Co-financed by the Connecting Europe Facility of the European Union

Preparing FAIRway 2 works in the Rhine-Danube corridor

MINUTES (final)

Stakeholders' Forum Meeting 05 (SHFM05)

Date	07.06.2023
Time	09:30-11:30
Place	Online (*GoTo Meeting*)

Participants	– Chair: Georg Rast
	– Project Partners
	  ○ MMPI (HR)
	  ○ MGSI - Directorate for Inland Waterways (RS)
	  ○ viadonau (AT, project coordinator)
	– Experts from the awarded consortium responsible for monitoring activities
	– Danube Commission
	– Sava Commission
	– WWF Adria
	– WWF Austria
	– Environmental Agency Austria
	– Austrian MAB National Committee for UNESCO
	– Faculty of Civil Engineering Zagreb

For the minutes	Iris Marstaller, Lidija Hubalek, Georg Rast, Ljubisa Mihailovic, Lucia Karpatyova

The presentations were sent out to the Stakeholders' Forum members/observers/project team on 07.06.2023 and are available for download on the Stakeholders' Forum website.

Welcome note

Welcome and introduction was done by Georg Rast (subcontracted by the project coordinator), who chaired this meeting.

Organisational issues as well as basic principles of the GoToMeeting tool, methods of asking for the floor, logging in by name and organisation, usage of the chat box, camera, microphone and hand raising function were introduced.

Monitoring of the common Croatian/Serbian Danube section *(Croatia: Lidija Hubalek, MMPI & awarded consortium)*

Welcome and brief summary of the procurement and contracting process. The tender procedure has lasted 1,5 years. The first tender was annulled, thus a second tender procedure had been started.

The award was granted to a consortium (contracted consortium OIKON d.o.o, Hidroing d.o.o., VPB d.d. with subcontractors Croatian Society for Bird and Nature Protection(CSBNP) and IDT), the contract signature was on 18 January 2023.

Activities carried out since last SHFM meeting *(Polona Čufer Klep, Oikon)*

The consortium coordinator (Oikon) has shortly recapitulated the structure of the Consortium.

Work is clustered in three thematic pillars/bundles:

1. Monitoring of Parameters important for waterway maintenance → by Hidroing and VPB
2. Biodiversity inventory → by Oikon and CSBNP
3. Establishment of a Geoinformation System (GIS) → by Oikon

More detailed information is available in the presentation of the consortium, which was presented at the 4th Stakeholders' Forum (04.04.2023).

An overview of the current status of obtaining permits was given. All Croatian permits were obtained. Permits for research in nature conservation areas on Serbian's banks of the Danube are pending. The Serbian Nature Protection Law does not provide the possibility for foreign companies to be permits holders. Therefore, the cooperation with Serbian company is in progress. The overview of the status can be found in the presentation "Status of obtaining permits".

Apart from that, the project is progressing as planned.

Monitoring of hydrological, hydraulic and morphological characteristics of the Danube *(Igor Tadic, Hidroing)*

More information can be found in the presentation "Analysis of the existing waterway state". Most important results and conclusions of the analysis of the existing waterway state using the existing data from past 20 years were presented.

Hydrological analysis

Data, such as water level, discharge (flow rate) and temperature, from six water gauging stations (Batina, Aljmaš, Dalj, Vukovar, Ilok and Osijek) were analysed and compared. Batina is the newest and most accurate station. It has statistical data from 2001 onwards, so the period for data comparison was set to 2002-2021.

The contract for the monitoring activities requires the monitoring to be carried out during the low, medium and high water levels periods. These water levels were determined based on the statistical analysis of the available data from the given period, resulting in 5 scenarios: min, 90%, 50%, 10% and max (slides #3,4 provide more details).

So far, due to the current water level conditions, high water level monitoring activities have already been conducted and completed. First outcomes, analysing the existing data from last 20 years were presented and discussed during the meeting. An example of a simulation (presented at the meeting) showed an incision effect of -2.1cm per year at Batina. (see PPT for more details)

Transport analysis

The transport flows were analysed for 17 known critical sectors (as identified in the contract) on the Croatian-Serbian common Danube section. Various criteria were considered (slide #7), either based on the legal obligations, methodologies used by neighbouring countries, or criteria set by the contractor.

The analysis of the vessel routes (according to ship-logs) showed that vessels use the full fairway width of 200m at low water levels. In case of some critical locations the vessels use the edges of the fairway.

Additional analysis looked at the amount of the dredged material needed to be potentially extracted from the critical locations to reach different depths (2.5m, 2.8m, 3m) and widths (100m, 120m, 150m, or 200m) of the fairway. An example of results in the critical section Apatin was presented in PPT (slide #8) together with calculations for each critical section to reach the depth 2.5m and width 200m. For the first analysis and in order to present these first results, the criticality as regards the amount of the dredging material to be extracted was set to 10,000m3.

Inventory of river regulation infrastructure

All major works will follow in the next months (mapping, photo documentation, current condition inventory).

As a first step, existing structures were identified using satellite images and historical data. The next step is to verify these structures from vessel and shore and to detect new structures. These will be documented with exact coordinates and their condition will be assessed as well.

Critical sections

The 17 critical sections were further analysed using various criteria, such as fairway depth and width, radius (curvature), bridge width and height, or bank erosion. The overall results of the first analysis based on the existing (old) data were presented on the slide #12.

Few additional explanations were given for some critical sections; in particular in relation to the criteria.

Mohovo (#16) is an exception to all the critical sections, as the riverbed is characterised by rock structures with peaks and sharps that have been identified as potential problems due to decreasing water levels. All other critical sections are characterised by sand sediments. Based on the analysis, six of these critical sections would require dredging to reach the fairway depth of 2.5m and with 200m. The critical section Židovski/Čivutski rukavac (#4) has a radius <350m, it is highlighted in red because it is less than the defined minimum radius of 750m. The bridge clearance (height) of the Erdut-Bogojev rail bridge is 8.6m (less than 9.1m as required for the waterway CEMT class VIc).

The critical sections were classified in the past as critical because they do not meet certain requirements set for the given waterway class (e.g. fairway depth/width, bridge height/width) and/or because they pose some other safety risk to navigation. Under optimal conditions (e.g. favourable water levels), navigation in critical sections is feasible, but restricted during low water periods. In such situations, if no other vessel is present, the skipper may choose a different track (path) within the fairway, passing through such critical section which poses a significant safety and ecological risk.

The results presented at SHFM summarised the outcomes of the analysis of the current situation based on existing data. The project at hand, in particular the monitoring activities aim to collect new data to be used for further analysis and for modelling activities. It is a starting point that indicates also the methodologies to be used. The data to be collected and used in the follow-up analysis may lead to completely new results.

Q&A, Discussion

Q: Arno Mohl: On the slide 11 of the presentation which defines the criteria to be analysed, what kind of erosion is considered in this in this context?

A: Igor Tadic: Bank erosion, where the waterway (river) touches the river bank. *(Remark: the terminology was improved in the presentation which was sent out)*

Q: Alexander Zinke: More than 2cm of river bed erosion per year have been determined. Where is there a lack of sediment recharge? Danube or Drava?

A: Igor Tadic: A variety of possible explanations can be considered. Of course, the river power plants located upstream of the Danube play a major role. In addition, increased sediment deposition occurs on the last 10 river kilometres of the Drava, as the flow rate is not powerful enough to transport the sediment further. Therefore, it would be recommended to relocate the sediment here.

Q: Alexander Zinke: The criteria defined for the critical sectors concerning dredging are specified as 10,000m^3. Where did this definition come from?

A: Igor Tadic: In the absence of general guidelines, parameter was set by the consortium in collaboration with MMPI in order to allow a first look at the sediment and to observe and identify differences in the amount of sediment between the critical sections.

Correction to the slide #11, the criteria relates to the fairway radius in the addressed section of the Danube (by Dejan Trifunovic in the chat): The radius of the bend in this part of the Danube is 800-1000 m (instead of 750m -1000m). The relevant document can be found on the Danube Commission website: www.danubecommission.org/uploads/doc/publication/Gabaritov_farvatera/77_11%20Regelmasse%202013.pdf].

Q: Alexander Zinke: Do you consider adding sediment at some locations as one possible mitigation measure?

A: Igor Tadic: It is too early to discuss mitigation measures, as currently the data is being collected. Reference to Sediment balance and transport study carried out within the framework of the project lifelineMDD, as similar methods of monitoring were used. Without additional analyses, a definitive answer cannot be given yet.

Alexander Zinke emphasized, that a river bed erosion is a serious problem for the ecological status which needs to be tackled as soon as possible. One option would be adding oversize gravel to stabilize the river bed and prevent further erosion.

Q: Georg Rast: Has the sediment survey generated data that can be presented?

A: Igor Tadic: Some data will be available ca. end of July after the conclusion of high-water level monitoring.

Q: Georg Rast: Existing infrastructure elements were identified through existing lists and thereafter visually inspected?

A: Igor Tadic: The surveying will be both from water and land. Using geodata, the team will be able to overlap what was in the catalogue and what was identified during the field surveying. To launch the survey it is necessary to wait for drier weather.

First insights into bird inventory along the Danube *(Tibor Mikuska, Croatian Society of Bird and Nature Protection)*

Within the presentation "First insights into bird inventory along the Danube", an overview of main activities, existing data and used methods of inventory were given. At the moment, most of the monitoring works are in progress. The analysis and conclusions of this data will be available during late fall.

The Croatian/Serbian common section of the Danube is one of the most important sections on the middle Danube from a biodiversity point of view.

The first bird monitoring was executed in January 2023, as a part of international mid-winter water bird count and these data would be used in this project . As the same method was used, the data can be included in the bird monitoring activities and be part of the analysis and conclusions.

So far, it can be said that sandbar-breeding species have not had much opportunity to breed this year, because water levels have been quite high and all sandbars have been flooded. They may try to breed again once the water level has lowered far enough, but the disturbance from increased recreational activities will probably be too intense.

Sand martins have a similar problem. High water levels mean that steep banks, which are needed for breeding, are partly inaccessible. Fresh side erosion is required so that new nests can be dug.

Q&A, Discussion

Q: Arno Mohl: Are terns not breeding along the Danube?

A: Tibor Mikuska: Not directly along the river, which is why they are not taken into account here.

Statement Tibor Mikuska: The creation of new sandbars, especially in the middle of the river, is of great importance to key species, because they cannot be reached by predators from the shore and the human interference is also low.

Q: Georg Rast: Is the comparison of historical trends feasible?

A: Tibor Mikuska: The inventory carried out as part of this project is limited to one year. However, because bird populations fluctuate from one year to the next, a trend can only be determined by comparing the existing data from birds monitoring carried out in past. For the most important bird species, there are reliable data sources from the past.

Q: Alexander Zinke: What is the coverage of the survey area? Will birds also be surveyed on the Serbian side?

A: Tibor Mikuska: The area of study extends the entire distance from dyke to dyke.

Modelling & Multi-Criteria Analysis of the common Danube section *(Ljubisa Mihajlovic, MGSI)*

Modelling

An overview of the estimated time frame for the modelling activities was presented; the work is expected to start in September 2023.

In the meantime, the Serbian Ministry of Transport supported the Croatian consortium responsible for monitoring activities in obtaining the necessary permits for the Serbian side of the Danube; the port authorities and the border police were notified about the planned monitoring activities in order to be aware and to prevent any interference in the monitoring activities.

Multi-Criteria Analysis (MCA)

An example of a multi-criteria analysis process from a completed project was presented to the Stakeholders. The MCA in this project will be structured and conducted in a similar manner. Some criteria may differ, the Stakeholders' Forum will be involved in the process. Experience has been gathered, as Stakeholders were also part of the entire process in the former project. The already discussed aspects (e.g. environmental) will be taken into account from the very beginning. The MCA provides an objective basis for the evaluation of possible scenarios, which is not yet a "go-ahead" for execution of any construction or physical works.

Effects of newly built hydrotechnical infrastructures in Serbia

A brief introduction to the impact of the newly built hydrotechnical infrastructure on the Danube in Serbia followed. A representative of PLOVPUT will present these infrastructure elements in more detail at the next Stakeholders' Forum in September 2023. A discussion on this topic could be stimulating for all participants and basis to start the modelling activities.

Q&A, Discussion

Q: Kerstin Böck: Options for choice at the critical locations were presented. From her experience, there is often the option of choosing to "do nothing". Is this considered here?

A: Ljubiša Mihajlovic: It should be presumed that something has to be done, since these are critical and prioritized sectors. Certainly, there are the possibilities to provide this option as well.

Next steps & next meetings

If some in-between information is available, the Stakeholders' Forum will be informed via email or an AdHoc meeting will be scheduled.

SHFM 06
Date: 26.-27.09.2023
Focus: to be confirmed; focus on monitoring activities (outcomes available until the meeting) & modelling activities (introduction of contracted experts, planning)
Venue: Croatia (physical meeting)

The 6th Stakeholders' Forum will be held in Croatia (Vukovar area). Lidija Hubalek (MMPI) will be in charge of the organisation. A registration form will be sent out in due time in order to determine how many people are expected to participate on-site. Depending on the expected number of on-site participants, the meeting will be arranged as a physical or hybrid. If it is held on-site, a field trip will be organised.

All information will be sent via email. An calendar entries have already been sent to Forum's members/observers and project partners.

Any ideas or suggestions for the agenda are welcome.

SHFM 07
Date: November 2023
Focus: monitoring activities (outcomes available until the meeting) & modelling activities (preparations for multi-criteria analysis – criteria, procedure in general, not based on the modelling outputs)
Venue: tbc (optional as a physical meeting in Serbia)

AOB

Georg Rast encouraged all members and observers of the SHF to make proposals for Agenda points for the next meetings. Any project, study, topic, etc. that may be relevant for the area, thus of interest to SHF may be presented.

Upcoming Meetings

Meeting	date	time	place
Stakeholders' Forum Meeting 06	26.-27.09.2023	2 days reserved	Croatia (planned Vukovar)

Attachments

- List of participants (separate file)
- Presentations (separate file)
- RECOMMENDATIONS on the minimum requirements of standard dimensions for the fairway and the hydraulic engineering and other development of the Danube (Link: www.danubecommission.org/uploads/doc/publication/Gabaritov_farvatera/77_11%20Regelmasse%202013.pdf → 77_11 Regelmasse 2013.pdf)