

Preparing FAIRway 2 works in the Rhine-Danube corridor

MINUTES (final)

Stakeholders' Forum Meeting 08 (SHFM08)

Date	03.07.2024
Time	08:30 – 13:00
Place	Hybrid meeting (<i>Google Meet</i>)
Participants	See List of Participants (LoP)
For the minutes	Ljubisa Mihajlović, Katarina Marinković

The presentations are available for download on the [Stakeholders' Forum website](#).

Welcome note

Mr. Ljubiša Mihajlović welcomed all to the 8th Stakeholder Forum meeting for the Project "Preparing FAIRway 2 Works in the Rhine-Danube Corridor." He introduced himself as a representative of the Directorate for Inland Waterways. The Serbian Ministry (MGSJ) is a project partner responsible for the organising and coordinating the Stakeholder Forum in the project. He acknowledged the Museum of Science and Technology for their ongoing support and for hosting our meeting in their premises. He outlined a few technical points regarding the monitoring of the online meeting and ensuring connectivity among participants.

Ms. Marina Ilić, the chairperson of the forum meeting, informed participants that two subjects would be discussed: monitoring and modelling of the common Croatian and Serbian Danube sections.

Monitoring of the Croatian/Serbian Danube Common section

Ms. Lidija Hubalek (MMPI), the national coordinator for this project, stated that the Croatian part in this project was to implement monitoring activities on joint sections. Ms Hubalek informed the participants that monitoring consortium is in the last three weeks of the contract implementation. Contract was signed 17 months ago. After some small issues with receiving the permits to implement the monitoring on both sides of the river, the monitoring started and by this point everything has already been completed.

Monitoring of parameters important for waterway maintenance

[Presenters: *Igor Tadić (Hidroing)*, *Slaven Marasović (VPB)*. See 2024-07-03_PPT_PF2W_SHFM08_v03072024_su.pdf]

Outcomes from the monitoring activities of the common stretch were presented:

- Inventorisation of river regulation infrastructure (Mr. Igor Tadić)

→ for details see presentation slides #4-5

The inventory (field work) of the river regulation infrastructure on the common HR-RS Danube section was carried out in Sept 2023. Assessment for all available data regarding to existing river regulation infrastructure and then the field survey needed to be done. A visualisation example is offered on the slide #5. A total of 176 existing infrastructure objects were identified. The activities were divided into two portions: one was the assessment of geometry data, including geodetic surveys for the length and height of the crowns, and the other portion was the engineering assessment of the functionality and current state of the river regulation structures. Each infrastructure was assessed on an individual basis. A table overview of all regulation infrastructure

and its geodetic positioning was compiled and later data is integrated into a GIS environment. 90% of the structures were in good condition with no visible damages, although a portion of the infrastructure has already served its intended purpose or scope and the succession processes are completed.

- Riverbed measurement of cross sections of Danube river (Mr. Slaven Marasović)

→ for details see presentation slides #6-8

Hydrographic riverbed measurements of cross sections were conducted over a length of 140 km. There were 1375 control profiles on the Danube River and 6 on the Drava River with an equidistance of 100 m. Two sets of measurements were taken (one in 2023 and in 2024). The echo sounder was mounted on the surveying vessel and navigated throughout the GNSS application. After data was gathered, it needed to be processed, the noise cleaned, and prepared for later use.

After the data was cleaned, it was taken as in a real world scenario and projected onto cross sections. This provided better sorted points for creating a 3D model, allowing the setting of lines if the model was improved. After completing this part, the data can be exported to different formats for various users to use in different projections.

It can be exported to three projections: HTRS96/TM (HVR571), HDKS (GK) 6 zone (HVRSTRST) and UTM 34 (N) (HVRSTRST).

- Monitoring and analysis of flow, velocity and sediment transport (Mr. Igor Tadić)

→ for details see presentation slides #9-12

Three sets of measurements were required at three locations, accounting for lower, medium, and higher water levels. Prior hydrological analysis was carried out to assess the thresholds. Locations were Batina, Vukovar and Ilok for flow and velocity measurements. Upstream, midstream and downstream for the common HR-RS section.

Regarding sediment transport, because the Drava confluence and inflow of sediment were considered, locations were changed to Batina, Drava, and Ilok to obtain a more accurate sediment mass balance. Graphic representations of the field surveys can be seen on this slide #9. For the flow and velocity, ADCP was used. For suspended sediment, an acoustic sensor was used along with grab sampling, and for the bed load sediment, a Helley-Smith catcher was utilized.

Velocity was basically in the range of expected results, around 1m/s of integrated velocity with 1.5 m/s in the main current. Since different hydrological events were monitored, different results were obtained, especially in the flows, 1.350-5.400 m³/s for the high water level regime. For the bed load sediment, it accounts for around 7% of the total sediments, with the majority being suspended sediment. The granulometric curves show consistency, with a decrease in particle size from 0.3 mm as the median size particle for the upstream section, down to 0.2 mm for the downstream section.

Hydrological and sediment analysis was conducted for this common section. Analysis was performed for the water meter stations along the common section, and trend lines were examined for flows and water levels at each station. A decline in the trend line for both parameters was observed, attributed to climate changes for flows, while a sharper decline in water levels revealed a discrepancy. This discrepancy was attributed to the simulation of the incising effect on the venue. At the Batina water meter station the decline is 2.1 centimeters annually, decreasing to 1.6 centimeters for the downstream water meter station at Ilok. This provides a brief sediment analysis into the incising effect on this common stretch.

- Piezometer installation (Mr. Igor Tadić)

→ for details see presentation slides #13

The last portion of the technical monitoring involved the installation of piezometers. Three piezometers were installed for this purpose. Upstream Batina, midstream Aljmaš, and downstream Ilok. Piezometers were installed in the vicinity of Danube, within 100 meter radius with 15 meters of depth for continuous monitoring of water levels and temperature.

Measurement equipment and automatic loggers were installed. The loggers will continue to provide data after the project is completed.

Biodiversity inventory

[Presenters: *Matija Kresonja, Ana Đanić, Ivona Žiža (Oikon), Tibor Mikuška (HDZPP)*.

See 2024-07-03_PPT_PF2W_SHFM08_v03072024_su.pdf]

All collected data (fish, habitat, bird, benthos/ macrozoobenthic communities) are integrated into the final "Catalogue of Biodiversity Components on the Joint Croatian-Serbian Sector of the Danube River" (sent to the Forum on 02.07.2024).

- Fish fauna inventory (*Ms. Matija Kresonja*)

→ for details see presentation slides #14-25

The electrofishing part of this research was conducted between July and October 2023, and all 17 critical sections of river from Batina to Ilok were covered. The number of transects conducted in each critical section depended on its length, with one transect on the shortest critical section, and four on the longest critical sections.

In total, 43 transects of daytime electrofishing data were conducted, 13 transects of nighttime electrofishing and an additional 5 transects of electrofishing on Serbian side (→ see slide #15 for a map).

With the mentioned methods, 39 species of fish were sampled. The Cyprinidae family was the most abundant present on all 17 critical sections. The number of species is in correlation with the number of transects conducted and the length of each critical section. A comprehensive list of all species sampled by day and night electrofishing and with electrified dredge is on the slide #24. After the Cyprinidae family, the next most abundant are Gobiidae and Percidae family.

Monitoring of winter habitats was conducted in February 2024 using Humminbird Helix 9 sonar.

Three sources of information were used for selecting suitable wintering sites:

- 3D model of terrain of riverbed
- Data from local fisherman
- Scientific papers and historical data

The most important wintering sites were located in critical sections Apatin, Staklar, Dalj, and Borovo.

- Habitat inventory (*Ms. Ana Đanić*)

→ for details see presentation slides #28-46

Project area encompassed part of the alluvial floodplain along 17 critical sections. Objective was to produce a final habitat map in the scale of 1:5.000 that was integrated into GIS database, with the focus on 5 Natura 2000 target habitats types (→see presentation slide #29). Target habitat distribution is also a part of the biodiversity catalogue.

A preliminary map was produced based on expert visual interpretation of ortophoto imagery, existing baseline data.

By the end of the vegetation season, comprehensive field surveys were completed on both sides of the Danube, covering almost 400 sampling locations on both sites of the Danube and recording over 230 (233) plant species. Out of these, 14 species are strictly protected in Croatia, and several are endangered. Additionally, 25 invasive species were identified.

Slide #32 shows the occurrence of surveyed habitat types along critical sections. The riparian forests are present along every critical section.

Slide #39 illustrates the habitat map of critical section Batina, the most upstream critical section. Similar maps showing the distribution of Natura 2000 – habitats are prepared separately for each critical section and presented in the biodiversity catalogue.

The habitat map in whole is represented and is integrated into GIS database.

- Bird fauna inventory (Mr. Tibor Mikuška)

→ for details see presentation slides #47-54

Bird Fauna inventory was carried out using two different methods: (1) the fieldwork, covering all life seasons of the birds (wintering, spring migration, and fall migration, over 16 months; (2) an intensive literature review.

The fieldwork addressed species that are dependent on the river and its floodplain, birds breeding on the sandbars in the river, birds breeding along the high river banks, wetland-related birds that are breeding in the active floodplains.

The results of fieldwork will always depend on environmental conditions, and concerning the last year and a half, the key environmental condition was the presence of high water levels and flooding of the sand bars, low-laying river banks and floodplain.

Detail methodology, results for selected species and take-aways are available in presentation slides (white-tailed eagle → #50, black kite → #51, sand martin → #52, kingfisher → #53, little ringed plover → #54, colonial water birds – herons, cormorants, terns → #55).

The following take-aways were presented (not limited to...):

- larger active floodplain supports higher number of breeding pairs ← white-tailed eagle
- old alluvial forests near wet meadows are critical for protection of species ← black kite
- remaining steep banks critical for survival of species in the area ← sand martin
- no net loss of steep banks to secure breeding population ← kingfisher
- very few remaining sand bars/islands are vital for the survival and conservation of species along the joint HR/SR section ← little ringed plover
- navigation projects must not cause riverbed deepening or disconnection between river and its floodplain ← colonial water birds

- River benthos types inventory (Ms. Ana Đanić)

→ for details see presentation slides #56-74

The objectives were to sample macroinvertebrate communities along 17 critical sections on the joint Croatian-Serbian part of the Danube, to integrate the collected data into a GIS database and to present in the biodiversity catalogue.

Field survey followed the national (HR) Methodology of sampling, laboratory analyses and determining the ecological quality ratio for biological quality elements was conducted during summer of 2023 on all 17 critical sections. In June, seven upstream sections were sampled, and at the end of July, other 10 critical sections were sampled (slides #58 and #59 show photos from fieldwork, sampling and equipment). See slide #60 for the map of the habitat sampling locations on the Danube.

During sampling, all relevant data were gathered according to the protocol (water levels, water temperature of the Danube, and data on physical and chemical parameters: oxygen, pH, conductivity), along with photo documentation.

At 14 locations, samples were taken along 250 meter transects on the right bank of the Danube. At the remaining technical sections, the sample transects were selected in the central part of the water course on the shoals of the river islands. The samples were stored and shipped to further laboratory analysis.

Results (slides #70-74) indicate that several alien species, belonging to different benthic taxa groups have widespread distribution in joint Croatian-Serbian sector of the Danube

ESTABLISHMENT OF A GEOINFORMATION SYSTEM (GIS) (Ms. Ivona Žiža)

→ for details see presentation slides #75-80

The live presentation of the WebGIS was shown to the participants of the Forum.

The local server was set up and configured, pictures of set-up are on slide #76 (5TB disk at least; 128GB of RAM; Intel Xeon processors). User requirements were analysed and prototype developed. Currently, the data from the monitoring are consolidated, systemised and will be imported into the new GIS environment.

There are various possibilities for gathered data within the system. A map can be produced based on user's selection. Also legends and coordinates for each layers can be enabled or disabled by the GIS users.

Questions & Answers:

Q (Mr. Daniel Trauner): Congratulations to the great job in producing lot of valuable data. Is data e.g. about age structure and length frequency available in the report, or it will be available elsewhere?

A (Mr. Matija Kresonja): Yes, it will be available in Excel files. Stakeholders will be able to request this information from the national coordinator Ms. Lidija Hubalek.

Q (Mr. Daniel Trauner): For birds, some interpretation or assessment of results was presented but not for others. Are there plans to use these gathered data and the results in the future for assessment and interpretation?

A (Mr. Tibor Mikuška): These results will be used in modelling activities, which is why this comprehensive inventory was conducted. They will be available for future projects as needed. However, the true power of the data can be obtained if the regular monitoring would continue in the future.

Q (Mr. Daniel Trauner): How will these results be weighted in the multi-criteria analysis? Will this be discussed in the second part of today?

A (Ms. Marina Ilić): Monitoring results will be used for modelling and multi-criteria analysis. The discussion on criteria and weights will start later today and continue in the next forum meetings.

Q (Mr Alexander Zinke): Congratulations to the consortium for an impressive set of data collected and analysed. As to my question, what is the ecological trend for the last 10, 20 years, 30 years for fish, benthos, birds, the plant species (similar to what is done for hydrology, riverbed)? Are there studies from 10 or 20 years ago to compare with the new data?

A (Ms. Lidija Hubalek): Unfortunately, there was not enough time or money to address and carry out comparisons. Maybe in future projects.

Q (Mr. Arno Mohl): Thank you for the extensive presentation. As stated in our previous comments, it appears that the wider floodplain area apparently was not considered within the monitoring scope, which focused on navigational bottlenecks (incl. floodplains within these bottlenecks boundaries) and the buffer zone. However, the connectivity of the river with the wider floodplain area is critical for the ecological integrity of the area; particularly for assessment of the potential impact of any measures on the riverbed incision consequently on the connectivity with the wider floodplain area and its habitats. How will this issue be addressed? Will it be part of the recommendations?

A (Ms. Ana Đanić): I agree that a question about habitat connectivity of the whole floodplain area is very important to assess. This was however not part of monitoring's Terms of Reference. Conducting such assessment, or producing a habitat connectivity map, would require more detailed data, hydrological information, maybe more field sampling.

Although it was not part of monitoring. I believe it should be done in the future because it is important for the assessment of future impacts of any maintenance works along the Danube necessary for navigation. Therefore, it will be included in the recommendations for the future.

Q (Ms. Kerstin Bock): The live demonstration of WebGIS was impressive. How can the WebGIS be accessed, as no relevant links were provided in presentation?

A (Ms. Lidija Hubalek): Thank you. The contract will be finalized in few weeks and we can give you an access. Please, get in contact with me (Lidija Hubalek) in end of summer concerning the access.

Modelling & Multi-Criteria Analysis of the common Danube section

- [Hydraulic and morphological modelling of the SRB-CRO common stretch of the Danube River \(Romeo Soare, Hidrozavod DTD, 2024-07-03 PPT PFW2 SHFM08 02 IntroModellingContract SOARE v20240628 corr.pdf\)](#)

Mr. Soare introduced himself, informed the gathered about the basic information about Hidrozavod DTD, basic project data, project area, the objective and purpose and the expected results (slides #3-8). The contract signature date was 11 June and the commencement date 14 June 2024. The duration of the project is 12 months (provisionally adjusted to 6 months).

Expected results of modelling are developed 1D hydraulic model of the whole common HR-RS river stretch of the Danube, updated existing Low Water Navigation Levels at selected water level gauges, the results should be checked with the general trend of decreasing water levels, redefined navigational bottlenecks, prioritized identified bottlenecks, defined criteria for the MCA, defined alternative solutions for prioritized sectors and hydrodynamic and 2D morphological modelling. It is expected to have developed integrated study on alternative solutions containing results of 1D hydraulic modelling, defined critical sectors for navigation, prioritized critical sectors for navigation, criteria of the mutually agreed MCA, alternative solutions, results of modelling of alternative solutions, application of the MCA, elaboration of favourable selected solutions, addressing the climate change issue and including all activities of the Stakeholders' Forum in all phases of the process. Results and all the project progress will be discussed in the Stakeholders Forum meetings (for activities break down see slides #9-11).

Hydrological expert in team is Ms. Jasna Plavšić, river hydraulics expert is Mr. Nikola Rosić and the environmental specialist is Mr. Stefan Škorić.

For the data required for the 1D hydraulic modelling see slides #14-16

At the next Stakeholders Forum meeting participants will be informed about the 1D model parameters, characteristics and results after processing and criteria for the MCA will be discussed.

Questions & Answers:

Q (Mr. Georg Rast): What do you mean with the river line (slide #15)?

A (Mr. Romeo Soare): The river line is the results of the bathymetric data. It means the bathymetric line. It is the data unit.

Q (Ms. Kerstin Böck): My question is regarding the biodiversity data. Will they be integrated into the analysis if they are not part of the modelling. How will it have considered?

A (Ms. Marina Ilić): This will be explained in the next presentation.

Q (Ms. Kerstin Böck): It was not clear whether there will be further prolongation of the project. Is this an option or is the final project date already fixed?

A (Mr. Romeo Soare): The contract for modelling activities is signed for 12 months. However, being aware of the overall project's time constraints, the contracted modelling experts will try to finish project as soon as possible.

Additional explanation after the SHFM#08: The CEF funded project "Preparing FAIRway 2..." was prolonged by 31.12.2024, without any possible prolongation from the point of the view of EU funding. However, due to the delays in the procurement, the duration of the contract addressing "Hydraulic and morphological modelling of the SRB-CRO common stretch of the Danube River", signed between the Serbian Beneficiary and Hidrozavod is 12 months. However, the preliminary agreement was achieved between the Contracting authority and the supplier, to provisionally adjust the project to 6 months, thus delivering the results by end of the project "Preparing FAIRway 2..."

- [Insights to the Modelling Activities & Multi-Criteria Analysis \(Mr. Nikola Rosić, Hidrozavod DTD 2024-07-03_PPT_PFW2_SHFM08_03_InsightsModellingMCA_ROSIC_v20240628_corr.pdf\)](#)

The first activity is development of 1D Hydraulic model (slides #3-7). This activity includes data collection for model creation, model setup, model calibration and validation, numerical simulation for relevant discharges. According to consortium plan, results from this activity will be presented at the next Stakeholders Forum meeting. Necessary to run 1D simulation is to specify characteristic flow rates and water levels as boundary conditions. For 1D modelling, will be used HEC-RAS software package. Interior boundary conditions will be defined as needed at the location of additional inflows or fractures. The main result of simulation is water surface profile for given boundary conditions. Based on the results of 1D model, bottlenecks catalogue will be updated and prioritization will be carried out based on criteria related to navigational conditions. In the process of prioritization, reference guidelines and manuals in field of water planning will be considered. The main criterion will be sustainability of the measures.

The overall criteria and sub-criteria for the MCA will be established through consultations with Stakeholder Forum members (see slides #8-11). Criteria selection will also take into account legislation, criterion dependence on section specifics, improvement of navigation conditions, opinions from multidisciplinary experts, and feedback from the Stakeholder Forum.

The project involves the development of a coupled 2D hydrodynamic and sediment transport model (slides #12-14). Following data collection, the 2D model(s) will be set up, calibrated, and validated to ensure precision. Simulations will be conducted to explore different scenarios, particularly focusing on identified bottlenecks. This will be done in parallel with defining alternative variants for each bottleneck. Throughout this process, continuous interactions with stakeholders will be essential to incorporate their feedback and insights. The modelling will be executed using advanced software, specifically Telemac 2D/3D and Telemac Sisyphe/Gaia, with results presented through GIS technology for effective visualization and analysis.

The MCA will utilize the results from the 2D simulations to identify and implement the most effective mitigation measures.

Questions & Answers:

Q (Mr. Alexander Zinke): I am confused that the focus is only on improving the navigability (on the fair way) and not on the improvement of the ecological status. Because we learned before that the observation of the ecological situation through intervention, rehabilitating measures for the ecological status are needed. One criterion could be criteria combining the fair way and ecological improvement.

A (Mr. Nikola Rosić): Thanks for the remark. It is a general requirement also by our legislation. We cannot avoid that.

Additional explanation after the SHFM#08: This is a dedicated navigational project. The project's website homepage will be referenced to include relevant details, including the following quote: "Bringing the Danube waterway infrastructure forward in an efficient, sustainable and user-oriented way, that is the goal of the study 'Preparing FAIRway 2 works in the Rhine-Danube corridor' (07/2020-12/2024). It takes up core aspects of the TEN-T flagship project 'FAIRway Danube' and develops them further in order to have them ready for implementation in a follow-up project."

Q (Ms. Kerstin Böck): You mentioned that the “do-nothing” scenario is not confirmed. We have asked about it in previous meetings. And you said, as I recall, that this will be one of the scenarios that would be included. I was wondering if this is now excluded again.

A (Mr. Nikola Rosić): Do-nothing scenario is analysed across all sectors but the most critical sectors are ones where this option is critical from sustainability point of view. Hence, alternative scenarios have to be analysed. MCA is applied for ranking alternative scenarios. “Do-nothing” scenario is not

alternative scenario but the scores in MCA are defined based on “do-nothing” scenario. Additionally, to ranking of alternative scenarios, MCA can provide an answer whether alternative scenario is better or worse than “do-nothing” scenario according to adopted criteria. Therefore, “do-nothing” scenario will be implicitly included in MCA. As part of the design activities, consultants aim to present scenarios that, according to the adopted criteria, will be better than the “do-nothing” scenario. However, this does not mean that such scenarios can be found.

A (Mr. Tibor Mikuska) Mr. Mikuska added to Mr. Rosić's explanation that all 17 defined bottlenecks will be part of a preliminary analysis, during which the most probable scenarios will be identified. Following this, only the real bottlenecks would be selected that would go into detailed MCA analysis. This is related to the fact that this is a dedicated navigational project based on a simple question “do we have a navigation problem or not?” and not an integrative navigation/river restoration project. Unfortunately, while river restoration project is urgently needed, it is still not developed by respective water management/nature protection authorities.

Q (Ms. Kerstin Böck): *Linked to what Alexander Zinke previously said, there are also multi-criteria on ecological improvement at the same time of the scenario of what happens if we do nothing. I was thinking that this do-nothing scenario can also be seen in relation to a criterion of ecological improvement and thus this “do-nothing” option should also be considered as one of the options.*

A (Ms. Marina Ilić): As mentioned earlier, the “do-nothing” scenario is identified and will be discussed as possible scenario, but it will not be part of the MCA. The MCA focuses on selecting measures.

Additional info (Mr. Nikola Rosić): MCA is activity related to selection of measures improving navigation conditions. The “do-nothing” is a scenario, but not a measure.

Q (Ms. Kerstin Böck): *You mentioned certain data collection. Is this a new data collection, or do you refer to the existing monitoring data?*

A (Mr. Nikola Rosić): No monitoring activities are planned under this specific contract “Hydraulic and morphological modelling of the SRB-CRO common stretch of the Danube River”.

Additional info (Ms. Marina Ilić): Monitoring data are and will be provided to the Serbian modelling team from the Croatian monitoring team. Existing monitoring data collected during the Monitoring Activities in the previous phase will be used for modelling activities. No additional monitoring activities are planned.

Q (Mr. Arno Mohl): *I would like to come back to the “do nothing” variant. Why is the ‘do-nothing’ variant excluded of the MCA? The justification was unclear.*

A (Mr. Nikola Rosić): The “do nothing” is included as a scenario, but not as a measure. The MCA is used for selecting measures to improve conditions. The “do nothing” is a base. It is a base scenario. Because in MCA, we are assuming the overall enhancement across all criteria (including environmental criteria). From that reason, I don't see why “do nothing” scenario should be considered as a measure that have to be evaluated independently though it will be presented in MCA with overall score 1. We analyse scenarios that improve something, so this is the main assumption. So, we analyse alternative scenarios and want to get the answer which scenario from alternative scenarios is better or is the best taking into account the estimated (at least not negative) effects on the environment. It shouldn't be scenarios that do not improve, do nothing, existing conditions (it is task for consultant to find solutions that improve “Do-nothing” as Win-Win solutions are recognizable by recent practice). For some sectors, in the phase, in the activity, in the second activity of the project, it is prioritization. We can conclude that do nothing is favourable scenario taking into account that “Do-nothing” will not affect available days for navigation significantly (socio-economic part of the sustainability). Then, we are not proceeding with MCA for that sector (We are adopting “Do-nothing” scenario and not analysing alternative solution). So, it should be pointed that only “Do-nothing” is considered for all sectors and estimated performance

of “Do-nothing” approach from navigational perspective will be used for selection the sectors for further activities.

Further clarification (Mr. Tibor Mikuška): WWF and the Austrian Environment Agency are concerned about the current status of the river and its continuing deterioration. And they are looking for solutions to improve the ecological health of the Danube. This is a navigation-based project. If you find that there are no bottlenecks you stop here. Unfortunately, this is not a river restoration project. That would analyse all the options how to improve the river itself, regardless of navigation. And this is the main misunderstanding between the project and the wishes of the environmentalists.

We (environmental organisation), are concerned because the existing conditions are a result of human activities primarily flood protection and navigation. The Danube is in trouble and these human-induced problems needs to be fixed. However, solutions have yet to be proposed. That is why we are looking for a both, not only “do-nothing”, which is just a future projection, but we want to improve the situation, remove the existing embankments, let the Danube meander freely, reconnect the floodplains.

These are a series of measures that have not been sufficiently studied or invested in. This is a problem that we are aware of and we are trying to solve somehow.

A (Mr. Nikola Rosić): In our analysis, we will address the sustainability of the measures taken. We will also analyse the current hydraulic conditions and assess potential morphological changes that could occur under a “do-nothing” scenario. For evaluating scenarios, we will employ MCA. This approach will help us determine which scenario is the most effective.

Additional explanation after the SHFM#08: In Multi-Criteria Analysis (MCA), the “do nothing” scenario serves as a baseline for comparison rather than a measure itself. MCA aims to select the best scenario from alternatives by evaluating their performance across multiple criteria. It assumes alternatives will improve conditions, making “do nothing” a reference point rather than a preferred choice unless proven optimal after analysis. The process prioritizes scenarios that enhance outcomes, ensuring informed decision-making based on thorough evaluation of each option's impact on project goals and criteria.

Q (Gordana Spegar): There was a discussion mainly about the ecological status. Will hydro-morphological alterations be included in the MCA?

A (Mr. Nikola Rosić): The hydro-morphological alterations will also be included. So far, we have only presented the initial table with initial values and sub-criteria. Stakeholders and beneficiaries will also be involved in defining (sub-)criteria and weighting coefficients.

Q (Mr. Daniel Trauner): Is there a concrete idea on how the monitoring data, which are more or less presence-absence data (as it is presented in the report) will be integrated into the assessment, and how the weighting coefficients will be calculated?

A (Mr. Nikola Rosić): Actually, we have just started analyzing the data from the Croatian team. So, we cannot say now. This will be a subject at the next meeting.

Q (Ms. Kerstin Bock) : *I have a question regarding the timeline and involvement of the Forum in MCA. According to the presented timeline, there will be a Stakeholder Forum meeting parallel to MCA definition, along with the report, sometime in September. Will there be an opportunity to comment on MCA and report, maybe before they are finalized.*

A (Ms. Marina Ilić): Yes, Stakeholder Forum members/observers will have the opportunity to provide comments also to MCA. Regarding the date of the next meeting, we will have a discussion at the end of this meeting.

Q (Mr. Tibor Mikuška): *Regarding the criteria and sub-criteria weights shown, is there a scientific basis for these criteria and sub-criteria?*

A (Mr. Nikola Rosić): The weights shown were initial and not scientifically based. The criteria are also section dependant. Sections need to be selected first. There are different focal points at different bottlenecks (e.g. sandbanks, steep slopes, etc.).

Additional Information (Ms. Ilic): Discussions on criteria and weights will start soon. The initial idea was to start today, but the contract was signed recently.

Follow-up (Mr. Tibor Mikuska): Even on a theoretical basis, we can start discussing criteria now. For example, fish might have more weight than birds. Because the river and floodplain are the main spawning area. And without the good spawning season for fish, the birds may not come.

Q (Mr. Tibor Mikuška) : *In 2012, Hidroing did a study about the regulation of navigation sectors. and they did 1D modelling. Can you compare current 1D modelling data with the 2012 study by Hidroing to analyse changes in hydro-morphology?*

A (Mr. Nikola Rosić): Yes, analyse existing data is part of the activity. One can see the difference, however, more data between these sets are needed for meaningful comparison of hydro-morphology. If only data of 2012 and 2024 is available it is not possible to explain the difference.

Q (Mr. Arno Mohl.): *Last time we were introduced to the time plan for upcoming Stakeholder Forum meetings and my question actually, there was a list of different topics which will be discussed and many topics were outlined for discussion. Furthermore, it was mentioned that the agreement should be reached in the Forum. What is expected from the members of the Stakeholder Forum? What kind of agreement is expected, on measures or project results? In line with the Rules of Procedure, members are only supposed to give recommendations and input into the process.*

A (Ms. Marina Ilić): The expectations are that after this meeting, we will send you the final monitoring report you received. But we will send also these presentations on the modelling activity and we will ask for your comments on that, which we will consider and of course discuss and include that in the modelling activity. We especially want to discuss and agree, on the sub-criteria for the multi-criteria analysis and waiting factors for that. So, this is important to have a common agreement of the forum regarding that criterion.

Of course, you will have a chance to, when we have some draft alternative scenarios, to discuss about that. This is the expectation to have a collaboration on this and to come to something that is acceptable for all of us, members of the forum.

Additional explanation after the SHFM#08: Explanation of Expectations and Agreement Process in the Stakeholder Forum

As agreed within the Rules of Procedure (Version 10.05.2021), under Article 2: Basic principles, Recommendations of the Forum have advisory character.

The Forum has the following tasks:

- Ensuring transparency during the Project;
- Enabling exchange of information about the Project;
- Providing independent and professional inputs and guidance for the Project;
- Fostering discussion and provision of recommendations related to the Project.

Thus, we understand "agreement" in this context as a development process toward the mutual understanding for solutions developed, discussed and analysed as outcomes of the project activities. We expect members to collaborate by engaging in discussions, providing constructive feedback, and working towards solutions that align with perspectives and interests of all involved stakeholders.

Additional explanation after the SHFM#08: Explanation of Terminology in the MCA Document

We understand that the discussions during our last meeting regarding the "do-nothing" or "baseline" scenario may have been confusing. To clarify, a detailed explanation and definition of these terms, together with MCA approach, in a separate Multi-Criteria Analysis (MCA) document, which will be distributed before the upcoming Stakeholder Forum meeting.

We appreciate your patience and engagement, and we are committed to providing clear and thorough documentation to support our ongoing discussions and analyses.

Next steps & AOB

- Stakeholder Forum meetings planning for 2024

Discussion regarding the proposed date, 24, 25 or 26 September, for the next on-site meeting in Serbia took place. Danube Commission representatives explained that the *15th Meeting on the follow-up of the Joint Statement on Guiding Principles* is planned that week in Vienna. It was agreed that the organisers will investigate different option and will come up with the date for the meeting.

Upcoming Meetings

Meeting	Date / time	Place
Stakeholder Forum Meeting #9	24 September 2024	On-site; ~Serbia
Stakeholder Forum Meeting #10	End of October	Online/ <u>On-site</u>
Stakeholder Forum Meeting #11	Second half of November	Online/ <u>On-site</u>

Attachments

- List of participants (separate file)
- Presentations (Stakeholder Forum website: <https://www.viadonau.org/en/company/project-database/preparing-fairway-2-works-in-the-rhine-danube-corridor-study/stakeholder-forum>)