Balancing the needs of navigation and environment

Lessons from the Danube

Warsaw University of Technology, 22 June 2018
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Agenda

✓ The Danube River Basin
✓ Danube Navigation
✓ Transboundary water management
✓ Conflicting interests in water use
✓ Answers and solutions
✓ Conclusions
The Danube River Basin

800,000 km², 2,900 km, 6,500 m³/s, 85 Mio PE, 19 countries
## Danube Navigation in numbers

### Transport volumes
- 9.1 million tons (+5.6%)
- Import: 4.3 million tons (-0.6%)
- Export: 2.0 million tons (+12.0%)
- Transit: 2.2 million tons (+19.5%)
- Domestic: 0.6 million tons (-10.5%)

### Transport performance
- 8.3 billion tkm (+11.3%)
- Within Austria: 2.0 billion tkm (+8.7%)
- Outside Austria: 7.3 billion tkm (+12.0%)
- 8,448 loaded journeys (-2.4%)

### Waterside transshipment at Austrian ports and transhipment sites
- 7.5 million tons (+0.8%)
- Ores and metal waste: 2.4 million tons (+4.1%)
- Petroleum products: 1.5 million tons (+1.8%)
- Crude and manufactured minerals, building materials: 1.1 million tons (-2.2%)
- Metal products: 0.8 million tons (+34.2%)
- Fertilisers: 0.7 million tons (-8.3%)
- Agricultural and forestry products: 0.6 million tons (-5.1%)
- Other goods: 0.4 million tons (-26.6%)

### Vessel units locked through Austrian Danube locks
- 93,298 vessel units (+3.5%)
- Freight transport: 51,603 units (+1.6%)
- Passenger transport: 41,695 units (+6.0%)

### Passenger transport (including estimation)
- 1.2 million passengers (+5.1%)
- Liner services: 705,000 passengers (+5.2%)
- River cruises: 415,000 passengers (+7.8%)
- Non-scheduled services: 110,000 passengers (-4.4%)

### Accidents
- 23 traffic accidents with damage
- Personal injuries: 0 death, 2 slightly injured
- Damage to property: 5 ship to ship, 1 grounding incident, 17 incidents with damage to riverbanks and facilities, 0 ship sunk

### Availability of the waterway
- 366 days
- 15 year average: 357 days
- Closures due to high water: 0 days
- Closures due to ice: 0 days

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1 Changes from 2015 are given as percentages in brackets.
2 Convoys and individual vessels.

Source: Statistics Austria; Supreme Navigation Authority at the Federal Ministry for Transport, Innovation and Technology; Federal Office of Transport; miscellaneous passenger transport operating companies; viadrina
## SWOT analysis Danube Navigation

### Strengths
- low transport costs
- ability to convey large quantities of goods per unit
- environmental friendliness
- safety
- availability around the clock
- low infrastructure costs

### Weaknesses
- dependence on variable fairway conditions
- low transport velocity
- low network density, often requiring pre- and end-haulage

### Opportunities
- spare capacity of the waterway
- rising demand for environmentally friendly transport modes
- modern and harmonised cross-border information services (RIS)
- cooperation activities with road and rail
- international development initiatives (e.g. NAIADES, Strategy for the Danube Region)

### Threats
- inadequate maintenance of the waterway in some Danube riparian countries
- high requirement for modernisation of ports and fleet
Transport distances for one ton of cargo requiring the same amount of energy:

- Truck: 100 km
- Train: 300 km
- Ship: 370 km

Source: via donau
The sum of external costs for inland vessels is by far the lowest (average values for selected transports of bulk goods).
Human activities and their impact on the Danube

Water pollution, hydromorphological alterations
ICPDR at a glance

- **Most international** river basin organisation in the world
- **Cooperation** of 14 countries & the EU
- Serving almost **90 million** people
- Role **model** for transboundary cooperation
- **Champion** of water-resources management
Role of the ICPDR

Danube River Protection Convention (29 June 1994, Sofia, Bulgaria)

- **Sustainable & equitable use of water**
- **Protection of water & ecological resources**
- **Reduce nutrients & hazardous substances**
- **Manage floods & ice hazards**

**ICPDR**: platform for **transboundary cooperation** on water management:

- Implementation of the **DRPC** (1998)
EU Water Framework Directive (WFD) - Key Principles

- Integrated water management, taking into account and addressing all pressures and impacts
- Management unit is the hydrological river basin
- Achievement of environmental objectives (good water status/potential) is a legal requirement
- Development of River Basin Management Plans including Programme of Measures for achieving WFD objectives
- 6 years management cycles
- Public participation requirements
Water: diversity of uses, aspirations and impacts

Water is an interdisciplinary and cross-cutting issue
Since 2000 & the WFD

- **Growing concern** on how to ensure sustainable water protection and non-deterioration of Danube Basin water bodies & Natura 2000 if major infrastructure projects will be built?

- How to move **from confrontation and misunderstanding to reconciliation, cooperation** and ultimately **win-win situations**?

- Are there **ways to guide infrastructure development** in such a way that it **will not conflict with river protection** but **support** it?
One answer: Cross-sector dialogue 2007

A Stakeholder process:
- 12 basin governments
- 22 industry and environmental interest groups
- 3 workshops

A Result: Commitment by 3 River Commissions
- ICPDR
- Danube Commission
- Sava Commission
Joint Statement initiative was launched in 2007 by the ICPDR in cooperation with the Danube Commission and the International Sava Commission.

Joint Statement summarises principles and criteria for environmentally sustainable inland navigation on the Danube and its tributaries.

Regular meetings with cross-sectoral discussion process.
“Joint Statement on Guiding Principles for the Development of Inland Navigation and Environmental Protection in the Danube River Basin”

A guiding document for:

✓ The development of the “Programme of Measures” requested by the EU Water Framework Directive,

✓ The maintenance of the current inland navigation,

✓ Planning and investments in future infrastructure and environmental protection projects
Key principles

- **Integrated** planning process from the start via interdisciplinary teams to achieve joint planning objectives:

  Environment + Water management and transport

- **Minimize** the **impacts** of engineering interventions, use non-structural measures
- **Apply** EIAs with public input
- **Respect** the WFD’s river basin management plans 2009 and goals to protect / restore ecology and reduce negative impacts
- **Define** goals for IWT and the river/floodplain ecological integrity
- **Use** best practice to achieve the required objective.
Joint Statement take home messages

This is our experience on how the process was organised for a “civilized” dialogue between three partners:

1- The economic sector: navigation
2- Regulators from water and environment: WFD, Natura 2000, Nature Directives
3- NGO communities who are concerned about the environment.

→ Tool to learn how to conduct proper stakeholder participation in design and implementation of navigation projects.
Another answer: The Platina MANUAL

“Platform for the implementation of the EU NAIADES action programme”

- Stems from the Platina Project
- FP 7 Research (22 partners) project to develop capacities around the five NAIADES action areas
- SWP 5.3: Preparation of an IWT Planning Manual
- Following 2 stakeholder workshops: a user-friendly manual
The Platina MANUAL: objectives & contents

✓ Illustrate the Joint Statement with its principles & criteria.
✓ Present new legal framework conditions for river management.
✓ Present new approaches in integrated planning.
✓ Provide a general practical guidance for integrated planning.
✓ Provide examples for ecology-oriented waterway and river bed engineering

❖ Part A Introduction and Background
❖ Part B Model for an Integrated Planning Process
❖ Part C Frameworks for Practical Application
Actors & Stakeholders

**Actors of an Integrated Planning Process**

- **Project Steering Committee (PSC)**
  - Supervision, responsibility
  - Government, waterway agency, funding institutions

- **Technical and Ecological Planning Team (TPT)**
  - Detailed project planning (database, calculation & modelling) + EIS
  - Contracted consultants with competence for navigation, river engineering, ecology, hydro-morphology, water quality, etc.

- **Interdisciplinary Advisory Board (IAB)**
  - Support and advise the PSC on decisions in all project phases (scoping, preparation and execution of planning, monitoring of works)
  - Experts for navigation, river engineering, ecology, hydro-morphology, water quality, etc.

- **Integrated Monitoring Team (IMT)**
  - Analysis of pre-project river situation and effects of project implementation, delivering basic information, evaluation of processes and measures
  - Scientists, research institutions regarding navigation, river engineering, ecologists...
“Mixed Environment Transport External Expert Team on integrated planning of inland waterways transport (IWT) Projects, including inland waterway transport and environment experts.”

The Joint statement has brought improvements however…

✓ The **environmental situation** of many sections of the Danube (lower Danube) remains **problematic**

✓ **River ecosystems** suffer from pollution, eutrophication, morphological alterations **due to different uses including inland navigation**, poor maintenance and legacy of heavy industries along the banks.

✓ **Remaining concerns** from **NGOs and local stakeholders** about the **impact of planned IWT projects** (many of them EU supported) on the ecosystems and long term sustainability of the river
✓ Some administrations still lack the technical expertise
✓ The need for a for multi-disciplinary approach is ever clearer
✓ Contributions are required by specialist in river eco-systems,
✓ Water management experts and authorities in charge of enforcing and monitoring environmental requirements for safe and clean navigation need to address ecological challenges
✓ Increased capacity building in both transport and environment administrations must be ensured
✓ Missing effective cooperation and dialogue between administrations is often behind the difficulties found in some of the projects
Key principles

✓ Provide support in addressing the environmental issues that may arise during planning and implementation of inland waterway transport projects in the Danube Region
✓ Beneficiaries are local, national and international IWT planning bodies (usually governments with their agencies), officials and employees of Ministries of Environment and Transport
✓ Based on the Joint Statement
✓ Project set-up: DG-MOVE, DG-ENV, DG-REGIO, Danube Commission, ICPDR
✓ International Sava River Basin Commission has observer role

→ Aims at providing guidance and advice to competent authorities for developing sustainable strategies, plans and projects in the field of inland navigation taking into account European Environmental Legislation from the start
Summary and Conclusions

- Modern waterway management is one part of a sustainable river management.
- It requires a much more comprehensive planning and monitoring than in the past.
- Key is to observe early and integrate in time environmental (and other river use) requirements into infrastructure projects.
- Involvement of competent stakeholders reduces planning risks. Planning objective is to develop good solutions (win-win results)
- The Joint Statement and the Platina Manual are general tools based on a respectful dialogue
- METEET continues and builds on the work of both.
Further information

ICPDR convenes Climate Change Workshop designed to collaborate and tackle climate change issues in a transboundary context. The ICPDR workshop was hosted by the Institute for the Development of Water Resources in Belgrade, organized by the ICPDR Climate Change Adaptation Workshop. The event took place on 27-28 March, and it was attended by representatives from Danube countries, the International Sava River Basin Commission, the Carpathian Convention, the Danube Commission, the ICPDR Secretariat, the European Commission, GWP CEE, UNEP, and the IUSGD and WWF, all of whom contributed valuable input and advice.

ICPDR refers to its commitment to World Water Day Objectives (Press Release)

VIENNA, 22 March 2018 (International Commission for the Protection of the Danube)

We hope to inspire you to learn more about our work towards cleaner, healthier and safer waters in the Danube River Basin for everybody to enjoy.

Mr. Helge Wendenburg
ICPDR President 2018

Save our Danube Sturgeon

Danube Watch magazine

Sell out film premiere of the “2467 km – A Journey to the Black Sea” attracts almost 400 guests in Munich

On Thursday, 8 February 2018 in Munich

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See you soon at www.icpdr.org
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