



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

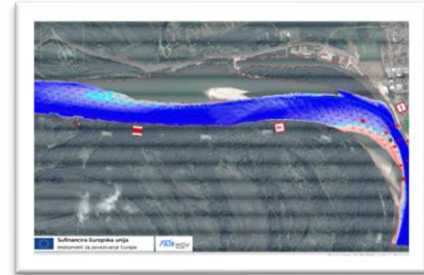
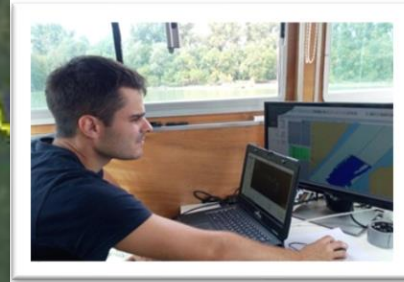
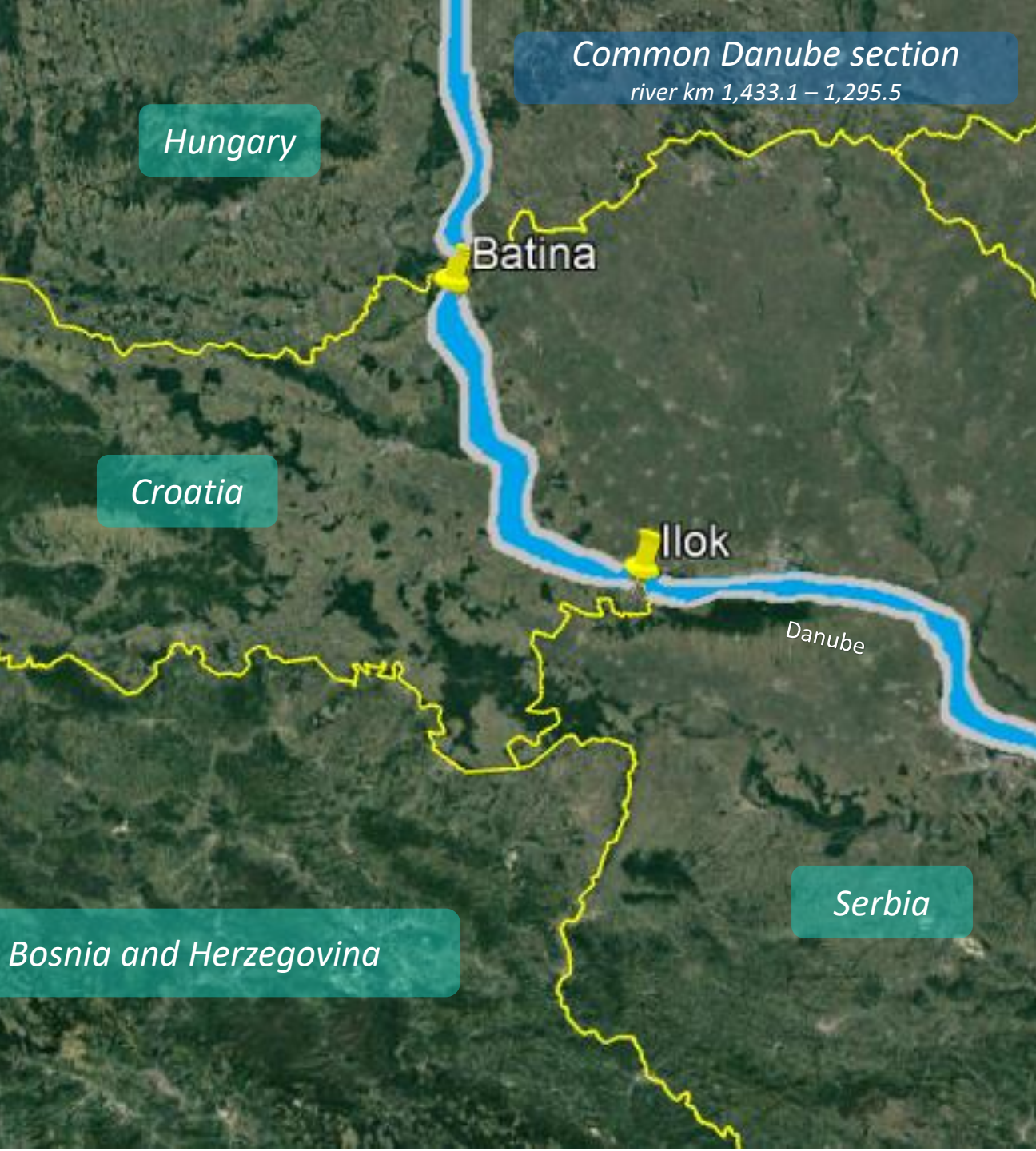


Monitoring plan for navigational and environmental characteristics of the Croatian/Serbian common stretch of the Danube River

Plan praćenja hidroloških, hidrauličkih i morfoloških karakteristika rijeke Dunav te sastavnica bioraznolikosti na zajedničkom hrvatsko-srpskom sektoru rijeke Dunav

2nd Stakeholders' Forum Meeting
2 sastanak Foruma dionika

09.06.2021, Lidija Hubalek, MMPI



Monitoring plan –quick overview

Plan praćenja - kratki pregled

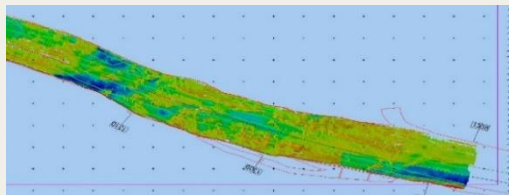


Monitoring of the navigational characteristics
Praćenje navigacijskih karakteristika

Catalogue of biodiversity components
Inventarizacija sastavnica bioraznolikosti

MONITORING PLAN

1. Focus on the navigational parameters and bottlenecks
Fokus na navigacijske parametre i uska grla



2. Focus on the environmental characteristics
Fokus na okolišne značajke



Short summary of steps

Kratki sažetak



MONITORING PLAN

Monitoring plan presented and distributed to Stakeholders on 12.04.2021

Plan praćenja prezentiran i poslan dionicima Foruma 12.04.2021.

22.04.2021 received 1st comments
THANK YOU!

22.04.2021 zaprimljeni prvi komentari
HVALA VAM!

2.2.Sub-Activity 2.3 Monitoring Catalogue biodiversity components of the Croatian/Serbian common section of the Danube

In order to prepare a biodiversity catalogue for the ichthyofauna, ornithofauna, river bottom types (benthos) and floodplain habitats along the Croatian/Serbian Danube common section following tasks will be performed:

1. Ichthyofauna inventory for providing necessary data for creation of the ichthyofauna catalogue of this stretch of the Danube river is made of over 65 species, among them many are threatened and protected under EU directives. The aim of fish monitoring study is to determine: a) fish populations on Croatian/Serbian common section of the Danube; critical sites (incl. population parameters as biomass, age classes, abundance etc.); and b) the exact locations within critical sites and their floodplain areas areas that where certain species of freshwater fish use for spawning, sheltering and wintering. Particular importance should be given to NATURA 2000 and threatened species according to national Red List, bottom dwelling species such as sturgeon (*Acipenseridae*), lamprey (*Petromyzonidae*), perch (*Perca fluviatilis* and *Perca sp.*), roach (*Rutilus rutilus*), as well as migratory fish species such as eel (*Anguilla anguilla*). Scope of the monitoring area Delineation of critical sites from table 24 are given as Fig. 38-913. Within the borders of scope areas each delineated critical site all prospective sites for fish spawning, shelter and wintering should be included and sampled at least once per appropriate season (spawning, summer, winter). Attention during fish monitoring should be on monitoring of invasive species of fish. According to last monitoring their habitats are stone embankments and T-projects so for future planning these results have to be taken into consideration.



Figure 3: *plan 1438 - 1423*



Figure 4: *plan 1423 - 1413*

Author
CRO MMPi: the name of this sub-activity is defined and it cannot be changed.

Author
Laszlo Galambos: Evaluation of the effects and consequences of potential construction works on floodplains, sidearms in the vicinity of the 7 priority

Author
CRO MMPi:
Thank you for your proposal. Unfortunately, we are cofinanced within this project to perform monitoring of this

Author
CRO NGO's & WWF:
catalogue is a complete list of items, typically one in alphabetical or other systematic order. A list of fish or

Author
CRO MMPi: Thank you for your proposal. Unfortunately, we need to keep the original wording as stated in Grant agreement. For the purpose of this activity, we will

Author
CRO NGO's & WWF:
fish inventory (= list of fish species) is known for this stretch of the Danube and has been done several times

Author
Laszlo Galambos:
Data on ichthyofauna should be collected also from existing documents (in Serbia e.g. Nature conservation)

Author
CRO MMPi:
Thank you for detail information. We will keep that in mind.

Author
ZZOP:
More specific instructions (methodology, timing) are described for each method as detailed in the proposed

Author
CRO MMPi: More detail instructions will be provided in Term of reference for tendering procedure. We didn't want to put every detail in the plan, just the same

Author
CRO MMPi: number will be changed after insertion of new maps

The Danube navigation project is situated in an area of outstanding ecological features and protected areas on national and international level:

- the most natural floodplains on the first 2.000 km of the Danube (source to Iron Gate), which corresponds to 50% of the most natural floodplains on the entire Danube (excluding the Danube Delta) (Joint Danube Survey, ICPDR 2014)
- 50% of the most natural river sections on the first 2000 km (Joint Danube Survey, ICPDR 2014)
- the largest floodplain forests on the entire Danube River
- the highest breeding density of white-tailed eagles in continental Europe (over 100 breeding pairs)
- the most important spawning area for river fish (Kopački Rit) next to the Danube Delta
- probably the last refuge for the almost extinct chin sturgeon (*Acipenser ruthenicus*)
- several large national protected areas, totalling about 82.000 ha (Nature Park: Kopački Rit (HR), Nature Park Tivkara (RS), Special Nature Reserve Podunavlje (RS), Special Nature Reserve Gornje Podunavlje (RS) as well as Natura 2000 sites (HR) (the whole river stretch and adjoining floodplains in Croatia are designated as NATURA 2000 sites)
- Ramsar sites Kopački Rit (HR) and Gornje Podunavlje (SRB)
- the world's first 5-country biosphere reserve Mura-Drava-Danube, which is to be recognised by UNESCO in 2021. Most of the surveyed "bottlenecks" for navigation (Plovput 2006, 2011) are located in the core zone of the 5-country biosphere reserve)

has a high potential for river and floodplain restoration

In order to achieve improved navigation in Activity 2 relevant hydro morphological and eco biogeographic data will be collected along the Croatian/Serbian common section (137,5 km long common Danube stretch). This information will cover hydrological conditions in the waterway on the one hand (especially given the need for improvement of navigation conditions) and, on the other, critical components of biodiversity (fish, benthic habitats, birds, floodplain habitats) and will be integrated into a single geo-information database.

2.1.Sub-Activity 2.2 Monitoring of the parameters relevant to the work for the fairway upgrade for the Croatian/Serbian common section of the Danube

This Sub-Activity will monitor the hydrological, hydraulic and morphological characteristics of the Croatian/Serbian common section of the Danube.
The Croatian/Serbian common section of the Danube (dkm 1433.1 - 1295.5) is characterised as a free-flowing section which includes sections with an easily scouring riverbed. Therefore, surveys will be executed along the entire common section of the Danube, with specific focus on the critical locations.

INFORMATION:
Ministries from both countries have signed the bilateral Agreement on navigation on IWWs and their technical maintenance (Сарајевско оловачко водно путovanje на повратним водama i putovima)

Author
CRO MMPi: we accept this text. Thank you

Arno Mohl 07. svibanj 2021.
pls can you add this point

Reference:
Fluvius (2013): Assessment of the River and Floodplain Restoration Potential in the Transboundary UNESCO Biosphere Reserve "Mura-Drava-Danube". Study commissioned by WWF Austria, Vienna.
Study for download: <http://www.amazon-of-europe.com/en/river-restoration/>

Lidija Hubalek 17. svibanj 2021.
CRO MMPi: we added. Thank you

Lidija Hubalek
Oblikovanje Odlomak popisa. Uvika: Ljivo: 0 cm. Viseće: 0,25 cm, 5 grafičkim oznakama + Razina: 1 + Poravnava: na: 0,63 cm + Uvao: na: 1,27 cm

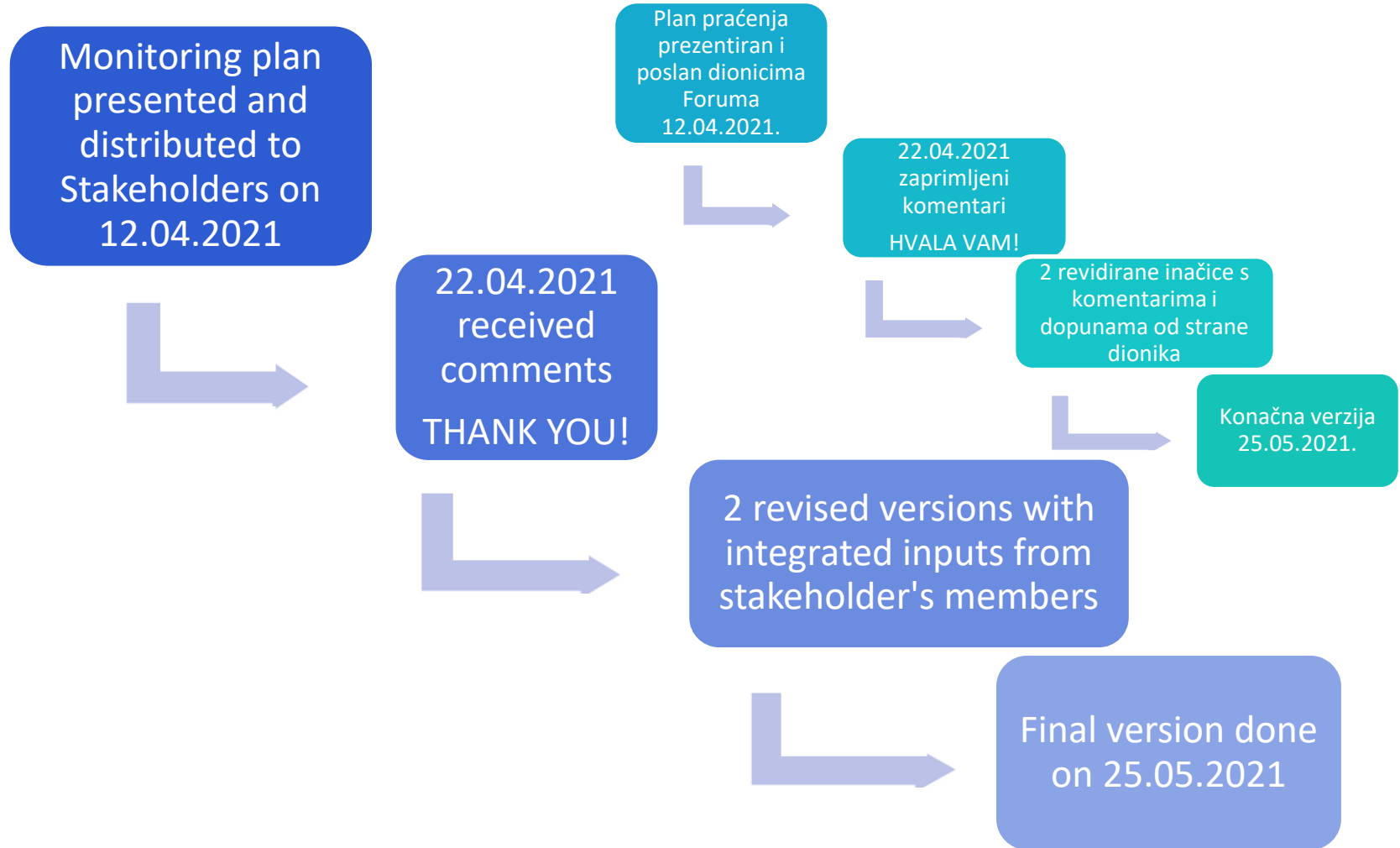
Author
CRO MMPi: As mentioned in comment above, the name of this activity is defined by Grant Agreement and it cannot be changed. Therefore, it must stay as: "Sub-Activity 2.2 Monitoring of the parameters relevant to the work for the fairway upgrade for the Croatian/Serbian common section of the Danube"

Short summary of steps

Kratki sažetak



MONITORING PLAN



Download link/link za preuzimanje:

<https://www.viadonau.org/fileadmin/content/viadonau/Projektdatenbank/Preparing FAIR way 2 works in the Rhine Danube Corridor/Monitoring plan 24052021 final.pdf>



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



Lidija Hubalek

Lidija.hubalek@mmpi.hr

www.mmpi.hr