Identification of critical sectors and sector Bezdan

Preparation of Documentation for River Training and Dredging Works on Selected Locations along the Danube River. A project funded by the European Union

26 October, 2012

Contents

- Identification of critical sectors;
- Sector Bezdan

Identification of critical sectors

- Definition of a critical cross-section:

  "Part of the river where the required fairway dimension not fit in the river cross section below the Design Low Navigation Level (DLNL) or where the radius of the bend does not comply to the Danube Commission Recommendations".

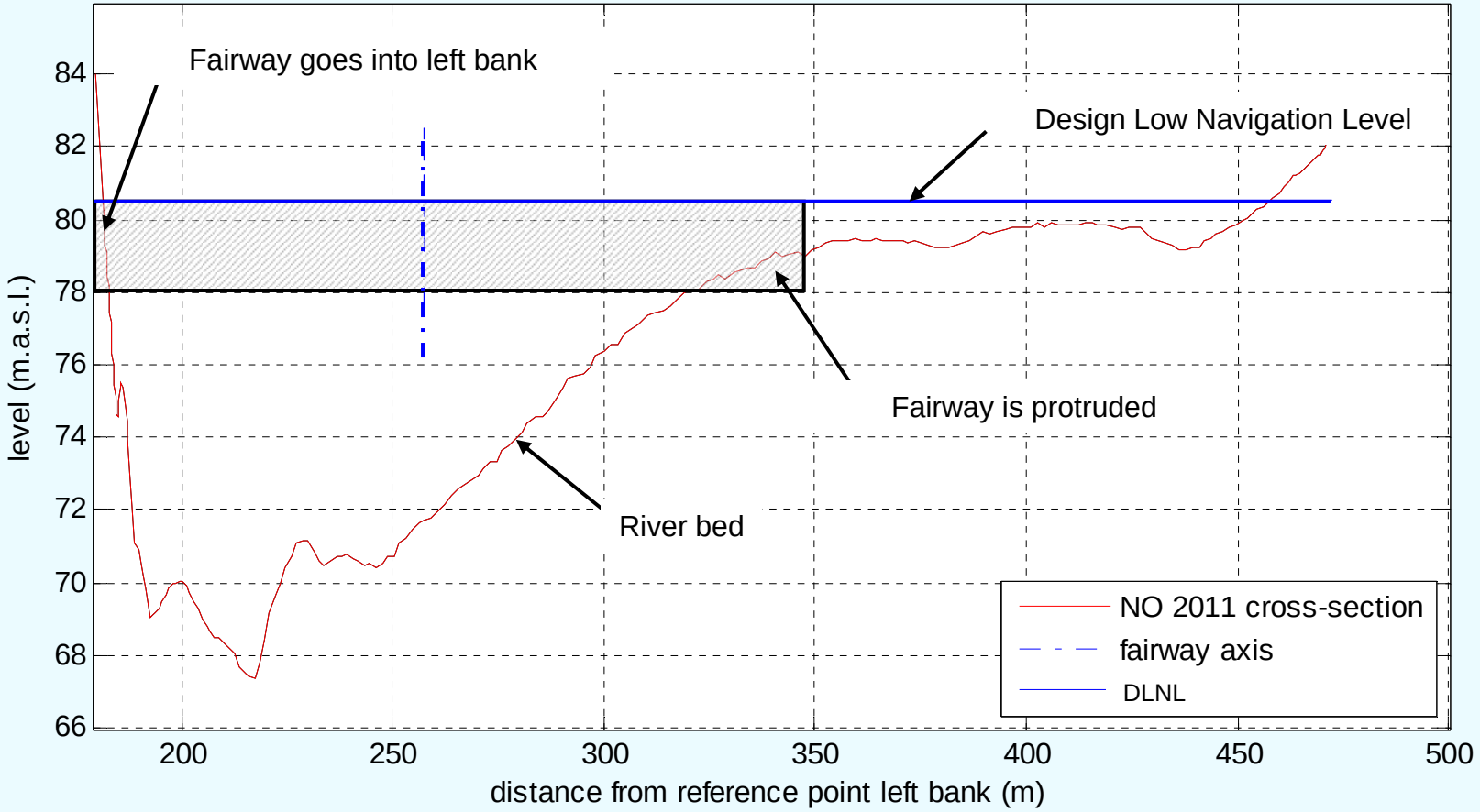
- Recommended Danube Commission fairway dimensions are:
  - Width: 180 m (straight), 200 m (bend);
  - Depth: 2.5 below DLNL;
  - Radius: >1000 m or >750 m (under specific conditions).

- Definition of DLNL:

  "The Design Low Navigation Level at the NO cross-sections determined with the 1-D hydraulic model associated with the 94% duration of discharges over the 30 year period 1981-2010".

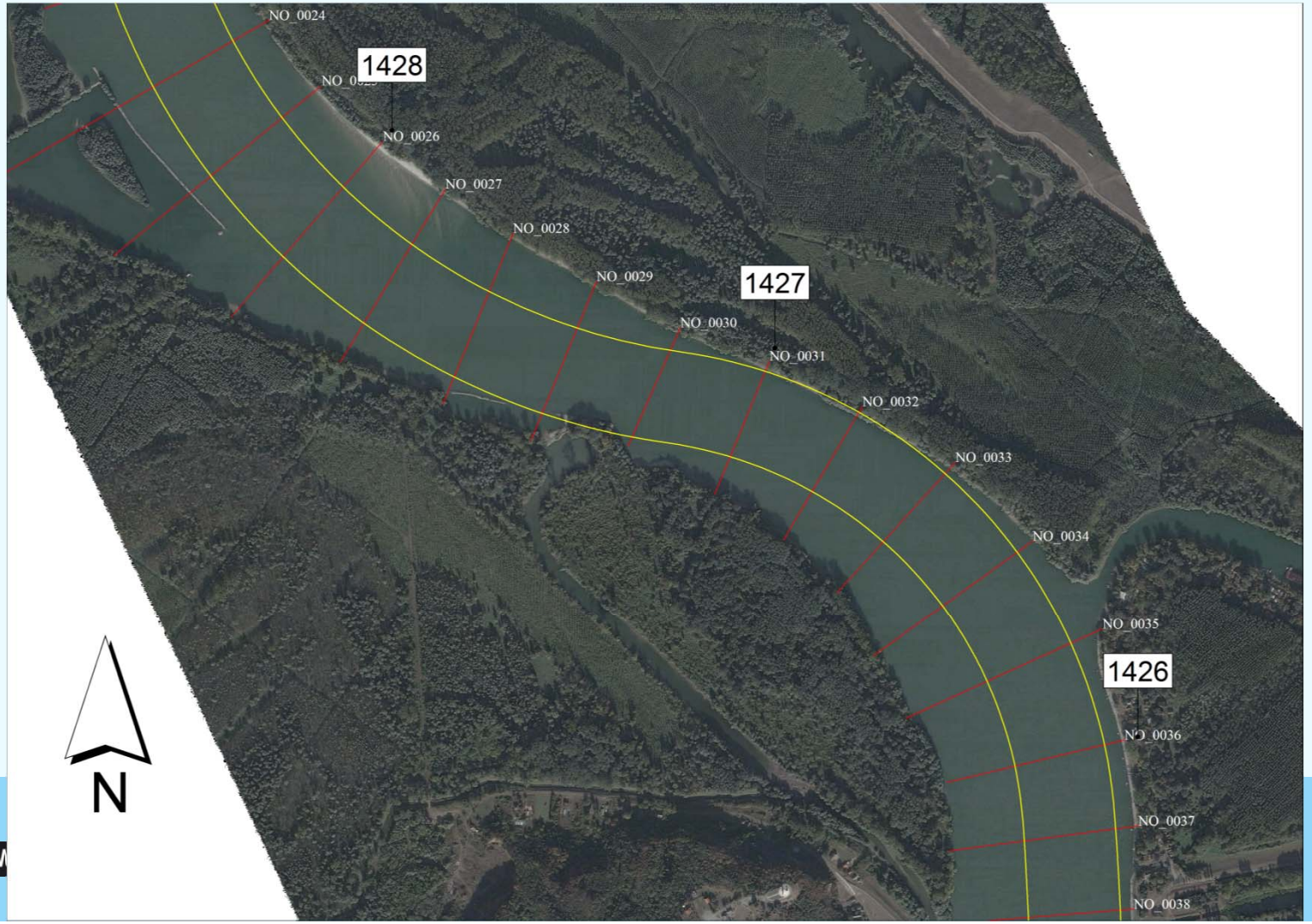
Identification of critical sectors

- Example of a critical cross-section



Identification of critical sectors

- NO 2011 cross-sections (spacing 200 m):

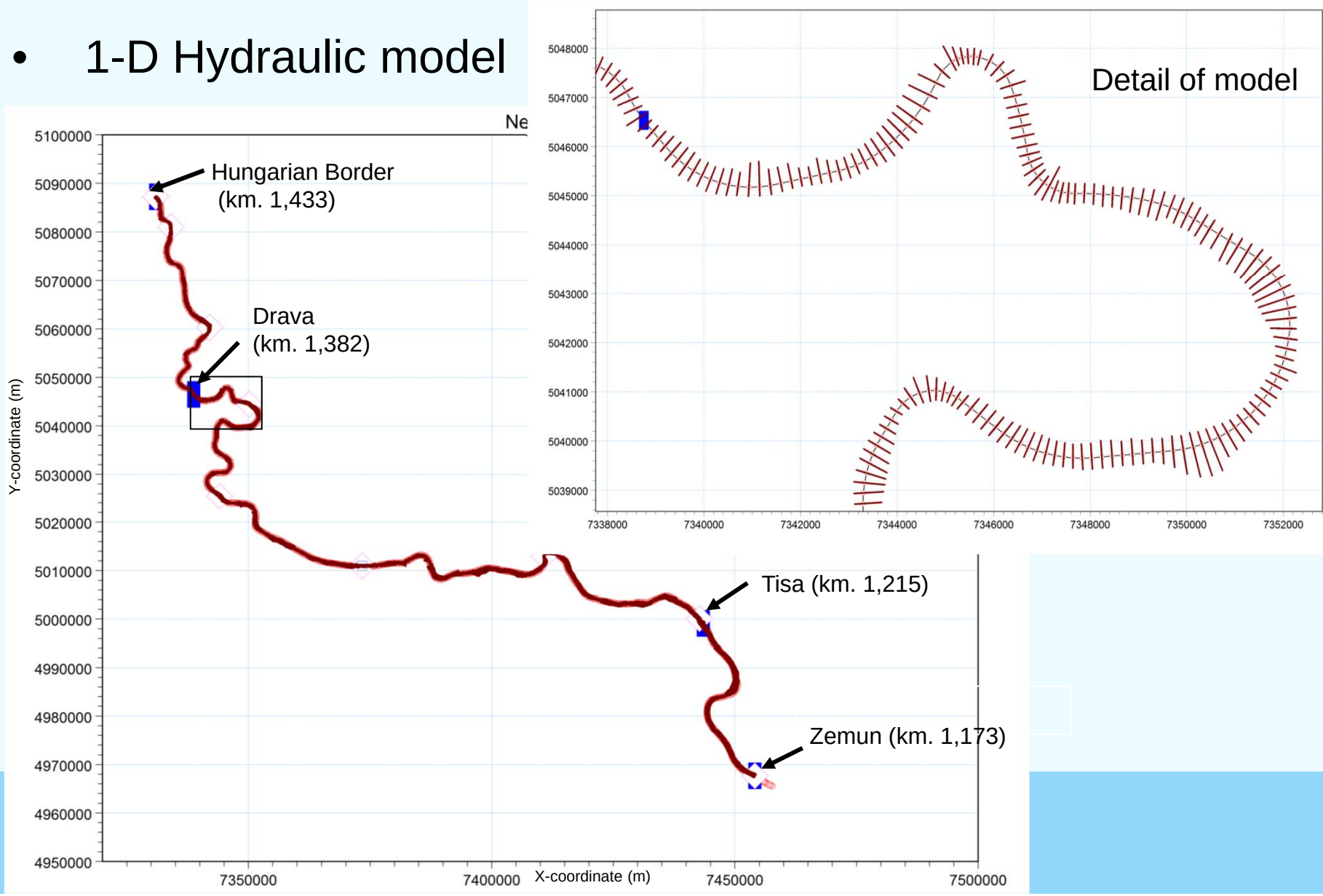


Identification of critical sectors

- How to determine the Design Low Navigation Level?
- Setup of 1-D hydraulic model of Danube between Hungarian border (km 1,433) and Zemun (km 1,173);
- Model input data:
  - Centre line of fairway;
  - NO_2011 Cross-sections;
  - Discharges and water level at model boundaries.

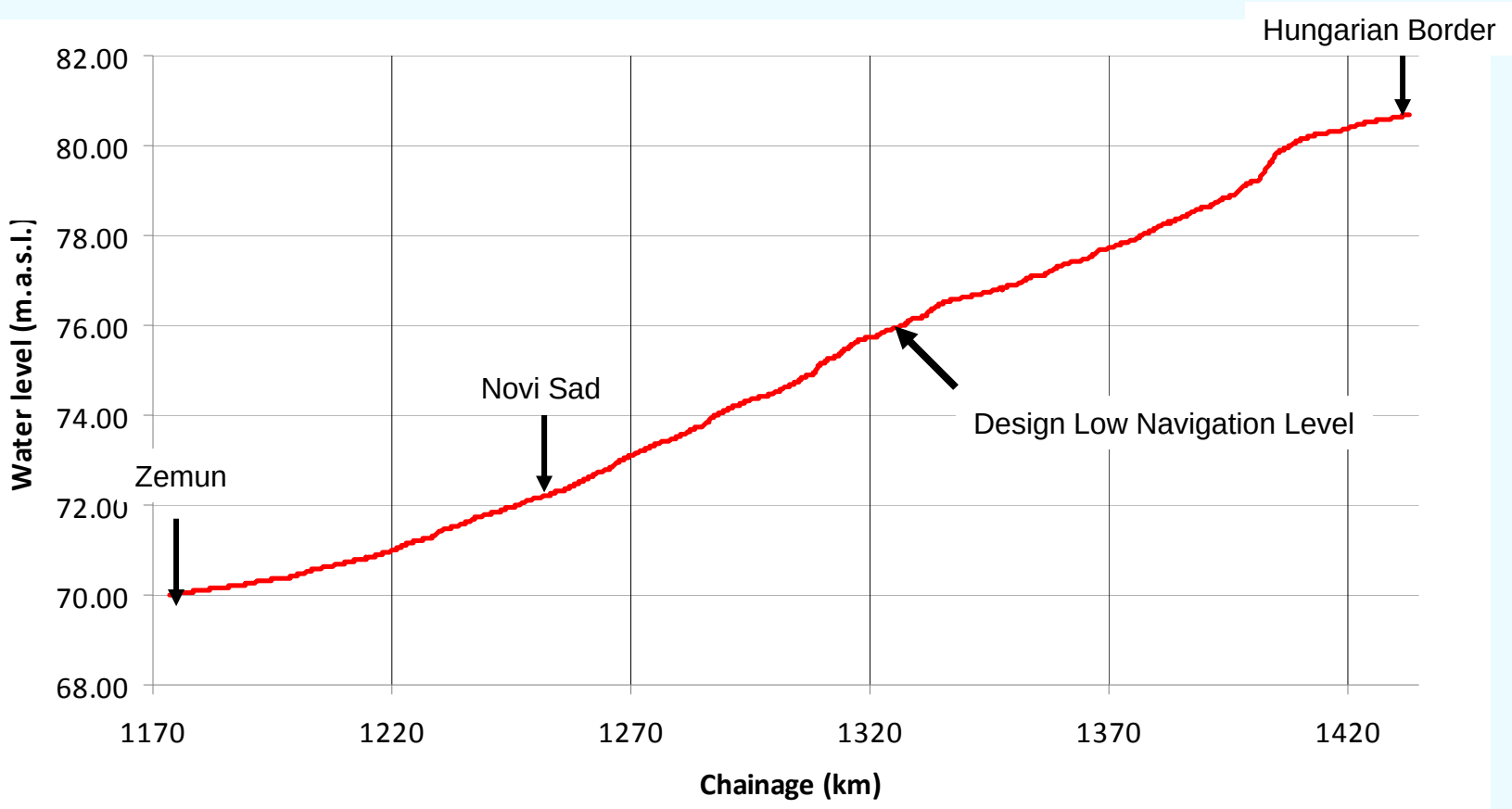
Identification of critical sectors

- 1-D Hydraulic model



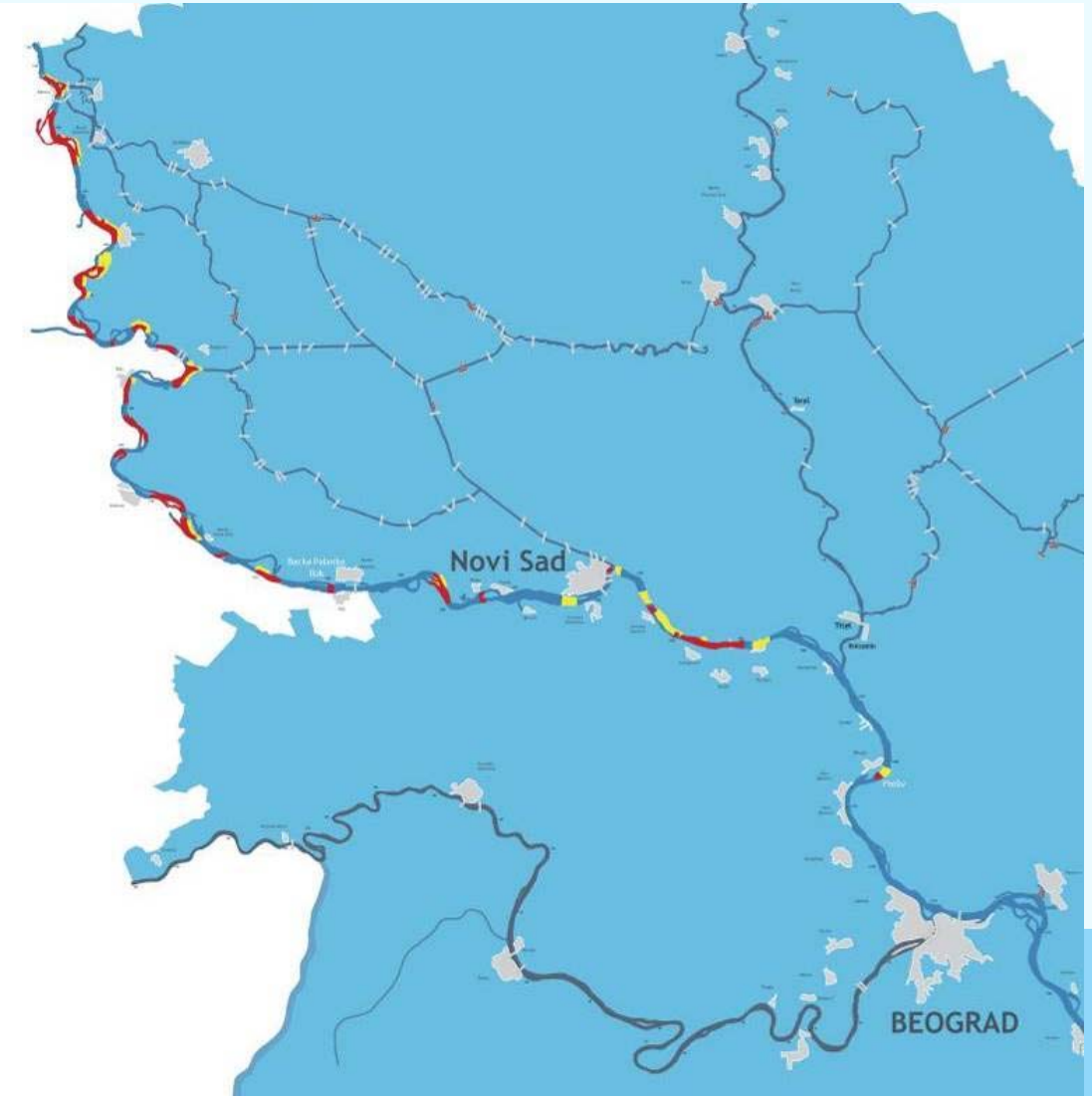
Identification of critical sectors

- Modelled DLNL along project stretch:



Identification of critical sectors

- Identified critical sectors in project stretch:



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