



Institute for Nature Conservation of Vojvodina  
Province

## Protected species and areas on the Danube (overlapping with the critical sectors)

**Marko Tucakov**

5th meeting

Forum of Stakeholders of the Project  
„Preparation of documentation for River Training  
Works on the Critical Sectors of the Danube River in  
Serbia“

Belgrade, 26 October 2012





# History



The Danube riparian landscape has been subject of **historic structural interventions** for:

- flood protection (building of protection dikes disconnecting the floodplain)
- navigation (bed straightening, fixing of banks, fairway stabilisation via dredging)
- guiding walls and groynes, low water regulation by closing off side-arms)
- power generation (impoundments, peak operation)
- agriculture (diking off of floodplain; irrigation)
- forestry (plantations of domestic and alien species)
- urban development (housing and industry zones; recreation activities; excavation of construction material).

The most important effect of hystorical cnaiges on the Danube: **the dynamic natural landscape was turned into a regulated, multi-use water body.**



# Result of hystorical changes



- Interventions have triggered ecological deterioration (such as bed erosion, disclosure of side-arms, artificial embankments, changed hydrology etc.) and often have multi-purpose functions, combining better navigability, hydro-energy exploitation, flood protection and other floodplain uses (agriculture, urban development etc.).
- They affect the river ecology (ecological water quality), i.e. habitats, species, ecosystems, river hydrology (water quantity) and morphology along the entire river.



# Current complex needs of the altered Danube river



- Sediment dynamics / bed stability
- Longitudinal continuity
- Lateral connectivity
- River and floodplain habitats
- Waterway-related impacts: fairway adaptation according to river conditions, establishing low and middle water regulations and reduction of vessel-related impacts (wave splash)
- Development of a vision / leitbild



## Key areas on the Danube in Serbia (between 1433 and 1173 rkm)

### INTERNATIONAL DESIGNATIONS:

- Ramsar Sites (established according to the Convention on Wetlands, Ramsar, Iran, 1971)
- Important Bird Areas (IBA, BirdLife International, 2004)
- Important Plant Areas

### NATIONAL DESIGNATIONS:

- National Ecological Network: Ecologically Important Areas
- National Ecological Network: Designated (some!) Habitats of Strictly Protected Species
- Protected areas: Special Nature Reserves and Nature Parks

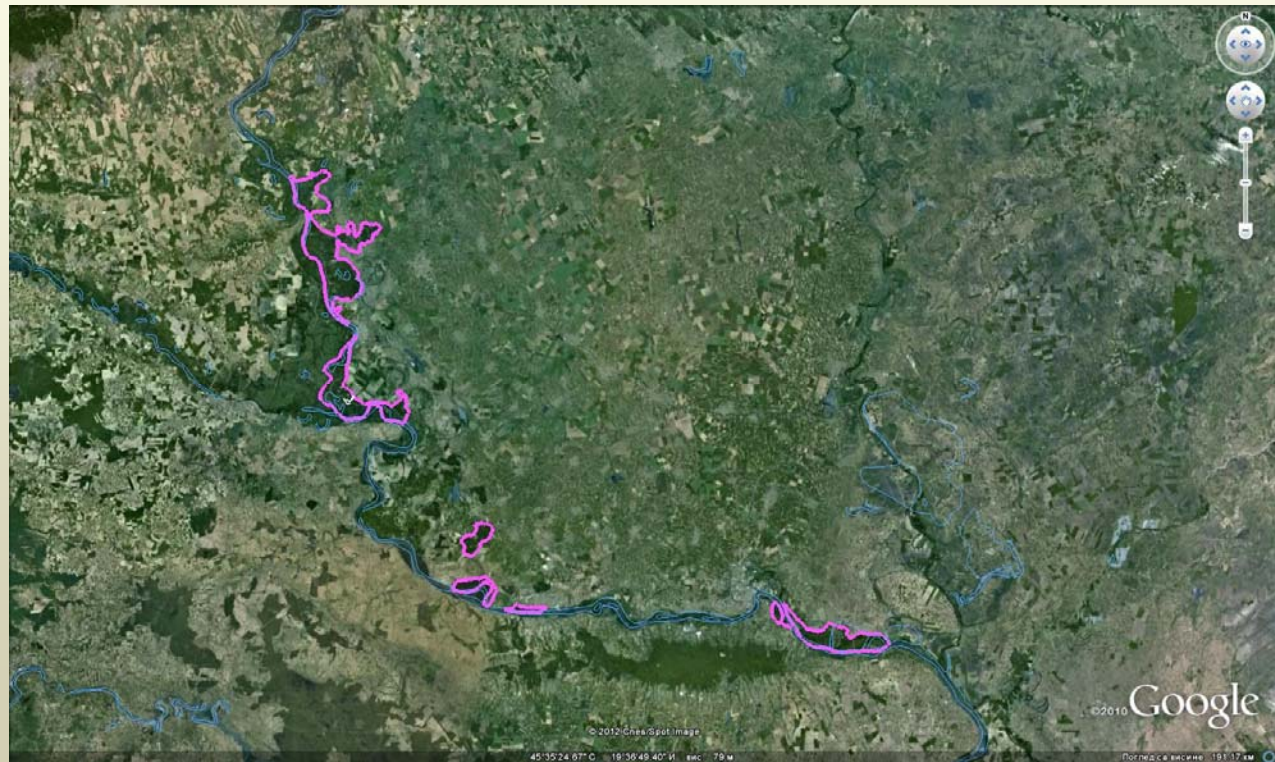






# Emerald Network

Sites designated as important habitats for species protected under the Bern Convention on the Conservation of European Wildlife and Natural Habitats





# Ramsar sites

- Designated after Convention on Wetlands
- Key point: international agreement on wise use of wetlands
- Gornje Podunavlje
- Overlaps with 9 critical sectors
- Koviljsko-petrovaradinski rit
- Overlaps with 3 critical sectors
- Overlaps partially with the Special Nature Reserve (conservation measures)



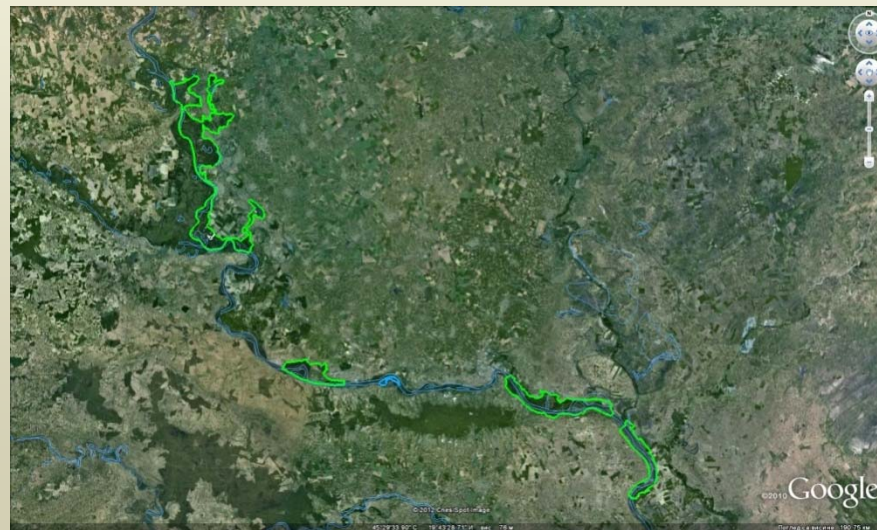




# Important Bird Areas



- Designated after BirdLife International (2000), national inventory made in 2009
- Key point: the most important national sites of international importance selected after strict European criteria (size of population of selected species)
- Potential Natura2000 sites under the Bird Directive (criterion C)
- Only one of four potentially affected by the project is not a protected area (Danube Loess Bluff), but overlaps with critical sector 24 (Preliv)
- Conservation measures: the ones for designated protected areas and National Ecological Network



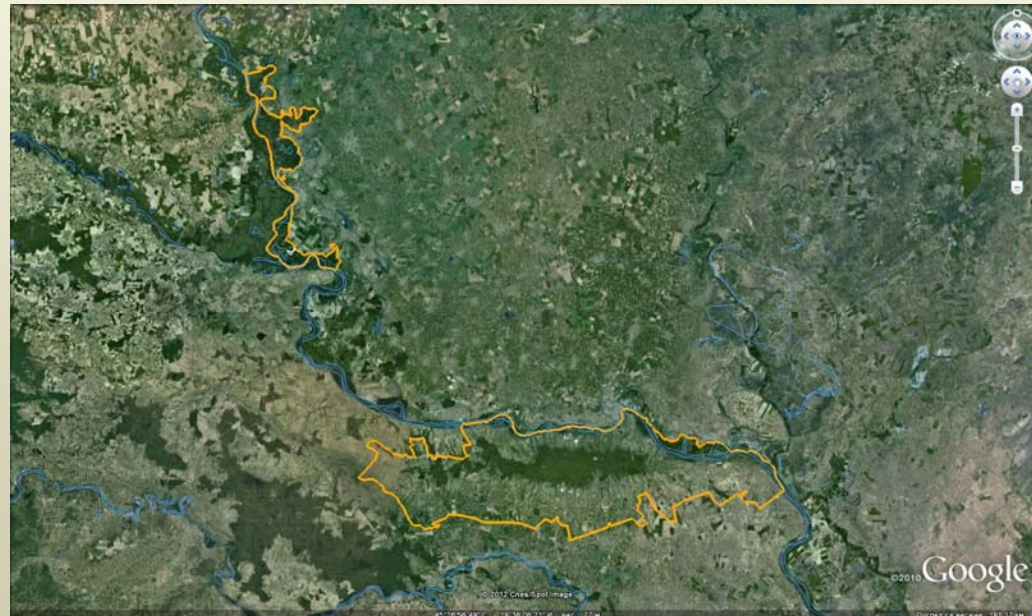




# Important Plant Areas



- Designated after PlantLife International (2005)
- Two overlapping with the critical sector, but both parts of protected areas
- Key point: the most important national sites of international importance selected after strict European botanical criteria
- Have legal status as part of the National Ecological Network





# Designated Habitats of Strictly Protected Species

- Part of National Ecological Network (according to the Decree on National Ecological Network)
- Key point: some designated habitats of strictly protected species (where those species reach densest concentrations, outside of protected areas)
- Conservation measures: in Decree on Ecological Network and Law on Nature Conservation
- 25 potentially affected by the project (on the river banks and in the floodplains)
- 8 affected by the project (overlapping with the critical sectors)
- Example: BEO 22b (Susečka ada) – overlapping with the critical sector 18 (Susek)







# Nature Parks

## Begečka Jama and Tikvara

Designated according to the decision of regional authorities of City of Novi Sad and Municipality of Bačka Palanka

Key point: protected areas where people live sustainably with the conserved nature

Overlapping with critical sectors 17 (Bačka Palanka) and 18 (Susek)

Conservation measures: prescribed in establishing documents

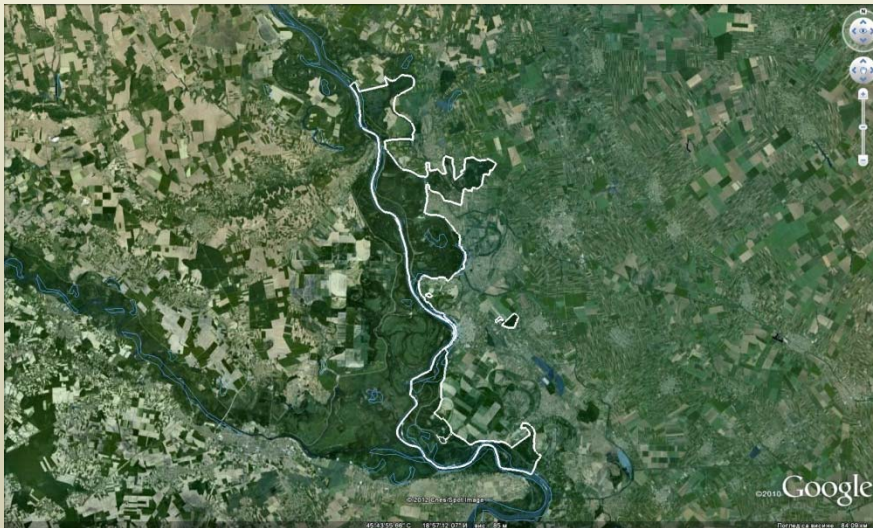






# Special Nature Reserves

Category I protected areas  
Established by the governmental decrees  
Key point: very valuable vast areas of conserved nature, where internal zonation prescribes various regimes: from no use to limited commercial use, but with the conservation as top priority  
Internal zonation and conservation measures prescribed by the decrees  
Gornje Podunavlje: 9 critical sectors  
Karađorđevo: 2 critical sectors  
Koviljski Rit: 3 critical sectors





# Key Species Potentially Affected by the Project: Birds



- Little Ringed Plover *Charadrius dubius* (žalar slepić)
- Breeds on sand and gravel islets and beaches in the river bed
- Strictly protected species in Serbia, distribution limited to river ecosystem with preserved dynamic
- Breeds in 13 critical sectors
- Potential negative effects of Project activities: destruction of breeding sites by dredging, moving of machinery and disposition of sediment after dredging
- Potential positive effects of Project activities: creation of completely new breeding sites
- ATTENTION! Careful EIS is needed







# Key Species Potentially Affected by the Project: Birds

## Sand Martin *Riparia riparia* (bregunica)



Breeding colony on critical sector 9



- Strictly protected species in Serbia, breeds in colonies on steep sand and loess walls
- The largest European breeding colony is in Serbia, on the Danube (in 2011: 12000 pairs)
- Breeds in 4 critical sectors
- Possible negative effects of Project activities: removal of (parts of or whole) breeding walls, removal of potential breeding walls; placement of machinery on top of the breeding walls
- Possible positive effects of Project activities: creation of new potential breeding walls





# Key Species Potentially Affected by the Project: Birds

Kingfisher *Alcedo atthis*  
(vodomar)



- Strictly protected species in Serbia, breeds in colonies on step sand and loess walls
- Breeds in several critical sectors
- Possible negative effects of Project activities: removal of (parts of or whole) breeding walls, removal of potential breeding walls; placement of machinery on top of the breeding walls, destruction of feeding sites
- Possible positive effects of Project activities: creation of new potential breeding walls, creation of potential feeding sites





# Key Species Potentially Affected by the Project: Birds



- White-tailed Eagle *Haliaeetus albicilla* (belorepan)

- Black Kite *Milvus migrans* (crna lunja)

- Both Strictly Protected Species in Serbia

- Large birds of prey, breeding in old, conserved floodplain forests, feeding on the river bed, gravel and sand islets and banks

- One third of the national population of White-tailed Eagle and almost a half of population of Black Kite breeds along the critical sectors

- Possible negative effects of Project activities: disturbance of birds on feeding sites





# Key Species Potentially Affected by the Project: Plants

■ *Limosella aquatica* (Strictly protected in Serbia)



■ *Lindernia palustris* (Strictly protected in Serbia)



- Ecological specialists
- Growing on sand or gravel islets
- Populations on critical sectors is important on the national level
- CAUTION! Mapping is needed prior to the action, and careful EIA
- CAUTION! Destruction of stands in vegetation season banned by the national legislation







# Key Species Potentially Affected by the Project: Fish



## Starlet (*Acipenser ruthenus*) kečiga

Protected species in Serbia, hunting prohibited between 1 March and 31 May, minimal allowed size of individuals that can be hunted: 40 cm

IUCN: VU

Lives in the river bed, most often on sand, gravel and clay parts of the bottom; young individuals in the first year live in shallow water with sandy bottom (surroundings of sand islets, river arms)

The most significant threat: loss of spawning sites by dredging, sand exploitation, waterbody regulations and pollution

Spawning areas: always with the gravel bottom

Regular on two critical sectors

Potential negative effects of project activities: deterioration and destruction of spawning sites





# Key Species Potentially Affected by the Project: Mammals

■ Otter *Lutra lutra* (vidra) Strictly Protected in Serbia; IUCN: NT



■ Present and reproduces on all critical sectors

■ Possible negative effects of Project activities: canalization of river, removal of bank side vegetation, dam construction, pollution (spills)

■ CAUTION! Careful IAE is essential

■ MOST SERIOUS POSSIBLE THREAT: changes in bank morphology on sites serving for possible reproduction holes





# Key messages



- Project activities can have negative influence on protected areas and protected species, but also some positive ones can be expected
- Careful EIA is essential
- Consultation of experts and conservationists are essential
- Legal procedure regarding issuing of permits from the nature conservation sector, according to the nature Conservation Law, is obligatory (bravo, PLOVPUT!)
- Post-activity monitoring of key species is welcome





# Thank you!

■ Marko Tucakov

■ Ornithology; International Cooperation and  
Management of Projects

■ Institute for Nature Conservation of Vojvodina  
Province

■ [www.pzzp.rs](http://www.pzzp.rs)

■ [marko.tucakov@pzzp.rs](mailto:marko.tucakov@pzzp.rs)

