



Maintenance Activities on the Romanian Danube Sector in 2020-2023

Agenda



- *Analysis of the hydrological conditions 2020-2023*
- *Maintenance activities performed 2023*
- *Monitoring activities carried out in 2023*
- *Necessary measures for navigation conditions (2024)*

Hydrological conditions

In terms of levels, the period January-September, shows a favorable hydrological conditions, with the exception of a few days at the end of month, when the levels approached the ENR value.

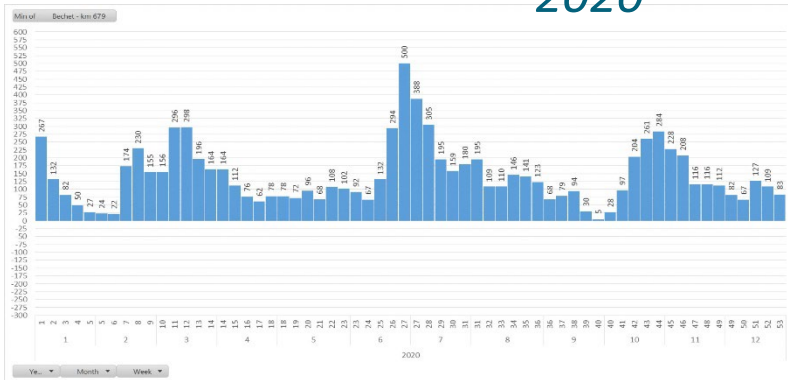
in October, the levels decreased, with values below ENR, after which, starting with November, they increased until the end of the year.

Minimum water levels recorded in 2023 at the reference stations corresponding to critical sectors on the river sector of the Danube

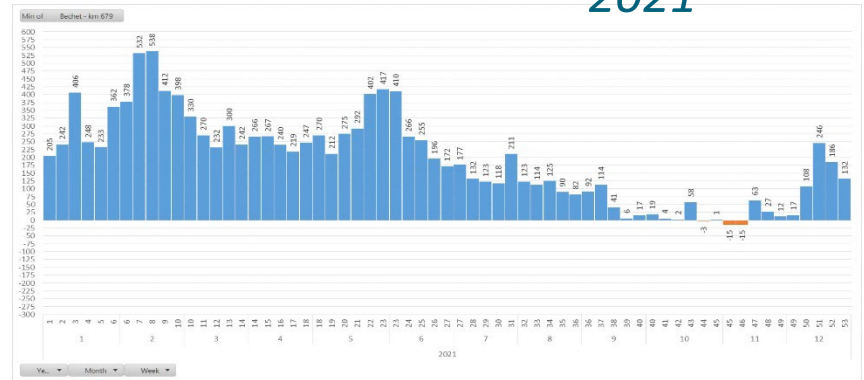
Gauge	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Harsova - km 253	238	210	286	292	354	440	70	70	14	-65	-42	396
Cernavoda - km 300	171	138	232	225	287	370	-13	-11	-72	-165	-131	344
Calarasi - km 370	160	134	245	206	272	329	14	16	-40	-109	-77	338
Tr. Magurele - km 597	169	151	226	214	285	270	65	74	16	-41	26	354
Corabia - km 630	157	132	212	206	275	243	37	46	-13	-75	-2	354
Bechet - km 679	204	168	256	258	314	271	86	94	32	-32	55	405
Calafat - km 795	152	112	196	230	270	202	27	31	-29	-94	26	374
Cetate - km 811	202	165	251	287	310	257	82	84	21	-46	84	425
Gruia - km 851	174	128	238	272	284	230	50	48	-10	-82	50	408

Water levels registered at Bechet (km 679) gauge in 2020-2023

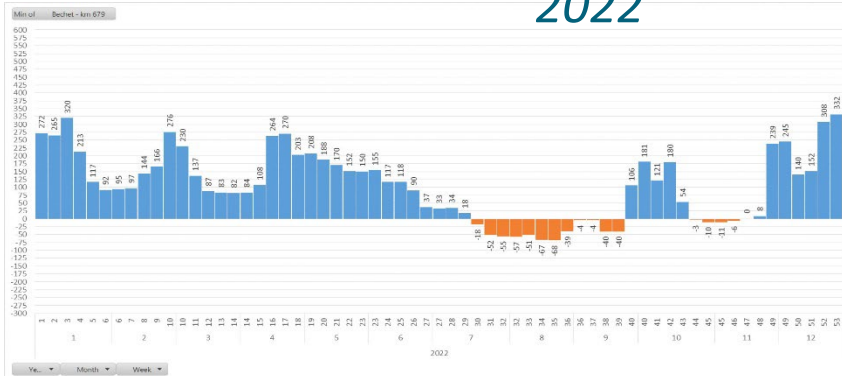
2020



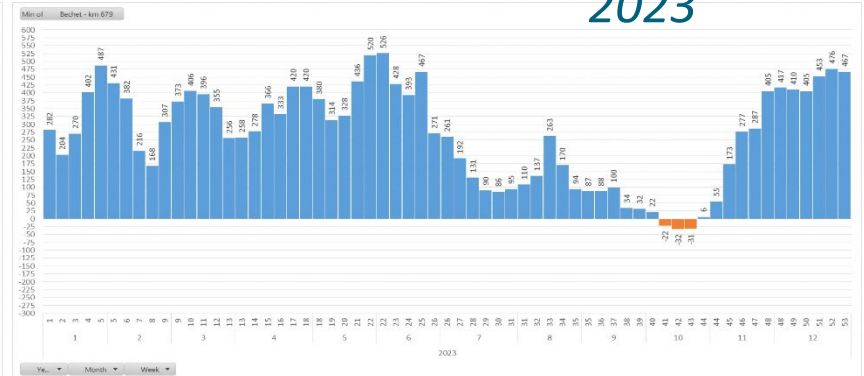
2021



2022

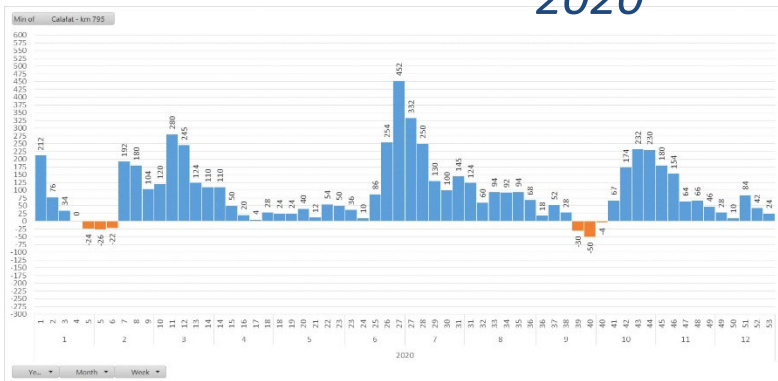


2023

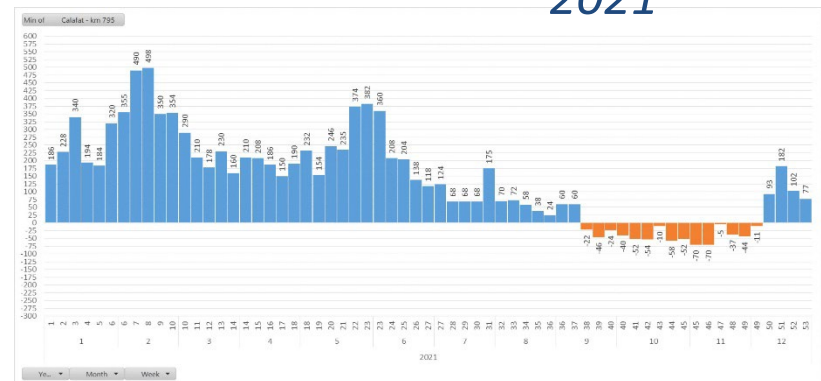


Water levels registered at Calafat (km 795) gauge in 2020-2023

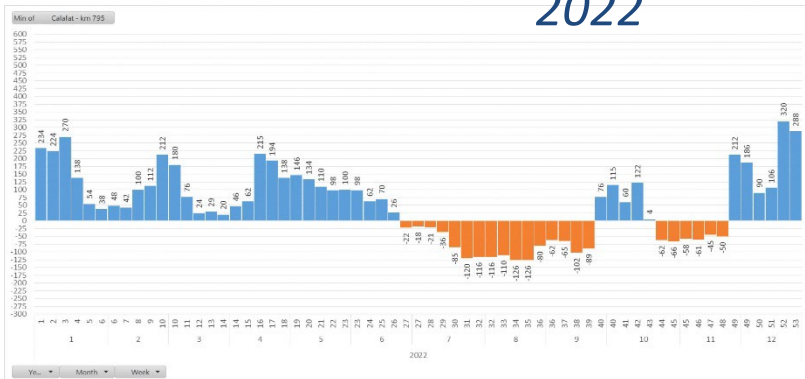
2020



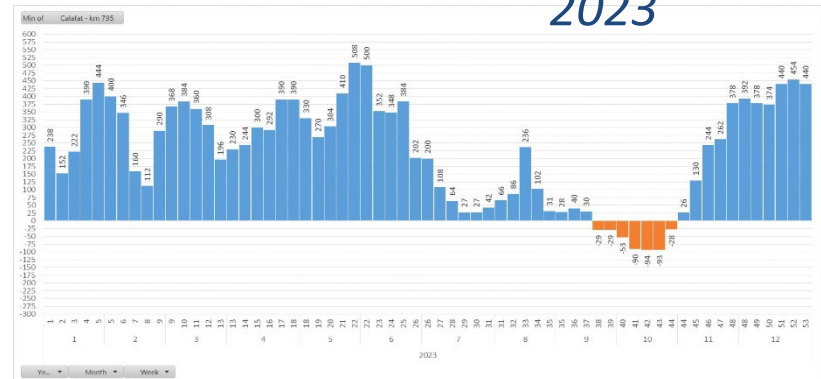
2021



2022

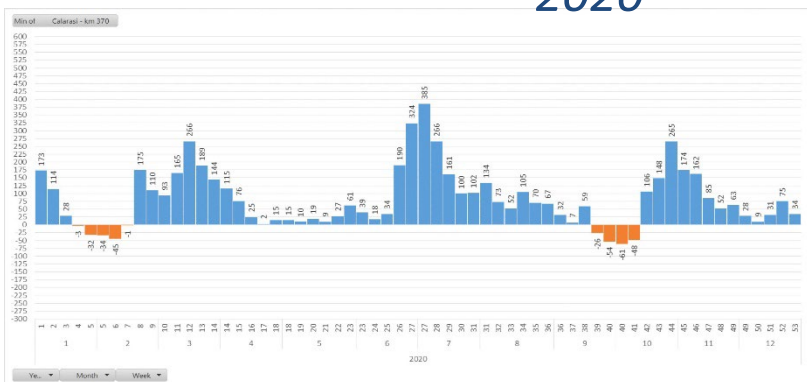


2023

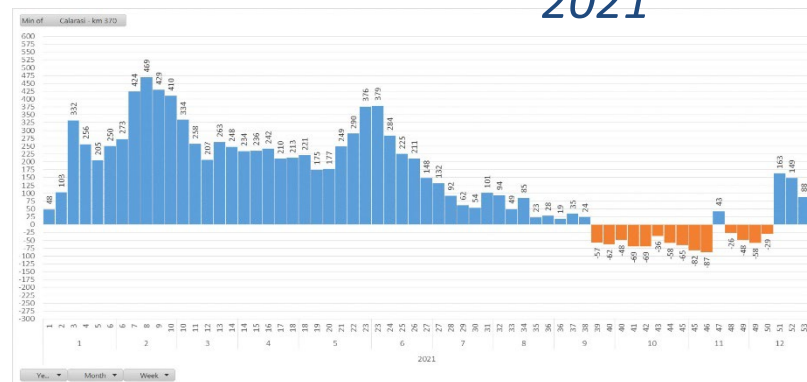


Water levels registered at Calarasi (km 370) gauge in 2020-2023

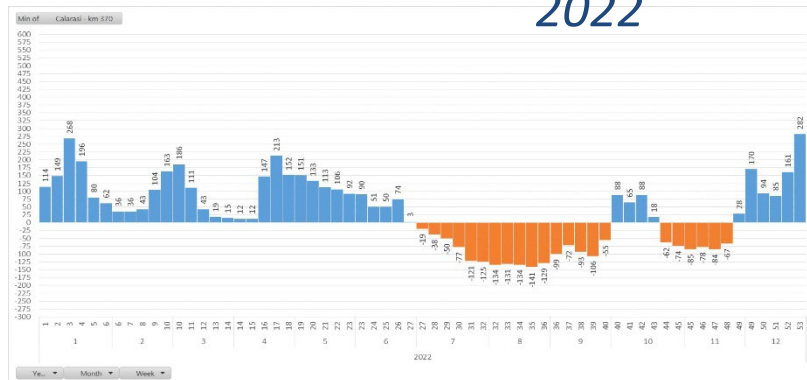
2020



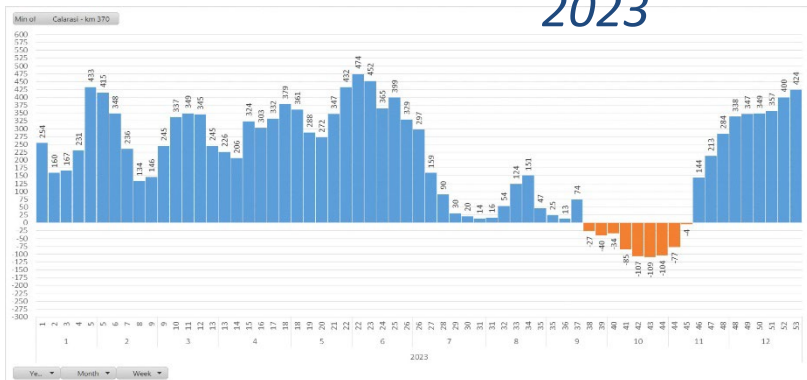
2021



2022

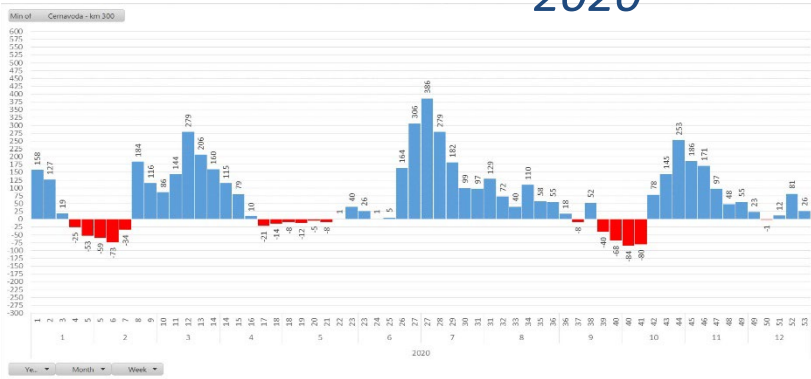


2023

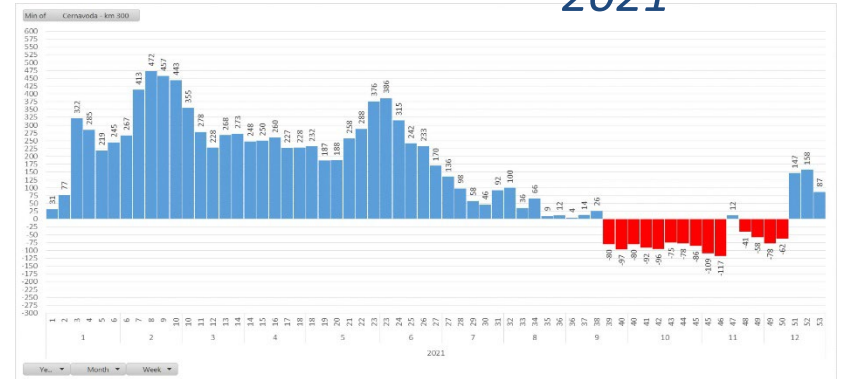


Water levels registered at Cernavoda (km 300) gauge in 2020-2023

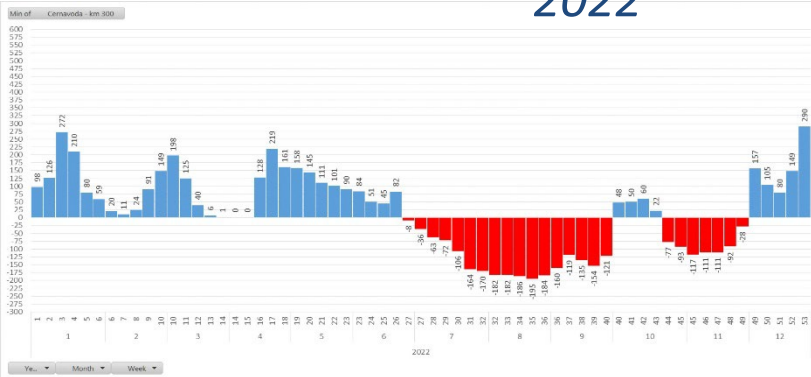
2020



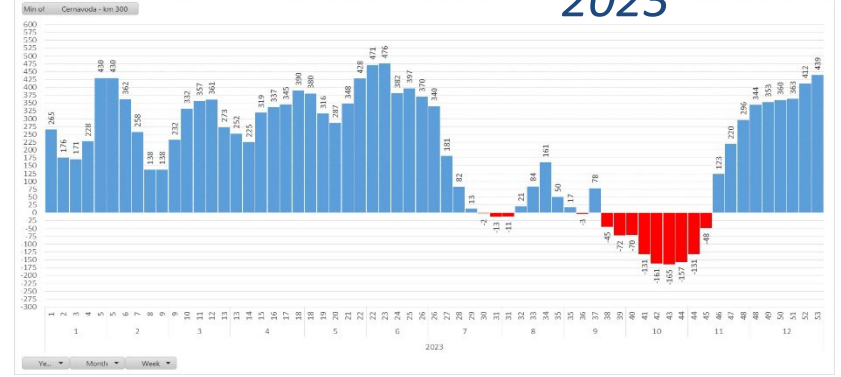
2021



2022

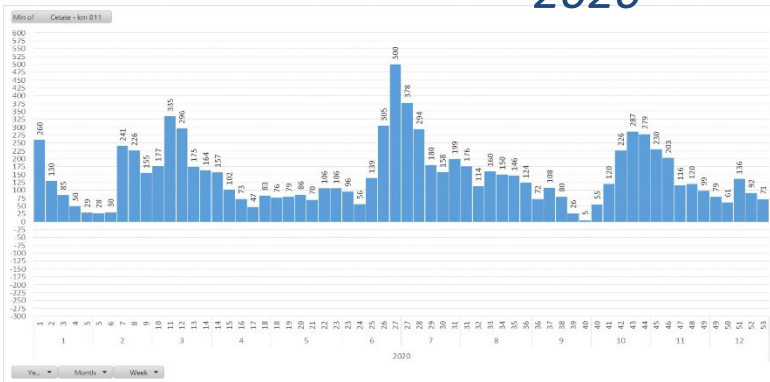


2023

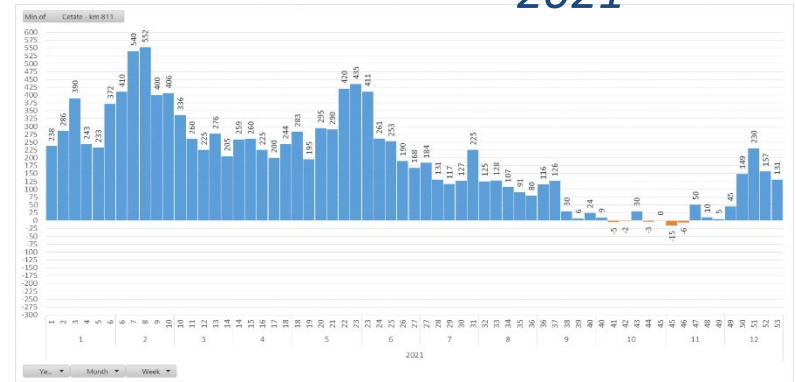


Water levels registered at Cetate(km 811) gauge in 2020-2023

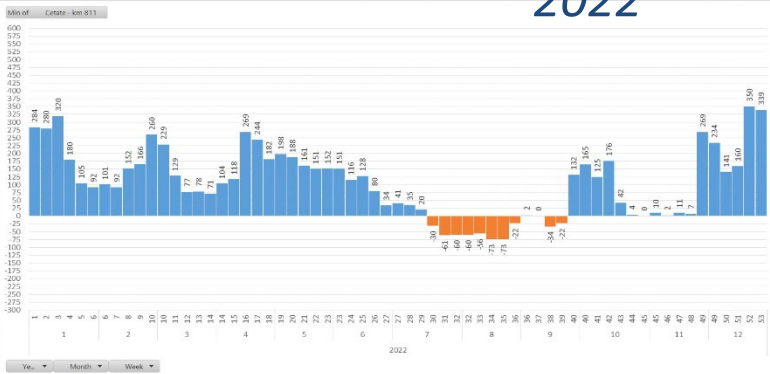
2020



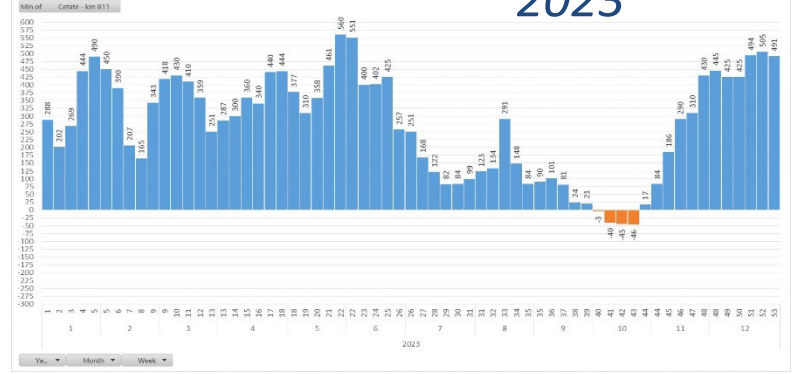
2021



2022

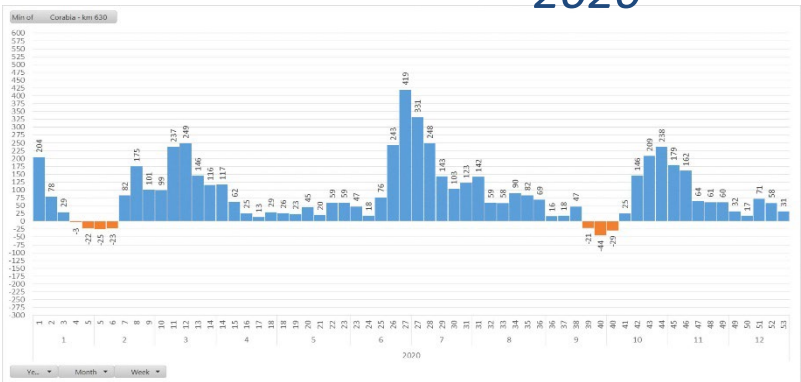


2023

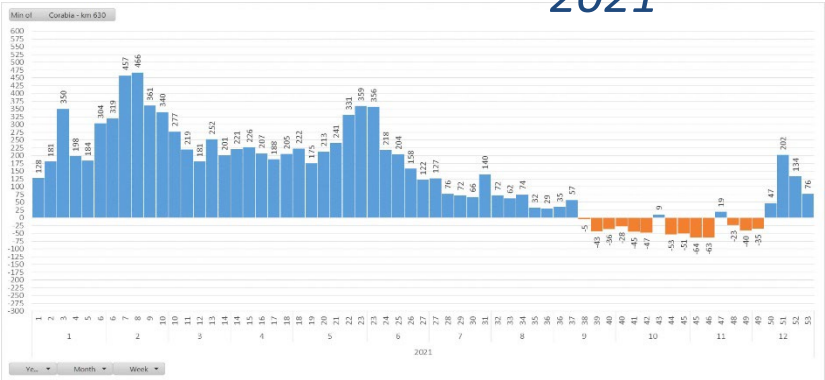


Water levels registered at Corabia (km 630) gauge in 2020-2023

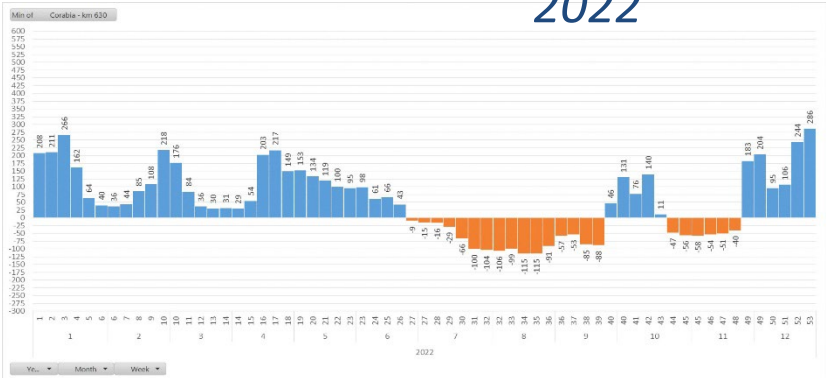
2020



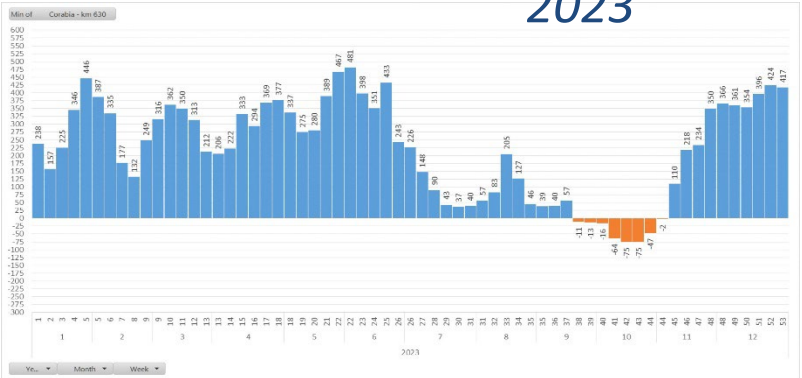
2021



2022

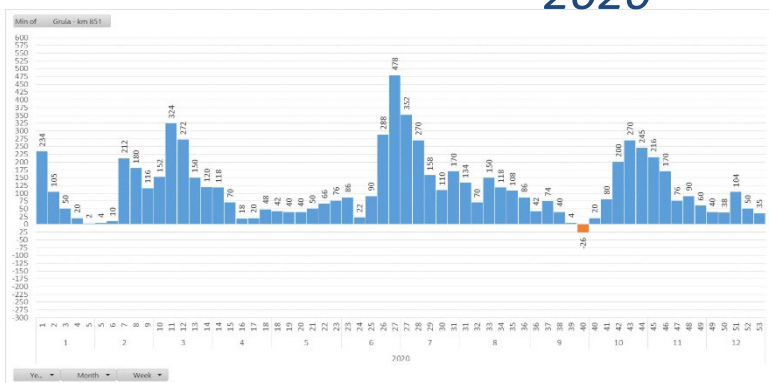


2023

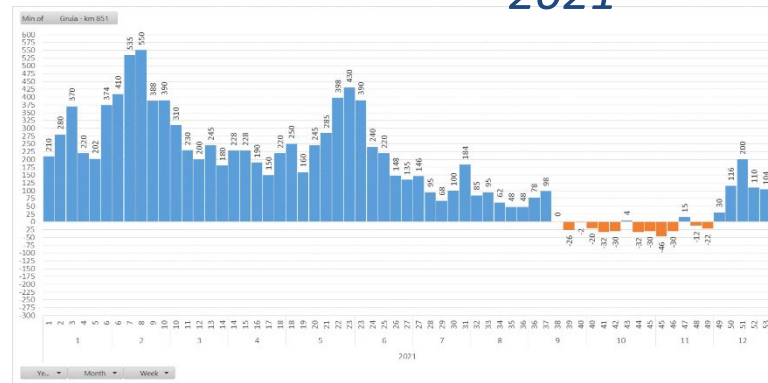


Water levels registered at Gruia (km 851) gauge in 2020-2023

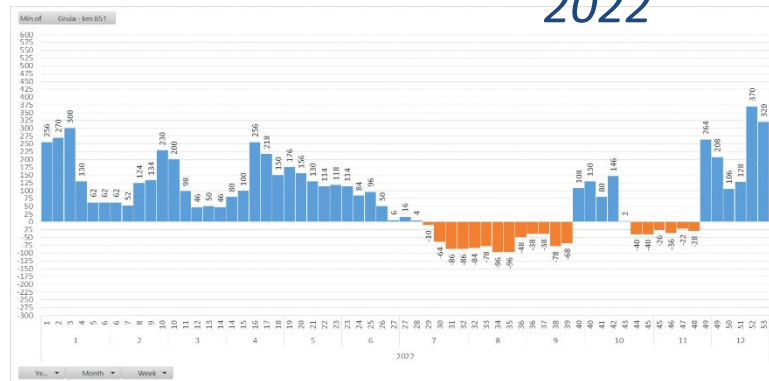
2020



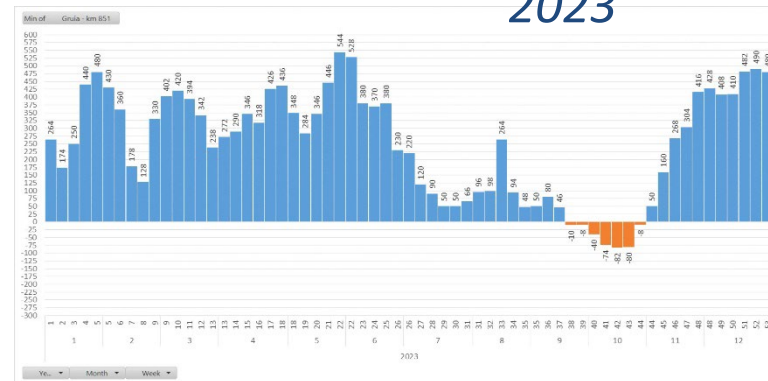
2021



2022

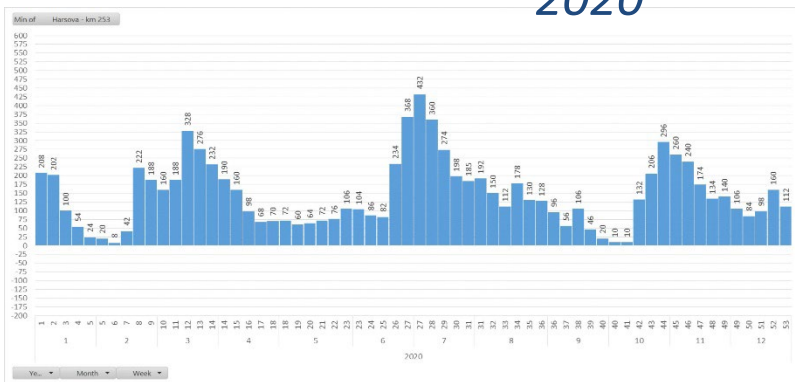


2023

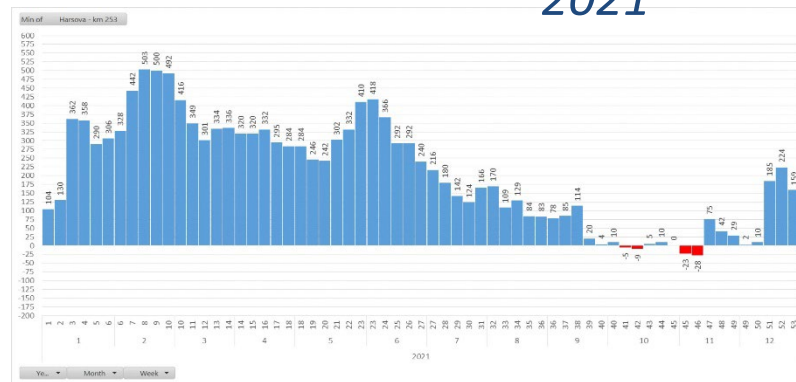


Water levels registered at Harsova (km 253) gauge in 2020-2023

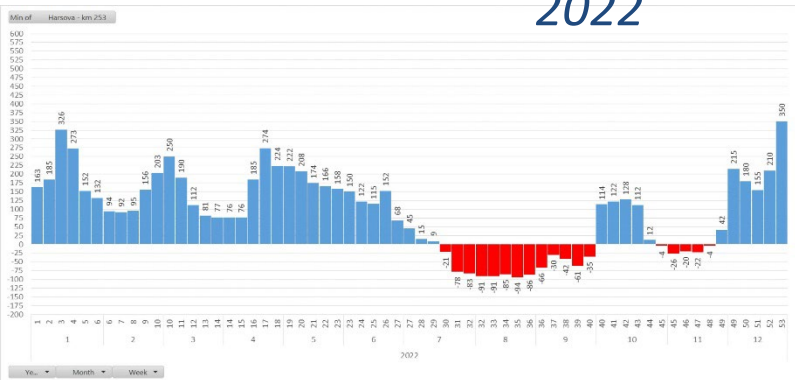
2020



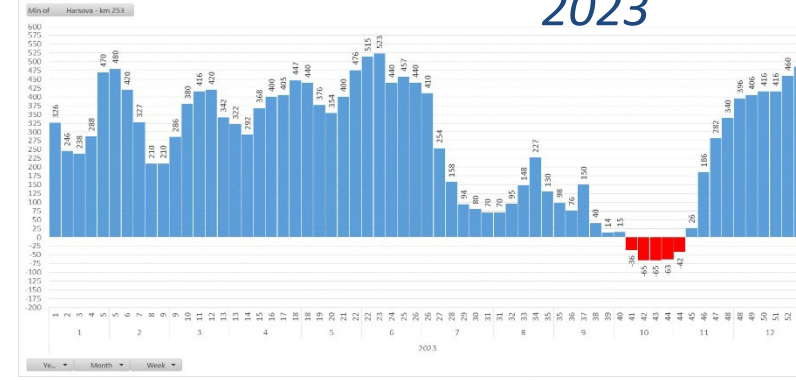
2021



2022

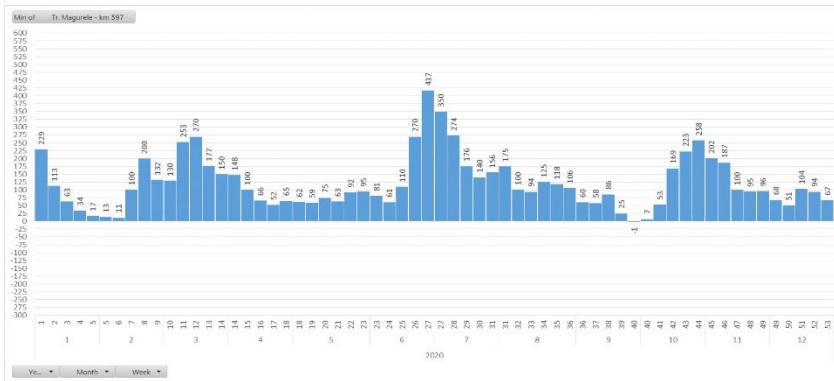


2023

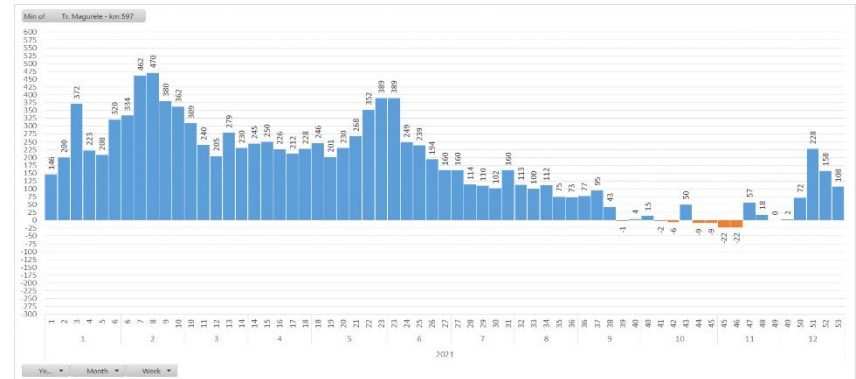


Water levels registered at Turnu Magurele (km 597) gauge in 2020-2023

2020



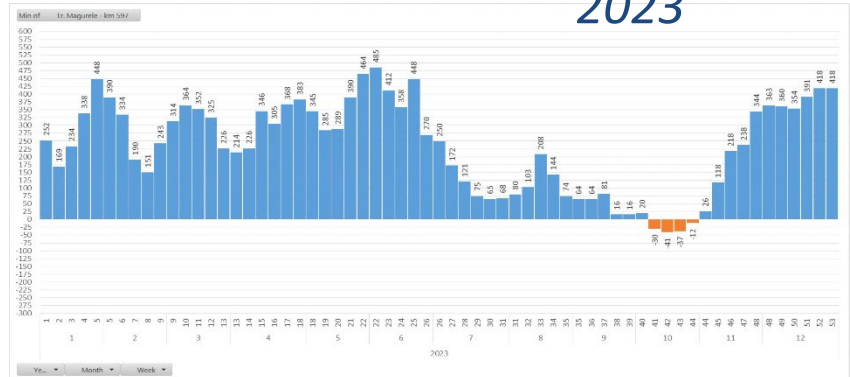
2021



2022



2023



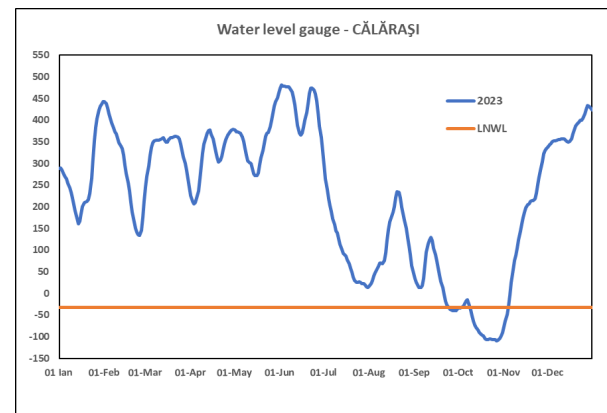
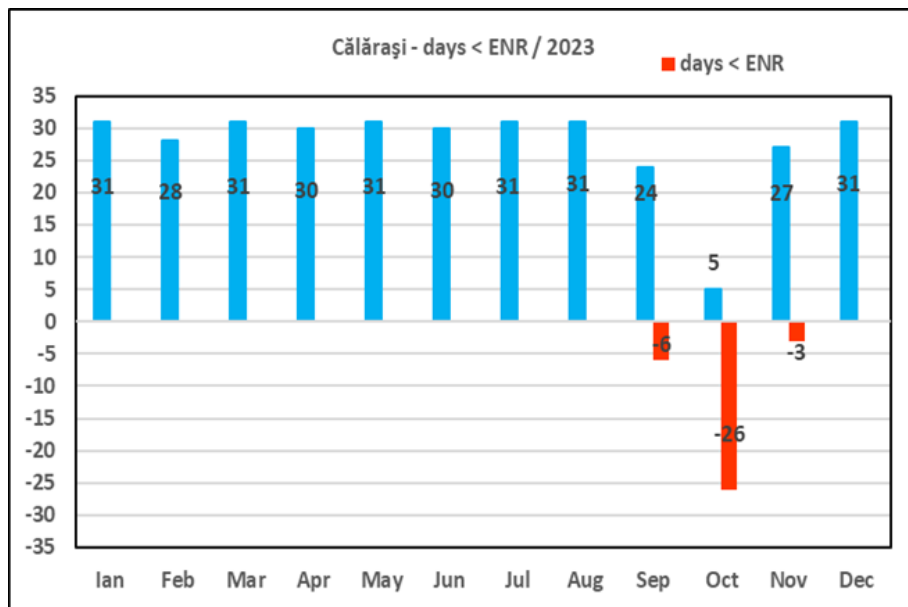
Critical points depths and fairway widths 2020-2021

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Critical points depths and fairway widths 2022-2023

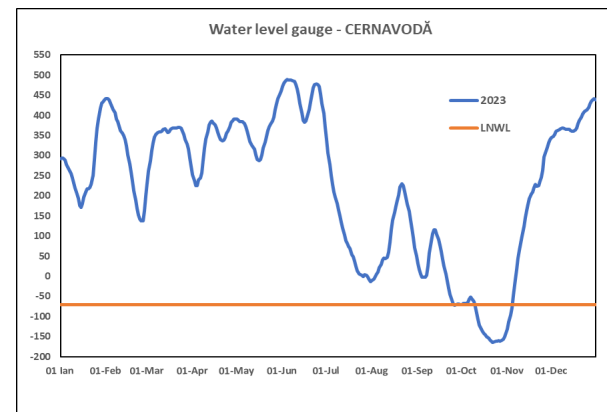
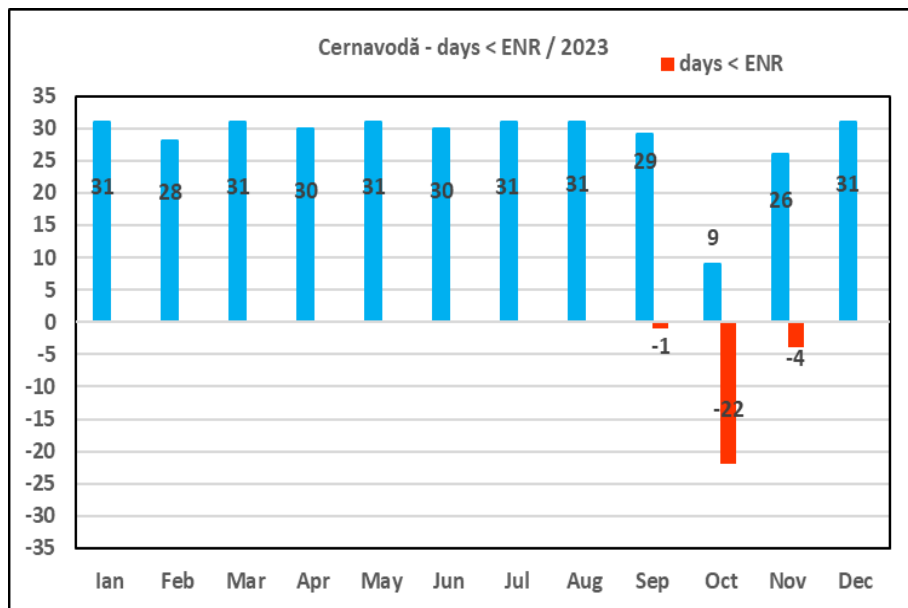
Critical Point	rkm	Refference Gauge	2022					2023				
			depth range(dm)		width range (m)		days	depth range(dm)		width range (m)		days
Gârla Mare	839.7-839.8	Gruia (851,000)						22	24	140	180	15
Salcia	818.2-823.5	Cetate (811,000)	18	25	150	175	53	17	25	100	120	20
Bogdanul	783.5-784.3	Calafat (795,000)	15	25	140	170	98	17	25	130	150	25
Ostrov Dobrina	761.2-762.1	Calafat (795,000)	17	25	110	140	100	18	25	100	180	37
Păpădia	676.5-677.6	Bechet (679,000)	20	25	130	140	49	21	25	140	180	22
Băloiu	627.9-631.3	Corabia (630,000)	18	25	120	140	74	19	23	170	180	21
Calnovăț Amonte	614.1-617.0	Corabia (630,000)	13	25	50	160	78	17	25	110	140	24
Calnovăț	611.0-611.5	Turnu Măgurele (597,000)	17	25	90	150	87	19	25	110	120	22
Turcescu	343.9-345.4	Calarasi (370,000)	19	25	180	180	56	20	25	160	180	30
Caragheorghe	342.2-345.5	Calarasi (370,000)	19	25	180	180	84	23	25	160	180	17
Lebada	336.2-337.1	Calarasi (370,000)	16	25	110	150	87	17	25	110	180	39
Marleanu	325.0-325.6	Cernavoda (300,000)	14	25	170	180	100	15	25	170	180	38
Fermecatu amonte	321.7-322.8	Cernavoda (300,000)	12	25	150	180	94	18	25	150	180	51
Fermecatu aval	317.5-317.9	Cernavoda (300,000)	17	25	120	160	63	8	25	140	180	53
Cochirleni	306.0-309.3	Cernavoda (300,000)	16	25	110	140	96	15	25	120	180	42
Cernavoda aval	296.1-296.3	Cernavoda (300,000)	22	25	110	190	33					
Fasolele	289.0-289.3	Cernavoda (300,000)	21	25	120	130	42					
Capidava	278.9-280.8	Cernavoda (300,000)	17	25	70	160	43	24	25	160	180	13
Alvanesti	000.0-000.0	Cernavoda (300,000)										
Harsova aval	000.0-000.0	Harsova (253,000)										
Giurgeni Vadu-Oii	244.7-244.9	Harsova (253,000)	25	25	130	180	18	24	25	130	180	16

Number of days below LNWL (ENR) at Călărași and Cernavodă Gauges



Days < ENR / 35

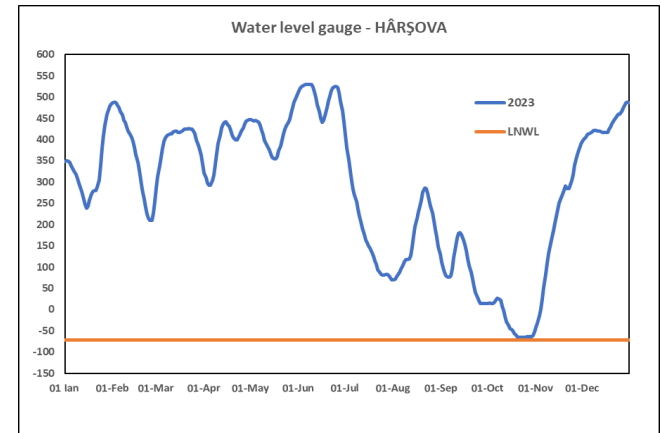
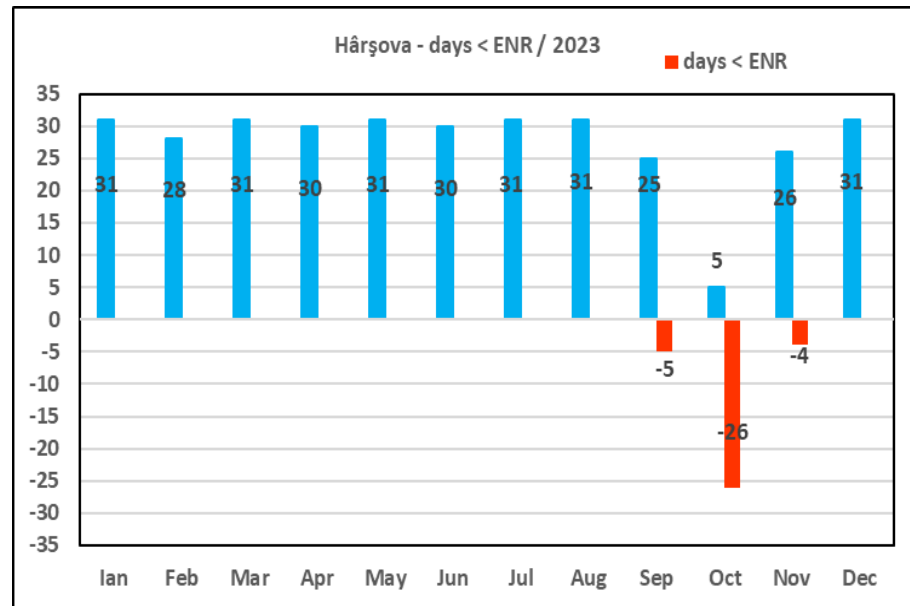
M = 481cm; m = -109cm



Days < ENR / 27

M = 489cm; m = -165cm

Number of days below LNWL (ENR) at Hârşova Gauge



Days < ENR / 35

M = 530cm; m = -65cm

Hydrological conditions 2023 (flow discharge)

Referring the Danube flow discharge, in the period January-September, the flow discharge had values below the multi-annual average. In October was recorded the values below 3000 m³ / s (even 1951 m³/s), and starting with November, the flow discharge started to increase until the end of the year.

The maximum flow discharge was 10099 m³/s (29.05.2023).

Moreover, the last published forecasts for October (minimum values) showed the unfavorable situation.

Secțiunea		24.09.2023	25.09.2023	26.09.2023	27.09.2023	28.09.2023	29.09.2023	30.09.2023	01.10.2023
Baziaș	Q(m ³ /s)	2500	2500	2500	2800	2700	2700	2800	2900
P.D.F. II	Q(m ³ /s)	2770							
Calabă	H(cm)	-21	-28	-31	-28	-21	-15	-7	-3
Etiaș = 50	Q(m ³ /s)	2510	2450	2430	2470	2510	2560	2630	2680
Faza I = 550	+ΔH(cm)								
Faza II = 600	Gheata								
Bechet	H(cm)	35	34	32	32	35	39	43	48
Etiaș = 42	Q(m ³ /s)	2720	2710	2690	2690	2720	2760	2800	2850
Faza I = 550	+ΔH(cm)								
Faza II = 600	Gheata								
Corabia	H(cm)	-12	-12	-14	-15	-13	-9	-5	-1
Etiaș = 23	Q(m ³ /s)	2798	2798	2776	2766	2787	2830	2873	2917
Faza I = 500	+ΔH(cm)								
Faza II = 550	Gheata								
Tr. Măgurele	H(cm)	18	15	14	14	15	18	21	25
Etiaș = 34	Q(m ³ /s)	2590	2580	2570	2570	2580	2620	2650	2700
Faza I = 500	+ΔH(cm)								
Faza II = 550	Gheata								
Zimnicea	H(cm)	40	39	38	38	38	40	43	47
Etiaș = 57	Q(m ³ /s)	2980	2970	2960	2960	2960	2980	3020	3060
Faza I = 530	+ΔH(cm)								
Faza II = 610	Gheata								
Giurgiu	H(cm)	-27	-29	-29	-30	-30	-29	-28	-22
Etiaș = 44	Q(m ³ /s)	2810	2790	2790	2780	2780	2790	2820	2860
Faza I = 570	+ΔH(cm)								
Faza II = 640	Gheata								
Oltenița	H(cm)	4	2	2	1	1	1	3	6
Etiaș = 44	Q(m ³ /s)	2730	2710	2710	2690	2690	2690	2720	2760
Faza I = 550	+ΔH(cm)								
Faza II = 630	Gheata								
Călărăși	H(cm)	-32	-36	-37	-38	-38	-38	-36	-34
Etiaș = -1	Q(m ³ /s)	3040	2990	2980	2970	2970	2970	2990	3020
Faza I = 550	+ΔH(cm)								
Faza II = 620	Gheata								
Fetești	H(cm)	-19	-24	-26	-27	-28	-28	-26	-23
Etiaș = 19	Q(m ³ /s)	2335	2314	2306	2302	2298	2298	2306	2318
Faza I = 565	+ΔH(cm)								
Faza II = 665	Gheata								
Cernavodă	H(cm)	-60	-65	-68	-69	-70	-70	-68	-64
Etiaș = -39	Q(m ³ /s)	640	622	611	608	604	604	611	625
Faza I = 500	+ΔH(cm)								
Faza II = 600	Gheata								
Hârșova	H(cm)	28	22	19	18	17	17	18	21
Etiaș = 19	Q(m ³ /s)	531	510	499	495	492	492	495	506
Faza I = 580	+ΔH(cm)								
Faza II = 610	Gheata								
Vadu Oii	H(cm)	53	48	43	42	41	41	42	44
Etiaș = 19	Q(m ³ /s)	3309	3241	3211	3202	3192	3192	3202	3221
Faza I = 600	+ΔH(cm)								
Faza II = 700	Gheata								
Brăila	H(cm)	104	97	94	92	91	90	91	92
Etiaș = 46	Q(m ³ /s)	3300	3210	3180	3160	3140	3130	3140	3160
Faza I = 560	+ΔH(cm)								
Faza II = 610	Gheata								
Galați	H(cm)	111	105	101	100	99	98	99	100
Faza I = 560	+ΔH(cm)								
Faza II = 600	Gheata								
Grindu	H(cm)	104	98	94	93	92	91	92	93
Faza I = 540	Q(m ³ /s)	3430	3340	3290	3270	3260	3250	3260	3270
Faza II = 580	+ΔH(cm)								
Gheata									
Iacova	H(cm)	87	81	78	76	75	74	74	75
Etiaș = 42	Q(m ³ /s)	3390	3280	3220	3180	3170	3150	3150	3170
Faza I = 380	+ΔH(cm)								
Faza II = 508	Gheata								
Tulcea	H(cm)	70	65	63	61	61	60	60	61
Etiaș = 29	Q(m ³ /s)	1740	1680	1660	1630	1630	1620	1620	1630
Faza I = 320	+ΔH(cm)								
Faza II = 410	Gheata								

Monitoring activities in 2023

Taking into account the assurance of navigability throughout the year, the areas with difficult crossings were constantly monitored through surveys, marking and dredging activities, especially during low water period.

At the critical locations, single beam and multi-beam surveys were performed as follows:

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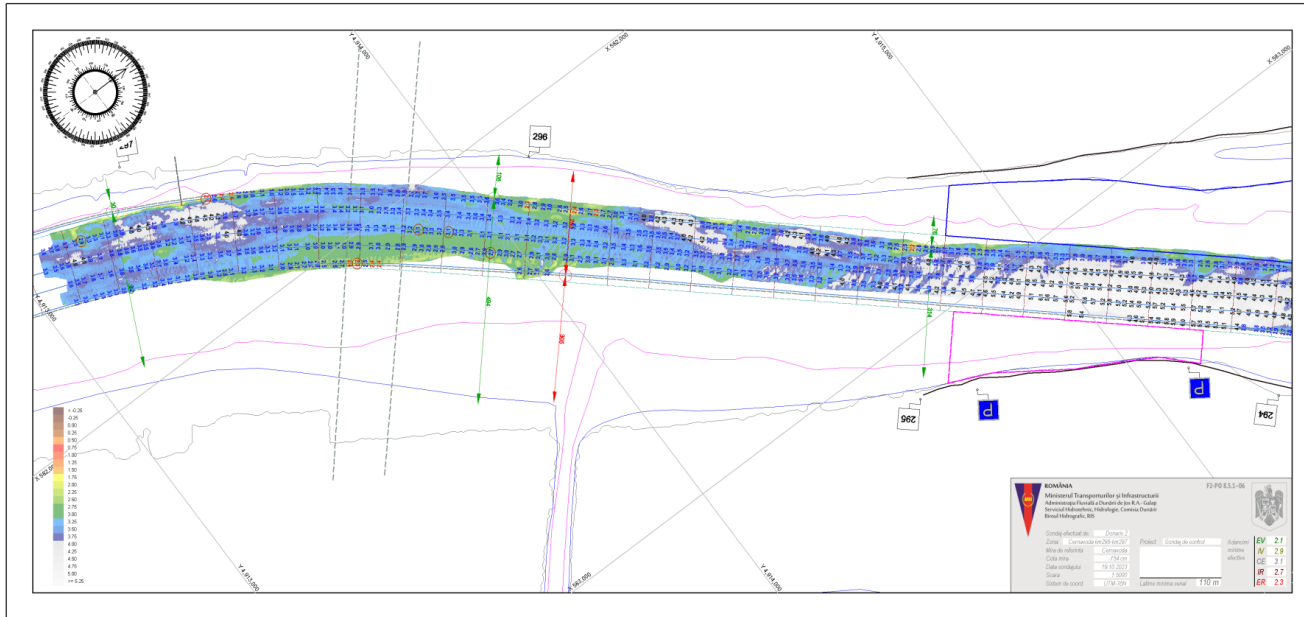
Area	Surveys	Marking Trips	Discharges
Sulina	10	17	
Galati	9	20	
Braila	16	26	
Calarasi	37	36	
Giurgiu	63	31	13
Tr. Severin	37	12	

Critical Points for Navigation

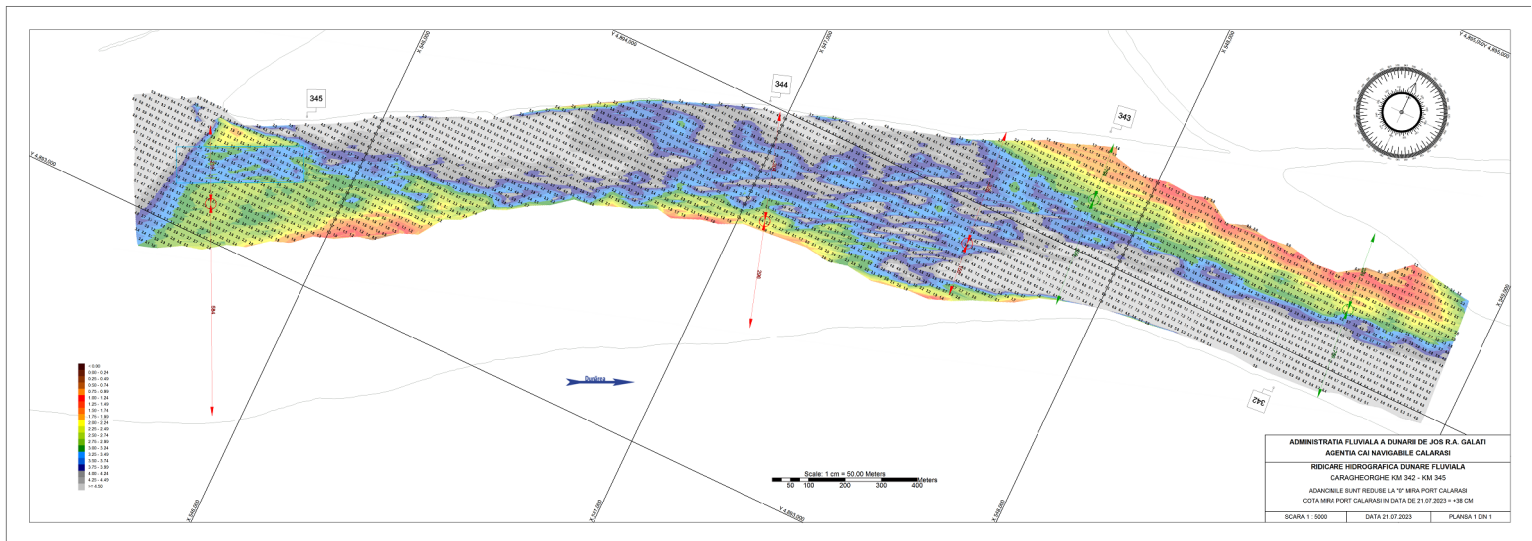
1. Hm 82 - Hm 87 Bara Sulina
2. Mm 75- Mm76 Cotu' Pisicii
3. 189-192½ Dunărea Veche
4. 195-197½ Ostr. Lupului
5. 269-273 Albănești
6. 278-281½ Capidava
7. 288-294 Seimeni
8. 304-310 Cochirleni
9. 321-323 Fermecatu
10. 324-329 Mârleanu
11. 326-329 Fermecatu
12. 342-346 Caragheorghe
13. 613-617 Calnovaț
14. 620-622 Calnovaț upstream
15. 627-628 Corabia
16. 675-678 Bechet
17. 818-820 Salcia



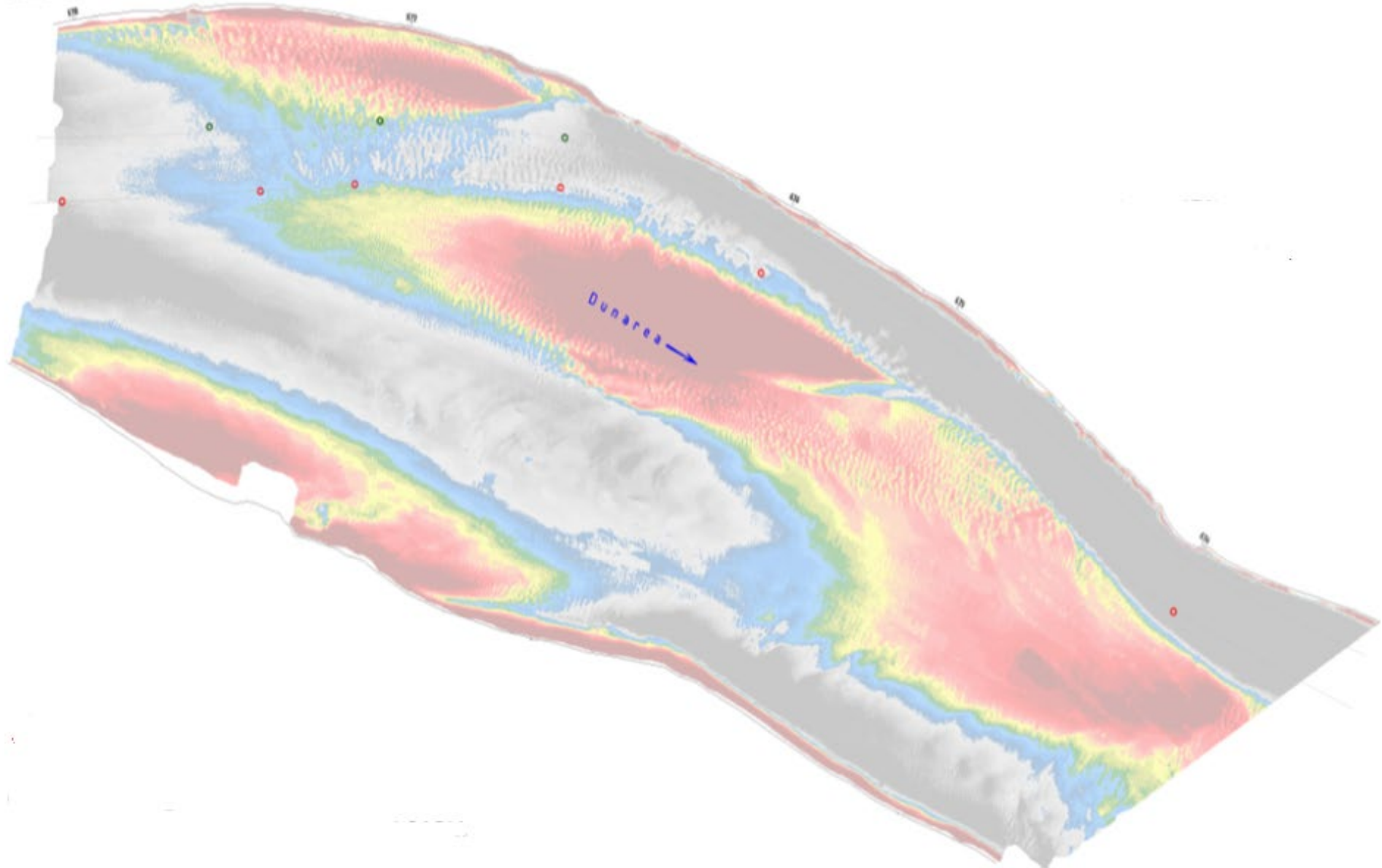
Monitoring Survey Cernavoda (km 297), 19.10.2023

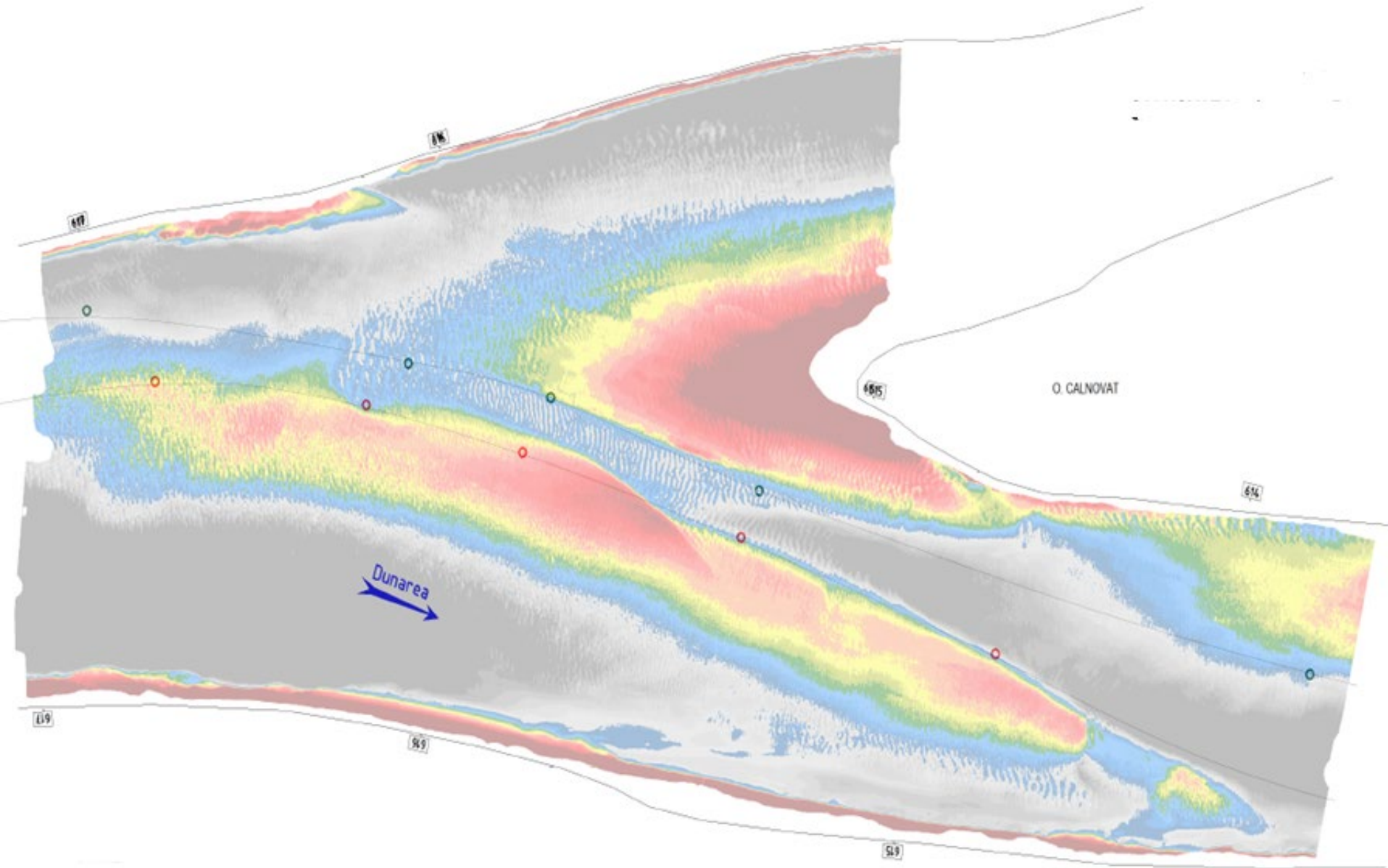


Post-Dredging Monitoring Survey Caragheorghe (km 342-345), 21.07.2023

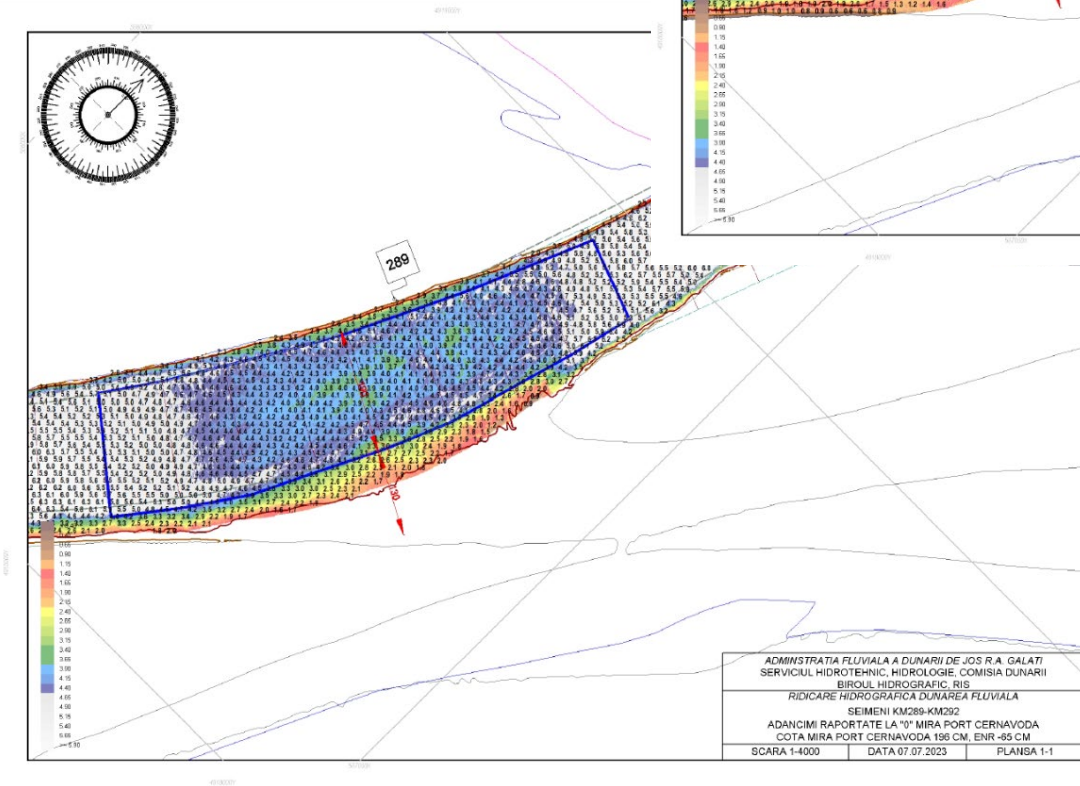
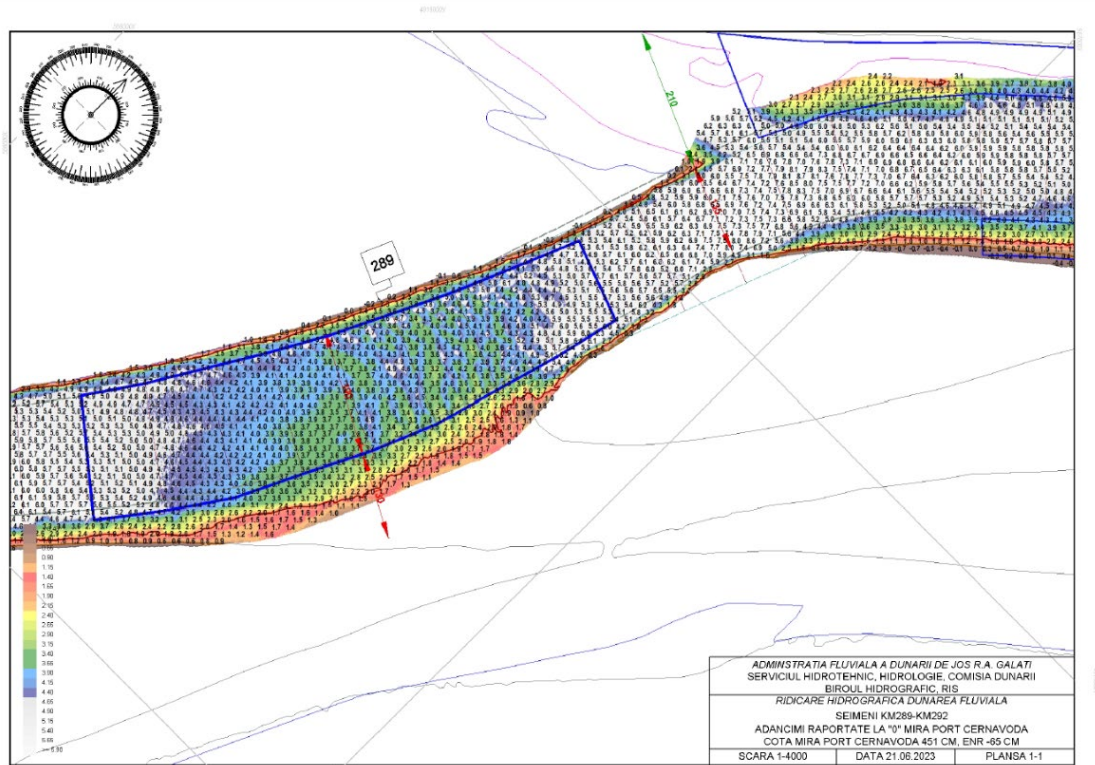


BECHET





Critical point Seimeni (Fasolele km288-290) surveys before (21.06.2023) and after dredging works (07.07.2023)



Dredging activities carried out on the river sector of the Danube in 2022

Lot	Area km	Critical point name	Dredged quantity m ³	Start	End	Days
Lot 1 Km 610 – Km 845 - SC Rapide Transport SRL	678-614	Calnovaț, Bechet, Corabia	188 000	10.05.2022	13.06.2022	34
	614-632	Calnovaț, Corabia	175 659	18.07.2022	18.11.2022	123
Lot 2 Km 300 – Km 375 - SC Rapide Transport SRL	304-346	Cochirleni, Caragheorghe	150 000	13.06.2022	13.07.2022	30
	304-346	Cochirleni, Caragheorghe	150 000	05.11.2022	13.12.2022	38
Lot 3 Km 175 – Km 300 - SC Comision Trade SRL	278-294	Capidava, Seimeni	150 000	25.08.2022	29.09.2022	35
	189-281	Dunarea Veche, Giurgeni Harsova, Capidava	121 441	25.11.2022	31.12.2022	36
	519-565	Vardim, Belene, Batin	170 000	04.08.2022	25.08.2022	21
Own equipment	562-785	Belene, Bogdan Secian	43 974	30.07.2022	25.09.2022	57
Total			1 866 388			

	Costs 2022	Secured Budget 2023
Dredging works RO	5 075 000 €	5 470 900 €
Dredging works BG	9 500 000 €	0 €
Surveying	957 000 €	1 230 000 €
Signalisation	3 135 500 €	3 763 000 €
Total	18 667 500 €	10 463 900 €

Dredging activities carried out on the river sector of the Danube in 2023

Lot	Subseq. contr. nr.	Contracted (m3)	Dredged (m3)	Payed (RON)	Area km	Critical point name	Dredged quantity m ³	Start	End	Days
Lot 1 Km 610 – Km 845 - SC Rapide Transport SRL	12/28.02.2023	150 000	150 000	3 072 000	614-617	Calnovaț	59 035	23.05.2023	30.05.2023	7
					675-678	Bechet	90 965	09.06.2023	22.06.2023	13
	64/02.08.2023	150 000	138 047	2 827 203	818-820	Salcia	26 274	14.08.2023	26.08.2023	12
					613-616	Calnovaț	40 271	12.10.2023	28.10.2023	16
					620-622	Calnovaț	23 819	28.10.2023	01.11.2023	4
					675-678	Bechet	47 683	01.11.2023	07.11.2023	6
Lot 2 Km 300 – Km 375 - SC Rapide Transport SRL	13/28.02.2023	150 000	150 000	3 072 000	304-310	Cochirleni	136 919	27.06.2023	19.07.2023	22
					342-346	Caragheorghe	13 081	17.06.2023	21.07.2023	34
	66/09.08.2023	150 000	150 000	3 072 000	342-346	Caragheorghe	77 715	29.08.2023	08.09.2023	10
					321-323	Fermecatu	44 674	08.09.2023	14.09.2023	6
					324-329	Mârleanu	27 611	14.09.2023	25.09.2023	11
	82/26.10.2023	150 000	150 000	3 072 000	342-346	Caragheorghe	67 246	08.11.2023	16.11.2023	8
					321-323	Fermecatu	42 900	27.11.2023	05.12.2023	8
					326-329	Fermecatu	39 854	16.11.2023	27.11.2023	11
Lot 3 Km 175 – Km 300 - SC Comision Trade SRL	10/24.02.2023	150 000	150 000	3 069 000	189-192½	Dunărea Veche	41 138	23.05.2023	30.05.2023	7
					278-281½	Capidava	48 017	09.06.2023	22.06.2023	13
					288-294	Seimeni	28 632	28.06.2023	07.07.2023	9
					288-294	Seimeni	32 213	12.07.2023	19.07.2023	7
	62/28.07.2023	150 000	150 000	3 069 000	195-197½	Ostr. Lupului	37 981	07.08.2023	23.08.2023	16
					195-197½	Ostr. Lupului	24 724	07.08.2023	11.09.2023	35
					278-281½	Capidava	60 373	19.09.2023	17.10.2023	28
					288-294	Seimeni	26 922	19.10.2023	02.11.2023	14
	89/20.11.2023	150 000	89 091	1 822 802	269-273	Albănești	44 418	13.12.2023	31.12.2023	18
					288-294	Seimeni	44 673	22.11.2023	13.12.2023	21
Own equipment					627-628	Corabia	53 900			
Total		1 200 000	1 127 138	23 076 004			3 349 794			

Dredging activities carried out on the maritime sector of the Danube in 2023 with own equipment (Dunarea Maritima dredger)

Administrative area	Area km	Critical point name	Dredged quantity m³	Start	End	Days
Sulina area	Hm 82 - Hr	Bara Sulina	78 203	19.02.2023	14.03.2023	23
Galati area	Mm 75- M	Cotu' Pisicii	97 874	18.05.2023	14.06.2023	27
Galati area	Mm 75- M	Cotu' Pisicii	175 701	25.07.2023	18.08.2023	24
		Total	351 778			

Executed coastal and floating signalling 2023

Agency	Buoys	Beacons	Coastal Signals	Km indicators
SULINA	134	44	389	262
GALATI	76	11	271	142
BRAILA	108	32	432	241
CALARASI	65	22	380	384
GIURGIU	138	15	591	470
SEVERIN	79	23	285	464
Total AFDJ RA	600	147	2348	1963

Hydrological conditions 2024

Regarding the next period, the forecasts show values above the annual average, favorable for navigation conditions.

Thus, based on medium- and long-term statistical elements, the forecast of average and extreme monthly flows for the period February-April was issued.

(source : INHGA).

	Februarie 2024		Martie 2024		Aprilie 2024	
	m.a.		m.a.		m.a.	
Q maxim (mc/s)		8500		9500		9500
Q mediu (mc/s)	5300	7200	6700	8000	7900	8500
Q minim (mc/s)		5800		5500		6500

In the table, in the column "m.a." it is present the average multiannual value of the flows corresponding to the month.

This long-term prognosis will be updated by short-term prognosis, published daily for a period of 7 days. AFDJ Galati publishes short time prognosis for a period of 5 days, based to INHGA prognosis

The winter 2023-2024 is characterized as relatively warm. Between 2020-2024, no ice phenomena were reported on the Romanian Danube River sector.

Necessary measures -2024

In order to ensure the navigation conditions for 2024 year, there are set a series of measures related to maintenance works, (surveys, marking , dredging).

Measurements

- control surveys in critical areas – monthly;
- detailed measurements – 4/5 times per year;
- analyze the results and prioritize areas where measures are needed.
- increasing the surveys frequency during the period with low water;

Marking activities

- marking trips – 1/2 times/month
- at least two marking trips every 10 week;
- install a sufficient number of floating/coastal signs;
- supplementing the number of signs during critical periods;
- narrowing the fairway to ensure depths over 2.5m;

Dredging works

- execution of dredging works to improve navigation depth (recourse to framework contracts for rapid interventions) for the river sector of the Danube;
- starting dredging works early, before the low water period;
- prioritization of the dredging areas;
- based on the results of the measurements from 2023, it was estimated the necessary for dredging works in 2024.

Measures – 2024

- related to the current hydrological situation, the flows discharge are maintained around 7000 m³/s and a slight decrease is predicted for the next period.
- the morphological situation must be kept permanently under observation

Secțiunea		25.02.2024	26.02.2024	27.02.2024	28.02.2024	29.02.2024	01.03.2024	02.03.2024	03.03.2024
Baziaș	Q(mc/s)	6700	6600	6500	6500	6600	6700	6800	6900
P.D.F. II	Q(mc/s)	6720							
Calafat	H(cm)	300	274	259	253	254	259	266	270
Faza I = 550	Q(mc/s)	6180	5840	5640	5560	5570	5640	5730	5780
Faza II = 600	+ΔH(cm)								
Gheata	H(cm)								
Bechet	Q(mc/s)	358	338	315	297	288	287	290	295
Faza I = 550	Q(mc/s)	6830	6540	6210	5960	5840	5830	5870	5930
Faza II = 600	+ΔH(cm)								
Gheata	H(cm)								
Corabia	Q(mc/s)	310	294	273	253	243	238	238	241
Faza I = 500	Q(mc/s)	7031	6796	6494	6210	6068	5997	5997	6040
Faza II = 550	+ΔH(cm)								
Gheata	H(cm)								
Tr. Măgurele	Q(mc/s)	320	309	291	273	261	256	254	256
Faza I = 500	Q(mc/s)	6990	6820	6530	6240	6050	5970	5940	5970
Faza II = 550	+ΔH(cm)								
Gheata	H(cm)								
Zimnicea	Q(mc/s)	356	347	331	312	296	287	284	283
Faza I = 530	Q(mc/s)	7170	7040	6800	6530	6290	6160	6120	6110
Faza II = 610	+ΔH(cm)								
Gheata	H(cm)								
Giurgiu	Q(mc/s)	322	316	305	289	270	255	247	244
Faza I = 570	Q(mc/s)	7210	7130	6970	6750	6490	6290	6180	6140
Faza II = 640	+ΔH(cm)								
Gheata	H(cm)								
Oltenița	Q(mc/s)	331	325	316	306	290	274	262	255
Faza I = 550	Q(mc/s)	7290	7210	7080	6940	6720	6500	6330	6230
Faza II = 630	+ΔH(cm)								
Gheata	H(cm)								
Călărăși	Q(mc/s)	310	305	299	290	276	260	246	237
Faza I = 550	Q(mc/s)	7360	7280	7190	7060	6850	6620	6430	6300
Faza II = 620	+ΔH(cm)								
Gheata	H(cm)								
Fetești	Q(mc/s)	352	346	339	330	316	301	286	275
Faza I = 565	Q(mc/s)	4604	4562	4512	4440	4342	4237	4132	4055
Faza II = 665	+ΔH(cm)								
Gheata	H(cm)								
Cernavodă	Q(mc/s)	328	323	318	311	299	284	270	259
Faza I = 500	Q(mc/s)	2840	2800	2760	2710	2620	2510	2410	2330
Faza II = 600	+ΔH(cm)								
Gheata	H(cm)								
Hârșova	Q(mc/s)	384	380	375	369	358	345	332	321
Faza I = 580	Q(mc/s)	2550	2520	2480	2440	2360	2270	2180	2100
Faza II = 610	+ΔH(cm)								
Gheata	H(cm)								
Vadu Oii	Q(mc/s)	404	400	395	388	376	362	347	334
Faza I = 600	Q(mc/s)	7486	7420	7348	7247	7074	6873	6663	6502
Faza II = 700	+ΔH(cm)								
Gheata	H(cm)								
Brăila	Q(mc/s)	394	392	388	383	375	365	355	344
Faza I = 560	Q(mc/s)	7450	7410	7350	7260	7130	6960	6790	6600
Faza II = 610	+ΔH(cm)								
Gheata	H(cm)								
Galați	Q(mc/s)	387	385	383	378	371	363	356	347
Faza I = 560	Q(mc/s)								
Faza II = 600	+ΔH(cm)								
Gheata	H(cm)								
Grîndu	Q(mc/s)	366	364	362	357	350	342	335	326
Faza I = 540	Q(mc/s)	7790	7740	7700	7600	7450	7290	7150	6970
Faza II = 580	+ΔH(cm)								
Gheata	H(cm)								
Isaccea	Q(mc/s)	305	305	303	300	295	288	282	274
Faza I = 380	Q(mc/s)	7940	7940	7900	7830	7720	7570	7430	7260
Faza II = 508	+ΔH(cm)								
Gheata	H(cm)								
Tulcea	Q(mc/s)	249	249	248	246	241	236	230	223
Faza I = 320	Q(mc/s)	4030	4030	4010	3980	3910	3840	3760	3660
Faza II = 410	+ΔH(cm)								
Gheata	H(cm)								

Planned Dredging Activities for 2024 (cubic meters)

Administrative Area		Dredger	m ³	Stretch	Q1	Apr	May	Jun	Q2	Jul	Aug	Sep	Q3	Oct	Nov	Dec	Q4	Total
Maritime Danube	Secția Căi Navigabile SULINA			Bara Sulina Km 0	0	20 000	0	0	20 000	0	50 000	50 000	100 000	50 000	50 000	40 000	140 000	260 000
	Zona GALAȚI	Dunărea Maritimă	800	Mm 56 – 57+¾	0	20 000	0	0	20 000	0	40 000	40 000	80 000	30 000	20 000	0	50 000	150 000
	Zona GALAȚI			Mm 61 – Mm 63	0	30 000	0	0	30 000	0	40 000	40 000	80 000	40 000	20 000	0	60 000	170 000
	Zona GALAȚI			Mm 73 – Mm 74	0	20 000	0	0	20 000	0	50 000	60 000	110 000	0	0	0	0	130 000
	Zona GALAȚI			Km 153 – Km 155	0	10 000	0	0	10 000	0	25 000	25 000	50 000	10 000	20 000	0	30 000	90 000
River Sector of Danube	Sector Căi Navigabile BRĂILA			Km 175 – Km 300	0	0	50 000	50 000	100 000	50 000	50 000	50 000	150 000	50 000	50 000	50 000	150 000	400 000
	Sector Căi Navigabile CĂLĂRAȘI	Others	1200	Km 300 – Km 375	0	0	50 000	50 000	100 000	50 000	50 000	50 000	150 000	50 000	50 000	50 000	150 000	400 000
	Sectia Căi Navigabile GIURGIU			Km 610 – Km 845	0	0	50 000	50 000	100 000	50 000	50 000	50 000	150 000	50 000	50 000	50 000	150 000	400 000
	Sectia Căi Navigabile GIURGIU	Comana	250	Km 610 – Km 613	0	20 000	0	0	20 000	0	0	0	0	0	0	0	0	20 000
	Sectia Căi Navigabile GIURGIU			Km 783 – Km 785	0	0	0	0	0	0	30 000	0	30 000	0	0	0	0	30 000
	Sectia Căi Navigabile GIURGIU			Km 818 – Km 821	0	0	0	0	0	25 000	0	0	25 000	0	0	0	0	25 000
	Sectia Căi Navigabile GIURGIU			Km 837 – Km 840	0	0	0	25 000	25 000	0	0	0	0	0	0	0	0	25 000
	Zona TR Severin			Km 860 – Km 861	0	0	75 000	0	75 000	0	0	0	0	0	0	0	0	75 000
	Zona TR Severin			Km 862 – Km 863	0	0	0	0	0	0	0	75 000	75 000	0	0	0	0	75 000
					0	120 000	225 000	175 000	520 000	175 000	385 000	440 000	1 000 000	280 000	260 000	190 000	730 000	2 250 000

Planned coastal and floating signalling 2024

Agency	Buoys	Beacons	Coastal Signals	Km indicators
SULINA	134	44	389	262
GALATI	76	11	271	142
BRAILA	104	32	422	241
CALARASI	83	22	383	384
GIURGIU	143	16	595	470
SEVERIN	79	23	285	464
Total AFDJ RA	619	148	2345	1963

Dredging works-AFDJ own equipment

Part of the maintenance works of the fairway, through dredging activities, were done with AFDJ equipment, consisting of the following:

TSHD - Dunarea Maritima

Capital dredging vessel - Comana 1

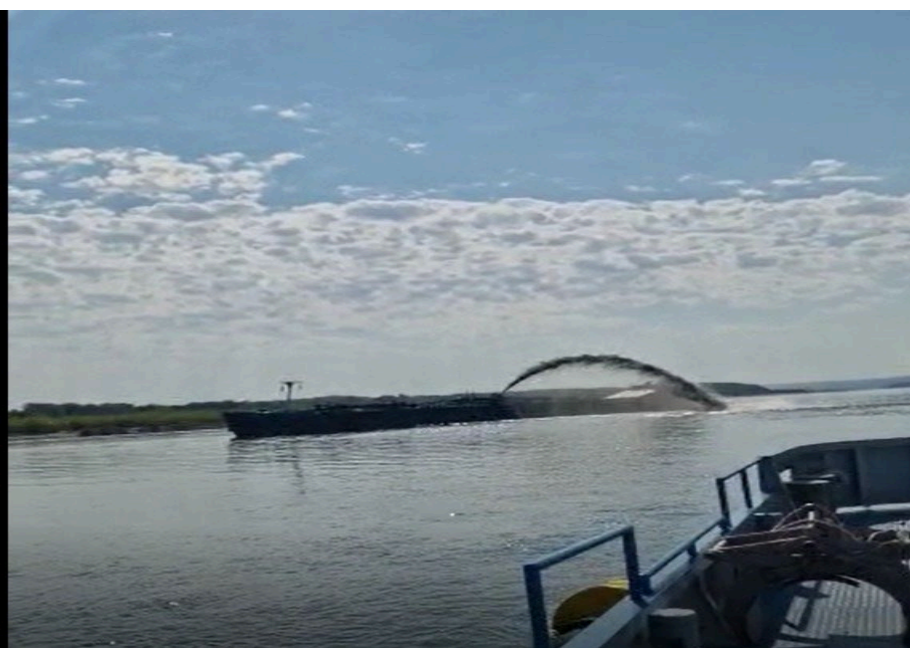
Pontoon barge - N1130

Assistant works vessel – Mihai Bravu

Split hopper barges - SH1 /SH2









Coastal and floating signalling 2023

Agency	Buoys	Beacons	Coastal Signals	Km indicators
SULINA	134	44	389	262
GALATI	76	11	271	142
BRAILA	108	32	432	241
CALARASI	65	22	380	384
GIURGIU	138	15	591	470
SEVERIN	79	23	285	464
Total AFDJ RA	600	147	2348	1963

Thank you for your kind attention!

AFDJ Galati

