

POINT OF VIEW

on the proposed solutions for improving navigation at
critical points at Bechet, Corabia, Belene and Popina

20.09.2018

Critical point from Bechet (km 673-678)

We agree to modify the channel, if this is the option agreed by A.F.DJ. Galati, irrespective of the technical solution adopted (chevron + groynes or artificial islands).

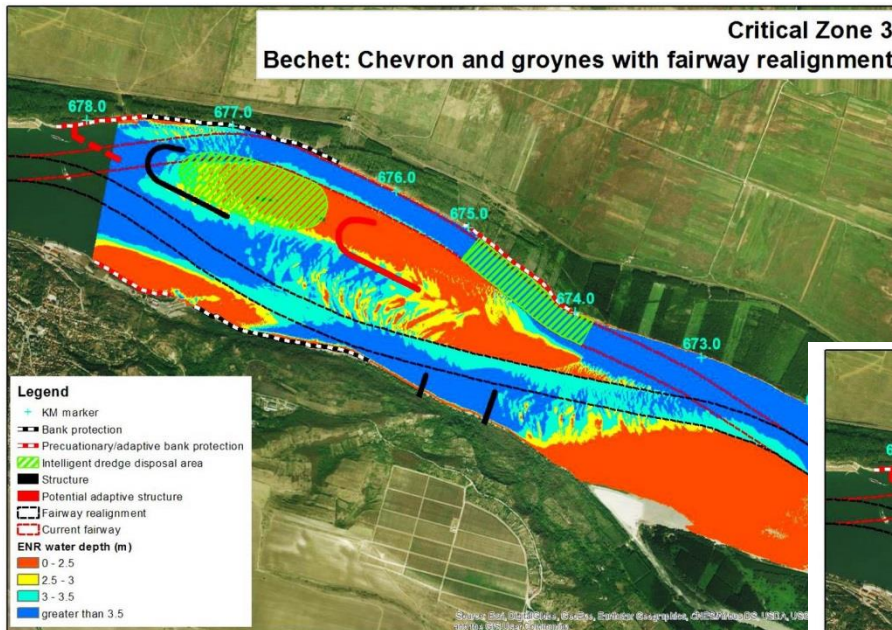


Figure 11: Bechet chevron and groynes with fairway realignment option

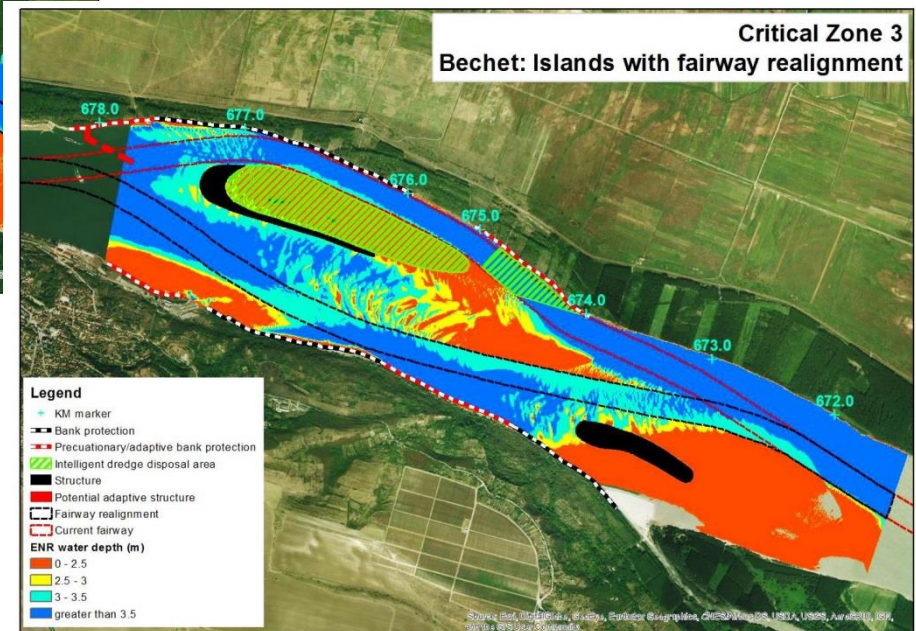


Figure 12: Bechet islands with fairway realignment option

Critical point from Corabia (km 626-630)

We agree with keeping the current channel, regardless of the technical solution adopted (chevron + groynes or artificial islands).

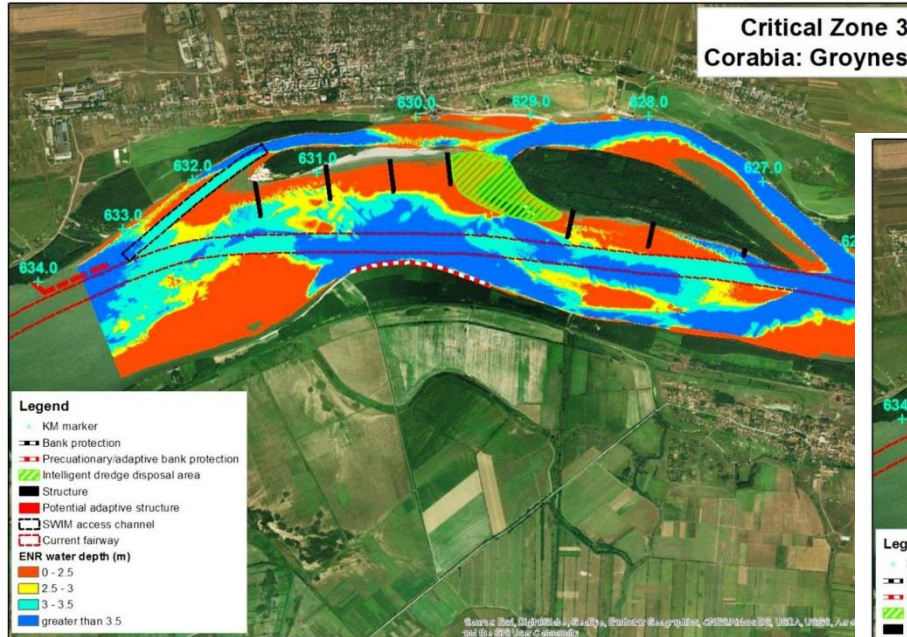


Figure 14: Corabia groynes option

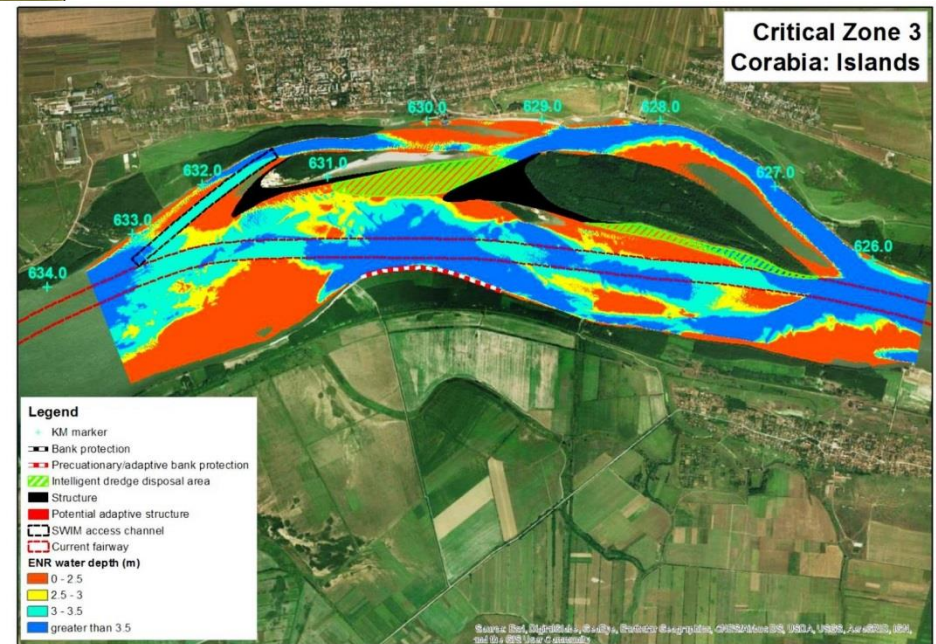


Figure 15: Corabia islands option

However, we consider it risky to open a ditch - even narrow, up to 80 m - near the left bank, which partially drains the port of Corabia, all the more so as the ditch is in the direction of the water flow. There is the possibility that after the water distribution on the paths, we will no longer have any depth of passage on either side.

Critical point from Belene (km 626-630)

After discussing with several shipkeepers, the unanimous conclusion was that the current track (the one opened in 2017) must be maintained, no matter if groins or islands are built. This channel is much more advantageous for navigation, allowing convoys to pass both downstream and upstream, without being split (except for periods of very small water).

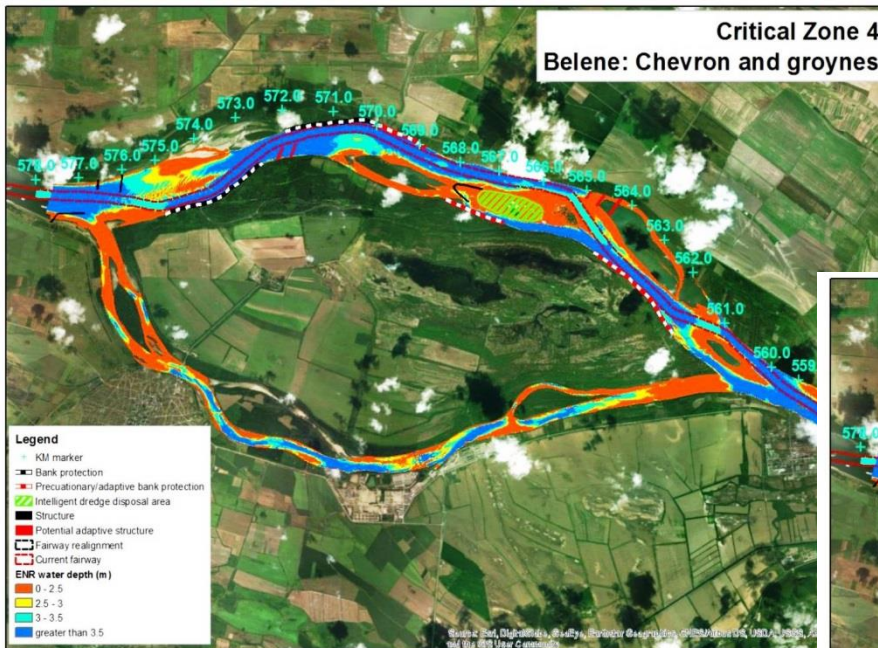


Figure 17: Belene chevron and groynes option

Even if it later turns out to be necessary from time to time a maintenance dredge at km 565, as was the case this year, the dredging volume is significantly lower than required at km 568.

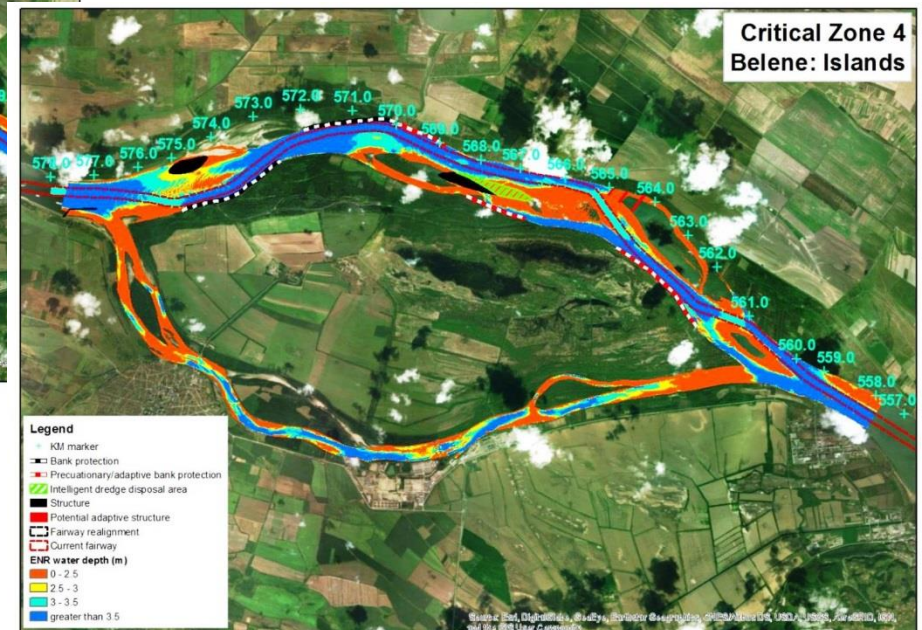


Figure 19: Belene islands option

Critical point from Belene (km 626-630)

If we go back to the previous channel next to Milka, we will face great difficulties, with a permanent tendency to depositing alluviums in the area.

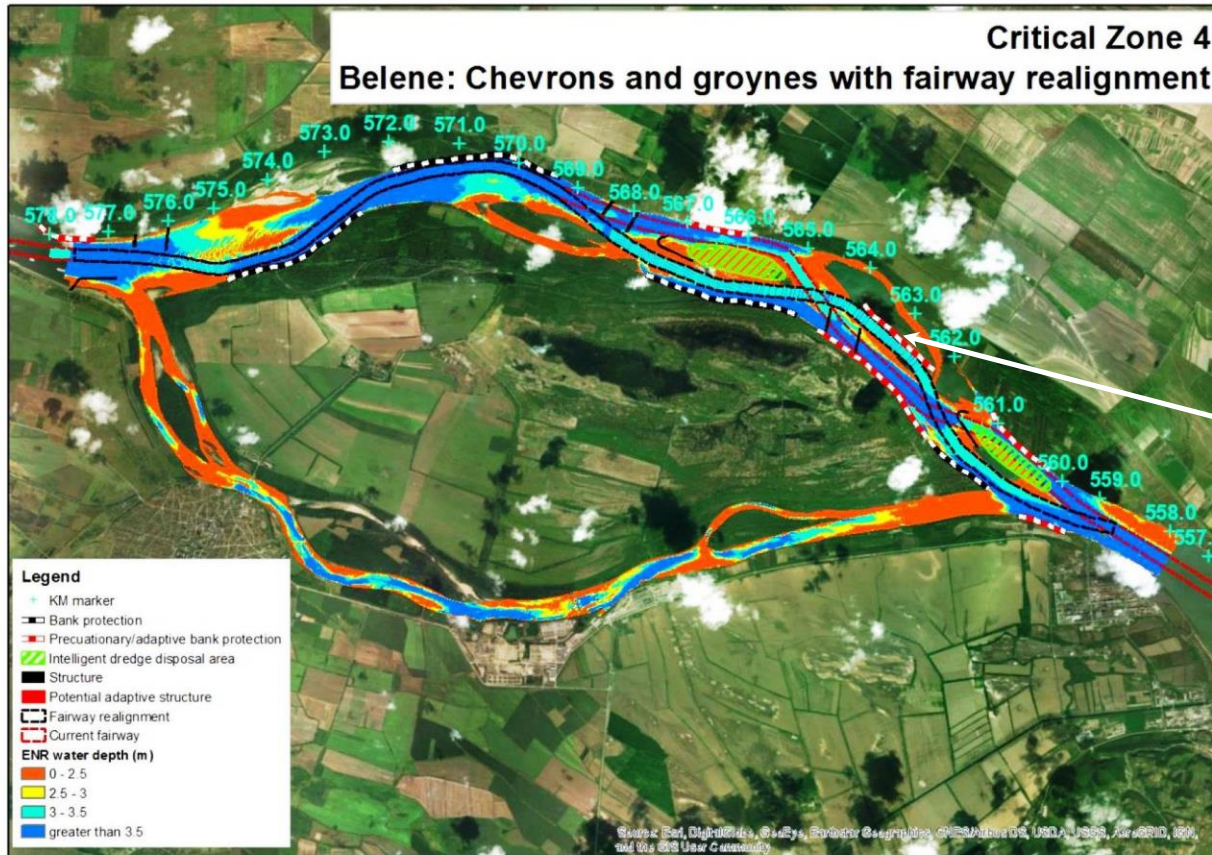


Figure 18: Belene chevrons and groynes with fairway realignment option

The channel will always be narrow and curved, which will force us to fragment the convoys into small formations, with significant additional expenses and delays in delivering goods to the destination.

Additionally, the island of Condurul (Dunavița) will erode, and its slopes will be deposited downstream (as happened this year at km 556). And the configuration of the track will require important consolidation works on both banks.

Critical point from Popina (km 403-408)

We believe that the proposed solution to move the channel alongside the left bank is not the most appropriate. The track was a few years on this route (before 2015), and we had difficulties because the water flow pushed the convoys to the shore. In addition, shoreline erosion has been enhanced, and additional generating alluvial leads to clogging downstream sectors and even creating new bottlenecks.

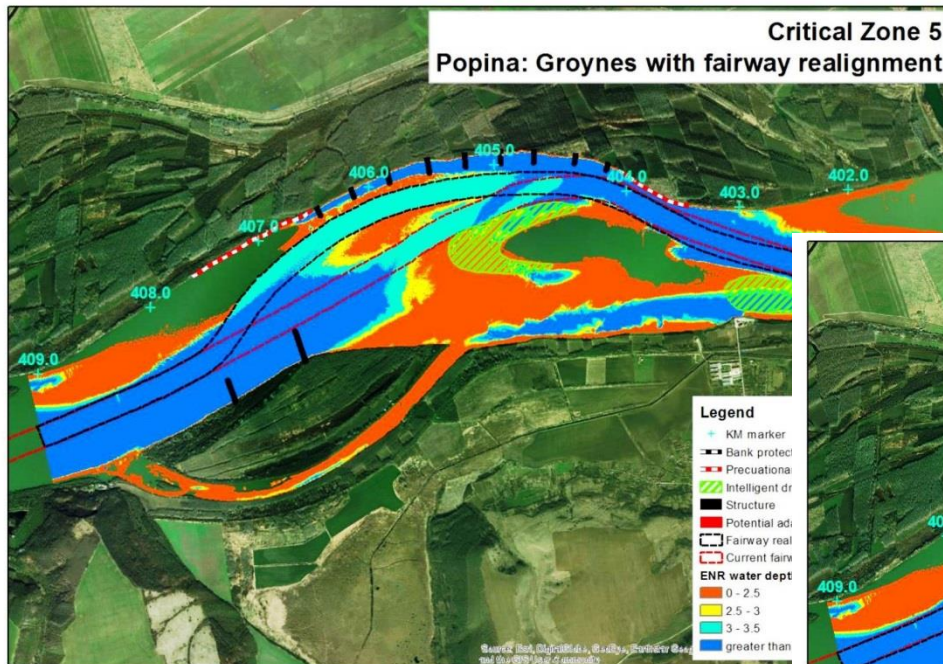


Figure 22: Popina groyne with fairway realignment option

If this solution is adopted, sailing will always be at risk that ships and convoys will be pushed to droynes.

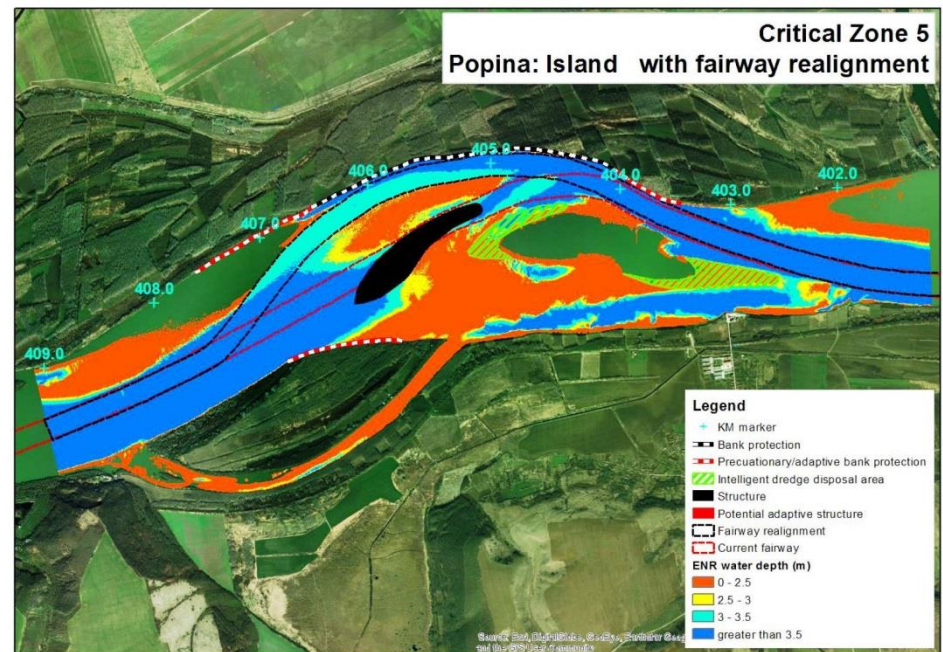
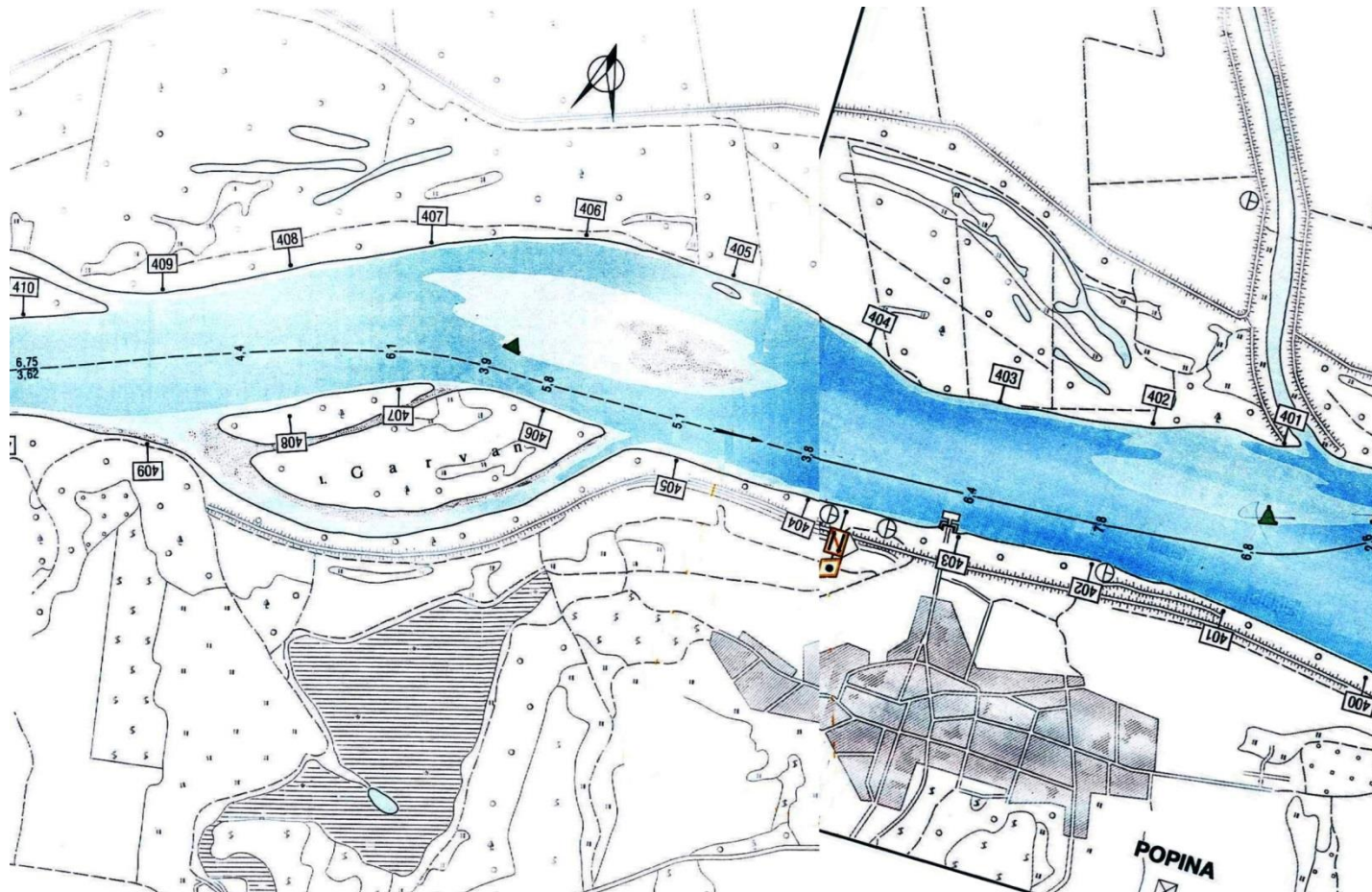


Figure 23: Popina island with fairway realignment option

Critical point from Popina (km 403-408)

For a long period of time, the navigable channel was closer to the right bank, the configuration allowing for trouble-free passage of convoys of any size (according to the extract from the „*Carte de pilotage du Danube du km 610,0 au km 375,0*”, Commission du Danube, Budapest, 1993, feuille III-1/23+III-1/24).

Under these circumstances, there was no problem with shore erosion.

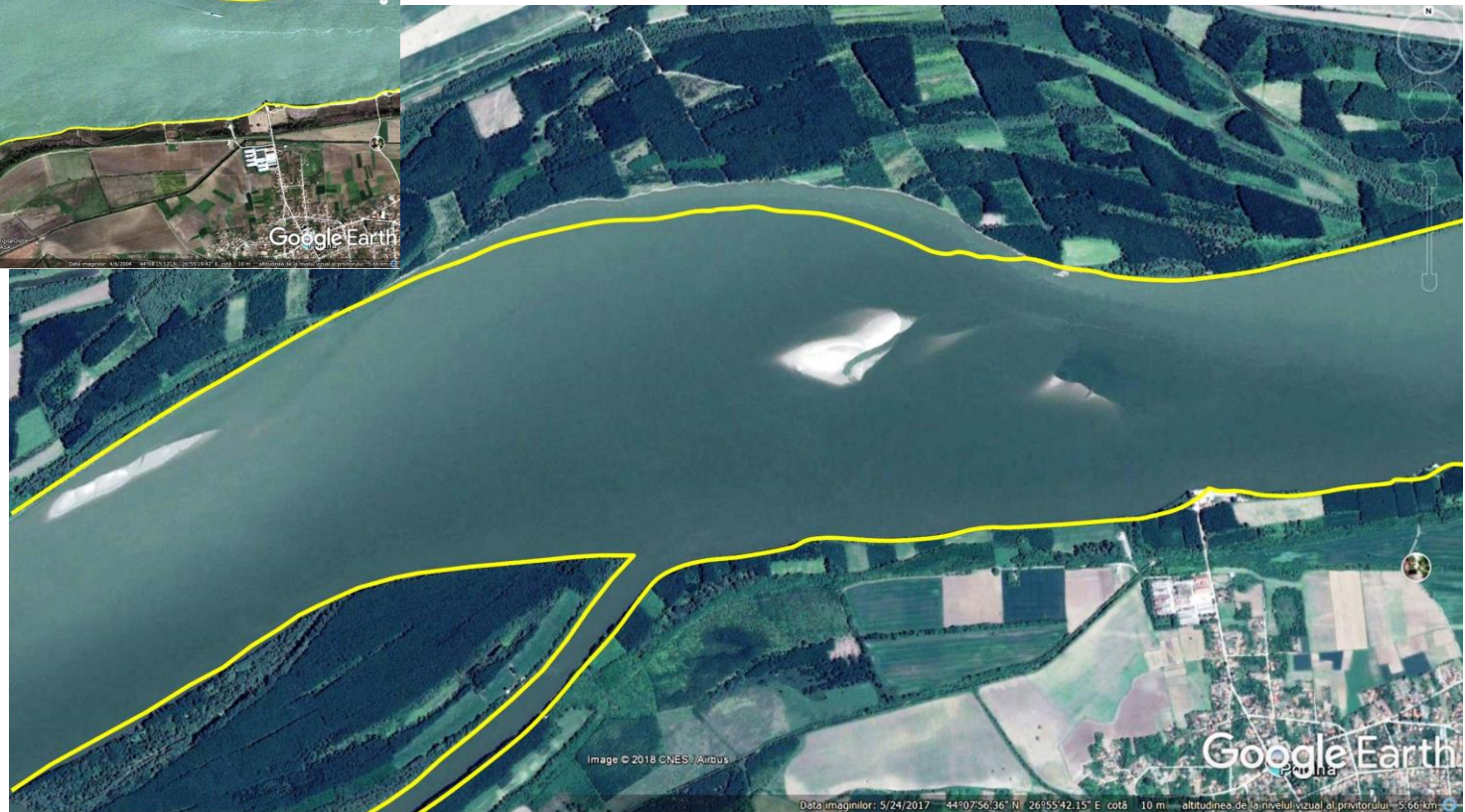


Critical point from Popina (km 403-408)

Due to the periods in which the canal was near the left bank, this shore eroded strongly due to the fact that it was formed on deposits of alluviums. Compared to the contour of the bank in 2004, this erosion tendency of the left bank is observed, while the right bank retains its previous contour.

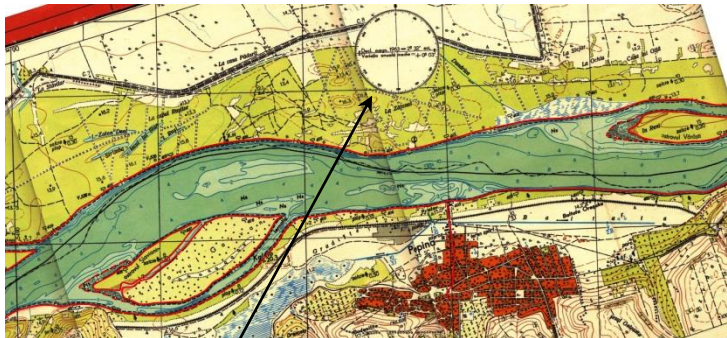


← The yellow line is the outline of the shore on 06.04.2004, (left) and the photo taken from Google Earth is from 24.05.2017 (bottom). ↓

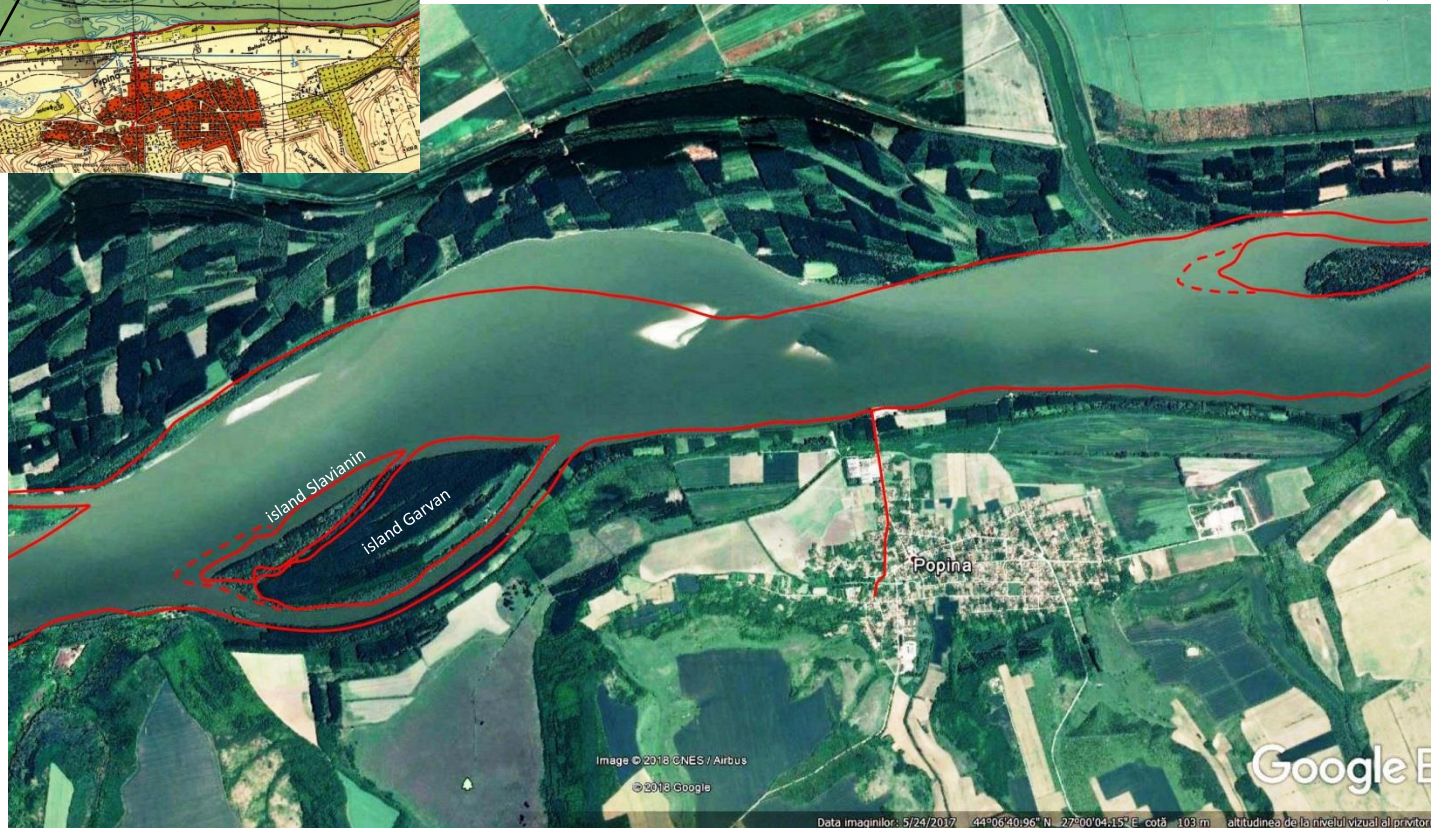
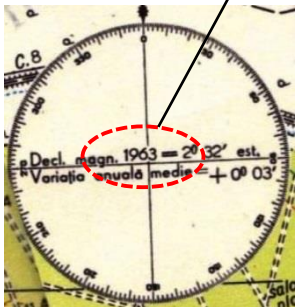


Critical point from Popina (km 403-408)

The erosion trend of the left bank is even more visible if we compare the outline of the banks at longer intervals. Below is the comparison between the 1963 Danube Military Navigation Map and the bankline of 24.05.2017.

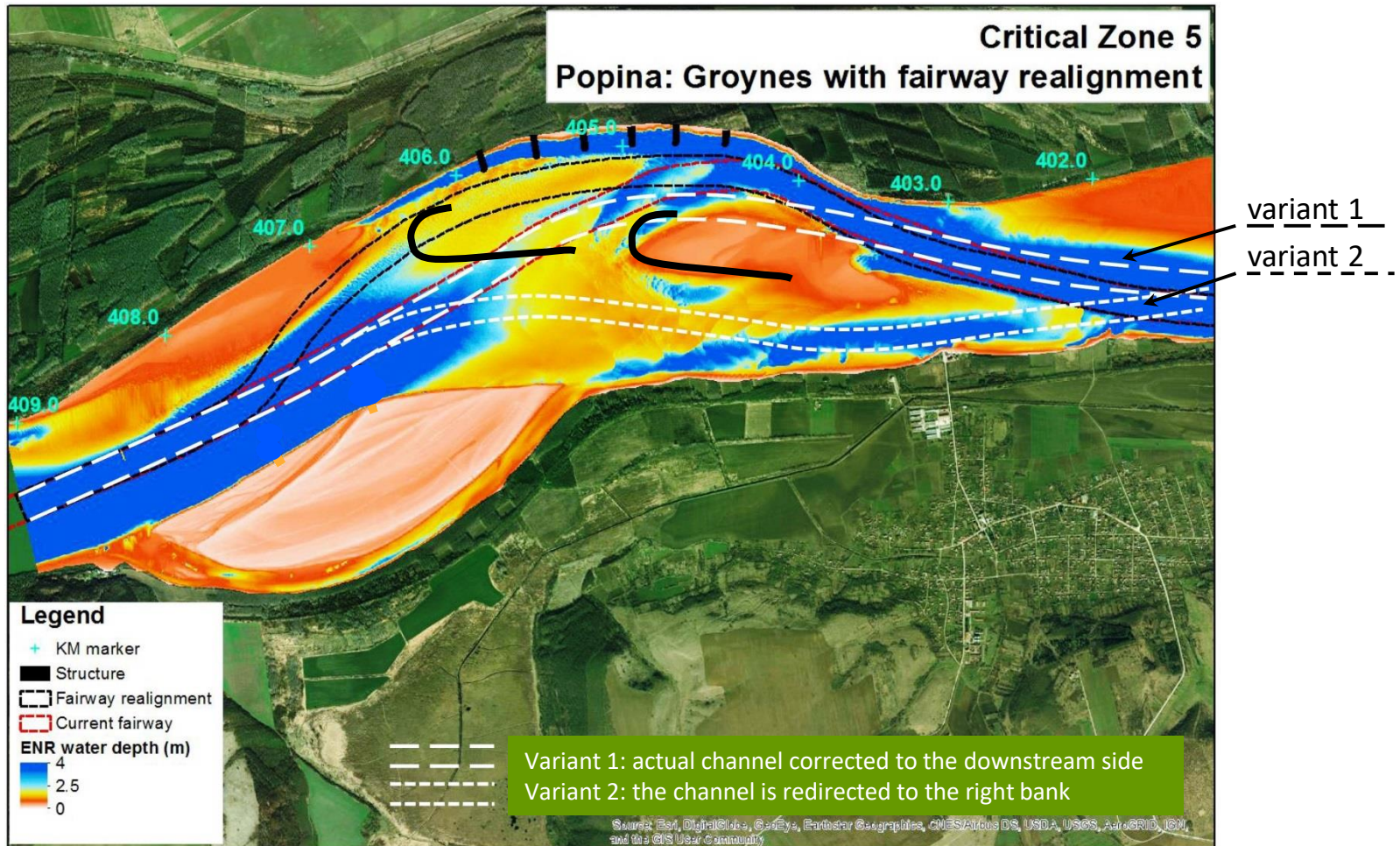


The red line is the outline of the bank in 1963, (left) and the photo taken from Google Earth is from 24.05.2017 (bottom).



Critical point from Popina (km 403-408)

As shipowners, it seems more appropriate for us to keep the current channel, reconfigured to the downstream side, in the direction of the widening of the curve, if it can also be shortened to catch the corner of the bank at km 403, left bank (variant 1) , or even better, the return of the track on the 1993 route, respectively along the right bank (variant 2).



Thank you for your attention !