

# Work Package 4 Waterway Management

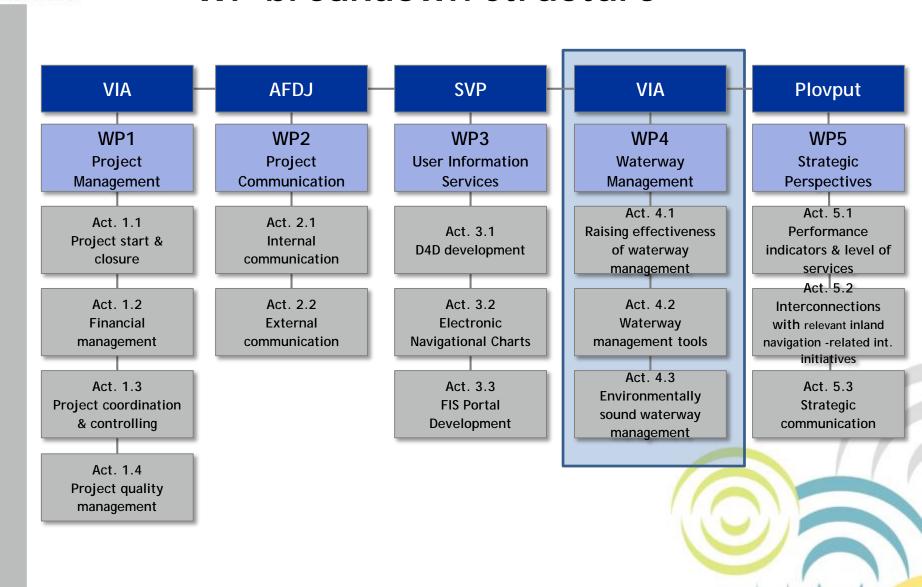
Final event

Gert-Jan Muilerman, WP4 leader





#### WP breakdown structure





# Updated set of performance indicators and minimum Levels of Service for waterway management





### Updated performance indicators



- Overview of KPIs related to waterway management e.g.:
  - Fairway depth of 2.5 m at Low Navigable Water Level, i.e. on 94% (343 days) of the year
  - Surveying of critical sectors by monitoring vessels on Upper Danube once a week, Central and Lower Danube twice per month
  - Water level information in principle 1 x per hour from automatic gauging stations

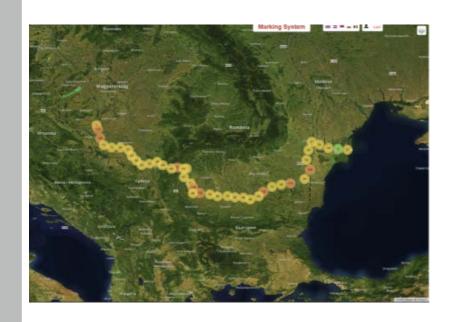


# Extension of fairway marking application





### Extension of marking application



- Existing platform for up-todate information on waterway marking systems on the Danube River
  - Already in operation in Croatia, Serbia, Romania and Bulgaria
  - Installation or removal of marking signs
  - Change of position of marking signs
- Extended service towards Slovakia, Hungary and Black-Sea Canal



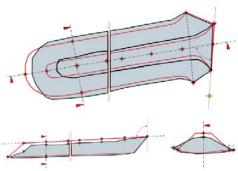
# Spefication of GIS-based hydraulic structure database





# GIS-based database on hydraulic waterway engineering structures

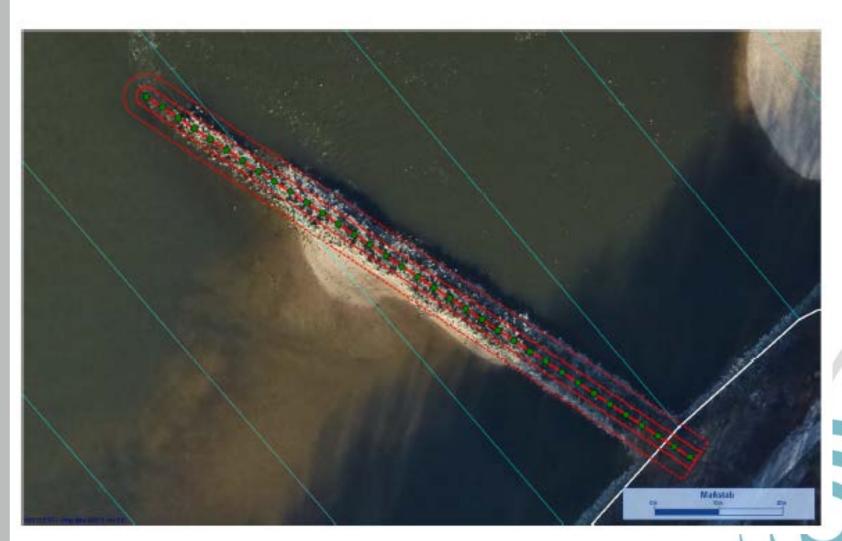




- To maintain an inventory of individual.e. hydraulic waterway structures, for low water regulation (e.g. GIS coordinates, physical condition, construction period, constructionand repair costs), including an assessment of their current condition
- To support the maintenance and repair of damaged regulation structures (establishment of priorities, planning and procurement of measures, design of technical variants, calculation of costs)
- To enable the documentation of measures taken, including efficiency control
- To support and facilitate communication with public authorities (e.g. in case of attaining regulatory permits)
- To enable prompt and clear presentation of planned or taken measures for decision-makers or for stakeholder communication

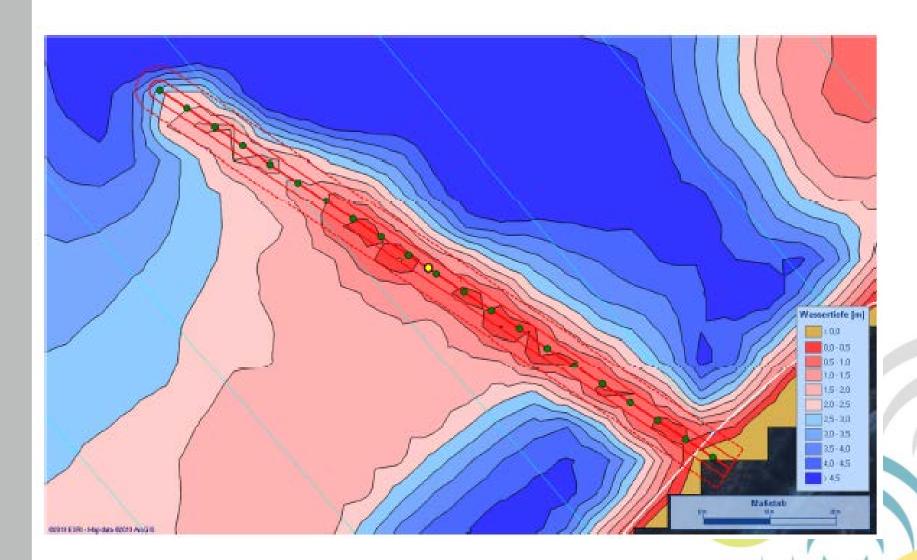


# Orthophoto of groyne with measured geodetic points and target geometry





### Bathymetric contours of groyne





### Intersectoral seminars and conferences





# Study trip The Netherlands

- Visit to projects within the "Room for the river" programme on 11-12 April 2018
- Key lessons learned:
  - early engagement of stakeholders
  - strong coordination between all public governance levels
  - from stakeholder to shareholder
  - another setting: "creating" rather than "conserving nature"
  - Truly integrative projects dealing with
    - flood protection,
    - city development (housing),
    - waterway development and
    - nature conservation





### Two intersectoral conferences

#### Dunakiliti (April 2017) and Kladovo (May 2018)

- In-depth presentations and exchange on main activities of
  - DanubeSTREAM
  - DANUBEparksCONNECTED
  - Danube Sediment
- Objective: Presentation of and discussion on good practices in environmentally sustainable waterway management, as developed in the DanubeSTREAM project.







#### Intersectoral seminar

#### Danube Awareness Day on 13th September 2018

- Organised in cooperation with the International Commission for the Protection of the Danube River
- Presentation of and discussion on good practices in environmentally sustainable waterway management, as developed in the DanubeSTREAM project
- Event also labelled event as an "Austrian EU Presidency" event.
- 70 participants, lively panel discussion





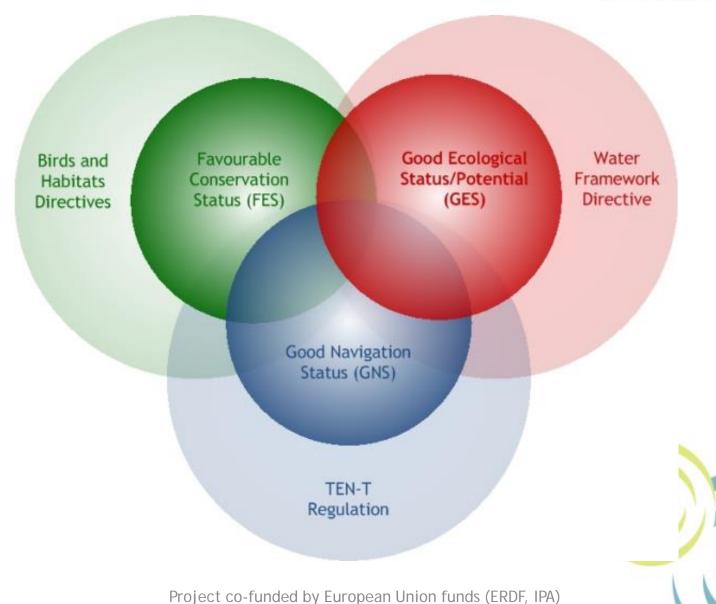


# Manual on environmentally sound waterway management



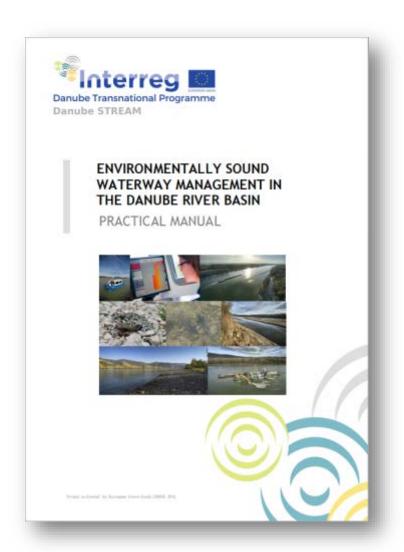








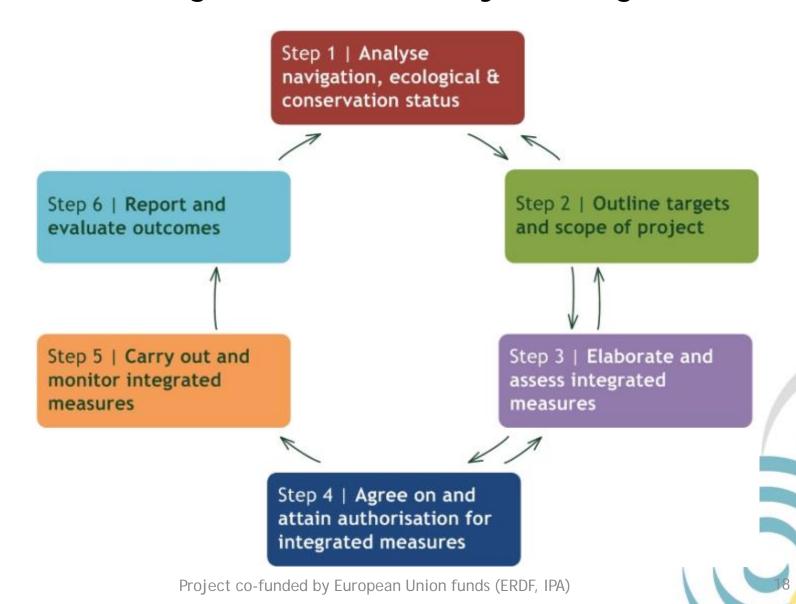
# Manual on environmentally sound waterway management



- Sharing know-how and experiences with regard to the setup of integrated waterway maintenance in practice
- Providing checklists and a model process
- Illustrating the "integrated approach" with good practices from the Danube region



# Proposed planning cycle for integrated waterway management





### Memorandum of Understanding





MEMORANDUM OF UNDERSTANDING ON THE COOPERATION BETWEEN THE DANUBE WATERWAY ADMINISTRATIONS AND DANUBE PARKS The aim of this MoU is to continue and enhance the cooperation between the Danube waterway administrations and Danube Parks in the field of waterway infrastructure management and national park management

The overall field of cooperation relates to integrated management practices