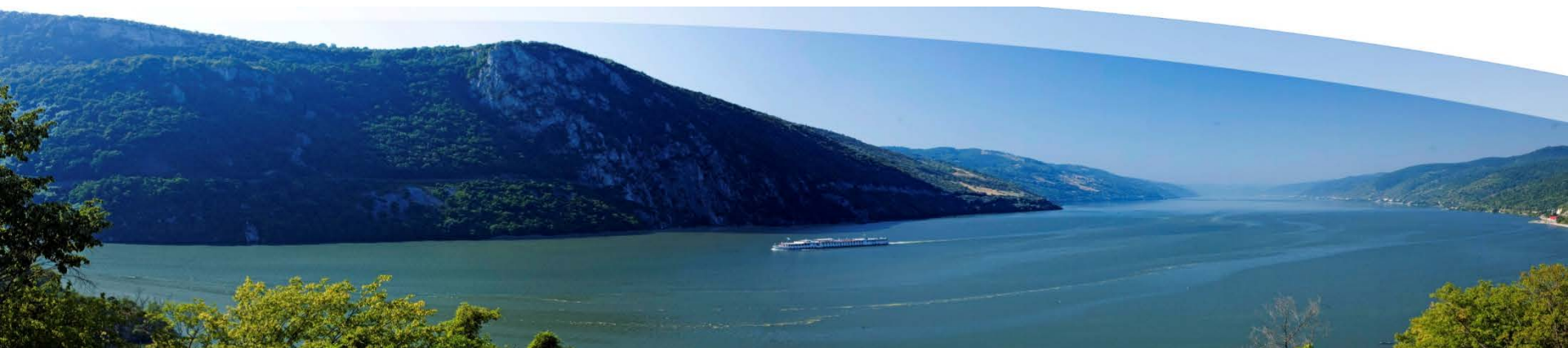


# Fairway Rehabilitation and Maintenance Master Plan for the Danube and its Navigable Tributaries

PA1a Working Group Session, Vukovar, 28 October 2014

Gudrun Maierbrugger, Technical Secretariat Priority Area 1a - Inland Waterways



## Topics

- ▶ Why such a Master Plan?
- ▶ What is it about?
- ▶ Background & Development Process
- ▶ Example: Croatia
- ▶ Overview Danube region
- ▶ Next steps

## Why such a Master Plan?

- ▶ Large share of free-flowing sections on the Danube
- ▶ Unstable and unpredictable fairway conditions as severe threat to competitiveness of Danube waterway transport
- ▶ Need for structural interventions as well as *continuous fairway maintenance*
  
- ▶ Master Plan as technical basis for coordinated maintenance measures along the Danube and its navigable tributaries

# Background

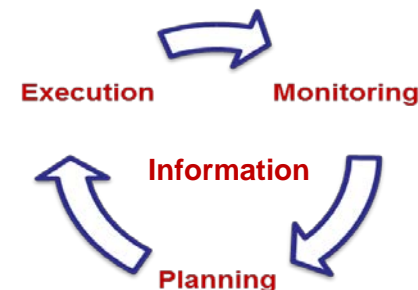
## Luxembourg Declaration (2012):

- ▶ Majority of Danube region transport ministers committed to:
  - ▶ implement effective fairway maintenance
  - ▶ provide necessary financial means, equipment & staff
- ▶ Master Plan as important step towards implementation
  - ▶ Addressed at transport ministers and executing authorities

# Content Overview of Master Plan

Per riparian country:

- ▶ Critical maintenance locations
- ▶ Analysis of underlying issues and resulting **needs**
- ▶ **Required additional financial means** (investment, operations) to provide recommended levels of service



**Synthesis** of financial needs for Danube Region

## Development Process

- ▶ Initiated by the Steering Group of Priority Area 1a (EUSDR)
  - ▶ Riparian states, EC, River Commissions, Transnational Organisations
- ▶ Prepared by PA1a Technical Secretariat based on input by NEWADA duo and Steering Group
  - ▶ Joint document
- ▶ Master Plan is in its finalisation

## Example: Croatia

# Croatia (1/5)

## Critical locations

### Danube

Location / Length (km)			right bank / left bank	Name of sector / location
River-km (from / to)		Length		
1,429.00	1,425.00	4.00	HR / RS	Bezdan
1,424.20	1,414.40	9.80	HR / RS	Siga - Kazuk
1,408.20	1,400.00	8.20	HR / RS	Apatin
1,397.20	1,389.00	8.20	HR / RS	Čivutski Rukavac

### Sava River

Location / Length (km)			right bank / left bank	Name of sector / location
River-km (from / to)		Length		
322.00	329.00	7.00	HR / BA	Jaruge – Novi Grad
377.00	379.00	2.00	HR / BA	Migalovci

### Drava River

Location / Length (km)			right bank / left bank	Name of sector / location
River-km (from / to)		Length		
0.00	0.50	0.50	HR / HR	Drava mouth
4.00	6.00	2.00	HR / HR	4 <sup>th</sup> to 6 <sup>th</sup>
10.00	12.00	2.00	HR / HR	10 <sup>th</sup> to 12 <sup>th</sup>



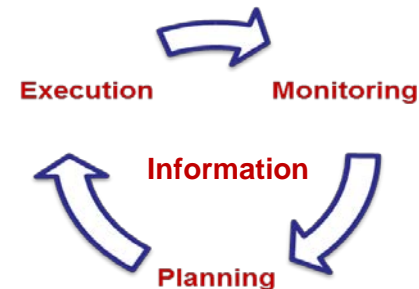
# EU Strategy for the Danube Region

## Priority Area 1a – To improve mobility and multimodality: Inland waterways



# Croatia (3/5)

## Process description & action points: Monitoring



	<i>Key issues</i>	<i>Need for action</i>
HR 01	Old monitoring fleet and equipment	Support retrofit and acquisition of up-to-date single-beam sounding equipment, software and vessels
HR 02	Insufficient number of skilled staff	Secure education and provision of well-trained staff in the short, medium and long term
HR 03	The number and the accuracy of gauging stations should be raised	Support increasing the number and quality of gauging stations

## Croatia (4/5)

**Additional cost to reach recommended Levels of Service (investment & yearly operations)**

TOTAL COSTS	
Countries	Croatia
Need areas	AVP + DHMZ
Minimum fairway parameters (depth / width)	1.487.000
Surveying of the riverbed	509.000
Water level gauges	75.000
Marking of the fairway	3.882.510
Availability of locks / lock chambers	n/a
Information on water levels and forecasts	0
Information on fairway depths	60.000
Information on marking plans	0
Meteorological information	0
Other needs	0
<b>Sum</b>	<b>6.013.510</b>

# Croatia (5/5)

## Synthesis

Responsible for fairway maintenance / data provided by	AVP (Agency for Inland Waterways within the Ministry of Maritime Affairs, Transport and Infrastructure)
Number / length of critical locations of high priority	<p><u>Danube</u> 17 / 85 km (62% of national stretch of the Danube River) all locations are cross-border locations shared with Serbia</p> <p><u>Sava</u> 9 / 18.5 (4.82 % of the Sava River)</p> <p><u>Drava</u> 3 / 4.5 km (17.85% of national stretch classified as international class IV)</p>
Medium length of critical locations	<p>Danube: 5,000 metres (variation 800 – 9,800 metres)</p> <p>Sava: 2,000 metres (variation 500 – 7,000 metres)</p> <p>Drava: 1,500 metres (variation 500 – 2,000 metres)</p>
Fairway depth of 2.5 m in 2012	<p>Danube: 97.8% (357 days/year)</p> <p>Sava: Račinovci- Slavonski Brod: 59% (215 days/year) Slavonski Brod – Sisak: 29% (106 days/year)</p> <p>Drava: 73.5% (268 days/year)</p>
Main issues in waterway maintenance – high priorities	Insufficient and/or old equipment
Indicative investment/operating cost for needed actions	<p>Investment: 4,588,000 EUR</p> <p>Operational costs / year: 1,425,510 EUR</p>

# Overview Danube Region



## Overview Danube Region

- Additional cost to reach recommended levels of service:
  - ~ 85 Mio EUR investment cost
  - ~ 8 Mio EUR annual operational cost
- Majority of investments needed:
  - for dredging equipment, fairway marking and riverbed surveying
  - on the Lower Danube

## Next steps

- ▶ Transport ministers
  - ▶ Endorsement of Master Plan, envisaged for December 2014
- ▶ Riparian States & PA1a
  - ▶ Continuous monitoring, update and elaboration (“Living Document”)
  - ▶ & sector representatives: identify most urgent critical locations
- ▶ Executing authorities
  - ▶ Continue maintenance activities in parallel
  - ▶ Use of European funds to tackle the identified needs

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= Coordinator



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