



Invasives to bioenergy

Csaba Vaszko
WWF-Hungary
April 19th, 2016



The objective is not only biodiversity conservation

Identify, create and test practical examples of market based mechanisms that can generate new income streams while contribute to biodiversity conservation.

Economy



People

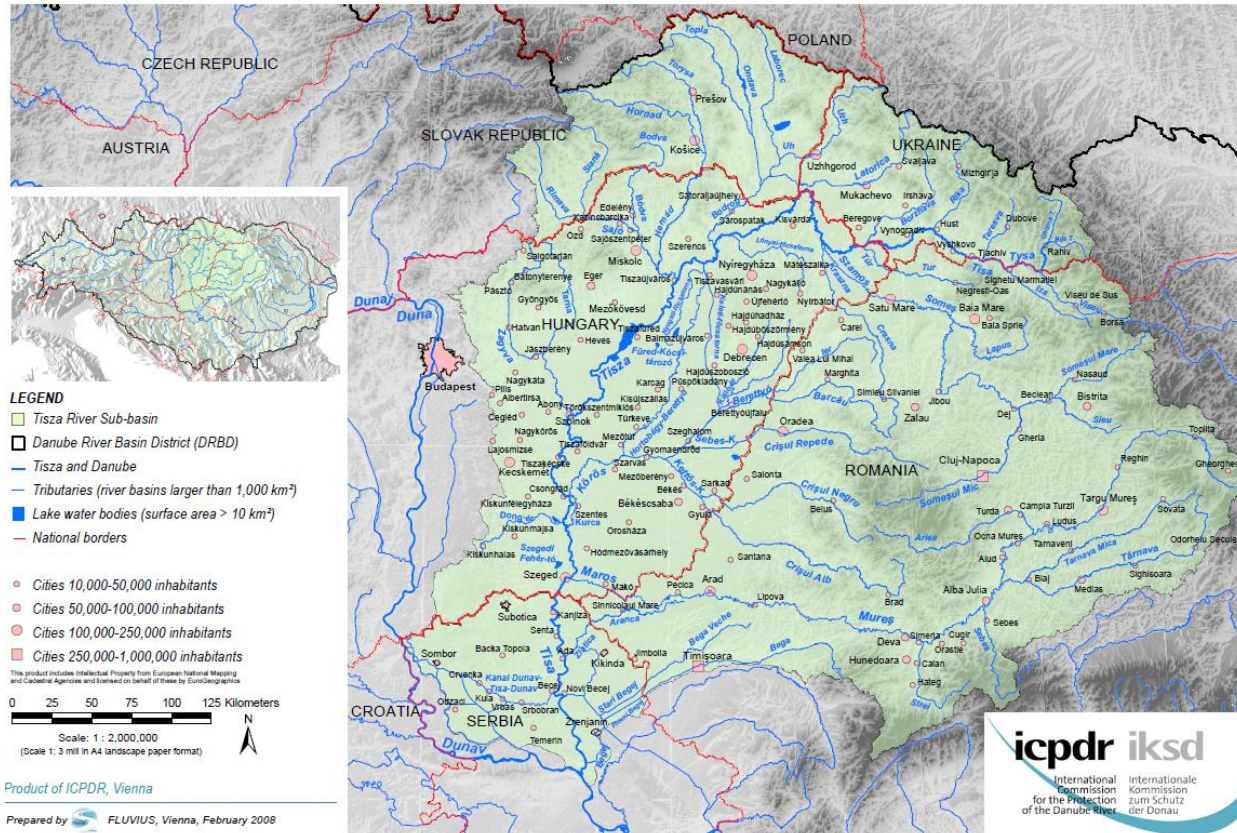


Nature



The Tisza river sub-basin

Largest sub-basin of Danube, ecological corridor





Mismanagement (of land and water) and climate change have led to the deterioration of floodplain ecosystems

**INTENSIVE AGRICULTURE,
FLOOD PROTECTION**

ENERGY POVERTY

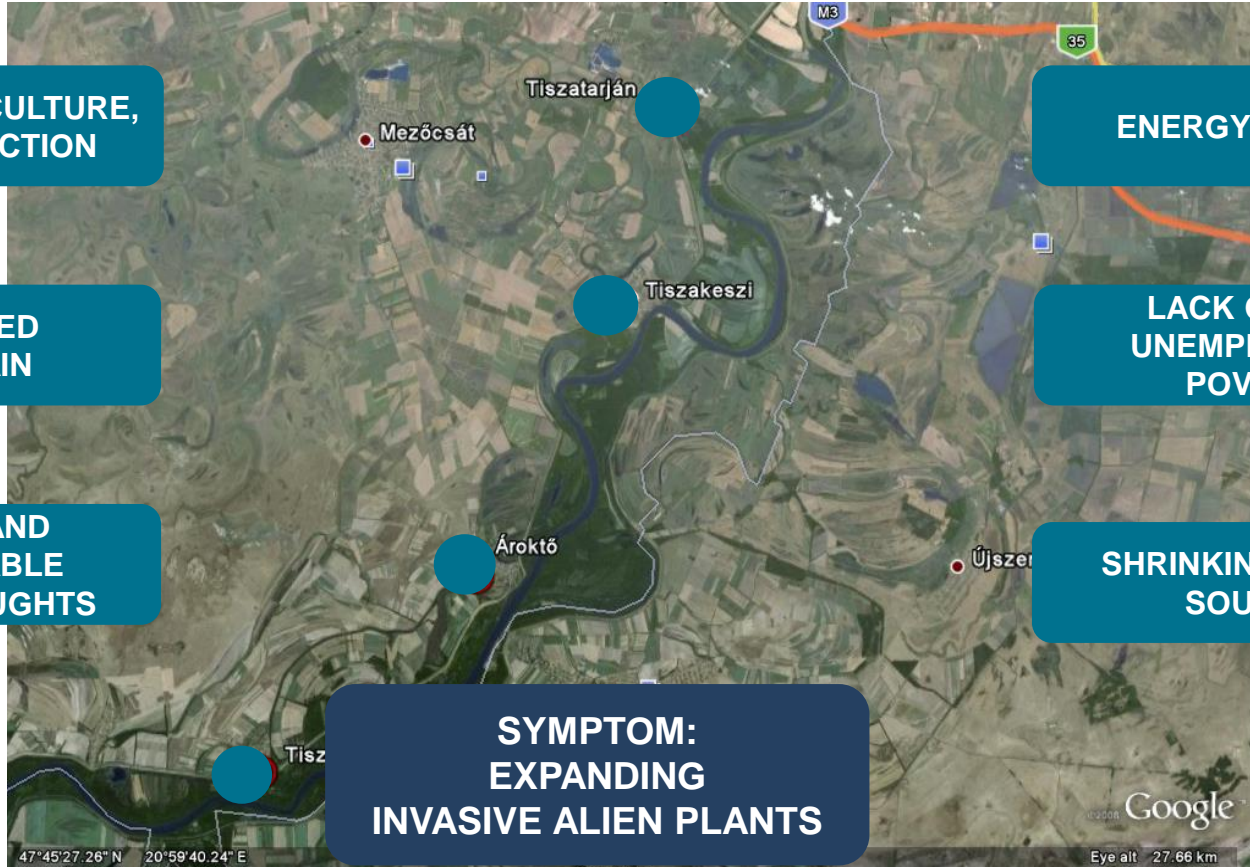
**MISMANAGED
FLOODPLAIN**

**LACK OF JOBS
UNEMPLOYMENT
POVERTY**

**FREQUENT AND
UNPREDICTABLE
FLOODS, DROUGHTS**

**SHRINKING INCOME
SOURCES**

**SYMPTOM:
EXPANDING
INVASIVE ALIEN PLANTS**





Why does invasives matter for communities and business?

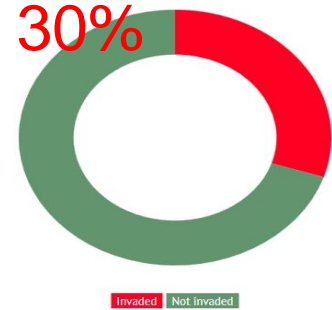
**Habitat&biodiversity
loss** and fragmentation

Reduced flood capacity
due to increased
hydraulic roughness

Vanishing traditional land use
practices and **livelihoods**

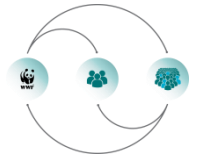
Increased **land
management costs**

**30% of the active floodplain is
covered with invasive shrubs**





Video





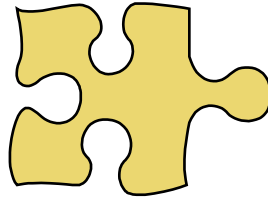
Stakeholders: find the shared value

Conservation



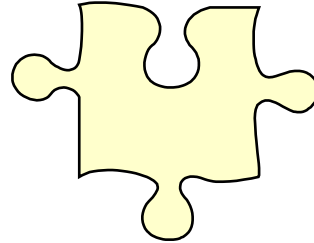
Biodiversity
Less invasives

Local communities



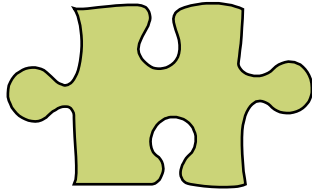
Jobs
Income

Water authorities



Better flood retention
Less roughness

Energy sector



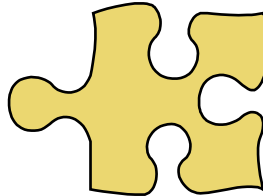
Reliable biomass
quality and supply
Low risk biomass
Local supply

Municipalities

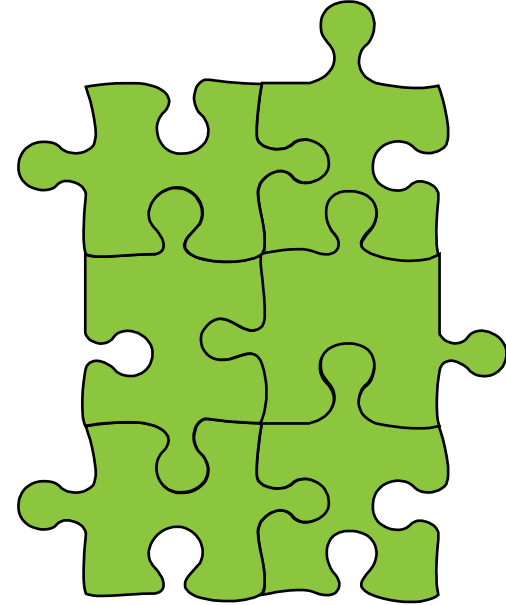


Cheap energy supply
Job creation/maintenance
New income
Nice environment

Farmers

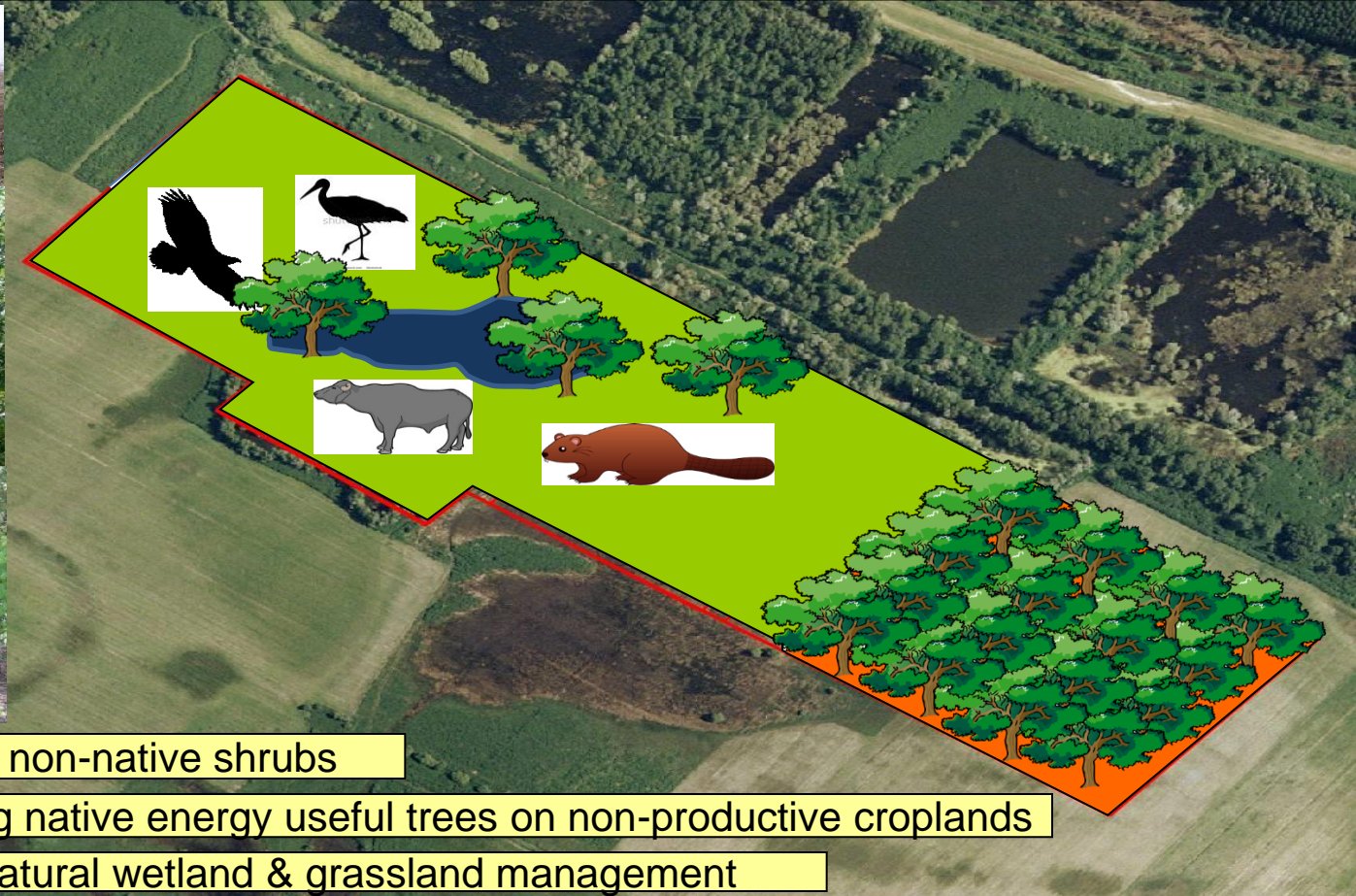


Additional income sources
Lower land use costs





Market value of biomass > Invasives to energy

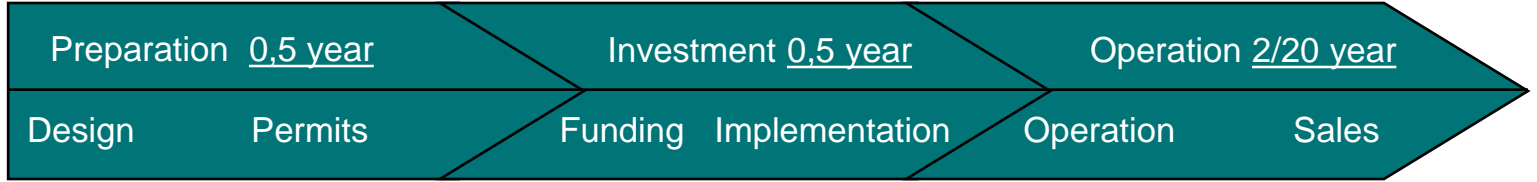


1) Cutting non-native shrubs

2) Planting native energy useful trees on non-productive croplands

3) Semi-natural wetland & grassland management

Biomass production and energy generation



Biomass
production

✓

✓

✓

✓

✓

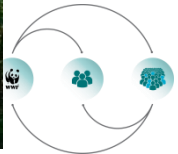
✓

Energy
generation

(✓)

(✓)

(✓)





Multiplied benefits for economy, people and nature



Jobs for 30
unemployed people
(public works!)



30,000€ saved cost
annually



100 ha floodplain
restored/better flood
capacity



60,000m³ gas
replaced annually



450kW installed
renewable



Before... After...





Conclusions

- Don't give the invaded land to someone who just cuts the invasive plants and disappear. This is not a one off business. Cutting *Amorpha* one time will increase the problem!
- The investment costs are high in the beginning, but there's return.
- Think about the future and design the new landscape
- Make a contract!





Thank you

panda.org

