Improvement of navigation conditions on the Danube between Calarasi and Braila

and on the Romanian - Bulgarian common sector of the Danube

and accompanying studies

Zagreb, 09 of March 2010

European Inland Navigation Route
Rotterdam – Constantza

Improvement of navigation conditions on the Danube between Calarasi and Braila

Evolution

- March 2004 the Romanian Ministry of Transport signed a service contract with the Consultant aiming to study from technical, environmental and economical point of view
- April 2005 – letter to several NGOs (i.e. ECC Galati, WWF, Greenpeace International, etc.), ICPDR and Ramsar Convention Secretariat
- June 2005 – feasibility study
- August 2005 – application for the Environmental Agreement
- April 2006 – technical design
- November 2006 - Financing Memorandum
- March 2007 - NATURA 2000 permit
- April 2007 – Environmental Agreement
- 2007 – clarifications and details to the EC (on going process)

Critical points

- Bala area and Caragheorghe sand, km 347 - km 343;
- Epuraşu Island Area (Swan), km 342.7 - km 341.8;
- upstream and downstream Seica (Mirleanu), km 329 - km 325 (A. Seica upstream and B. Seica downstream);
- Ceacâru and Fermecatu Islands, km 324 - km 322 (A.Section Ceacâru Island and B.Ostrovul Fermecatu);
- Fasolele Island, km 291;
- Atarnati area, km 266.85 - km 268.4;
- Varsaturi Area, km 233 - km 232.5;
- Caleia Branch (Ostrovul Lupu), km 197 - km 195 ;

Phase I

- Bala area and Caragheorghe sand
  - banks protection with a length of 1147 m;
  - submersed guiding wall with a length of 2174 m;
  - submersed bottom sill with a length of 175 m;
  - buried bottom sill;
  - dredging on the fairway (in the last stage of the above mentioned works).
- Epuraşu Island Area
  - banks protection with a length of 56 m
  - submersed guiding wall with a length of 580 m
- Caleia Branch (Ostrovul Lupu)
  - banks protection with a length of 145 m on the left bank of the Danube, 395 m on the right arm of the Caleia Branch, 245 m on the left side of the Caleia Branch
  - submersed bottom sill with a length of 155 m
  - dredging fairway (in the last phase of the above mentioned works)

Monitoring of the bottom sills from Bala and Ostrovul Lupu

–after fixing the fagget mattresses;
–after placing 50% of the stones of the bottom sill;
–after finalizing the stones body of the bottom sill;
–after covering the bottom sill with blocks of stones;

If the monitoring results will reflect that the sturgeons cannot cross the bottom sill, the Romanian authorities will make the necessary changes or demolish the structures built, up to the level reflected by the monitoring results as being proper for the sturgeon migration

Financing Memorandum

"…8.3. The second installment of the advance payment is subject to:

- *the submission by the beneficiary of the final Environmental Assessment for Approval by the Commission that will also demonstrate this project to be best practice in regard to achieving a river morphology that is in line with the provisions and requirements of article 4 of the EU Water Framework Directive;*
- *the submission by the beneficiary of a declaration that an assessment has been undertaken by the competent authority with regard to identifying any negative impact of the foreseen works on potential NATURA 2000 sites;*
- *the submission by the beneficiary of a justification as to whether transboundary consultations as required by the Espoo Convention have been carried out;*
- *the submission by the beneficiary of a comprehensive listing of the corrective measures necessary to mitigate any significant negative impacts of the project on the environment and an undertaking to implement these measures, also in line with the provisions and requirements of article 4 of the EU Water Framework Directive;*
- *the submission by the beneficiary of a list of physical indicators, updated in view of the outcome of the final design, which has to be agreed by the Commission."*

2007 - 2010

- 2007 – letter from the EC
- 2008 – studies on the project, notices and approvals for the project, the tender documentation, additional information on the environmental impact assessment study according to the EC requests.
- 2008 – letter from the EC
- July 2009 – answers and related documents to the EC
- November 2009 – meeting with the EC
- January 2010 – letter from the EC

Letter from EC – Jan 2010

- **Assessment of the alternatives**
  - Detailed description of the alternatives taken into consideration
  - Comparative analyses
  - List with recommendations for mitigation measures
- **Monitoring Programme**
  - Managing the uncertainties
  - Assessment of the monitored data
  - Risks scenarios and how decisions making process will be organized
  - Fish migration monitoring and monitoring changes in the fish communities
  - Post construction monitoring activities
- **Habitat and Birds Directive**
  - Appropriate assessment
  - Conservation objectives N2000 sites

Contracts

- Works contract – concluded
- Works supervising contract – concluded
- Monitoring contract – to be concluded after getting the approval from the EC

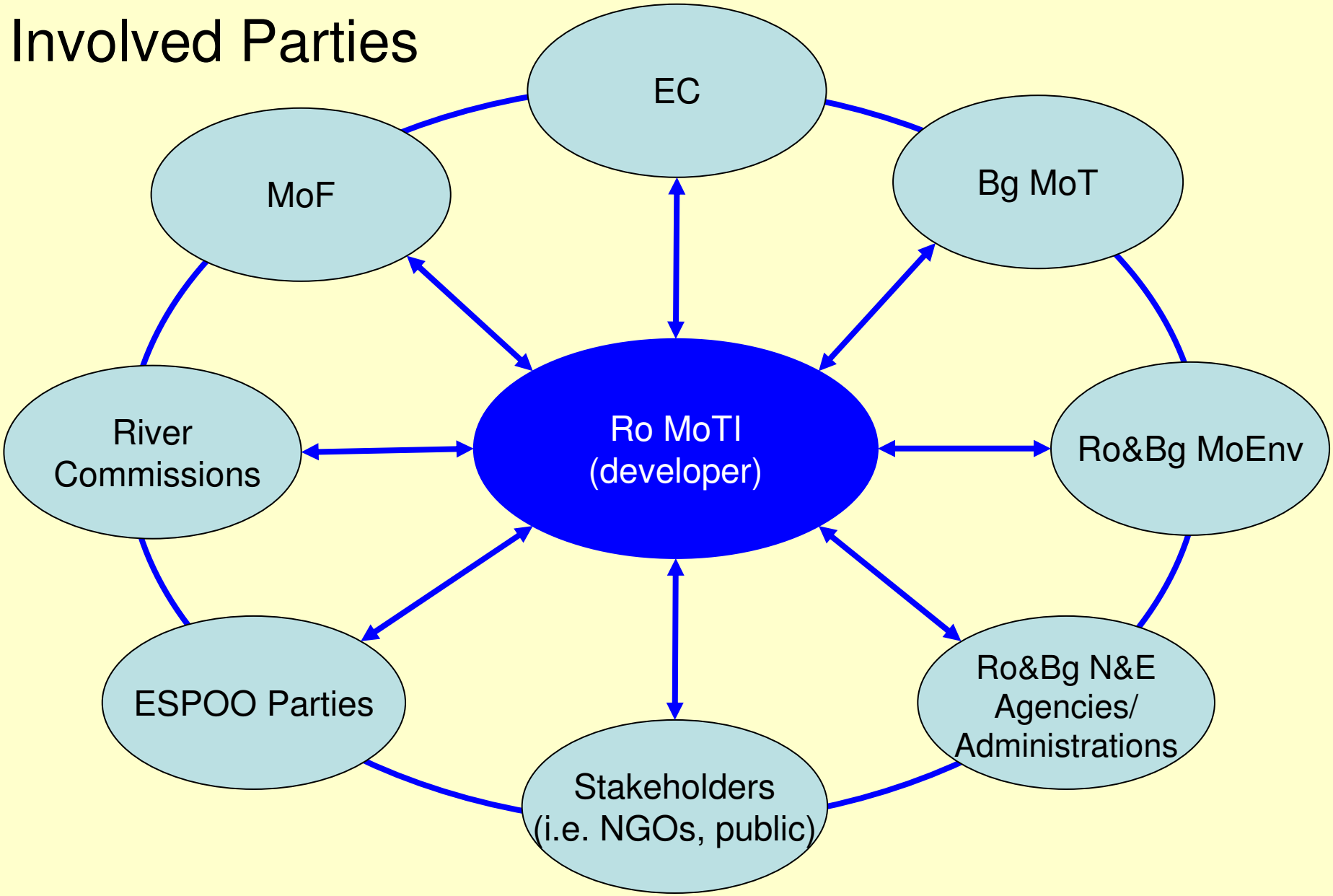
Improvement of navigation conditions on the Romanian - Bulgarian common sector of the Lower Danube and accompanying studies

Improvement of navigation conditions on the Romanian - Bulgarian common sector of the Lower Danube and accompanying studies

Integrated planning process

- April 2007 – contract signing between RoMoT and Consortium consisting of TECHNUM N.V. Belgium, TRAPEC S.A. Romania, TRACTEBEL DEVELOPMENT ENGINEERING S.A. Belgium, COMPAGNIE NATIONALE DU RHONE France and SAFEGE France
- since 2007 – studies
- Jan 2008 – workshop
- Oct 2008 – workshop
- Nov 2008 – workshop
- Jan 2009 - elaboration of FS and EIA Report (on going)

Involved Parties



Methodology

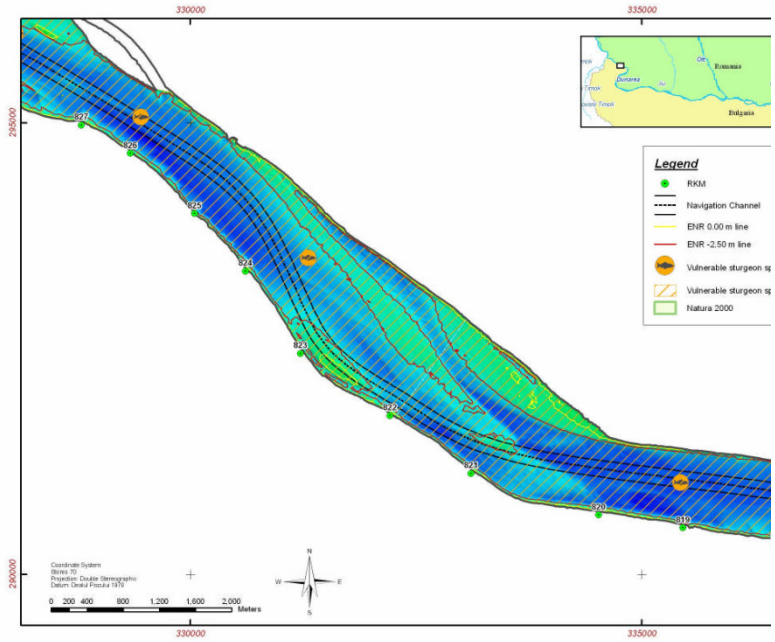
- Assessment of the current situation
  - Field investigations (topo-bathymetry, hydrographic and sediment investigations, morphology and banks, climate change, ice, dredging, flooding, environment)
  - Navigational constraints
- Methodology followed during the Study (still ongoing):
  - Traffic studies;
  - Numerical modeling of Hydrodynamic & morphological patterns (per Scenarios);
  - Engineer Concept Designs;
  - Environmental Studies, Impacts, Mitigation, Appropriate Assessment
  - MCA
- Partial results
  - General principles of preliminary proposed strategies
  - Definition of scenarios
  - Alternative Development Strategies

Scenarios

- **Autonomous Scenario** (AS)
  - Present conditions
- **No Over-depth Scenario** (NOS)
  - ENR-2.5m and no over-depth of 0.50m
  - Capital dredging 0.9 million m^3
- **Basic scenario** (BS)
  - ENR-2.5m and foresee an over-depth of 0.50m
  - Capital dredging 2.2 million m^3
- **Enhanced Engineering Scenario** (EES)
  - ENR-2.5m and no overdepth of 0.50m
  - Capital dredging 0.9 million m^3
  - 3 Alternative engineering measures (i.e. length, height).

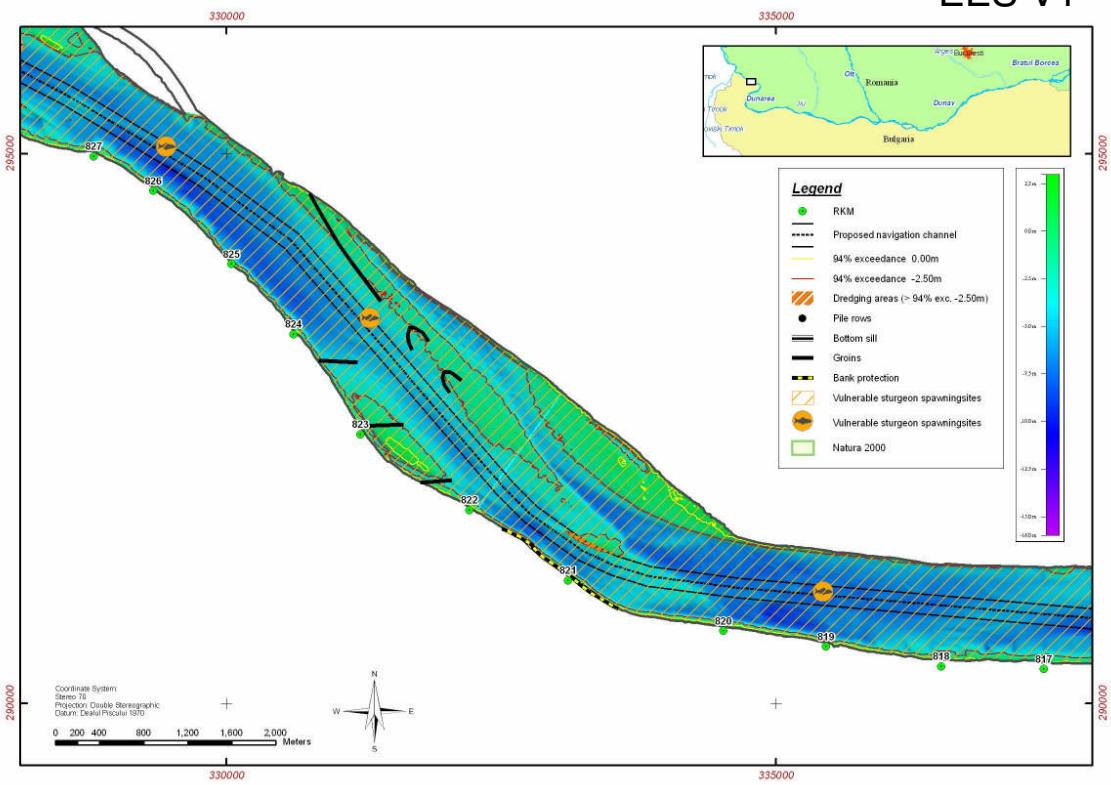
EES variants

- Variant 1:
  - Larger river structures avoided
  - optimise for reduction of maintenance dredging
  - potential for lateral reconnection (eg wetlands, side branches,...)



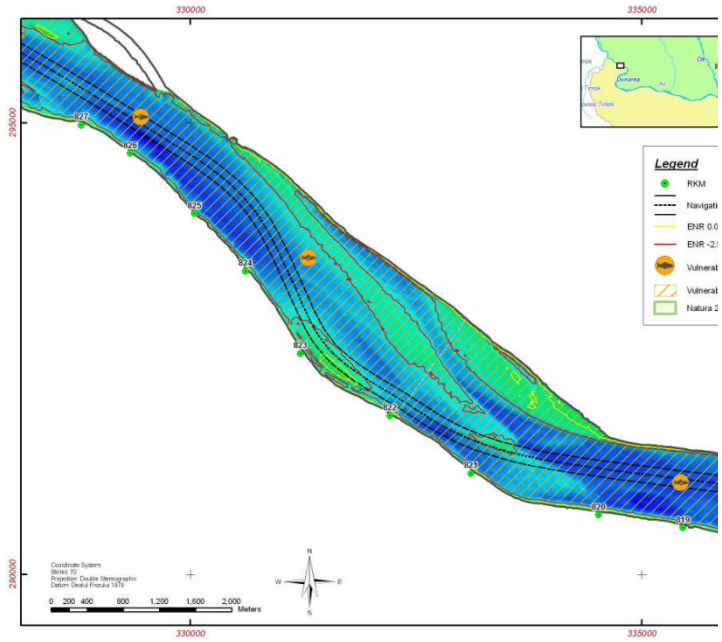
Present conditions

EES V1



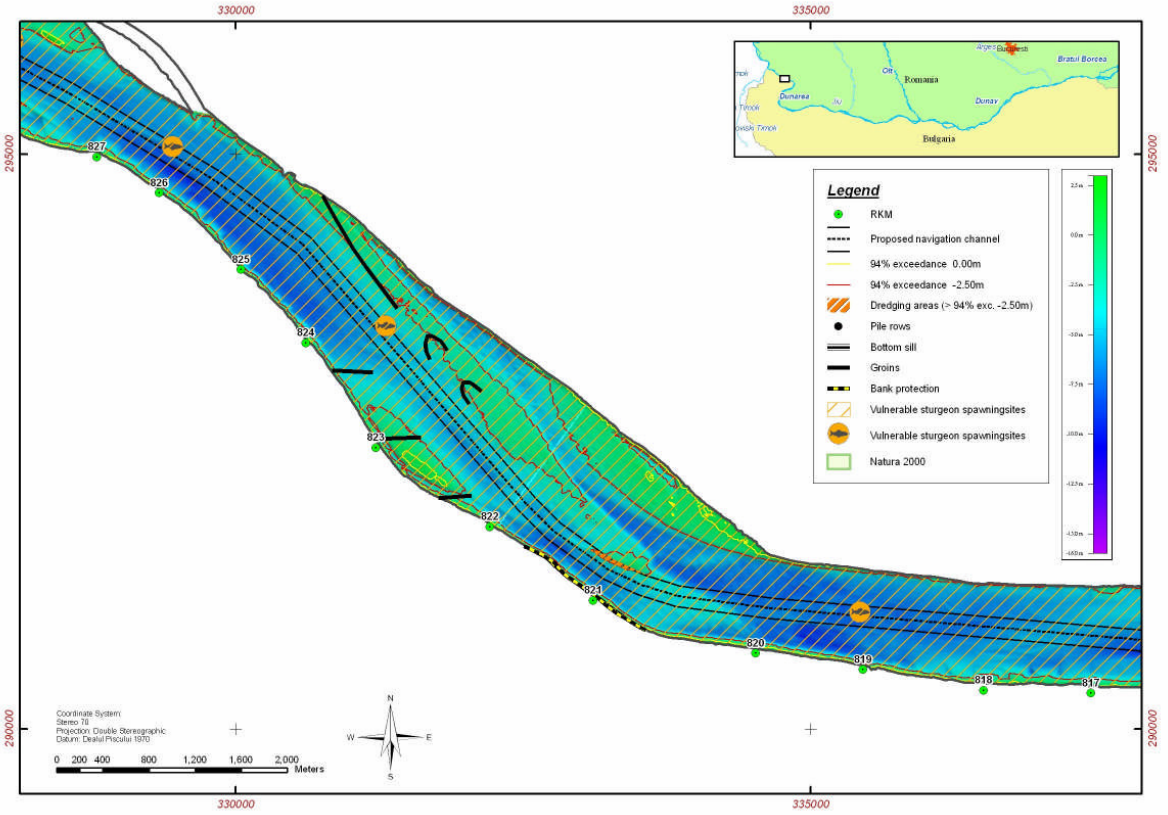
EES variants

- Variant 2:
  - River structures at lower levels
  - Focus on reduction of bottom footprint and impact



Present conditions

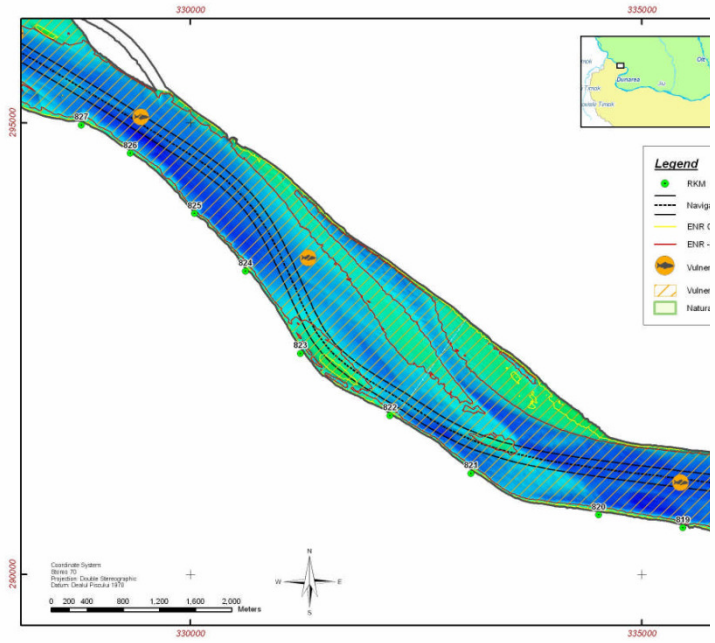
EES V2



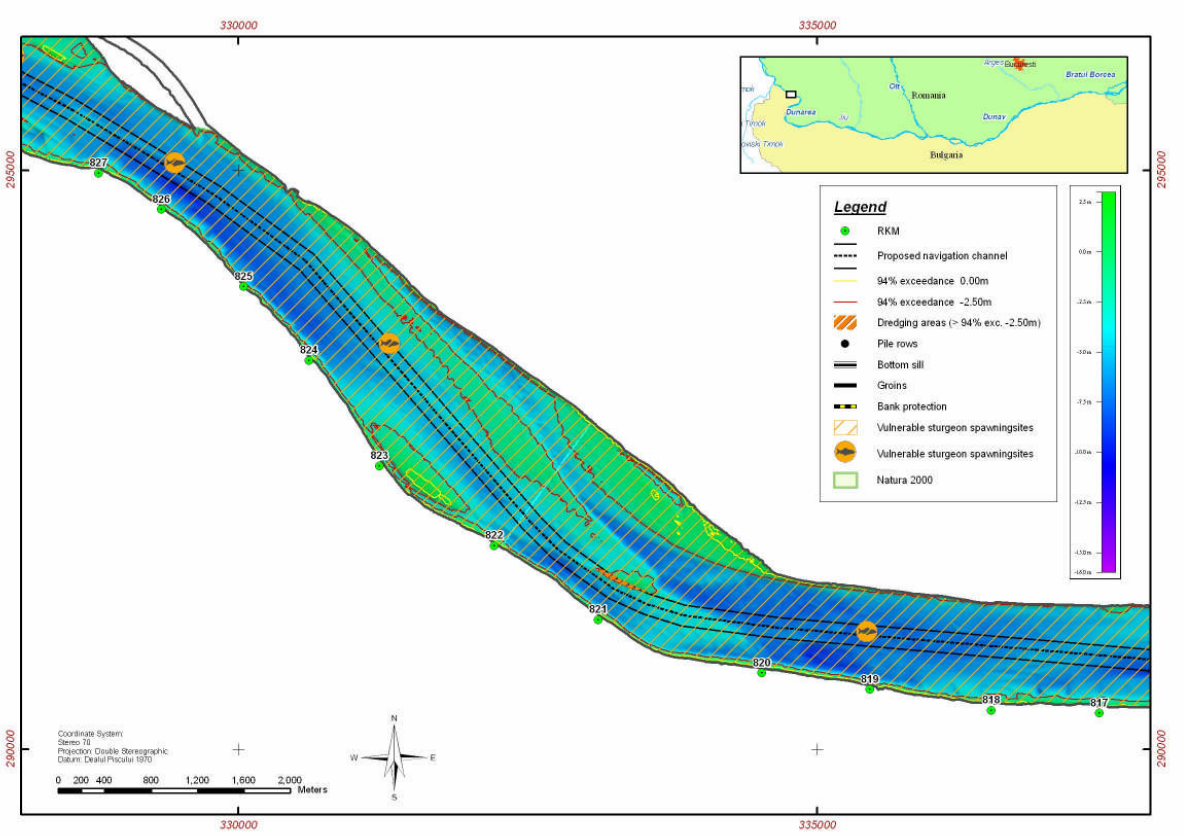
EES variants

- Variant 3:
  - Alternative structures
  - Focus on increase of habitat diversity and lateral reconnection

EES V3



Present conditions



Phasing

- Technical Design
  - Updates of the data base
  - Field visits
  - Mathematical modelling (if the case)
  - Design
- Monitoring before starting the works
  - Inventory of the existing species
  - State of the environment elements
  - Influence of the works
  - Potential risks
  - Proposals for changes within the design (if the case)

Implementation of the project and monitoring during and after implementation

Thank you for your attention!

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