

A light blue, stylized map of the Lower Danube river is positioned behind the main title. The river starts from the left, flows horizontally, and then turns upwards and to the right, ending near the top right corner. The map is composed of several connected line segments, giving it a hand-drawn or simplified appearance. The title text is overlaid on this map.

Navigability conditions, opportunities and challenges on the Lower Danube

River Administration of the Lower Danube Galati

Navigability

Regarding the water levels recorded , the period January to September (2022) shows a period with low waters with values below the multiannual average and very near or below the ENR (starting with middle of June – when levels dropped drastically), reaching negative values since the beginning of July until the end of September. Referring the Danube flow discharge, the period January-September, was poor with flow discharge below the multiannual value , for the entire period , reaching as far to the value below $2000 \text{ m}^3 / \text{s}$.



Navigability

The impact of water levels was drastic for navigation conditions for the period July-September, caused by long period with low levels;

In fact, based on the medium and long-term statistical elements, the forecast of medium and extreme monthly flows on the Danube at the entrance to the country (Baziaș section) for the period July - September 2022 were elaborated (by INHGA) , which shows much lower values below the multiannual average:

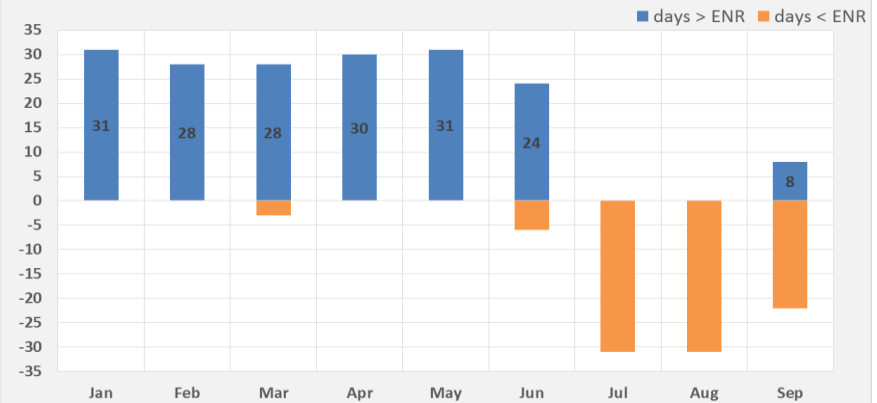
	July 2022		August 2022		Sept. 2022	
	m.a.	<u>prognosis</u>	m.a.	<u>prognosis</u>	<u>m.a.</u>	<u>prognosis</u>
Qmaxim (mc/s)		3500		4000		4500
Q mediu (mc/s)	5350	2800	4300	2900	3800	3000
Q minim (mc/s)		2500		2500		2600

Navigability

Water level gauge of CALAFAT 2022



No of days > ENR / 2022

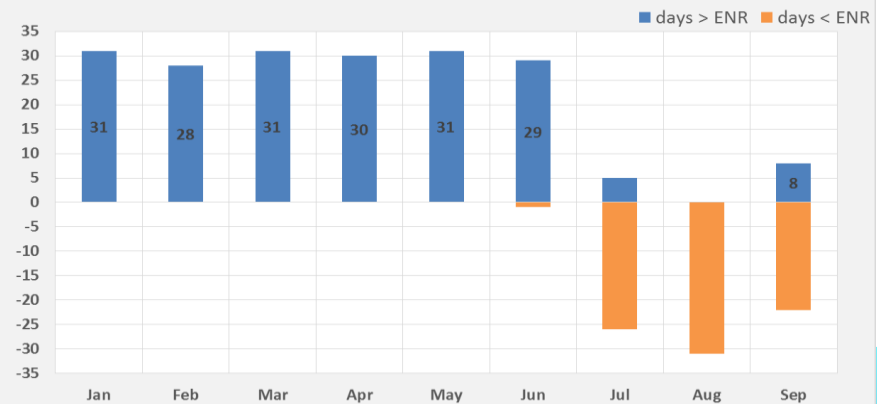


Days < ENR / 93

Water level gauge of BECHET 2022



No of days > ENR / 2022



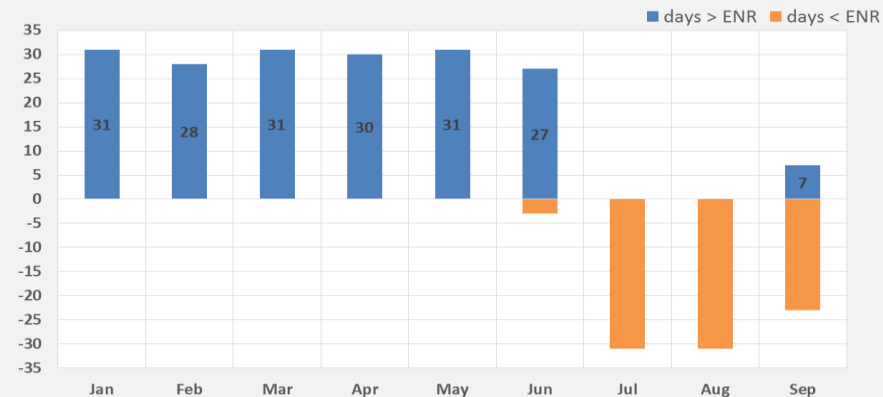
Days < ENR / 80

Navigability

Water level gauge of CORABIA 2022



No of days > ENR / 2022

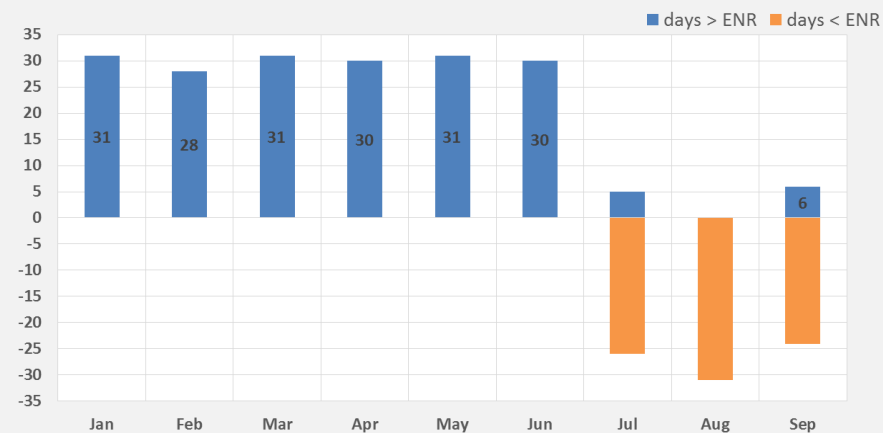


Days < ENR / 87

Water level gauge of GIURGIU 2022



No of days > ENR / 2022

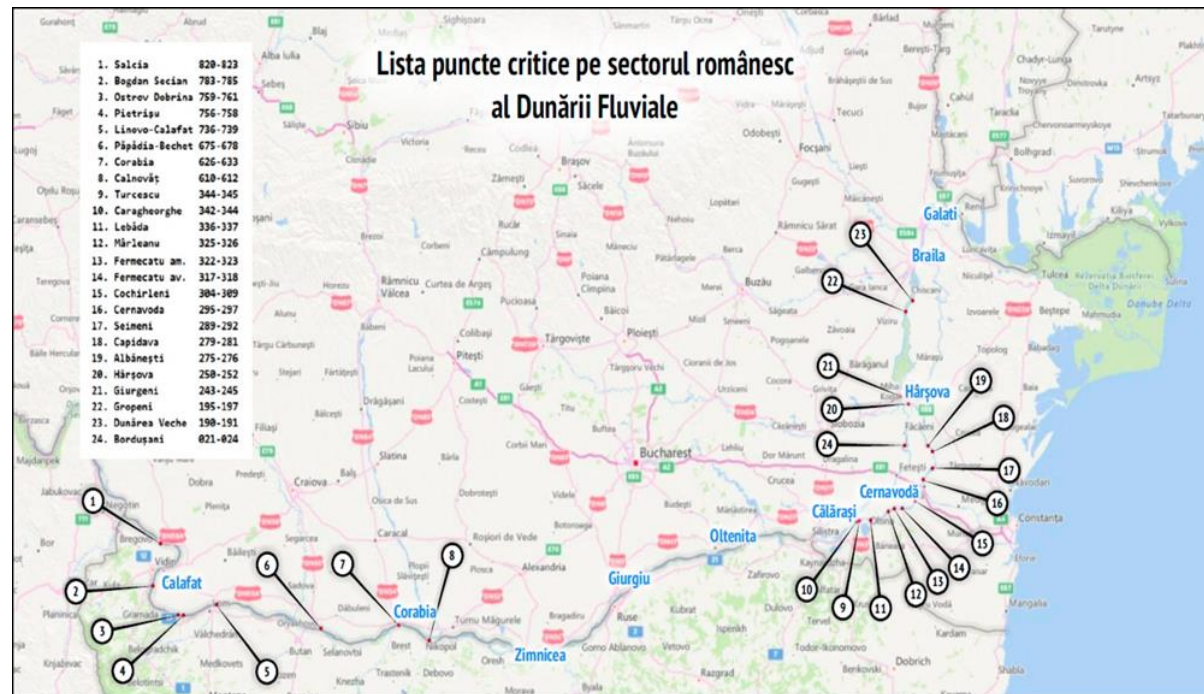


Days < ENR / 81

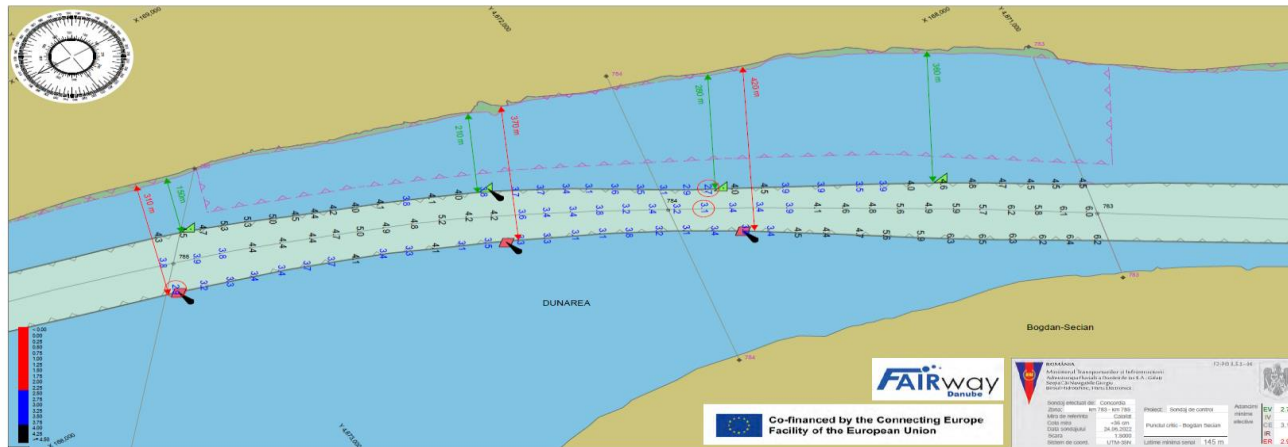
Navigability – critical points

Due to the low parameters of the fairway, the most critical sectors in the Danube river Romanian-Bulgarian common sector , where it was necessary to make interventions, are the following:

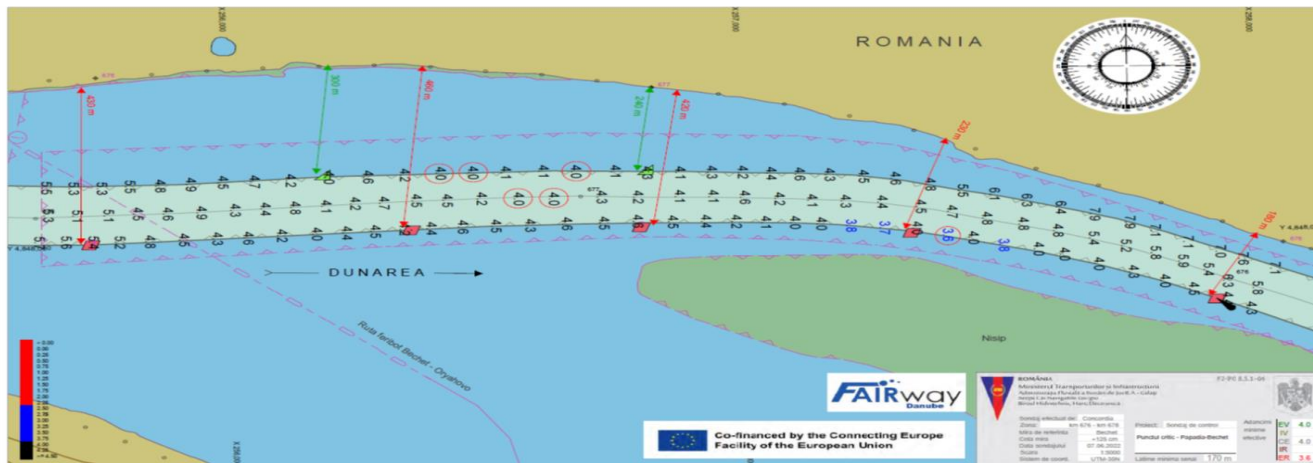
1. Bogdan / rkm 783
2. Bechet / rkm677
3. Corabia / rkm 630
4. Calnovat / rkm 610



Navigability

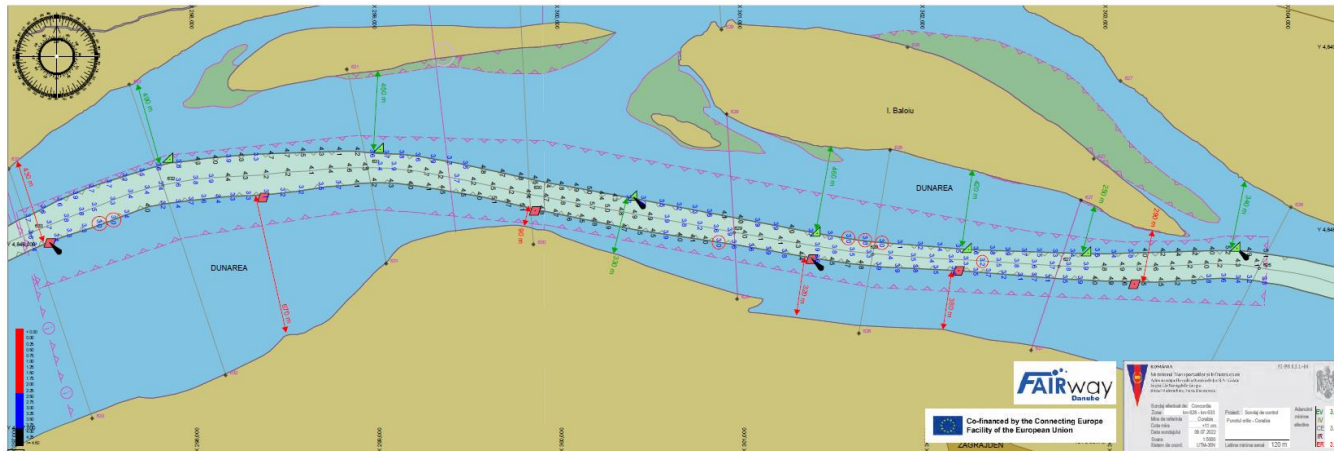


Bogdan-Secian / rkm 783
– rkm 785 /
min. width – 140m
days <2.5m - 68



Bechet / rkm 677 – rkm
678 /
min. width – 150m /
days <2.5m - 49

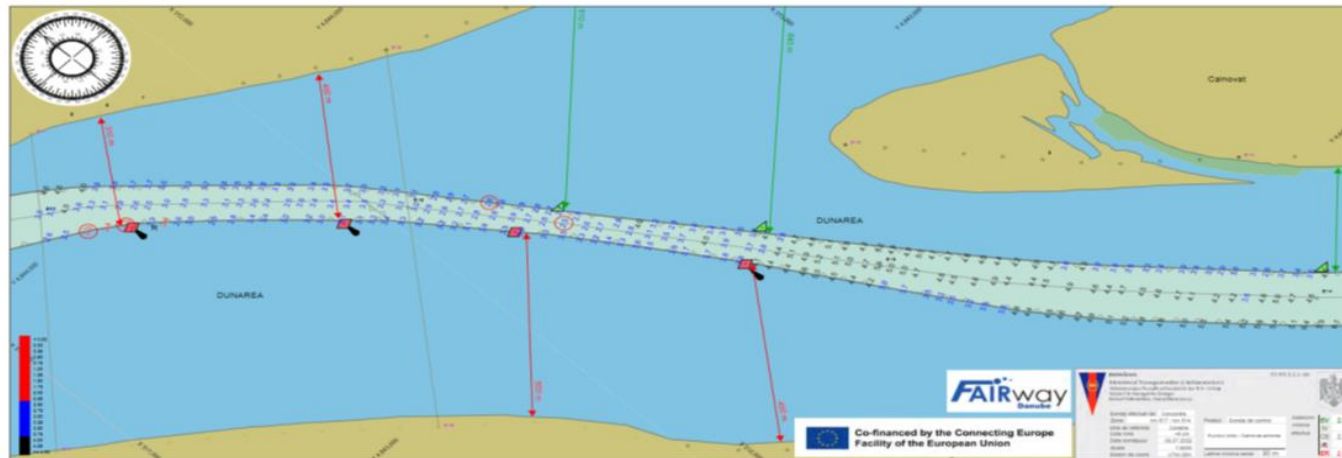
Navigability



Corabia / rkm 626 –
rkm 633

min. width – 150m

days <2.5m - 63

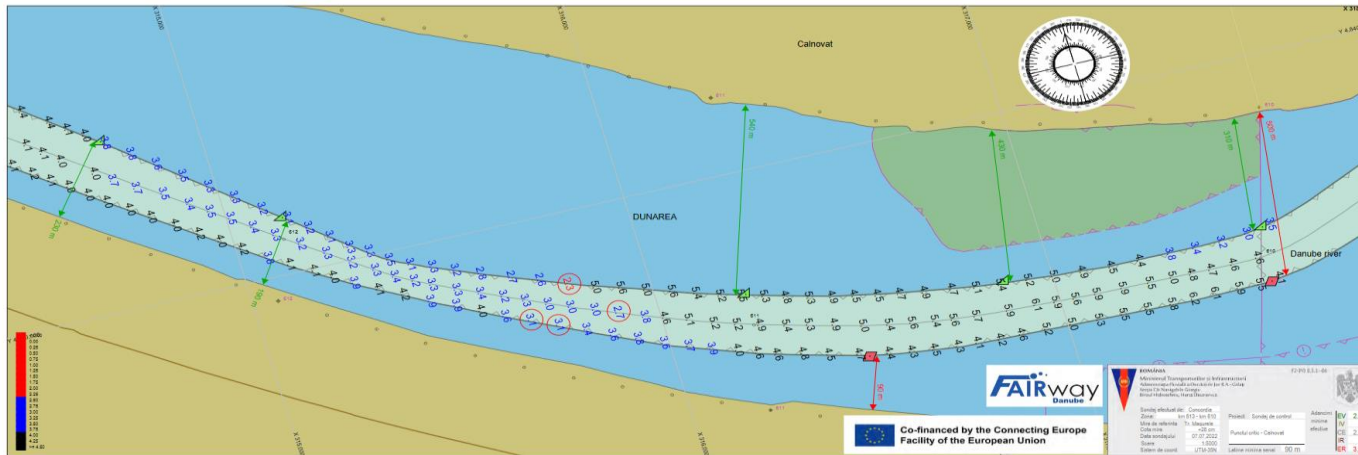


Calnovat amonte /
rkm 615 – rkm 617

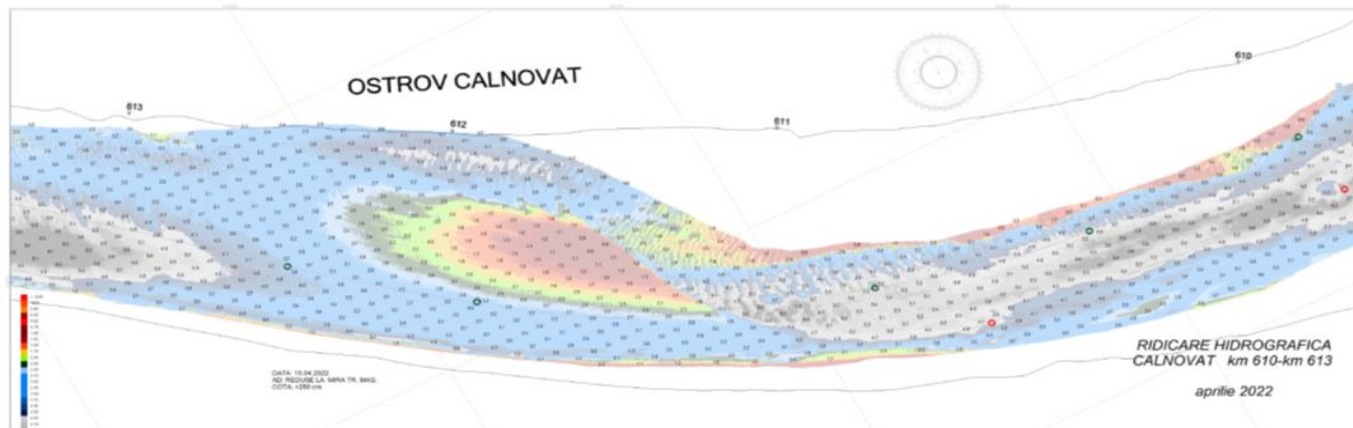
min. width – 90m

days <2.5m - 68

Navigability

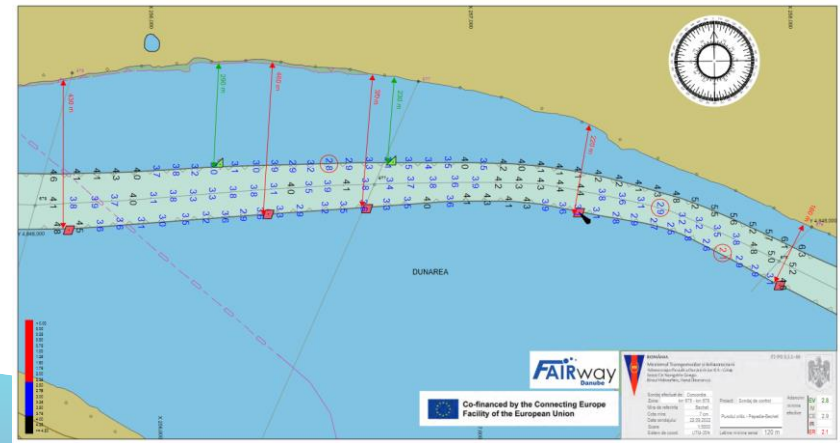


Calnovat / rkm 610
– rkm 613
min. width – 150m
days <2.5m - 73



Navigability

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

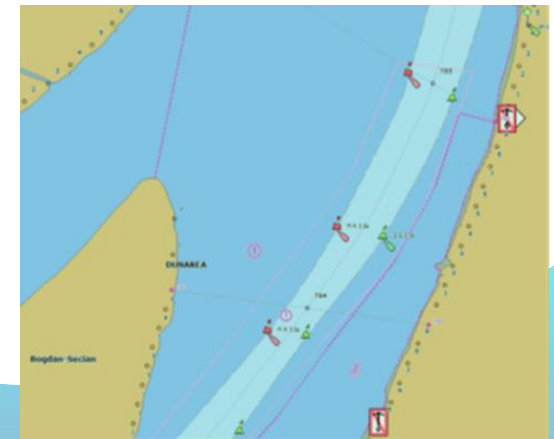
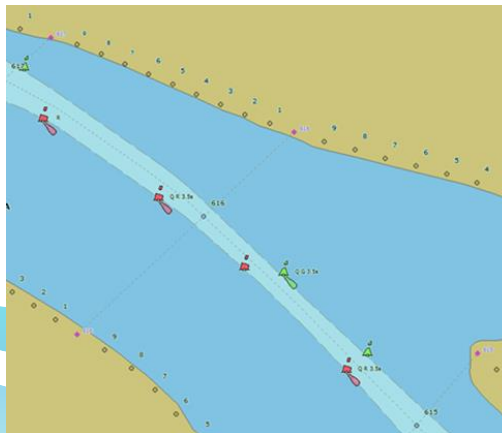


Navigability

The marking activity was performed by covering the entire sector from km 375 to km 845.5 with a number of 25 marking trips.

Due to the achievement of the second home port in Bechet, the marking vessel Concordia EU 2019 remained stationary in the port for operative interventions (2 inspections per month). Especially in the low water period, were made additional interventions , resulting in ensuring a minimum fairway width of 120m even 70m (Calnovat) at critical points for a discharge below 3000 mc/s at Iron Gate II.

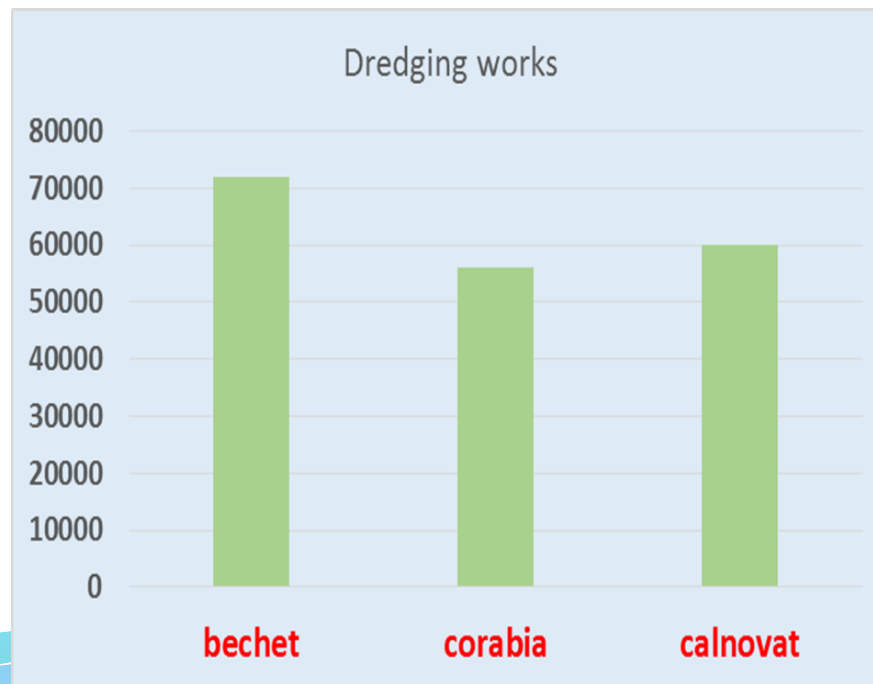
During the 2022 year , a number of 655 coastal signs were operated in the field:



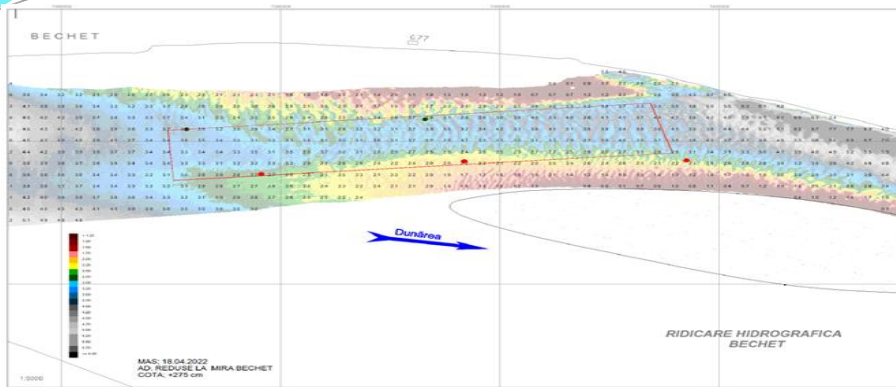
Opportunities – dredging works

One of the main actions to ensure navigability is the dredging works. As a result of the unfavorable situations regarding the navigation In order to avoid the effects of poor hydrological situations, the dredging works were started in time (May 2022).

Dredging works-executed on the basis of a framework contract (third party).

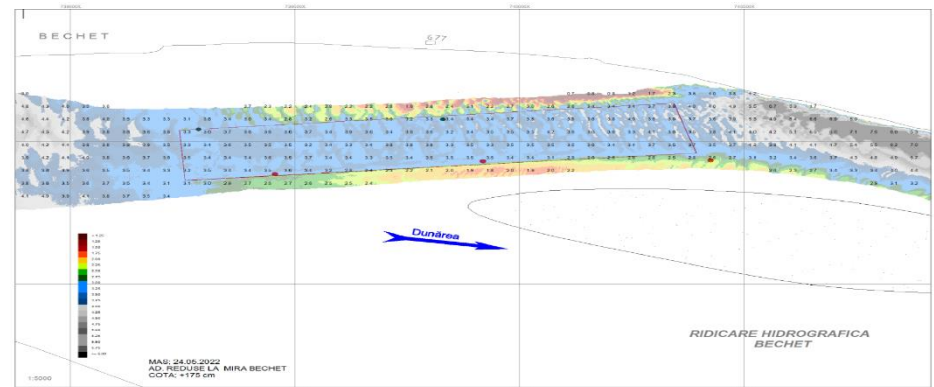


dredging works

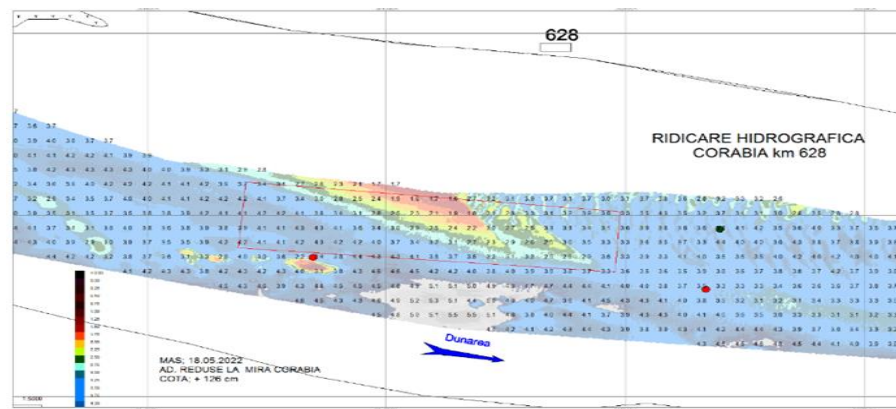


Bechet – rkm 677

Period: 10.05 – 24.05

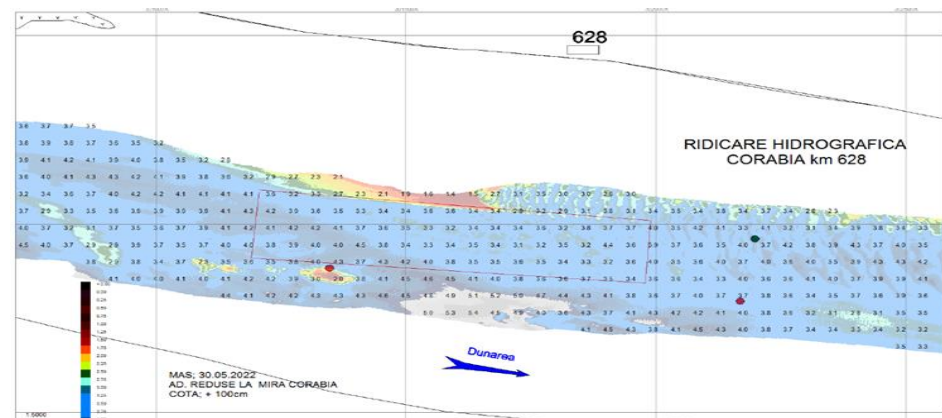


Quantity – 72000 m³



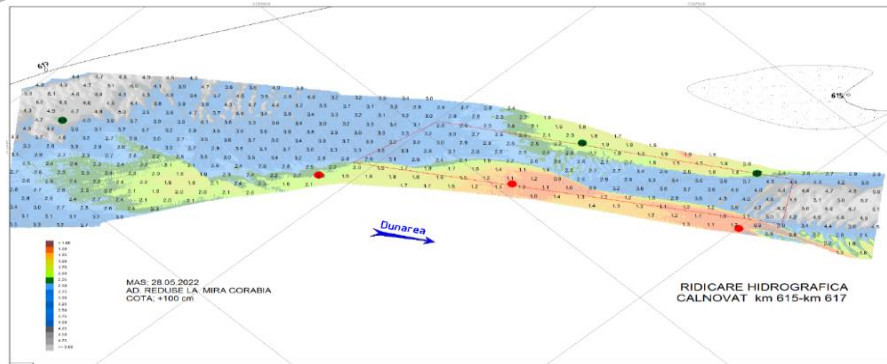
Corabia – rkm 628

Period: 24.05 – 30.05



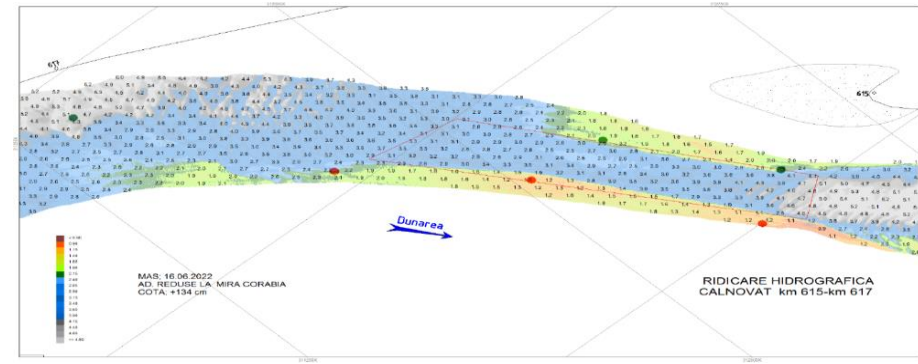
Quantity – 56000 m³

dredging works

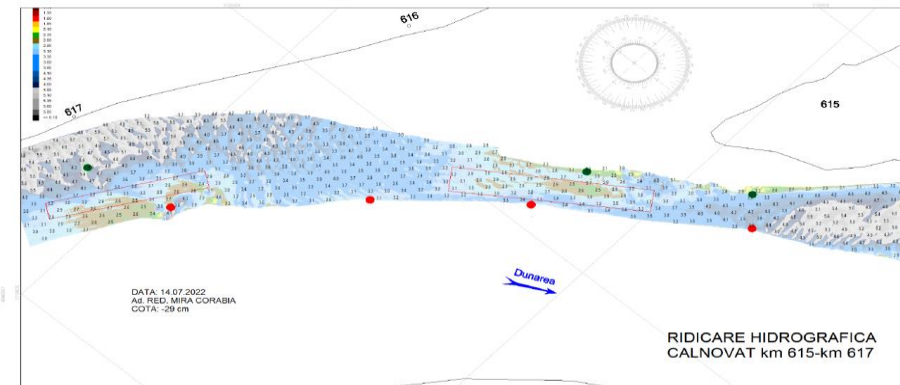


Calnovat rkm 616

Period: 30.05 – 16.06

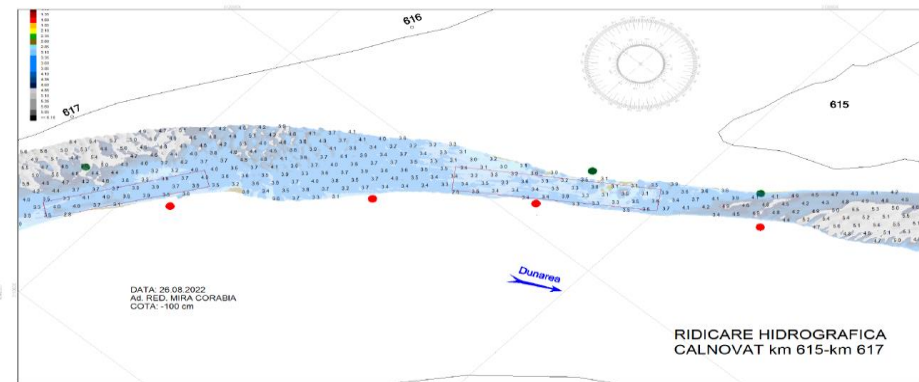


Quantity – 60000 m³



Calnovat rkm 616

Period: 18.07 – 23.07



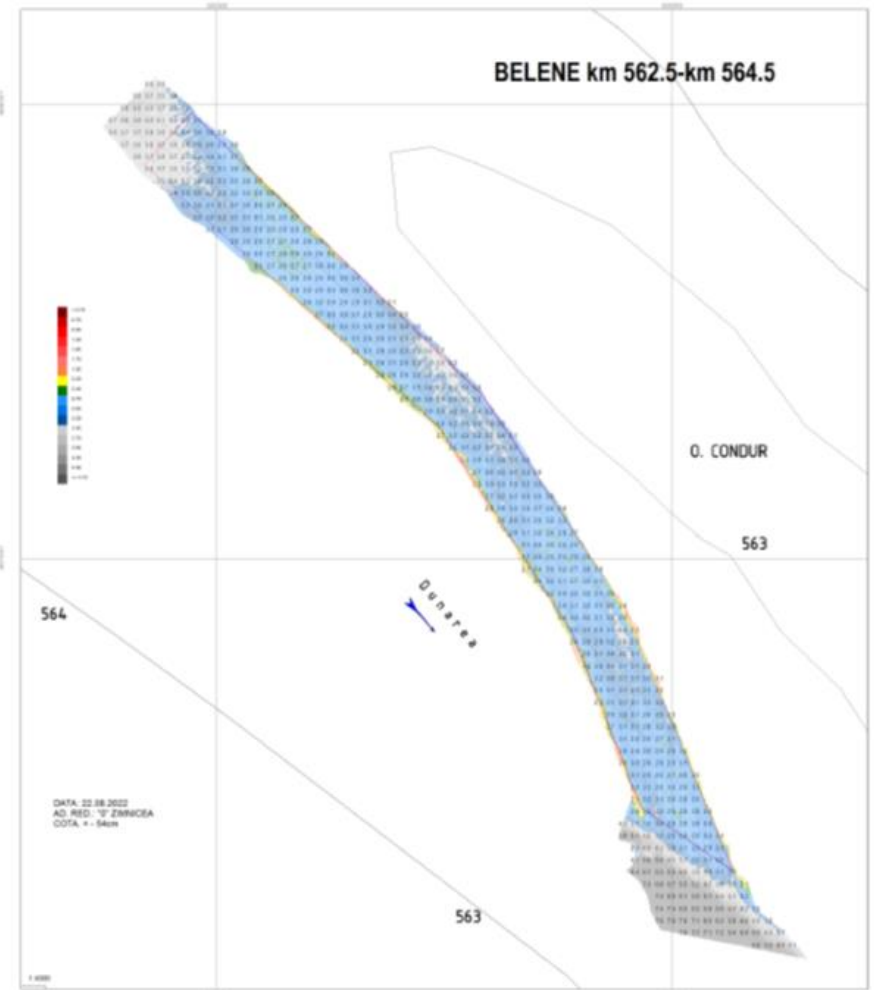
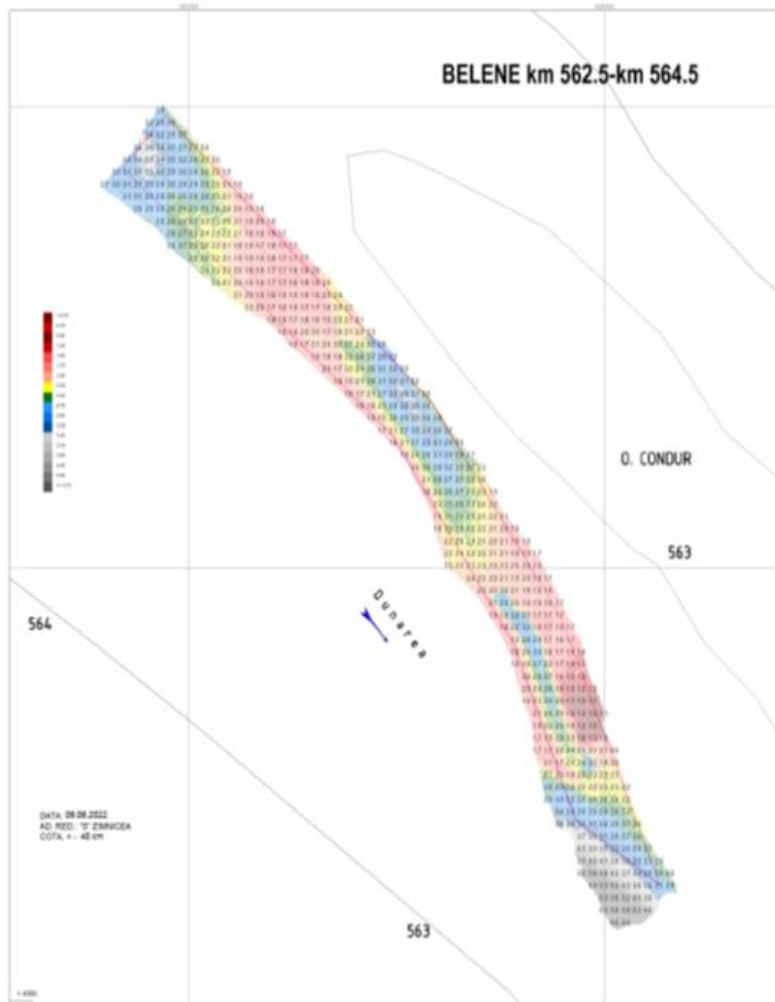
Quantity – 24600 m³

Challenges

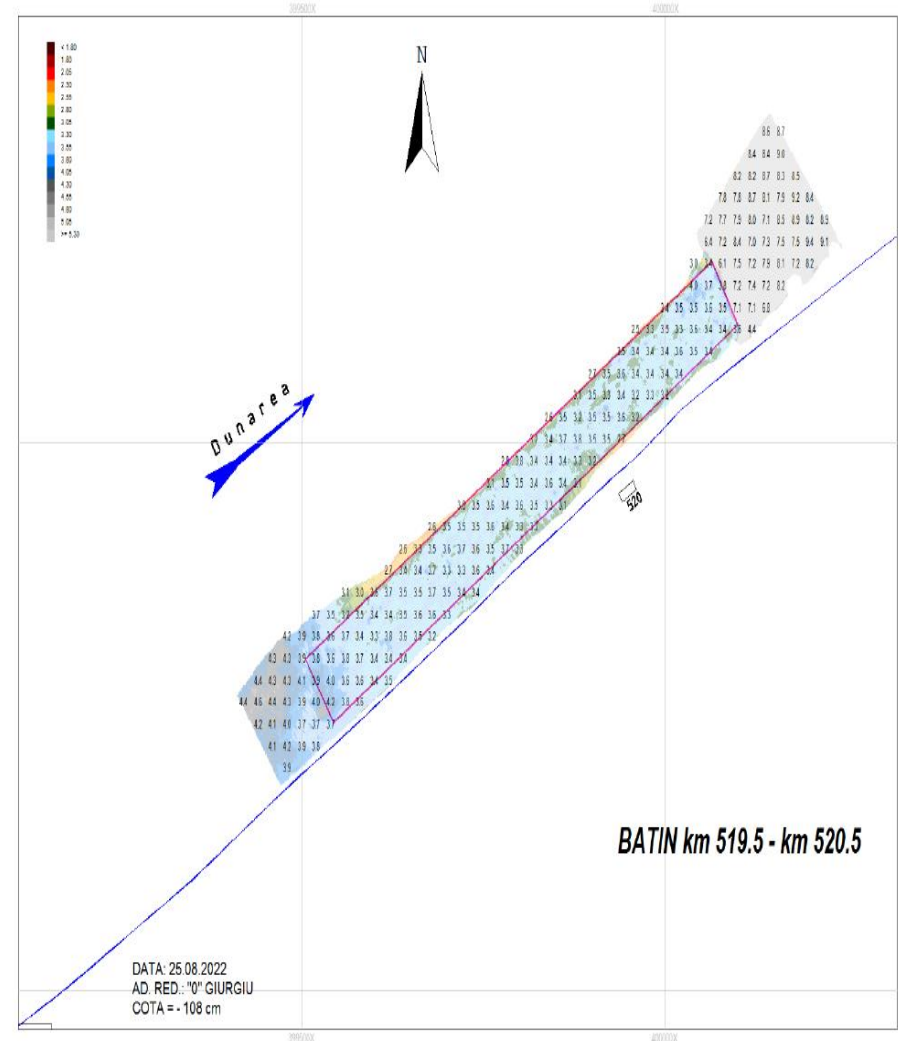
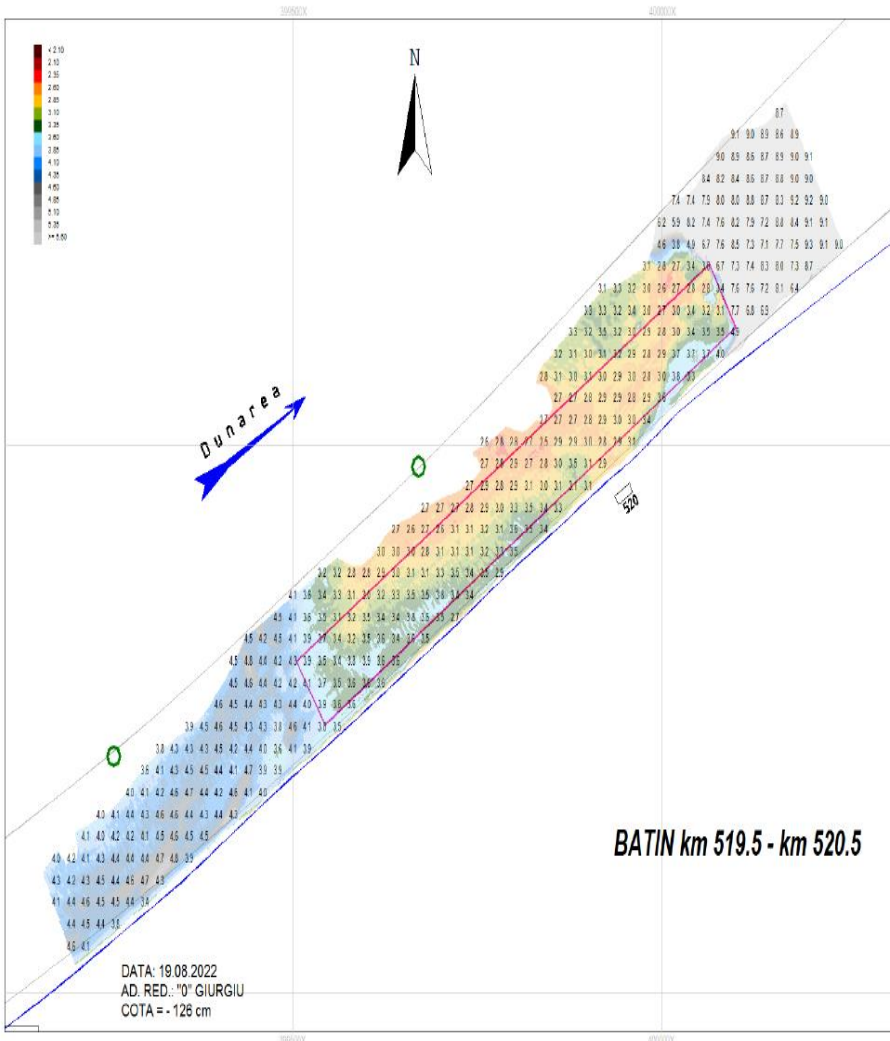
Taking into account the bad hydrological situation during the summer period, one of the challenges was to ensure navigation conditions, to unblock traffic in the Belene, Vardim and Batin sector, administered by the Bulgarian side. In this sense, dredging works were carried out in these sectors during July-August.

- Belene / rkm 562.5 – 564.0
- Vardim / rkm 544.8 – 545.5
- Batin / rkm 519.8 – 520.5

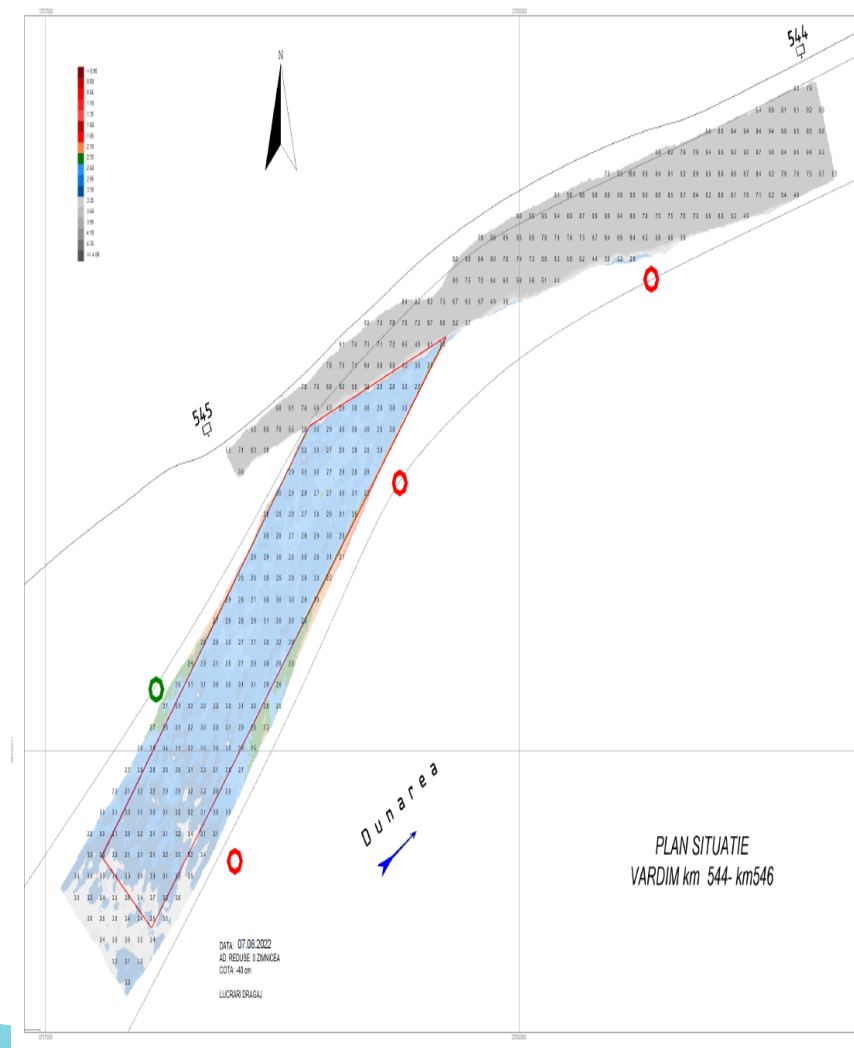
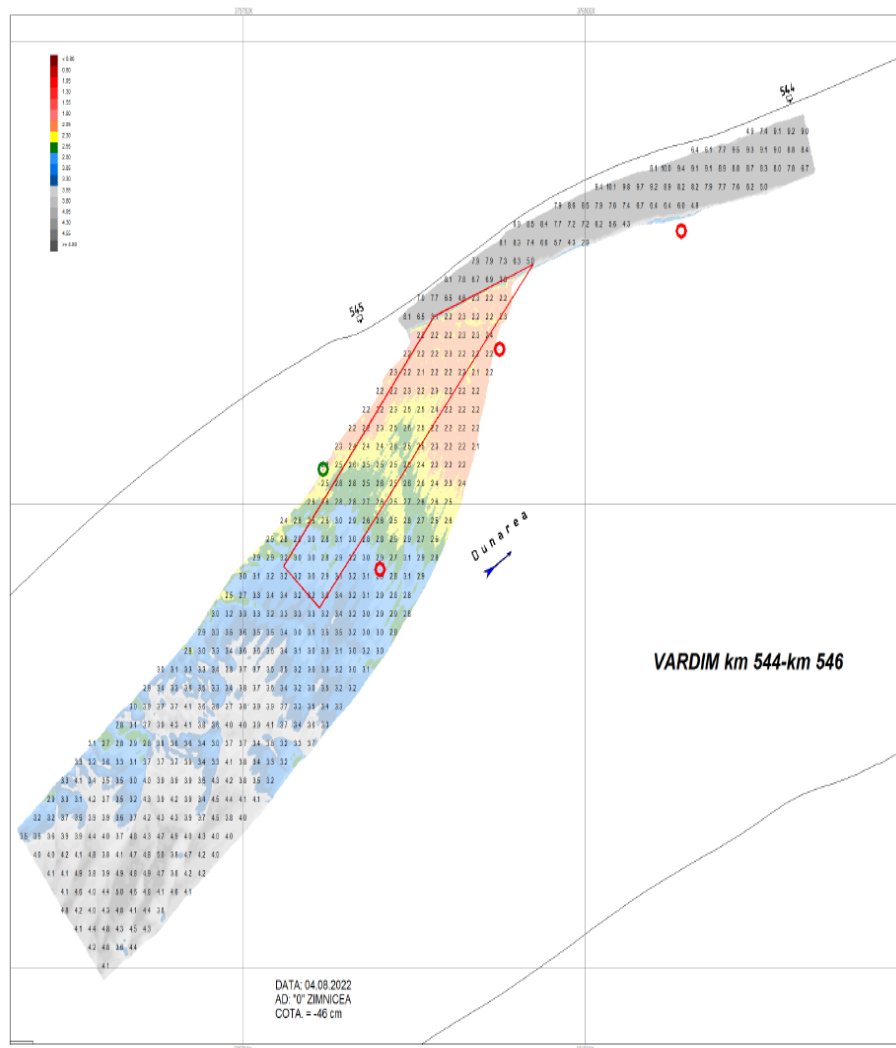
Challenges - Belene

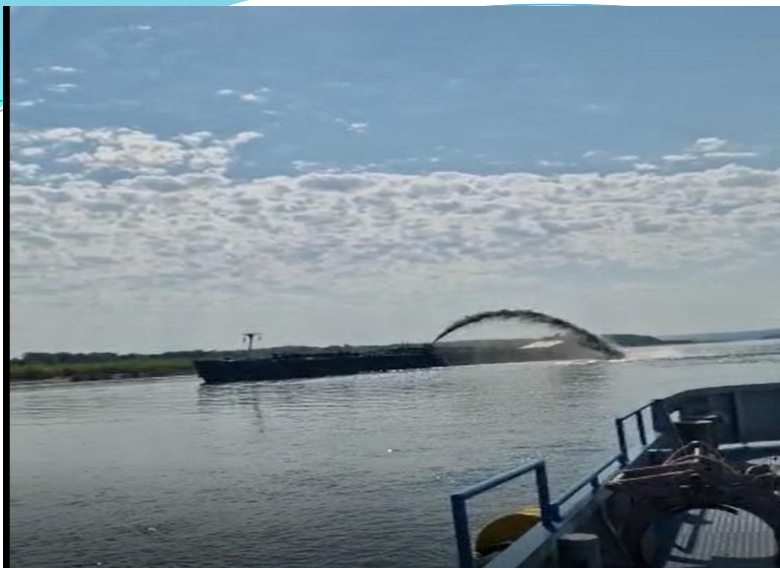


Challenges - Batin



Challenges - Vardim





Thank you for your kind attention !

AFDJ Galati

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