15,4		0,15	1,71	23,4	1,69	2,6		0,1							07.08.96
22,8	15,2		0,159	1,18	21,8	2,02	2,6		0,02							11.09.96
31,1	37		0,192	0,48	35,7	0,82	4,8		0,05							09.10.96
25,9	7,8		0,019	0,6	14,2	1,48	2,5		0,03							06.11.96
32,4	45,8		0,031	0,22	16,3	1,78	6,8		0,06							11.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Buru Gauging Station 64

(according with WQNMS list)

River: Aries Km. 115 Quality:

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	CN	Fenoli	Fe					
24,8	94,6		0,08	0,09	3,8	0,69	1,8	6,3	0,012	0	0,06					11.01.94
24,8	75		0	0,11	3,6	0,21	2	3,8	0,005	0	-0,7					08.02.94
22,1	68,7		0	0,02	3,3	0	1,5	4,1	0,016	0,018	0,67					08.03.94
32,2	417		0,11	0,11	3,3	0,043	1,9	6,4	0,01	0,005	0,8					11.04.94
23,7	112,7		0,014	0,02	3	0	2,1	5,9	0,003	0,004	0,16					10.05.94
14,8	49,3		0	0,04	2,5	0	2,2	4,3	0,005	0,007	0,27					07.06.94
16,6	37		0,053	0,08	1,6	0,39	2,5	6,3	0,005	0,01	0,49					11.07.94
8,13	52,3		0,056	0,16	1,5	0,7	2,1	6,5	0,013	0,011	0,41					09.08.94
6,46	56		0	0,02	2,2	0,45	2,1	5,6	0,02	0,009	0,73					06.09.94
9,13	69		0,006	0,03	1,7	0,47	1,5	7,3	0,007	0,007	0,21					11.10.94
7,72	103,3		0,009	0,07	2,2	0,42	2,1	4,5	0,036	0,004	0,12					08.11.94
4,13	94,3		0,009	0,13	1,8	0,21	2,1	9,5	0,004	0,009	0,2					06.12.94
9,97	140,3		0,009	0,05	3,5	0,13	1,5	6,3	0,008	0,028	0,29					09.01.95
10,4	147		0,08	0,05	4,3	0,15	1,3	7,8	0,013	0,023	0,27					07.02.95
33,3	97		0,026	0,1	4,4	0,25	1,3	5	0,009	0,005	0,41					07.03.95
34,4	101		0,059	0,08	2,3	0,21	1,4	4,2	0,007	0,012	0,39					10.04.95
29,7	66		0,067	0,03	2,3	0,27	1,3	4,7	0,016	0,004	0,58					09.05.95
54,3	149		0,097	0,08	3,8	0,25	1,4	10,3	0,009	0,003	0,57					05.06.95
17,8	133		0,01	0,31	2,6	0,15	1,5	4,6	0,006	0,011	0,2					11.07.95
8,17	104		0	0,18	2,5	0,55	1,6	5,7	0,004	0,007	0,1					08.08.95
11	210		0,06	0,23	2,2	0,46	1,3	11,7	0,009	0,006	0,79					05.09.05
9,57	38,7		0,03	0,12	2,8	0,44	1,3	9,8	0,004	0,005	0,8					09.10.95
7,4	44,7		0,02	0,12	2	0,59	1,2	4,3	0,003	0,008	3,8					07.11.95
15,7			0,1	0,07		0,51	1,2	5,3	0,016	0,004	4,6					05.12.95
32,3	41		0,045	0,05	4,2	0,42	1,8	3,6	0,009		3,11					09.01.96
4,4	104,6		0,04	0,12	3,7	0,29	2,1	3,6	0,021		0,2					05.02.96
5,5	50,4		0,03	0,04	2,2	0,65	1,9	3,8	0,004		0,01					04.03.96
23,5	145		0	0,14	3,9	0,67	1,5	4,4	0,01		0,17					03.04.96
33,3	58,7		0,028	0,05	3	0,75	1,7	4,4	0,007		0,01					07.05.96
11,5	57,6		0,011	0,06	3,1	0,35	2	3,9	0,006		0,08					10.06.96
36,5	94		0,029	0,09	2,8	0,04	2	9,5	0,007		0,13					09.07.96
9,83	58		0,033	0,03	2,5	0,22	1,4	5,2	0,012		0,08					06.08.96
42,9	126		0,023	0,05	2,1	0,6	1,3	6,7	0,01		0,88					10.09.96
13,8	46		0,033	0,06	1,9	0,77	1,8	8,5	0,009		0,07					08.10.96
13,2	92		0,025	0,05	3,2	0,19	1,7	5	0,003		0,04					05.11.96
21,1	74		0,038	0,05		0,37	1,9	5,8	0,01		0,22					09.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Gligoresti Gauging Station 65

(according with WQNMS list)

River: Aries Km. 156 Quality: 1994-II; 1995-III; 1996-D;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Zn	Cu	Fe	Fenoli	Cco-Mn				
24,9	76,6		0,003	0,45	4,5	2,91	1,8	0,002	0,03	0,005	0	6,5				11.01.894
	93,3			0,035	4	1	2	0,009	0,009	0,4	0	7,1				08.02.94
22,8	73,6		0	0,1	4,7	0,24	1,6	0,012	0,008	0,36	0,007	4,5				08.03.94
33,1	106		0	0,23	4,5	0,98	2	0,01	0,014	0,18	0,004	6,3				11.04.94
24,9	115		0,002	0,002	3,6	0,27	2,2	0,008	0,038	0,45	0,004	5,1				10.05.94
15,7	68,6		0,3	0,016	3,8	0,25	2,5	0,005	0,023	0,41	0,008	4,7				06.06.94
13,9	65,3		0	0,28	3,6	0,22	1,2	0,021	0,02	0,77	0,008	4				12.07.94
8,83	64,6		0,001	0,74	5,7	0,21	1,2	0,012	0,011	0,33	0,007	4,4				09.08.94
7,86	71		0,002	0,1	7,7	0,22	2,5	0,11	0,013	0,34	0,012	5,8				06.09.94
28,1	82		0,001	0,23	2,3	0,22	1,1	0,03	0,018	0,46	0,01	7,1				10.10.94
21,9	93		0,006	0,28	15,2	0,25	2		0,002	0,14	0,007	6,5				09.11.94
	89		0,02	0,22	4,7	0,91	2	0,01	0,021	0,67	0,007	8,4				06.12.94
12,2	159,6		0,003	0,16	4,4	0,11	1,7		0,035		0,02	5,2				10.01.95
22,2	116		0,008	0,23	4,7	0,15	1,8	0,025	0,032		0,041	3,8				07.02.95
35,3	99,3		0,002	0,13	4,2	0,3	1,4	0,04	0,021		0,008	4,5				07.03.95
28,2	228		0,005	0,09	3	0,24	1,3	0,068	0,034		0,015	11				10.04.95
33	105		0,006	0,06	3,1	0,25	1,3	0,019	0,029		0,007	5,3				09.05.95
60,3	218		0,002	0,005	4,5	0,22	2,1	0,11	0,032		0,004	14				06.06.95
16,9	359		0,005	0,34	4,6	0,14	1,3	0,019	0,023		0,012	6,6				11.07.95
8,35	145		0,007	0,43	3,6	0,4	1,3	0,012	0,015		0,008	7,3				08.08.95
11,1	128,7		0,005	0,43	4,9	0,27	1,3	0,012	0,039		0,007	5,8				05.09.95
9,87	123		0,003	0,51	4	0,44	1,3	0,15	0,09		0,006	4,5				10.10.95
8,83	54,6		0	0,67	4,8	1,01	1,2	0,496	0,06		0,007	6,1				07.11.95
16,1	94,7		0,1	0,13	3,4	0,81	1,2	0,23	0,054		0,005	4,4				05.12.95
99,3	84,7		0,08	0,2	4	0,85	1,3	0,26	0,263	4,44		6,1				09.01.96
14	43,3		0,039	0,16	4,7	0,93	1,5	0,241	0,041	0,12		3,8				06.02.96
4,93	128		0,081	0,43	3,4	0,95	1,8	0,084	0,012	0,05		9,1				05.03.96
34,7	114		0,05	0,2	3,7	0,88	1,6	0,062	0,025	0,06		6,7				03.04.96
47,4	94,7		0,044	0,17	3	0,65	1,7	0,053	0,019	0,17		4,1				06.05.96
10,6	53,3		0,046	0,41	3,5	0,15	2,23	0,039	0,009	0,08		4,7				10.06.96
16,5	100,3		0,035	0,15	3,5	0,81	1,9	0,089	0,011	0,06		8,4				09.07.96
12	102		0,016	0,28	3	0,26	1,4	0,099	0	0,16		6				06.08.96
32,3	149		0,019	0,17	2,8	1,02	1,3	0,079	0	0,26		8,4				10.09.96
14,9	92		0,041	0,1	2	0,44	1,7	0,002	0,018	0,01		5,4				08.10.96
14,4	92		0,02	0,05	4,3	0,19	1,9	0,09	0,05	0,33		3,5				05.11.96
23,2	67,6		0,049	0,06	4,2	0,13	1,6	0,036	0,003	0,01		3,8				10.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Amonte Blaj Gauging Station 71

(according with WQNMS list)

River: Tarnava Mare Km. 220 Quality: 1994-D: 1995-D; 1996-D.

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Zn	Cu	Cd	Fe	CCO-Mn	Fenoli	Pb		
16	122,6		0,01	0,44	9,4	3,34	3,2	0,086	0,043	0,015	0,08	11,4	0,013	0,046		11.01.94
17	137		0,2	0,18	8,1	3,4	3,4	0,044	0,025	0,04	3,7	10,9	0,015	0,023		08.02.94
16	83		0,09	0,36	10,3	1,7	2,6	0,024	0,027	0,043	2,8	8,7	0,02	0,02		08.03.94
20,3	136,6		0,05	0,26	9,3	0,98	2,5	0,025	0,006	0,021	0,11	7,6	0,013	0,029		12.04.94
10,8	97,3		0,06	0,07	9,1	0,41	4,1	0,027	0,0033	0,053	0,12	8,3	0,006	0,03		10.05.94
62,8	87,3		0,09	0,28	9,8	3,5	3,1	0,013	0,021	0,007	0,35	13,7	0,01	0,03		7.06.94
11,1	11,6		0	0,06	8,1	0,58	2,1	0,014	0,02	0,022	0,29	6,9	0,003	0,23		12.07.94
4,2	94,6		0,02	0,21	8,5	0,67	2	0,024	0,026	0,035	0,42	7	0,003	0,018		09.08.94
4,5	105,6		0,01	0,04	5,4	0,5	2,2	0,009	0,034	0,026	0,72	8	0,017	0,021		06.07.94
4,95	115		0,02	0,22	4,4	0,45	1,9	0,011	0,4	0,009	0,18	7,9	0,009	0,027		11.10.94
3,74	120		0,02	0,04	4,5	5,4	2	0,017	0,02	0,006	0,26	12,1	0,009	0,033		08.11.94
2,83	112		0,01	0,28	2,2	1,25	2	0,02	0,038	0,003	0,34	6,3	0,004	0,012		06.12.94
4,41	247		0,04	0,2	7,7	0,3	1,5	0,186	0,036	0,018	0,29	9,9	0,02	0,153		11.01.95
6,99	88,3		0,05	0,17	7,7	0,35	1,6	0,205	0,042	0,021	0,26	5,5	0,028	0,034		08.02.95
12,7	71		0,04	0,18	7,2	0,3	1,4	0,37	0,009	0,033	0,19	7,9	0,004	0,047		08.03.95
11,3	103		0,04	0,17	5,5	0,5	1,2	0,713	0,32	0,03	0,31	13,5	0,02	0,043		11.04.95
13,9	98,7		0,07	0,06	5,5	0,5	1,4	0,08	0,3	0,022	0,1	7,5	0,015	0,035		10.05.95
13,7	205		0,02	0,23	9,3	0,15	1,9	0,26	0,28	0,032	0,13	10,3	0,007	0,042		06.06.95
5,03	40		0,04	0,11	7,2	0,2	1,4	0,11	0,034	0,033	0,45	12,6	0,019	0,033		12.07.95
3,63	62,7		0,05	0,25	6,4	0,22	1,3	0,034	0,025	0,038	0,12	9,8	0,013	0,01		08.08.95
5,89	80		0,12	0,22	8,8	0,7	1,5	0,038	0,035	0,023	0,41	9,2	0,018	0,023		06.09.95
6,57	155		0,07	0,41	8,6	0,34	2	0,55	0,04	0,026	0,5	8,9	0,009	0,05		11.10.95
5,78	385		0,05	0,36	8,4	0,65	1,4	0,77	0,016	0,019	1,04	11,7	0,013	0,028		08.11.95
12,7	112		0,12	0,21	7,9	0,47	1,3	0,48	0,025	0,02	0,72	6,2	0,007	0,02		06.12.95
35,6	76,3		0,11	0,12	6,7	1,44	1,5	0,397	0	0	1,59	6,7		0,013		09.01.96
9,89	177		0,011	0,28	9,4	1,18	2,3	0,388	0,016	0	0,03	6,2		0,071		06.02.96
8,3	102		0,035	0,42	8,7	1,4	1,5	0,339	0,013	0	0,28	6		0,006		06.03.96
25,6	329,7		0,074	0,12	8,7	1,2	1,5	0,022	0,013	0	0,01	10,6		0,05		04.04.96
18,4	278		0,12	0,13	7,4	1,13	1,4	0,033	0,005	0	0,13	9,9		0,01		07.05.96
6,66	183,3		0,091	0,2	8,2	1,2	2,4	0,106	0,007	0	0,05	7,6		0		11.06.96
8,6	105		0,049	0,17	7,7	0,5	2,1	0,109	0,004	0	0,03	6,9		0		10.07.96
6,16	111,3		0,044	0,28	9,1	0,7	1,4	0,088	0	0,003	0,02	4,6		0		06.08.96
6,76	1,7		0,043	0,16	9,8	0,22	1,7	0,193	0	0	0,15	7,3		0,1		11.09.96
10,2	125		0,05	0,12	11,3	0,32	1,7	0,273	0,007	0	0,03	6,9		0		08.10.96
6,56	109		0,039	0,05	8,6	0,12	1,8	0,256	0,006	0	0,04	4,4		0		05.11.96
10,9	50,6		0,103	0,06	8	0,18	2,1	0,069	0,002	0,004	0,02	6,3		0		11.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Annex 3.11-1

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Mihalt Gauging Station 76

(according with WQNMS list)

River: Tarnave Km. 244 Quality: 1994-D; 1995-D; 1996-D;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fe	Cr	Cu	Pb	Zn	Cd		
35	102,3		0,01	0,28	10,1	1,83	2,5	9,4	0,06	0,036	0,026	0,043	0,035	0,028		11.01.94
28,7	123,6		0,15	0	9,9	0,68	2,5	9,5	3,73	0,02	0,16	0,02	0,017	0,03		08.02.94
21,6	89,6		0,01	0	6,9	0,24	2,6	9,1	3,1	0,009	0,019	0,008	0,017	0,03		08.03.94
41,7	254		0,01	0,04	8,6	0,68	2,1	11,1	0,14	0,009	0,003	0,023	0,015	0,006		12.04.94
22,7	115		0,18	0,04	7,8	0,41	4,1	8,2	2,9	0,01	0,002	0,02	0,016	0,001		10.05.04
70,6	151		0,13	0,02	7,5	0,7	4,5	18,2	0,17	0,01	0,02	0,01	0,007	0,022		07.06.94
16	106,3		0,05	0,03	6,8	0,75	2,8	8,3	0,49	0,024	0,003	0,021	0,012	0,027		12.07.94
7,83	124,3		0,07	0,03	6,2	0,69	2,4	7,6	0,47	0,035	0,008	0,016	0,015	0,033		09.08.94
7,23	109		0,01	0,12	1,6	0,44	1,9	11,6	0,62	0,02	0,037	0,014	0,005	0,018		06.09.94
8,4	107		0,02	0,06	2,8	0,36	1,6	9,8	0,18	0,18	0,018	0,017	0,005	0,007		11.10.94
5,75	111		0,04	0,08	4,4	0,7	2,1	11,9	0,27	0,043	0,015	0,013	0,01	0,014		08.11.94
3,25	106,6		0,04	0,29	3,2	0,85	2,1	8,6	0,4	0,007	0,015	0,015	0,1	0,004		06.12.94
9,13	109,7		0,02	0,28	7,2	0,6	8,3	10,2	0,031	0,065	0,011	0,093	0,126	0,001		11.01.95
9,2	75,7		0,04	0,26	6,9	0,5	1,5	9,8	0,25	0,103	0,007	0,028	0,112	0,002		08.02.95
14,7	99		0,05	0,17	4,8	0,4	1,4	8,5	0,16	0,13	0,011	0,024	0,186			08.03.95
20,7	81		0,04	0,24	4,2	0,55	1,2	8,5	0,31	0,11	0,025	0,023	0,324	0,018		12.04.95
22,8	90		0,06	0,09	4,1	0,45	1,1	7,2	0,11	0,073	0,027	0,018	0,05	0,013		10.05.95
25,9	234		0,04	0,3	7,8	0,3	1,3	13,7	0,13	0,34	0,021	0,021	0,13	0,017		06.06.95
12,7	63		0,02	0,1	4,2	0,3	1,5	6,6	0,26	0,055	0,021	0,014	0,04	0,013		12.07.95
7,98	60		0,03	0,24	4,5	0,3	1,2	10,6	0,11	0,083	0,02	0,006	0,015	0,015		09.08.95
9,8	79,3		0,07	0,25	4,7	0,51	1,5	9,6	0,24	0,062	0,025	0,018	0,028	0,011		06.09.95
8,93	104		0,01	0,17	6,6	0,37	2,1	6,7	0,51	0,23	0,03	0,032	0,38	0,014		11.10.95
10,2	210		0,05	0,34	7,1	0,46	1,3	3,6	0,53	0	0,03	0	0,25	0,016		08.11.95
19,2	103		0,09	0,15	6,5	0,51	1,3	7,9	0,81	0,03	0,038	0,008	0,28	0,01		06.12.95
75	123,6		0,26	0,11	7,3	1,28	1,7	7,1	1,75	0	0,017	0	0,375	0		10.01.96
19,4	110		0,011	0,29	8,6	0,69	2,1	4,4	0,06	0,226	0,02	0,08	0,258	0		07.02.96
14,6	98		0,038	0,33	4,8	1,05	1,8	6,6	0,019	0,155	0,02	0,063	0,244	0		06.03.96
45,7	330		0,5	0,13	7,4	0,9	1,5	10,3	0,09	0,016	0,009	0	0,022	0		04.04.96
34,5	96		0,1	0,13	6,8	0,83	1,6	09.•••	0,14	0	0,018	0	0,039	0		08.05.96
12,8	176		0,095	0,24	7,7	0,77	2,3	8,3	0,09	0,137	0,034	0	0,077	0		11.06.96
13,1	101		0,036	0,21	6,7	0,44	2,1	5,9	0,03	0,03	0,015	0	0,102	0		10.07.96
7,83	113,3		0,036	0,32	8,2	0,52	1,6	5,2	0,02	0,03	0	0	0,081	0		07.08.96
11,8	171		0,4	0,2	7,3	0,41	1,6	9,5	0,21	0,06	0	0,001	0,103	0		11.09.96
16	112,6		0,34	0,21	10,7	0,75	1,7	6,4	0,01	0,034	0,009	0	0,059	0		09.10.96
12	120		0,19	0,05	5,8	0,27	1,9	7,3	0,16	0,096	0,003	0	0,144	0		06.11.96
17,8	68,6		0,122	0,06	6,2	0,36	1,8	7,7	0,07		0	0	0,014	0,002		11.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Teliucul Superior Gauging Station 86

(according with WQNMS list)

River: Cerna Km. 46 Quality: 1994-I;1995-I;1996-I;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	CN	Fenoli	Fe					
0,66	329		0	0,09	4,3	0	2,6	2,9			0,06					10.02.94
	60		0	0,08	4,3	0,26	3,8	10,7			0,24					10.03.94
1,04	68		0	0,04	4,3	0,1	3,1	2,8			0,68					14.04.94
1,22	41		0	0,1	3	0	2,7	9,1			0,52					11.05.94
1,3	65		0	0,06	2,2	0	1,7	10,7	0		0					08.06.94
0,685	55		0	0,01	4	0,1	2,2	3,7			0,08					13.07.94
1,1	15		0	0,01	4,3	0	2,3	2,3			0,06					10.08.94
0,395	42		0	0,08	5,2	0,21	1,2	2,8			0,14					98.09.94
0,543	12		0	0,01	5,6	0,07	1,8	1,2			0,08					12.10.94
0,57	18		0,005	0,03	3,7	1,54	2,2	1,2			0,04					09.11.94
0,43	28		0,006	0,05	7,5	0	1,3	1,5			0,05					07.12.94
0,455	48		0	0,07	4,2	0,07	2,8	4,3			0,05					16.01.95
0,685	53		0	0,1	4,3	0,01	2,1	3,4			0,05					07.02.95
0,81	75		0	0,06	4,9	0,21		6			0,05					09.03.95
0,6	28		0	0,03	3,1	0,14	2	2			0,9					10.04.95
1,15	41		0	0,28	4,1	0,16	1,6	2,7			0,9					08.06.95
1,8	126		0	0,02	3,6	0,24	3,6	7,6			1,86					08.06.95
0,96	30		0	0,05	2,1	0,18	1,6	3,9			1,66					13.07.95
0,65	46		0	0,06	4,1	0,09	2,6	4,2			0,24					10.08.95
0,9	17,8		0	0,08	4	0,13	1,1	7,8			0,46					07.09.95
0,7	24		0	0,02	4	0,08	1,4	1,6			1,27					12.10.95
0,615	17		0	0,03	4,9	0,05	0,9	1,6			0,83					09.11.95
0,475	26		0,01	0,02	4,5	0,1	1,2	2,1			0,79					07.12.95
1,6	42		0,003	0,22	4,1	0,08	3,1	4,2			0,37					12.01.96
1,59	106		0,004	0,05	6,2	0,58	1,7	8,5			0,24					08.02.96
2,16	33		0,002	0,02	5,6	0,24	4,3	9,6			0,05					07.03.96
6,04	358		0	0,06	4,5	0,33	3	4,3			0,6					04.04.96
1,6	45		0,004	0,01	4,9	0,04	2,1	3,8			0,08					09.05.96
1,42	35		0,002	0,01	6	0,07	1,3	2,8			0,07					14.06.96
	85		0,005	0,03	6,2	0,07	1,7	19,3			0,06					11.07.96
0,666	79		0,004	0,01	9,3	0,17	2,9	5,4			0,14					08.08.96
2,45	58		0,007	0,02	3,6	0,22	1,2	2,8			0,09					10.09.96
1,34	14		0,003	0,03	4,5	0,67	1,7	2,4			0,16					10.10.96
0,872	25		0	0,02	5,4	0,06	1,3	1,3			0,01					07.11.96
1,38	36		0,001	0,02	5,4	0,19	2,6	6,1			0,01					12.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Santuhalm Gauging Station 87

(aacording with WQNMS list)

River: Cerna Km. 71 Quality: 1994-D; 1995-III; 1996-II;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Fe	CN	Fenoli	Cco-Mn					
1,7	39,3		0	0,41	2,7	4,05	6,2	0,15	0,015	0,015						12.01.94
2,66	66,3		0	0,5	3,8	1,97	7,5	0,22	0,011	0,148						10.02.94
	59,7		0	0,47	3,8	0,6	8,9	0,15	0,006	0,07						11.03.94
3,06	89,3		0,02	0,48	4,9	2,96	5	0,24	0,016	0,179						13.04.94
2,5	65,7		0	0,65	3	1,01	6,2	0,23	0,007	0,043						12.05.94
3	78,3		0	0,44	2,7	0,63	4,6	0,09	0,003	0,024						09.06.94
	66,7		0	0,55	3,5	0,42	4	0,29	0,002	0,013						15.07.94
3,1	34,7		0	0,81	3,3	3,31	3,5	0,05	0,033	0,01						12.08.94
2,19	45,7		0,03	0,74	5	1,8	5,3	0,07	0,002	0,01						09.09.1994
2	48,3		0,01	0,56	6,6	1,24	4,8	0,18	0,002	0,03						13.10.1994
2	45,3		0,01	0,44	3	2,39	5,5	0,06	0,002	0,1						11.11.1994
2,43	39,7		0	0,28	4,3	2,34	5,2	0,04	0,03	0,033						09.12.1994
2	46,3		0	0,42	2,8	6,5	6	0,11	0,003	0,16						12.01.95
2	52,7		0	0,33	4,3	2,58	7,7	0,14	0,003	0,01						09.02.95
2,3	37,3		0	0,22	3,2	1,01	5,2	0,09	0,002	0,03						10.03.95
2,1	69,3		0,02	0,18	4,2	1,18	4,6	1,6	0,002	0,05						13.04.1995
3,15	47,3		0	0,42	5,7	1,27	4,8	1,58	0,002	0,06						11.05.95
3,3	132,6		0	0,3	3,5	1,88	6,1	0,19	0,003	0,05						08.06.95
0,986	50,7		0,01	0,34	4,2	1,18	5,8	1,93	0,002	0,05						13.07.95
2,15	118		0,01	0,58	4,9	1,42	5	0,5	0,002	0,027						09.08.95
2,4	109,3		0,01	0,54	7,2	1,55	6	1,34	0,003	0,014						06.09.95
2,2	46,7		0,01	0,56	4,1	1,33	4,5	1,54	0,006	0,083						12.10.95
2,12	37,7		0,01	0,16	3,9	2,34	4,2	3,42	0,007	0,016						09.11.95
1,98	44,3		0,05	0,29	3,8	1,37	3,7	1,54	0,007	0,021						07.12.95
2,1	52,7		0,007	0,14	4,9	144	3,2	0,03	0,005	0,004	3,5					10.01.96
3,3	54		0,001	0,19	5,8	1,84	2,5	0,15	0,004	0,007	6,4					08.02.96
4,16	65		0,005	0,24	4,7	2,44	3,1	0,25	0,01	0,015	6					07.03.96
8	297		0,004	0,33	4,3	1,87	2,6	0,66	0,007	0,024	10					05.04.96
3,6	135		0,005	0,22	5,8	1,28	2,8	0,21	0,01	0,03	6,3					09.05.96
3,54	128		0	0,22	5,7	1,5	3,7	0,21	0,006	0,023	5,6					13.06.96
	89,3		0,006	0,35	9,6	1,5	5,4	0,18	0,007	0,04	8					11.07.96
2,6	88		0,008	0,51	11,2	1,12	3,8	0,21	0,002	0,042	7,2					08.08.96
4,45	132		0,015	0,38	4,5	1,3	3,4	0,16	0,003	0,004	7,1					10.09.96
3,44	94,3		0,011	0,59	8,8	1,53	3,6	0,21	0,009	0,009	4,2					10.10.96
2,28	28,6		0,01	0,22	7	1,39	3,9	0,14	0,003	0,004	3,6					07.11.96
3	79		0,004	0,26	6	0,93	4,3	0,11	0,007	0,009	6,8					13.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Branisca Gauging Station 88

(aacording with WQNMS list)

River: Mures Km. 498 Quality: 1994-II; 1995-II; 1996-II;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Mn	Cr	Cu	Pb	Zn	Cd	Fenoli	Fe	
169,3	148		0	0,29	6,6	1,23	6,5	1,2	0,012	0,028	0,01	0,26	0,006		0,53	13.01.94
143,7	90		0	0,38	7,6	0,17	7	1,2	0,012	0	0,002	0,2	0,005	0	0,21	11.02.94
107,3	80,7		0	0,33	7,8	0,22	3,7		0,012	0,065	0,058	0,03	0	0,04	0,18	11.03.94
86,3	81,3		0	0,19	7,3	0,29	2,4	1,2	0,017	0,065	0,032	0,015	0,004	0,023	0,15	14.04.94
153,7	17,3		0	0,62	5,6	0,27	4,1	0	0,012	0,028	0,032	0,01	0,001	0,038	0,12	13.05.94
344,6	684,7		0	0,24	4,2	0,49	3,3	0	0,027	0,018	0,015	0,005	0,005	0,02	0,2	10.06.94
78,9	68		0	0,18	7,3	0,23	5	0	0,012		0,056	0,06		0,033	0,11	15.07.94
44,3	33		0	0,17	5,3	0,89	8,4	0	0	0	0,022	0,001	0,001	0,03	0,05	11.08.94
41,9	54,3		0,02	0,12	5,1	0,78	9,6	0,3	0,027	0	0,05	0	0,004	0,02	0,07	09.09.94
81,8	31,7		0,01	0,25	9,4	1,47	1,6	0,3	0,001	0,008	0,012	0	0,002	0,003	0,09	14.10.94
46,9	20,3		0,01	0,19	6,8	0,84	2,9	0,3	0,005	0,009	0,024	0,07	0,002	0,03	0,06	11.11.94
63	10,7		0,01	0,21	6,9	0,98	3	0,6	0,024	0,02	0,03	0,02		0	0,11	08.12.94
77,1	30,7		0	0,11	5,8	1,95	1,6		0,038	0,026	0,06	0,128	0,005	0,056	0,14	13.01.95
89,3	31,3		0	0,39	8,4	1,3	3,8	0,18	0,03	0,023	0,014	0,08	0,003	0,003	0,08	10.02.95
156,3	44,7		0	0,15	5,7	0,07	2,1	0,02	0,013	0,005	0	0,035	0	0,02	0,16	10.03.95
159	35		0	0,18	5,9	0,43	2,6	0,04	0,03	0,01	0,03	0,11	0,006	0,05	0,3	14.04.95
232,7	48,7		0,01	0,13	6,6	0,21	3,4	1,04	0,001	0,012	0,01	0,06	0,002	0,039	1,66	12.05.95
240	117		0	0,06	6,4	0,35	2,6	0,15	0	0,005	0	0,015	0	0,03	1,9	08.06.95
78,4	25,7		0	0,08	5,7	0,5	6,2	0,56	0,039	0,003		0,158	0,005	0,019	1,13	13.07.95
73,4	72,7		0	0,14	6,2	0,96	4,1	0,19		0,008	0	0,015	0	0,009	1,04	11.08.95
149	40,7		0,01	0,2	8,1	0,49	3,7	0	0	0,04	0,025	0	0,006	0,028	0,44	08.09.95
85	25,3		0,01	0,14	7,7	0,75	2	0,21	0,05	0,035	0,014	0,17	0,002	0,05	1,67	12.10.95
98	14,3		0	0,16	6,3	0,73	3,9	0,2	0,041	0,033	0	0,11	0	0,028	1,63	10.11.95
124	32,7		0,02	0,11	5,6	1,1	3,3	0,09	0,05	0,025	0	0,08	0	0,02	1,6	07.12.95
261,7	182,7		0,001	0,11	0,1	1,04	3,7	0,12	0	0	0	0,161	0	0,008	0,04	12.01.96
89	15		0,003	0,15	9,5	1,68	2,5	0,27	0	0	0		0	0,006	0,25	09.02.96
81,1	12		0,002	0,17	10	1,45	2,9	0,14	0,003	0,072	0	0,187	0	0,007	0,12	09.03.96
233	223,7		0,002	0,35	11,7	0,62	2,3	0,05	0	0,025	0	0,068	0	0,041	0,2	06.04.96
293	78		0,004	0,06	8,8	0,4	3,2	0,03	0,032	0,016	0,003	0,055	0	0,013	0,17	10.05.96
72,2	40,3		0,003	0,06	10,8	0,27	4,2	0,08		0	0	0,012	0	0,019	0,04	14.06.96
87,5	79		0,004	0,15	12,2	0,52	2,8	0,05		0	0	0,057	0	0,029	0,14	12.07.96
50,8	82		0,006	0,07	12,3	0,32	2,7	0,24	0	0,03	0,012	0,089	0	0,039	0,43	08.08.96
165,7	40,3		0,01	0,32	8,8	1,02	3,1	0,17	0,024	0	0	0,084	0	0,005	0,19	12.09.96
106	21		0,004	0,18	12,6	0,24	1,5	0		0,004	0	0	0	0,024	0,13	10.10.96
87,5	28		0,002	0,19	11,8	42	3	0,21	0,032	0,002	0	0,137	0	0,005	0,07	08.11.96
130	12,3		0,002	0,18	9,5	0,41	3,2	0,15	0,014	0,004	0	0,137	0	0,004	0,33	13.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the am. Arad Gauging Station 90

(according with WQNMS list)

River: Mures Km. 690 Quality: 94-II; 95-II; 96-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals													
				NO2	NO3	NH4	CBO_5	CCO-Mn	Fe	CN	Phenols	Cr	Cu	Pb	Zn	Cd	Date
170,3	53,7		0,04	0,17	37,2	1,23	4,5	3,4	0,16	0,003			0		0,082		26.01.94
159	62		0,06	0,15	30,5	0,21	2,8	3,4	0,4	0,007			0		0,09		13.02.94
126,3	34		0,05	0,11	12	0,24	4,3	3,3	0,68	0	0	0,2	0,03	0,016	0,088	0,003	13.03.94
278	202,3		0,05	0	37,3	0,26	4,9	4,8	0,44	0	0,003	0,046	0	0			17.04.94
198	19,6		0	0,14	10,6	0,17	4,9	4,1	0,31	0	0,05	0	0,002	0	0,015		15.05.94
271			0,07	0,09	7,5	0,17	4,9	13,4	1,33		0		0,003	0	0,011		12.06.94
113	26,6		0,05	0,1	6,7	0,1	6,2	6,1	1,24			0,014	0,003	0	0,016		17.07.94
71,8	28,7		0	0,02	5,2	0,18	5,6	5,8	0,16	0,001		0,011	0,002	0	0,017		14.08.94
44,5	35		0	0,05	5,8	0,58	5,6	6,4	0,3	0,001	0	0	0	0	0,009		11.09.94
84,5	24,7		0	0,17	12	0,6	3,5	5,7	0,38		0	0,001	0	0	0,008		16.10.94
68,5	15		0,02	0,08	13,4	0,23	3,2	4,1	0,46		0	0	0	0	0,008		13.11.94
84,5	12		0	0,17	10,2	0,94	2,9	3,2	0,56			0,001	0,009	0	0,009		11.12.94
92	24		0,05	0,08	7,8	0,95	3,2	2,8	0,63			0,004	0,006	0	0,135		15.01.95
128,3	67,7		0,09	0,2	6,6	0,72	3,9	2,3	0,39			0,059	0	0	0,002	0,002	12.02.95
200,7	55,7		0,05	0,11	7,2	0,32	4,5	5,4	1,7			0	0,001	0	0,001	0	12.03.95
168	21		0,03	0,1	6,1	0,14	3,7	3,8	0,75			0	0,001	0	0,002	0	16.04.95
266,3	30		0,04	0,12	5,2	0,12	3,4	4,5	0,54			0	0,001	0	0,002	0	14.05.95
265	277		0,04	0,6	5,8	0,17	4,6	6,2	2,48			0	0,001	0	0,008	0	11.06.95
105,3	22		0	0,02	3,3	0,41	3,8	4,8	0,9			0	0,001	0	0,008	0	16.07.95
130	70		0,02	0,07	3,6	0,12	8,2	6,7	0,38			0	0,001	0	0,008	0	13.08.95
138,3	19		0,02	0,1	8,6	0,22	3,4	4	1,02			0,001	0,001	0	0,002	0	10.09.95
89,1	17		0,02	0,37	8,2	0,12	3,1	3,4	0,4			0,029	0,189	0,028	0,143	0	15.10.95
102,7	17,7		0,02	0,07	7,2	0,12	2,7	2,8	0,45				0,01	0	0,151	0	12.11.95
107,6	19		0,03	0,11	9,7	0,97	3,2	3,4	0,45				0,04	0,03	0,11	0	10.12.95
282,7	110,7		0,04	0,12	6,8	0,48	5,8	6	0,07			0	0,06	0,048		0	14.01.96
120	40		0,026	0,13	7,4	1,57	1,6	3,1	0,06			0	0	0,011	0,225	0	11.02.96
101	16		0,036	0,18	9,6	0,94	3,7	3,3	0,05			0	0,065	0	0,064	0	10.03.96
422	795		0,051	0,09	9,1	0,3	3,9	14,9	0,05	0,001			0,01	0	0,017	0	10.04.95
300	475		0,08	0,12	6,4	0,27	4,5	10,7	0,11	0,001		0	0,018	0	0,018	0	12.05.96
104	16		0,033	0,04	2,5	0,46	4,1	6,3	0,02	0,001			0	0	0	0	16.06.95
108	37		0,05	0,06	4,8	0,39	4,1	5,2	0	0,001			0,006	0	0,028	0	07.07.96
63	50,3		0,034	0,07	2,2	0,32	6,7	11,8	0,58	0,002		0	0	0	0	0	11.08.96
228	99		0,087	0,17	6,2	0,78	3,7	6,3	1,66	0,002		0	0,006	0	0,25	0	15.09.96
121	46		0,057	0,03	5,2	0,1	2,5	3,2	0,37	0,002		0,007	0,01	0	0,026	0	13.10.96
90	21		0,08	0,09	6,4	0,1	2,4	2,1	0,02	0,008			0	0	0,046	0	10.11.96
148	29		0,07	0,17	6,3	0,28	4,6	6,3		0,002			0	0	0,028	0	15.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Nadlac Gauging Station 91

(according with WQNMS list)

River: Mures   Km. 740   Quality: 1994-II; 1995-II; 1996-II;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Mn	Fe	Cr	Cu	Pb	Zn	Fenoli		
162,3	132		0,08	0,2	37,1	1,1	4,8	0,2	0,35		0		0,07	0,004		17.01.94
138	55		0,08	0,17	23,1	0,4	4,6	0,8	0,81		0,09		0,078	0,008		14.02.94
11	70		0,09	0,13	11,9	0,24	4,3		1,42	0,026	0,08	0,024	0,078	0		14.03.94
18	126		0,03	0,1	35,7	0,19	5	0,53	0,32	0,041	0,01	0		0,001		18.04.94
174,6	31,7		0,06	0,12	9,5	0,17	5,9	0,38	0,35	0	0,002	0	0,012	0,02		16.05.94
265	556		0,09	0,12	11,7	0,21	5	1	1,21	0	0,004	0	0,01	0		13.06.94
95,7	50,3		0	0,13	5,1	0,16	7,4	0,4	0,76	0,01	0,002	0	0,015	0,01		18.07.94
68,5	35,6		0	0,03	3,3	0,15	6,8	0,8	0,2	0,01	0,002	0	0,015	0,01		15.08.94
55	34,7		0,01	0,07	4,8	0,18	8,6	0,1	0,35	0	0,001	0	0,004	0		12.09.94
81,7	25,3		0	0,12	11,5	0,4	3,6	0,15	0,36	0,001	0	0	0,009	0		17.10.94
70,3	16,7		0,02	0,07	13,8	0,19	3,5	0,08	0,3	0	0	0	0,008	0		14.11.94
76,7	11,3		0,04	0,13	11,8	0,92	2,8	0,01	0,39	0,004	0,006	0	0,009	0		12.12.94
91,7	27,3		0,07	0,13	10	1,24	3,6	0,21	0,65	0,001	0,007	0	0,115	0,002		16.01.95
118,7	58,7		0,1	0,25	9	0,69	3,2	0,02	0,42	0,05	0	0	0,001	0,001		13.02.95
202,3	64		0,07	0,14	7,8	0,35	4,2	0,02	1,1	0	0	0	0,001	0,004		13.03.95
177	35		0,08	0,11	6,5	0,32	3,7		0,96	0	0,001	0	0,002	0,001		17.04.95
270	55		0,09	0,15	6	0,27	3,6	0,02	0,47	0	0,001	0	0,001	0,003		15.05.95
266	222		0,07	0,03	6,4	0,22	4,4	0,55	2,71	0	0,001	0	0,007	0,002		12.06.95
102	19,3		0	0,03	3,6	0,47	4,7	0,36	0,92	0	0,001	0	0,007	0,003		17.07.95
0,1	74,3		0,02	0,12	3,7	0,14	6,7	0,4	0,49	0	0,001	0	0,006	0,005		14.08.95
131	39,7		0,02	0,11	8,2	0,37	3,8	0,28	1,1	0,002	0,001	0	0,001	0,003		11.09.95
91,4	28		0,04	0,12	10	0,18	3,8	0,5	0,94	0	0,24	0,011	0,071	0,002		16.10.95
105,7	24,7		0,03	0,09	7,6	0,15	2,3	0,01	0,24		0,016	0,006	0,036	0,001		13.11.95
111	29		0,05	0,16	12,3	1,26	3,1	0,12	0,3		0,04	0,049	0,11	0,002		11.12.95
297	125		0,06	0,15	6,8	0,47	6,2	1,12	0,04	0	0,07	0		0,001		15.01.96
116	61		0,031	0,16	6,9	1,73	3	0,02	0,01	0	0	0		0,001		12.02.96
97,8	25,7		0,036	0,23	9,8	1,04	4,1	0,16	0,04	0	0,065	0,021	0,04	0,008		11.03.96
454	546		0,045	0,11	12,8	0,26	4,4	0,06	0,05		0,003	0	0,016	0,002		11.04.96
307	169		0,056	0,25	7,5	0,21	3,3	0,04	0,15	0	0,019	0	0,026	0,006		13.05.96
112	28		0,036	0,09	4	0,45	4,5	0	0,05		0	0	0	0,03		17.06.96
104	51		0,04	0,09	5,7	0,45	4,3	0	0		0	0	0,037	0,015		16.07.96
64,6	57		0,035	0,1	2,7	0,41	6,6	0	0,53	0	0	0	0	0,01		12.08.96
198	67		0,13	0,25	7	0,5	4,3	0,01	1,7	0	0,008	0	0,025	0,003		16.09.96
130	22		0,07	0,06	5,4	0,12	3	0,05	0,32	0,005	0,011	0	0,36	0,003		14.10.96
90,7	25		0,1	0,09	8	0,1	2,8	0	0,03		0	0	0,062	0,01		11.11.96
136	41		0,071	0,14	5,9	0,2	3,5	0			0	0	0,017	0,009		16.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the am. Timisoara Gauging Station 96

(according with WQNMS list)

River: Bega   Km. 112,5   Quality: 94-I; 95-I; 96-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											Date
				NO2	NO3	NH4	CBO_5	CCO-Mn							
12,3	20		0,02	0,03	4,1	0,11	1,3	2,7							05.01.94
11,6	19		0,2	0,05	3,9	0,15	2,3	2,6							08.02.94
11,3	18		0,009	0,03	1,7	0,07	1,7	3							11.03.94
9,47	19		0,01	0,03	3,1	0,12	2,6	2,7							09.04.94
10,7	15		0,03	0,07	2,1	0,07	2,9	1,8							09.05.94
10,9	13		0,01	0,05	2,1	0,02	1,1	3,8							12.06.94
9,21	27		0,03	0,03	4,7	0,35	1,8	3,4							12.07.94
12,7	25		0,019	0,04	1,1	0,17	4,6	2,3							11.08.94
9,4	11		0,005	0,04	1,1	0,2	2,1	2,7							12.09.94
14,7	26		0,009	0,05	5,7	0,35	1,6	5,7							08.10.94
11,7	20		0,01	0,03	1,5	0,22	1,7	2,9							10.11.94
9,14	5		0,009	0,03	2,6	0,27	3,5	3,1							12.12.94
9,27	11		0,009	0,05	6,2	0,06	3,3	3,6							07.01.95
9,08	10		0,02	0,03	6,3	0,28	2,4	2,7							09.02.95
11,9	9		0,01	0,05	4,8	0,28	3,9	2,6							08.03.95
11,1	14		0	0,04	1,6	0,21	2,3	3,7							09.04.95
9,82	22		0,02	0,07	3,7	0,61	2,7	4,1							09.05.95
11,7	20		0,04	0,08	3,8	0,67	1,6	2,4							12.06.95
13,1	31		0,7	0,05	3,6	0,27	1,6	3,2							10.07.95
12,4	4		0,003	0,02	2,3	0,15	1,3	2,3							10.08.95
17,2	12		0,02	0,04	2,2	0,16	1	2,3							07.09.95
13,7	1		0	0,01	2	0,13	2,3	3,6							13.10.95
10,7	13		0,008	0,04	3,4	0,35	2,2	1,9							11.11.95
10,7	11		0,001	0,005	3,5	0,23	3,4	2,4							07.12.95
12,6	27		0,003	0,09	6,2	0,53	2,5	5,3							11.01.96
11,1	6		0,03	0,04	4,6	0,2	2,9	3,2							09.02.96
11,5	5		0,03	0,04	4,5	0,39	2,9	2,9							08.03.96
15	14		0,002	0,09	4,4	0,31	2,7	3,1							09.04.96
13	47		0,04	0,16	2,3	0,33	4,7	5,2							13.05.96
12,1	45		0,13	0,05	3,1	0,24	4	3,8							09.06.96
13,4	8		0,013	0,06	2,5	0,26	1,4	3,4							09.07.96
11,3	8		0,1	0,03	1,6	0,1	1,9	3,2							08.08.96
12,1	13		0,007	0,06	1,4	0,21	3	2,7							06.09.96
11,4	9		0,03	0,01	2,5	0,2	1,6	2,6							05.10.96
11,2	12		0,02	0,06	1,8	0,19	1,4	2,4							04.11.96
12,9	19		0,009	0,08	3,9	0,34	3,3	4,1							08.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Otelec Gauging Station 97

(according with WQNMS list)

River: Bega Km. 153,3 Quality: 1994-D; 1995-D; 1996-III;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Zn	Cu	Fenoli	Cco-Mn	CN	Ni			
11,7	14		0,11	0,19	0,8	2,4	8,1	0,04	0,01	0,011	11,3	0,001	0,004			07.01.94
10,1	43		0,05	0,08		2	8,7	0,022	0,02	0,004	13,2	0	0,008			10.02.94
9,8	39		0,1	0,19	1,2	2,8	7,2	0,031	0,024	0,003	4,4	0,016	0,014			13.03.94
7,97	13		0,2	0,41	0,9	4,4	11,2	0,031	0,012	0,003	9,4	0,006	0,017			10.04.94
9,2	13		0,11	0,16	11,6	2,4	11,5	0,031	0,031	0,005	7,5	0,008	0,016			10.05.94
9,6	21		0,16	0,21	3,2	2,3	8,8	0,47	0,017	0,005	11,3	0,003	0,013			13.06.94
9,3	18		0,1	2	3,6	5,8	8,7	0,028	0,021	0,002	10,3	0	0,015			13.07.94
11,3	25		0,17	0,43	0,6		14,1	0,037	0,012	0,006	5,4	0,011	0,013			13.08.94
8	44		0,23	0	0,1	13,2	19,6	0,042	0,016	0,008	15,3	0,005	0,016			14.09.94
11	18		0,15	0,06	0,2	6,5	10	0,037	0,013	0,029	11,5	0,003	0,015			10.10.94
10,7	25		0,1	0,06	0,2	9,3	4,8	0,038	0,01	0,001	9,3	0,005	0,01			11.11.94
8,18	26		0,13	0,34	0,4	4,9	11,3	0,029	0,012	0,002	10,7	0,004	0,01			14.12.94
9	15		0,08	0,22	6,2	2,9	10,4	0,021	0,009	0	5,7	0,011	0,01			09.01.95
7,77	33		0,13	0,19	7,7	6,1	10,7	0,062	0,015	0,02	7,6	0	0,014			11.02.95
9,3	60		0,09	0,22		5,2	9,8	0,032	0,017	0,004	11,6	0	0,01			10.03.95
7,83	15		0,13	0	1	3,7	10,8	0,034	0,014	0	9,6	0,001	0,009			11.04.95
7,91	21		0,15	0,24	1,1	4,1	10	0,032	0,012	0,006	7,5	0,005	0,01			11.05.95
10,2	25		0,34	0,51	1,6	9,7	13,5	0,03	0,011	0,002	7,6	0,01	0,011			10.06.95
11,6	30		0,1	0,29	0,5	4,44	6,2	0,033	0,013	0,002	7,2	0,008	0,008			12.07.95
10,9	12		0,12	0,16	0,7	3	8,8	0,03	0,011	0,009	7,4	0,001	0,011			12.08.95
15,7	19		0,06	0,18	0,5	3,1	7,2	0,035	0,012	0,003	10,3	0	0,011			09.09.95
12,2	89		0,18	0,17	0,8	9,6	10,9	0,039	0,011	0	12,8	0	0,013			09.10.95
9,1	15		0,12	0,1	1,4	6,5	9,7	0,037	0,014	0	11,9	0,001	0,011			12.11.95
9,2	39		0,11	0,1	3	3,1	10,4	0,03	0,012	0	9,7	0	0,012			08.12.95
10,9	20		0,11	0,27	4,6	3,95	10,6	0,029	0,015	0	12,1	0,008	0,009			13.01.96
9,9	19		0,16	0,25	3,7	4,11	6,7	0,032	0,009	0	9,7	0,004	0,015			10.02.96
10	21		0,23	0,33	3,1	4,43	8,1	0,035	0,013	0	7,9	0,006	0,012			10.03.96
13,5	19		0,25	0,46	4,1	2,61	6,3	0,042	0,005	0	2,6	0,008	0,01			11.04.96
11,5	205		0,14	0,23	4,2	4,03	8,9	0,037	0,014	0	9,9	0,002	0,011			13.05.96
10,6	15		0,15	0,31	0,4	3,6	9	0,033	0,013	0,02	7,7	0,003	0,013			11.06.96
11,9	10		0,17	0,06	0,4	4,8	12,7	0,031	0,016	0,13	15,2	0,002	0,022			11.07.96
9,8	13,6		0,2	0,2	0	6,03	11,6	0,037	0,017	0,008	8,7	0,006	0,014			10.08.96
10,6	16		0,25	0,5	0,5	3,9	10,8	0,031	0,014	0,008	6,7	0,01	0,008			07.09.96
9,9	11		0,33	0,47	1,5	6	10,6	0,036	0,012	0,004	6,3	0,006	0,019			06.10.96
9,3	19		0,41	0,21	0,4	4,97	0,8	0,03	0,15	0,005	6,9	0,006	0,014			05.11.96
11,4	35		0,38	0,17	1,8	4,1	8,9	0,033	0,017	0,004	7,8	0,001	0,007			09.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Pischia Gauging Station 98

(according with WQNMS list)

River: Bega Veche Km. 25.5 Quality: 1994-I; 1995-I; 1996-I;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Mn	Ni	Cu	Zn	Fenoli	Fe		
0,025	24		0,04	0,05	6	0,1	3,7	7,7	0,03	0,005	0,004	0,018	0,003	0,13		10.01.94
0,185	40		0,04	0,02	6,5	0,34	3,2	5,1	0,02	0,01	0,009	0,019	0,009	0,2		13.02.94
0,48	30		0,03	0,08	1,1	0,29	6,5	11,7	0,04	0,008	0,011	0,041	0	0,33		15.03.94
0,045	14		0,04	0,05	1	0,48	6,9	11,6	0,02	0,007	0,006	0,012	0,003	0,34		13.04.94
0,025	11		0,06	0,12	6,8	0,68	5,1	10,9	0,01	0,007	0,008	0,026	0,003	0,5		13.05.94
0,06	14		0,14	0,07	6,2	1,13	3,2	5,8	0,02	0,005	0,007	0,028	0,001	0,62		20.06.94
0,06	14		0,9	0,07	0,1	0,27	34,8	8,6	0,03	0,004	0,005	0,01	0	0,36		10.12.94
0,041	34		0,06	0,12	9,4	1,03	4,1	8,8	0,02	0,019	0,01	0,035	0	0,61		13.02.95
0,06	9		0,03	0,04	5,1	0,22	5,1	7,9	0,01	0,005	0,01	0,023	0	0,34		13.03.95
0,44	29		0,03	0,05	2,3	0,51	4,6	8,3	0,02	0,005	0,007	0,03	0	0,29		14.04.95
0,22	154		0,03	0,37	17,7	2,07	5,2	13,8	0,02	0,007	0,007	0,015	0	1,31		14.05.95
2,28	54		0,03	0,26	4,5	0,93	5,1	10,8	0,01	0,005	0,008	0,03	0	0,71		15.06.95
1,5	56		0,117	0,07	6,1	0,55	4	13	0,02	0,007	0,008	0,02	0	0,22		15.07.95
0,108	59		0,09	0,08	2	0,86	4,5	7,3	0,01	0,005	0,01	0,018	0,001	1,11		14.08.95
0,12	37		0,08	0,08	1,9	0,67	2,8	6	0,03	0,011	0,011	0,014	0	0,55		11.09.95
0,063	49		0	0,08	2,4	0,51	2,5	4,3	0,01	0,008	0,006	0,02	0,001	0,41		17.10.95
0,119	13		0,44	0,1	9,7	0,39	3,2	10,6	0,01	0,005	0,007	0,022	0,001	0,04		15.11.95
0,119	16		0,02	0,05	10,9	0,37	4,2	7,4	0,01	0,01	0,009	0,03	0	0,27		11.12.95
0,236	31		0,03	0,12	16,9	0,5	2,3	9,1	0,01	0,006	0,009	0,027	0	0,54		15.02.96
0,382	8		0,02	0,05	8,3	0,22	3,4	7,7	0,01	0,011	0,004	0,041	0	0,11		13.02.96
1,83	25		0,05	0,06	9,9	0,41	4,2	7	0,01	0,005	0,007	0,022	0,001	0,23		13.03.96
3,79	27		0,02	0,08	7,1	0,47	3	9,9	0,01	0,015	0,028	0,025	0,002	0,21		16.04.96
3,79	239		0,04	0,27	3,9	2	3,8	18,5	0,01	0,004	0,018	0,025	0,001	5,26		16.05.96
0,46	268		0,96	0,09	3,7	1,03	5,8	24,9	0,01	0,005	0,006	0,022	0,001	2,82		16.06.96
0,46	20		0,15	0,08	2,1	0,48	6,2	10,5	0,01	0,011	0,006	0,018	0,001	0,16		13.07.96
0,065	70		0,02	0,09	1,4	0,35	7,4	16,3	0,01	0,014	0,012	0,021	0,001	0,45		12.08.96
0,237	39		0,2	0,27	4,3	0,22	2,4	7,4	0,01	0,006	0,007	0,018	0,001	0,05		10.09.96
0,237	24		0,24	0,57	2,9	4,19	1,3	5,8	0,04	0,007	0,008	0,026	0	0,19		09.10.96
0,237	13		0,22	0,02	9,7	0,34	5,4	10,1	0,01	0,008	0,01	0,022	0,001	0,09		08.11.96
37,9	39		0,12	0,07	203	0,38	3,2	4,6	0,01	0,006	0,007	0,018	0,001	0,06		13.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Cenei Gauging Station 99

(according with WQNMS list)

River: Bega Veche Km 79,5 Quality: (1994-D; 1995-D; 1996-D;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Fe	Cu	Zn	Fenoli					
1,52	438		3,9	0		46	335	1,16	0,035	0,07	0,025					12.01.94
1,55	254		5,33	0,37		17,9	70	0,53	0,006	0,018	0,04					14.02.94
1,35	293		2,7	0,51		63	257	1,09	0,044	0,081	0,4					17.03.94
1,41	293		4,2	0		64,3	238	0,67	0,032	0,047	0,6					15.04.94
0,71	389		7,3	0		42	234	1,16	0,021	0,039	0,187					15.05.94
0,934	506		0,52	0		78	270	1	0,024	0,044	0,26					18.06.94
0,412	845		7,6	0		218,4	1020	0,6	0,027	0,048	0,5					18.07.94
0,406	673		6,1	0		230	302	1,96	0,017	0,044	0,21					19.08.94
2,15	147		4,23	0		59	249	1,05	0,29	0,043	0,1					16.09.94
0,65	346		4,35	0		118	353	2,63	0,028	0,037	0,004					15.10.94
0,66	487		2,5	0		138	396	3,66	0,028	0,044	0,02					15.11.94
0,633	424		3,7	0		111	411	2,9	0,031	0,042	0,036					11.12.94
1,29	345		3,13	0		72	382	1,04	0,021	0,038	0,025					12.01.95
2,56	11		0,97	0		17	59	0,56	0,028	0,045	0,004					15.02.95
1,48	798		3,74	0		117	205	1,83	0,017	0,044	0,1					13.03.95
0,933	301		3,34	0		62	359	1,15	0,033	0,042	0,013					15.04.95
0,86	276		2,45	0		196	352	1,56	0,029	0,053	0,045					16.05.95
0,942	187		2,4	0		73	199	1,22	0,025	0,045	0,025					16.06.95
1,73	644		2,22	0,16		43,1	87,8	1	0,016	0,031	0,125					17.07.95
0,395	184		4,17	0		186	114	1,1	0,02	0,037	0,017					17.08.95
0,52	244		4,29	0		161	352	2,62	0,012	0,043	0,02					14.09.95
0,503	146		3,41	0		171	200	2,72	0,039	0,039	0,006					19.10.95
1,17	203		0,51	0		50,7	216	1,01	0,028	0,043	0,011					17.11.95
1,28	153		2,5			43,2	331	1,1	0,013	0,036	0,005					13.12.95
2,65	29		0,9	3,43	1,6	23,2	147	0,16	0,033	0,036	0,002					17.01.96
1,58	279		1,47	0,63	1,5	75	253	2,12	0,011	0,033	0,028					14.02.96
5,1	44		0,92	0,94	7,3	20,6	136	0,12	0,021	0,036	0,22					13.03.96
1,98	60		1,01	0,8	0,1	20,7	82	0,62	0,044	0,046	0,02					15.04.96
4,87	83		1,34	0,1	0,6	17,5	63	2,78	0,029	0,041	0,006					18.05.96
1,93	31		1,36	0,07	0,6	31	159	1,05	0,021	0,043	0,004					15.06.96
1,14	155		3,39	0	0	86	291	0,38	0,034	0,048	0,46					15.07.96
0,628	382		4,63	0	0	136	311	0,45	0,018	0,045	0,125					15.08.96
1,15	343,6		0,232	0,23	3,2	40,6	116,6	0,97	0,026	0,036	0,01					15.09.96
0,907	214		2,82	0,14	1,4	9,72	113,3	1,36	0,027	0,067	0,005					15.10.96
1,07	98		3,47	0	0	55,7	100	0,38	0,037	0,04	0,012					10.11.06
2,13	63		1,47	0,52	12,9	22	40	0,39	0,039	0,043	0,004					14.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Moniom Gauging Station 110

(according with WQNMS list)

River: Barzava Km. 54 Quality: 1994-II; 1995-II; 1996-I;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Fe	CN	Fenoli	Zn	Cu	Ni	Mn	CCO-Mn	
2,51	22		1,03	0,25	4,3	2,34	16,5	1,7	0,001	0,001	0,03	0,054	0,024	0,01	24,1	11.01.94
2,03	40,3		0,61	0,16	2,9	3,29	2,2	1,53	0,001	0,003	0,04	0,02	0,007	0,12	7	14.02.94
2,13	81,3		1,14	0,16	2,2	3,32	5,4	1,4	0,002	0,002	0,029	0,005	0,016	0,1	13,6	16.03.94
4,75	28,7		0,58	0,17	3,1	1,56	6,2	0,92	0,002	0,002	0,026	0,013	0,01	0,01	10,8	14.04.94
5,65	33,3		0,18	0,3	2,3	1,73	5,6	0,43	0,001	0,002	0,023	0,013	0,017	0,01	9,3	14.05.94
5,27	49,3		0,14	0,12	3,2	0,86	8,1	0,67	0,003	0,004	0,03	0,09	0,012	0,13	12,4	17.06.94
3,72	37,3		0,16	0,21	4,1	1,63	2,8	0,5	0,002	0,001	0,015	0,007	0,019	0,02	4,3	17.07.94
2,12	28		0,29	0,23	1	2,4	3,1	0,44	0,002	0,016	0,013	0,018	0,015	0,02	6	23.08.94
1,6	24,7		0,35	0,41	2,2	4,8	4,1	0,58	0,002	0,006	0,03	0,02	0,026	0,04	7,7	14.09.94
2,15	18,7		0,25	0,31	2,4	1,38	20,6	2,47	0,002	0,005	0,032	0,007	0,024	0,03	39,6	14.10.94
1,55	46		0,53	0,22	3,2	4,8	10,1	0,77	0,004	0,024					20,2	15.11.94
2,28	36,7		0,26	0,21	4,6	4,17	6,2	0,56	0,001	0,025					15,4	11.12.94
2,02	28		0,37	3,53	0,16	5,1	4,3	0,81	0,002	0,005					7,5	12.01.95
2,37	40,7		0,33	3,07	0,18	5,6	4,3	0,67	0,002	0,01					7,8	15.02.95
2,54	31,3		0,27	3	0,12	10,5	4,2	0,67	0,001	0,006					7,7	14.03.95
10,4	47,3		0,11	1,37	0,09	2,1	3,2	0,61	0,001	0,006					6,2	14.04.95
9,83	32		0,18	0,99	0,05	3,4	4,1	0,73	0,003	0,01					8,1	15.05.95
4,82	31,3		0,25	2,07	0,27	3,5	3,1	0,96	0,001	0,004					6,2	16.06.95
3,57	28,7		0,15	1,37	0,16	4,6	3,1	0,61	0,001	0,003					6	15.07.95
2,9	64		0,36	4,37	0,17	3,4	3,3	0,72	0,002	0,009					6,8	15.08.95
4,24	22,7		0,28	1,5	0,39	3	3,2	0,77	0,001	0,007					6,4	13.09.95
3,75	70		0,55	3,77	0,32	3,2	9,4	0,71	0,001	0,014					17,3	18.10.95
3,55	18,7		0,32	3,93	0,17	2,5	3,3	0,53	0,001	0,002	0,023	0,09	0,006	0,02	6,5	16.11.95
3,06	43,3		0,3	3,2	0,11	2,3	4	0,63	0,001	0,002	0,026	0,011	0,006	0,01	7,9	12.12.95
4,66	28		0,29	0,12	2,6	1,73	3,2	0,24	0	0,002	0,012	0,015	0,007	0,05	5,9	16.01.96
4,51	42		0,37	0,17	4,5	1,97	5,9	0,26	0,002	0,003	0,019	0,007	0,003	0,03	10,7	14.02.96
3,59	22		0,233	0,2	5,6	2	3,1	0,34	0,002	0,001	0,019	0,006	0,003	0,01	6	14.03.96
4,83	42,7		0,17	0,2	5	0,76	7,3	0,35	0	0,003	0,019	0,01	0,007	0	13,1	14.04.96
9,54	26		0,16	0,17	4,6	0,43	2,5	0,22	0,002	0,005	0,012	0,004	0,006	0,02	4,8	16.05.96
3,12	27,3		0,477	0,49	2,9	2,6	2,6	0,28	0	0,004	0,02	0,004	0,004	0,01	5,1	15.06.96
2,41	48,7		0,42	0,43	2,9	4,13	5,6	0,34	0	0,002	0,015	0,006	0,003	0,01	10,4	14.07.96
3,88	31,3		0,377	0,38	3,2	2,93	2,8	0,32	0	0,002	0,015	0,005	0,005	0,01	4,6	13.08.96
8,05	90		0,197	0,17	3,1	0,53	2,1	0,63	0,001	0,001	0,027	0,008	0,006	0,01	3,6	11.09.96
3,5	37		0,22	0,34	2,4	1,63	2,5	0,31	0	0	0,017	0,003	0,003	0,02	4,8	15.10.96
2,73	58		0,367	0,18	3,5	2,5	4,9	0,31	0,001	0,001	0,015	0,009	0,007	0,01	8,9	09.11.96
4,68	32,7		0,217	0,14	3,5	1,47	2,5	0,31	0	0	0,024	0,004	0,007	0,01	4,9	14.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Racari Gauging Station 131

(according with WQNMS list)

River: Jiu Km. 196 Quality: 94-II; 95-II; 96-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
				NO2	NO3	NH4	CBO_5	CCO-Mn							Date
67,8	293			0,01	4,4	0,18	2,8	6,6							21.01.94
28,4	128			0,01	6,1	0,25	2,4	4,9							21.02.94
47,7	93			0,01	5,5	0,16	1,8	4,2							21.03.94
128	200			0,01	4,6	0,3	2,7	5,9							21.04.94
88	129			0,01	3,4	0,21	2,4	5,2							22.05.94
63,8	105			0,01	2,9	0,14	2,3	4,8							21.06.94
45,4	123			0,01	4,5	0,15	2,6	5,8							21.07.94
21,8	85			0,01	2,3	0,1	2,1	4,4							22.08.94
145	110			0,02	3,2	0,11	1,6	3,3							21.09.94
52,3	126			0,01	3	0,1	2,7	4,9							20.10.94
44,2	140			0	2,7	0,2	1,6	3,4							20.11.94
61,5	147			0,01	2,5	0,2	1,5	3,4							20.12.94
28,5	132		0,12	0,01	3,3	0,29	2	4,6							20.01.95
106	168		0,14	0,01	3,7	0,16	3,1	6,9							20.02.95
63,8	91			0,01	3,2	0,15	2,8	5,8							21.03.95
67,2	119		0,18	0,01	2,9	0,1	2,1	4,4							19.04.95
91,1	138			0,01	3,6	0,17	3,3	7,8							20.05.95
81,5	123			0,01	5,5	0,21	2	4,8							20.06.95
51,2	152			0,01	2,8	0,12	3,4	6,5							20.07.95
39,6	1133			0,02	4,5	0,16	2,7	5,2							21.08.95
51,2	143			0,01	3,3	0,22	3,9	7,7							21.09.95
46,6	148			0,01	4,7	0,1	3,3	7							20.10.95
50	173			0,01	3,2	0,11	4,6	8,9							21.11.95
65	186			0,01	3	0,12	4,1	7,9							21.12.65
61,5	118			0,01	3,9	0,12	4,5	9,1							21.01.96
59,2	249			0,01	2,7	0,18	4,5	8,6							21.02.96
84	426			0,01	2,5	0,11	5,2	10,1							21.03.96
86,7	301			0,01	2,7	0,1	3,7	7,2							21.04.96
108	907			0,01	2,7	0,13	4,9	9,6							21.05.96
47,8	136			0,01	5,3	0,26	3,1	6,1							21.06.96
34,3	130			0,02	3,7	0,12	3,5	6,8							21.07.96
45,2	177			0,01	2,7	0,11	2,9	5,7							21.08.96
37,9	296			0,01	2,9	0,12	4,6	9,1							21.09.96
40,8	148			0,01	3,2	0,17	4,1	8							21.10.96
45,4	124			0,01	2,5	0,14	2,4	4,8							21.11.96
53,4	383			0,01	3,1	0,1	3,3	6,8							21.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Podari Gauging Station 133

(according with WQNMS list)

River: Jiu Km. 255 Quality: 1994-II; 1995-II; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Fe	Mn	Fenoli						
7	315			0,02	28	4,5	3,3	0,12								22.01/.94
36,9	529			0,02	23	1,8	3,6	0,11								22.02.94
49,1	134			0,02	27	2,23	2	0,12								22.03.94
152	343			0,02	23	1,6	3,3	0,12								22.04.94
83	171			0,02	21	1,3	3	0,11								23.05.94
61,7	189			0,02	19	1,7	3,2	0,12								22.06.94
50,2	257			0,02	26	6,4	3,5	0,12								22.07.94
21,6	108			0,03	30	7,6	2,8	0,1								23.08.94
116	113			0,07	33	6,4	2,1	0,13								22.09.94
56,1	228			0,03	28	6,6	3,7	0,13								21.10.94
40,9	180			0,01	29	3,2	2,5	0,13								21.11.94
60,5	197			0,03	31	3,78	2,4	0,3								21.12.94
61,7	214		0,14	0,02	33,3	2,34	4,3	0,025	0,4	0,005						22.01.95
93,8	585		0,18	0,03	31	1,7	11	0,48	0,4	0,003						22.02.95
71,4	126			0,03	23	2,7	4,5	0,28								22.03.95
55,8	135		0,18	0,01	23	2	4,3	0,5	0,48	0,003						20.04.95
93,4	188			0,02	25	1,3	5,3	0,41								21.05.95
76,5	163			0,03	25	2,8	4,3	0,37	0,35	0,002						21.06.95
45,6	193			0,03	29	4,8	5,1	0,22	0,22	0,019						21.07.95
41,1	165			0,28	35	10,1	3,3	0,18	0,18	0,002						22.08.95
44,7	186			0,04	35	7,5	4,6	0,26	0,2	0,002						22.09.95
48,3	177			0,03	29	4,4	4,6	0,38	0,35	0,003						21.10.95
53,4	196			0,04	34	6,4	5,1	0,25	0,3	0,002						22.11.95
67,5	258			0,01	28	3,1	5,1	0,2	0,3	0,003						22.12.95
65,7	163			0,32	27	1,7	5,1									22.01.96
84,8	447			0,02	27	2,2	5,2									22.02.96
52	716			0,02	23	2,7	5,9	0,001								22.03.96
112	339			0,03	25	2	4,3	0								04.22.96
102	1213			0,03	22	1,3	5,7	0								22.05.96
38	164			0,02	29	3,6	3,6	0								22.06.96
34,8	155			0,03	25	4,4	4,4	0								22.07.96
57	213			0,01	27	4,6	3,2	0								22.08.96
58	306			0,03	27	4,4	5,2	0								22.09.96
64,5	221			0,02	25	2,6	5,2	0								22.10.96
49,6	128			0,02	28	4,8	3,2	0								22.11.96
60	488			0,01	30	2,8	3,9	0								22.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Zarnesti Gauging Station 143

(according with WQNMS list)

River: Barsa Km. 24 Quality: 1994-I; 1995-I;1996-I;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Cco-Cr	Ni	Cu	Zn				
	12			0,01	4,3	0	1,8	2,9	5,6	0	0,012					06.01.95
1,8	13			0,02	6,1	0,08	1,9	3,7		0,004	0,013					07.02.95
3,5	9,5			0	7,4	0	3,5	5,8			0,007					07.03.95
	55			0,02	4,5	0	3,8	6,5	8	0,008	0,013					07.04.95
4,68	65			0,04	4,5	0,05	5,4	8,1	9,5	0	0,012					08.05.95
	14,5			0,03	4,2	0,18	4,4	7,4	8,5	0	0,012					07.06.95
	15,5			0,003	3,5	0,23	4,7	6,2	8	0,006	0,006	0				07.07.95
	19,5			0,02	3,2	0,1	1,6	2,9	4,5	0,01	0,002	0,012				07.08.95
	11,5			0,003	3	0,1	2,9	5,2	5,8	0,022	0,006	0,009				07.09.95
	15			0,01	8	0,1	1,9	3,6	5	0,006	0,001	0,015				06.10.95
	19,5			0,02	3,3	0,2	3,4	5,8	7	0,018	0,006	0,011				07.11.95
	24			0,01	3,3	0,1	3,5	6,2	8	0,017	0,013	0,005				04.12.95

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the am.Rasnov Gauging Station 144

(according with WQNMS list)

River: Ghimbasel Km. 33 Quality: 1994-II;1995-I;1996-I;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	CN	Fenoli	Deterg.	Ni	Cr	Cu	Zn	
0,82	105,5			0,003	3,7	0,03	6,8	10,2	0	0,005	0	0		0	0,002	12.03.94
	57,5			0,01	4,6	0,06	3,6	6,6	0	0	0	0,035	0	0,025	0,022	12.04.94
	75			0,02	3,7	0,05	5,8	9,2	0	0	0	0,03		0,006	0,02	12.05.94
	21			0,002	4	0,05	2,5	4,5	0	0	0	0,016	0	0,002	0,01	12.06.94
	27			0,03	4,4	0	2,1	4.,4	0	0	0	0,009	0	0	0,004	12.07.94
	9			0,02	3,3	0,23	2,3	4,4	0	0	0	0,011	0	0,006	0,006	12.08.94
	21,5			0,04	4,1	0,28	3,3	6	0	0	0	0,001	0	0,01		12.09.94
	14,5			0,02	3,7	0,05	1,6	2,5	0	0	0	0	0	0		12.10.94
	8,5			0,02	2,5	0,05	3,1	4,9	0	0	0	0,012	0	0,005		12.11.94
	18			0,005	3,7	0	2,9	5,2	0	0	0	0	0	0,014		12.12.94
0,74	11			0,01	4	0	3,3	4,7	0	0	0	0	0	0,006		06.01.95
0,86	12,5			0,005	4	0,1	1,9	3,8	0	0	0	0		0,008		07.02.95
1,92	7			0,03	5,7	0,03	1,9	3,6	0		0	0,006	0	0		07.03.95
3,96	79			0,09	7,7	0	4	5,8	0	0	0,01	0,01		0,021		07.04.95
	17,5			0,02	5,5	0	3,3	5,7	0	0	0	0,002		0,023		08.05.95
	8,5			0,02	5,8	0,07	4,7	7,9	0	0	0	0		0,01		07.06.95
	11			0,01	5	0,15	3,5	5,8	0	0	0	0,015		0,004	0,001	07.07.95
	17,5			0.,002	4	0,1	0,8	1,3	0	0	0	0,02	0	0,004	0,011	07.08.95
	11			0,003	4,3	0,1	2,6	4,6	0	0	0	0,01	0	0,004	0,002	07.09.95
	10,5			0,01	3,2	0,05	2	3,6	0	0	0	0,01	0,03	0	0,026	06.10.95
	10,5			0,02	3,8	0,15	1,9	2,7	0	0	0	0,02	0	0,004	0,005	07.11.95
	3			0,02	4,7	0,18	2,5	4	0	0	0	0,008	0	0,006	0,007	04.12.95
	10,5			0,01	5,3	0,05	3,4	4,9	0	0	0	0,01	0	0,004	0,008	08.01.96
	11,5		0,096	0,05	4,5	0./80	3,4	5,5	0	0	0	0,02	0,025	0	0,006	07.02.96
	10,5		0,082	0,01	4,8	0,33	3	5,1	0	0	0	0,02	0,02	0,004	0,004	07.03.96
	19,5		0,068	0,02	4,1	0	2	4	0	0	0	0	0	0		08.04.96
	22,5		0,054	0,03	3,9	0,53	3,4	6	0	0	0	0,05	0	0,004		07.05.96
1,61	9		0,054	0,02	4,1	0,08	2,1	4	0	0	0	0,02	0	0,048		07.06.96
1,18	15,5		0,042	0,02	3,7	0,18	2,4	4	0	0	0	0	0	0	0,001	07.07.96
0,95	10,5		0,086	0,02	3,5	0,08	6,3	10,7	0	0	0	0,006	0	0,001	0,021	07.08.96
1,18	14,5		0,032	0,03	3,8	0,14	2,6	4,4	0	0	0	0,006	0	0	0,006	07.09.96
1,28	11		0	0,04	4,6	0	2,1	4,1	0	0	0	0,004	0	0,003	0,003	07.11.96
1,12	12		0,027	0,01	3,8	0,12	2,4	4,6	0	0	0		0	0		12.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Am.cnf.Olt (Bod) Gauging Station 145

(according with WQNMS list)

River: Ghimbasel Km. 48 Quality: 1994-D; 1995-D; 1996-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fe	Cr	Zn	Mn	Cu	Ni	Fenoli	
3,2	59,3			0,03	2,6	8,4	10,2	18,6	1,3	0,068	0,147					09.01.94
3,08	94			0,6	4,7	5,3	7,9	12,6	0,36	0,06						08.02.94
3,7	99,3			0,17	0,9	2,8	13,8	22,6	0,45	0,001	0,74					09.03.94
3,6	66			0,1	2	4,8	8,2	14,5	0,85	0,05	0					10.04.94
3,44	96			0,25	2,9	3,2	6,6	11,5	2,5	0,3	0,1					08.05.94
3,69	101,6			0,01	0,6	6,6	6,6	11,1	0,92	0,2	0,08					11.07.94
4,02	52			4,06		3,6	6,7	12	0,13	0,005	0,018					09.08.94
3,2	66			4,99		4,5	11	20,2	0,35	0						12.09.94
3,8	56			0,4	15,7	1,9	8,6	16	0,29	0						09.10.94
2,4	74,3			0,17	3,8	4,66	12,6	22,1	0,39	0						09.11.94
3,4	34,3			0,01	0,9	7	31,1	55,3	0,39	0,027						06.12.94
3,13	31,7			0,21	1,6	1,6	6,9	13,4	0,67	0,028						07.01.95
2,73	24,7			0,17	3,1	4,66	10	19,3	1,7	0,011						09.02.95
2,9	65,6			0,16	1,3	3,7	26,8	42,7	2,16	0,063						04.03.95
5,88	35			0,29	6,7	4	8,2	12,5	1,3							10.04.95
6,29	41			0,42	4,2	2,25	5,5	9,4	2,71	0,133						06.05.95
6,14	97,7			0,74	7,3	3	22,6	40,3	9,27	0,095						08.06.95
7,44	24,7			1,19	3,9	3,83	5,4	9,2	3,35	0,021	0,045					12.07.95
4,48	26,3			0,42	8,1	4,25	8	12,6	1,25	0,04	0,021					05.08.95
11,5	40,7			0,13	2,5	5,75	5,8	10,8	2,65	0,006	0,071					11.09.95
4,37	37,7			0,28	15,8	4,67	5,1	8,3	1,08	0,026	0,075					08.10.95
5,14	62,7			0,28	3	5,98	9,8	15,1	2,93	0,053	0,229					09.11.95
6,34	28,7			0,16	7,7	4,17	8	14,2	1,08	0,02	0,051					06.12.95
5,86	29,3			0,48	6,9	4	8,1	13,7		0,03	0,05		0,013	0,06	0	08.01.96
3,18	37,3		0,669	0,42	2,4	11,6	9,7	16,1		0,076	0,08	0,15	0,024	0,006	0,012	08.02.96
1,61	50		0,381	0,55	3,6	6,25	9,3	14,9		0,016	0,14	0,1	0,028	0,1	0,005	08.03.96
7,13	62,7		0,348	0,12	2,7	4,22	13,6	23,1		0,004		0,2	0,032	0,02	0	08.04.96
3,5	59,3		0,482	0,14	0,6	6,32	8,8	16		0,418		0,1	0,004	0,07	0	09.05.96
4,03	32		0,34	0,56	3,5	6,67	13,9	22,9		0,033		0,03	0,032	0,03	0,02	06.06.96
3	73,3		0,315	0,03	10,2	4,5	16,5	29,5		0,024	0,221	0,2	0,045	0,036	0,005	09.07.96
3	73,3		0,315	0,03	10,2	4,5	16,5	29,5		0,024	0,221	0,2	0,045	0,036	0,005	07.08.96
4,12	54,7		0,4	0,45	3,8	6,73	11,9	19,2		0,045	0,167		0,027	0,02	0	09.09.96
1,95	42,3		0,743	0,28	7,3	8,82	9,3	13,5		0,004		0	0,003		0	08.10.96
4,63	38,7		0,467	0,3	8,3	3,73	9,9	13,9		0,061		0	0,005		0,013	09.11.96
1,32	31,3		0,52	0,55	4,6	7,24	7,4	13,7		0,028		0	0,009		0	04.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the av.CCh Zarnesti Gauging Station 146

River: Barsa Km. 69:1994; 1996; 30:1995 Quality: 1994-D; 1995-D; 1996-D (according with WQNMS list)

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Cco-Cr	Fenoli	S.extr.	Ni	Cr	Cu	Zn	
1,2	47,3			0,18	7,4	4,56	18,4	31,5	67,3	0	7,1	0,045	0,021	0,024	0,016	20.01.94
1,29	84			0,21	6,2	3,3	15,9	25,9	41,7	0,01	7,3	0,001	0,09	0,002		08.02.94
1,1	59,3			0,77	5,5	1,66	29,5	52,4	17,7	0,015	4,6	0,001	0,002	0	0,021	10.03.04
1,92	3			0,01	2,7	4,18	34,7	59,1	86,7	0	5,66	0,01	0,001	0,003	0,006	08.04.94
1,6	76			0,11	5,1	0,32	6,7	12,2	18,7	0,015	10,66	0,035	0,05	0,014	0,42	27.05.94
13,7	149,3			1,4	4,5	2,2	12,8	24,2	30,7	0	8	0,024	0,06	0,01	0,04	18.06.94
1,4	107,3			0,04	2	3,9	22,8	43,2	55,3	0	6,3	0,038	0,025	0,003	0,036	27.o7.94
4,7	126,3			0,9	1,4	6,2	42,8	76,3	86	0,02	5,3	0,024	0,002	0,012		23.08.94
1,8	126,3			0,41	10,7	2,4	24,9	45,5	52	0,02	5,3	0,024	0,002	0,012	0,008	23.09.94
2,7	261,3			0,1	5,1	3,35	29,4	57,9	87	0,032	8,6	0,085	0	0,025		13.20.94
2,25	37			0,12	2	4,5	29,1	56,5	76	0,02	10,3	0,024	0,004	0,026		18.11.94
1,14	68			0,08	4,5	3,7	10,4	17,8	27	0,03	7,3	0,078	0,042	0,021		30.12.94
	11,5			0,08	4,5	3,05	27,6	45,8	82	0,015	7,3	0		0,007		06.01.95
4,56	23			52	0,8	7,5	116,5	209,4			0	0,022	0,14	0,01		07.03.95
6	40,5			0,43	5	0,25	17,1	32,5	39	0,05	7,3	0,002	0,021	0,031		08.05.95
	25,5			0	2,2	22,5	171,2	320	442	0,012	7,3	0	0	0,007	0,002	07.07.95
	23			0,27	3	5,88	34,2	67,5	80	0,017	7	0,02	0,032	0,01	0,032	07.09.95]
2	30			0,06	3,7	1,57	16,8	29,7	48,7	0,027	3,3	0,017	0,048	0,01	0,011	07.11.95
6,37	29,7			0,07	7,7	1,07	6,4	10,8	17,3	0	4,6	0,02	0,036	0,008	0,04	09.01.96
1,61	21		0,053	0,09	12,5	1,67	12,2	20,6	33,3	0,02		0,04	0,05	0,014	0,05	09.02.96
1,53	35,7		0,048	0,25	3,3	5,5	35,3	66,1	95,3	0,02		0,06	0,031	0,02	0,02	08.03.06
3,47	37,3		0,022	0,16	3,8	3,73	29,4	52,7	75,3	0,01		0,02	0,001	0,004		08.04.96
12,4	69,7		0,092	0,21	3,1	3	28,3	52,1	86	0,005		0,07	0,07	0,004		09.05.96
1,6	27,3		0,032	0,16	3,2	3,33	25,1	50,8	68	0,028		0,1	0,011	0,04		09.06.96
2,95	66		0,096	0,29	11,1	4,92	27,9	51,9	76,7	0,01		0,021	0,011	0,018	0,063	09.07.96
1,52	32		0,047	0,09	8,4	1,52	23,7	27,4	42	0		0,08	0,02	0,01	0,047	09.08.96
1,38	98		0,028	0,3	6,1	1,87	22,2	38,7	64	0		0,011	0,01	0,007	0,027	09.09.96
2,67	37,3		0	0,27	3,6	10,6	77,6	144,8	194,7	0			0	0		09.10.96
1,89	44,7		0,021	0,07	4,8	3,21	21,5	38,6	44,7	0,008			0	0,002		09.11.96
5,27	58,7		0,046	10	3,2	5,29	57,2	102,2	146,7	0			0,022	0,021		04.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Fagaras Gauging Station 151

(according with WQNMS list)

River: Olt Km. 303 Quality: 1994-III; 1995-III; 1996-III

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	CCO-Mn	CCO-Cr	Fe	Cr	Zn	Fenoli	S.extr.	Ni	
46,2	84,6			0,03	10,9	0,58	10,5	19,5	29	1,27	0,012	0,048	0,035	5,3	0,046	12.01.94
54,7	58			0,1	6,4	1,88	6,5	11,4	23,6	0,57	0,02		0,015	2,2	0,054	13.02.94
36,4	104,3			0,09	7,9	0,83	11,3	17,2	27,3	3,69	0,006	0,025	0,002	3,3	0,039	14.03.94
53,4	60,7			0,02	10,3	0,41	12,1	20,2	30,7	1,28	0,007	0,033	0,015	5,6	0,025	12.04.94
35,2	36,6			0,15	9,8	0,22	7,4	10,1	17,3	1,98	0,113	0,038	0,005	8	0,04	12.05.94
413,3	462			0,02	5,8	0,58	13	22,6	28,6	0,52	0,011	0,025	0	44,14	0,043	12.06.94
49,6	193			0,04	9,2	0,27	8,9	15,8	24	1,66	0,01	0,06	0,02	1	0,024	12.07.94
28,7	27,3			0,65	8,6	1,08	11	20,5	26	0,15	0,003	0,018	0,032	2	0,016	12.08.94
21,7	47			0,001	15,9	0,45	7,6	13,6	21,6	0,23	0,006		0,022	5,66	0,08	12.09.94
33,8	250,6			0,06	13,1	0,42	8	14,6	20	0,35	0,003		0,03	6,6	0,025	12.10.94
21,6	38			0,95	6,9	1,66	7,4	12,8	17,7	0,17	0,03		0,03	4,64	0,001	13.11.94
23,5	37,6			0,19	13,4	4,56	8,6	16,6	25,3	0,84	0,015		0,02	6	0,041	09.12.94
25,2	33,3			0,38	14,2	3,07	4,3	7,4	12,7	2,18			0,01	9,3		12.01.95
39,9	32,3			0,85	9,3	0,13	7,8	14,8	24	1,12			0,025	3	0,006	13.02.95
56,1	32			0,19	7,6	1,4	14,5	23,2	38,7	0,93	37,6		0,025	4,6	0,008	14.03.95
78,3	29			0,2	9,9	0,3	10,2	15,3	23,3	1,08	0,058		0,012	5	0,009	12.04.95
107,3	67			0,23	8,6	0,15	6,5	13,2	19	5,97	0,051		0,007	5,3	0,014	12.05.95
60,7	20			0,25	13	0,35	13,4	20,8	29,7	1,46	0,06		0,017	6	0,008	12.06.95
38,7	24			1,83	16,2	0,25	12,2	18,4	34	0,47	0	0,004	0,012	5,3	0,001	12.07.95
36,5	21,7			0,29	14,8	0,28	12,5	21,4	29,3	0,92	0,046	0,01	0	3,3	0,02	12.08.95
94,7	67,7			0	9,1	0,03	13,9	26,1	34,7	17,58	0,125	0,09	0,005	4	0,049	12.09.95
35	19,7			0,17	12,2	0,37	9,8	15,9	26	1,25	0,05	0,03	0	4,3	0,022	12.10.95
38,3	46,7			0,04	10,5	0,7	13,3	16,1	22,7	4,68	0,01	0,055	0,027	6	0,013	13.11.95
-	50,3			0,27	7,8	0,77	9,8	17,2	24	5,06	0,016	0,061	0,01	5,6	0,025	09.12.95
66,5	16,3			0,12	9,1	1,47	10,2	16,9	26,7	1,36	0,018	0,03	0,007		0,03	12.01.96
24,6	23,7		0,076	0,19	9,7	2,7	8	13,4	24	0,8	0,07	0,03	0,02		0,04	12.02.96
26	19,7		0,17	0,04	5,6	4,43	11	18,2	31,3	1,14	0,031	0,03	0		0,04	11.03.96
140,7	71,7		0,122	0,05	9,1	0,5	17,6	31,1	442	8,03	0,016		0,01		0,04	12.04.96
84,1	31		0,145	0,03	8,7	0,37	7,3	12,8	21,3	3,03	0,008		0,017		0,03	12.05.96
32,3	25		0,267	0,02	9	0,97	7,9	13,3	24,7	0,91	0,01	0,029	0		0,004	06.06.96
37,2	56,7		0,076	0,43	10,3	1,25	28,5	49	74	3,62	0,009	0,113	0,02		0,037	12.07.96
24,7	41,7		0,412	0,09	11,5	0,63	6,1	10,3	17,3	0,54	0,015	0,039	0,005		0,009	13.08.96
45,8	40,3			0,06	8,7	1,04		15	25,3	0,91	0,017	0,051	0		0,006	05.09.96
35,4	35,3		0,197	0,06	11,4	0,24	•••.00	18	30,7	1,07	0,026		0,02			12.10.96
32	35		0,193	0,93	16,1	0,07	5,7	9,6	16	0,19	0		0			12.11.95
64,7	34		0,194	0,21	8,2	1,08	5,6	10,5	17	1,82	0,004		0,023			07.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Ramnicu Valcea Gauging Station 162

(according with WQNMS list)

River: Olt Km. 451 Quality: 94-I; 95-I; 96-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
				NO2	NO3	NH4	CBO_5	CCO-Mn							Date
82	38,3		0,18	0,13	5,1	0,93	3,5	6,6							16.01.94
80	39		0,081	0,15	12,3	2,13	3,2	5,8							16.02.94
78	38,4		0,105	0,26	11,4	1,98	3	11,9							16.03.94
	41		0,076	0,29	11	1	3	12,4							18.04.94
91	59,4		0,054	0,51	11,7	0,87	3,9	11,3							18.05.94
334	78,6		0,055	0,25	5,9	0,54	4,5	11,3							16.06.94
71	28,6		0,11	0,19	8	0,81	2,6	10							18.07.94
70	52,6		0,044	0,1	7,4	0,24	3,4	11,3							17.08.94
75	45,9		0,078	0,1	6,5	0,17	3,9	11,5							23.09.94
78	33,7		0,11	0,08	10,2	72	3,8	10,3							15.10.94
86	29,7		0,09	0,16	8,9	1,8	3,9	8,4							16.11.94
103	38,5		0,08	0,12	9,4	1,18	3,9	7,4							16.12.94
74	30,5		0,059	0,11	10	1,03	2,9	5,5							17.01.95
	38		0,069	0,11	10,2	1,33	4,4	8,9							20.02.95
	36,4		0,295	0,18	12,7	1,09	1,4	8,7							13.03.95
143,6	47,2		0,33	0,09	7,2	0,19	2,5	8,2							17.04.95
	61		0,04	0,2	11	0,15	2,3	7,9							15.05.95
169	73,8		0,084	0,25	6,9	0,03	3,3	9,5							16.06.95
	33,1		0,043	0,3	8,3	0,14	3,1	16,6							22.07.95
82	66		0,02	0,39	9,4	0,1	3,5	12,1							15.08.95
	40		0,052	0,43	11,9	0,06	2,7	6,1							17.09.95
	46		0,036	0,32	10,3	0,12	2,9	10,5							16.10.95
	44,3		0,089	0,22	15,4	2,1	4	12,6							16.11.95
	42,7		0,074	0,15	7,2	0,83	3,8	8,1							17.12.95
107	34,3		0,02	0,11	8,4	0,48	3,8	7,1							19.01.96
68	36,7		0,08	0,28	22	3,97	3,6	8,7							22.02.96
105,3	42,6		0,376	0,24	10,8	2,57	2,7	11,3							17.03.96
251,3	56,5		0,253	0,2	9,8	0,98	2,9	7,8							20.04.96
253,3	70		0,214	0,41	10,8	0,36	3,5	10,3							17.05.96
93	35,3		0,12	0,6	7,9	0,26	3,3	14,5							19.06.96
66,3	34		0,276	0,62	12,4	0,12	3,8	18,4							18.07.96
86	43,2		0,116	0,19	9,1	0,3	4,2	15							22.08.96
122,7	37,8		0,19	0,42	20	0,57	4	14,2							18.09.96
64,3	33,7		0,044	0,15	13,3	0,26	4	14,2							17.10.96
75,3	28,8		0,14	0,3	12,5	0,53	3,7	13,7							21.11.96
96			0,4	0,18	97	0,68	2,5	10,3							17.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Dragasani Gauging Station 163

(according with WQNMS list)

River: Olt Km. 515 Quality: 1994-II; 1995-II; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	CC0-Mn	Fe	Cd	Cco-Cr	Rez.fix	Cloruri			
65	63,8		0,05	0,16	10,5	1,41	4	10,5	0,69		50	555	180,7			24.01.94
71	41,7		0,11	0,14	9,4	169	3,3	7,1	0,33		40	655	222			23.02.94
70,6	39,9		0,007	0,18	8,4	1,51	3,2	9,2	0,27		50	767	254,3			03.25.94
67,7	41,7		0,5	0,2	7,9	0,48	2,9	15,8	0,6		55	597,6	209,2			04.25.94
117	95,4		0,23	0,15	5,5	0,69		6,1	0,04	5,86		722,6	219,6			10.05.94
300	46,3			0,3	3,1	0,31		8,4	0,04	5,86		576	151,3			10.06.94
185	53,9			0,17	7,3	1,04		10	0,25	4,4		4.57.3	94,5			11.07.94
71	46,1		2,17	0,005	5,7	1,12		11,3	0,33	13,2		506	165,4			12.08.94
39	39,4		0,26	0,1	1,9	0,37		11,9	0,29	1,47		668	207,9			12.09.94
130,6	65,2		0,34	0,28	1,4	1,94		7,7	0,23			832	278,9			12.10.94
50,2	29,2			0,19	2,4	1,42		7,9	0,68			752	250,5			11.11.94
57,8	39,2		0,26	0,19	4,6	1,56		8,2	0,53			842,6	285,9			12.12.94
	29,7		0,33	1,8	0,12	2,49		10,8	0,58			674,7	222,2			12.01.95
	30,9		0,42	4,2	0,007	11,69		6,6	0,88			760	257,6			13.02.95
	13,9		1,47	4,7	0,023	2,07		8,4				61,6	229,3			13.03.95
211	23,3		8,14	3,3	0,19	0,5		8,4	0,75			730	243,6			11.04.95
	8,3		1,4	4,1	0,24	1,31		6,6				508	161,1			10.05.95
	54,5		3,16	8,8	0,23	1,54		7,1				392	120,5			12.06.95
	60,8		1,6	9,1	0,2	2,36		8,9	1,43			404	142			10.07.95
	65,5		2,56	6,4	0,27	1,11	5	11,6	0,45			498,7	182			10.08.95
	105,5		0,88	4,3	0,27	0,48	2,8	14	0,85			728	226,9			11.09.95
	46,7		2,38	5,3	0,16	1,1	3,3	10,5	0,55			617,3	234			11.10.95
	11,2		3,16	8,4	0,18	1,07	2,5	11,1	0,45			708	226,9			13.11.95
66	21,9		1,19	7,3	0,15	1,02		9,7				476	155,9			11.12.95
	86,4		1,71	0,29	7,7	2,27	3,1	11,1	0,62			378,7	111,1			10.01.96
	29,1		0,35	0,09	7,5	1,38	2,3	9,7	0,36			622,7	215,1			11.02.96
130	23,7		0,153	0,022	8,8	2,51		14	0,21		35	723,3	234			22.03.96
347	47,2		0,022	0,19	6,5	1,04	3,8	8,7	0,35		40	438	115,8			22.04.96
194	39,2		0,046	0,32	6,7	0,13		10,1	0,28		30	378	105,2			22.05.96
70	54,9		0,07	0,38	7,3	0,63	3,1	12,1	0,26		50	575,3	190,3			23.06.96
71	50,1		0,27	0,43	4,6	0,21	2,6	16,1	0,53		30		210,3			22.07.96
57	75,6		0,047	0,45	7,4	0,12	3,5	12,6	0,45		35	734	262,3			20.08.96
126	32,8		0,07	0,66	13,1	0,44	3,9	14	0,08		30	775	287,1			22.09.96
28	62,6		0,03	0,21	5,6	0,8	3,7	14,2	0,24		40	561,6	174,9			20.10.96
88	30,2		0,07	0,17	8,1	0,39		11,9	0,13		30	741	265,9			25.11.96
56	35,3		0,23	0,02	7,2	0,71	2,4	9,7	0,28		35	619	193,8			22.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Darmanesti Gauging Station 184

(according with WQNMS list)

River: Riul: Riul Doamnei km. 86 Quality: 94-I; 95-I; 96-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO5	CCO-Mn	Fe							
1,66	8		0,013	0	1,1	0,08	2,1	5,3	0,18							17,01,1994
1,38	10,6		0,012	0,01	0	0,08	4,3	9,2	0,24							17,02,1994
0,95	19,3		0,01	0,23	0,9	0,1	1,9	4,7	0,09							17,03,1994
1,63	18		0,056	0,03	1,5	0,1	3	6,3	0,16							17,04,1994
2,5	27		0,022	0,02	1,4	0,5	3,1	7,2	0,88							17,05,1994
1,77	18,6		0,02	0,02	0,7	0,04	2,9	6,3	0,23							17,06,1994
0,99	21		0,079	0,03	1,3	0,28	3,1	8								17,07,1994
0,6	37,3		0,025	0,03	0,9	0,22	3,5	9,1	0,23							17,08,1994
0,26	21		0,019	0,09	0,4	0,07	2,6	4,3	0,08							17,09,1994
0,8	17,3		0,021	0,01	0,3	0,1	2,8	4,2	0,2							17,10,1994
2	16		0,024	0,01	0,5	0,06	2,9	5,6	0,45							17,11,1994
1,93	4		0	0	0,8	0,02	2,5	5	0,39							17,12,1994
0,61	18		0,024	0,02	1,3	0,05	1,7	3,4	0,28							17,01,1995
1,15	32		0,079	0,02	1,3	0,05	2,1	3,1	0,25							17,02,1995
2,5	21		0,026	0,02	1,3	0,05	1,5	2,5	0,19							17,03,1995
2,4	20,6		0,021	0,09	1,3	0,06	1,3	2,5	0,29							17,04,1995
2,62	22,6		0,04	0,07	0,9	0,16	1,9	3,7	0,12							17,05,1995
14	34,6		0,12	0,12	1,8	0,52	3,1	6,6	0,11							17,06,1995
1,04	17,3		0,02	0,08	1,5	0,12	3,5	6,6	0,18							17,07,1995
0,63	14,6		0,016	0,08	1	0,1	2,4	4,5	0,18							17,08,1995
0,63	48		0,007	0,04	1,9	0	3,8	7,5	0,29							17,09,1995
0,46	37		0,015	0,03	0,9	0	3,3	6,2	0,1							17,10,1995
0,608	34,6		0,007	0,03	1,1	0	3,4	7,2	0,16							17,11,1995
4,8	85,3		0,064	0,33	0,6	0,04	2,6	5,3	0							17,12,1995
2,2	42		0,007	0,03	0,8	0	2,9	5,6	0,13							17,01,1996
1,3	34,6		0,007	0,03	1,5	0	4,6	9	0,21							17,02,1996
3,6	10,6		0,04	0,03	1,7	0,08	3,9	8,3	0,02							17,03,1996
14,3	32		0,03	0,02	1,1	0,2	4,3	9	0,24							17,04,1996
6,4	5,3		0,016	0,02	0,5	0	4,6	10,6	0,1							17,05,1996
2,7	12		0	0,03	2	0,32	3,6	8	0,19							17,06,1996
1	8		0,018	0,01	0,1	0,02	3,1	7,1	0,1							17,07,1996
2,4	12		0,02	0	0	0	3,9	7,7	0,18							17,08,1996
0,68	16		0,021	0,02	0	0,26	4,6	9,5	0,3							17,09,1996
0,66	57,3		0,007	0	0,3	0,16	4,5	10,3	0,21							17,10,1996
0,66	9,3		0,014	0,01	0,2	0,06	4,2	8,8	0,27							17,11,1996
2,4	12		0,011	0,03	0,5	0,06	3,5	7,5	0,16							17,12,1996

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Piscani Gauging Station 186

(according with WQNMS list)

River: R.Targului km: 68 Quality: 1994-I; 1995-I; 1996-I;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fe	Fenoli	Deterg.					
2,72	10		0,22	0,09	2,2	0,56	3,4	7,5	0,34	0	0,09					17.01.94
2,33	38		0,01	0,11	0,9	0,14	4,8	10	0,33	0	0,08					17.02.94
4,71	30		0,02	0,03	0,7	0,08	2	4,1	0,21	0,002	0,03					17.04.94
6,78	21,3		0,09	0,02	1	0,48	2,7	3,5	0,08	0,01						17.05.94
12,8	53,3		0,07	0,05	1,6	1,8	3,8	9,3	0,89	0,004	0,16					17.06.94
4,45	29,3		0,06	0,03	0,5	0,14	3,5	5,8	0,16	0	0					17.07.94
1,91	22,6		0,03	0,01	0,5	0,12	1,8	5,2	0,06	0,01	0,02					17.08.94
1,28	26,6		0,03	0,05	0,7	0,15	3,3	5,6	0,01	0	0,03					17.09.94
2,5	25,3		0,06	0,09	2,2	0,09	3,4	6,3	0,07	0,003	0					17.10.94
3,3	25		0,06	0,08	0,8	0,08	1,9	3,8	0,15	0,001	0,05					17.11.94
2,36	18		0,03	0,04	1,5	0	2	4	0,22	0,019	0,06					17.12.94
2,69	18,6		0,12	0,04	1	0,05	1,8	3,7	0,08	0	0,05					17.01.95
2,98	47		0,05	0,09	1,3	0,28	4,5	9,7	0,32	0	0,02					17.02.95
7,44	74,6		0,08	0,15	1,7	0,38	15,6	46,5	0,16	0	0,05					17.03.95
6,34	32		0,03	0,05	1,7	0,14	2,2	4,4	0,16	0	0,02					17.04.95
2,66	29,3		0,05	0,09	0,9	0,14	2,3	4,3	0,22	0	0					17.05.95
34,6	34		0,07	0,17	0,6	0,06	2,1	5,6	0,2	0	0,02					17.06.95
10,9	30,7		0,05	0,04	0,9	0	2,8	5,3	0,15	0	0					17.07.95
4,82	22,6		0,07	0,1	1,1	0,06	2,4	4,6	0,13	0	0,04					17.08.95
5,9	29,3		0,05	0,05	0,9	0,06	2,1	3,7	0,11	0	0					17.09.95
3,2	53,3		0,03	0,03	0,9	0	2,8	5,3	0,04	0	0					17.10.95
0,579	45,3		0,01	0,05	0,5	0,06	2,2	5,6	0,2	0	0					17.11.95
3,6	41		0,06	0,02	1,4	0	2	4,1	0,07	0	0,01					17.12.95
6,9	45,3		0,016	0,02	0,9	0	3,5	7,2	0,4	0	0					17.01.96
6,1	30,6		0,053	0,03	2,3	0,58	3,3	6,5	0,1	0	0,05					17.02.96
6,3	20		0,016	0,05	4	0,16	4,2	9,6	0,19	0	0,03					17.03.94
4,23	22,6		0,046	0,02	2,3	0,34	5	10,2	0,21	0	0,02					17.04.96
21,2	16		0	0,03	0,2	0	4,2	8,6	0,02	0	0,02					17.05.96
7,59	8		0,009	0,1	0	0,02	3,7	8	0,21	0	0,14					17.06.96
9	16		0,016	0,04	0,1	0,02	3,2	7,1	0,22	0	0,02					17.07.96
7,2	22,6		0,036	0,05	1,7	0,2	3,4	7	0	0	0,02					17.08.96
4,13	12		0,03	0,01	0	0,12	2,4	5,5	0,3	0	0					17.09.96
4,34	13,3		0,31	0,03	0	0	2,5	5,9	0,18	0	0,06					17.10.96
3,1	9,3		0,019	0,02	2,1	0	3,8	8,7	0,21	0	0,04					17.11.96
4,5	10,6		0,042	0,07	1,7	0	3,6	7,5	0,16	0	0,02					17.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Ciunesti Gauging Station 189

(according with WQNMS list)

River: R. Doamnei Km: 90 Quality: 1994-I; 1995-II; 1996-I;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fe	Cu	Cd					
5,46	10,6		0,06	0,07		0,5	2,7	5,6	0,16	0,006	0					17.01.94
5,07	33,3		0,02	0,06	1,9	0,93	3,9	8,4	0,21	0,029	0,001					17.02.94
7,75	20,6		0,05	0,04	1,5	0,44	3,1	7,4	0,34	0,028	0,001					17.03.94
8,47	10,6		0,04	0,06	1,1	0,34	3	6,2	0,21	0,019	0					17.04.95
9,63	13,3		0,04	0,08	1,6	0,3	3,3	7,9	0,16	0	0					17.05.95
14,4	21		0,05	0,1	1,4	0,18	3,3	7,6	0,31	0,022	0,002					17.06.95
8,39	30,6		0,05	0,12	0,9	0,24	3,5	9,1	0,15	0,016	0,002					17.07.95
2,78	26,6		0,02	0,12	0,5	0,15	3,3	7,1	0,24	0	0					17.08.95
2,4	21		0,07	0,36	1,2	0,45	4,9	8,8	0,37	0	0					17.09.95
4,6	18,6		0,14	0,15	1,9	0,12	4,2	8,9	0,05	0	0					17.10.95
4,78	14,6		0,06	0,13	5,1	0,12	2,5	5	0,22	0	0					17.11.95
3,43	18		0,06	0,04	1,5	0,92	3	5,2	0,21	0,008	0					17.12.95
3,08	18		0,2	0,08	1,1	1,48	2,6	4,3	0,11	0,005	0					17.01.95
6	32		0,14	0,1	1,7	0,62	3,1	6,6	0,12	0	0					18.02.95
12,9	22,6		0,07	0,08	1,1	0,52	3,1	6,6	0,18	0	0					18.03.95
8,1	22,6		0,01	0,12	1,9	0,4	2,6	5,3	0,21	0	0					18.04.95
14,5	38		0,14	0,17	1,1	0,14	3	6,4	0,13	0	0					18.05.95
34,2	33,3		0,05	0,16	1,6	0,3	1,7	4,3	0,25							18.06.95
12,5	18,7		0,06	0,08	2,1	0,32	2	3,7	0,11	0,008	0					18.07.95
9,4	33,3		0,08	0,14	1,9	0,4	2,8	5,5	0,13	0	0					18.08.95
6,45	20		0,07	0,13	1,9	0,38	3,7	7,2	0,18	0	0					18.09.95
3,8	33		0,02	0,14	0,8	0	3,8	7,2	0,22	0	0					18.10.05
0,568	32		0,03	0,09	1,3	0,1	2,6	5	0,4	0						18.11.95
8,9	48		0,11	0,06	1,4	0,28	3,3	7,7	0,34							18.12.95

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Suseni Gauging Station 195

(according with WQNMS list)

River: Dambovnic km.13 Quality: 1994-D; 1995-III; 1996-III

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Fe	Cco-Mn	CN	Fenoli	Detergenti	Rez.fix	Cloruri	Cu	
1,6	27,3		0,05	0,11	2,8	0,26	18,5	0,25	38,6	0,005	0	0,13	623	159,7	0,01	17.01.94
0,84	41,3		0,05	0,46	1,6	7,2	21,6	0,3	27,2	0,02	0,214	0,22	626,3	170,4	0,049	17.02.94
0,2	17		2,98	0,06	2,4	7,32	18	0,43	27,9	0	0,144	0,17	596	164,4	0,025	17.03.94
0,15	53,3		0,75	0,11	3,3	6,3	12	0,31	20,3	0	0,192	0,13	685	228,9	0,042	17.04.94
0,4	25		0,36	0,1	2,1	9,6	14,2	0,39	27,4			0,14	659	238	0	17.05.94
1,5	33,3		0,02	0,15	1,4	1,74	27,3	0,68	41,8	0,015	0,08	0,07	416	104,1	0	17.06.94
0,45	475		0,21	0,03	1,4	2,52	44,3	0,55	56,8	0,01	0,041	0,25	669	95,8	0,041	17.07.94
0,4	37,3		0,19	0,18	1,5	2,12	8	0,56	15,1	0,035	0,213	0,02	459,6	149	0	17.08.94
0,2	32		0,37	0,09	0,5	13,1	8,7	0,82	16,5	0,007	0,092	0,02	568	145,5	0,041	17.09.94
0,15	34,6		0,19	0,14	0,2	4,7	11	1,15	15,1	0,01	0,04	0,28	350,6	85,1	0	17.10.94
0,15	25,3		0,24	0,09	2,3	4,88	7,8	0,63	15,7	0,006	0,065	0,21	464	105,1	0	17.11.94
1,6	30		0,16	0	2,2	10,6	7	0,36	17,9	0,002	0,042	0,15	406	108	0,006	17.12.94
1,5	25,3		0,05	0,92		5,14	8,8	0,37	17,9	0,011	0,035	0,09	493	118,3	0,005	17.01.95
1,63	140		0,43	0,07	0,5	23,6	11,1	0,3	23,6	0,019	0,05	0,13	414	106,4	0,002	17.02.95
0,8	37,3		0,07	0,09	0,9	5,56	13,8	0,19	30,2	0	0,073		331	134,8	0,004	17.03.95
1,82	32		0,17	0,26	0,9	8,4	5,7	0,21	13,3	0,032	0,008	0,13	538	139,6	0,004	17.04.95
1,7	152,6		0,23	0,26	2,6	3,2	9,6	0,59	18,1	0,13	0,014	0,05	437,3	95,8	0,004	17.05.95
2,2	50		0,08	0,17	1,8	0,86	8,2	0,38	16,3	0,125	0,013	0,05	777	120,6	0	17.06.95
0,8	162		0,09	0,22	3,1	7	2,9	0,28	5,4	0	0,01	0,02	396	87,5	0	17.07.95
1,6	144		0,01	0,4		7	4,6	0,31	8,7	0	0,009	0,04	393,3	79,2	0	17.08.95
1,6	36		0,32	0,41	27	1,18	4	0,27	7,8	0,002	0,013		559,3	78		17.09.95
1,6	44		0,06	0,11	5,3	1,7	7,4	0,36	14,6	0,099	0,007		482	62,7	0	17.10.95
0,5	85,3		0,07	0,17	2,7	1,4	3	0,31	5,9	0,007	0,011	0,02	398	68,6	0	17.11.95
1,8	46,6		0,04	0,04	2,5	7,92	4,8	1,25	9,9	0,1	0,009	0,06	480	151,9	0,006	17.12.95
0,4	84		0,05	0,59	11,4	3,2	4,6	0,2	9,9	0,097	0,076	0	354	105,3	0,1	17.01.96
1,6	57,3		0,02	0,21	1,9	0,5	4,6	0,64	9,9	0,048	0,129	0,05	382	36,6	0	17.02.96
0,3	40		0,009	0,72	2,1	0,16	9,4	0,37	18,8	0,048	0,136	0,08	365,3	101,7	0,009	17.03.96
0,6	78,6		0	0,15	0,6	7,2	11,8	0,57	24,3	0,04	0,009	0,13	495	112,4	0,005	17.04.96
0,6	13,3		0,06	0,01	0,2	2,86	8,7	0,28	19,8	0,015	0,33	0,06	399,3	95,8	0	17.05.96
1,6	14,6		0,059	0,09	1,1	1,42	8,5	0,19	17,5	0	0,04	0,13	420,6	94,6	0	17.06.96
1,2	14,6		0,007	0,02	0,1	3,3	7,5	0	16,6	0,048	0,119	0,08	404	89,9	0,009	15.07.96
1,6	20		2,1	2,17	0,6	18	3,7	0,18	7,6	0,003	0,001	0	261	71	0	17.08.96
1,5	36		0,043	0,06	0	0,83	6,3	0,3	13,3	0	0	0,18	379	91,1	0,005	17.09.96
0,8	58,6		0,022	0,03	0,1	2,3	7,9	0,37	17,1	0,017	0,072	0,02	413,6	92,2	0,01	17.10.96
1,4	24		0,062	0,14	0,2	12,8	15	0,04	34,7	0,024	0,01	0,06	403	99,3	0,01	17.11.96
1,6	18,6		0,07	0,42	0,4	3,62	8,4	0,12	18,5		0,014	0,02	415	110	0,004	17.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Dragomiresti Gauging Station 209

(according with WQNMS list)

River: Dimbovita Km. 199 Quality: 94-II; 95-II; 96-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals														Date
				NO2	NO3	NH4	CBO_5	CCO-Mn										
1,15				0,17	9,1	1,72	5,8											19.01.96
1,41	28,6			0,33	8,2	0,72	4,8	4,8										19.02.96
1,28	17,6			0,04	13,7	1,09	1,6	3,4										19.03.96
0,5	22,4			0,14	15,6	2,2	11,5	5,5										19.04.96
0,86	18,8			0,15	6,2	2,59	8,3	5,4										19.05.96
0,725	24,6			0,16	6,5	0,85	7,6	4,2										19.06.96
0,36	19,2			0,03	5,5	1,11	5,9	5,1										19.07.96
0,21	11,8			0	4,7	0,3	2,9	2,8										19.08.96
0,194	19,6			0,04	7,7	0,65	6,8	6										19.09.96
0,5	58,2			0,07	5,4	1,69	6,9	7,6										19.10.96
0,202	14,8			0,05	8,3	1,08	5,5	7,6										19.11.96
0,168	14,2			0,06	10,5	0,65	4,9	4,3										19.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Budesti Gauging Station 212

(according with WQNMS list)

River: Dambovita Km:285 Quality: 1994-D; 1995-D; 1996-D;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Fe	Fenoli	Cco-Mn	Rez.fix	Deterg.				
22,2	113,9		0,06	0,14	0,7	1,86	26,6	0,08	0,048	35,3	539,6	0,11				20.01.94
21	150,4		0,33	0,14	1,8	11,4	20,8		0,046	30	559,7	0,09				20.02.94
26	128		0,18	0,06	2	7,6	15,9	0,05	0,021	26,8	596	0,07				20.03.94
22,9	207,8		0,03	0,06	1,5	8,4	20	1,31	0,026	24,3	595,3	0,09				20.04.94
26	301,6		0,64	0,13	1,7	21,2	35,3	0,17	0,023	39,5	565,5	0,09				20.05.94
25,6	20,4		0,88	0	1,8	9,96	24	1,43	0,028	12,9	468,7	0,11				20.06.94
25,3	50,2		1,58	0	2,3	15,1	25	0,22	0,023	42,7	415,7	0,11				20.07.94
25	155,8		0,8	0,04	1,8	19,2	43	0,03	0,026	31,6	433,8	0,11				20.08.94
25,3	62,4		0,45	0,02	0,8	16,4	36	0,04	0,023	21,4	442,2	0,1				20.09.94
22,2	10,8		0,45	0	1,3	4,54	32	0,05	0,022	14,2	504,8	0,09				20.10.94
24,6	10,8		0,28	0,04	0,3	10,3	38	0,06	0,02	19,7	414,2	0,14				20.11.94
	42,4		0,24	0,04	3,8	36,2	39,6	0,04	0,035	30,3	506,1	0,11				20.12.94
20,9	87,5			0	1,5	23,5	40,7	0,06	0,028	23,2	598,5	0,11				20.01.95
18,5	65,8			0	0,6	31,8	15	0,03	0,033	22,1	516,9	0,19				20.02.95
15,5	108,2			0	0,5	26,8	50,9	0,69	0,029	30,3	469,6	0,13				20.03.95
18,6	0			0	0,4	11,2	25	0,13	0,041	15,7	475,5	0,15				20.05.95
19	61,8			0,18		2,44	76	0,18	0,042	38,5	446,5	0,19				20.06.95
32	37,2			0	0,4	15,7	31	0,03	0,016	29,8	415,1	0,2				20.08.95
32,2	111,8			0,003	0,1	10,9	52,5		0,028	39,5	370,8	0,27				20.09.95
27,7	148			0	0,2	24,7	107,5	0,05	0,024	21,8	416,8	0,16				20.10.95
34,9	27			0,003	4,5	8,3	37	0,03	0,022	10,5	359,8	0,15				20.11.95
22,9	87,4			0,62	1	11,5	32,5	0,02	0,036	22,3	435,9	0,19				20.12.95
13,6	38,8			0,23	0,8	7,16	8,5	0,03	0,022	11,1	342,9	0,15				
22,6				0,38	6	10,3	39	0	0,022		519,9	0,11				20.01.96
32	66,8			0,32	6,4	4,71	38	0,12	0,042	25,2	449,3	0,3				20.02.96
37,3	24			0,75	12	7,63	38	0,23	0,048	16,1	552,8	0,27				20.03.96
31,3	38,6			0	0,5	8,16	39	0,18	0,036	11,6	499,9	0,29				20.04.96
30,9	28,2				0,9	18,2	67,5	0,12	0,028	23,9	517,1	0,34				20.05.96
27	91,8			0,03	2	11,8	48	0,2	0,019	23,8	503,2	0,13				20.06.96
30,6	25			0	0,5	11,1	34	0,05	0,02	20,1	482,8	0,25				20.07.96
30,2	38,4			0,03	0,6	10,6	46	0,58	0,03	30,3	515,6	0,35				20.08.96
25,6	46,8			0	0,7	11,9	45	0	0,036	14,5	525,5	0,28				20.09.06
31,7	51,2			0	0,8	9,88	62	0,11	0,036	28,2	494,9	0,29				20.10.96
23,6	48,6			0,02	1,3	32	60	0,12	0,043	43,1	658,4	0,26				20.11.96
23,3	22,8			0,5	1	6,82	35	0,17	0,038	26,9	477	0,33				20.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Targoviste Gauging Station 215

(according with WQNMS list)

River Bega Km. 66 Quality: 94-I; 95-I; 96-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
				NO2	NO3	NH4	CBO_5	CCO-Mn							Date
3,9	56,3		0	0,03	0	0	3,1	2,5							14.01.94
3,37	83,3		0	0,03	0	0	3,2	2,8							16.02.94
1,24	53,3		0	0,12	0	0,23	4	3,4							15.03.94
4,98	52		0	0,11	0	0	3,5	1,9							15.04.94
8,35	69,7		0	0	0	0	1,3	2							17.05.94
10,3	85,3		0	0	0	0	1,7	3							17.06.94
3,28	98		0	0,17	0	1,61	2,9	5,4							18.07.94
3,28	101,3		0	0,13	0	0	2,9	5,8							16.08.94
1,82	116,3		0	0,04	2,6	0	1,8	2,6							16.09.94
2,65	104,3		0	0	4,8	0	1,5	3							17.10.94
1,53	128,3			0	4,2	0,35	2,1	4,2							17.11.94
3,04	154,7			0,07	4,1	0	1,6	3,2							12.12.94
3,33	161,7		0	0	0	0	1,5	2,7							18.01.95
2,51	311		0	0	2,8	0	1,7	4,3							16.02.95
3,98	133		0	0	1,3	0	1,6	3,2							17.03.95
5,74	187		0,003	0,08	0,1	0,28	1,9	3,7							09.04.95
15,7	315,7		0	0	7,2	0	1,7	3,8							16.05.95
7,76	357,7		0	0	4,8	0	1,8	3,5							15.06.95
6,97	128		0	0,03	9,1	0	4	2,5							17.07.95
3,04	196			0,1	4,1		1,8	2,3							15.08.95
6,05	202,3			0,07	6,6	0	1,1	2,7							15.09.95
3,48	142,7		0	0,12	4,5	0	1,5	3							17.10.95
4,33	142,3			0,04	0	0	1,1	1							17.11.95
3,9	113			0,11	5	0	1	1,2							11.12.95
6,08	116		0	0,13	3,8	0	1,4	3							18.01.96
	100,7		0	0,07	2,7	0	1,3	2,6							19.02.96
	108,3		0,109	0,08	3,1	0	1,6	3,3							18.03.96
21,8	125,7			0,16	0	0	1,5	3,1							07.04.96
2,72	128,7		0	0,11	2	0	1,6	3,5							08.05.96
	112,3		0,076	0,09	1,8	0	1,5	3,2							08.06.96
4,06	89		0,098	0,03	2,3	0	1,6	3,4							08.07.96
3,5	102,3		0,108	0,12	3,1	0	1,9	4,3							08.08.96
3,5	95,7		0,076	0,18	2,5	0	1,6	3,4							08.09.96
	101,7		0,087	0,09	3,4	0	1,1	2,5							08.10.96
	78,3		0	0,03	6,3	0	1,5	3,5							08.11.96
	77		0,065	0,16	6,7	0	1,5	3,2							08.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Baleni Gauging Station 216

(according with WQNMS list)

River: Ialomita Km. 89 Quality: 1994-I; 1995-I; 1996-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Rez.fix	Cloruri	Deterg.	Fe				
2,28	85		0,07	0,02	0,3	2,84	2,3	2,1	943,3	253,6	0,6	0				15.01.94
1,66	120,3		0	0,15		0,14	5,9	4,6	452,6	81	0,17	0				16.02.94
0,92	77,7		0	0,1		0,84	3,8	3,3	1053,3	575,5	0,05	0,1				15.03.94
3,23	78,7		0,12	0,36		0	6,8	3,3	565,7	162,3	0,13	1,23				16.05.94
3,23	88,9		0	0,31		0,1	1,3	2,9	666,3	144,1	0,2	0,12				18.05.94
7,82	185,3		0	0,05		0	1,5	2,2	476,3	175,4	0,08	0				18.06.94
1,68	125		0	0,12		2,77	3,2	6,8	550	145,8	0	0,22				19.07.94
1,68	179,3		0	0,11		0,36	2,3	4,8	645,7	397,3	0,09	0,09				17.08.94
1,54	155,3		0	0,15	1,4	0,25	2	3,7	420	106,7	0,08	0,16				17.09.94
2,95	138,7		0,09	0,13	4,3	0,31	1,5	3	616	206,8	0,06	0,13				18.10.94
2,61	179,3			0,95	4,7	1,88	2,5	4,8	1035,7	380	0,18	0,11				18.11.94
1,98	162			0,16		0,33	2	4,1	859,3	333,9	0,13	0,16				13.12.94
1,98	197,7		0	0,24	3,1	0,71	1,2	2,5	578	63,2	0	0				19.01.95
2,14	314		0	0		0	2,7	4,6	602	172,1	0,11	0,12				17.02.95
2,61	185,3		0	0	3,2	1,2	3,4	5,1	661	181,2	0	0,35				18.03.95
3,83	235		0	0,2		0,64	1,5	2,7	716,7	286,7	0,13	0,32				10.04.95
7,45	67,3		0	0	7,8	0	1,7	3,8	1390	145,8	0,07	0,2				17.05.95
6,11	315,3		0	0,92	3,7	0	3,4	6,8	504,6	99,3	0,2	0,19				16.06.95
4,76	144,7		0	0,02	9,1	0	4,6	2,8	523,3	216,4	0,16	0,19				18.07.95
1,7	144,7		0	0,02	9,1	0	4,6	2,8	523,3	216,4	0,16	0,19				16.08.95
6,11	252,3			0,15	7,3		1,2	3	444	137,1	0,08	0,15				16.09.95
1,55	234		0	0,18	3,9	0	1,4	3,1	661	193,9	0	0,09				18.10.95
7,2	221,7			2,13		0	1,5	3	815,3	169,1	0	0				18.11.95
2,66				0,19	4,5		1,3	2,6	610	180,1						12.12.95
6,44	178,7		0,07	0,11	6,8	0	1,6	3,2	949,7	293	0,05	0				19.01.96
3,58	163,3		0,076	0,27	5,3	1,09	1,9	3,9	870,3	234,7	0,04	0				19.02.96
3,39	186,7		0,08	0,4	2,8	0,37	1,3	2,6	1217	467,2	0,06	0,19				19.03.96
15,5	186,3			0,25	0	0	1,8	3,7	395,3	42,1	0	0				08.04.96
11,6	211,3		0,109	0,2	1,3	0	2	4,2	452,3	50,4						09.05.96
3,14	135,7		0,087	0	2,3	0,19	1,2	2,7	424,3	45,6	0	0,11				09.06.96
1,8	94,7		0,13	0,02	3,1	0	1,9	3,8	482,3	62,3	0					09.07.96
1,36	119		0,098	0,09	2,5	0,16	2,1	4,8	482,3	104,5	0					09.08.96
1,58	105,7		0,12	0,11	3	0	1,8	3,5	597,3	136,5	0					09.09.96
3,13	113,3		0,12	0,43	2	0	2,3	4,8	338,3	47,8	0,04	0,17				09.10.96
1,68	86,7		0,098	0,05	4,8	0	2,3	5,2	323,3	19	0	0,11				09.11.96
9,6	65			0,11	7,6	0	2,7	6,9	288,7	17,5	0	0,15				09.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Silistea Snagovului Gauging Station 219

(according with WQNMS list)

River: Ialomita Km. 170 Quality: 94-II; 95-D; 96-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cl	Na	Fe						
2,8	21,2		0	0,51	4,2	3,32	4,6	420,4	311,5	0,07						17.01.1994
2,05	29,6		0,2	0,4	5,6	1,18	2,7	443,5	323,1	0,05						17.02.1994
0,93	39,9		0,5	0,11	4,5	0,21	2,1	364	288,9	0,05						17.03.1994
0,93	41,9		2,5	0,08	6,1	0,72	2,3	443,4	362,1	0,09						18.04.1994
2,67	12		0,8	0,3	2,5	0,58	5,2	284,1	196,4	0,04						19.05.1994
8,3	439,6		0,4	0,21	6,8	0,6	3,5	210	115,5	0,08						19.06.1994
20,1	120,8		0	0,23	1,4	0,63	2,9	327	181,1	0,16						21.07.1994
1,29	151,2		0,73	0,1	1,3	0,25	2,6	400,9	213,4	0,04						19.08.1994
1,29	91,5		0	0,25	0,5	0,43	2,6	358	181,6	0,05						18.09.1994
1,65	90,8		0	0	4,8	0,39	3,1	393,9	196,4	0,03						19.10.1994
1,29	21,9		0,2	0,11	0,9	0,29	2,5	450,8	252,1	0,07						20.11.1994
1,38	25,1		0	0,35	3,8	1,23	3,7	562,5	287,6	0,03						14.12.1994
1,94	76,1		1,6	0,3	6,3	5,97	5,9	664,1	382,4	0,07						20.01.1995
11,75	49,7		0	0,33	11,2	0,52	3,5	619,2	349,9	0						18.02.1995
1,56	35		3,4	0,2	0,1	0,51	3,4	512,9	257,7	0,18						19.03.1995
3,47	25,2		0	0,21	0,1	1,69	8,1	404,8	218,6	0,03						11.04.1995
3,79	110,4		0	0,01	0,3	0,37	2,5	271,5	123,3	0,02						18.05.1995
2,1	25,9		0,6	0,16	0,5	0,23	0,8	318,2	149	0,01						17.06.1995
2,7	80,3			0,37	0,5	0,78	2,6	601,1	369,7	0						19.07.1995
1,43	68,9		2,2	0,2	1,1	0,34	0,9	355,2	229,8	0,15						17.08.1995
1,29	135,9		4,8	0,33	1,5	0,52	0,5	282,3	212	0,02						17.09.1995
1,38	18,5			0,15	6	0,49	0,7	467,9	207,5	0,04						20.10.1995
5,52	144,3			0,15	4,6	0,48	4,1	229,4	136	0,28						19.11.1995
2,35	197,6			0,3	8	2,76	2,9	583,9	256,2	0,08						13.12.1995
3,27	177,9		0	0,12	6	1,38	3,4	436,2	229,8	0,04						21.01.1996
4,84	107,6		0,6	0,42	14	2,02	2,8	425,8	254,5	0,01						22.02.1996
6,42	24,5		0,8	0,57	7,8	1,65	3	505,4	223,7	0,06						20.03.1996
22,7	258,2		0	0,32	10,8	0,43	1,5	238,7	103,8	0,05						09.04.1996
10,7	136,9		3,4	0,02	3,6	0,55	0,9	276,1	136,9	0,02						10.05.1996
4,24	65,7		0,2	0,03	6,8	0,3	1,6	369,7	238,9	0,17						10.06.1996
2,21	30,7		0,4	0,18	0,7	0,24	2,3	453,9	292,9	0,02						10.07.1996
2,21	21,9		0	0,21	3,7	0,72	3,4	458,6	271,6	0,03						11.08.1996
2,41	48,5		0	0,1	5,6	0,36	4	519,5	254,4	0,04						10.09.1996
2,6	70,5		0	0,42	9,5	0,04	3,5	443,9	191,4	0,06						10.10.1996
2,6	120,9		0	0,36	5,5	0,73	6,3	658,8	286,3	0,07						10.11.1996
5,49	62,8		0,2	0,12	5,3	0,71	5,4	219,5	811	0,05						10.12.1996

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Tinosu Gauging Station 222

(according with WQNMS list)

River: Prahova Km. 100 Quality: 94-D; 95-D; 96-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	CN	Phenoli							
5,34	338		0,66	0,16	4,1	4,34	16,7	0	0,003							18,01,94
4,67	253		0,6	0,09		7,1	35,3		0							19,02,94
5,08	273		0,17	0,77	2,2	0	25,1		0							19,03,94
5,47	135,7			0,24		3,96	6,6		0							19,04,94
5,41	496			0,6	3,3	1,51	9,4									20,05,94
14,3	134		0	0,31	1	0,13	11,3		0,003							22,06,94
3,49	432		0	0	2,6	0,83	15,8		0,14							22,07,94
5,17	340		0,27	0,33	2,4	0,3	6,5									22,08,94
3,81	289		0,04	0,03	3,5	1,95	6,4		0							19,09,94
5,02	216		0,31	0,02	0,3	0,04	11,9		0,08							20,10,94
4,87	149		0,24	0,13	0,7	0,82	15,3		0,024							21,11,94
5,33	204		0,84	0,15	1,7	0,45	16,8		0,04							15,12,94
4,75	156		0,33	0,25	0,6	3,37	20,8	0,005	0,004							22,01,95
6,24	197,3		0,02	0,47	0,8	0,68	13,3	0,01	0,08							22,02,95
8,57	290,3		0,17	0,63	0,7	0,07	16,2	0	0,06							21,03,95
9,33	138		0,14	0,18	0,4	0,81	12,6	0,007	0,004							13,04,95
9,17	1091		0,12	0,29		0,07	21,3	0,027	0							20,05,95
20,1	143		0,05	0,39		0,13	10,3	0,018	0							19,06,95
12,9	340		0,1	0,66		0,15	14,8	0,012	0							21,07,95
8,16	198		0	0,63		0,8	8,3	0,022	0,177							19,08,95
12,2	419,7		0,11	0,36		1,75	8,3	0,029	0,08							18,09,95
5,64	519,7		0,18	0,65		2,25	16,9	0,022	0,06							21,10,95
13,9	509		0,05	0	0,1	1,84	17,3	0,018	0,038							21,11,95
6,15	216		0,11	0,58		1,84	13,7	0,021	0,12							15,12,95
13,7	171		0,06	0,11	0,1	1,22	19,6	0,064	0,05							22.01.1996
10,1	483		0,21	0,25	0,2	1,57	19,1	0,013	0,16							23.02.1996
7,47	814		0,09	0,14	0,1	0,93	28,5	0,016	0,04							22.03.1996
13,5	703		0,05	0,34	0,2	0,22	15,2	0,014	0,02							10.04.1996
24,2	581		0,03	0,67	0,1	0,36	15,9	0,095	0							12.05.1996
7,02	233		0,04	2,6	0,4	1,49	14,5	0,115	0,004							11.06.1996
8,72	127		0,02	2,95	0,2	1,52	12,8	0,031	0,003							12.07.1996
5,6	202		0,09	1,07	0,5	2,44	22,4	0,08	0,122							12.08.1996
6,08	140		0,09	0,93	0,4	1,35	19,7	0,019	0,057							12.09.1996
5,81	379		0,16	0,35	0,4	1,64	11,3	0,019	0,07							11.10.1996
5,77	117		0,16	0,2	0,3	3,28	31,5	0,027	0,03							12.11.1996
11,3	158		0,16	0,08	0,8	1,56	31,3	0,018	0,22							11.12.1996

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Gura Vitioareai Gauging Station 224

(according with WQNMS list)

River: Teleajan Km. 48 Quality: 94-II; 95-II; 96-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
				NO2	NO3	NH4	CBO_5	CCO-Mn	Total residue	Cl	SO4	Ca	CN	Phenols	Date
1,5	458,3		0,19	0,09	7,2	3,08		4,6	771,3	228,5	139,5	100,1	0,001	0	18.01.94
1,77	90		0,18	0,07	4,4	0,4	6,3	3,5	887	277,9	145,4	118,2			18.02.94
0,9	135		0,033	0,13	0,9	0,9	5,1	2,6	788	259,3	138,6	90,6			18.03.94
1,27	249			0,09		1,2		5,3	721	253,4	140,2	90			18.04.94
0,643	163,7			0,04	1,1	1,02	2,3	1,2	770	270,4	236,1	73,4		0	17.05.94
4,93	83,3		0,03	0,14	0,7	0,34	4,5	2,3	784,7	231,6	63,1	83			22.06.94
0,653	185		0	0,02	1,7	0,23	3,6	1,9	541	183,3	59,2	61,4		0,06	22.07.94
392	130		0,021	0,07	0,9	1,43	5,4	2,9	798	277,2	126	86,1		0	19.08.94
0,28	115		0	0,02	3,8	0,12	4,1	2,1	355	108,2	135,4	84		0,003	19.09.94
0,405	166,7		0,103	0,02	0	0,17	4,3	3,6	648	137,3	167,9	112,4		0,14	20.10.94
0,35	859		0,027	0,15	0,5	0,25	5,3	4,7	1303	518,8	185,6	112,3		0	20.11.94
0,3	542		0,21	1,25	3,2	0,46	6	5,7	951	277,7	164,5	131,8		0,007	15.12.94
0,492	85,3		0,044	0	0,6	0,12	5,3	3,2	961,3	243,8	97,7	117,8	0	0,003	21.01.95
0,559	132,7		0,008	0,41	1,1	1,11	5,7	3,5	930,6	293,5	237,1	136,5	0,009	0,01	19.02.95
0,629	493		0,006	0	1	1,17	5,4	2,3	616	162,1	111,4	82,5	0,002	0	20.03.95
0,92	135		0,024	0,29	0,8	0,23	6,7	3,6	745	208,8	159,7	99,1	0,01	0,003	13.04.95
1,32	298		0,024	0,06	0	0,61	6,7	3,5	495	99,8	131,1	66,7	0	0,02	20.05.95
7,5	348		0,039	0,13	0,8	0	5,8	3,2	331	56,9	71,4	63,5	0,01	0	19.06.95
7,81	79		0,02	0,32	0,1	0	6	3,7	496	144,6	46,8	62	0	0,009	20.07.95
2,43	122		0,041	0,13	0	0,14	4,9	2,9	683	174,4	151,1	99,1	0,01	0	19.08.95
1,55	124,7		0,019	0,49	0,1	0,37	4,7	2,8	404	103,3	37	65,5	0,01	0,02	18.09.95
0,65	133		0,055	0,019	0,1	1,26	5,9	3,3	562	135,3	112,2	78,9	0,01	0,019	20.10.95
9,85	176		0,026	0,08	0,1	0,58	6,2	3,4	647	116,8	175,5	109,8	0,008	0,015	21.11.95
2,33	126		0,026	0,03	0	0,63	6,5	3,6	787	282	66,9	93,3	0,009		15.12.95
1,89	97		0,1	0,03	0,1	0,03	60,1	3,3	788	268,4	90,5	107,6	0,009	0,019	22.01.96
2,33	138		0,03	0,05	0,2	0,13	6,2	3,4	590	135,9	100,1	90	0,01	0	22.02.96
2,33	79		0,02	0,04	0,1	0,28	6,2	3,4	511	139,1	75,6	73,4	0,01	0	22.03.96
3,16	122		0,02	0,1	0,2	0,31	6,1	3,4	495	134	82,8	70,2	0	0,02	10.04.96
9,3	126		0	0,08	0,1	0	5,7	3,2	549	114,9	121,2	94,6	0,01	0	11.05.96
1,7	109		0,07	0,04	0,1	0,81	6,4	3,5	565	125,1	120,6	93,5	0,01	0	11.06.96
12,3	96		0,05	0,05	0,2	0,22	6,1	3,4	497	129,9	98,1	67,3	0,01	0	11.07.96
1,7	93		0,07	0,09	0,4	0,8	6,5	3,6	771	176	145,5	128,2	0,01	0,02	11.08.96
2,13	125		0,09	0,06	1,1	1,09	6,5	3,6	746	167,5	192,5	78,2	0,007	0,019	11.09.96
1,13	116		0	0,15	0,4	0,45	6,5	3,6	727	160	169	103	0,008	0	10.10.96
0,77	41		0,03	0,13	0,5	0	6,2	3,7	341	16,2	107,1	78,8	0,005	0,27	12.11.96
2,97	1788		0,04	0	0,5	0,04	5,7	3,2	286	20,8	83,4	60,5	0,01	0,07	11.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Moara Domneasca Gauging Station 225

(according with WQNMS list)

River: Teleajan Km. 100 Quality: 94-D; 95-D; 96-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	CN	Phenoli							
6,47	177,3		1,22	0,9	7,6	6,57	5,9	0	0,009							19,01,94
7,25	217		1,67	1,07		7,14	17,7		0							19,02,94
6,42	641		2,171	0,47	2,1	23,2	25,9		0,1							19,03,94
5,64	164			1,41		8,51	21,8		0							19,04,94
4,79	133		0,19	0,14	1,1	9,2	20,4		0							20,05,94
6,85	155,3		0,02	0,2	2,8	2,06	24,9		0,003							22,06,94
5,47	143		0,02	4,67	7	2,45	29,1		0,08							22,07,94
5,07	163		1,02	0,02	0,2	8,31	15,2		0							20,08,94
4,62	444		3,18	0,02	5,7	6,03			0							20,09,94
5,33	177		1,84	0,02	0,4	0,52	10,2		0,07							21,10,94
5,98	171		0,06	0,29	0,8	0,12	11,5		0,011							21,11,94
5,92	192		5,38	0,37	4,1	0,12	21,8		0,167							16,12,94
5,87	157		0,49	0,37	0,5	4,45	34,9	0,012	0,01							22,01,95
6,88	213		2,21	0	0,3	2,66	22,2	0,006	0,06							20,02,95
6,7	112,3		1,66	0,89		2,6	16,4	0,003	0,02							21,03,95
7,06	375		0,54	0,43	4,4	0,17	20	0,017	0,4							13,04,95
8,14	869		0,6	1,82		0,05	20,4	0	0							21,05,95
10	248		1,53	1,59		0,22	33,6	0,024	0							19,06,95
9,47	537,7		1,08	0,32		2,35	15,7	0,013	0,08							21,07,95
6,26	169		2,93	0,07		4,17	23,4	0,023	0,04							19,08,95
7,18	347		1,15	0,38		4,12	22	0,006	0							19,09,95
5,75	349		5,33	0,61		3,34	8,2	0,016	0,06							21,10,95
10,4	777		0,08	0	0,2	3,79	18	0,01	0							21,11,95
7,96	113		0,17	37		1,46	6,4	0,009	0							15,12,95
8,87	144		0,16	0,17	0,1	0,49	13,7	0,026	0,058							23.01.1996
8,62	1049		0,21	0,18	0,1	2,97	19,5	0,023	0,08							23.02.1996
8,44	149		0,03	0,06	0,1	1,26	19,8	0,025	0							22.03.1996
11,3	694		0,74	0,039	0	3,09	20,9	0,026	0							11.04.1996
10,1	1027		1,18	0,15	0,1	0,39	29,9	0,032	0							12.05.1996
6,44	906		0,12	1,12	0,2	0	28,9	0,02	0							12.06.1996
7,84	126		0,03	1,14	0,1	3,09	20,4	0,172	0,002							12.07.1996
5,82	279		0,51	0,97	0,5	6,02	18,6	0,025	0							12.08.1996
5,69	111		0,25	0,4	0,8	1,93	19,8	0,018	0,02							12.09.1996
5,75	183		1,13	6,17	0,7	223,7	24,1	0,33	0,025							11.10.1996
6,57	126		2,73	0,59	0,5	2,55	42,2	0,017	0,02							12.11.1996
9,73	121		0,12	0,1	1	1,38	41,5	0,016	0,16							11.12.1996

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Slobozia Gauging Station 231

(according with WQNMS list)

River: Ialomita   Km. 323   Quality: 96-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												
				NO2	NO3	NH4	CBO_5	CCO-Mn	Total residue	Cl	SO4	Na	Detergents	Etract substance	Fe	Date
23,7	164		0,4	0,17	1,2	4,12	6,5	4,8	914,1	340,8	123,4	173,2		35	0,02	26.01.96
55,7	322,9		1	1,1	2,3	1,99	3,7	4,2	958,7	360,4	80,5	169		90	0,07	27.02.96
38,9	389,9		1,2	0,67	7,4	0,68	4,1	3,7	1205,6	448,7	155,2	224,6	0,16	49	0,08	26.03.96
51,1	183,2		0,6	0,87	7,2	1,26	3,1	4,1	821,5	280,8	145,1	86,8	0,06	27	0,34	14.04.96
68,1	186		3,6	0,08	4,2	0,57	2,6	3,6	783,9	238,7	155,5	122	0	38	0,02	15.05.96
13,1	56,4		0,2	0,41	5,9	0,47	14,5	11,1	1217,2	334,6	250,7	230,2	0,09	31	0,08	15.06.96
13,1	29,1		2,4	0,15	3,9	2	10,5	7,3	1043,4	322,9	181,5	211,4	0,33	58	0,04	16.07.96
8,58	24,4		0	0,41	1,2	2,07	6,3	6,8	1081,8	346,3	190,8	223	0,11	68	0,16	16.08.96
12,1	48		0	0,39	5,6	0,77	5,4	7	1056,6	388,4	118,2	213,6	0,07	66	0,05	16.09.96
19,2	166,9		0	2,5	2,7	1,96	8,6	5,7	993,3	367,5	106,2	183,2	0,13	103	0,1	16.10.96
11,5	35,2		1,226	0,49	3,9	1,13	5,9	5,4	1052,2	396,2	77,8	208,4	0,05	59	0,09	16.11.96
22,7	104,6		1,4	0,29	4,6	1,41	4,9	4,1	870,2	322,2	56	130	0,05	43	0,06	15.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Tandarei Gauging Station 232

(according with WQNMS list)

River: Ialomita Km. 371 Quality: 94-D; 95-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cl	Total residue	Na						
20,1	89,2			0,58	0,8	13	15,2	376,4	1731,3	278,5						23,01,94
19,9	156,7		3,5	0,34		17,4	11,4	414,2	1757	361,4						24,02,94
13,6	26		2,8	0,64	8,3	20,6	9,3	376,5	1586,9	322,4						23,03,94
13,5	101,2		2,8	0,12	1,8	4,91	10,5	397,2	1581,7	392,6						24,04,94
12,4	40,5		2,4	2,48	6	20,7	18,7	250,2	1283,3	239,6						26,05,94
21,5	239,6		0,6	1,69	12,2	11,7	4,8	338,9	1198,5	188,2						27,06,94
27,6	1130,1		2	0,59	5	10,6	3,7	305,5	1097,9	220,2						28,07,94
10,1	135,9		0,07	5,3	20,1	10,6	7,9	281,6	1053	212,5						26,08,94
11,2	139,3		0,8	1,39		8,43	17	400,9	1184,9	246,5						26,09,94
14,2	105,3		0,4	0,33	3,2	12,2	9,4	341,2	1296,3	220,5						27,10,94
15,9	96,8		0,6	1,32	12,5	49	16,7	328,3	1148,5	201,5						27,11,94
11,2	158		0	0,09	0,4	8,13	16,4	387,6	1172,6	248						21,12,94
12,5	166,5		0,6	0,2	0,6	12,4	12,3	430,1	1238,1	269,4						27,01,95
16,7	160,9		0	0,81	7,4	11,7	7,3	451,4	1295,4	272,2						26,02,95
15,3	85,6		0	1,13		18,4	16,8	503,6	1468,8	346,5						25,03,95
46,1	64		0	11,8		43,5	21,5	397,8	1209	233,1						18,04,95
39	148,9		0	0,61		6,7	4,5	229,3	732,5	111,8						25,05,95
24	101,8		1	1	1,9	6,84	3,3	250,4	963,4	159,1						24,06,95
17	26		0,36	0,6	15,4	16,9	4,3	261,8	1058,4	210,2						26,07,95
10,2	58,3		1,3	0,1	3	27,3	17,1	300,5	1148,4	215,1						23,08,95
15,3	154,5		6,2	2,4	9,3	46,1	13,1	316,5	1143,4	303,2						24,09,95
14,2	116,9			1,17	2,4	45	9,7	331,7	1011,7	169,1						26,10,95
43,1	243,1		1,8	0,67	3,9	2,23	7,1	365,7	967,3	184,1						26,11,95
18,2	80,2		2,4	0,47	3,1	7,16	9,2	413,4	1053,6	199,8						20,12,95
48,9	262,3			0,37	10,3	7,6	6,3	327,1	932,5	157,8						27.01.1996
92,2	200,4			0,7	5,6	2,29	5,4	393,1	1075,9	201,8						28.02.1996
32,4	181,6			0,8	6,6	7,36	4,4	440,6	1148,9	207,8						27.03.1996
69,8	296,8			0,74	6,3	7,79	2,8	257,4	789,2	78,4						15.01.1996
105	713,9			6,7	6	4,06	3,8	215,3	764,4	126						16.05.1996
20	78			5,1	4,4	26,2	10,5	311,2	1179,3	251						17.06.1996
16,4	47,5			3,4	9,6	21	8,7	393,1	1285	316,5						17.07.1996
12,2	48,3			3,4	4,4	29,8	18,6	327,6	1158,5	223						17.08.1996
15,6	38,5			1,7	6,8	17,8	10,8	365	1137,4	236						17.09.1996
18,5	129,2			0,17	0,2	10,4	23,1	400,9	1156,5	236,7						17.10.1996
17	73,2			0,21	0	25,7	14,6	367,5	1138,3	228,4						16.11.1996
30,8	54,4			0,78	10,6	3,87	7,7	334,1	894,3	148,4						16.12.1996

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Straja Gauging Station 252

(according with WQNMS list)

River: Bistrita Km. 193 Quality: 94-I; 95-I; 96-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
				NO2	NO3	NH4	CBO_5	CCO-Mn	Fe						Date
3,71	12,8			0,02	5,3	0	2,7	3,4	0,07						19/194
1,2	3,7			0,05	4,2	0	4,8	6,9	0,07						17.02.94
3,62	3,4			0,03	3,4	0	3	3,3	0,08						20.03.94
3,31	0			0,03	4,2	0,05	2,8	2,9	0,04						18.04.94
3	0			0,08	1,6	0,2	3,5	4,3	0,09						19.05.94
3,68	6,5			0,05	4	0	2,9	4	0,09						21.06.94
5,94	29,7			0,07	4,8	0	3,7	9,1	0,08						19.07.94
2,23	14,9			0,06	2,6	0	3,4	5,1	0,08						18.08.94
1,83	0			0,05	3,1	0	2,5	2,5	0,04						18.09.94
2,58	0			0,02	4,6	0	4,6	4,7	0,18						21.10.94
2,36	0			0,03	4,5	0	1,7	2,1	0,22						21.11.94
1,8	9,3			0,05	5,8	0	2,8	3,5	0,15						18.12.94
1,74	0			0,04	5	0,03	1,8	2,1	0,22						20.01.95
2,87	0			0,03	4,9	0	3,1	3,4	0,18						22.02.95
3,31	0			0,03	5,2	0	2,7	2,9	0,26						19.03.95
5,42	14,5			0,03	6,1	0	2,9	3,7	0,25						17.04.95
5,86	43,9			0,07	5,8	0,37	1,8	4,8	0,26						17.05.95
4,13	97,1			0,08	6,7	0	3,3	4,7	0,11						18.06.95
5,65	322			0,08	5,3	0	3,8	19,3	0,53						18.07.95
2,5	14,4			0,05	3,8	0	3,7	3,4	0,16						19.08.95
2,57	0			0,06	2,9	0	3	4,2	0,18						18.09.95
2,2	0			0,05	3,6	0	1,9	3	0,28						17.10.95
10,9	50,5			0,04	7	0,88	4,2	7,2	0,21						20.11.95
2,23	0			0,09	5,5	0	2,9	2,9	0,08						18.12.95
2,37	0			0,07	5,8	0	4,7	3,9	0,11						21.01.96
1,66	0			0,07	5,4	0,74	1,6	2,2	0,18						18.02.96
1,8	0			0,14	7,4	0	2,8	3,4	0,06						20.03.96
6,97	7,9			0,08	6,5	0	4,3	5,2	0,09						13.04.96
27,7	101,9			0,01	6,4	0	5,2	13,4	0,32						14.05.96
4	0			0,07	12,3	0	1,9	2,8	0,12						16.06.96
4,86	0			0,1	4,1	0	2,2	2,7	0,2						12.07.96
3,08	75,3			0,25	7,1	0,14	3,6	4,6	0,23						15.08.96
5,45	0			0,05	4,3	0	2,1	2,6	0,15						17.09.96
4	0			0,04	4,7	0,2	2,5	2,6	0,11						14.10.96
3,2	0			0,05	4,6	0	3	5	0,15						14.11.96
4,07	0			0,05	5,2	0	2,6	3,5	0,15						11.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Frunzeni Gauging Station 253

(according with WQNMS list)

River: Bistrita Km. 243 Quality: 94-D; 95-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	CCO-Mn	Fe							
9	16,3		0,05	0,09	16,1	5,15	8,8	17,1	0,16							20,01,94
4,08	71,1		0,07	0,14	14,5	4,13	9,8	14,3	0,22							19,02,94
6,31	9,5		0,07	0,22	11,1	2,87	15	27	0,17							21,03,94
6,31	14,1		0,1	0,31	18,1	8,29	28	95,7	0,37							19,04,94
6	19,8		0,25	0,62	17,9	6,2	18,1	47,7	0,32							20,05,94
7,83	48,3		0,22	0,32	24,4	8,38	14,5	38,1	0,1							19,09,94
9,91	34,7		0,11	0,25	16	5,86	7,6	34,7	0,15							19,12,94
5,9	10		0,15	0,25	20,6	8,26	13,6	28,4	0,14							21,01,95
6,71	29,4		0,36	0,62	21,9	10,1	11,3	46,7	0,29							23,02,95
7,75	64		0,13	0,24	14,2	5,6	21,7	70,7	0,37							21,03,95
8,52	43,9		0,03	0,26	13,3	6,15	13,6	60,5	0,32							18,04,95
8,52	20,9		0,1	0,69	20,1	6,83	33,8	59	0,19							18,05,95
8,22	101,8		0,38	0,55	16,7	8,1	19,6	80	0,26							19,06,95
10,4	315,3		0,19	0,67	13,3	4,2	18,4	49	0,38							19,07,95
8,74	23,7		0,09	0,46	21,4	6,23	31,8	64,2	0,28							20,08,95
7,5	47,7		0,22	0,28	19,1	7,98	29,5	70	0,26							19,09,95
6,5	34,9		0,12	0,49	22,1	11,1	4,4	17,2	0,39							19,10,95
5,83	24,9		0,11	0,2	18,9	8,75	5,4	15,3	0,28							21,11,95
6,73	30,5		0,8	0,3	13,7	8,16	16,9	17,5	0,3							19,12,95
10,1	12,2		0,076	0,09	17,5	10,5	23,8	32,6	0,19							22.01.1996
66,8	0		0,101	0,1	14,3	6,33	2,2	5	0,17							19.02.1996
62,7	26,7		0,055	0,1	6,8	1,22	3,4	7	0,15							21.03.1996
22,4	148,8		0,066	0,2	13,3	4,03	10,3	14,7	0,51							14.04.1996
22,4	491,1		0,053	0,59	10,3		17,3	32	0,31							15.05.1996
7,15	13,4		0,513	1,23	28,4	12,2	7,7	9,6	0,2							17.06.1996
18,6	23,1		0,038	0,86	21,5	3,52	3,6	9,5	0,19							13.07.1996
14,5	23,6		0,134	1,51	19,5	4,84	4	5,6	0,23							16.08.1996
7,15	13,4		0,102	1,22	28,7	5,74	2,9	4,5	0,16							19.09.1996
7,98	17,2		0,076	0,74	19	8,62	2,4	4,4	0,2							15.10.1996
11,1	11,3		0,118	0,32	19,1	7,19	4	4	0,21							15.11.1996
17,4	0		0,106	0,17	23,6	6,11	2,9	7,3	0,19							12.12.1996

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the av. lac agrement Gauging Station 256

(according with WQNMS list)

River: Bistrita Km. 277 Quality: 94-II; 95-II; 96-I

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
				NO2	NO3	NH4	CBO_5	CCO-Mn							Date
4,5	75,3			0,09	5,6	1,13	3,3								21.01.94
5,5	75,6			0,16	7	0,65	4,6	7,7							19.02.94
5,5	95			0,12	6,5	0,75	4	7,1							21.03.94
2	103			0,13	6,4	1,58	6,2	9,5							19.04.94
3	92			0,14	6,8	0,79	8,9	15,2							21.05.94
3,5	89,3			0,25	6,6	1,1	6,8	16,7							12.06.94
3	73,6			0,16	5,3	0,68	4,2	9,3							21.07.94
4	88			0,12	6	0,76	5,3	10,9							19.08.94
2	90			5,7	0	0,13	5,8	12							21.09.94
2	86,3			0,12	5,9	1,36	5,1	10,9							22.10.94
2	90			0,07	6	1,13	4,3	8,8							24.11.94
1,5	91,6			0,1	5,7	1	5	10,4							19.12.94
2	82,7			0,09	5,7	1,23	5	9,1							22.01.95
2	87,7			0,07	5,3	1,2	5,6	10,1							23.02.95
2	82,6			0,08	5,3	1,15	4,7	8,5							21.03.95
2	80,3			0,07	5,3	0,7	5,7	10,4							17.04.95
2	90			0,31	5,4	1,23	9,5	17,3							19.05.95
2	85			0,22	5,3	0,43	7,8	14,4							19.06.95
4	86,7			0,07	4,4	0,25	5,6	11,2							19.07.95
3,5	70			0,07	4,9	0,67	5,9	10,7							21.08.95
2	68,3			0,2	4,6	0,38	8	15,2							20.09.95
5	66			0,08	7,1	0,36	6,1	10,9							20.10.95
4,5	63,3			0,08	5,3	0,67	5,4	11,2							22.11.95
3,78	68,3			0,01	5,2	1,1	5,5	10,9							20.12.95
2,8	60			0,04	3,9	1,57	4,2	7,7							23.01.96
2	66,7			0,06	4	1,07	4	8							20.02.96
1,5	60			0,08	3,6	1,08	4	7,2							22.03.96
2,5	66,7			0,03	3,9	47	4,9	9,1							15.04.96
5,5	70			0,12	3,8	19	4,3	7,7							15.05.96
5,5	56,7			0,12	4	0,23	6,1	10,9							17.06.96
2,5	51,6			0,02	3,9	0,43	4,2	8							14.07.96
3,5	43,3			0,09	4,2	0,8	6,6	11,5							19.09.96
3	44,7			0,1	5,1	0,8	3,8	7,5							15.10.96
1,5	43,3			0,15	4,5	0,88	3,3	6,4							15.11.96
2,8	53,3			0,4	4,2	1,4	2,9	5,6							13.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Av.Bacau Gauging Station Dec.Ord.II

(according with WQNMS list)

River: Bistrita Km. 281 Quality: 1994-D; 1995-D; 1996-D;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											Data
				NO2	NO3	NH4	CBO_5	Cco-Mn	CCO-Cr	CN	Fenoli				
5,8	267		9,8	0,27	3,2	42,1	51,8	100,8	252	0,004	0,013				19.04.94
5,5	266			2,4	4,8	0,53	27,2	51,2	200	0,014	0,008				23.06.94
5,5	224		9,8	0,8	6,4	137	34	64,8	220	0,015	0,013				21.07.94
5	273		11,8	0,6	5,4	35,2	120	232	600	0,001	0,015				21.08.94
	2		13,5	1,32	5,2	30,2	20	41,2	107	0,001	0,007				20.09.94
5,5	23		3,7	0,2	4,8	26,6	158,4	320	650	0,001	0,009				23.10.94
3	256		10,4	0,04	5,4	16,8	40,2	76,8	137	0,001	0,018				24.11.94
	243		18,4	0,13	4,1	18,4	42,8	80	191	0,001	0,01				20.12.94
5	224		6,3	0,14	6	32	72,4	152	300	0,015	0,007				22.01.95
5	112		3,7	0,2	5,8	13,7	28,4	54,4	116	0,002	0,005				24.02.95
5	134		4,6	0,18	5,4	18,6	50,2	102,4	256	0,002	0,006				21.03.95
5,5	90		3,4	0,17	5,7	17,5	40,4	83,2	200	0,002	0,007				17.04.95
5,5	95		4	0,13	6,1	18	42,8	80	200	0,002	0,086				19.05.95
5	103,4		8,7	0,06	5,8	9,5	50,2	96	240	0,002	0,005				20.06.95
5	119		5,2	0,21	5,2	56,2	85	163,2	375	0,004	0,007				19.07.95
4,2	80		7,9	0,13	5,8	41,7	64,6	144	340	0,003	0,007				21.08.95
5	108		4,2	0,13	4,7	33	66,5	128	288	0,003	0,007				20.09.95
5	104		5,2	0,16	4,8	41,8	75,4	155,8	335	0,003	0,008				20.10.95
4,5	90		4,6	0,21	12,3	75,5	37,5	80		0,002	0,007				23.11.95
4,8	80		2,1	0,04	9,8	24,2	34,5	72	170	0,002	0,007				23.12.95

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Targu Ocna Gauging Station 259

(according with WQNMS list)

River: Trotus Km. 93 Quality: 94-II; 95-II; 96-II

Water Discharge	Sediment Discharge	Total N	Total P	NO2	NO3	NH4	CBO_5	CCO-Mn	CN	Phenols	Detergents	Extract substance	Fe		Date
				Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
9,26	88,3			0,05	8	0,77	3,9	6,2	0	0,007	0,18	2,1	0,23		21.01.94
4,3	97,6			0,07	5,6	0,19	4,3	5,6	0	0,009	0,22	1,16	0,46		18.02.94
12,2	97,3			0,08	6	0,41	4,9	8,5	0	0,008	0,21	1,6	0,18		19.03.94
9,7	100,6			0,08	5,8	0,05	7,6	13,3	0,001	0,007	0,2	1,4	0,7		19.04.94
6,45	85			0,07	6	0,18	7,3	12	0,001	0,008	0,19	1,86	0,51		20.05.94
8,6	76			0	5,3	0,3	5	6,7	0,002	0,013	0,26	1,3	0,19		24.06.94
15,2	76,3			0,09	5,5	1,13	5,7	12,8		0,008	0,23	1,4	1,16		21.07.94
4,3	79,7			0,17	5,9	0,16	3,4	6,7	0,001	0,005	0,21	1,1	0,57		19.08.94
3,7	66			0,05	5,7	0	3,1	6,4	0,007	0,005	0,21		0,5		20.09.94
3,86	72			0,07	5,4	0,5	3,9	7,7	0,001	0,051	0,21		0,26		22.10.94
4,26	71,7			0,11	5,9	0,67	4,3	8,8	0,001	0,006	0,21		0,19		21.11.94
3,22	85,3			0,06	6,6	0,57	6,6	12,5	0,002	0,008	0,21		0,42		19.12.94
3,27	86,7			0,03	6,6	0,6	3,8	6,9	0,001	0,007	0,21	0,77	0,21		21.01.95
10,7	77,7			0,05	6,5	0	5,7	10,4	0,002	0,008		2,4	0,33		22.02.95
18	79,6			0,05	6	0,6	4,9	10,2	0,002	0,01	0,24	1,5	0,37		20.03.95
13,6	80,7			0,04	6,2	0,58	4,8	8,8	0,002	0,011	0,22	1,07	0,39		16.04.95
24,6	73,3			0,05	6	0	4,8	8,8	0,002	0,007	0,22	0,67	0,63		18.05.95
9,1	75			0,08	6,3	0,46	3,3	5,6	0,001	0,01	0,23	1,67	0,57		19.06.95
39,9	94			0,06	6,1	0,46	8,5	16,5	0,003	0,006	0,27	1,53	0,58		19.07.95
4,26	72			0,06	6,1	0	4	7,2	0,003	0	0,31	1,23	0,17		21.08.95
7,13	75,7			0,05	5,1	0,63	4,4	8,5	0,003	0	0,26	1,5	0,31		20.09.95
3,88	70			0,08	3	0,37	7,8	14,1	0,003	0,002	0,25	1,3	0,17		20.10.95
12,7	59			0,37	2,6	0	7,1	8,5	0,002	0	0,24	1	0,19		21.11.95
4,23	58,3			0,12	3,8	0,21	6,1	13,3	0,001	0,006	0,23	1,3	0,18		20.12.95
5	58,3			0,12	8,5	0,34	3,8	6,9	0,002	0,0007	0,21	1,87	0,29		23.01.96
8,23	51,7			0	3,1	0	4,7	9,1	0,0001	0,0009	0,18	0,9	0,26		20.02.96
4,57	51,7			0,11	3,3	0,67	4	7,2	0,002	0	0,02	2	0,75		22.03.96
39	71,7			0,003	3,3	0,97	7,3	13,6	0,002	0,004	0,2	0,8	3,1		19.04.96
70,8	65			0,03	3,3	0	4,1	7,5	0,001	0	0,19	1,2	0,53		18.05.96
8,3	63,3			0,02	3,4	0,23	5,8	10,7	0,001	0,006	0,17	1,4	0,31		18.06.96
8,26	41,6			0,03	4,4	0	2,9	6,1	0	0,005	0,2	0,26	0,17		14.07.96
8,6	44			0,04	4,3	0	4,2	8,3	0	0,004	0,19		0,6		17.08.96
10,7	47,3			0,03	5	0,47	3,8	7,5	0	0,004	0,2	0,87	0,29		19.09.96
10,1	47,7			0,02	4,4	0,19	4,1	7,5	0	0,003	0,21	0,63	0,1		16.10.96
6,4	47			0,02	4,1	0,35	4,1	8	0	0,003	0,21	1	0,11		15.11.96
6,4	54			0,01	4,1	0,2	4,1	8,2	0	0,003	0,23	1	0,33		14.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Av.Bacau Gauging Station Dec.Ord.II

(according with WQNMS list)

River: Bistrita Km. 281 Quality: 1994-D; 1995-D; 1996-D;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											Data
				NO2	NO3	NH4	CBO_5	Cco-Mn	CCO-Cr	CN	Fenoli				
5,8	267		9,8	0,27	3,2	42,1	51,8	100,8	252	0,004	0,013				19.04.94
5,5	266			2,4	4,8	0,53	27,2	51,2	200	0,014	0,008				23.06.94
5,5	224		9,8	0,8	6,4	137	34	64,8	220	0,015	0,013				21.07.94
5	273		11,8	0,6	5,4	35,2	120	232	600	0,001	0,015				21.08.94
	2		13,5	1,32	5,2	30,2	20	41,2	107	0,001	0,007				20.09.94
5,5	23		3,7	0,2	4,8	26,6	158,4	320	650	0,001	0,009				23.10.94
3	256		10,4	0,04	5,4	16,8	40,2	76,8	137	0,001	0,018				24.11.94
	243		18,4	0,13	4,1	18,4	42,8	80	191	0,001	0,01				20.12.94
5	224		6,3	0,14	6	32	72,4	152	300	0,015	0,007				22.01.95
5	112		3,7	0,2	5,8	13,7	28,4	54,4	116	0,002	0,005				24.02.95
5	134		4,6	0,18	5,4	18,6	50,2	102,4	256	0,002	0,006				21.03.95
5,5	90		3,4	0,17	5,7	17,5	40,4	83,2	200	0,002	0,007				17.04.95
5,5	95		4	0,13	6,1	18	42,8	80	200	0,002	0,086				19.05.95
5	103,4		8,7	0,06	5,8	9,5	50,2	96	240	0,002	0,005				20.06.95
5	119		5,2	0,21	5,2	56,2	85	163,2	375	0,004	0,007				19.07.95
4,2	80		7,9	0,13	5,8	41,7	64,6	144	340	0,003	0,007				21.08.95
5	108		4,2	0,13	4,7	33	66,5	128	288	0,003	0,007				20.09.95
5	104		5,2	0,16	4,8	41,8	75,4	155,8	335	0,003	0,008				20.10.95
4,5	90		4,6	0,21	12,3	75,5	37,5	80		0,002	0,007				23.11.95
4,8	80		2,1	0,04	9,8	24,2	34,5	72	170	0,002	0,007				23.12.95

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the am.Barlad Gauging Station 266

(according with WQNMS list)

River: Barlad Km. 134 Quality: 1994-II; 1995-II;1996-II;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	CN	Fenoli	Detergenti	Fe				
2,75	70			0,19	11,3	3,51	5,5	10,5	0	0	0	0,22				22.01.94
0,61	125		0	0,4	9,8	3,83	6,1	11,6	0	0	0	0,23				22.02.94
7,13	247			0,28	5,2	0,98	5,1	10,8	4	0	0,01	0,99				22.03.94
2,16	86		0,46	0,54	5,4	3,42	7,1	13,6	0,001	0	0	0,25				20.04.94
1,24	74		0,31	0,37	3,4	3,3	6,2	15,3	0,002	0,008	0,02	0,2				21.05.94
1,69	73		0,16	0,44	8,8	0,79	6,4	13,3	0	0	0,01	0,15				24.06.94
1,22	141		0,08	0,45	9,5	0,91	7	16,6	0,001			0,16				24.07.94
1	92		0,018	0,79	3,4	1,06	7,6	24,2	0,01	0,006	0,02	0,45				21.08.95
0,92	78		0,012	0,51	8,6	0,95	6,2	12,6	0	0	0,01	0,36				19.09.94
1,12	88		0,06	0,16	5,7	4,11	6,8	16,3	0,002	0	0,02	0,48				22.10.94
1,2	68		0,16	0,14	8,5	3,83	6,9	13,8	0,002	0	0,02	0,54				24.11.94
1,31	73		0,11	0,12	8,3	1,64	5,4	11,3	0,003	0,008	0,02	0,31				19.12.94
1,42	69		0,204	0,24	7,6	2,5	7,8	19,2	0,002	0,009	0,03	0,27				20.01.95
1,94	70		0,13	0,21	7,1	2	5,7	10,7	0,002	0,017	0,01	0,18				24.02.95
1,8	66		0,16	0,2	6,5	2,3	4,9	9,2	0,001	0	0	0,72				22.03.95
1,49	80		0,287	0,2	3,9	2,24	6,2	11,8	0,001	0	0,01	0,23				17.04.95
	94		0,171	0,42	6,8	1,1	7,5	16		0		0,28				18.05.95
0,006	84		0,039	0,78	6,8	0,42	5,4	10,6	0,007		0,01	0,32				19.06.95
1,4	293		0,145	0,71	6,7	0,87	5,9	11,6	0,011	0,005	0,02	0,8				19.07.95
1,03	72		0,239	0,65	3,3	0,76	6,4	13,5	0,013	0	0,02	0,33				22.08.95
2	74		0,14	0,98	6,9	0,52	5,8	11,5	0,002	0,006	0,01	0,45				22.09.95
3,48	69		0,227	0,41	1,2	0,92	6,3	12,4	0,01	0	0,01	0,33				22.10.95
2,21	73		0,303	0,16	7,3	0,93	6,6	13,1	0	0	0	0,26				23.11.95
1,91	78		0,278	0,17	6,6	0,09	5,1	10	0	0		0,34				21.12.95
2,31	85		0,143	0,23	7,1	1,38	6,5	12,9		0	0,03	0,11				24.01.96
2,01	190		0,17	0,14	5,8	1,69	7,7	17,7		0,011	0,01	0,8				21.02.96
4,18	101		0,19	0,23	6,7	1,5	6,9	13,5		0,001	0,01	0,08				23.03.96
50,7	143		0,134	0,1	8,6	0,5	7,9	16	0	0	0,01	0,59				20.04.96
4,68	237		0,166	0,56	10,8	0,88	6,8	14,3		0	0,04	0,71				18.05.96
4,68	135		0,284	0,76	7,6	1,01	6,4	13,6	0,004	0,001	0,04	0,37				18.06.96
1,8	143		0,226	0,62	7,6	0,78	6,3	12,9	0,006	0,001	0,03	0,11				16.07.96
3,26	167		0,149	0,8	6,4	0,98	6,4	12,9	0,005	0,001	0,09	0,63				19.08.96
3,68	99		0,215	0,42	8,7	0,83	6,7	13,4	0,003	0,004	0,09	0,23				19.09.96
3	76		0,219	0,11	9,7	0,87	5,8	8,1	0	0,001	0,02	0,27				17.10.96
2,81	78		0,192	0,31	8,2	1,26	5,8	11,6	0,003	0,001	0,03	0,21				17.11.96
6,38	84		0,295	0,14	11	1,36	7,1	14,1	0,005	0	0,2	0,46				17.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Annex 3.11-1

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Tecuci Gauging Station 274

(according with WQNMS list)

River: Barlad Km. 191 Quality: 1994-III; 1995-D; 1996-D;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fe	Fenoli	Detergenti				
7,7	50		0,05	0,4	6	2,8		8,6	0,2	0,02					22.01.94
9,1	157		0,02	1,17	1,6	3,9		31,2	0,25	0,037					21.02.94
10,9				0,63	6,9	2,5		23,5		0,013					23.03.94
4,1			0,4	0,01	0,9	2,9		36	0,58	0,021					21.04.94
2,5	209		0,3	0,07	0,8	4,8		42,3	0,74	0,037					22.05.94
3,6	139		0,01	0,04	2,1	2,9		55,9	0,57	0					25.06.94
3,5	111		0,01	0,04	0,5	3,7		68,5	0,57	0,046					23.07.94
2,3	984		0,07	1	3,6	2		16,5	0,56	0,05					21.08.94
2,3	147		0,07	0,03	1,3	6,6		35	0,56	0,06					22.09.94
3,6	125		0,05	0,04	0,5	3,7		43,3	0,39	0,03					24.10.94
2,7	177		0,02	0,06	1,3	10,2		75,6	0,09	0,04					25.11.94
2,1	235		0,11	0,4	2,5	10,5		47,4	0,21	0,02					20.12.94
2,9	23		0	0,66	3,3	8,5	11,7	23,7		0,01					22.01.95
4,04	209		0,12	0,06	1,9	9,6	16,7	33	0,64	0,016					25.02.95
3,9	96		0,08	0,53	1,8	7,6	52,3	54,3	0,36	0,043					22.03.95
3,3	69		0,2	0,03	1,1	11,6	29,9	38	0,38	0,026					18.04.95
3,9	150		0,04	0,03	1	0,36	35	40	0,5	0,016					20.05.95
3,96	93		0,12	0,002	1,9	13	3,6	62,7	0,27	0,143					20.06.95
7,2	492		0,18	0,57		13,5	10,6	17,5	0,49	0,014					20.07.95
1,41	22		0,31	1,24	2,4	4,14	14,5	16,8	0,01	0,023					23.08.95
2,62	54,3		0,07	0,07	2	5,9	26,5	44,5	0,79	0,012					22.09.95
2,17	96		0,1	0,81	0,9	3,28	20,7	38,3	0,33	0,019					21.10.95
9,9	125		0,19	0,99	3,9	7,5	64,4	52,2	0,47	0,016					24.11.95
3,09	28		0,143	0,05	0,5	3,22	10,9	17	0,29	0,003	0,17				25.01.96
9,46	123		0	0,66	3,3	8,49	18,5	20,9	0	0,001	0,08				22.02.96
9,15	556		0,208	2,27	1,1	6,69	26,3	27,5	0,31	0	0,03				24.03.96
17,6	884		0,112	0,35	8,9	1,27	9,4	15	0,24	0	0,08				21.04.96
158	1551		0,114	0,15	0,8	4,58	33,7	32	0,11	0	0,04				19.05.96
0,82	202		0,317	0,07	1,4	5,8	43,1	47,4	0,29	0,054	0,3				21.06.96
0,775	74		0,095	1,1	2,6	3,29	23,8	30,4	0,28	0,001	0,27				17.07.96
3,18	205		0,042	1,44	3,2	3,18	19,2	19,8	0,03	0,018	0,04				22.08.96
2,6	470		0,166	0,69	7,1	2,55		14,6	0,48		0				23.09.96
2,84	145		0,112	0,4	12,3	0,8	6,5	10,3	0,12	0,04	0,07				18.10.96
5,46	84		0,011	0,45	0,9	3,74	8,2	11,5	0	0,018	0,06				18.11.96
4,33			0,029	0,41	11,3	0,83		16,7	0,06	0,017	0,05				17.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Umbraresti Gauging Station 275

(according with WQNMS list)

River: Barlad Km. 202 Quality: 1994-III; 1995-D; 1996-III;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											Data
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fe	Fenoli					
8,3	712		0,05	0,51	5,8	3,8		7,3	0,24	0,026					23.01.94
11,5	408		0,04	1,2	2,1	5,3		25,3	0,38	0,03					21.02.94
9,8				0,51	2,3	2,8		9,2	0,33	0,007					24.03.94
4,4			0,24	0,03	2,2	3,6		19,4	0,56	0,006					22.04.94
3,1	160		0,5	0,07	0,3	5,4		35,1	0,23	0,024					23.05.94
3,9	465		0,06	0,03	1,5	2,3		37,6	0,5	0,03					26.06.94
3,8	107		0,3	0,02	0,7	5,2		44	0,15	0,03					23.07.94
2,4	393		0,28	1,1	2,6	2,3		15,7	0,88	0,05					21.08.94
4	82		0,11	0,03	0,2	2,8		27,7	0,6	0,07					25.20.94
3,9	247		0,22	0,5	1,9	10,3		76,3	0,17	0,03					26.11.94
2,7	87		0,02	0,24	1,5	9,1		56,5	0,16	0,008					22.12.94
2,96	98			0,14	1,1	11,2	33,2	47	0,2	3,009					24.01.95
4,85	94		0,13	0,05	0,5	8,6	20,9	45	0,74	0,015					25.02.95
5	137		0,1	0,65	0	7,4	30,7	39,3	0,5	0,032					23.03.95
3,4	37		0,2	0,004	1	11,6	25,4	29	0,02	0,011					19.04.95
4	192		0,08	0,04	0,8	10	35,6	45	0,5	0,01					23.05.95
3,8	85		0,09	0,04	1,3	14,7	32,2	61	0,43	0,203					22.06.95
3,99	124		0,08	0,07	1,4	8,31	92,6		0,64	0,03					28.07.95
3,41	68		0,27	1,03	3,3	2,8	11,9	15,8	0,01	0,013					14.08.95
6,26	111		0,18	0,03	1,5	7,8	41,4		0,05	0,01					14.09.95
6,44	45		0,25	0,36	1	4,82	18	34,5	0,43	0,012					11.10.95
3,18	158		0,1	0,48	3,8	7,5	52,4		0,6	0,014					15.11.95
3,15	108		0,07	0,04	0,2	3,13	34,1		0,72	0,007					26.01.96
18,3	108		0	0,14	1,1	11,2	16,7	22,8	0,21	0,004					23.02.96
24,5	2008		0,2	0,59	6,7	8,41	20,2	22,4	0,34	0					25.03.96
72,7	1119		0,01	0,37	9,4	1,21	8,4	14,7	0,41	0					21.04.96
3,31	177		0,07	0,1	0,6	3,84	20,8	31	0,05	0					23.05.96
1,9	242		0,44	0,08	1,4	33,25	74,3		0,98	0,062					22.06.96
2,21	38		0,01	0,69	2	2,55	18,5	28,4	0,28	0,001					18.07.96
3,28	204		0,03	0,9	5	2,84	9,4	14,5	0,52	0,011					22.08.96
6,38	571		0,16	0,74	4,6	1,74		11,8	0,84						22.09.96
0,964	71		0,08	0,6	18,4	1,07	10,2	15,9	0,17	0,005					18.10.96
8,37	117		0,01	0,7	5,9	4,27	5,5	14,7	0	0,024					18.11.96
12,2	704		0,1	0,29	10,4	2,01	7	14,5	0,11	0,016					18.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Sendreni Gauging Station 287

(according with WQNMS list)

River: Siret Km. 556 Quality: 1994-II; 1995-III; 1996-II

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											Data
				NO2	NO3	NH4	CBO_5	CCO-Mn	Fenoli						
197	56		0,14	0,11	5	2,52		5,9	0,033						26.01.94
248	211,3		0,12	0,18	5,6	2,21		7,1	0,024						24.02.94
96,5			0,19	0,16	5,2	0,82		9,5	0,028						26.03.94
42,8				0,19	5,3	0,17		8,9	0,002						25.04.94
12	267,3		0,32	0,13	3,1	0,38		10,4	0,022						27.07.94
72,2	31,3		0,25	0,16	3,2	0,46		10,6	0,007						24.08.94
65	90,3		0,34	0,65	5,9	0,74		9,9	0,007						28.09.94
88,7	27		0,2	0,44	6,7	1,06		9,8	0,004						30.10.94
92,6	68,7			0,3	4,7	2,25		11	0						29.11.94
92,2	12		0,28	0,16	4,6	1,96		9,2	0						24.12.94
87	20,6		0,43	0,07	7,3	2,8	3,5	14,9	0,019						26.01.95
62,7	17,7		0,23	0,11	6,4	2,68	2	10,5	0,02						27.02.95
236	122,5		0,17	0,11	7,3	1,65	4,2	17,6	0,018						25.03.95
166	37,3		0,13	0,22	7,6	1,84	5	17,6	0,1						22.04.95
78,6	113,4		0,15	0,27	7,5	0,55	5,7	14,3	0,007						24.05.95
137,6	84,9		0,19	0,32	9,4	0,77	3,9	11,7	0						25.06.95
166	509,2		0,08	0,46	6,6	0,23	4,3	19,9	0,026						23.07.95
57	32,2		0,08	0,35	8	1,25	4,7	13,5	0						17.08.95
95,4	16,7		0,12	0,15	9,4	0,46	9,6	24,9	0						26.09.95
92	31,3		0,28	0,63	9,9	0,59	4,8	17,8	0,025						25.10.95
165,6	37,7		0,26	0,11	9,2	2,91	4,3	13,7	0,01						27.11.95
116,3	21,3		0,21	0,08	6,9	2,4	4,6	14,7	0,016						24.12.95
210	31		0,229	0,16	8,9	4,2	3,7	16,8	0,016						28.01.96
215	172,2		0,089	0,15	6,2	3,55	4,3	10,1	0,023						25.02.96
240	658,5		0,163	0,13	8	2,99	4,6	16,8	0,019						27.03.96
1588	1599,1		0,117	0,21	11	2,53	2,9	7,2	0,017						23.04.96
372	30,6		0,076	0,58	10,4	1,87	3,5	8,9	0,004						21.05.96
112	24,8		0,095	0,2	10,9	1,18	4,2	11,4	0,007						25.06.96
201,6	77,3		0,12	0,14	9,6	2,26	7,8	19,9	0,004						22.07.96
242	26,7		0,114	1,01	9,6	1,02	11,2	24,9	0,004						22.08.96
1085	36,7		0,057	0,2	6	1,43	2,9	9,4	0,004						27.09.96
	21,3		0,019	0,33	10	0,65	3,1	10,1	0,004						20.10.96
184,3	23		0	0,21	10,6	2,6	5,8	17,9	0,008						20.11.96
289	17,4		0	0,09	11,5	2,95	3,7	11,1	0,004						20.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Podu Iloaiei Gauging Station 302

(according with WQNMS list)

River: Bahlui Km. 80 Quality: 94-II; 95-D; 96-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											Date
				NO2	NO3	NH4	CBO_5	CCO-Mn							
0,268	50		0,32	0,27		3,8	10,1	20,2							18.01.94
1,18	77,3		0,17	0,18	6,5	3,3	9,6	17,5							18.02.94
0,604	65,5		0,029	0,29	9,2	5,1	17,2	17,6							17.03.94
0,557	89		0,37	1,74	5,7	4,8	35,3	21,9							18.04.94
0,334	52,3		0,96	1,87	0,8	5,53	28,1	24							18.05.94
1,85	80		0,1	0,44		1,28	19	36,4							16.06.94
0,248	49,5		0,02	0,58		1,81	21,6	19,7							18.07.94
0,174	37,5		0,3	9		0,34	18,3								20.09.94
0,248	51,7		0,25	2,33		0,08	18,4	42,6							18.10.94
0,184	65,7		0,17	8,5		0,44	16,5	32,8							16.11.94
0,184	49,3		0,18	0,37	13,8	3,3	16,7	34,1							15.12.94
0,286	56,7		0,59	0,32	9,2	7,03	34,8	43,2							20.01.95
0,209	41		0,37	1,16	5,6	5,6	47,4	57,6							15.02.95
0,248	69,6		0,34	0,3	6,7	3,2	26,1	44,1							16.03.95
0,121	83,6		0,11	1,03	4,5	2,94	31,3	49,1							17.04.95
0,248	76,3		0,083	0,49	4,9	5,8	51,1	82,6							16.05.95
0,212	68,6		0,36	2,32	13,1	6,76	26,4	42,7							17.06.95
0,062	53,8		0,023	0,03	0	3,17	38,5	74							15.07.95
0,079	63		0,21	0,33	5,5	2,68	33,5	47,5							18.09.95
0,079	54,8		0,15	0,2	7,2	2,54	22,4	28,9							17.10.95
0,155	65		0,54	0,02	15	2,67	21,9	37,5							16.11.95
0,085	65,2		0,91	0,75	12,1	2,46	29,5	41,1							12.12.95
	37		0,35	0,15	28,2	1,95	14,5	27,2							17.01.96
0,236	32,5		0,3	0,12	7,8	1,2	18	17,6							14.02.96
0,237	48,5		0,03	0,09	13,8	2,7	41,4	56							13.03.96
0,648	93,5		0,73	0,28	20,2	2,77	37	33,6							14.04.96
0,307	150		0,027	0,5	2,8	3,16	44,2	62							17.05.96
0,257	105		0,019	0,13	2,5	2,79	39,9	53,3							16.06.96
0,21	109,5		0,7	0,39	2,4	4,51	45	54,4							14.07.96
	90		0,118	0,12	7,2	2,1	28,7	40							13.08.96
2,22	177		0,153	0,28	4,4	2,77	49,3	73,6							17.09.96
0,648	145		0,66	0,13	6	1,38	35	36,8							16.10.96
0,432	60,5		0,033	0,23	8	1,35	38	49,6							19.11.96
0,648	72,5		0,07	0,3	6,2	2,93	27	33,1							11.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Holboca Gauging Station 303

(according with WQNMS list)

River: Bahlui Km. 118 Quality: 1994-D; 1995-D; 1996-D;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											Data
				NO2	NO3	NH4	CBO_5	Fe	Fenoli						
6,02	107		0,66	0,49		7,66	70	0,58	0,059						25.01.94
6,2	79		0,38	0,36	6	9	54,3	2,71	0,086						21.02.94
5,7	72,8		0,06	0,35	1,2	154,4	10,5	1,46	0,013						17.03.94
8,65	115,7		0,51	0,14	1	9,3	138	0,9	0,027						20.04.94
4,7	93,3		0,92	0,15		30	128,3	1,73	0,045						20.05.94
6,75	96		0,29	0,06		4,8	45	0,52	0						15.06.94
4,03	102,3		0,54	0,13		19,3	107,3	1,19							19.08.94
5,7	93		0,37	0,14	0,5	14	116,3	1,84	0,03						21.09.94
8,65	48,5		0,42	0,25	2,5	15,7	37,5	1,2	0,025						20.10.94
6,02	68,5		0,63	0,13	3,5	16	41,6	0,88	0,027						18.11.94
5,1	96,3		0,45	0,13	2,2	18,9	98,5	2,26	0,012						15.12.94
5	70,2		0,53	0,16	2	9,8	74,3	1,19	0,045						20.01.95
5,29	70,6		0,55	0,26	5,1	15,2	84,5	1,1	0						16.02.95
6,2	90		0,36	0,3	2,7	9,82	70,2	0,58	0,05						17.03.95
5,65	83,3		0,08	0,15	1,1	13,8	61,3	1,76	0,06						18.04.95
14,3	82,3		0,05	0,78	3,2	6,4	37	1,7	0						25.05.95
5,47	89,1		0,37	0,1		9,79	62,1	0,43	0						19.06.95
4,56	69,3		0,44	0,04	2	6,4	38,5	0,13	0						17.07.95
4,74	63,2		0,67	0,1	2	6,98	36,9	0,75	0,016						17.08.95
4,92	76,8		0,46	0,12		24,2	47,5	0,55	0,005						17.09.95
7,7	64		0,68	0,25	1,6	6,9	34,7	0,98	0						16.10.95
7,13	69,1		0,05	0,04	0,6	6	41,2	0,11	0,047						17.11.95
5,47	74		0,41	0,11	1,1	5	38,4	1,11	0,02						12.12.95
6,75	58,2		0,3	0,45	10	5,96	37,8	0,47	0,009						12.01.96
5,21	63,5		0,16	0,69	1,6	8,1	53	0,5	0,05						15.02.96
6,75	58,7		0,34	0,1	4,1	8,7	55,6	0,5	0,033						14.03.96
32,6	227		0,319	0,42	12,1	4,1	31,3	0,58	0,01						15.04.96
8,6	62,5		0,22	0,57	0,6	6,55	40,2	0,52	0,028						18.05.96
4,92	64		0,052	0,91	0,8	8,1	66	0,34	0,015						17.06.96
5,65	81		0,05	0,82	1,8	5,7	68	0,04							15.07.96
4,74	93,5		0,352	0,233	3	8,36	63,3	0,63							16.08.96
8,46	90,3		0,26	0,69	1,1	5,79	61	0,65							18.09.96
10,8	66		0,18	0,52	2,5	4,49	63,1	0,06							17.10.96
7,13	82		0,467	0,53	2,3	9,32	59,2	0,48	0						19.11.96
18	91		0,16	0,41	6,1	5,3	37,6	0,89	0,019						12.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the am.Braila Gauging Station 317

(according with WQNMS list)

River: Dunare Km. 892 Quality: 1994-I; 1995-I; 1996-II;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	CCO-Mn	Detergenti	S.extr.	Fe	Fenoli				
2,59	64,6		0,039	0,57	0,9	0,09	9,1	9,1	0,07	36,66	0,05					30.07.94
2140	93,3		0,06	0,06	0,4	0,1	3,8	0,3	0,02	40,33	0,06					25.08.94
2510	32		0,172	0,09	0,6	0,19	4,5	8,8	0	16,6	0,1					30.09.94
2440	25,3		0,091	0,16	0,7	0,06	5,7	5,6	0,02	28,66	0,09					21.10.94
3780	26,7		0,087	0,19	3,1	0,1	6,1	7,8	0,01	34	0,09					24.11.94
2,88	31,3		0,148	0,07	2,8	0	4,5	6,9	0,03	32,66	0,05					06.12.94
5880	29,3		0,14	0,05	4,6	0,23	8,6	6,6	0		0					16.01.95
6120	232		0,11	0,01	4,8	0,09	6,3	9,9	0,03		0,21					24.02.95
7250	178,6		0,09	0,09	3,5	0,08	15,5	27,7	0,05		0,31					24.03.95
8500	36,5		0,14	0,05	2,2	0,022	2,2	4,2			0,55	0,005				05.05.95
8220	38,6		0,01	0,1	3,2	0,033	1,1	10,3	1,14		2,22					20.06.95
6910	38		0,02	0,1	1,3	0,12	3,1	5,6	0,09		0,05					21.07.95
3730	43,3		0	0,01	1,8	0,2	1,2	6,6	0,01		0,08					11.08.95
6360	90,6		0,03	0,14	0,7	0,41	2,2	11,6	0,03		0,12					30.09.95
3380	28,6		0,02	0,06	2	0,17	7,1	17,5	0,02		0,04					30.10.95
5970	42,6		0,08	0,05	2,2	0,7	6,2	8,5	0,04		0,31					30.11.95
4430	34		0,17	0,07	0	0,07	2,2	6,4	0,05		0,14					20.12.95
3690	88		0,17	0,07	17	0,13	3,6	8,3	0,04	2,46	0,31	0,009				20.03.96
6420	89		0,04	0,07	15,7	0,4	6,5	8,7	0,04	1,66	0,09	0,023				07.05.96
4850	14		0,1	0,06	21,3	0,3	6,4	7,5	0,04	1,26	0,06	0,01				13.06.96
2980	54		0,01	0,15	6,7	1,23	3,8	9,6	0,02	3,03	0,05	0,003				05.07.96
2620	21,3		0,06	0,09	5,5	0,33	2	5,1		1,3	0,08	0,013				27.08.96
4680	343		0,07	0,21	8,6	0,17	2,5	11,1	0,05	1,3	0,15	0,013				14.09.96
4090	503		0,11	0,34	8,3	0,1	2,4	9,2		1,2	0,17	0,013				25.20.96
4350	38		0,08	0,13	7,8	0,43	6,7	12,3	0,04	1,66	0,27	0,009				28.11.96
5440	26,7		0,1	0,18	7,8	0,31	2,6	5,9	0,04	1,6	0,19	0,01				18.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Grindu-Reni Gauging Station 319

(according with WQNMS list)

River: Dunare Km. 910 Quality: 1994-II; 1995-II; 1996-II;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	CCO-Mn	Detergenti	S.extr.	Fe	Fenoli				
6300	66		0,17	0,02	1,4	0,28	2,6	2,8	0,01	0	0,47	0,01				24.02.94
6320	91		0,094	0,02	0,5	0,28	3	3,7	0,07	0	0,43	0				23.03.94
10900	54		0,156	0,05	2	0,21	2,2	4,2	0,06	0,11	0,36	0,008				06.04.94
6584	103		0,003	0,01	1	0,14	4,3	4,6	0,05	0	0,71	0,013				26.05.94
6790	42		0,16	0,06	2	0,27	2,5	4,1	0,05	0,11	0,3	0,01				23.03.94
4100	49		0,154	0,01	0,2	0,16	3,1	2,7	0,01	0	0,47	0,007				28.07.94
2370	0,8		0,1	0,08	1	0,23	3,4	3,2	0,05	0,11	0,06	0,01				28.08.94
2800	47,3		0,107	0,01	0,5	0,08	1,1	1,1	0,03	0	0,22	0,015				22.09.94
3230	22,3		0,157	0,05	1,5	0,32	6,5	3,8	0,04	0,07	0,07	0,009				22.10.94
3740	125		0,178	0,01	0,4	0,42	2,8	2,7	0,05		0,54	0,016				24.11.94.
3160	194,3		0,154	0,02	0,2	0,38	2,5	2,7	0,07	0	0,53	0,015				19.12.94
5260	59		0,146	0,02	0,2	0,68	3,4	3,8	0,01	0	0,48	0,02				26.01.95
6300	57		0,182	0,02	0,3	0,97	2,9	3,3	0,16	0	0,8	0,025				23.02.95
8242	96		0,157	0,02	0,4	0,2	2,9	3,5	0,07	0	0,88	0,014				23.03.95
8500	48		0,19	0,05	2,6	0,22	2	4,3			0,48	0,005				30.04.95
8500	54,7		0,213	0,05	2,3	0,23	2,1	4,3	0,03	0	0,45	0,005				05.05.95
9180	43		0,17	0,09	1,5	0,16	8,4	4,2			0,51	0,005				30.06.95
5755	41,3		0,09	0,05	1,2	0,29	4,2	3,6	0,05		0,14	0,006				27.07.95
3150	25,7		0,11	0,06	1	0,21	3,5	3,2	0,05		0,14	0,004				20.08.95
6770	40		0,047	0,15	3,2	0,17	5,8	8,3	0,03		0,06	0,042				21.09.95
4060	24		0,18	0,04	1	0,18	3,6	4,2	0,06		0,16	0,004				20.10.95
4380	48		0,059	0,9	2,1	1,53	4	9	0,07		0,07					23.11.95
4700				0,1	0,4	1,06	4,1	9	0,02	11,66	0,48	0,021				18.12.95
8,35	29,3			0,06	8,9	1,21	1,8	3,4	0,04	10	0,54	0,01				25.01.96
4170	38			0,01	8,7	0,47	1,9	3,3	0	18,33	0,04	0,011				22.02.96
5630	26,7		0,09	0,03	8,5	0,89	3,1	3,9	0,11	20,66	0,25	0,019				21.03.96
9400	55,7		0,21	0,06	3	0,16	2,4	4,1	0,04	8,66	1,05	0,004				18.05.96
4860	28		0,16	0,07	1,2	0,2	3	4,3			0,86	0,005				29.06.96
5970	106,6			0,15	4,3	0,2	2,6	4,6	0,03	6,66	0,08	0,003				25.07.96
4220	28,7		0,09	0,08	1,1	0,22	3,2	3,2			0,71	0,007				25.08.96
5600	39,3		0,08	0,06	0,7	0,28	3,8	10,3	0,02	7,33	0,1	0,01				19.09.96
7030	29		0,11	0,04	1,7	0,41	3,4	4,3								29.10.96
6640	34,6		0,1	0,03	1,9	0,48	2,5	6,8	0,06	1,46		0,005				28.11.96
8350	14		0,12	0,04	1,9	0,36	2,9	2,9	0,06	14	0,2	0,003				19.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the am. Iaz Peris Gauging Station section or.II

(according with WQNMS list)

River: V;asia Km. 10 Quality:

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
				NO2	NO3	NH4	CBO_5	CCO-Mn	Total residue	Cl	SO4				Date
	8,2			0,06	2,1	0,3	2,9	6,2	771	173,8	177,6				06.03.97
	19,8			0,04	10	0,91	3,5	8,1	651	148,8	100,8				18.04.97

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the DN 1 Saftica Gauging Station section or.II

(according with WQNMS list)

River: Vlasia Km. 19 Quality:

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
				NO2	NO3	NH4	CBO_5	CCO-Mn	Total residue	Cl	SO4	Phenols			Date
	11,6			2,94	0	34,3	19,5	14,7	1000	106,4	235,2	0,019			06.03.97
	28,4			0,8	25,1	73,8	4	21,7	849,8	49,6	166,1	0,023			18.04.97
	16,8			0,74	17,2	185	7,5	20,5	716,6	38,9	163,2	0,015			14.05.97
	17,8			0,54	15,2	11	7,2	14,1	562,4	28,4	192	0,018			13.06.97
	13,2			0,81	16,4	12,6	5,2	13,3	679,5	38,9	210,2	0,013			10.07.97
	16,8			0,81	17,8	17,5	6,3	17,5	665	67,4	201,6	0,015			13.08.97
	12,8			0,74	28,1	23,7	4,6	15,8	821,6	63,8	201,6	0,018			08.09.97
	19,6			0,53	21,5	53,4	2,5	18,4	801,5	77,9	213,1	0,013			15.10.97
	11,6			0,67	8,8	20,3	4,7	12,2	781	67,4	153,6	0,018			12.11.97

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the am. conf. Mures Gauging Station sec.ord.II

(according with WQNMS list)

River: Certej Km. 18 Quality: 96 D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals															
				NO2	NO3	NH4	CBO_5	CCO-Mn	Total residue	So4	Phenols	Fe	Mn	Cu	Pb	Zn	Cd	CN	Date
0,277	141		0	0,1	6,3	1,98	0,5	6,9	1246	780	0	3,2	13,9	0,29		8,4	0,1	0,062	11.02.94
0,277	105		0	0,19	3,4	2,66	1,7	1,8	1208	767,5	0,07	0,32	16,6	0,038	0,02	0,745	0,008	0,002	13.05.94
0,2	205		0,049	0,11	4,4	4,05	1,8	8,2	2080	1320,2		0,08	26	0,038	0,031	8,75	0,049	0	18.07.94
0,28	740		0	0,32	4,9	0,21	5,3	3,8	2040	1248	0	0,06	6	0,015	0,068	0,019	0,014	0,008	11.08.94
0,28	744		0,003	0,08	7,1	14,8		7,7	2920	2136	0	0,52	46	0,42	0,29	7,9	0,62	0	11.10.94
0,28	464		0,005	0,16	3,4	16,2	4,4	4,4	2641	1680		1,24	15,6	0,475	0,38	6		0,002	09.11.94
0,28	464		0,003	0,12	4,2	4,22	3,3	3,1	1110	780	0	0,54	16,9	0,75	0,165	20,97	0,22	0	10.02.95
0,3	131		0,001	0,12	4,5	1,45	1,7	8,6	1601	1021	0,01	21,39	15,46	0,129	0,1	34,16	0,2	0,002	12.05.95
0,3	764		0	0,08	3,3	5,1	2,8	2,2	1902,5	1192,3	0,011	17,82	33,25	0,02	0,106	19	0,5	0	13.07.95
0,3	14040		0	0,09	4,3	1,5	3,5	4,4	2618	1659,5	0,009	0,26	40,4	0	0	9,34	0,029	0	11.08.95
0,3	139		0	0,27	5,3	1,07	3,2	6,9	2220	1415		3,57	18,92	0,128	0,05	3,82	0,034	0,017	13.10.95
0,38	1780		0	0,05	5,9	1,43	1,7	12	1801	117,6	0,03	30,15	39,36	0,58	0,3	21,19	0,225	0,007	09.11.95
0,3	284		0,001	0,06	3,1	3,07	1,3	6,9	1703	1081	0,004	0,39	10,16	0	0	3,437	0,084	0,01	10.02.96
0,3	85		0,002	0,09	5,3	3,13	1,9	5,4	1443	923,8	0,04	0,05	9,16	0,003	0	3,812	0,101	0,006	10.05.96
0,3	265		0,002	0,08	6,5	2,39	2,5	9,5	1660	940,8	0,054	0,24	18,36	0,04	0,043	10,32	0,08	0,003	09.08.96
0,3	101		0,003	0,22	6,5	3,24	2,3	4,9	1686	1097,3		2,01	14,05	0,324	0	5,44	0,493	0	11.10.96
0,3	410		0	0,07	6,4	1,38	7,1	19,6	1664	1088,5	0,002	1,56	22,4	0,003	0	4,56	0,621	0,005	07.11.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality

at the am. conf. Aries Gauging Station sec.ord.II

(according with WQNMS list)

River: Abrud Km. 24 Quality: 96 D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals															
				NO2	NO3	NH4	CBO_5	CCO-Mn	Total residue	So4	Phenols	Fe	Mn	Cu	Pb	Zn	Cd	CN	Date
3,73	111,6			0,05	1,6	1,93	1,9	4,4				0,17		0,08					10.01.94
	171			0,03	2	0,25	1,5	6				3,6							07.02.94
2,55	140		0,1	0,16	2,9	1,8	1,4	3,8				2,2							07.03.94
3,55	180		0,01	0,1	1,7	1,73	2,1	11				0							11.04.94
2,1	157		0,071	0,05	2	1,93	2,1	6				0,26							09.05.94
0,84	164		0,73	0,03	4,1	1,8	2,6	8,4				0,1		0,036					06.06.94
2,68	160		0,146	0,08	1,4	1,9	40	6,6				3,7		0,014					11.07.94
0,2	163		0,134	0,03	3,8	1,33	2,8	10,5				3		0,029					08.08.94
0,5	120		0,01	0,01	1,3	0,1	2,6	4,1				3,7		0,068					05.09.94
3,28	112		0	0,03	1,6	1,1	1	5,5				0,19		0,036					10.10.94
1,2	264		0,215	0,03	3,5	0,1	2	5,7				3,4							07.11.94
	212		0,195	0	2,2	0,6	2,1	9,8				2,6							05.12.94
1,4	68		0,019	0,03	4,2		1,8	3,3				0,22		0,01		0,03			11.01.95
3,94	100		0,026	0,02	4,4	0,75	2	2,8				0,26		0,02		0,03			11.02.95
2,4	186		0,023	0,08	4,8	0,2	1,4	4,6				0,83		0,01		0,04			06.03.95
1,4	55		0,136	0,03	2,7	0,35	2,1	4,7				0,04		0,03		0,37			10.04.95
1,7	65		0,132	0,02	2,8	0,4	1	3,2				0,16		0,02		0,18			08.05.95
5,72	184		0,075	0,2	2,8	0,6	1,6	6				0,08		0,01		0,14			05.06.95
1	153		0,11	0,06	3,9		1,6	5,5				1,17		0,029		0			10.07.95
1,08	342		0,1	0,11	2		1,2	7,6				0,26		0,024		0			08.08.95
0,85	231		0,21	0,18	3,3	0,32	1,2	7,9				1,14		0,03		0			04.09.95
1	81			0,17	2,6	0,4	1,6	8,2				1,04		0,25		1,33			09.10.95
0,85	131		0,43	0,22	3,9	0,6	1,1	11,5				54,7		0,38		3,88			06.11.95
2,4	110		0,09	0,06	2,8	0,97	1,4	4,7				14		0,32		1,04			04.12.95
6,6	70		0,09	0,03	3,7	1	1,2	2,7				8,18		0,158		0,158			08.01.96
2,1	101		0,034	0,14	4,2	2,9	1,8	2,4				0,16		0		0,77			06.02.96
1,36	60		0,127	0,12	3,1	2	1	3				0,05		0,031		0,574			05.03.96
1,35	218		0,032	0,05	2,5	0,77	1	3,9				0,19		0,01		0,05			02.04.96
3,82	115		0,11	0,04	2,6	0,35	1,2	4,3				0,01		0,009		0,095			06.05.96
3,4	101		0,127	0,07	2,8	2,9	2	4				0,01		0,003		0,074			10.06.96
2	68		0,06	0,05	2,9	1,1	1,8	3,6				0,05		0,016		0,268			08.07.96
1,3	118		0,082	0,08	2,3	2	1,4	3,2				0,03		0,018		1,543			05.08.96
2,8	98		0,032	0,04	1,5	1,66	1	3,8				0,2		0		0,244			09.09.96
1,3	140		0,09	0,09	1,8	1,2	1,3	3,9				0,28		0,066		0,76			07.10.96
1,6	25,2		0,077	0,01	1,8	1,3	1,6	8,2				0,42		0,003		0,134			04.11.96
2,75	78		0,153	0,05	2,8	1,75	1,6	3,6				0,88		0,005		0,107			09.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Borla

River: Zalau Km. 38 Quality: 1996-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals										Date
				NO2	NO3	NH4	CBO_5	CCO-Mn						
1,12	202		0,896	0,44	13,8	12,3	14,3	20						11.03.96
1,06	64		0,494	0,38	9,3	5,19	8,6	14						09.04.96
1,28	81		0,884	0,26	2	7,53	8,6	11,5						15.05.96
0,848	28		0,829	0,2	4	8,08	12,1	11,5						11.06.96
0,728	94		0,732	0,16	3,7	1,08	9,1	17,6						16.07.96
1,06	18		0,18	0,33	2	11,5	16,9	17						18.07.96
1,48	42		0,689	0,5	2,5	8,65	6,3	14,4						13.09.96
1,06	8		0,103	0,31	2,6	9,22	8,3	11,5						15.10.96
1,12	36		0,259	0,25	5,5	3,4	10,9	13,1						12.11.98
1,63	55		0,57	0,3	5,3	5,58	8,3	8,6						09.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the Goga Gauging Station sec.ord.II

(according with WQNMS list)

River: Dambu   Km. 36   Quality: 96-D

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals											
				NO2	NO3	NH4	CBO_5	CCO-Mn	Total residue	Cl	SO4	CN	Phenols	Detergents	Date
1,38	235,5		0,995	3,5	3	12,3	15,1	8,9	878	272,6	160,2	0	0,035	0,52	18.01.94
1,26	682		0,96	0,25	0	35,7	26,8	14,4	946	231,1	267,4			0,75	18.02.94
1,57	394		0,82	0,15	0	21,3	30,1	14,9	875	240	167,3			0,52	17.03.94
1,38	192,5			0,02		20,2	31,3	16,5	1023	329,4	107,2		0	7,01	19.04.94
1,56	414		0,09	0	1,5	18,4	29,6	14,7	855	233,4	181,9			1,36	20.05.94
1,45	196		0,008	0,06	3,4	25,8	63,1	30,1	809,5	177,3	127		0,007	0	22.06.94
1,27	329		0,96	9,5	1,4	0,96	33,9	18,8	809	246,4	130,2		0,132	1,61	28.07.94
1,14	156		0,165	0,95	2,4	11,4	28	17	761	195	179,7			1,56	20.08.94
1,03	123		3,27	0,1	2,1	16,4	66,4	36,5	683	177,3	131		0	1,37	20.09.94
1,31	469		2,28	0	0,6	0,64	46,8	24,7	830	241,9	155,3		0,11	3,01	25.10.94
1,14	242		2,12	0,09	0,4	0,72	59,7	34,7	728	227,2	126,2		0,117	3,38	21.11.94
1,2	170,5		1,57	0,05	0,7	1,72	21,8	13,3	788	215,5	144,2		0,18	3,18	06.12.94
1,2	167		1,32	0,57	0,6	12,3	32,3	16,8	682	168,7	144,2	0	0,003	0,88	26.01.95
1,66	219,5		0,84	0,02	0,3	0,69	48,2	26,8	681	189,3	109,8	0	0,1	0,7	20.02.95
1,31	346		0,91	0,37	2,7	0,17	33,6	25,6	809	205	179,3	0,024	0,05	1,83	13.04.95
1,45	323		1,76	0,08	0,1	0,14	27,5	18,4	692	185,9	109,4	0,002	0,08	1,02	19.06.95
1,45	339		1,345	0	0,2	0,15	26,5	17	645,5	148,9	115,5	0,002	0,075	1,27	19.08.95
1,57	337		1,1	0	0,1	11,2	31,2	20,5	676	140,3	211	0,001	0,16	1,36	19.09.95
1,22	152		0,23	0,88	2,2	26,7	54,4	36,3	686	158,3	219,4		0,19	1,08	21.11.95
32	584		1,38	2,41	0,2	7,99	28,2	17,6	787	170,3	227,3	0,022	0,07	1,9	23.02.96
1,38	127		0,62	0,04	0	5,81	19,7	12,3	795	184,2	200,3	0,021	0	0,27	11.04.96
1,24	1121		0,86	0,02	0,2	7,67	33,7	23,7	780	201,6	212,9		0,043	1,51	11.06.96
1,2	117		1,21	0,06	0	8,71	42,2	28,1	631	165,2	156,6	0,02	0,062	0,92	13.07.96
1,27	221		2,28	0,12	0,4	22,6	32,3	21,5	1070	254,7	333,4	0,01	0	0,7	12.08.96
1,1	258,5		1,88	0	0,6	12,3	31,1	21	920	191,1	301,9	0,021	0,03	0,44	12.09.96
1,1	329,5		1,66	0,04	0,4	7,44	34	21,9	887	218,9	197,6	0,02	0,26	1,29	12.11.96
1,54	317		1,66	0,08	1	15,3	44,4	29,6	960	152,9	335,7	0,02	0,3	2,02	12.12.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the av. Statie epurare COLOROM Gauging Station sec.ord.II

(according with WQNMS list)

River: Vulcanita Km. 14 Quality:

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals													
				NO2	NO3	NH4	CBO_5	CCO-Mn	Phenoli	Detergents	Fe	CCO-Cr	Ni	Cr	Cu	Zn	Date
	43			0,03	1	6,7	27	48,6	0,002	0,01	0,8	83,5	0,05		0,088	0,081	01.01.94
	49			1,01	39,5	7,7	18,1	35,3	0,54	0,3	0,72	87,5	0,002		0,013	0,043	03.03.94
	98			0,26	0,9	3,4	16,7	29,428	0,17	0,26	0,71	61	0,037		0,03	0,093	01.06.94
	58			2,4	4,4	4,5	14,8	183,3	0,025	0,1	2,53	39,5	0,018		0	0,016	01.07.94
	99,5			0,01	0,8	37,5	97,5	158	0,05	0,3	1,11	227,5	0,144		0,11		01.08.94
	187,3			0,03	4,1	15,4	85,1		0,15	0,36	3,34	205,7	0		0,116		01.11.94
	29,5			0,11	2,2	48,1	41,3	79	0,6	0,32	1,1	112	0,032		0,012		09.01.95
0,62	42,5			0,02	3,2	8,7	39	67,2	0,2	0,68	1,18	84	0,016		0,012		08.03.95
	43			0,42	1	15,5	66,5	122,5	0,137	0,29	0,76	162	0,006	0,165	0,026		08.05.95
	38,5			0,02	3	14,2	85,6	146,1	0,102	0,33	1,6	173	0,028		0,016	0,018	10.07.95
	62			0,02	0,3	7,25	34,6	62,4	0,045	0,33	1,52	92	0,102	0,02	0,056	0,062	08.09.95
	38			0,002	1,4	5,5	35,1	60,4	0,05	0,16	1,38	100	0,014	0	0,018	0,122	08.11.95
	38,5			0,03	0,9	10,2	26,3	48,6	0,017	0,1	0,65	79	0,07	0,005	0,007	0,07	10.01.96
	52,5			0,41	0,8	9,2	54,2	101,1	0,027	0,07	2,28	162	0,06	0,02	0,024	0,11	07.03.96
	46,5			0,01	1,5	13,5	36,9	69,1	0,005	0,18	2,6	127	0,15		0,01		08.05.96
	49,5			0,25	1,6	13,3	59,7	113,4	0,01	0,1	0,54	160	0,49	0,007	0,006	0,058	07.07.96
	44,5			0,01	1,2	3,65	21,2	45,8	0,02	0,11	0,35	119	0,006		0,006	0,094	10.09.96
	86,5			0,06	1,8	22,5	130,4	272,5	0,074	0,44	2,19	312	0,005	0,032	0,033	0,062	08.11.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality
at the Costesti Gauging Station sect.or.II

(according with WQNMS list)

River: Orastie-sect.ord.II

Quality: 1994-I; 1995-I;1996-I;

Water Discharge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	Cco-Mn	Fe	Cr						
1,21	24		0,06	0,07	4	0	3,5	3,1	0,06	0,012						10.02.94
	10		0	0,01	2	0	2,7	10,1	0,12	0						12.05.94
	8		0	0,005	2,6	0,1	1,7	2,3	0,08							14.07.94
	17		0	0,01	2,5	0	1,4	4,6	0,04	0						12.08.94
	7		0,005	0,04	3,8	0	0,9	0,5	0,18	0						13.10.94
3	17		0,005	0,04	1,7	0,21	1,5	1,6	0,04							10.11.94
1,29	10		0	0,11	3	0,28	3,6	4,2	0,05							08.02.95
5,04	30		0,004	0,04	3,4	0,15	2,3	4	1,6	0						11.05.95
2,4	9		0	0,02	2,6	0,09	2,9	3,4	0,6	0,016						13.07.95
1	145		0	0,08	2,4	0,05	4,8	5,7	1,52							10.08.95
2,6	23		0,005	0,02	2,1	0,07	1,5	2,6	1,38	0						12.10.95
2,82	8		0,001	0,02	2,6	0,06	2	2,1	1,09	0,008						09.11.95
1,8	13		0,004	0,02	4,9	0,01	1,8	2,1	0							0.7.02.96
5,1	103		0,002	0,06	4,9	0,28	1	8,5	0,5	0,018						09.05.96
1,23	24		0,001	0,01	3,6	0,02	2,7	6,1	0,053	0						07.08.96
2,53	19		0,001	0,02	4,8	0,39	2,7	2,2	0,01							09.10.96
1,87	10		0,001	0,02	3,9	0,17	0,8	2	0,08	0						06.11.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Summary of Simultaneous Data on Water and Sediment Discharge and Water Quality at the av.Orastie Gauging Station

ord.II (according with WQNMS list)

Raul: Orastie Km. 51 Quality: 1994-III; 1995-III; 1996-III;

WaterDischarge	Sediment Discharge	Total N	Total P	Fractions of N or P, CBO5 or CCO, Notable High Concentrations of Heavy Metals or Other Toxic Chemicals												Date
				NO2	NO3	NH4	CBO_5	CCO-Mn	Fe	Cr						
	13,7		0	0,05	4,2	0,18	4,5	3,3	0,04							13.01.94
3,41	9		0	0,26	3	1,04	10,6	8,2	0,24	0,027						10.02.94
20,5	10		0	0,1	2,3	1	3,3	9,8	0,14	0,012						12.05.94
3,86	32		0	0,17	3,2	1,18	7,1	5,7	0,08							14.07.94
4,5	25		0	0,18	5,9	2,53	5,8	5,5	0,12	0,012						12.08.94
4,88	15		0,004	0,27	3,7	3,23	9,2	13,7	0,18	0,007						13.10.94
5,6	40		0,009	0,12	2,6	2,39	9,1	6,2	0,08	0,002						10.11.94
3,66	46		0,05	0,18	4,3	2,25	10,6	9,1	0,14							0.8.02.95
12	43		0,006	0,05	3,7	0,72	4,7	8	1,2	0,012						11.05.95
5,4	21		0,01	0,23	3,7	2,35	8,4	7,6	0,63	0,032						13.07.95
1,4	21,7		0,01	0,23	2,9	1,16	6	6,7	1,72							10.08.95
3	25		0,01	0,09	2,7	1,68	1,8	3,3	0,98	0,02						12.10.95
3,22	29		0,01	0,06	2,7	2,22	3,3	7	1,44	0,01						09.11.95
3,68	35		0,008	0,05	8	1,29	4,7	7,4	0,23							07.02.96
7,54	108		0,005	0,09	5,8	1,63	7,6	8,3	0,6	0,02						09.05.96
1,83	26		0,005	0,015	06.•••	2,57	5,4	10,5	0,55	0,007						07.08.96
3,96	53		0,012	0,01	8,3	3,37	2,4	14	0,14	0,023						09.10.96
2,84	21		0,006	0,08	5,2	1,54	7,3	6,3	0,29	0,054						06.11.96

Notes:

-1 This table is intended to summarize, and to emphasize, the data sets that are among the strongest and most useful for computing mass balances and conducting transboundary analyses.

-2 A data set should not appear in this table unless it includes at least simultaneous data on water discharge and either Total P or Total N

Annexes for Chapter 4

Annex 4.8.2
List of the National Rivers Authorities from Romania (Filiala of RAAR) which are responsible for Water Quality National Monitoring System (WQNMS)

Filiala CLUJ

Str. Vânătorului nr. 17, Cod 3400, Cluj, jud. Cluj
Tel. 064136025* / 064136468* / 064194250 Fax 064194230

Filiala ORADEA

Str. Ion Bogdan nr. 35, Cod 3900, Oradea, jud. Bihor
Tel. 059142033* / 059143892* / 059143892 Fax 059144237

Filiala MUREȘ

Str. Koteles Samuel nr. 33, Cod 4300, Tg. Mureș, jud. Mureș
Tel. 065160289* / 065166159* / 065165420 Fax 065167955

Filiala TIMIȘOARA

Bdul. Mihai Viteazul nr. 32, Cod 1900, Timișoara, jud. Timiș
Tel. 056191843* / 056191848* / 056192097 Fax 056191798

Filiala CRAIOVA

Str. Dunării nr. 48, Cod 1100, Craiova, jud. Dolj
Tel. 051124855* / 051123655* / 051124502 Fax 051124597

Filiala RM. VALCEA

Str. Gen. Magheru nr. 27, Cod 1000, Rm. Vâlcea, jud. Vâlcea
Tel. 050719880* / 050719881* / 050715929 Fax 050718255

Filiala PITEȘTI

Str. Câmpulung nr. 6-8, Cod 5000, Pitești, jud. Argeș
Tel. 048634900* / 048618250 Fax 048211549

Filiala BUZĂU

Str. Bucegi nr. 20 bis, Cod 5100, Buzău, jud. Buzău
Tel. 038431475* / 038427986* / 038427956 Fax 038427237

Filiala BACĂU

Str. Cuza Vodă nr. 1, Cod 5500, Bacău, jud. Bacău
Tel. 034141646* / 034115797* / 034115797 Fax 0341234111

Filiala IAȘI

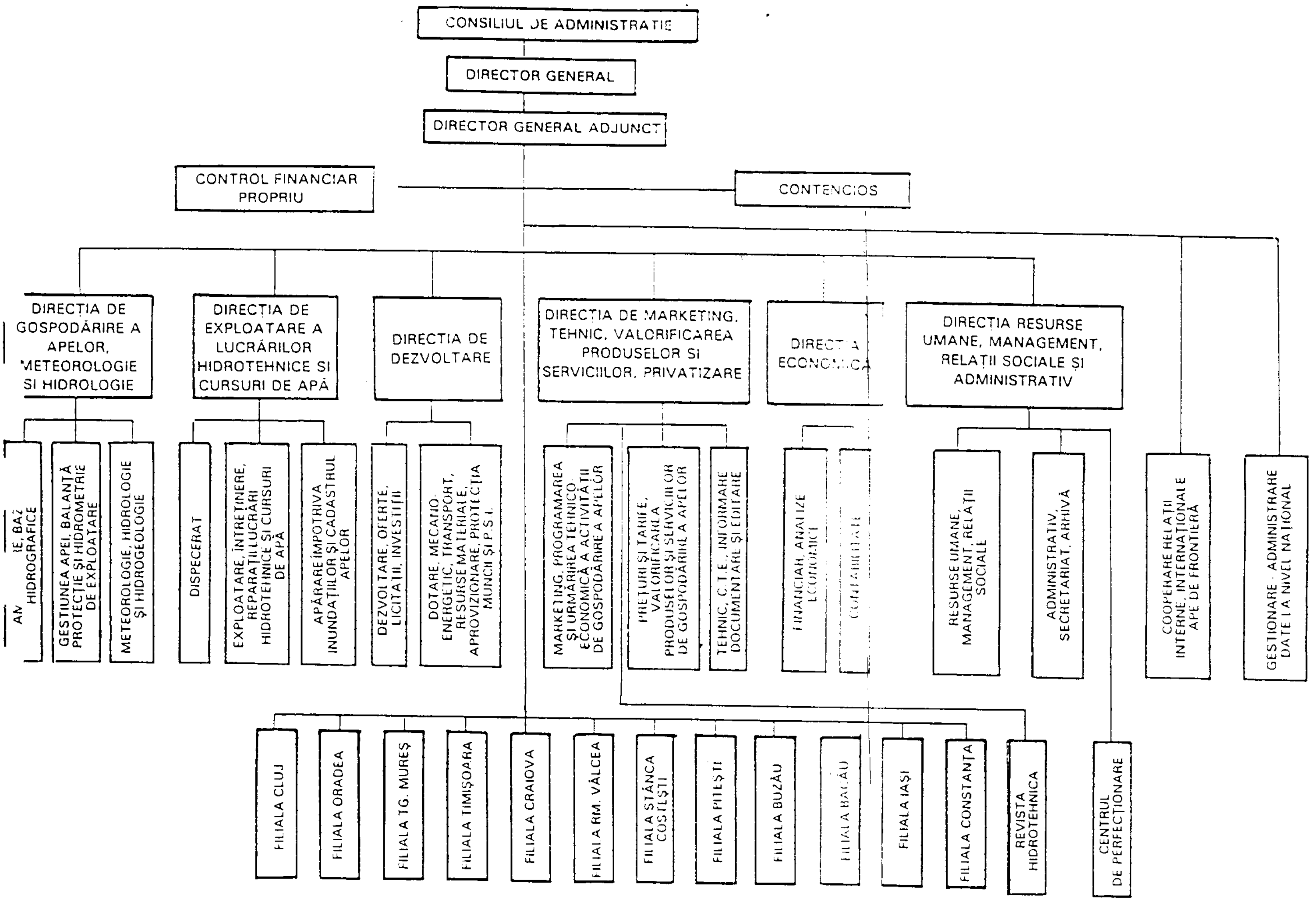
Str. Th. Văscăuțeanu nr. 10, Cod 6600, Iași, jud. Iași
Tel. 032144925* / 032140171 Fax 032140013

Filiala STANCA

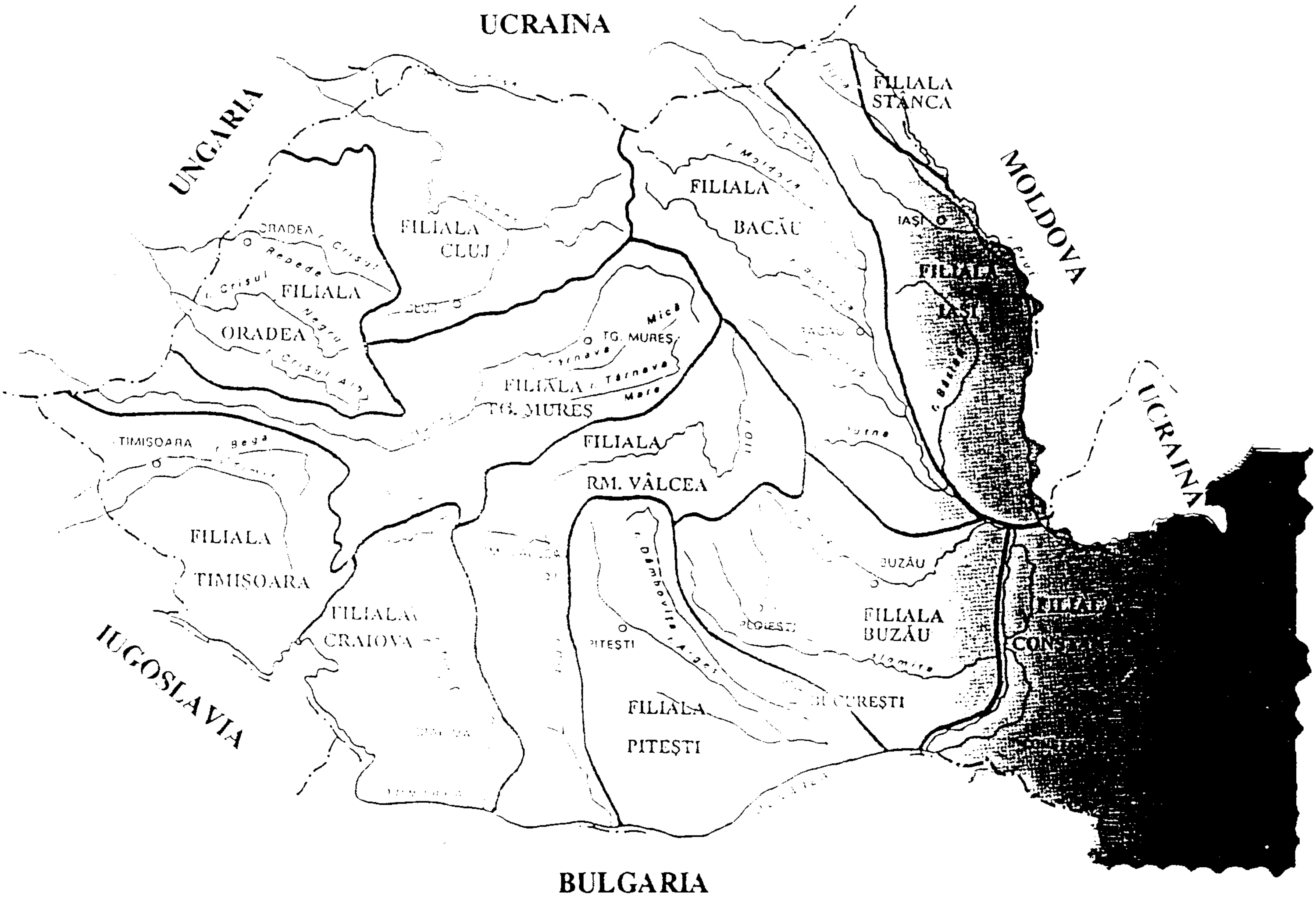
Str. Th. Văscăuțeanu nr. 10, Cod 6600, Iași, jud. Iași
Tel. 031518626* / 032142332 Fax 032146584

Filiala CONSTANTA

Bdul. Mamaia nr. 300, Cod 8700, Constanța, jud. Constanța
Tel. 041831162* / 041831226 Fax 0416[illegible]797



CONSILIUL DE ADMINISTRAȚIE
DIRECTOR GENERAL
DIRECTOR GENERAL ADJUNCT
CONTROL FINANCIAR PROPRIU
CONTENCIOS
DIRECȚIA DE GOSPODĂRIRE A APELOR, METEOROLOGIE ȘI HIDROLOGIE
DIRECȚIA DE EXPLOATARE A LUCRĂRILOR HIDROTEHNICE ȘI CURSURI DE APĂ
DIRECȚIA DE DEZVOLTARE
DIRECȚIA DE MARKETING, TEHNIC, VALORIFICAREA PRODUSELOR ȘI SERVICIILOR, PRIVATIZARE
DIRECȚIA ECONOMICĂ
DIRECȚIA RESURSE UMANE, MANAGEMENT, RELAȚII SOCIALE ȘI ADMINISTRATIV
GESTIUNEA APEI, BALANȚĂ PROTECȚIE ȘI HIDROMETRIE DE EXPLOATARE
METEOROLOGIE, HIDROLOGIE ȘI HIDROGEOLOGIE
DISPECERAT
EXPLOATARE, ÎNTREȚINERE, REPARAȚII LUCRĂRI HIDROTEHNICE ȘI CURSURI DE APĂ
APĂRARE ÎMPOTRIVA INUNDAȚIILOR ȘI CADASTRUL APELOR
DEZVOLTARE, OFERTE, LICITAȚII, INVESTIȚII
DOTARE, MECANO-ENERGETIC, TRANSPORT, RESURSE MATERIALE, APROVIZIONARE, PROTECȚIA MUNCII ȘI P.S.I.
MARKETING, PROGRAMAREA ȘI URMĂRIREA TEHNICO-ECONOMICĂ A ACTIVITĂȚII DE GOSPODĂRIRE A APELOR
PREȚURI ȘI TARIFE, VALORIFICAREA PRODUSELOR ȘI SERVICIILOR DE GOSPODĂRIRE A APELOR
TEHNIC, C.T.E., INFORMARE DOCUMENTARE ȘI EDITARE
FINANCIAR, ANALIZE ECONOMICE
RESURSE UMANE, MANAGEMENT, RELAȚII SOCIALE
ADMINISTRATIV, SECRETARIAT, ARHIVĂ
COOPERARE RELAȚII INTERNE, INTERNAȚIONALE APE DE FRONTIERĂ
GESTIONARE - ADMINISTRARE DATE LA NIVEL NAȚIONAL
FILIALA CLUJ
FILIALA ORADEA
FILIALA TG. MUREȘ
FILIALA TIMIȘOARA
FILIALA CRAIOVA
FILIALA RM. VÂLCEA
FILIALA STÂNCA COSTEȘTI
FILIALA PITEȘTI
FILIALA BUZĂU
FILIALA BACĂU
FILIALA IAȘI
FILIALA CONSTANȚA
REVISTA HIDROTEHNICA
CENTRUL DE PERFECȚIONARE



UCRAINA
UNGARIA
MOLDOVA
UCRAINA
IUGOSLAVIA
BULGARIA
FILIALA STÂNCA
FILIALA BACĂU
FILIALA CLUJ
FILIALA ORADEA
ORADEA
FILIALA IAȘI
IAȘI
FILIALA TG. MUREȘ
TG. MUREȘ
FILIALA RM. VÂLCEA
FILIALA TIMIȘOARA
TIMIȘOARA
FILIALA CRAIOVA
FILIALA PITEȘTI
PITEȘTI
FILIALA BUZĂU
BUZĂU
BUCUREȘTI

ANNEX 4.12.1.

Rivers are classified into three categories of surface water usability (standard : STAS 4706-88), plus an additional "beyond use" classification. When assessing the actual state of the rivers, a mixture of standard procedures and individual judgements are applied. Compliance with standards STAS 4706-88 (measured value divided by standard) are computed for allvariables. The variables are divided into five sub-groups, and weighted average values for compliance are compute for each-group. If the weighted average values for the sub-groups does not refer to the same classification category, an individual assessment is made in order to determine the overall classification category.

ICIM proposes instructions for sampling procedures applied to surface waters. Generally, in the sampling cross-section, samples are taken where water velocity is highest. However, sampling procedures may vary, e.g., according to water level. For instance, during the summer, the sampling may be performed at the middle of the river, while during winter samples may be drawn from the river banks.

Water samples are drawn from the surface, i.e., the upper 5o cm of the water column.

Staff from RA Apele Române takes samples for analysis.

Only water samples are taken and in five counties also bottom samples. The bottom samples are taken only as part of the biological sampling programme. No sediment samples are taken.

Water samples taken on a routine basis are analyzed for some biological variables (see section 3.3). STAS 4706-88 contains ranges of planktonic biomass for classifying the waters as olingo-, meso- or eutrophic. The sampling method is not standard, and the full range of invertebrate habitat is not sampled. The invertebrate data appear to be little used. This is presumably a result of the absence of invertebrate communities. Other information, such as submerged macrophytes and marginal vegetation, is not recorded.

Annexes for Chapter 4

Annex 4.12.1
Romanian Water Quality Standard
4706 / 88

ROMANIAN RIVER WATER QUALITY STANDARDS

NATIONAL COMMITTEE FOR SCIENCE AND TECHNOLOGY
ROMANIAN INSTITUTE OF STANDARDS

SURFACE WATERS
Quality Categories and Conditions

(In force with effect from 1 November 1988)

1 GENERAL

1.1 Purpose and Scope of Application

1.1.1 The present standard establishes categories and technical quality conditions for surface waters depending upon their scope for use.

In the context of the present standard, surface waters shall mean:

- watercourses in either natural or artificial situations;
- natural lakes, and reservoirs;
- Black Sea water in the Romanian coastal zone.

1.1.2 The present standard does not apply to ornamental (lit. "of monumental nature") lakes, therapeutic lakes, surface waters with elevated salinity levels, open channels with a flow regime modified for purge waters, rainfall and drainage, and frontier waters.

2 CATEGORIES

2.1 Watercourses in either natural or artificial situations, natural lakes, and reservoirs are classified, from the point of view of their scope for use, in three quality categories: I, II and III according to Table 1.

Table 1

Quality category	Scope of use
I	• centralised potable water supply • central water supply to animal growing units • central water supply for food industry use / other activities requiring water of potable quality • water supply for the culturing of vegetables which require water of Category I quality • hatching and rearing of salmonids / salmonid fisheries • natural bathing waters (pools) • basins for water contact sports
II	• hatching and rearing for maintenance of natural fish stocks / water supply for fishery purposes, with the exception of most salmonids • water supply for industrial technological processes / other activities requiring water of Category II quality • for urban and recreational use
III	• water supply to irrigation systems providing water for agriculture • water for hydro-electric power generation • water supply for cooling systems • water supply to washing stations / other activities requiring water of Category III quality

Notes

(1) For surface waters intended for supply, the quality category refers to the water from the source, before treatment.

(2) For surface waters supplied for other uses than those listed in Table 1, the quality category shall be approved by the Water Management Authority.

(3) The quality of agricultural irrigation waters should correspond to STAS 9450-88.

(4) The quality of natural bathing waters should correspond to STAS 12585-87.

2.2 From the point of view of eutrophication processes, natural lakes and reservoirs are divided into:

- oligotrophic lakes;
- mesotrophic lakes;
- eutrophic lakes.

3 TECHNICAL QUALITY CONDITIONS

3.1 Watercourses in natural or managed situations, natural lakes, and reservoirs

3.1.1 Organoleptic determinands

Table 2

Determinand	Admissible value			Method of analysis
	Quality category			
	I	II	III	
Colour	colourless			x
Odour	odourless			x

3.1.2 Physical determinands

Table 3

Determinand	Admissible value			Method of analysis
	Quality category			
	I	II	III	
Hydrogen ion concentration (pH), pH units	6.5 to 8.5			STAS 6325-75

3.1.3.2 Specific chemical determinands

Table 5

Determinand, mg/dm³, max.			Admissible value			Method of analysis
			Quality category			
			I	II	III	
Silver			0.01			STAS 8190-68
Arsenic			0.01			STAS 7885-67
Barium			1.0			STAS 10258-75
Cadmium			0.001			STAS 7852-80
Cyanide			0.01			STAS 7685-79
Cobalt			1			STAS 8288-69
Chromium	trivalent		0.5			STAS 7884-67
	hexavalent		0.05			
Copper			0.05			STAS 7795-80
Anionic detergents			0.5			STAS 7576-66
Fluoride			0.5*			STAS 8910-71
Polycyclic aromatic hydrocarbons			0.0002			**
Mecury			0.001			STAS 8045-79
Molybdenum			0.05			STAS 11422-84
Nickel			0.1			STAS 7987-67
Pesticides	herbicides	triazine	0.001			**
		triazinone	0.001			**
		toluidine	0.001			**
	insecticides	organochlorine	0.0001			STAS 12650-88
		organophosphorus	not present			**
		organometallic	not present			**
	nitro-derivatives		not present			**
Lead			0.05			STAS 8637-79
Selenium			0.01			STAS 12663-88
Zinc			0.03			STAS 8314-87

* For surface waters in category I used for centralised potable water supply, the admissible maximum is 1.2mg/dm³

** Methods of analysis conform with the instructions of the National Water Council

3.1.4 Radioactivity

Radioactivity must comply with regulations in force.

3.1.5 Microbiological determinands

Table 6

Determinand	Quality category		Method of analysis
	I	II and III	
Total coliforms, number/dm^3, max	100000	-	STAS 3001-83

3.1.6 Indicators of eutrophication

Table 7

Determinand		Admissible value			Method of analysis
		Natural lake or reservoir			
		oligotrophic	mesotrophic	eutrophic	
Dissolved oxygen (% saturation)		min. 70	40 ... 70	max. 40	STAS 6536-87
Nutrients, mg/dm^3	total oxidised nitrogen	max. 0.3	max. 1	min. 1.5	STAS 7312-83
	total phosphorus	max. 0.03	max. 0.1	min. 0.15	STAS 10064-75
Phytoplankton biomass (undried), mg/dm^3		<10	>10, <20	>20	*

* Methods of analysis conform with the instructions of the National Water Council

NOTE

The remaining sections address the quality requirements for the Black Sea, and are not of direct relevance to this report

Translated by: S Brown
Date: 10 December 1992

Checked by: A Popescu
Date: 18 December 1992

DRINKING WATER QUALITY STANDARDS FOR ROMANIA

APPENDIX E Drinking Water Quality Standards for Romania

The data in this Appendix is abstracted from the official Romanian Institute of Standards document on drinking water: code STAS 1342-91. This document came into practice on June 1st 1991.

Parameter	admissible value	admissible value by exception
pH	6.5 to 7.4	8.5 (max)
E.C.	1000	3000
Aluminium	0.05	0.2
Ammonia	0	0.5
Nitrite	0	0.3
Calcium	100	180
R.Chlorine(free)	0.1 to 0.25	
R.Chlorine(total)	0.1 to 0.28	
Chloride	250	400
Copper	0.05	0.1
Detergent	0.2	0.5
Iron	0.1	0.3(with manganese)
Phosphate	0.1	0.5
Magnesium	50	80
Manganese	0.05	0.3(with iron)
Dissolved oxygen(min)	6	6
Residues min	10	30
max	800	1200
Sulphate	200	400
Hydrogen sulphide	0	0.1
Zinc	5	7
Toxic substances		
Arsenic	0.05	
Cadmium	0.005	
Chromium	0.05	
Flouride	1.2	
Mercury	0.001	
Nickel	0.1	
Lead	0.05	
Selenium	0.01	
Uranium(natural)	0.021	
Nitrates	45	
Pesticides	0.1 (single)	
	0.5 (total)	
Trihalomethanes	0.1 (total)	
	0.03(extractable in chloroform)	
Total coliforms	0	
Faecal coliforms	0	
Faecal streptococci	0	

All measurements are in mg/l except for pH, EC(μS/cm), pesticides (μg/L).

FISH SPECIES AS AN INDICATOR OF WATER QUALITY

Fish species as indicators of water quality

1 Very clean water

Alburnoides bipunctatus
Cottus gobio gobio
C.poecilopus
Eudontomyzon mariae
Gobio uranoscopus
Phoxinus phoxinus
Salmo trutta fario
Thymallus thymallus

2 In clean water or waters slightly polluted with organic matter from settlements or mild fertiliser run-off.

Barbus peloponnesius petenyi
Chondrastoma nasus
Gobio gobio obtusirostris
G.kessleri kessleri
Leuciscus cephalus
Perca fluviatilis
Rhodeus sericeus amarus
Vimba vimba
Zingel zingel
Z.streber

3 Relatively polluted waters with minor chemical contamination

Abramis ballerus
A.brama
Alburnus alburnus
Barbus barbus
Blicca bjoerkna
Cabitis elongatoides
Gobio albipennatus vladykovi
Lepomis gibbosus
Leucociscus idus
Pseudorasbora parva parva
Rutilus rutilus
Sabanejewia aurata bulgarica
S.aurata vallachica
S.aurata balcanica

4 In polluted waters

Carassius auratus gibelio

3. Refering to the point 6 Anex 1. the underline conclusion is not real. All six biological variables are monitored by next institutes wich has special programmes for IRONGATE Lake, Danube Delta and hole habitat of Danune river :

- Research Institute for Biology wich belong the Romanian Academey
- Danube Delta Biosphere Reserve Aria in Tulcea
- Research Centre for Biology in Brăila wich belong to the Bucureşti University
- Bucureşti University - Faculty of Biology

A synthetic image of water quality classification index from biological point of view is presented in fig.17, 18, 19 - Annex 1. This classification on saprobic areas is done taking in to account bioindicators organisms which are organised and listed in ICIM Metologic Instructions on ordes, gems and species.

Bibliography

Bibliography

No	AUTHOR	TITLE	YEAR - PLACE	NAME OF VOLU-ME	PUBLISHER
1	M.W.F.E.P.	ENVIRONMENT - Protection Strategy	1996 - Bucharest	same	Ed. “Monitorul Oficial Bucuresti”
2	E.P.D.R.B.	STRATEGIC ACTION PLAN FOR ENVIRONMENT PROTECTION	1994	same	Imprimerie “Francois” Brussel
3	M.W.F.E.P.	NATIONAL ACTION PLAN FOR ENVIRONMENT PROTECTION	1995 1996 - updating 1997 - updating	same	I.C.I.M. - Bucharest (REIE)
4	I.C.I.M. - R.A.A.R.	A SYNTHESIS IN THE FRAMEWORK OF “BUCHAREST DECLARATION” 1985 - 1997	1997	same	I.C.I.M. - Bucharest (REIE)
5	CARL BRO International M 1 - Project Team & MLIM - EG	“Transboundary assessment of pollution loads and trends”	Feb. 1998	Final Report OSS - 97 - 502900	CARL BRO International - DENMARK
6	National Commission for Statistics	The Statistical Yearbook of Romania	1994, 1995, 1996	same	National Commission for Statistics
7	National Water Authorities	Reference Material (Reports, Synthesis) on water consumption and water quality in Romania	1994 - 1997		R.A. “Apele Romane”
8	M.W.F.E.P.	The Environmental Factors in Romania	1994 - 1996	Report	I.C.I.M. - Bucharest (REIE)
9	Project EU/AR/102A/ 91	Nutrient balances for Danube Countries	1991 - 1997	Summary Report	EPDRB
10	M. Botzan and Team	The hydroamelioration actions for valorification of areas from Danube River Valley and Danube Delta	1991	-	Ministry of Agriculture, Institute for Irrigation and Drainage, Bucharest
11	R.A.A.R.	Water Cadastru of Romania	1994, 1995, 1996	3	R.A.A.R.
12	R.A.A.R.	Annual Report of Water Management	1994, 1995, 1996	3	R.A.A.R.
13	Project EU/AR/205/ 91	Removal of Phosphate from detergents in the Danube Basin	1991 - 1996	1	Senator Consult Budapest
14	Economic Commission for Europe	Protection and Sustainable Use of Waters, Recommendations to ECE Governments	1995	UN Water Series No.2 ECEP / CEP/10	

No	AUTHOR	TITLE	YEAR - PLACE	NAME OF VOLU-ME	PUBLISHER
15	International Commission for the Protection of the Rhine Against Pollution	Ecological Master Plan for the Rhine	1991		Salmon 2000
16	Mee, L. D.	The Black Sea in crisis : a need for concerted international action	1992	21, No 4	AMBIO
17	Regional Environmental Centre for Central and Eastern Europe	Use of Economic Instruments in Environmental Policy in Central and Eastern Europe, Case Studies of Bulgaria, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic and Slovenia	1994	same	
18	Regional Environmental Centre	Strategic Environmental Issues in Central and Eastern Europe, Environmental needs assessment in ten countries	1994	same	
19	United Nations	Guidelines for preparation of national Master Water Plans,	1989	same	UN - ESCAP
20	UN / CE Task Force for Monitoring and Assessment	Guidelines on Water Quality Monitoring and Assessment of Transboundary Rivers	1996	1, 2, 3, 4, 5,	
21	UN / CE Task Force for Monitoring and Assessment	GEMS - Water Operational Guide			

Acknowledgements

I would like to thank to the expert team from Water Quality Monitoring and Data Management from I.C.I.M. (REIE) Bucharest, for their co-operation and support in gathering, organising and reporting the huge amount of data and information requested, for their willingness and hard work in printing, drawing and computerising the respective data.

I would also like to thank to the very patient and opened support of the colleagues from RAAR (National Water Authorities) in the very hard work improved by the collection of all data and information which were not always in the very easy accessible data bases.

I would also like to thank to the people from the Ministry of Water, Forests and Environmental Protection for supporting me, and other team members with their wisdom knowledge and support.

The last thanks, but not the least, to the I.C.I.M. (REIE) Managers team for acceptance and patience in the difficult moments, which sometimes have appeared, as a result of hardworking, stress.

Part D

Water Environmental Engineering

Table of Contents

Annexes

List of Tables

List of Abbreviations
on Water Environmental Engineering

AAFS	Academy of Agriculture and Forestry Sciences
AEWS	Accident Emergency Warning System
BAT	Best Available Technique
BOD_5	Biochemical Oxygen Demand in five days
COD	Chemical Oxygen Demand Using Potassium Dichromate
EEC	European Economic Commission
EIA	Environment Impact Assessment
EPA	Environmental Protection Agency
EPS	Environment Protection Strategy
EU	European Union
GD (GO)	Government Decision (Order)
GIS	Geological Information System
ISIC	International Standard for Industrial Classification
LEP	Law of Environment Protection
LW	Law of Waters
MAF	Ministry of Agriculture and Food
MAV	Maximum Allowable Value
ME	Mining Extraction
MH	Ministry of Health
MIC	Ministry of Industry and Commerce
MO	Ministerial Order
MP	Ministry of Privatization
MPWTP	Ministry of Public Works and Territory Planning
MT	Ministry of Transportation
MWEP	Ministry of Water, Forest and Environmental Protection
N	Nitrogen
NA	Not Available
NCS	National Commission for Statistics
NEAP	National Environmental Action Programme
NS	Not Significant
OMR	Official Monitor of Romania
P	Phosphorous
REIE	Research and Engineering Institute for Environment
RS	Romanian Standard

SAP for DRB	Strategic Action Plan for the Danube
SS	Suspended Solids
TDS	Total Dissolved Solids
TNWP	Technical Norms of Water Protection
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
WWT	Wastewater Treatment
WWTP	Wastewater Treatment Plant
l/s	Liters per second
m^3/s	Cubic meters per second
min.	Minimum
p.e.	Population equivalent

Glossary
on Water Environmental Engineering

This glossary explains key terms as they have been used in this document.

Best Available Techniques (BAT)	Latest stage of development (state of the art) of processes emphasizing the use of non-waste technology, of facilities or of methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste. It is applied to industrial and other point sources of pollution
Best Environmental Practice (BEP)	Application of the most appropriate combination of sectoral environmental control strategies and measures. It is applied to non-point sources of pollution such as agriculture
Biochemical Oxygen Demand (BOD)	A measure of the quantity of oxygen used in the biochemical oxidation of carbonaceous and nitrogenous compounds in a specified time, at a specified temperature and under specified conditions. The standard measurement is made for five days at 20^{o}C and is termed BOD_5. BOD is an indicator of the presence of organic material in the water.
Chemical Oxygen Demand	A measure of the quantity of oxygen used in the chemical oxidation of compounds in a specified time, at a specified temperature and under specified conditions
Convention international	A form of treaty or international agreement concluded between Contracting States in written form, establishing rules expressly recognized by the Contracting States and governed by international law
Danube Environmental Programme	A programme of cooperation established by Danubian countries, bilateral and multilateral donors, international organizations and NGOs
Declaration	A non-binding statement of policy by a government or group of governments (e.g. Odessa Declaration)
Discharge	The flow rate of a fluid at a given instant expressed as volume per unit of time (see stream discharge)
Economic instruments	Instruments of environmental policies in which a change in technology, behavior or products is encouraged through financial incentives (either subsidies, taxes, price differentiation or market creation)
Emission	Release of substances from a source
Emission limit	A numerical limit set on the emissions of a substance from a source
Environmental quality standard	The requirements which must be fulfilled by a given environment or part thereof (e.g. air, surface water, groundwater)

Erosion	A natural physical process where either wind or rain and surface water run-off loosen and remove soil particles from land surfaces which are often deposited in rivers and lakes
Eutrophication	The process of over-fertilization of a body of water by nutrients producing more organic matter than the self-purification processes can overcome
Fecal coliforms	Bacteria indicative to the digestive tract of human beings and animals. Indicative of domestic sewage and a high risk of disease if not controlled or eradicated
Fees	A charge for professional services
Fertilizer	Any substance containing calcium, nitrogen, phosphorous, potassium and micro-compounds use on land to enhance the growth of vegetation; it may include livestock manure, the residues from fish farms and sewage sludge. A component necessary for plant growth
Fines	See economic instruments
Groundwater	All subsurface water
Harmonization	The process by which governments bring their legislation and policies into compatibility with each other
Hazardous substances	Substances which have adverse impacts on living organisms, e.g. toxic, carcinogenic, mutagenic, teratogenic, harmful for the environment
"Hot spot"	A local land area, stretch of surface water or specific aquifer, which is subject to excessive pollution and which requires specific action to prevent or reduce the degradation caused
Immission	The concentration of pollutants in a surface water (see environmental quality standards)
Integrated water management	A participatory planning, decision making and implementation process that takes into account the specific water quality and quantity requirements of all users and uses
Joint ventures	Economic activities undertaken by partners with joint involvement in the financial, managerial and production process aspects of the firm(s); partners may be from different sectors e.g. private firms, government ministries and financial institutions
Landfill	Disposal of solid waste materials at land based sites
Load	The quantity of a substance or material carried or transported by a river (and its associated hydrological processes)

Microbiological contamination	Pollution with microorganisms - such as viruses, bacteria, protozoa, etc. – that might cause diseases in human or animals
Micro-pollutants	Organic or inorganic substances such as PCB, dioxin, cadmium, mercury, etc. that will create negative health impacts or adverse ecological changes even present in low concentrations
Mineral oil	One of the products of fossil hydrocarbons
Nitrate	NO_3
Nutrient	A substance, element or compound necessary for the growth and development of plants and animals
Organic farming	Agriculture production system where each farm is considered as a whole where all components – soil minerals, organic matter, micro-organisms, insects, plants, animals and human - interact without the use of synthetic fertilizers
Penalty	A punishment (e.g. a sum of money) for the violation of a law, rule or contract
Pesticide	Substance that kills organisms injurious to man or to the plants and animals upon which he depends for food, fibre and shelter
Point source, non-point source	A localized discharge of pollutants (e.g. from an industrial plant); diffuse pollution in a catchement area (e.g. agricultural run-off)
Pollution	The discharge, directly or indirectly, of compound from sources into the environment in such quantity as to pose risks to human health, living resources or to aquatic ecosystems, damage to amenities, or interference with other legitimate uses of water
Population equivalent	No uniform definition exists. Used as a measure of water pollution load based on figures of an average "pollution production" of one person in one day. Often used figures are: (BOD_5) 54 g per day; total nitrogen 3200 g per year and total phosphorous - 900 g per year
Primary treatment	A one-step treatment process of urban wastewater by a physical or chemical process involving settlement of suspended solids
Programme Coordination Unit (PCU)	The Unit with a specific coordinating role established under the Environmental Programme for the Danube River Basin
Rehabilitation	Improvement of a visual nature to a natural resource or, putting back infrastructure into good condition or working order

Restructuring	Any change in the organization and method of financing an entity with responsibility for environmental management or with the potential to emit pollution into the environment
Secondary treatment	Treatment of wastewater by a process generally involving biological treatment with a secondary settlement or other process
Secretariat International	A formal operating Unit established under the Danube River Protection Convention
Sediment	Solid fragment material originating from weathering of rocks or by other processes, deposited by air water or ice, or that accumulated by other processes such as chemical precipitation from solution or secretion by organisms
Species	Group of related individuals with a common hereditary morphology, chromosomic number and structure, physiological characteristics and way of life, separated from neighboring groups by a barrier, which is generally sexual in nature, and occupying a definable geographic area
Stakeholder	A person who holds a sum of money deposited by the buyer in a transfer of ownership of land or a building; the deposit will be paid to the seller only if the buyer agrees, and vice versa. Or, a person, organization or subgroup of an organization that have a common interest in a project or activity
Sustainable Development	The use of resources in such a way that the possible needs of future generations are not seriously affected
Tariffs	A tax imposed on a good imported in a country/ It may be specific (× $ per good) or *ad valorem*, which means a certain % of the value of the imported goods
Tax	A tax is a sum of money that a local or national authority imposes on incomes (income tax), properties (property tax), sales (sales tax), profits (profit tax) or the creation of waste and/or pollution waste (waste/pollution tax). Taxes can be specified as a rate (e.g. income, profit or sales taxes are generally × % of taxable income, profit or sales) or as a fixed amount for a certain unit (e.g. pollution taxes can be expressed as × $ per ton of waste or pollutants emitted in the air, water
Tributary	A river which ultimately flows into the Danube River
Water charges	See Fees
Water quality criteria	A scientific requirement on which a decision or judgement may be based concerning the suitability of water quality to support a designated use
Water quality standard	See Environmental quality standard

Water uses	Water used a number of purposes: water supply for drinking water. irrigation, and industry (including food production), as a recipient of wastewater from the public sector, industry and agriculture, for transport, for energy production, as flood protection, for recreation, river and other ecosystems, and bio-diversity; often referred to as "functions"
Water users	Public and municipal sector, agriculture and fisheries, industry, transport and energy

1. Summary

1.1. National Targets and Instruments for Water Pollution Reduction

The policy of environmental protection in Romania is supposed to have the following strategic objectives:

- development, preservation and use of natural capital sustainably, firstly of natural renewable resources;
- permanent restructuring based on ecological principles and extension of physical capital according to environmental conditions, the former economic stage and conditions of population health;
- development of human capital.

The National targets for reduction of water pollution are:

- Reducing nitrates, organic substances including pesticides, taking as a reference year 1989;
- Decreasing the amounts of heavy metals and highly degradable organic compounds in sediments.
- Reducing BOD_5, N and P emissions from wastewater treatment plants;
- Controlling "diffuse" pollution.

The targets for water pollution reduction are quantified in chapter 2, as they are provided in the National Environmental Action Plan (NEAP). In 1995 the NEAP was approved by the Government and some adjustments to update this document are analyzed, at present. All planned measures included in the NEAP are in accordance with the European Strategic Action Plan, Romanian Strategy for Water Management and the Strategic Action Plan for the Danube River Basin.

Conceptually the strategic directions, which are followed up with the concrete structural and non-structural projects presented in of this report, are:

- gradual development of municipal wastewater treatment capacities;
- gradual development of wastewater treatment in agricultural sector;
- gradual development of wastewater treatment in industrial sector;
- integrated management of water resources;
- abatement of risks related to accidental pollution and natural calamities;
- ecological reconstruction.

All these issues have been regarded in the transboundary context.

The main instruments intended to be used for achieving the targets are:

- legislation (by harmonization with EU legislation),
- economic instruments,
- technical measures (by implementing the structural and non-structural projects),
- education and public participation,
- international co-operation;
- bi- and multilateral countries arrangements.

1.2. Measures for Reduction of Water Pollution

There are 50 projects, which are to be implemented in short term (high priority). These projects are listed in Table 3.2 (municipality hot spots - 15 projects), Table 3.3 (agricultural hot spots - 19 projects) and Table 3.10 (industrial hot spots - 16 projects). The distribution of the high priority projects on structural and non-structural ones is shown in Table 1.1.

Table 1.1. The distribution of high priority projects for water pollution abatement

Sector	Number of Projects		
	Structural	Non-structural	TOTAL
Municipal Hot Spots	8	7	15
Agricultural Hot Spots	10	9	19
Industrial Hot Spots	14	2	16
TOTAL NUMBER OF PROJECTS	32	18	50

The short-term (high priority) projects have been supposed to be referred to the year of 2000.

A priority index has been considered for two types of projects: A - Projects supported financially by the State Budget and B - supported by the title holders. Further classification of the projects proposed is related to the subject that is better to say, the "nature" of the measure, which is to be approached.

These categories of measures are itemized below:

- Protection of surface and ground water quality,
- Protection of soil quality and biodiversity conservation.
- Legislation and institutional projects to achieve EU requirements,
- Economic analysis and EIA,
- Legislation, institutional development and regulations,

The MWFEP classification of the projects includes the following criteria:

- Projects which are related to the EU legislation (applied directly),
- Projects related to the adoption of "Aquis" Programme,
- Pollution reduction,
- Privatization process,
- Hot spots,
- Sensible zones (e.g. Danube River Delta, Black Sea, Danube River),
- Reporting the requirements of international conventions,
- Other subjects pertaining to the adherence to EU process (e.g. civil society participation).

A comprehensive list of projects classified by ranking in high, medium and long-term implementation is presented in Table 5.2.

The total cost of implementation of high priority projects has been estimated to be 297 million USD. Out of this amount, 27 percent are provided for municipal hot spots, 14 percent - for agricultural hot spots and 59 percent - for industrial hot spots.

The actual exchange rate of 8480 lei/USD (May 1998) has been taken into account.

The distribution of funds to be allocated for structural and non-structural projects is shown in Table 1.2.

Table 1.2. Fund distribution on high priority projects (percentage)

Section	Type of project	
	Non-Structural	Structural
Municipal hot spots	3	97
Agricultural hot spots	20	80
Industrial hot spots	0.6	99.4
TOTAL	4	96

Generally one can say that in Romania there is a certain institutional capacity in the field of preparation of structural projects for water pollution reduction and less experience in preparing non-structural projects. There are about 18 000 higher education employees in engineering sciences in Romania [6].

In each county there is at least a designing institute and smaller units of consulting and designing works in the field of water pollution reduction; they are spread all over the country, and there are more and more, with the privatization process.

The main institute specialized in projects for WWTPs is PROED - located in Bucharest.

Besides REIE is a reference institute (comprising 460 employees) working in preparing non-structural projects.

It can be said that planning according to "Best Available Techniques" and "Best Available Practice" presents some difficulties due to the lack of information and due to the financial problems.

Anyhow, one cannot help telling that there are not sufficient capacities of institutions for preparation of project documents for bankable projects. The following external support is needed for the following items:

- Non structural projects;
- Know how technologies (BAT), in advance water treatment unit operations (e.g. tertiary treatment of wastewater, sludge de-watering by tangential filtration, reverse osmosis, etc.);
- Institutional capacity building (e.g. rural water supply and sewage systems);
- Tendering process in international projects;
- Designing the monitoring networks;
- Building production companies for water treatment equipment;
- Legislation (harmonization of EU legislation);
- Training (e.g. laboratory analysis methods);
- Assistance for procurement of new equipment from outside the country.

Romania has a good potential for the construction of treatment plants for municipal and industrial wastewater. Although the former big construction companies were split with the privatization process, one cannot say that the potential construction capacity disappeared. There are construction companies in each county, which could fulfill the requirements for every project implementation. Co-operation with foreign companies is needed for training with the BAT, new equipment, for procurement of special equipment of wastewater treatment plants from other countries. Besides the other issues mentioned in the previous paragraph are subjects for co-operation with foreign companies.

Special electric regulation items, as well as laboratory analysis equipment are needed. In situ measurements devices are necessary (e.g. flowmetres, oxygenmetres). There is a strong need of measurement equipment in existing and future wastewater treatment plants.

Alarm systems, sensors and other components of authorized systems are also needed.

Some of the companies have started building their own environmental monitoring networks. Anyway it must be pointed out that the main requirements are related to the measuring equipment. Even important research laboratories are complaining about the lack of technical measuring equipment. In spite of the fact that some of the manufacturing plants have changed their working profile, producing pollution control equipment (e.g. IAUC Bucharest, UNIO-Satu Mare, Bistri¡a - Nåsåud), most Romanian companies are looking for the Western European market, being sure about the quality of their products. There are initiatives in this field of activity and more and more companies are already known all over the country.

1.3. Expected Regional and Transboundary Effects of Actual and Planned Measures

It must be realized that all the rivers in Romania have to be regarded in the transboundary context (99 percent of the total flow is discharged into the Danube River).

Taking the year of 1989 as a reference year, it might be stated that the quality of surface water will be improved, by passing about 8-10 percent of the rivers from the third or degraded water category to higher quality category, [8].

By implementing the short term projects (high priority), 28.8 kilotones of BOD_5, 2.8 kilotones of nitrogen and 0.62 kilotones of phosphorous per year will be reduced and will not be discharged in the Danube River basin.

By implementing the medium term projects the quantity of pollutants mentioned above will be diminished almost two times, [18]. According to the calculations made by the experts involved in this report 24 percent of nitrogen, 59 percent - phosphorous and 89 percent BOD_5 will be removed, implementing the short-term projects proposed.

Almost all heavy metals reduction in the wastewater discharged in rivers is referred to the transboundary rivers, by implementing the short-term projects proposed. The total amount of Lead (310 tones per year), Zinc (84.5 tones per year) is discharged in Cric River and by implemented the short-term project B I.1 - 12 (see Table 4.1), 97 percent and 99.4 percent will be removed, respectively.

About 45 percent of phenols estimated to be discharged by the companies taken in view with the short-term proposed are discharged in the transboundary rivers, while cynides almost one hundred per cent is discharged directly into the Danube River. By implementing the projects proposed about 50 percent of cynides and 94 percent of phenols are expected to be reduced.

Additional amount of heavy metals, cynides, phenols and persistent organic substances will be reduced by implementing the ecological reconstruction projects but the amount of substances removed could not be quantified due to the lack of data.

It is difficult to quantify the existing microbiological pollution due to the lack of data. Only the most important WWTPs (more than 100 000 inhabitants) are provided with specialized laboratories and the local water or environmental authorities do not measure microbiological characteristics of effluents. Only local health authorities inspect, but scarcely the microbiological impact on the natural water resources.

The lack of equipment, reagents and specialized personnel are also reasons why not the microbiological contamination is not monitored.

Anyhow, one can say that more than 80 percent of the existing microbiological contaminants will be reduced from the effluents of the social and economic activities related to the short-term projects proposed in the NEAP.

2. National Targets and Instruments for Reduction of Water Pollution

2.1. Actual State of and Foreseeable Trends in Water Management with Respect to Water Pollution Control

In the last 20 years a tendency of increasing of pollution indicators of the Danube River has been observed, though, these indicators are not yet above the allowable limits of quality according to Romanian standards, [1]. Organic substances and nutrient discharges have caused the increasing of phytoplancton concentration and consequently, the increment of oxygen deficit in water, [1].

The Danube River has a high content of pollution originally from the upstream riparian countries; due to upstream pollution, especially with organic matter, nitrates and phosphates, the waters of the Danube River fall, at their entrance in Romania into the IInd quality category, [2].

Development of navigation and harbor activities, as well as fertilizers and pesticides use in agricultural sector caused unfavorable conditions of species living in the Danube Delta, [1].

Out of the whole length of the inland rivers of 20 862 km which are measured, about 53 percent, that is 11 162 km were of Ist category, about 30 percent, that is 6 285 km – IInd category, about 6 percent, that is 1 171 km – IIIrd category and about 11 percent, that is 2 238 km – degraded waters, in 1996, [21]. In Table 2.1 the main inland rivers sectors with degraded waters are indicated.

Table 2.1. The degraded sectors of the main inland river waters, [21]

RIVER BASIN	RIVER	SECTOR OF THE RIVER	LENGTH (km)
SOMES	SASAR	E.M. BAIA SPRIE – LAPUS RIVER	19
MURES	ARIES	CAMPENI – MURES RIVER	117
	TARNAVA MARE	COPSA MICA – MURES RIVER	59
	TARNAVA MICA	TARNAVENI – MURES RIVER	64
	AMPOI	ZLATNA – MURES RIVER	39
	GEOAGIU	BALSA – MURES RIVER	23
BEGA - TIMIS	BEGA VECHE	BEREGSAU – BOUNDARY	27
JIU	AMARADIA	BUSTUCHIN – JIU RIVER	62
OLT	BARSA	ZARNESTI – OLT RIVER	57
	GHIMBASEL	RASNOV - BARSA RIVER	31
	CIBIN	SIBIU - HARTIBACIU RIVER	18
VEDEA	COTMEANA	RACHITELE - VEDEA RIVER	73
ARGES	DAMBOVITA	GLINA – ARGES RIVER	31
IALOMITA	IALOMITA	CRICOVUL DULCE – DANUBE RIVER	257
	PRAHOVA	DOWNSTREAM BRAZI – IALOMITA RIVER	94
	TELEAJEN	IAZUL MORILOR RIVER – PRAHOVA RIVER	30
SIRET	BARLAD	DOWNSTREAM GHIDIGENI – SIRET RIVER	46
PRUT	JIJIA	DOWNSTREAM DOROHOI – PRUT RIVER	257
	MILETIN	FLAMINZI – JIJIA RIVER	50
	BAHLUI	BELCESTI – JIJIA RIVER	61

On the short term, it is predicted that 79 percent of the inland rivers length will remain with the same quality while 13 percent of the rivers (by length) will have the quality improved and other 8 percent – worse, [21].

In 1996 the Danube River water quality, classified according to the RS 4706-88, is presented in Table 2.2.

Table 2.2. Quality of the Danube River water in 1996, [21]

QUALITY CATEGORY	NUMBER OF SECTIONS	PERCENTAGE OF LENGTH
I	8	66.7
II	4	33.3

1-2 quality indicators were above the limits of the IIIrd category in the following zones on the Danube River, [21]:

- BAZIAS and CHICIU - SILISTRA (P):
- GRINDU - RENI (P and Zn);
- VILCOV - PERIPRAVA (Zn);

Annex 1 comprises a table showing the pollution sources, with the pollutant exceeding maximum allowable limits of concentration as well as the industrial sector causing pollution on the main river in Romania.

As it could be seen the major pollution problem on the rivers in the Danube Basin are caused by:

- Non ferrous metal industry;
- Chemical industry;
- Pulp and paper industry;
- Extraction (mining) activities.

After 1990, due to the reduction of economic activities a downward trend of waste production has been shown. In 1996, 53.7 million tons industrial waste, 6.7 million tons – municipal waste and 3.8 million tons agricultural waste were produced. For the same period 49.5 million tones of solid waste were disposed off from the mining sector. The amount of waste from the mining sector had decreased from 288 million tones, in 1995 to 49 million tones, in 1996 because of diminishing the mining activities.

30 percent of the overall industries waste disposal sites are located inside the urban area and 56 disposal sites – on the river banks, without any specific facilities, [5].

About half of the population of Romania that is 10 637 400 inhabitants were connected to the sewerage systems, in 1989, [6]. The total municipal wastewater flow estimated at the level of 1989 was 89.8 m^3/s.

Table 2.3 shows the population nutrient load on the inland rivers and Danube River, [7]. The load values have been estimated taking into consideration the number of inhabitants connected to the sewage collection systems, the existing efficiencies of WWTPs and the emission factors: 900 g P/(inh.day), 3200 g N/(inh.day) and 54 g BOD_5/(inh.day).

2.2. National Targets for Water Pollution Reduction

The national on going environmental programmes and projects are based on the provisions of the existing Environment Protection Strategy (EPS) and the National Environmental Action Program (NEAP). Although these documents had been approved by the Government at the beginning of 1996, due to some changes, taking into consideration the achievements of the short-term projects, NEAP is now discussed again to be updated.

The actual NEAP may be regarded as an approach specific for Romania, within the framework document adopted by the Conference of Ministers - Luzern – Switzerland, April 1993 and the Strategic Action Plan for Danube River Basin adopted according to the Bucharest Declaration (1994). A report on the achievements within the framework of NEAP was present at the Conference held in Sofia towards the end of 1995.

NEAP comprises 296 priority projects out of which 102 fall into short-term category projects, while 194 are included in the medium term projects.

Initially, 1200 projects had been identified of which their achievements had been evaluated at 2.5 billion USD.

The percentage distribution of the 102 short-term projects is as it follows:

(i) legislation, institutional development – 34 percent;
(ii) air quality protection – 24 percent;
(iii) surface and ground water quality protection – 22,5 percent;
(iv) soil protection, agriculture bio-diversity preservation – 12.4 percent;
(v) waste management, urban engineering and transport – 4.9 percent;
(vi) economic analysis – 1.9 percent.

The industry has nearly 40 percent of the number of short-term projects, then comes population – 12.7 percent and agriculture – 8.8 percent. As mentioned above, an important attention has been given to the institutional sector (34 percent) from which all the complex short-term issues derive in connection with the harmonization of Romanian legislation with those currently applied in EU. The PHARE institutional programs, especially those which are being carried out, have been taken into account.

The priority issues identified, using “the method of logical framework approach”, have been taken into account to establish the specific objectives which are to be reached by using concrete actions and projects included in NEAP.

The objectives for reducing of water pollution, as they are presented in NEAP, are:

- Reducing nitrates, organic substances, including pesticides, taking as a reference year, 1989.
- Decreasing the amounts of heavy metals and highly degradable organic compounds in sediments.
- Reducing BOD_5, N and P emissions from the wastewater treatment plants (WWTPs)
- Controlling the “diffuse" pollution.

As concerns the surface water protection it is estimated that compared with the level of 1989 the quality of surface water will be improved diminishing by 8-10 percent the third category and degraded surface waters.

Simultaneously, the global emissions of pollutants will be reduced as it is shown in the Table 2.4.

Table 2.3. Main Pollutant loads issued by population of Romania in the Danube River basin

RIVER BASINS	POPULATION CONNECTED TO SEWAGE SYSTEM (thousands)	WASTE WATER FLOW DISCHARGED / OF WHICH TREATED (l/s)	TOTAL N (tons/year)	TOTAL P (tons/year)	BOD_5 (tons/year)
DISCHARGED ON THE ROMANIAN TERRITORY					
1. JIU	652.8	5,349 / 1,148	1,730.0	486.6	12,314.0
2. OLT	1,043.6	7,349 / 5,142	1,470.0	413.5	17,691.0
3. VEDEA	111.0	865 / 848	76.6	21.6	1,759.0
4. ARGE[a]	2,205.6	19,003 / 1,649	6,568.0	1,847.0	42,718.0
5. IALOMIºA	848.5	8,412 / 5,221	1,367.0	384.5	14.648.0
6. SIRET	814.2	7,639 7,251	627.0	176.3	13,001.0
7. PRUT	997.3	9,471 / 1,165	2,877.0	809.2	19,173.0
TOTAL ON THE INLAND waters discharging in the Danube River on the Romanian territory	6,673.0	58,088 / 22,424	14,715.6	4,138.7	121,304.0
DISCHARGED DIRECTLY INTO THE DANUBE RIVER					
8. DANUBE	950.4	6,859 / 1,622	2,466.0	639.5	17,846.0
TOTAL DISCHARGED IN THE DANUBE on the Romanian territory	950.4	6,859 / 1,622	2,466.0	639.5	17,846.0
DISCHARGED INTO THE BLACK SEA					
9. DOBROGEA	437.2	4,299 / 2,577	728.1	204.8	7,584.0
TOTAL DISCHARGED INTO THE BLACK SEA	437.2	4,299 / 2,577	728.1	204.8	7,584.0
DISCHARGED OUTSIDE ROMANIAN TERRITORY					
10. SOME[a]	760.7	5,782 / 4,424	944.2	265.6	12,699.0
11. MURE[a]	1,024.6	7,799 / 6.004	1,259,0	354.2	17,085.0
12. CRI[a]	306.9	3,046 / 1,870	499.7	140.6	5,306.0
13. BANAT	484.6	3,960 / 3,052	594.6	167.2	8,079.0
TOTAL DISCHARGED OUTSIDE ROMANIAN TERRITORY	2,576.8	20,587 / 15,350	3,297.5	927.6	43,169.0
TOTAL DISCHARGED in the rivers and Black Sea	10,637.4	89,833 / 41,973	21,207.2	5,910.6	189,903.0

Table 2.4. Reduction of pollutant emission – targets on short and medium terms, [8]

INDICATOR	ESTIMATED REDUCTION (kilotons per year)			REDUCTION EXPRESSED IN % AS COMPARED 1989 (Short term)
	TOTAL	SHORT TERM	MEDIUM TERM	
BOD_5	87.20	28.80	58.40	15
N_{total}	8.53	2.80	5.73	10
P_{total}	1.87	0.62	1.25	15

2.3. Technical Regulations and Guidelines

The Law of Water – Nr.107/1996 provides the framework of technical regulations for water pollution reduction and water management in Romania. Besides the Law of Environmental Protection – Nr.137/1995 comprises special provisions for water protection (chapter III – section 1, Art.35 – Art.39).

According to the existing legislation no discharge into water is permitted without authorization.

The existing technical regulations, TNWP 001 and 002 are used to set license conditions.

There are also standards regarding water quality related to water uses as it follows:

RS 1342/1984 - Drinking Water Quality
RS 9450/1980 - Water Quality for Irrigation
RS 12585/1987 - Water Quality Requirements for Swimming Pools
RS 20018/1968 - Water Quality for Steam and Hot Water Generators
RS 790/1961 - Water Quality for Concrete and Grout Preparation

Legal instruments on national level for monitoring, control, remedy is:

- Laws
- Government Decisions (Orders)
- Ministerial Orders
- District Authorities Decisions
- Standards
- Regulations approved by the central or local authorities.

A list of the existing acts concerning water pollution control on the national level is presented in Annex 2.

Comparing the existing regulations with the EU directives, the following issues are pointed out:

- In TNWP 001 there is not a complete list of groups of substances considered to be dangerous as it is presented in List I from the Annex of CD 76/464/EEC;
- There are no standards or specific regulations for wastewater discharging into groundwater, lakes or sea;
- There are no regulations comprising the quality requirements for groundwater as it is presented by 80/68/EEC, or for stating ecological quality of water as it is proposed by 93/680/EEC.

2.4. Expected Impacts of EU – Directives in Water Pollution Control

The Directive 91/22 EEC is to give the most important impact in relation to national policies and regulations.

Mainly, the Directive mentioned above says that all localities with more than 2000 population equivalent should be provided with WWTPs comprising secondary (biological) treatment and whenever the eutrophication occurs, a tertiary treatment is to be provided. The respective Directive is supposed to be achieved in the period of time 1998 – 2005. According to the same Directive the effluent of each municipal WWTP should not exceed 20 mg BOD_5/l.

Out of 257 existing WWTPs – 66 plants should be necessary to be provided with secondary treatment. The corresponding water flow to be treated is 13057.8 liters per second. In addition, the WWTP of Bucharest is to treat 18 000 liters per second; this plant is under construction and due to the lack of funds a delay in finishing the works is expected.

Another consequence of the Directive 91/22 EEC is the new necessary investments to provide tertiary treatment for the effluents, which might cause eutrophication phenomena. It is estimated the about 11 cubic meters per second of water abstracted for municipal water supply is affected by eutrophication effects and the existing water treatment facilities are not proper for preparing a suitable quality of drinking water, [9].

It must be mentioned that there is no tertiary treatment in any existing WWTP in Romania, at present.

In conclusion, the impact of the EU Directive mentioned above on the existing situation in Romania might be expressed as it follows:

- Additional financial efforts;
- Institutional aspects;
- Legislation.

Concerning the financial efforts it is estimated that about 1300 billion lei will be necessary to be invested in order to provide the existing WWTP with secondary treatment. The estimation of the necessary investment is based on the flow of 13057 liters per second and a specific cost of 100 million lei per liter per second.

About the same amount of money should be invested for the tertiary treatment.

More space will be required for additional amount of sludge resulted from the process and more specialists will be required to fulfill the necessary operations. Anyhow a comprehensive study to evaluate the financial effect of applying the respective Directive is necessary.

Concerning institutional aspects some measures for training the personnel operating the plants is necessary. In fact, a training center for the operation of WWTPs is necessary, even without modernizing the existing technologies.

The domestic legislation is to be approximated with the EU legislation continuously taking into consideration the aspects shown in paragraph 2.3 and also, the provisions of Directive 91/22 EEC. Anyhow, the main problem with the new legislation is the compliance. A command does not necessarily means compliance. That is why the enforcement should be considered by a realistic approach, realizing the applicability by taking into consideration the following aspects:

- financial implications;
- public attitude;
- education;
- technical equipment and technologies available.

According to the existing situation one cannot say that the required achievements of EU Directives could be regarded as realistic to be solved by the year 2005, using the national financial resources, exclusively. Besides, the term is too short to solve technically all the problems mentioned above.

2.5. Law and Practice on Water Pollution Control

The responsibility to prepare legislation acts in taken by the Ministry of Waters, Forests and Environmental Protection (MWFEP), the Ministry of Public Works and Territorial Planning, as well as the Ministry of Health. The Government and the District Authorities prepare administrative regulations.

Guidance documents are generally prepared by the National Research Institutes and finally, approved by the Ministries these institutions are subordinated to.

Industrial licenses for emissions are issued, finally by the local environmental authority that is Environmental Protection Agency. To issue the permits these organizations require the permit of the authority of the River Basin where the location of the respective industry belongs to.

Besides in order to receive the license for emission, the mayoralty permit is required.

There are special situations mentioned by the legislation acts in which the Government Decision is needed.

Inspection of industrial facilities are made by the following persons:

- On the whole territory of Romania:
  - The inspectors from the MWFEP;
  - The directors of the Autonomous Authority “APELE ROMANE”;
- On the regional scale:
  - The directors of the regional water authorities pertaining to the National Water Authority “APELE ROMANE”, as well as the persons nominated by them;
- Other persons nominated by the Minister of MWFEP;
- Persons nominated by the Ministry of Health;
- Persons nominated by the Mayor of the respective zone or by the Prefecture;
- Officers subordinated to the Ministry of Internal Affairs (MI);
- Persons nominated by the Sanitary Police.

If there is any grievance from the person accused the local court is in charge to solve the problem.

The Environmental Protection Agency (EPA) is the last authority, which has to license an industrial discharge.

The communication between the authorities involved in the licensing process is established by the existing regulations: the environment authority is not allowed to give the permit without the water authority and territory planning authority permits.

The main problems with the administrative framework are:

- possible parallel work,
- tackling public participation problem.

The technical documentation to be presented to get the license must contain:

1. The address requiring the license;
2. The presentation of the respective activity (according to the provisions of MO No.277/1997);
3. The owner act or the act proving the renting of the respective land;
4. The lay out of the plant accompanied by the urban certificate;
5. The contract of renting the land (if it is the case);
6. The approval of the Public Work Authority for land renting (if it is the case);
7. Approvals of the following authorities:
    - Water Distribution Authority (RGA) to supply drinking water;
    - Water Management Authority (RAAR, if it is the case);
    - The Waste Disposal Authority specifying where would be the location for waste final disposal;
    - Health (veterinary) agreement (if it is the case);
    - Emission evaluation according to the methodology presented in the Annex of Order No.462/1993;
    - EIA according to MO 125/1996 and MO 184/1997 and LEP;
    - Public Agreement (neighbors declaration or any other form which prove the agreement of population living around the respective industrial facility) according to MO Nr.282/1977.

There is not a certain period of time in which the license is valid. The license is to be renewed whenever EPAs consider to be necessary (for instance in the case of expanding or change of technology, etc.).

The industrial facility is obliged by law to require license modification whenever the quantity or quality of the substance discharge to environment are to be modified.

The environmental authority may change the conditions provided in the existing license under the following circumstances:

- environmental changes (e.g. change of functions of the receiving river);
- quality standards changes;
- any modification of technology applied;
- expanding;
- consumers preference change;
- other reasons.

TNWP 001 and TNWP 002 published in OMR Nr.303 and Nr.327/1997 are used to set license conditions.

TNWP 001 establishes the maximum allowable limits regarding waste water quality to be discharged into the natural water resources, while TNWP 002 indicates the limits for wastewater to be discharges into the public sewerage systems.

According to the GD published in OMR-N.212 in 1992 all standards concerning life and environmental protection are obligatory for all Romanian citizens (Art.19 of the above mentioned Decision). Every discharge is controlled by the existing standards and norms.

Generally, pollution control requirements in the license are not more stringent than the legal standards.

Other factors taken into account when setting requirements are:

- Human health risks;
- Existing vestiges of historical heritages or natural preserves;
- Public preference;
- Realistic requirements concerning the possible payable costs;
- National tradition conservation.

The local environmental consideration are taken into account by means of the EIA studies which recommend (in the final chapter) the actions to be taken to alleviate the effects of the future or existing activity.

The relationship between the conditions of discharges to air, water and land are established by means of EIA studies in the following way:

- air – water, by deposition of suspended particles and by acid rains;
- soil – water, by solid and liquid waste disposal;
- water – water, by wastewater discharge.

NGOs and the public are involved beside the licensing authorities. The way of involving is by letter of contest sent to the MWFEP or, directly to the Prime Minister or to the Parliament, or by means of “Mass Media”.

The license conditions are not negotiated with the discharge. Only via MWFEP the discharge may complain about the wrong conditions imposed. There are, of course other means to act (Government, Parliament, Justice Court, etc.) if the conditions required seem to be exaggerated.

Normally, a license contains the following information:

- Treatment options;
- Discharge limits (quality);
- Monitoring requirements;
- Reporting requirements;
- Other.

The public is involved in the licensing procedure in the following ways:

- By consulting and giving declarations;
- Via mayoralties considered to the their representatives;
- Via “Mass Media”.

The discharges are required to monitor their own discharges. The actual strategy of environmental protection provides to promote the self-monitoring system. Beside, the LEP provides that measures for self-monitoring should be taken.

The regulatory authorities monitor compliance by means of their inspectors and by means of public complains followed by checking by the director or the Ministry representative.

The facility have to allow the inspect to come onto the site any time, whenever he is sent by the respective authority.

The available tools to enforce compliance with the license conditions are:

➢ Suspension of the license;	
➢ Withdrawal/revocation of the license	
➢ Amendment of the license	
➢ Suspension of operation of the facility	
➢ Charges	
➢ Fines imposed by the authority:	
- Minimum fee:	0.05 million lei
- Maximum fee:	1.0 million lei
➢ Civil and Criminal prosecution leading to fines imposed by the court:	0.05 – 1,0 million lei
➢ Prosecution leading to criminal conviction (maximum penalty):	Prison: 7 year

To exemplify how the compliance with the license is managed the following situation existing in 1994 is presented:

➢ Number of inspectors:	450
➢ Time estimation for inspection activities:	1 350.000 hours/year
➢ Typical training of inspectors:	Technical instructions elaborated by MWFEP
➢ Number of facilities regularly inspected:	2 900
➢ Number of compliance visits in 1994:	52 100
➢ Frequency of visits:	
- Typically:	industrial units;
- Varies from:	2 to 12 per year;
- Depending on:	“the size” of impact on environment in the zone
➢ Level of compliance:	Directors
➢ Violations (Total):	6 234 (in the year of 1994)
➢ Violations (Serious) putting in danger human health:	6
➢ Number of closures in 1994:	1 (S.C. ROMPLUMB Baia Mare)
➢ Number of licenses withdrawn in 1994:	25
➢ Number of licenses suspended in 1994:	12
➢ Fines	
- Total fines charged:	1.050.000.000 lei
- Individual fines charged:	100.000.000 lei (approximately)
- Typically:	50.000 to 1.000.000 lei
- Depending on:	the article in the legal act which is not respected
➢ Number of prosecution in 1994:	6
- of which successful	0

3. Actual and Planned Projects and Policy Measures for Reduction of Water Pollution

3.1. Reduction of Water Pollution from Municipalities

There are 257 WWTPs provided for 248 human settlements, at present. Out of this number – 143 WWTPs might be consider not working at the planned efficiency level. One can say that only 85 WWTPs have been working in a proper way and 17 – corresponding to the designed efficiency, [10].

The reason why most of the WWTPs from municipalities have not reached the planned efficiency are itemized below:

- **improper operation**
  e.g., NEGRESTI OAS, POARTA ALBA, CONSTANTA, OVIDIU - CONSTANTA, FAGET (where biological treatment was not operated);
- **construction errors**
  e.g., CARANSEBES, CARAS - SEVERIN, OTELUL ROSU, GHERLA - CLUJ;
- **overloading** (especially during the heavy rain periods)
  e.g., PETROSANI, SALONTA, HARGHITA, BISTRITA, NASAUD, COVASNA, SIBIU, CORABIA, GAIESTI, FILIASI - DOLJ, BALS - OLT, BUFTEA, BUZAU, CAMPINA, FIENI, PUCIOASA, MOINESTI, ADJUD, VASLUI.

As an example the town SF.GHEORGHE is provided with a WWTP which has a treatment capacity of 300 l/s. Although the yearly average flow is 200 l/s, there are periods of time when the plant is overloaded.

The town TG.SECUIESC is provided with two WWTPs – one of them – over - loaded and another one – under-loaded. At present, the on going works are aimed on balancing the flows in both WWTPs.

The WWTP of town SLATINA is operated with an efficiency in BOD_5 reduction of 61 percent due to the overloading created by 28 industrial units located in the industrial zone.

- **improper operation of a part of WWTP**
  e.g., improper operation of biological treatment, but good mechanical treatment – TG.LAPUS, SEINI, CRISTESTI - MURES, NADLAC, PITESTI, TURNU MAGURELE, CIMPULUNG MOLDOVENESC, BOCSA, VISEU DE SUS, BARAOLT; had operation of mechanical treatment and proper results with the biological treatment – CAMPIA TURZII, OCNA MURES, BLAJ, ORASTIE, DEVA, MORENI, VALENI DE MUNTE, SLANIC PRAHOVA, SOLCA - SUCEAVA, SLANIC MOLDOVA, RAJAC IASI, BELCESTI, SASCUT BACAU; biological treatment out of operation – PANCOTA, INEU - ARAD, NUCET - BIHOR, BEIUS, SLOBOZIA;
- **not operated**
  e.g., PLENITA, RUPEA, NEHOIU, BERCA, PARSCOV - BUZAU, BERESTI (damage by the land sliding), PECHEA (damaged);
- **operated periodically**
  e.g., BERCENI - BUZAU, MOVILA MIRESII – BRAILA;
- **unknown efficiency**, due to the lack of data. No analysis have been made.
  e.g., HATEG - HUNEDOARA, ARAD, NADLAC, SEGARCEA - DOLJ, ODOBESTI.

There are WWTPs under erection, some of them being put partially into operation, e.g., GLINA – BUCURESTI, SEGARCEA, OTOPENI.

The damaged sewage collection network is regarded as a diffuse source of water pollution. With this respect the sewage network of BAIA MARE city is reported to be totally damaged, [10]. The sewage collection networks of NASAUD, BRASOV, FAGARAS (where the waste water flowing in two main sewage collectors does not reach the existing WWTP), SANGEORZ BAI, FIENI, PUCIOASA.

There are localities where the sewage collection system transport capacity is necessary to be increased, e.g., CLUJ – NAPOCA (with 14 direct discharge openings), BREAZA,SINAIA.

The existing and under erection WWTPs distributed on the inland rivers tributary areas and Danube River are presented in Table 3.1.

Table 3.1. Existing and currently under construction WWTPs for localities distributed on the inland rivers and Danube, [10]

Nr	TRIBUTARY	NUMBER OF LOCALI-TIES	NUMBER OF DISCHAR-GING OPENINGS	NUMBER OF WWTP			
				TOTAL UNDER OPERA-TION	GOOD OPERA-TION	BAD - OPERA-TION	UNDER EREC-TION
	TOTAL	248	257	254	102	152	3
1	TISA	4	4	4	1	3	-
2	SOMES	17	17	17	10	7	-
3	CRASNA	1	1	1	1	-	-
4	CRISURI	16	17	17	7	10	-
5	MURES	30	32	32	19	13	-
6	BANAT	12	12	12	1	11	-
7	JIU	9	9	9	4	5	-
8	OLT	27	27	24	15	9	1
9	ARGES	14	15	13	2	11	2
10	VEDEA	7	7	7	4	3	-
11	BUZAU	10	11	8	2	6	-
12	IALOMITA	21	22	22	2	20	-
13	CALMATUI - BUZAU	2	2	2	-	2	-
14	MOSTISTEA	1	1	1	-	1	-
15	BLACK SEA	8	8	8	4	4	-
16	SIRET	38	41	41	20	21	-
17	PRUT	16	16	15	7	8	-
18	BARLAD	5	5	4	-	4	-

The list of short-term priority projects included in NEAP is presented below:

1. Extension of the WWTP of MANGALIA city. The investment cost is estimated to be 5.44 million dollars.
2. WWTP of BRAILA NORD (21.9 million dollars)
3. WWTO of GALATI city (investment cost is to be brought up to date)
4. WWTP of ZALAU city (investment cost is to be brought up to date)
5. WWTP of CRAIOVA city (3.2 million dollars)
6. Development of the WWTP of RESITA city (investment cost is to be brought up to date)
7. Development of the WWTP of CYMPULUNG MUSCEL city (investment cost is to be brought up to date)
8. Development of the WWTP of DEVA city investment cost in the brought up to date; 1.3 million USD former evaluation

For all projects mentioned above the title holders coordinator will be the Ministry of Public Works and Territory Planning (MPWTP). This list of projects is still under discussion being an extension of the existing list within the framework of NEAP approved initially.

A complete list of projects provided in the NEAP approved by the Government in 1995 and under discussion nowadays is present in Table 3.2.

Table 3.2. Summary of recommended projects for municipal hot spots

Hot Spot Name River & Location	Parameters & Values which Define the Problem	Ranking of the Problem	Name & Type of Project (Structural or Non-structural)	Project Strategy & Targets	Parameters & Values which Define Project Benefits	Project Beneficiaries
1	2	3	4	5	6	7
ROMANIAN DANUBE RIVER BASIN	European Unitary System to allow emission too water	AI 3 – 1 (2)	Harmonization of EU regulations of emissions in water with the national standards) (Non structural)	Integration in EU	Compatibility of results	MWFEP
ROMANIAN DANUBE RIVER BASIN	Water quality parameters	AI 3 – 13 (2)	Support for reference laboratories (Structural)	Monitoring	Compatibility of results throughout Romania	MWFEP
CRAIOVA COUNTY: DOLJ RIVER: JIU	Necessary: BOD_5: 20 mg/l Modernization	AI 4 - 5	WWTP – Craiova Modernization Structural	Organic substances removal Total nitrification	Organic load abatement	MPWTP MWFEP
ROMANIAN DANUBE RIVER BASIN	Marin parameters to be analyzed to asses water quality	AI 3 – 11 (2)	Environment territorial laboratories development (non structural)	Harmonization methods in analysis	Compatibility of results	MPWTP MWFEP
ROMANIAN DANUBE RIVER BASIN	Implementation of 10 EU Directives in the national legislation	AI 1 (2)	Quality objectives in the activity of water quality protection (Non-structural)	Defining the requirements in licensing process	Realistic requirements for water users	MPWTP MWFEP
ROMANIAN DANUBE RIVER BASIN	Application of international procedure AEWS	AI 3 – 23 (7)	Control and fight against accidental pollution (Non structural)	Avoidance of deleterious effects of accidents	Prevention of effects of damages caused by accidents	MPWTP MWFEP
ROMANIAN DANUBE RIVER BASIN	MAV of N and P loads to be transferred through Danube River Delta	AI 3 – 15 (6)	Introduction of new instruments for quality water protection (Non-structural)	Compliance with the new legislation	Improving of quality of natural resources	MPWTP MWFEP

Table 3.2. continued

1	2	3	4	5	6	7
MANGALIA COUNTY: CONSTANTA – BLACK SEA	BOD_5 and suspended matter reduction	AI 4 - 1	Expansion of WWTP from Mangalia city (Structural)	Decrement of organic substances load	Improving of recreation area, tourism	MPWTP MWFEP
BRAILA COUNTY: BRAILA RIVER: DANUBE	BOD_5 and Suspended matter reduction	AI 4 – 2	WWTP of Braila Nord (Structural)	Organic load decrement	Abatement of impact on the Danube River Delta	MPWTP MWFEP
GALATI COUNTY: GALATI RIVER: DANUBE	BOD_5 and Suspended matter reduction	AI 4 – 3	WWTP of Galati city (Structural)	Organic load abatement	Abatement of impact on the Danube River Delta	MPWTP MWFEP
ZALAU COUNTY: SALAJ RIVER: ZALAU	BOD_5 and Suspended matter reduction	AI 4 – 4	WWTP of Zalau city (Structural)	Organic load abatement	Abatement of organic load on the transboundary rivers. BOD_5 under 15 mg/l	MPWTP MWFEP
RESITA COUNTY: CARAS SEVERIN RIVER: BARZAVA BAIN: BANAT	Providing secondary treatment 1059 l/s	AI 4 – 6	Development of WWTP of Resita city (Structural)	Organic load abatement	Abatement of organic load on the transboundary rivers.	MPWTP MWFEP
CAMPULUNG MUSCEL COUNTY: ARGES RIVER: TIRGULUI BASIN: ARGES	Improving efficiency in BOD_5 reduction. Sludge Treatment	AI 4 – 7	Development of WWTP of Campulung Muscel city (Structural)	Organic load abatement	BOD_5 reduction under 15 mg/l	MPWTP MWFEP
DEVA COUNTY: HUNEDOARA RIVER: CERNA BASIN: MURES	Providing secondary treatment	AI 4 – 8	Development of WWTP of Deva city (Structural)	Organic load abatement	Abatement of organic load on transboundary rivers	MPWTP MWFEP
ROMANIAN DANUBE RIVER BASIN	Technical parameters to design and operate urban waste dump site	AI.3 – 2 (2)	Guidelines on designing and operation of urban waste landfill (Non structural)	Reduction of water pollution from dump sites	Prevention of water pollution	MPWTP MWFEP

3.2. Reduction of Water Pollution from Agriculture

3.2.1. Prevention of Pollution from Agricultural Point Sources

Most of the WWTPs from the breeding farms are uncompleted, or not well operated. That is why the treated wastewater quality characteristics are above the allowable levels, before discharging into the recipient rivers.

For example, the following WWTPs have been operated with low efficiencies, [10]:

- SC SUINPROD SA – SEINI – MARAMURES
- SC COMSELTEST – PECIU NOU – TIMISOARA
- SC COMSUIN – PERIAM – CENAD – TIMISOARA
- SC SUINPROD – HALANGA – MEHEDINTI
- SC GALCIP SA – GALICEA MARE – DOLJ
- SC AGROINDUSTRIALA – PREJMER – BRASOV
- SC SUINPROD – CODLEA – BRASOV
- SC SUINPROD – AVRIG – SIBIU
- SAIC BRAGADIRU
- SC AVICOLA CREVEDIA
- SC AVICOLA MIHAILENI
- AGROS SCAIENI – PRAHOVA
- COMPLEX CAZANESTI
- GH. LAZAR – IALOMITA
- SC PIGCOM SATU NOU – TULCEA
- SC PORTIC SA – TICHILESTI – BRAILA
- SC AGRICOLA INST. N. BALCESCU
- SC SUINPROD MOVILENI

Some or the WWTPs provided for agricultural units have not worked at all, e.g., [10]:

- SC NUTRIMEX SA – MARGHITA – BIHOR
- SC AGROIND – CANACEU – BIHOR
- SC SUINPROD – IERNUT – MURES
- SC AVICOLA – UNGHENI
- COMSUIN BIRDA ORTISOARA – TIMISOARA
- SC COMSELTTEST PADURENI TIMISOARA (Abandoned)
- BOCSA – TURNU SEVERIN – Poultry slaughterhouse
- SC COMSUIN – BIRDA BANLOC – TIMISOARA
- SC PRODCOMSUIN – CERAT DOLJ
- SC PIG SA FELDIOARA – BRASOV

Some of the agricultural units, especially pig farms, are closed down, e.g., [10]:

- SC AGROCONSUIM SA BONTIDA JUCU DE SUS – CLUJ (pig farm)
- SC SUINPROD SA – SATU MARE
- SC AGROINDUSTRIALA km 6 – TIMISOARA
- SC AVICOLA CODLEA
- USAB TIMISOARA

- SC COMSELTTEST – PADURENI – CRAIOVA
- SC COMSUIN BIRDA I, II – TIMISOARA
- SC COMSUIN BIRDA GATAIA – TIMISOARA
- SC COMSUIN BIRDA VOITENI – TURDA
- SC SUINPROD – BERZOVIA
- SC SANCA – GHEORGHITA – PRAHOVA

There are some agricultural units where their WWTPs are under erection and others are modernized or expanded, e.g:

- POGACEUA (pig farm, where the mechanical step is re-put into operation)
- SC COMSUIN BIRDA ORTISOARA – TIMISOARA (where the treatment system is changed)
- SC COMSUIN GATAIA – TIMISOARA (where the treatment technology has been established)
- SC SUINPROD BERZOVIA CARAS SEVERIN (where the WWTP is under rehabilitation process)
- SC CAIND ORADEA
- BROSTENI – CARAS SEVERIN (where the mechanical, biological and chemical steps are under erection)
- SC SUINTEST SA CIORASTI SLOBOZIA (modernization of the existing WWTP).

A review of the projects proposed to be achieved in the short term is presented in Table 3.3., [11]:

Table 3.3. Summary of recommended projects for agricultural hot spots

Hot Spot Name River & Location	Parameters & Values which Define the Problem	Ranking of the Problem	Name & Type of Project (Structural or Non structural)	Project Strategy & Targets	Parameters & Values which Define Project Benefits	Project Beneficiaries
1	2	3	4	5	6	7
RIVER TRIBUTARY BASIN: - CRISUL ALB - CRISUL REPEDE - OLT - ARGES - IALOMITA - SIRET - BLACK SEA	Phenols exceeding MAV 0.001 mg/l	A I.5 – 4 (3)	Technologies of reclamation of agricultural soils affected by oil and salty water pollution (Non structural)	Rehabilitation of agricultural land. Avoidance of ground water pollution	Simplifying water treatment. No absorption for phenols removal	MAF MWFEP
BAIA MARE COUNTY: MARAMURES RIVER: SOMES	Heavy metals exceed the MAV Pb, Cu: 0.05 mg/l	A I.5 – 5 (5)	Ecological reconstruction of agricultural soils – Baia Mare (Structural)	Alleviation of national and transboundary impact	Heavy metals conc. Under the MAV. More agric. Land available	MAF MWFEP
COPSA MICA COUNTY: SIBIU RIVER: TARNAVA MARE - MURES	Degraded Land. Heavy metal are carried out in water	A I.5 – 13 (5)	Afforestation in the Copsa Mica area. (Structural)	Ecological reconstruction	20 000 ha afforestation	MAPPM
PERIS COUNTY: ILFOV RIVER: IALOMITA	Recycling natural organic fertilizers	B II.1 – 7 (-)	Agricultural turning to good account of zoo-technical waste at ROMSUIN – TEST PERIS (Structural)	Reduction of Water Pollution. Through Improved Land Management	Nitrates Phosphates and organic substances abatement	MAF MWFEP
TOMESTI COUNTY: IASI RIVER: PRUT	BOD_5 > 40 mg/l Nutrients and organic pollution	B II.1 - 1	Capacity increase of WWTP of COMTOM TOMESTI (Structural)	Prevention of pollution from agricultural point sources	Transboundary water pollution abatement	MAF MWFEP

Table 3.3. continued

1	2	3	4	5	6	7
ROMANIAN DANUBE RIVER BASIN	Nitrates and Phosphates pollution abatement (from chemical fertilizers)	A I.5 – 10 (-)	Recycling and management of available waste from breeding farms (Structural)	Prevention of Pollution from Agricultural diffuse sources	Nitrates and organic pollution in ground water abatement	MAF MWFEP
ROMANIAN DANUBE RIVER BASIN	Land affected by erosion, sliding and excess moisture	A I.5 – 1 (1)	Ecological reconstruction of poor agricultural land (Non structural)	Rehabilitation of agricultural bio-diversity	Expansion of land use for agriculture	MAF MWFEP
ROMANIAN DANUBE RIVER BASIN	Pesticides and chemical fertilizers (nutrients) control	A I.3 – 16 (1)	Monitoring system development of chemical soil pollution in agricultural area (Non structural)	Reduction of pesticides and chemical fertilizers use	Prevention of water pollution from diffuse sources	MAF MWFEP
ROMANIAN DANUBE RIVER BASIN	Agricultural bio-diversity	A I.5 – 14 (6)	Bio-diversity recovery of agricultural ecosystems affected by draught (Non structural)	Protecting resources	Rehabilitation of agro-fauna	MAF MWFEP
ZLATNA COUNTY ALBA IULIA RIVER: MURES	Degraded land Heavy metals carried out to water	A I.5 – 15 (5)	Ecological reconstruction at Zlatna (Structural)	Ecological reconstruction	Rehabilitation of flora and fauna	MAF MWFEP
ROMANIAN DANUBE RIVER BASIN	Micropollutants (heavy metals, pesticides) and nutrients	A I.3 – 17 (2)	Protected areas monitoring (Structural)	Nature conservation	Providing knowledge of the state of environment	MWFEP
ROMANIAN DANUBE RIVER BASIN	Preventing forest degradation	A I.3 – 21 (2)	Development of existing forests monitoring eco-systems (Non structural)	Forest management	Knowing the state of forest	MWFEP
RIVER: TAZLAU BASIN: SIRET	Flood occurrence in zone	A I.5 – 11 (5)	Fight against soil erosion in Tazlau river basin (Structural)	Protection of human health and goods	Flood prevention	MAF MWFEP

Table 3.3. continued

1	2	3	4	5	6	7
ROMANIAN DANUBE RIVER BASIN	Rapid information about calamities	A I.3 – priority not yet established (7)	Rapid data collection by satellites applied on dangerous hydrometeo phenomena (Non structural)	Human health and goods protection Taking measures in the proper time	MWFEP	MWFEP
ROMANIAN DANUBE RIVER BASIN	Hydrological data base	A I-3 – priority not yet established (2)	Development of hydrological data base using GIS (Non structural)	Data base	Available data for computation	MWFEP
ROMANIAN DANUBE RIVER BASIN	Water flow upstream values	A I.3 – priority not yet established (7)	Development of rapid dissemination of information about flood propagation (Non structural)	Human health and good protection	Actions to prevent damages in proper time	MWFEP
ROMANIAN DANUBE RIVER BASIN	A total length of 16 km to be rehabilitated, [1]	A I.5 – 3 (6)	Dams rehabilitation along side Danube River from Iron Gate km. 875 to Isaccea, km. 103 (Structural)	Human health and good protection	A surface area of 418 000 hectares will defended, [1]	MWFEP
ZALAU COUNTY: SALAJ RIVER: SOMES	Land sliding	A I.5 – 16 (5)	Consolidation and rehabilitation of sliding lands in Zalau city (Structural)	Land management	40 hectares recovered	MPWTP MWFEP
VALEA CALUGAREASCA COUNTY; PRAHOVA RIVER; IALOMITA BASIN	Phosphorous emission to water	A I.5 – priority not yet established (3)	Ecological reconstruction of polluted zone around SC ROMFOSFOCHIM SA VALEA CALUGAREASCA (Structural)	Agricultural land and bio-diversity conservation	50 hectares recovered	MWFEP

Example of notation for ranking of the problem: A I.5 – 16 (5)

Number 16 signifies the priority in the context of the respective field (see below). Number (5) signifies the priority in the MWFEP list (see below).

KEY:

A(I)	Projects supported also by State and local budgets
B(II)	Projects supported by the title holders
I.1.	Legislation and institutional projects to achieve EU requirements
I.2.	Economic analysis and EIA
I.3	Legislation, institutional development and regulations
I.4	Protection of surface and ground water quality
I.5	Protection of soil quality and bio-diversity conservation
I.6	Waste management, urban engineering and transportation
II.1	Protection of surface and ground water quality
II.2	Protection of air quality
II.3	Waste management, urban engineering and transportation
(…)	Projects which might be considered in the MWFEP classification as it is shown below:

1. Projects which are to apply directly some European Union regulation
2. Projects directed to develop the framework of domestic institutional and legislative issues applying the European regulations included in the adoption of “Aquis” Program
3. Projects for pollution reduction with economic activities included in environmental policies of MWFEP, MAF, MT, MP, MPWTP, etc.
4. Environmental projects included in the privatization process of economic enterprises
5. Representative projects for “Hot Spots” (e.g. Baia Mare, Zlatna, Copsa Mica, etc.)
6. Representative projects for the sensitive zones (e.g. Danube River Delta, Black Sea, Danube River, etc.)
7. Projects which respond to the reporting requirements of environmental international conventions

Other projects sustaining the adherence of Romania to EU structures (e.g. civil society participation, etc.)

3.2.2. Prevention of Pollution from Agricultural Non Point Sources

Other actual measures for reduction of water pollution from agriculture are related to the privatization process. The land owners are not able to invest their money in construction of controlled storage tanks for liquid manure and their technical knowledge are not adequate to use correctly manure according to capability of vegetation and cultivated land.

The fertilizer use has been drastically decreased due to the poverty of the land owners as it is shown in the Table 3.4. and in the Table 3.5. The year of 1989 is taken as a reference year.

Table 3.4. Consumption of N - fertilizers, [6]

YEAR	1980	1989	1990	1991	1992	1993	1994	1995
CONSUMPTION (thou. Tones)	646.3	665.3	656.0	275.0	258.0	346.0	313.0	306.0
Percentage of the Reference Year	97.4	100.0	98.6	41.3	38.8	52.0	47.0	45.9

Table 3.5. Consumption of P – fertilizers

YEAR	1980	1989	1990	1991	1992	1993	1994	1995
CONSUMPTION (thou. Tones)	389.4	329.3	313.0	145.0	133.0	165.0	149.0	149.0
Percentage of the Reference Year	118.2	100.0	95.0	44.0	40.4	50.1	45.2	45.2

As it can be seen from the tables presented above the fertilizers used in agriculture have been decreased about more than half of the quantity reported in 1989 and their impact on water abated consequently without taking special measures on this purpose. This conclusion is demonstrated by the specific fertilizer consumption figures shown in the Table 3.6.

Table 3.6. Specific nitrogen fertilizer consumption

YEAR	Specific N – Consumption (kg/ha agricultural land)	Agriculture area (ha)
1989	45.07	14 759
1990	44.42	14 769
1991	18.53	14 798.3
1992	17.44	14 790.1
1993	23.39	14 793.1
1994	21.15	14 797.5
1995	20.68	14 797.2

The total length of the existing inland rivers measures about 79,000 km, of which 20,000 km is the length of the main rivers.

Most of the riverbanks along the watercourses are provided with the forest shelter belts.

The Law of Water comprises special provisions to keep there areas in safety conditions (Art.48, para.h, Art.54, para.h and Art.62 para (2)). One cannot say that these forest shelter belts have been planned with the aim to reduce nutrient run-off, but they exist and are protected by law, [13].

According to the Romanian Environment Protection Strategy, the forest fund will rehabilitate in the areas where it was damaged by unsuitable cutting and will develop both intensively and extensively reaching 29 – 30 percent of this country's area, also including the forest belts areas, [2].

The concrete measures (projects) included in the NEAP concerning agriculture and forestry are presented in Table 3.3. (short term project). The percentage distribution of the 102 short term projects, according to the working groups on problems taken into account in NEAP shown that 12.7 percent of the projects were selected for soil protection, agriculture, forestry and bio-diversity conservation [8]. This distribution, although not reflected in the same manner in the financial effort, it is shown from the point of view of the short term priorities.

A map showing the regions requiring forest belts for environmental protection is presented in the figure 3.1.

For the time being there are no special agro-technical measures to improve live-stock practices. A lot of breeding farms are closed down and the owners of small farms are not trained especially on the improved live-stock practices concerning environment protection aspects.

The pesticides consumption in the agriculture might be assumed by the production of these substances.

The privatization process has induced a significant decrease of pesticides consumption due to the poverty and lack of knowledge of the land owners. Consequently, the pollution effect has been diminished, and these effects can be seen from the figures shown in the Tables 3.7. and 3.8.

Table 3.7. Sales and apparent consumption of pesticides (thousand tones)

YEAR	1980	1985	1989	1990	1991	1992	1993	1994	1995
PRDUCTION	39.7	48.3	33.4	24	17	17	19	13	15
EXPORT	8.8	2.1	3.0	0.2	-	-	-	-	-

Due to the reduction of pesticides consumption the concentration values of these substances in the ground water have been decreased significantly. This conclusion is demonstrated by the figures shown in the Table 3.8.

The following issues should be taken into consideration while the figures presented in the table mentioned above are examined:

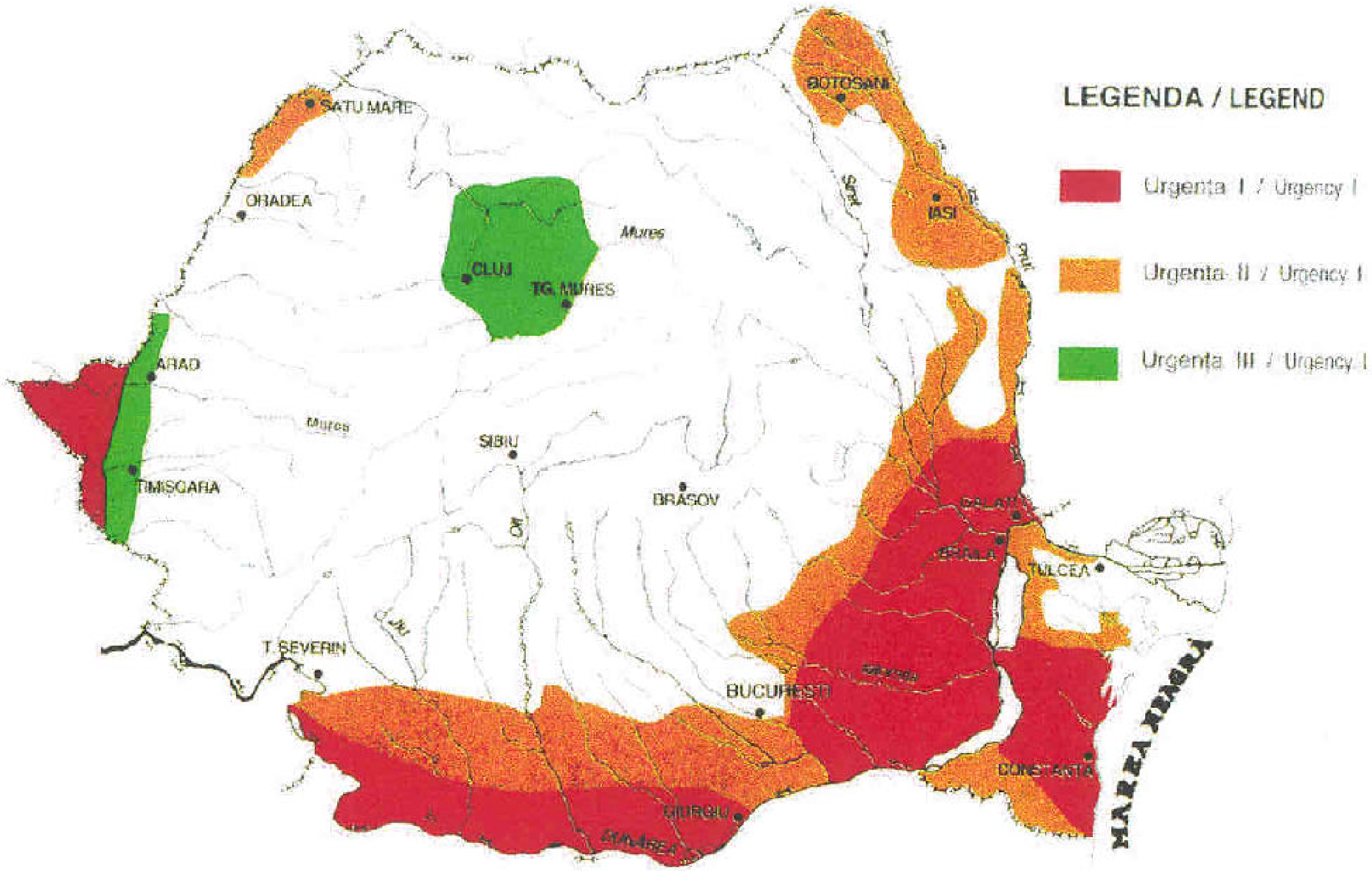


Fig.3.1. **Zones Requiring Forest Belts for Environmental Protection**

- Until 1990 the allowable limit of pesticides in water had been 0.1 micrograms per liter and after 1991 – 0.5 micrograms per liter (RS 1342/91).
- The number of wells where the samples have been taken from was: 160 – in 1985, 200 – in 1990 and 1995. Most of them were located in the Romanian Plain.

Table 3.8. Percentage of wells affected by pesticides in water

YEAR	PERCENTAGE OF WELLS WHERE WATER ANALYSED EXCEEDS THE ALLOWABLE LIMIT
1985	75
1990	62
1995	21

The average value of pesticide application is 0.11 tones per sq. km, [9].

The projects proposed regarding pollution abatement from pesticides in agriculture are mentioned in Table 3.3.

On short term, the selected projects approach with priority the noxious gas emissions (about 35 percent), following in order pesticides and organic substances (24 percent), nitrogen, phosphorous (21 percent) and heavy metals (about 20 percent), [8].

Out of the total agricultural area of 147 983 sq. km existing in 1990, 63.7 percent is arable land, 32.3 percent – pastures and meadows and 4 percent – vineyards and orchards.

Soil erosion due to water occurs on 27 000 sq. km of agricultural land. The total specific erosion over the agricultural land is of 1.6 kg per sq. m, yearly, as an average value on the whole country, [9].

Soil erosion due to the wind action occurs on a surface area of 4 093 sq. km, [9]. On the sloping land there are sliding phenomena, which affect about 7000 sq. km.

In 1996 the degraded banks of the rivers affected 199.4 ha of soil which 69.4 ha were forested area, [14]. Most of the river basins affected were SIRET (25.42 percent), SOMES (12.41 percent); the percentage is related to the length of the respective river, [14].

The degraded zones along the main inland river beds and banks are put into evidence in the Table 3.9, [14].

Table 3.9. Land affected by water erosion of riverbeds and bank, [14]

RIVER TRIBUTARY AREA	BANKS EROSION (meters of river length)	DEGRADED AREA	
		TOTAL (sq. m)	of which ARRABLE (sq. m)
TOTAL	2 696 429	1 993 700	694 300
TISA	83 124	4 000	1 600
SOMES	334 722	249 600	192 000
CRISURI	183 816	5 400	3 800
MURES	192 728	341 200	128 200
BEGA	7 832	7 500	4 300
TIMIS	27 558	55 200	42 300
CARAS	1 856	300	300
NERA	4 501	7 800	3 000
CERNA	654	3 000	2 500
JIU	198 864	53 400	43 600
OLT	31 306	4 400	0
CALMATUI-OLT	1 014	0	0
VEDEA	63 134	700	100
ARGES	148 307	3 200	2 400
IALOMITA	200 885	327 400	73 900
BUZAU	140 869	117 700	30 100
SIRET	685 444	181 200	95 800
PRUT	122 267	95 800	21 800
BIRLAD	33 497	134 200	37 900
DUNARE	222 642	401 300	10 300
LITORAL (Black Sea)	11 409	0	0

The actions taken for soil erosion effects abatement have been the following ones:

1. Forestation: forestland area has been increased from 26.68 percent of the total land area in Romania in 1980 to 28.02 percent, in 1995, [15].
2. Water courses regulation and embankments. A minimum river water courses length of 1 733.7 km and a maximum length of 2 388.3 km have been provided to be achieved by the development program approved by MWFEP, [12].

Erosion and soil salinity control are correlated with the objectives in the agricultural sector (80 percent), in industry (10 percent) and population (19 percent), these objectives being practically similar both on short term and medium term, [8].

The projects proposed in NEAP could be identified in the Table 3.3.

There are no special measures for strengthening of institutions, agencies and agricultural extension services towards sustainable agriculture.

One cannot help saying that there have been a special action taken by the decision-makers for strengthening of institutions and agricultural extension services towards sustainable agriculture.

The former agricultural directorates subordinates to the Ministry of Agriculture and Food are still organized in each county. Besides there are so called Agricultural Chambers organized in each group of villages where experts are available for giving the necessary advises to the land owners for agricultural practices.

There are not special departments organized for low-input sustainable and organic agriculture at universities and training centers. The existing Institute of Agriculture “Nicolae Balcescu”, in Bucharest prepares the future specialists in the agricultural sector. Besides there is the Academy of Agricultural and Forestry Science (AAFS) which comprises the best specialists in the agricultural sector.

Most of the projects included in the Table 3.3. for agricultural hot spots have been proposed by AAFS.

3.2.3. Reduction of Water Pollution through Improved Land Management

The list of measures provided for rehabilitation of watercourses is presented in the Table 3.3.

There are not special measures taken for improving self-purification of watercourses.

As for as the floodplains and wetlands are concerned a special national commission has been created this year (1998). The role of this commission is to propose measures to maintain the existing wetland zones and for extension of the surface area of wetlands in Romania. The secretariat of this commission is located in the Research and Engineering Institute for Environment Protection

The first achievement with this action could be reported: BRAILA’s ILAND – with a surface area of 5 336 hectares – located in the county of BRAILA, on the Danube River is to be preserved as a wetland biological resource.

Danube River Delta is the main area, which is considered an important wetland. The Danube River Delta has become a component of the list of the Program “Man and Biosphere”, in 1990, based on the Convention on the Wetlands of International Importance, Especially as Water fowl Habitat (Ramsar, 1971). The total preserved area of the Danube River Delta is 5 912 sq. km, of which 592.8 sq. km is strictly protected. The only zone which might be considered as wetland is the Peat Bog from Dresca (10 ha); as for as the size of the surface area is concerned Dresca Peat Bog is not significant wetland while comparing with the Danube River Delta wetland. There are no transboundary wetlands, except the Danube River Delta.

The concrete measures included in NEAP are presented in Table 3.3

3.3. Reduction of Water Pollution from Industries

There are 475 industrial units discharging their wastewater directly into the Romanian rivers, via 417 WWTPs, [10]. Out of the whole number of the WWTPs under the observation of RAAR, 196 units have been found not reaching their designed efficiencies. 217 industrial WWTPs are considered working properly. There are 3 industrial WWTPs which have not been put into operation and there is one which is under erection, [2].

The industrial units which are provided with WWTPs but working under the designed efficiency are exemplified below:

- SC BAUXITA SA DOBRESTI – BIHOR (nonferrous metal industry)
- SC CESOM SA DEJ (textile industry)
- EM ROSIA POENI – ABRUD (non ferrous extraction)
- EM BAIA DE ARIES (non ferrous extraction)
- SC AZOMURES – TIRGUL MURES (chemical industry)
- SC UPSOM SA – OCNA MURES (chemical industry)
- SC SOMETRA – COPSA MICA (chemical industry)
- SC AMPELUM – ZLATNA (nonferrous industry)
- SC SIDERMET SA – CALAN (metal industry)
- SC SIDERURGICA – HUNEDOARA (metal industry)
- EM RUSCHITA – CARAS SEVERIN (non ferrous extraction)
- SC SOCOMET – OTELUL ROSU (metal industry)
- METALLURGICAL INTEGRATED PLANT – RESITA
- EM MEHADIA – CARAS SEVERIN (non ferrous extraction)
- EM URICARI – (coal extraction)
- EM PAROSENI - (coal extraction)
- SC SPUMOPLAST – MOFLENI – DOLJ (chemical industry)
- SC DOLJCHIM – CRAIOVA (chemical industry)
- SC ROMAG – DROBETA – TR. SEVERIN (chemical industry)
- SC VIROMET SA – VICTORIA BRASOV (chemical industry)
- SC AUTOMOBILE DACIA – COLIBASI (means of transport)
- SC DANUBIANA SA – BUCURESTI (chemical industry)
- SC STEAUA ELECTRICA – FIENI (electrotechnical industry)
- SC BERE – AZUGA (drink industry)
- SC HARTIA – BUSTENI (paper mill industry)
- SC VULTURUL – COMARNIC (cement industry)
- SC PETROBRAZI (chemical industry – refinery)
- SC VEGA PLOIESTI (chemical industry – refinery)
- SC AMONIL SA – SLOBOZIA (chemical industry – fertilizers factory)
- SC FERTILCHIM – NAVODARI (chemical industry – fertilizers factory)
- SC ROMCIM SA – MEDGIDIA (cement industry)
- SC ALUM TULCEA (nonferrous industry)
- SC PERGODUR SA - PIATRA NEAMT (synthetic fibres)
- ANTIBIOTICS – IASI (pharmaceutical industry)
- GHIDIGENI SPIRIT FACTORY (drink industry)
- RULMENTUL BARLAD (metal. Industry)

Some WWTPs provided for industrial units have not been operated, or have not been operated with their full capacity, in 1997; examples of such WWTPs are given below:

- WWTP from LIVEZENI (coal preparation);
- SORT MERIS – TIRGUL JIU (construction materials). Here the existing WWTP was operated from time to time.
- SC ZAHARUL SA – DRAGANESTI OLT (food industry). Here the existing WWTP has not been in operation at all.
- SC VRANCART SA – ADJUD (paper mill industry). This unit worked with 25% of its nominal capacity.
- SC ZATRUS TRUSESTI – BOTOSANI (food industry). Here the WWTP was damaged.

There are industrial units where WWTPs are still under construction or under extension or modernisation, e.g.:

- SC HARTIA SA – BUSTENI , where the fibre removal system is improved;
- SC PETROBRAZI – PLOIESTI, where the phenol removal process is under completion;
- SC PETROMIDIA SA – NAVODARI, where the mechanical aerators are replaced;
- EM ALTAN TEPE, where the waste storage pond is rearranged;
- SC ALUM - TULCEA, where the hydro-transport system is under construction;
- SC FIBREX SA – SAVINESTI, where the existing units for producing NH_4^+ and NO_3^- are under modernizing process;
- GHIDIGENI SPIRIT FACTORY, where the WWTP is under rehabilitation;
- SIDEX GALATI, where the WWTP from the coke preparation units is modernized and completed.

The Table 3.10. comprises a list of concrete actual measures for reduction of water pollution of point sources from industries, [8], [11].

As concerns priority pollutants inter-correlation with target groups involved in NEAP preparation in the industry sector, the main short term objectives are 78 percent – heavy metals abatement in water, air and soil, followed by diminution of pesticides, toxic organic substances (29 percent) and nutrients (15 percent), [8].

As concerns specific environmental issues correlation the target groups involved in NEAP work considered that in order to eliminate aquatic toxicity and bio-accumulation the objectives in industrial sector are 60 percent importance, while agriculture is on the second place (35 percent); protection of aquatic functions is distributed in a similar way: industry – 45 percent, agriculture – 35 percent, population – 10 percent, [8].

Table 3.10. Summary of recommended projects for industrial hot spots

Hot Spot Name River & Location	Parameters & Values which Define the Problem	Ranking of the Problem (Priority)	Name & Type of Project (Structural or Non-structural)	Project Strategy & Targets	Parameters & Values which Define Project Benefits	Project Beneficiaries
1	2	3	4	5	6	7
LARGE EMISSION SOURCES	Specific parameters of industrial sectors	Pollution prevention	Self monitoring of big industries (Non structural)	Monitoring water pollution and other environmental factors	Alarming systems for population	MIC MWFEP
LETEA COUNTY: BACAU RIVER: PRUT	Pulp and paper ind. BOD_5 > 40 mg/l	B II.1 – 2 (5)	Modernizing of installations from SC LETEA BACAU SA (Structural)	Reducing pollution	Quality parameters according to TNWP 001	MIC MWFEP
BRAILA COUNTY: BRAILA RIVER: DANUBE	Pulp and paper ind. BOD_5 > 40 mg/l	B II.1 – 3 (6)	WWTP at SC CELOHART DONARIS Braila (Structural)	Reducing organic pollution	Quality parameters according to TNWP 001	MIC MWFEP
CODLEA COUNTY: BRASOV RIVER: OLT	Dye factory BOD_5 > 40 mg/l Color and other pollutants	B II,1 – 4 (6)	Waste water treatment at SC COLOROM CODLEA SA (Structural)	Reducing pollution	Color and organic load removal	SC COLOROM SA MIC MWFEP
IASI COUNTY: IASI RIVER: BAHLUI PRUT	Pharmaceutical sector BOD_5 > 40 mg/l, NH_4^+ > 5 mg/l	B II.1 – 5 (6)	WWTP expansion at SC ANTIBIOTICE SA IASI (Structural)	Reducing pollution	Improving efficiency in removing BOD_5, Ammonia	SC ANTIBIOTICE SA MIC MWFEP
GOVORA COUNTY: VALCEA RIVER: OLT	Total dissolved solids concentration	B II.1 – 6 (5)	Works for pollution reduction at UPS GOVORA SA (Structural)	Reducing pollution	TDS load decrement and hydropower plant protection	SC UPS GOVORA SA MIC MWFEP

Table 3.10. continued

1	2	3	4	5	6	7
CALARASI COUNTY: IALOMITA RIVER: DANUBE	Phenols 0.51 mg/l CN^- = 0.1 mg/l Iron = 2.6 mg/l	B II.1 – 8 (6)	Modernizing the secondary treatment of WWTP SC SIDERCA CALARASI SA (Structural)	Reducing pollution	Quality parameters required by TNWP 001	MIC MWFEP
PLOIESTI COUNTY: PRAHOVA RIVER: IALOMITA	Petroleum products in effluents	B II.1 – 9 (5, 6)	Modernizing WWTP for oil products and sludge recovery at PETROBRAZI - PLOIESTI (Structural)	Reducing pollution by oil products	Quality parameters required by TNWP 001	MIC MWFEP
PITESTI COUNTY: ARGES RIVER: DIMBOVNIC - ARGES	BOD_5 > 20 mg/l CN^- ≈ 0,08 mg/l Phenols ≅ 0.075 mg/l	B II.1 – 10 (6)	WWTP at ARPECHIM SA PITESTI (Structural)	Reducing pollution	Quality parameters required by TNWP 001	MIC MWFEP
TIRGU MURES COUNTY: MURES RIVER: MURES		B II.1 – 11 (5, 6)	Ecologizing the wet process on the platform TIRGU MURES MANPEL SA (Structural)	Reducing pollution	Quality according to TNWP 001	MIC MWFEP
ORADEA COUNTY: BIHOR RIVER: CRISUL REPEDE	Bad effluent quality: phenols: 13.64 mg/l CN^- = 0.13 mg/l Zn = 3.3 mg/l	B II.1 – 12 (6)	Removal chromium and zinc from the wastewater discharged from fabrication of inorganic dyes and phenols from the synthesis of pharmaceutical products at SC SINTEZA ORADEA (Structural)	Solving pollution reducing problem in the transboundary context	Achieving discharging requirement of NTWP 001 concerning phenols, CN^- and Zinc	MIC MWFEP
CLUJ – NAPOCA COUNTY: CLUJ RIVER: SOMES	BOD_5 > 40 mg/l SS > 60 mg/l	B II.1 – 13 (6)	Modernizing WWTP CLUJANA SA CLUJ – NAPOCA (Structural)	Pollution reducing in the transboundary context	Achieving NTWP 001 requirements	MIC MWFEP

Table 3.10. continued

1	2	3	4	5	6	7
ORASTIE COUNTY: HUNEDOARA RIVER: MURES	BOD_5 > 40 mg/l	B II.1 – 14 (3)	WWTP system at VIDRA SA ORASTIE (Structural)	Pollution reducing in the transboundary context	MIC MWFEP	
ROMANIAN DANUBE RIVER BASIN	Measures to be taken to avoid or to reduce oil pollution	B II.1 – 15 (3)	Action Program for environment protection in petroleum industry (Structural)	Reducing water pollution by oil and other petroleum products	Oil and petroleum products reduction	MIC MWFEP
ROMANIAN DANUBE RIVER BASIN	Heavy metals, pesticides and other micro-pollutants emissions in water	A I.1 (2)	Harmonization of national legislation with six EU regulations regarding risks and industrial pollution control (Non structural)	Industrial pollution control	Improvement of environmental legislation	MWFEP
PLOIESTI COUNTY: PRAHOVA RIVER: IALOMITA	Oil and grease pollution	A I.5 – 12 (5)	Pollution with petroleum products abatement in PLOIESTI zone (pilot project) (Structural)	Soil and ground water pollution reduction	Availability of ground water free from oil	MIC MWFEP

Example of notation for ranking of the problem: A I.5 – 16 (5)

Number 16 signifies the priority in the context of the respective field (see below). Number (5) signifies the priority in the MWFEP list (see below).

KEY:

A(I) Projects supported also by State and local budgets
B(II) Projects supported by the title holders
I.1. Legislation and institutional projects to achieve EU requirements
I.2. Economic analysis and EIA
I.3 Legislation, institutional development and regulations
I.4 Protection of surface and ground water quality
I.5 Protection of soil quality and bio-diversity conservation

I.6	Waste management, urban engineering and transportation
II.1	Protection of surface and ground water quality
II.2	Protection of air quality
II.3	Waste management, urban engineering and transportation
(…)	Projects which might be considered in the MWFEP classification as it is shown below:

1. Projects which are to apply directly some European Union regulation
2. Projects directed to develop the framework of domestic institutional and legislative issues applying the European regulations included in the adoption of “Aquis” Program
3. Projects for pollution reduction with economic activities included in environmental policies of MWFEP, MAF, MT, MP, MPWTP, etc.
4. Environmental projects included in the privatization process of economic enterprises
5. Representative projects for “Hot Spots” (e.g. Baia Mare, Zlatna, Copsa Mica, etc.)
6. Representative projects for the sensitive zones (e.g. Danube River Delta, Black Sea, Danube River, etc.)
7. Projects which respond to the reporting requirements of environmental international conventions

Other projects sustaining the adherence of Romania to EU structures (e.g.civil society participation, etc.)

3.4. Reduction of Water Pollution from Dump Sites

After 1990, due to the reduction of economic activities, a downward trend of waste production has been estimated. In 1996, 53.7 million tons industrial waste, 6.7 million tons – municipal waste and 3.8 million tones – agricultural waste were produced, [5].

For the same period, 49.5 million tons of solid waste were disposed off from the mining sector. The amount of waste from the mining sector decreased from 288 million tones, in 1995 to 49 million tones, in 1996, because of diminishing mining activities, [5].

30 percent of the overall industrial waste disposal sites are located inside the urban area and 56 disposal sites – on the river banks, without any specific facilities, [5].

The main measures, which are to be taken, on short term, are mentioned in the Tables 3.2, 3.3 and 3.10. All these actions are provided in the NEAP, [8], [11].

3.5. Special Policy Measures

The environmental protection subject has been given the right importance after 1989. A new Law of Environmental Protection (LEP) has been put into force towards the end of 1995.

The MWFEP is the main actor in promotion remedial measures for pollution reduction in Romania. The new regulations have supplied the new principles and the outcome ideas of EU legislation. The harmonization with EU legislation is going on, but the most important issue is the compliance with the regulations, nowadays.

The Law of Waters – Nr.107/1996 provides the framework of technical regulations for water pollution reduction and water management in Romania.

The new elements, which have been embodied in the Romanian legislation after 1989, are:

- The process of authorization of existing and future activities;
- Environment Impact Assessment (EIA);
- Programs of compliance with the existing regulations;
- Public participation in the decision to be taken;
- Emission maximum allowable levels.

The main legislative act: Law of Waters (Law nr.107/1996). The goals of the law are (Art.2):

a. preservation, development and protection of water resources as well as keeping the natural flow of waters;
b. water quality and river bed protection;
c. improving of water quality;
d. preservation and protection of aquatic ecosystems;
e. population water supply assurance;
f. putting in value of water resources functions and balanced distribution throughout the country, maintaining and improving of water quality and the natural productivity;
g. protection against flood;
h. covering the needs of water in agriculture, industry and other economic sector

According to the Law of Waters, all natural waters belong to the public and they are under the administration of RAAR. According to the same Law mentioned above, the MWFEP is responsible for coordination of the National Strategy of Water Management as well as the implementation of the strategy and the compliance with the existing legal acts (Art. 7).

There are 11 branch-institutions organized by tributary areas of each main inland river; each of these institutions is subordinated to RAAR.

Framework Scheme of Water Management is made for each river basin. The National Scheme of Water Management is prepared by AQUAPROJECT and ICIM with the helps of RAAR according to the procedure which is set up by MWFEP and approved by Government Decision, (Art.43 – Law of Waters). The National Frame Scheme of Water Management is correlated with the National Action Program for Environment.

In Chapter V of the Law of Waters the economic instruments are presented. Art.80 says that water preservation, recycling and water quality protection are encouraged while those who are responsible for water pollution are to pay taxes or penalties. The incentives of those who act for water pollution abatement consist of bonuses, that is reduction of taxes applied for water abstraction and discharges. The taxes, penalties and bonuses are applied by RAAR, according to the procedure elaborated by MWFEP. According to Art.84 from the Law of Waters the so called "Water Fund" is created by applying taxes on water abstractions and discharges, or from the penalties on these who do not respect the conditions provided by the authorization acts. This "Water Fund" is to be used, inter alia, for water pollution abatement actions.

The Water Fund is not related to the State Budget, which is another financial source for investments in water works.

The Law of Environmental Protection (LEP) – Nr.137/1995 comprises special provisions for water protection (Chapter III – Section 1 – Art.35 – Art.39). Generally the existing regulations correspond to EU legislation requirements.

Water abstractions, wastewater discharges, as well as hydraulic structures are permitted by the approval of MWFEP or RAAR, depending on the size of the work; the competencies are mentioned in the Annex of MO Nr.715/1991.

The acceptance to abstract and to use natural water must be obtained in the first stage of future work designing process. This act is a component of the environment consent and authorization (Art.1 and Art.8 – MO Nr.715/1991).

"Polluter pays" principle is applied by obliging the natural or legal persons to pay a tax corresponding to the pollutant quantity discharged in waters (between 5 000 and 22 000 lei/tone of polluting substance). For outrunning the contracted pollution levels penalties are paid. The issues mentioned above are established by GD Nr.1001/1990 and GD Nr.138/1994.

Recently, in the OMR nr.303 and 327/1997 the ministerial orders for the approval of technical norms regarding the conditions to discharge waste water into the sewage collection systems and natural rivers have been published.

These norms correspond, generally, to the Directives worked out by the EEC, namely, 91/271 EEC, CD 76/464 EEC. TNWP-001 and TNWP-002 establish the maximum allowable limits regarding wastewater quality to be discharged into the natural water resources and sewage systems respectively. To set the licenses conditions the authorities (MWFEP, RAAR) are based on the provisions included in the norms mentioned above. The maximum allowable limits of wastewater quality indicators are presented in Table 3.11.

Table 3.11. Maximum allowable limits of water discharged (mg/l, unless specified)

NR.	QUALITY INDICATOR	MAXIMUM ALLOWABLE LIMIT	
		DISCHARGING INTO SEWAGE SYSTEM	DISCHARGING INTO NATURAL RIVER
1	TEMPERATURE	$40^{O}C$	$30^{O}C$
2	PH	6.5 – 8.5 Units	6.5 – 8.5 Units
3	PH FOR DANUBE RIVER	-	6.5 – 9.0 Units
4	SUSPENDED MATTER	300	60
5	BOD_5	300	20
6	COD – Mn	-	40
7	COD - Cr	500	70
8	AMMONIA NITROGEN	30	2
9	TOTAL NITROGEN		10
10	NITRATES		25
11	NITRITES		1
12	HIDROGEN SULFIDE	0.5	0.1
13	SULFITES	10	1
14	PHENOLS	30	0.05
15	PETROLEUM ETHER EXTRACT	20	5
16	PETROLEUM PRODUCTS		1
17	FOSFATES		4
18	TOTAL PHOSPHORUS	5	1
19	DETERGENTS (DEGRADABLE)	30	0.5
20	ARSENIUM		0.05
21	ALUMINIUM		8
22	CALCIUM		300
23	LEAD	0.5	0.2
24	CADMIUM	0.1	0.1
25	CHROMIUM +3	1	1
26	CHROMIUM +6	0.1	0.1
27	IRON +2 AND +3		5
28	COPPER	0.1	0.1
29	NICKEL	1	0.1
30	ZINC	1	0.5
31	MERCURY		0.005
32	SILVER		0.1
33	FLUORIDES		0.5
34	MOLIBDEN		0.1
35	SELENIUM		0.1
36	MANGANESE	1	1
37	MAGNESIUM		100
38	COBALT		1
39	CYANIDES	0.5	0.05
40	FREE CHLORINE	0.5	0.05
41	CHLORIDES		500
42	SULFATES	400	
43	TOTAL DISOLVED SOLIDS		2000
44	TOTAL COLIFORMS	-	1 mill./100 cm^3
45	E. coli	-	10^4/100 cm^3
46	S. fecalis	-	5000/100 cm^3
47	Salmonella	-	0/100 cm^3

TNWP 002 comprises also a list of types of toxic substances, which are not allowed to be discharged into the natural resources.

Abstracted water is delivered to users who pay taxes according to the data presented in Table 3.12.

Are exempted from taxes population not using more than 0.2 liters per second water abstracted from small local sources.

Table 3.12. Cost of raw water delivered to users (Lei per 1000 cu.m)

Water Use	Inland Rivers	Danube River	Ground Water
1. Industry, Agriculture (except Irrigation, and Power Plant and Co-generation with limited water resources	16 271	1 953	20 026
2. Irrigation and Fisheries	215	45	786 (6 066*)
3. Power Plants and Co-generation other than those mentioned at p.1	116	-	-
4. Public Administration	5 967	1 147	4 570
5. Other Title Holders	16 271	1 953	20 026

* *Breeding Farms*

According to the GD 1001/90 (Annex 2) three are taxes to be paid by natural or legal persons discharging pollutants by their wastewater into the surface waters complying with the authorization, as it follows:

- Suspended matter and dissolved substances mentioned in the given authorization (including nutrients, detergents, etc.): 5 376 lei/tone of pollutant;
- Oxygen consuming substances: 21 746 lei/tone of pollutant.

For exceeding the authorized conditions penalties are applied.

For the time being, there are not important establishment provided for treatment of bilge oil in harbors.

The detergent factories are now modernized using new technologies imported from Western European countries. Most of the former companies are now set up in joint-venture firms and that is why an important elimination of phosphate containing detergents in washing powder can be reported.

4. Expected Effects of Current and Planned Projects and Policy Measures

The NEAP, [5], [11] the Strategy of Water Management, [1] and SAP for the Danube River Basin, [16] provide reducing pollution inputs.

The opinion of the experts who are involved in the present report is that the first step to act for pollution reduction is ***to increase the efficiency of the existing WWTP by improving operation***. This type of action will not involve too much financial effort and will not take too long time to reach well results in pollution abatement.

As concerns the surface and ground water protection it is estimated that in comparison with the level of 1989, the quality of surface water will be higher, while reducing by approximately 8-10 percent the third quality category and degraded waters, [8].

Simultaneously, the pollutant emissions will be reduced as it is shown in the Table 2.4.

4.1. Reduction of Nutrient Emissions

The expected impacts of short and medium-term projects are shown in the Table 2.4. The amount of nutrient reduction expected from high priority projects provided in the NEAP are quantified and presented in Table 4.1. The projects are listed by location in the Romanian river basins.

The river basins have been classified in four groups:

1. Inland rivers which are flowing only on the Romanian territory
2. Rivers crossing the boundary
3. Danube River
4. Rivers discharging their waters into the Black Sea

The projects were nominated by an index, which is defined according to the explanations given at the bottom of Tables 3.2, 3.3 and 3.10. Priority number has been put into evidence, according to the position in NEAP, [8], [11].

Total Nitrogen, Phosphorous and BOD_5 discharged into the rivers have been calculated in three ways:

- by taking into account the average concentration in the wastewater and average flow:

  Amount discharged (tones per year) - Concentration (grams per cu.m) $\times$ flow (cu.m per day) $\times$ 365 days per year $\times$ 10^{-6} tones per gram
- by taking into account the number of population equivalent (p.e) and the productions of 54 grams of BOD_5 per inhabitant per day, 3200 grams of nitrogen and 900 grams of phosphorous per inhabitant, per year, [7], [19].

  Amount discharged (tones per year) = p.e. $\times$ grams of pollutant per year $\times$ 10^{-6} tones per gram
- By taking data, directly from the source of information.

  The efficiency of the existing treatment facilities has been taken into consideration. These efficiencies have been reported by RAAR, [10], [17]. Where no data were available 7 - 15 percent of reduction of nitrogen or phosphorous in primary and 7 - 15 percent of reduction in secondary treatment have been taken into account.

For BOD_5 reduction an efficiency of 20-30 percent have been considered for primary treatment and 70 - 80 percent for existing secondary treatment. To calculate the reduction of nutrient emissions after implementing the projects proposed efficiencies of 25 percent for nitrogen and phosphorous and 90 percent removal of BOD_5 have been presumed. For tertiary treatment, or chemical treatment of wastewater 80 percent of phosphorous reduction has been considered, [19].

The sources of data have been the following ones:

- MWFEP, [7], [8], [11], [18]
- RAAR, [10], [17]
- NCS, [6]

According to the calculated amount of the nutrient discharges in the Danube River Basin (Table 4.1), about 40 percent of the whole amount of nitrogen and phosphorous estimated to be discharged at present, taking into account the projects proposed, are in Siret river basin.

Prut river receives about 39 percent of the whole amount of nutrients discharged into the inland rivers flowing in the Romanian territory, without crossing the boundary.

Out of the total amount of nutrients estimated for emission in the short term projects proposed (including Black Sea), 8202 tones per year - nitrogen, 2290 tones per year - phosphorous, and 54279 tones per year - BOD_5, about 24 percent of nitrogen, 59 percent of phosphorous and 89 percent of BOD_5 are supposed to be removed by implementing the short-term structural projects.

4.2. Hazardous Substances

The amount of heavy metals, cynides, phenols, surfactants discharged into the Danube River Basin have been estimated according to the same procedure as it is shown in the previous paragraph. The expected amount of reduction from each current and planned project (short term) is presented in Table 4.1.

Table 4.1. Reduction of nutrient emissions, hazardous substances and microbiological contamination by implementing current and planned projects (tones per year)

RIVER BASIN	PROJECT (Priority Number in NEAP)	EXISTING DISCHARGE / REDUCTION ON SHORT TERM						OBSERVATIONS
		N	P	BOD_5	HM / CN^-	Phenols	E. coli	
1	2	3	4	5	6	7	8	9
DISCHARGED INTO THE INLAND RIVERS								
JIU	A I.4 - 5	$\frac{985}{\text{min.}246}$	$\frac{277}{\text{min.}69}$	$\frac{6071}{5464}$	$\frac{NS}{-}$	$\frac{NS}{-}$	NA	
OLT	B II.1 - 4	$\frac{NS}{-}$	$\frac{NS}{-}$	$\frac{141}{\text{min.}112}$	$\frac{NS}{-}$	$\frac{0.28}{\text{min.}0.21}$	$\frac{NS}{-}$	
VEDEA	-							
ARGEª	A I.4 - 7	$\frac{82}{\text{min.}21.5}$	$\frac{23}{\text{min.}6}$	$\frac{388.6}{263.2}$	$\frac{NS}{-}$	$\frac{NS}{-}$	NA	
	B I.1 - 10	$\frac{NS}{-}$	$\frac{NS}{-}$	$\frac{298.0}{49.6}$	$\frac{NS/1}{-/0.8}$	$\frac{0.9}{0.7}$	NS	
IALOMIºA	A I.5	$\frac{11}{4}$	$\frac{3.2}{2.0}$	$\frac{138.7}{124.8}$	HM = 6 times MAV	0	NA	River TELEAJEN is affected being classified as a degraded river in a distance of 30 km up to the issuing point with PRAHOVA river. Soil is polluted with HM (Pb, Co, Cd, Cu, Zn. Ni) on a surface of about 20 sq. km - load is 6 times above MAV, [18]
	B I.1 - 9	-	-	$\frac{4297}{3867}$	-	$\frac{10.4}{9.4}$	NA	
	A I.5 - 12	Oil pollution abatement on an area of about 200 ha						
SIRET	A I.4 - 3	$\frac{1044}{261}$	$\frac{293}{73}$	$\frac{6428}{5785}$	NS	NS	NA	Wastewater flow discharged 2500 l/s
	B II.1 - 2	$\frac{1838}{455}$	$\frac{517}{455}$	$\frac{11324}{10192}$	NS	NS	NA	-

Table 4.1. continued

1	2	3	4	5	6	7	8	9
PRUT	B II.1 - 1	$\frac{2560}{640}$	$\frac{720}{648}$	$\frac{15768}{14191}$	NS	NS	NA	800 000 population equivalent
	B II.1 - 5	$\frac{12}{3}$	$\frac{3.6}{3.3}$	$\frac{40.4}{36}$	NS	$\frac{0.4}{0.35}$	NA	
TOTAL DISCHARGING INTO THE INLAND WATERS/REDUCTION		$\frac{\mathbf{6532}}{\mathbf{1630,5}}$	$\frac{\mathbf{1839.8}}{\mathbf{1256.3}}$	$\frac{\mathbf{44898.7}}{\mathbf{40092.6}}$	**NS**	$\frac{\mathbf{11.98}}{\mathbf{10.60}}$	**NA**	
SOME[a]	A I.4 - 4	$\frac{162.3}{28.1}$	$\frac{45.6}{7.9}$	$\frac{499.6}{261.5}$	NS	NS	NA	Detergents: $\frac{14.6}{13.1}$ HM = Cr^{+3} Oil Products = 41.8 t and Reduction will be 39.7 t/y
	B II.1 - 11	NS	NS	NS	$\frac{4.3}{4.1}$	NS	NA	
MURE[a]	A I.4 - 8	$\frac{186.2}{39.2}$	$\frac{52.4}{11.0}$	$\frac{1026.3}{929.7}$	NS	NS	NA	Discharging flow: 2.6 l/s. Discharging into the municipal network after treatment (M + Ch)
	B II.1 - 14	NA	NA	NA	NA	NA	NA	
CRI[a]	B II.1 - 12	NA	NA	NA	$\frac{310}{301}$(Pb) $\frac{84.5}{84}$(Zn) $\frac{0.0012}{0.0007}$ (CN^-)	$\frac{11}{10.9}$	NS	Discharging flow: 25.6 l/s
BANAT (RIVER BARZAVA)	A I.4 - 6	$\frac{235}{57.9}$	$\frac{71.7}{16.3}$	$\frac{1475}{1345}$	NS	NS		Flow discharged: 329.5 l/s

Table 4.1. continued

1	2	3	4	5	6	7	8	9
TOTAL TRANSBOUNDARY RIVERS		$\mathbf{\frac{583.5}{125.2}}$	$\mathbf{\frac{169.7}{35.2}}$	$\mathbf{\frac{3000.9}{2536.2}}$	$\mathbf{\frac{310}{301}}$ **(Pb)** $\mathbf{\frac{84.5}{84}}$ **(Zn)** $\mathbf{\frac{0.0012}{0.0007}}$ **(CN^-)**	$\mathbf{\frac{11}{10.9}}$	**NA, NA**	
DANUBE RIVER	A I.4 - 2	$\frac{952}{198}$	$\frac{223}{56}$	$\frac{4886}{4397}$	NS	NS	NA	Discharged directly into the Danube River
	B II.1 - 3	NA	NA	$\frac{691}{350}$	NS	NA	NA	The effluent is discharged into the network of another company (DUNACOR SA)
	B II.1 - 8	NS	NS	NS	$\frac{0.4}{0.2}$ (CN^-)	$\frac{2}{1.95}$	NA	
TOTAL DIRECTLY DISCHARGED INTO THE DANUBE RIVER		$\mathbf{\frac{952}{198}}$	$\mathbf{\frac{223}{56}}$	$\mathbf{\frac{2577}{4747}}$	$\mathbf{\frac{0.4}{0.2}}$	$\mathbf{\frac{2}{1.95}}$		
BLACK SEA	A I.4 - 1	$\frac{135}{34}$	$\frac{38}{9}$	$\frac{832}{749}$	NS	NS	NA	
TOTAL		$\mathbf{\frac{8202.5}{1987.7}}$	$\mathbf{\frac{2290.5}{1356.5}}$	$\mathbf{\frac{54278.6}{48124.8}}$	$\mathbf{\frac{310}{301}}$ **(Pb)** $\mathbf{\frac{84.5}{84}}$ **(Zn)** $\mathbf{\frac{0.4}{0.2}}$ **(CN^-)**	$\mathbf{\frac{24.98}{23.51}}$	NA	

Almost all heavy metals reduction in the wastewater discharged in rivers is referred to the transboundary rivers, by implementing the short-term projects proposed. The total amount of Lead (310 tones per year), Zinc (84.5 tones per year) is discharged in Cri¿ River and by implemented the short-term project B I.1 - 12 (see Table 4.1), 97 percent and 99.4 percent will be removed, respectively.

About 45 percent of phenols estimated to be discharged by the companies taken in view with the short-term proposed are discharged in the transboundary rivers, while cynides almost one hundred per cent is discharged directly into the Danube River. By implementing the projects proposed about 50 percent of cynides and 94 percent of phenols are expected to be reduced.

Additional amount of heavy metals, cynides, phenols and persistent organic substances will be reduced by implementing the ecological reconstruction projects but the amount of substances removed could not be quantified due to the lack of data.

4.3. Microbiological Contamination

It is difficult to quantify the existing microbiological pollution due to the lack of data. Only the most important WWTPs (more than 100 000 inhabitants) are provided with specialized laboratories and the local water or environmental authorities do not use to measure microbiological characteristics of effluents. Only local health authorities use to inspect, but scarcely the microbiological impact on the natural water resources.

The lack of equipment, reagents and specialized personnel are also reasons why not the microbiological contamination is not monitorized.

Anyhow, one can say that more than 80 percent of the existing microbiological contaminants will be reduced from the effluents of the social and economic activities related to the short-term projects proposed in the NEAP. Most of technologies applied for waste water treatment are thought to comprise the unit operations corresponding to activated sludge process (primary sedimentation, aeration tanks and final sedimentation; activated sludge is recycled and the excess sludge is generally transported to the sediment zone of primary sedimentation basins. Finally the sludge collected in the primary tanks are stabilized by digestion and disposed off on the drying beds). The industrial wastewater which are not degradable biologically is treated applying coagulation or precipitation unit operations where bacteria are removed about 50 - 60 percent (by coagulation). Almost all the rivers are flowing throughout impoundment reservoirs where, according to the Chick's Law are removed. Anyhow if the MAVs are not achieved according to TNWP 001 or 002 a desinfection unit operation is to be applied with the new projects proposed.

4.4. Adverse Environmental Effects

There are no significant environmental effects of the actual and planned measures of water pollution reduction of water management.

Generally, all human settlements, industrial and agricultural units are provided with WWTPs and the projects proposed are intended to modernize the existing facilities and the new plants which are to be provided (e.g. WWTPs for Gala¡i, Bråila, etc., see Tables 3.2, 3.3 and 3.10) are already approved with their location in the territorial plans. EIAs are at the base of the approvals of the local authorities and these studies are already made in most of the projects included in the NEAP. The only impact on the environment which might be expected concerns only the building erection period of time, but special measures will alleviate the negative effects. Most of hydraulic structures provided to be approached by the projects proposed are already achieved in a certain percent, so the environment has been already wounded. There will not be a difficult problem to finalize these investments and on the other hand, the ongoing impact on environment would be not significant.

Out of the 22 structural projects proposed, 5 projects are related to the rivers crossing the boundary. In fact, 99 percent of the Romanian rivers are issuing their waters in the Danube River and only one percent directly into the Black Sea (the percentages are referred to the flows). Even the boundary crossing rivers are, finally discharging their waters into the Danube River, which is a boundary river. The final impact of pollution is measured in the Danube River Delta and the Black Sea. The amount of pollutant reduction in the transboundary rivers is put into evidence in the Table 4.1. Generally, the transboundary effects are described by the pollution indicators put into evidence in Annex 1. The obvious effects of transboundary pollution are heavy metals and persistent organic substances as it is shown in the Annex 1.

5. Cost Estimation of Programmes and Projects

The high priority (short term) projects have been estimated with their costs and the results are presented in Table 5.1. The total cost of these projects is 297 million USD of which about 27 percent are provided for municipal hot spots, 14 percent - for agricultural hot spots and 59 percent - for industrial hot spots.

The list of high priority projects was prepared by selecting the water related subjects from NEAP, [8]. Besides the additional projects proposed for the new adjusted NEAP, [11] have been considered in the list. The cost estimates were taken from the approved NEAP. All figures about costs were stated in Romanian currency in NEAP - 1995 and translated in USD equivalent for that time, that is 1 850 lei/USD. The actual exchange rate, in May - 1998 is 8 480 lei/USD.

All these exchange rates have been taken into account in establishing the project costs.

About 96 percent of the total cost proposed for high priority are for structural projects and the rest non structural ones. By the hot spots put into evidence, out of the total amount of money proposed for municipal hot spots more than 97 percent are structural, then for agriculture - 80 percent and 99.4 percent are structural for industrial hot spots.

The short term projects which were taken into consideration were picked up from the National Environmental Action Program approved by the Government in 1995. This year - 1998 - a task force team is set up to adjust the existing NEAP for updating.

There are also other programmes and plans which comprise other projects related to water pollution reduction.

Table 5.2. shows the projects proposed by different organizations by ranking off projects (high, medium, low).

Some of projects listed in Table 5.2 could be found in SAP or have been considered by the expert who prepared Part B of this report, but are not included in NEAP.

The projects mentioned in Table 5.1 have been regarded as high priority projects requiring a short-term achievement as they are provided in NEAP.

Table 5.1. Cost estimation of projects (high priority)

Nr.	Name and Type of Project	Priority Number	Cost (million dollars)
0	1	2	3
PROJECTS FOR MUNCIPAL HOT SPOTS			
1.	Harmonization of EU regulations of emissions in water with the national standards (Non structural)	A I.3 - 1 (2)	0.025
2.	Support for monitoring reference laboratories (Non structural)	A I.3 - 13 (2)	0.928
3.	WWTP - Craiova Modernization (Structural)	A I.4 - 5	3.2
4.	Environment territorial laboratories development (Non structural)	A I.3 - 11 (2)	0.353
5.	Quality objectives in the activity of waer quality (Non structural)	A I.1 (2)	0.284
6.	Control and fight against accidental pollution (Non structural)	A I.3 - 23 (7)	0.1
7.	Introduction of new instruments for quality water protection (Non structural)	A I.3 - 15 (6)	0.2625
8.	Expansion of WWTP from Managalia city (Structural)	A I.4 - 1	5.44
9.	WWTP of Braila Nord (Structural)	A I.4 - 2	21.9
10.	WWTP of Galati city (Structural)	A I.4 - 3	29.5*
11.	WWTP of Zalau city (Structural)	A I.4 - 4	7.0*
12.	Development of WWTP of Resita city (Structural)	A I.4 - 6	3.5*
13.	Development of WWTP of Cympulung Muscel city (Structural)	A I.4 - 7	1.5*

Table 5.1. continued

0	1	2	3
14.	Development of WWTP of Deva city (Structural)	A I.4 - 8	5.6
15.	Guidelines on designing and operation of urban waste land fill (Non structural)	A I.3 - 2 (2)	0.125
TOTAL:			79.7175
PROJECTS FOR AGRICULTURAL HOT SPOTS			
16.	Technologies of reclamation of agricultural soils affected by oil and salty water pollution (Non structural)	A I.5 - 4 (3)	0.75
17.	Ecological reconstruction of agricultural soils - Baia Mare (Structural)	A I.5 - 5 (5)	1.00
18.	Afforestation in the Copsa Mica area (Structural)	A I.5 - 13 (5)	3.142
19.	Agricultural turning to good account of zootechnical waste at at ROMSUIN TEST PERIS (Structural)	B II.1 - 7 (-)	1.297
20.	Capacity increase of WWTP of COMTOM TOMESTI (Structural)	B II.1 - 1	10
21.	Recycling and management of available waste from breeding farms (Structural)	A I.5 - 10 (-)	2.46
22.	Ecological reconstruction of poor agricultural land (Non structural)	A I.5 - 1 (1)	2.74
23.	Monitoring system development of chemical soil pollution in agricultural area (Non structural)	A I.3 - 16 (1)	0.676
24.	Biodiversity recovery of agricultural ecosystems affected by draught (Non structural)	A I.5 - 14 (6)	2.928
25.	Ecological reconstruction at Zlatna (Structural)	A I.5 - 15 (5)	2.458
26.	Protected areas monitoring (Structural)	A I.3 - 17 (2)	0.679

Table 5.1. continued

0	1	2	3
27.	Development of existing forests monitoring ecosystems (Non structural)	A I.3 - 21 (2)	0.317
28.	Fight against soil erosion in Tazlau river basin (Structural)	A I.5 - 11 (5)	3.428
29.	Rapid data collection by satelits applied on dangerous hydrometeo phenomena (Non structural)	A I.3 - Priority not yet established (2)	0.13
30.	Development of hydrological data base using GIS (Non structural)	A I.3 - Priority not yet established (2)	0.29
31.	Development of rapid dissemination of information about flood propagation (Non structural)	A I.3 - Priority not yet established (7)	0.212
32.	Dams rehabilitation along side Danube River from Iron Gate km 875 to Isaccea, km 103 (Structural)	A I.5 - 3 (6)	2.850
33.	Consolidation and rehabilitation of sliding lands in Zalau city (Structural)	A I.5 - 16 (5)	3.2
34.	Ecological reconstruction of polluted zone around SC ROMFOSFOCHIM SA VALEA CALUGAREASCA (Structural)	A I.5 - Priority not yet established (3)	2.8
TOTAL:			41.357
PROJECT FOR INDUSTRIAL HOT SPOTS			
35.	SELF MONITORING OF BIG INDUSTRIES (Non structural)	Pollution prevention	1.118
36.	Modernizing of installations from SC LETEA BACAU SA (Structural)	B II.1 - 2 (5)	1.5
37.	WWTP at SC CELOHART DONARIS Braila (Structural)	B II.1 - 3 (6)	2.7
38.	Waste water treatment at SC COLOROM CODLEA SA (Structural)	B II.1 - 4 (6)	25.3
39.	WWTP expansion at SC ANTIBIOTICE SA IASI (Structural)	B II.1 - 5 (6)	1.8
40.	Works for pollution reduction at UPS GOVORA SA (Structural)	B II.1 - 6 (5)	13.6

Table 5.1. continued

0	1	2	3
41.	Modernizing the secondary treatment of WWTP SC SIDERCA CALARASI SA (Structural)	B II.1 - 8 (6)	2.5
42.	Modernizing WWTP for oil products and sludge recovery at PETROBRAZI PLOIESTI (Structural)	B II.1 - 9 (5, 6)	2.8
43.	WWTP at ARPECHIM SA PITESTI (Structural)	B II.1 - 10 (6)	13.9*
44.	Ecologizing the wet process on the platform TIRGU MURES MANPEL SA (Structural)	B II.1 - 11 (5, 6)	1.1
45.	Removal chromium and zinc from the waste water discharged from fabrication of inorganic dyes and phenols from the synthesis of pharmaceutical products at SC SINTEZA ORADEA (Structural)	B II.1 - 12 (6)	0.33
46.	Modernizing WWTP CLUJANA SA CLUJ-NAPOCA (Structural)	B II.1 - 13 (6)	3
47.	WWPT system at VIDRA SA ORASTIE (Structural)	B II.1 - 14 (3)	1.2
48.	Action Program for environment protection in petroleum industry (Structural)	B II.1 - 15 (3)	100
49.	Harmonization of national legislation with six EU regulations regarding risks and industrial pollution control (Non structural)	A I.1 (2)	0.027
50.	Pollution with petroleum products abatement in PLOIESTI zone (pilot project) (Structural)	A I.5 - 12 (5)	5
TOTAL:			175.875
TOTAL GENERAL:			296.9495

* *Provisional estimation*

Table 5.2. Ranking of the projects proposed

Ser. No	Discharge / Location	Receiver River / Catchement area	PREVIOUS LIST OF HOT SPOTS		
			SAP 1993	NEAP 1995	NEAP 1997
0	1	2	3	4	5
HOT SPOTS – MUNICIPAL HIGH PRIORITY					
5	BRAILA	DANUBE	5		41
7	IASI	PRUT	18		
17	GALATI	SIRET	16		42
28	CRAIOVA	JIU	27	59	44
31	RESITA	TIMIS			
32	TIMISOARA	BEGA	28		6
34	DEVA	MURES			47
43	ZALAU	SOMES			43
52	CAMPULUNG	ARGES	8		46
54	BUCURESTI	ARGES			
		SUM:			
HOT SPOTS – MUNICIPAL MEDIUM PRIORITY					
18	TARGOVISTE	IALOMITA	34		
23	RM.VALCEA	OLT	29		
		SUM:			
HOT SPOTS – MUNICIPAL LOW PRIORITY					
1	CALARASI	DANUBE			
2	GIURGIU	DANUBE			
3	TULCEA	DANUBE			
4	DROBETA TR.SEVERIN	DANUBE			
6	BOTOSANI	PRUT			
8	BARLAD	SIRET			
9	VASLUI	SIRET			
10	ONESTI	SIRET			
11	ROMAN	SIRET			
12	FOCSANI	SIRET			
13	SUCEAVA	SIRET			
14	PIATRA NEAMT	SIRET			
15	BACAU	SIRET			
16	BUZAU	BUZAU			
19	SLOBOZIA	IALOMITA			
20	PLOIESTI	IALOMITA			
21	SF.GHEORGHE	OLT			
22	SLATINA	OLT			
24	SIBIU	OLT	32		
25	BRASOV	OLT	6	9	
26	PETROSANI	JIU	27		30
27	TG.JIU	JIU			
29	LUGOJ	TIMIS			

0	1	2	3	4	5
35	TURDA	MURES			
36	ALBA IULIA	MURES			
37	HUNEDOARA	MURES			
38	MEDIAS	MURES			
39	MEDIAS	MURES			
40	TG.MURES	MURES	37		
41	ARAD	MURES		55	
42	ORADEA	CRIS	22	54	
44	ZALAU	SOMES		19	
45	BISTRITA	SOMES			
46	BISTRITA	SOMES			
47	SATU MARE	SOMES			
48	BAIA MARE	SOMES			
49	CLUJ	SOMES	9		
50	ALEXANDRIA	VEDEA			
51	CURTEA DE ARGES	ARGES	13	12	
53	PITESTI	ARGES	24	10	
55	PREDEAL				
		SUM:			
HOT SPOTS – AGRICULTURAL HIGH PRIORITY					
111	SUINPROD INDEPENDENTA	BARLAD / SIRET			
113	COMTOM TOMESTI	BAHLUI / PRUT			
115	COMSUIN ULMENI	DANUBE / DUNARE			
	ROMSUINEST PERIS	IALOMITA			
		SUM:			
HOT SPOTS – AGRICULTURAL MEDIUM PRIORITY					
88	AGROCOMSUIN BONTIDA	SOMES MIC / SOMES			
90	COMSUIN MOFTIN	CRASNA / SOMES			
99	COMSUIN BEREGSAU	BEGA VECHE / BEGA – TIMIS			
116	BRAIGAL BRAILA	DANUBE / DUNARE			
25	COMBIL “GH.DOJA”	IALOMITA / IALOMITA			
29	AVICOLA SATU MARE	SAR / SOMES			
		SUM:			
	HOT SPOTS – AGRICULTURAL LOW PRIORITY				
92	SUINPROD SALCUD	MURES			
94	AVICOLA UNGHENI	MURES			

0	1	2	3	4	5
95	NUTRIMUR IERNUT	MURES			
96	COMSUIN PERIAM	MURES-ARANCA			
97	COMSUIN BIRDA	BEGA-TIMIS			
98	COMSELTEST PADURENI	BEGA-TIMIS			
101	COMBILCARIM CAZANESTI	IALOMITA			
104	SUINDED DEDULESTI	BUZAU			
105	SUIPROD	SIRET			
106	MARK-PORK VANATORI	SIRET			
107	SUINTEST FOCSANI	SIRET			
108	MARTINCOM MARTINESTI	SIRET			
109	AGRICOLA BACAU	SIRET			
114	PRODSUIS STANILESTI	PRUT			
		SUM:			
HOT SPOTS – INDUSTRIAL HIGH PRIORITY					
7	PHOENIX BAIA MARE	SASAR / SOMES			
13	PETROM SUPLAC DE BARCAU	BARCAU / CRIS			
16	SOMETRA COPSA MICA	TARNAVA MARE / MURES	12	1	
17	AZOMURES TG. MURES	MURES / MURES	40		
46	DOLJCHIM CRAIOVA	JIU / JIU			
55	ARPECHIM PITESTI	DAMBOVNIC / ARGES	25	B 57	90
56	PETROBRAZI PLOIESTI	PRAHOVA / IALOMITA	26		89
65	LETEA BACAU	BISTRITA / SIRET	2	40	82
70	FIBREX SAVINESTI	BISTRITA / SIRET			
71	PERGODUR P.NEAMT	BISTRITA / SIRET	23	45	
76	SIDEX GALATI	SIRET / SIRET	15		
77	ANTIBIOTICE IASI	BAHLUI / PRUT	19	58	85
79	SIDERCA CALARASI	DANUBE / DUNARE	7		88
87	SOMES DEJ	SOMES / SOMES			
93	INDAGRARA ARAD	MURES / MURES			
100	OLTCHIM RM.VALCEA	OLT / OLT			
119	SINTEZA SA ORADEA	CRIS REPEDE / CRIS			92
121	COLOROM CODLEA	VULCANITA / OLT	10	25	84
128	UPS GOVORA	OLT /OLT			
	CELOHART BRAILA	DUNARE			
	MANPEL TG. MURES	MURES			
	FAVIOR ORASTIE	MURES			

0	1	2	3	4	5
	CLUJANA SA CLUJ NAPOCA	SOMES			
		SUM:			
HOT SPOTS – INDUSTRIAL MEDIUM PRIORITY					
12	E.M. BOROD	CRIS			
22	SIDERURGICA HUNEDOARA	MURES			
23	E.M. CORANDA CERTEJ	MURES			
24	E.M ROSIA MONTANA	MURES			
26	IND.SARMEI CAMPIA TURZII	MURES			
47	NITRAMONIA FAGARAS	OLT / OLT	14		
48	ROMACRIL RASNOV	OLT			
50	CELOHART ZARNESTI	BARSA / OLT	42	4	
54	DACIA PITESTI	ARGES			
57	ROMFOSFOCHIM VALEA CALUGAREASCA	TELEAJEN / IALOMITA	40		
60	ASTRA ROMANA PITESTI	IALOMITA			
61	PETROTEL TELEAJEN	IALOMITA	33	33	
66	CHIMCOMPLEX BORZESTI	SIRET	4		
72	SOFERT BACAU	SIRET		47	
73	CAROM ONESTI	TROTUS / SIRET			
80	ALUM TULCEA	DANUBE / DUNARE	36		
81	CICH TR.MAGURELE	DANUBE / DUNARE	39		
83	ROMAG TR.SEVERIN	DANUBE / DUNARE			
89	TERAPIA CLUJ	SOMES MIC / SOMES			
91	STRATUS MOB BLAJ	MURES			
95	NUTRIMUR IERNUT	MURES			
102	ULCOM SLOBOZIA	IALOMITA			
103	BETA TANDARENI	IALOMITA			
110	SPIRT GHIDICENI	SIRET			
120	CLUJANA SA CLUJ-NAPOCA	CRIS			93
126	VERACHIM GIURGIU	DANUBE / DUNARE	17		
130	COMCEM SA CALARASI	DANUBE / DUNARE			
131	SC STIMAS SUCEAVA	SIRET			
		SUM:			

0	1	2	3	4	5
HOT SPOTS – INDUSTRIAL LOW PRIORITY					
1	EM TURT	SOMES / TISA			
2	EM BAIA BORSA	SOMES / TISA			
3	EM RODNA	SOMES / TISA			
4	SILCOTUB ZALAU	SOMES / TISA			
5	EM BAIA MARE EST	SOMES / TISA			
6	EM BAIA MARE VEST	SOMES / TISA			
8	ROMPLUMB BAIA MARE	SOMES / TISA			
9	EM BRAD BREAZA	CRIS	3		
10	EM DEVA BRUSTURI	CRIS	20		
11	EM BIHOR STEI	CRIS			
14	EM VOIVOZI	CRIS			
15	PETROM MARGHITA	CRIS			
18	AMPELLUM ZLATNA	MURES	43	2	
19	EM BAIA DE ARIES	MURES			
20	EM ABRUD	MURES			
21	EM ZLATNA	MURES			
25	EM BAIA DE ARIES	MURES			
27	METALURGICA AIUD	MURES			
28	MECANICA CUJMIR	MURES			
29	SIDERMET CALAN	MURES			
30	EM POIANA RUSCA-TEIUC	MURES			
31	EM DEVA	MURES			
32	AUTOMECANICA MEDIAS	MURES			
33	RESIAL ALBA IULIA	MURES			
34	MINA DEVA	MURES			
35	SOCOMET OTELUL ROSU	BEGA / TIMIS			
36	EM RUSCHITA	BEGA / TIMIS			
37	CIOCANUL NADRAG	BEGA / TIMIS			
38	UCMR RESITA	BEGA / TIMIS			
39	CS RESITA	BEGA / TIMIS			
40	EM CIUDANOVITA	BEGA / TIMIS			
41	EM SASCA MONTANA	BEGA / TIMIS			
42	SEMAG TOPLET	DUNARE			
43	EM PETRILA	JIU			
44	EM LUPENI	JIU			
45	EM COROIESTI	JIU			
49	EM CAPENI	OLT			
		SUM:			

6. Planning and Implementing Capacities

6.1. Planning Capacities

The Ministry of Water, Forests and Environmental Protection has the overall responsibility for environmental management in Romania, but in close cooperation with all Ministries and local authorities. The key central authorities the MWFEP cooperates with: MPWTP - for municipal water supply and wastewater treatment and disposal, MAF - for agricultural issues and MIC - for industrial issues. Local authorities are also involved in project implementation process.

The assignments of MWFEP are sufficiently comprehensive to ensure an integrated approach to environment management, by drafting, executing and enforcing:

- environmental policies and strategies on national and sectoral levels, including setting water management and forestry policy as well as being responsible for nuclear issues;
- operational action plans and programs;
- environmental projects.

There are 42 Environmental Protection Agencies directly subordinated to MWFEP, located in each county. In each county of Romania agencies, offices and other institutions are organized to deal with forest, human health, work and social protection, statistics, etc.

A special attention is given to the water resource management, which is organized on the main river tributary areas, considering the whole corresponding water balance of the specific basin. There are stage framework schemes elaborated on each tributary area, taking into consideration the sustainable social and economic activities in the respective zone. A specialized Institute 'AQUAPROJECT" use to design and plan all the projects which are coordinated by RAAR. The main objective of these schemes is the assurance of water quantity and quality for all users. There are 11 River Water Authorities subordinated to MWFEP via RAAR.

Almost in each city of the country water utility units have the task to maintain and operate the water supply and wastewater treatment facilities; these units are generally coordinated by companies - RAJAC - organized in each capital of each county.

Finally, it must be mentioned that most of the ministries involved in production processes (e.g. MIC, MAF) have special compartments, which are responsible for environmental problems.

On the whole, there are about 300 units, compartments and institutions involved with environmental problems.

The total number of personnel working in the Water Management network is 12 490, [28].

The NGOs play an important role in the process of projects proposals as well as the other capital decisions and public participation is assured by means of mass media.

Generally one can say that in Romania there is a certain institutional capacity in the field of preparation of structural projects for water pollution reduction and less experience in preparing non-structural projects. There are about 18 000 higher education employees in engineering sciences in Romania, [6].

In each county there are at least a designing institute and smaller units of consulting and designing works in the field of water pollution reduction; they are spread all over the country, and they become more and more, with the privatization process.

The main institutes specialized in projects for WWTPs is PROED - located in Bucharest.

Besides REIE is a reference institute (comprising 460 employees) working in preparing non-structural projects.

It can be said that planning according to "Best Available Techniques" and "Best Available Practice" presents some difficulties due to the lack of information and due to the financial problems.

Anyhow, one cannot help telling that are not sufficient capacities of institutions for preparation of project documents for bankable projects, but in the same the following external support is needed for the following items:

- Non structural projects;
- Know how technologies (BAT), in advanced water treatment unit operations (e.g. tertiary treatment of wastewater, sludge de-watering by tangential filtration, reverse osmosis, etc.);
- Institutional capacity building (e.g. rural water supply and sewage systems);
- Tendering process in international projects;
- Designing the monitoring networks;
- Building production companies for water treatment equipment;
- Legislation (harmonization of EU legislation);
- Training (e.g. laboratory analysis methods);
- Assistance for procurement of new equipment from outside the country.

6.2. Implementing Capacities

6.2.1. Implementing Capacities for Structural Projects

Romania has a good potential for the construction of treatment plants for municipal and industrial wastewater. Although the former big construction companies were split with the privatization process, one cannot say that the potential construction capacity disappeared. There are construction companies in each county, which could fulfill the requirements for every project implementation.

Co-operation with foreign companies is needed for training with the BAT, new equipment, for procurement of special equipment of wastewater treatment plant from other countries. Besides the other issues mentioned in the previous paragraph are subjected for co-operation with foreign companies.

Special electric regulation items, as well as laboratory analysis equipment are needed. In situ measurements devices are necessary (e.g. flowmetres, oxygenmetres). There is a strong need of measurement equipment in existing and future wastewater treatment plants.

Alarm systems, sensors and other components of authorized systems are also needed.

Some of the companies have started building their own environmental monitoring networks. Anyway it must be pointed out that the main requirements are related to the measuring equipment. Even important research laboratories are complaining with the lack of technical measuring equipment. In spite of the fact that some of the manufacturing plants have changed their working profile, producing pollution control equipment (e.g. IAUC Bucharest, UNIO-Satu Mare, Bistri¡a - Nåsåud), most of the Romanian companies are looking for the Western European market, being sure about the quality of their products. There are initiatives in this field of activity and more and more companies are already known all over the country.

6.2.2. Implementing Capacities for Non-structural Projects

There is a need for international co-operation for implementation of non-structural projects. Legislation issues applied in Romania in the context of transboundary conditions, ecological reconstruction, preventing the deleterious effects of subjects of the projects included in the NEAP, which are supposed to require international co-operation.

Annex 1.

Sources of Pollution Exceeding the Allowable Concentrations of the Main Rivers in Romania

Sources of Pollution and the Pollutants Exceeding the Allowable Concentrations on the Main Rivers in Romania, [4]

RIVER TRIBUTARY BASIN	RIVER AND MONITORING SECTION	POLLUTANT EXCEEDING MAXIMUM ALLOWABLE LIMIT	INDUSTRY CAUSING POLLUTION
SOMES	SOMESU MARE	Zn	Non Ferrous M. Industry –
	SOMES		- ROMPULMB Baia Mare
	- Răstoci	Cu, Zn. CN^-, P	Chemical Industry
	- Ulmeni	Cu, Zn, CN^-	- TERAPIA Cluj
	- Ciocârlău	Cu, Zn, CN^-	- CESOM Dej
	SOMESU RECE		Pulp and Paper
	- Uz. Someşiu	Cu, Zn	- CCH – Dej
	CAPUS		Agriculture –
	- Amonte S. Mic	Cu, Zn	- AGROCOMSUIN
	LAPUS		Bonțida
	- Răzoare	Cu, Zn	- AVICOLA - Zalău
	- Lăpuşel	Cu, Zn	
	- Buşag	Cu, Zn, CN^-, P	
	CAVNIC		
	- Copalnic	Cu, Zn, Mn	
	SASAR		
	- Baia Mare	Cu, Zn, CN^-, Mn	
	CRASNA		
	- Crasna	P	
	- Moiad	P	
	- Supuru de Jos	COD-Mn, NH_4^+, P	
	- Berveni	COD-Cr, NH_4^+, P	
	ZALAU		
	- Borla	Zn, Det., BOD, COD	
TISA	VISEU		Mining Industry – Rodna
	- Poiana Borşa	Zn	
	- Bistra	Cu, Zn	
	TISA		
	- Sighet	Cu, Zn	
	IZA		
	- Vad	Zn	
	TUR		
	- Negreşti – Oaş	P	
	- Turulung	Zn, Mn, P	
	VALEA REA		
	- Hula Certeze	P	
CRISURI	CRISU ALB		OIL EXTRACTION
	- Criscior	Pb	Suplacu de Barcău
	- Gurahonț	Zn	Marghita and (1)
	CRISU REPEDE		
	- Chersig	P	

RIVER TRIBUTARY BASIN	RIVER AND MONITORING SECTION	POLLUTANT EXCEEDING MAXIMUM ALLOWABLE LIMIT	INDUSTRY CAUSING POLLUTION
MUREŞ	NIRAJ - Ungheni ARIES - Luncani MURES - Ocna Mureş - Alba Iulia - Ghelmar - Branişca - Arad - Lipova - Nădlag TÂRNAVA MARE - Vânători - Up. Blaj - Mihalț AMPOI - Barabant GEOAGIU - Up. Mureş CERNA - Santuhahu ARANCA - Valcani	 P Zn Zn Zn Zn Zn Zn Zn, P Zn, Fe P Pb, Zn, Cd Pb, Zn, Cd Pb, Zn, Cd Zn, Cd, Mn Cu, Phenols P	Chemical industry: CARBOSIN – Copşa Mică CHIMICA – Turda AZOMURES – Tg. Mureş Soda Ash Factory Ocna Mureş Chemical Integrated Plant from Arad and see (2)
BEGA - TIMIS	BEGA - Otelec BEGA VECHE - Pischia TIMIS - Sadova - Lugoj - Sag - Grăniceri BISTRA - Obreja SURGAN - Chervesu Mare BARZAVA - Crivaia - Moniom - Gătaia - Partos MORAVITA - Moravița CARAS - Carasova - Varadia	 Zn, P, COD Zn, P, Phenols, BOD Zn Zn, P P Zn, COD, P Cd Zn, BOD, NH_4^+, P Zn Zn, Cd, P P P, Fe P Zn, P P	STEEL INDUSTRY Integrated Plant from Reşița AGRICULTURE COMSUIN – Beregău COMSUIN – Birda COMTIM – Timişoara SUINPROD – Berzovia AVICOLA – Bocşa

RIVER TRIBUTARY BASIN	RIVER AND MONITORING SECTION	POLLUTANT EXCEEDING MAXIMUM ALLOWABLE LIMIT	INDUSTRY CAUSING POLLUTION
NERA - CERNA	NERA - Dalboset - Naidaş CERNA - Up. Herculane - Topleț	 Zn, P Zn, P P P	
JIU	JIU DE VEST - Isoroni - Livezeni - Sadu	 COD COD COD	
OLT	OLT - Up. Blaj - TomeşTI - Sancrăieni - Micfalău - Araci - Feldioara - Hoghiz - Făgăraş - Carta - Sebeş - Olt - Câineni - Călimăneşti - Rm. Vâlcea - Stoieneşti - Izbiceni - Drăgăşani - Slatina RAU NEGRU - Chischis BARAOLT - Baraolt VARGHIS - Vârghiş GHIMBASEL - Stupini - Bod BARSA - Down CCH Zărneşti - Upstream Olt issue HOMOROD - Rupea CIBIN - Upstream Sibiu - Tălmaciu TESLUI - Recşa OLTET - Fălcoiu	 Cu Cu, Fe Fe, P Cu, Fe, P Cu, P Zn, CT, BOD Zn, Fe, COD, BOD Zn, COD, BOD Cd, Zn, Pb Zn, P P P P P P COD, Mg Fe, P Cu, Fe, P, Phenols Cu, P Cu, P Zn, CCO, BOD Zn, Cr, CCO, BOD Zn CCO, BOD Zn, Cr, CCO, BOD Zn, Fe, COD, BOD P Zn, Cd, COD, BOD, P Fe, P Fe, P	Chemical Industry NITRAMONIA Făgăraş ROMACRIL Râşnov OLTCHIM Rm. Vâlcea Chloro-sodium products plant from Govora Dye factory – COLOROM Codlea R. plant Feldioara Pulp and Paper CELOHART Zărneşti CCH Govora Oil Extraction Ciurăşti Extraction Field Iancu Jianu E.F. and see (4)

RIVER TRIBUTARY BASIN	RIVER AND MONITORING SECTION	POLLUTANT EXCEEDING MAXIMUM ALLOWABLE LIMIT	INDUSTRY CAUSING POLLUTION
VEDEA	PLAPCEA - Sineşti VEDEA - Văleni - Up. Roşiorii de Vede - Alexandria - Upstream Issue Danube	 P TDS, CT TDS, CT, P P P	AGRICULTURE SUINPROD – Zimnicea
ARGES	RAUL TIRGULUI - Apa Sărată RAUL DOAMNEI - Mărăcineni ARGES - Malu Spart - Clăteşti DAMBOVNIC - Suseni - Ueşti NEAJLOV - Călugăreni COLENTINA - Plătăreşti	 P P P P Phenols,P,BOD,COD, CN^- P P, Cl^- BOD	Chemical Industry ARPECHIM Piteşti Oil Extraction Extraction Field Titu Extraction Field Găieşti AGRICULTUREE see (5)
IALOMITA	IALOMITA - Siliştea Snagovului - Coşereni - Slobozia - Ţăndărei PRAHOVA - Cornu - Tinosu - Adâncata TELEAJEN - Gura Vitioarei - Moara Domnească	 TDS, P, CT TDS, P, CT, SO_4^{-2} TDS, P, CT, SO_4^{-2} TDS, P, CT, SO_4^{-2}, NH_4^-, Cd, P Cd, P, BOD, Phenols TDS, COD, P Zn, Phenols, Det., P TDS, BOD, Cl, SO_4^{-2}	Petrochemical Industry see (6)

RIVER TRIBUTARY BASIN	RIVER AND MONITORING SECTION	POLLUTANT EXCEEDING MAXIMUM ALLOWABLE LIMIT	INDUSTRY CAUSING POLLUTION
SIRET	MOLDOVA - Fundu Moldovei SUHA - Stulpicani SIRET - Drăgeşti - Galbeni - Cosmeşti - Sendreni BISTRITA - Argestru - Dorna Arini - Roznov - Gârleni - TROTUS - Târgu Ocna - Adjud VASLUI - Codăeşti BARLAD - Bârlad - Tecuci RAMNICU SARAT - Măicăneşti BUZAU - Banita - Racoviţa	 Zn Zn COD P, COD P P Fe Zn, Fe, MnP COD, BOD, P P COD Phenols COD, Fe Fe P TDS, CT Fe Fe	Petrochemical Industry RAFO Borzeşti Refinery Dărmăneşti CAROM Oneşti CHMILCOMLEX Borzeşti Chemical Industry AZOCHIM Roznov Synthetical fibre Enterprises Săvineşti Pulp and Paper see (7)
PRUT	JIJIA - Down S. Dorohoi - Todireni - Victoria - Oprişeni SITNA - Botoşani BAHLUI - Upstream S. Hârlău - Podu Iloaiei - Holboca BAHLUIET - Târgu Frumos PRUT - Drânceni ELAN - Murgeni CHINEJA - Fartaneşti	 Zn, COD COD COD, BOD, Fe COD,BOD.Phenols, NH_4^+ Zn, COD, BOD BOD BOD, COD, P BOD, COD, NH_4^+, Fe, P BOD, COD, P COD, P COD, P P	Chemical Industry ANTIBIOTICE Iaşi AGRICULTURE COMTOM Tomeşti BELSUIN Belceşti

RIVER TRIBUTARY BASIN	RIVER AND MONITORING SECTION	POLLUTANT EXCEEDING MAXIMUM ALLOWABLE LIMIT	INDUSTRY CAUSING POLLUTION
DANUBE	(8)		Chemical Industry ROMAG Tr. Severin TURNU – Tr.Măgurele VERACHIM Giurgiu DUNACOR Brăila Steel Industry SIDERCA Călăraşi Industrial Platform Tulcea Other Industry TULCO Tulcea DALLCO Tulcea ALUM Tulcea
BLACK SEA	(9)		Chemical Industry FERTILCHIM Năvodari Petrochemical Industry PETRO-MIDIA Năvodari Transportation PETROTRANS Constanța

1. **Mining** at Barza, Luncuşoara, Cement Factory at Aleşd
2. **Nonferrous Metal Industry**: SOMETRA – Copşa Mică and AMPELLUM – Zlatna.
   Steel Industry: SIDERMET – Călan and SIDERURGICA – HUNEDOARA
   Mining: Minin Extraction Zltna and at Baia Mare.
   Agriculture: SINPROD Gâlda
   Food Industry: Sugar Factory from Târgu Mureş and food industrial platform from Arad
   Other Industry: Cement Factory from Câmpia Turzii and Machinery Factory from Cugir
3. **Energetical Industry**:
   RENEL – Branch Paroşeni
   RENEL – Branch Rovinari;
   RENEL – Branch Turceni
4. **Nonferrous Metal Industry**:
   ALRO Slatina
   Agriculture
   COMSUINTEST - Izbiceni
   Other activities
   Industrial Platform Braşov
   Municipal Waste Water Treatment Plants from Braşov, Sibiu, Rm.Vâlcea
5. **Agriculture**:
   AVICOLA - Crevedia
   SUINTEST – Călăraşi
   Other activities
   ACUMULATORUL – Bucureşti
   NEFERAL – Bucureşti
   NUCLEAR TECHNICS INSTITUTE – Piteşti
   DACIA – Piteşti

ARO – Câmpulung Muscel
TEXTILE ENTERPRISES – Baloteşti
Municipal Wastewater Treatment Plants from Piteşti, Câmpulung-Muscel, Curtea de Argeş

6. **Petrochemical Industry**:
ASTRAROM – Ploieşti
VEGA – Ploieşti
PETROTEL – Ploieşti
PETROBRAZI – Brazi
Chemical Industry
ROMFOSFOCHIM – Valea Călugărească
CHEMICAL INTEGRATED PLANT – Slobozia
TYRE FACTORY – Floreşti
Oil Extraction
Oil Field – Târgovişte
Oil Field – Moreni
Agriculture
COMBIL – Slobozia
SUINTEST – Slobozia – Ciorăşti
Steel Industry
CCS - Târgovişte
Food Industry
Sugar Factory - Țăndărei

7. **Pulp and Paper Industry**:
LETEA – Bacău
CCH – Piatra Neamț
Steel Industry
SIDEX – Galați
Mining Industry
Călimani
Crucea
Agriculture
SWINE BREEDING FARM – Vereşti
Other Activities
RULMENTUL – Bârlad
TEXTILE ENTERPRISE – Buhuşi
DUCTIL – Buzău
Municipal Waste Water Treatment Plant Galați

8. Discharged directly into the Danube River.

9. **Discharged directly into the Black Sea**.

Annex 2.

Existing Regulations Concerning Water Pollution Control

Existing Regulations Concerning Water Pollution Control

River Water Quality Standard	RS 4706/1988
Government Decision Concerning Unitary System of Payments for Water Management Products and Services	Nr. 1001/1990
Law of Environmental Protection	Nr. 137/1995
Law of Waters	Nr. 107/1996
Technical Regulation for Return Flow into Water Resources	TNWP 001/1987
Technical Regulation for Return Flow into Public Sewerage Systems	TNWP 002/1987

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