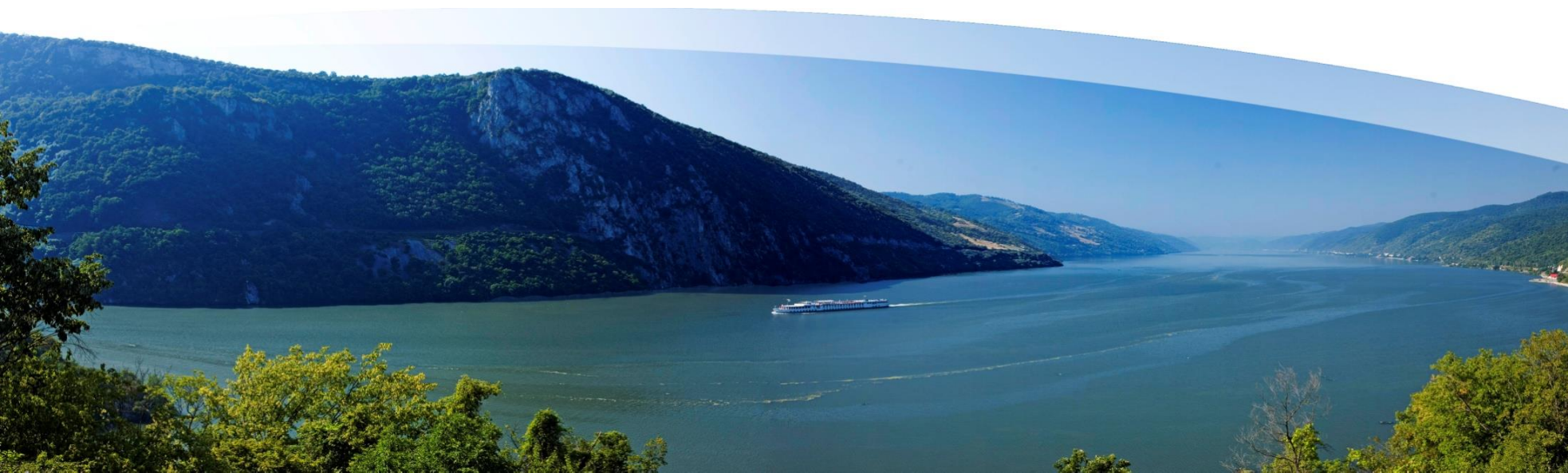
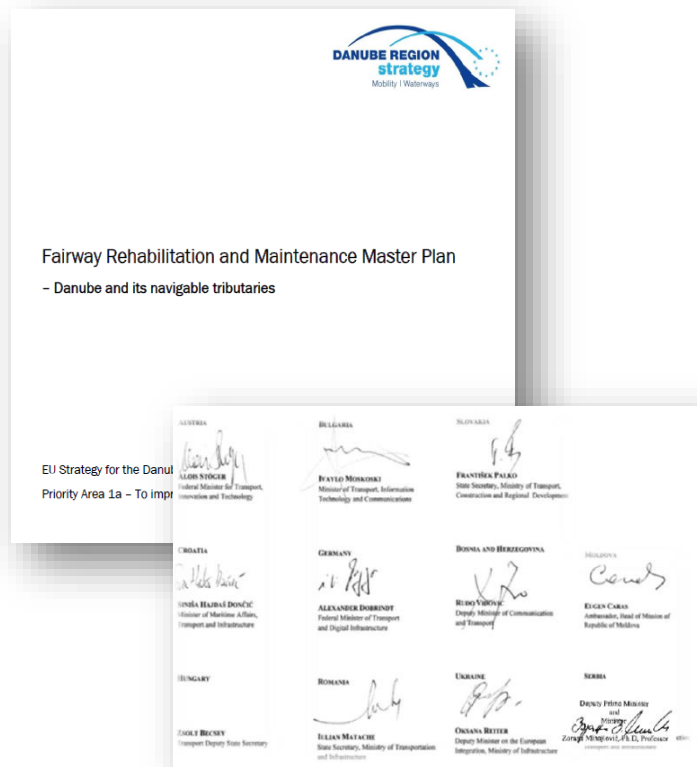


EUSDR PA1a: Update on the Fairway Rehabilitation and Maintenance Master Plan (FRMMP) for the Danube and its navigable tributaries

14th Joint Statement Meeting | virtual | 13-14 September 2023



Fairway Rehabilitation and Maintenance Master Plan (FRMMP)



- initiated in April 2014 by Priority Area 1a and updated in 2021
- elaborated by the Priority Area Coordination together with the Danube waterway administrations and European Commission
- Main objective: establish stable fairway conditions along the entire Danube **by means of rehabilitation and maintenance measures**



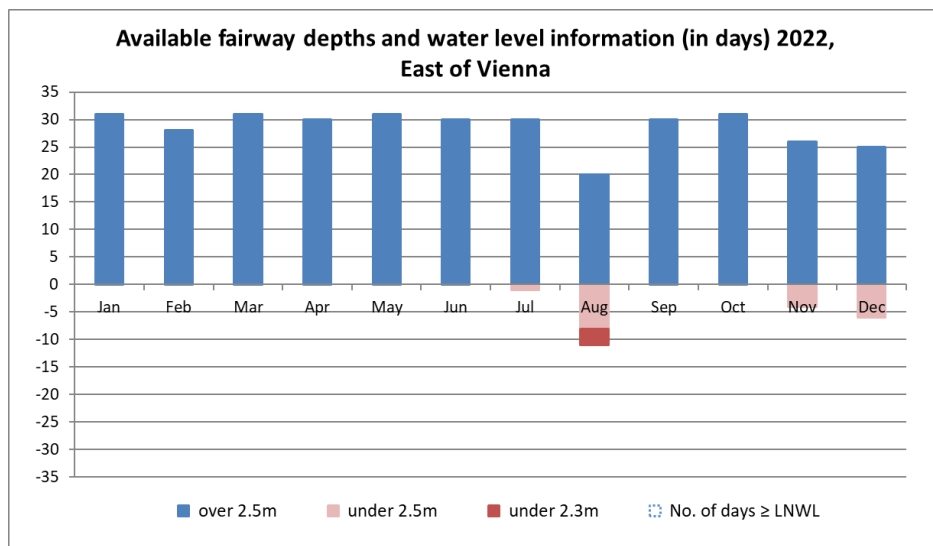
Fairway Rehabilitation and Maintenance Master Plan
– Danube and its navigable tributaries

EU Strategy for the Danube Region,
Priority Area 1a – To improve mobility and multimodality: inland waterways

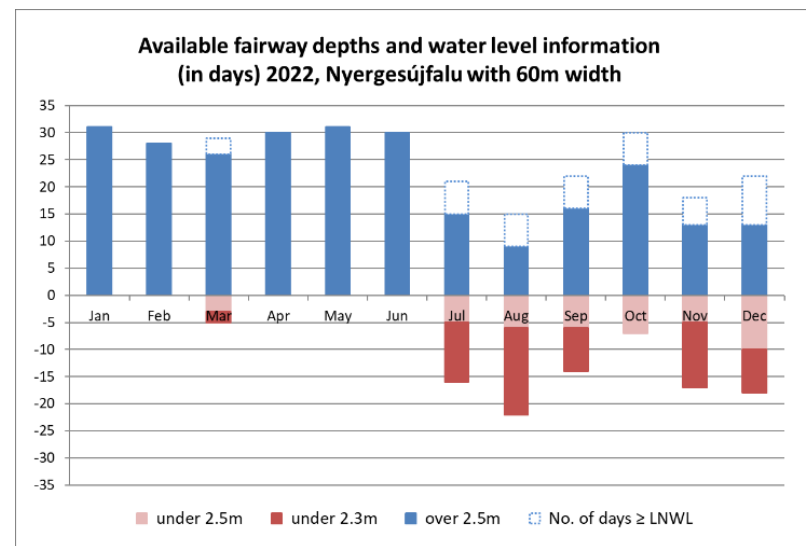
06 June 2022

June 2022: Signing ceremony for the Danube Ministerial Conclusions 2022, Ministers of Transport endorsing the updated Fairway Rehabilitation and Maintenance Master Plan in the framework of the Connecting Europe Days 2022

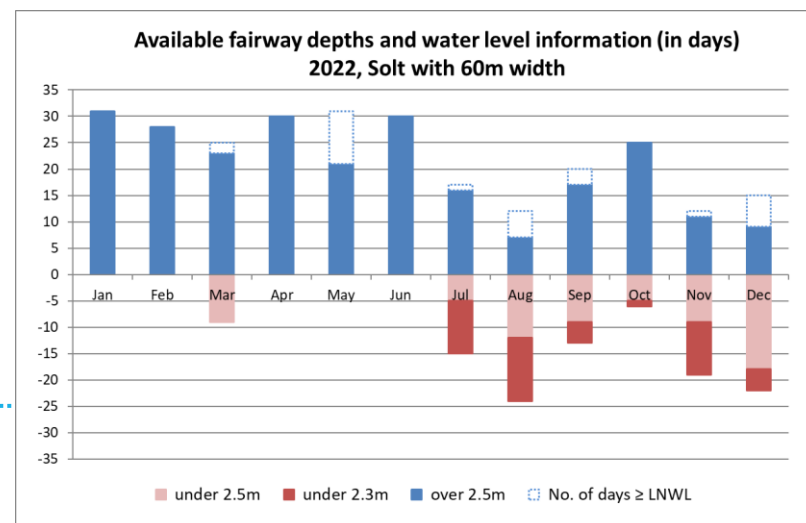
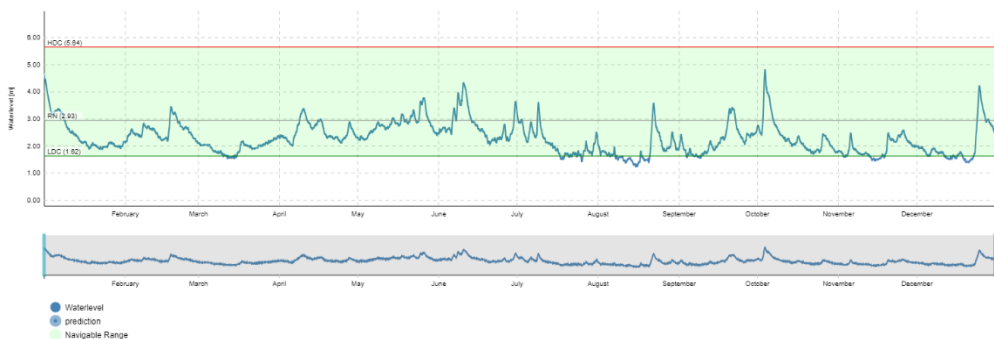
Fairway conditions 2022 - Upper Danube



Central Danube

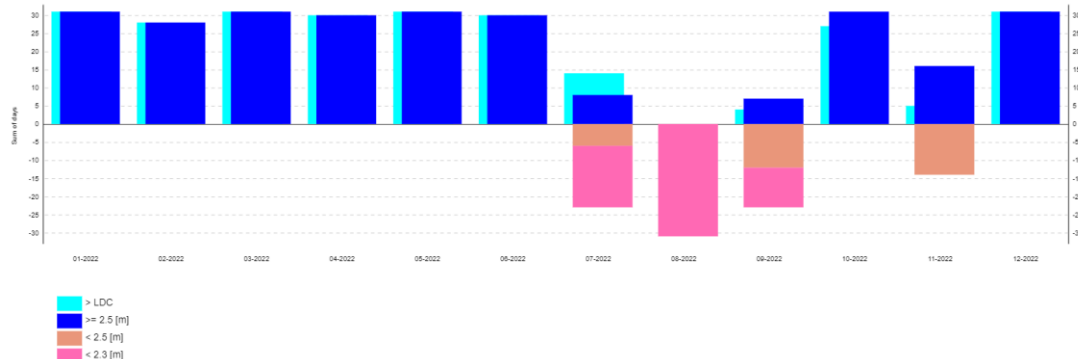


WILDUNGSMAUER: Waterlevel (1.1.2022 - 31.12.2022)

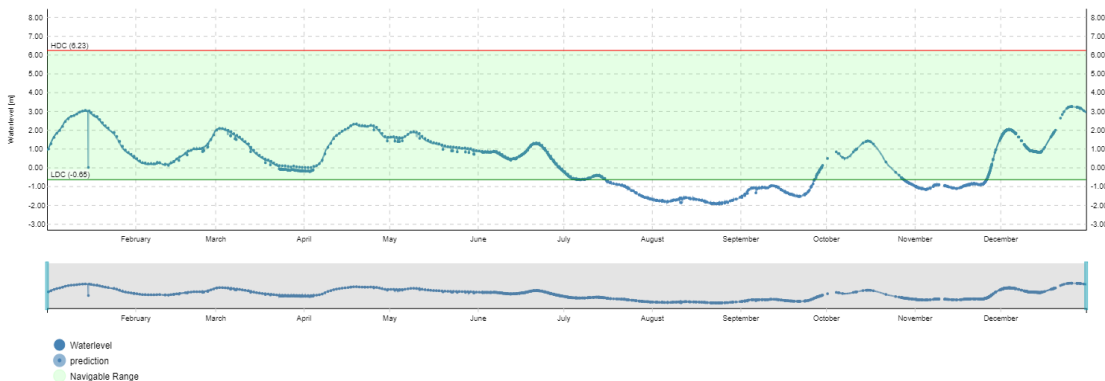


Fairway conditions 2022 - Lower Danube

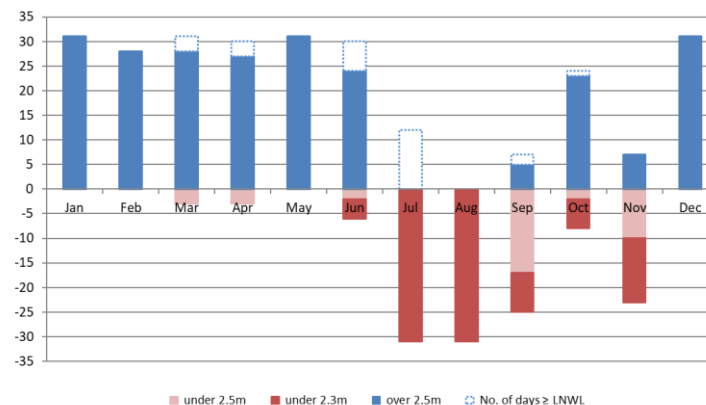
Available Fairway Depth: Cochirleni (01/01/2022 - 12/31/2022) monthly



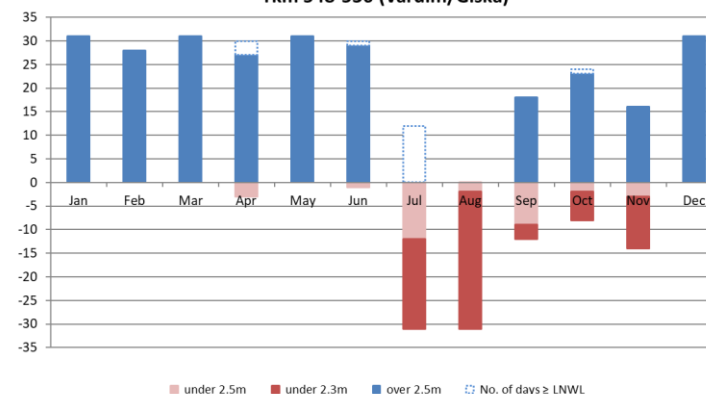
WATERWAY GAUGE CERNAVODA: Waterlevel (1.1.2022 - 31.12.2022)



Available fairway depths and water level information (in days) 2022, rkm 568 - 561 (Milka/Belene/Coundur)



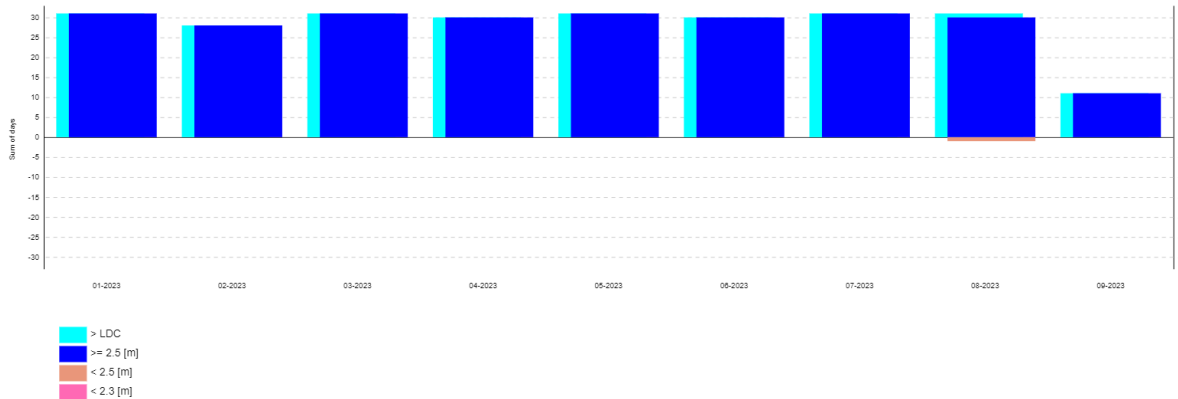
Available fairway depths and water level information (in days) 2022, rkm 548-536 (Vardim/Giska)



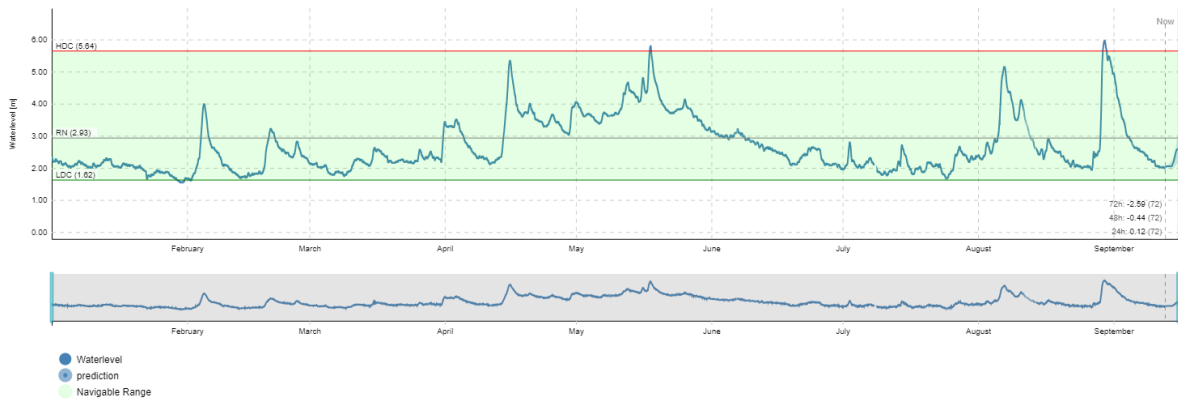
→ navigation closed for more than a month in July/August 2022

Fairway conditions until 08/2023 – Upper Danube

Available Fairway Depth: Furt Hainburg (01/01/2023 - 09/30/2023) monthly



WILDUNGSMAUER: Waterlevel (1.1.2023 - 15.9.2023)

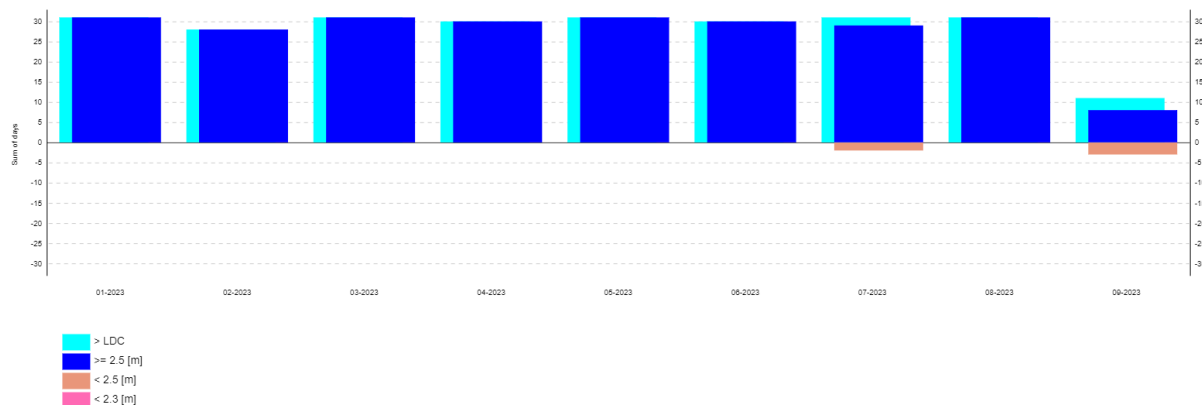


- Water levels remained above Low Navigable Water Level (LNWL) for the entire year so far.
- Favourable fairway conditions.

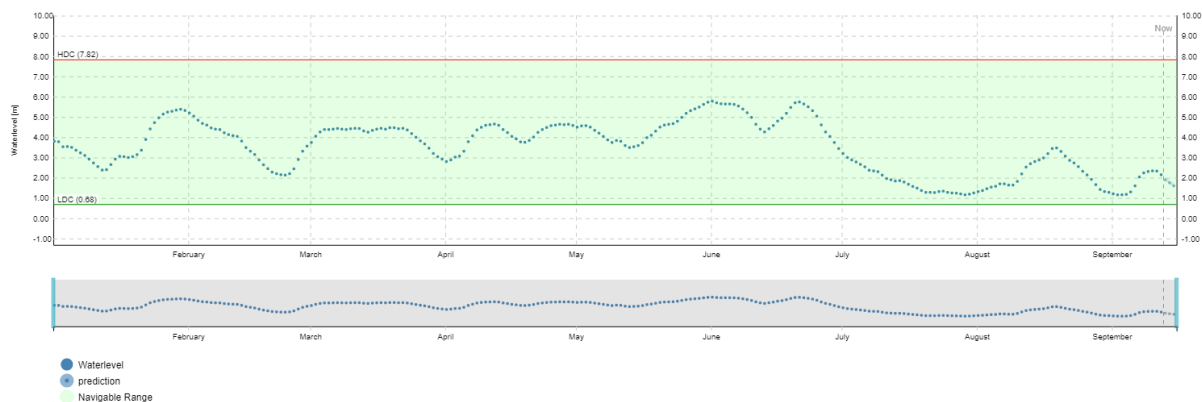
(Preliminary data from WAMOS which might be subject to change.)

Fairway conditions until 08/2023 – Lower Danube

Available Fairway Depth: Belene island, km 565.000 - 563.000 (01/01/2023 - 09/30/2023) monthly



GAUGE SVISHTOV: Waterlevel (1.1.2023 - 15.9.2023)



(Preliminary data from WAMOS which might be subject to change.)

Next steps in implementation

Fairway
Master Plan
(2014)



- Implementation through (trans)national **projects**
 - EU co-financing is a crucial enabler for investments

Fairway
Master Plan
(2022)



FAIRway
Danube



HyQ

(selected impressions)

FAIRway Danube II

FW
works

FW
II

Project level
(implementation and
technical inputs for the
policy process)



2014

2016

2018

2020

2022

2024

Contents of the FAIRway Danube II project:

- Yearly Reports on Good Navigation Status
- Procurement of Tools for monitoring of Good Navigation Status (sensors, water level forecast, WAMOS 2.0)
- **Pilots of flexible infrastructure elements for enhancing low water resilience**
- Upgrade of infrastructure for mooring operations
- Studies/documentation for upgrading infrastructure for mooring operations

Next steps in implementation

Temporary infrastructure for extreme low water periods (in analogy to mobile flood protection dams complementing the fixed dams)

Flood
protection



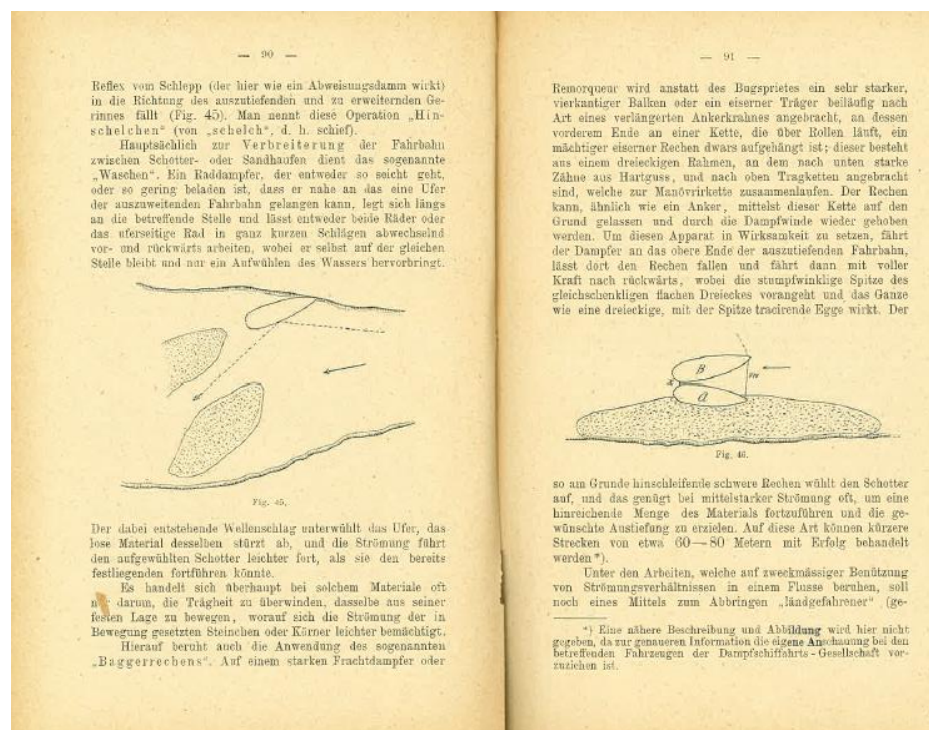
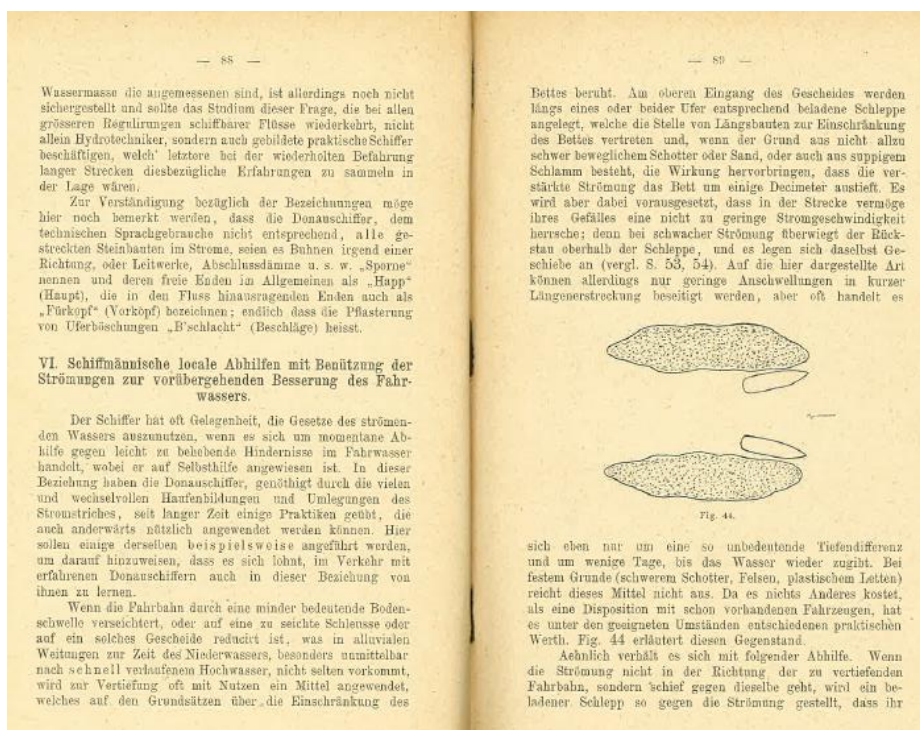
Waterway
infrastructure



Flexible infrastructure

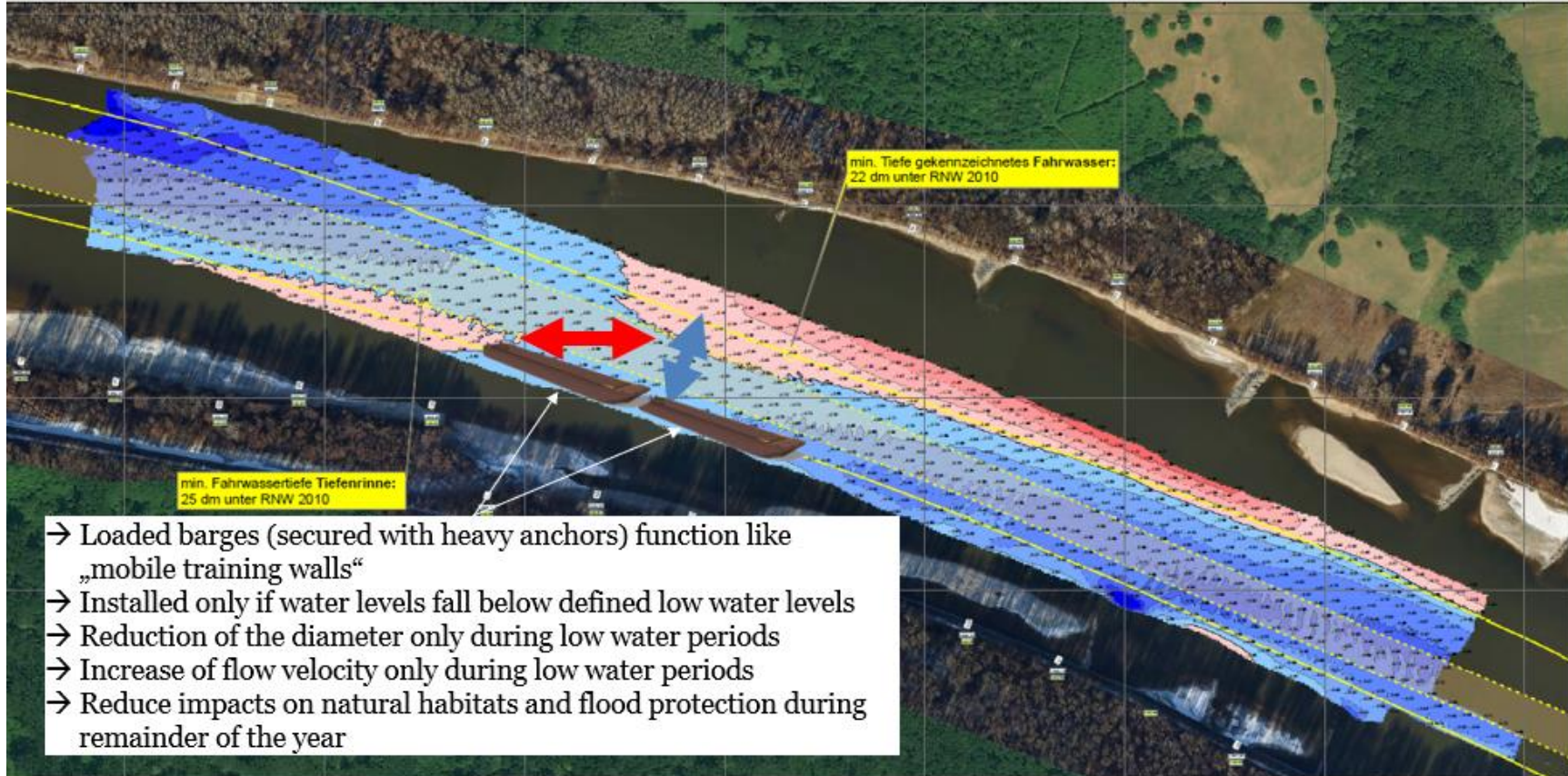
Mobile groynes and training works – Danube in 1890

Placing barges at shallow sections during low water season



Source: „Die Donau – Ihre Strömungen und Ablagerungen“, 1890, Wien, Ritter v. Lorenz-Liburnau

Planned pilot in Austria in 2023/2024



Status of pilot in Austria

- Permit under Water Law still pending, negotiation meeting in early October, precondition: safe anchoring of the barges must be ensured → calculations are made

Deployment of pilot

- Usage of 1 barge as of 2023
- Usage of up to 2 barges in 2024
- Usage of up to 3 barges as of 2025
- Usage of up to 4 barges in 2026/2027
- Adaptive approach by means of continuous optimisation of configuration (positioning and number in shallow section)

Monitoring pilot

- monitoring of the effects of river bed (surveying) and effects on navigation channel
- Documentation of results and findings

End 2025

2026+....

...Flexible Infrastructure elements...

Expected net positive effects for nature

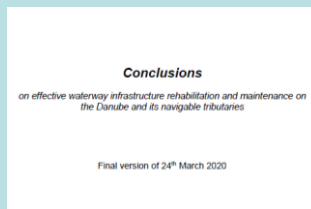
- Nature based solution for waterway management
(no permanent impact on sediment transport and ecosystem of river)
- Raising low-water and climate resilience
- Completely reversible and adaptive solution
- Reduction of maintenance dredging at pilot sections
- Stepwise reduction of groynes, complementing groynes/training walls with flexible elements → reduction of flow velocity/river bed erosion throughout the year

Roll-out of concept in the Danube region

- Pilot implementation planned under the FAIRway Danube II project
Environmental compliance files received from involved member states (Declarations by the Competent Authorities under the Water Framework Directive 2000/60/EC and for monitoring NATURA 2000 sites)
 - Roll-out of pilots in Croatia, Romania and Bulgaria foreseen in 2024/2025



Policy level
(renewed political
commitment)



**Danube
Ministerial
Conclusions
planned
2024**

Fairway
Master Plan
(2014)



➤ monitoring of the implementation
status (National Action Plans)
**Danube Ministerial
Conclusions** every two years
keep the topic on the political
agenda

Fairway
Master Plan
(2022)



Analysis of
economic
effects low
water on
Danube
navigation

PA1a coordinators



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 Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

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