



for a living planet®

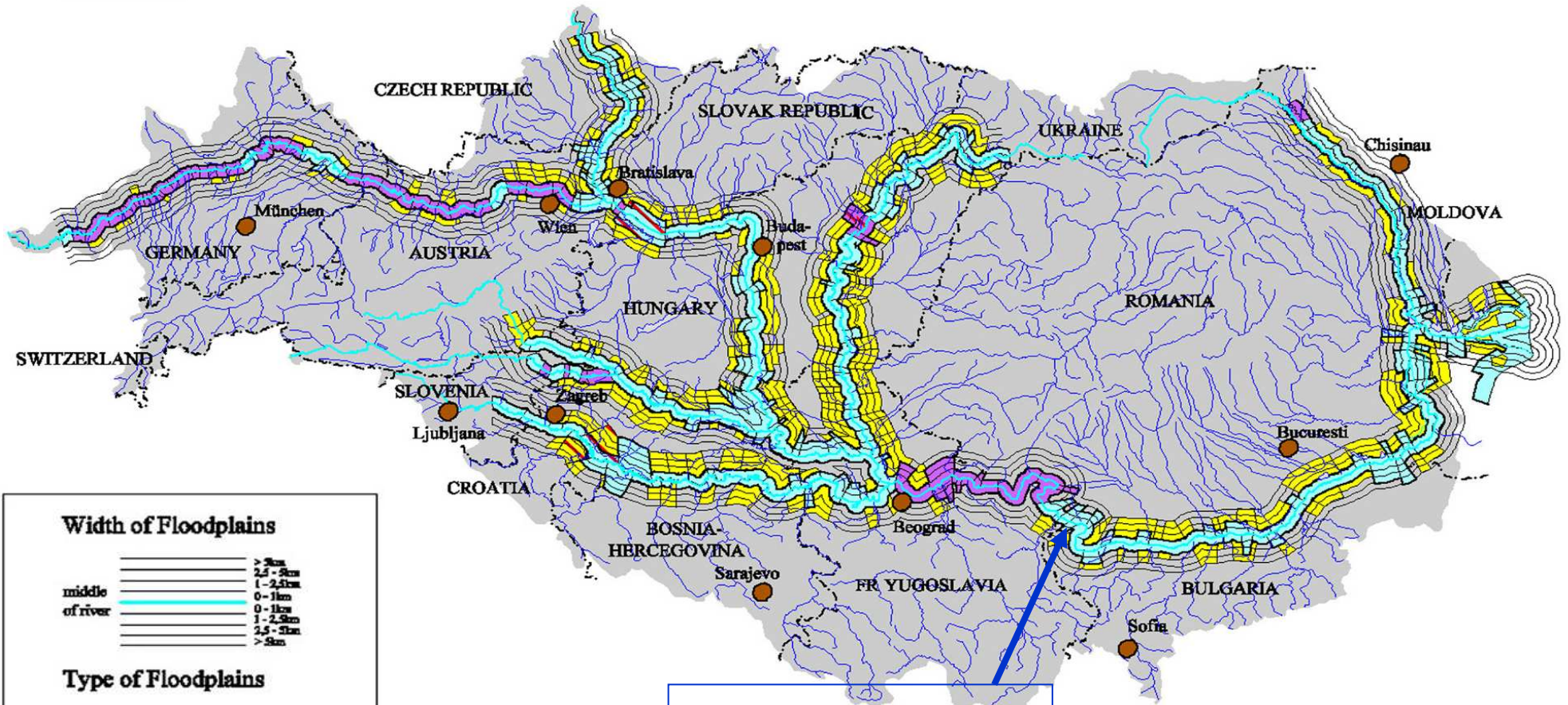
THE LOWER DANUBE BASIN AND ITS FLOODPLAIN FUNCTIONS (Romania)

Orieta Hulea
WWF Danube-Carpathian Programme





70% of lower Danube floodplain lost



Lower Danube

Width of Floodplains

Wide lines	> 2km
Medium lines	2.5 - 2km
Narrow lines	1 - 2.5km
Very narrow lines	0 - 1km

middle of river

Wide lines	0 - 1km
Medium lines	1 - 2.5km
Narrow lines	2.5 - 5km
Very narrow lines	> 5km

Type of Floodplains

- Yellow: Former Floodplains
- Cyan: Recent Floodplains
- Purple: Back water area of dams

Scale: 1:4.500.000

0 50 100 150 kilometers

Area of historical floodplains in the study area: 41600 km²
Area of remaining floodplains in the study area: 8000 km²
A floodplain loss of more than 80%

Danube Pollution Reduction Programme

United Nations Development Programme
Global Environment Facility
ICPDR - Programme Coordination Unit
1400 Vienna, P. O. Box 500, Austria

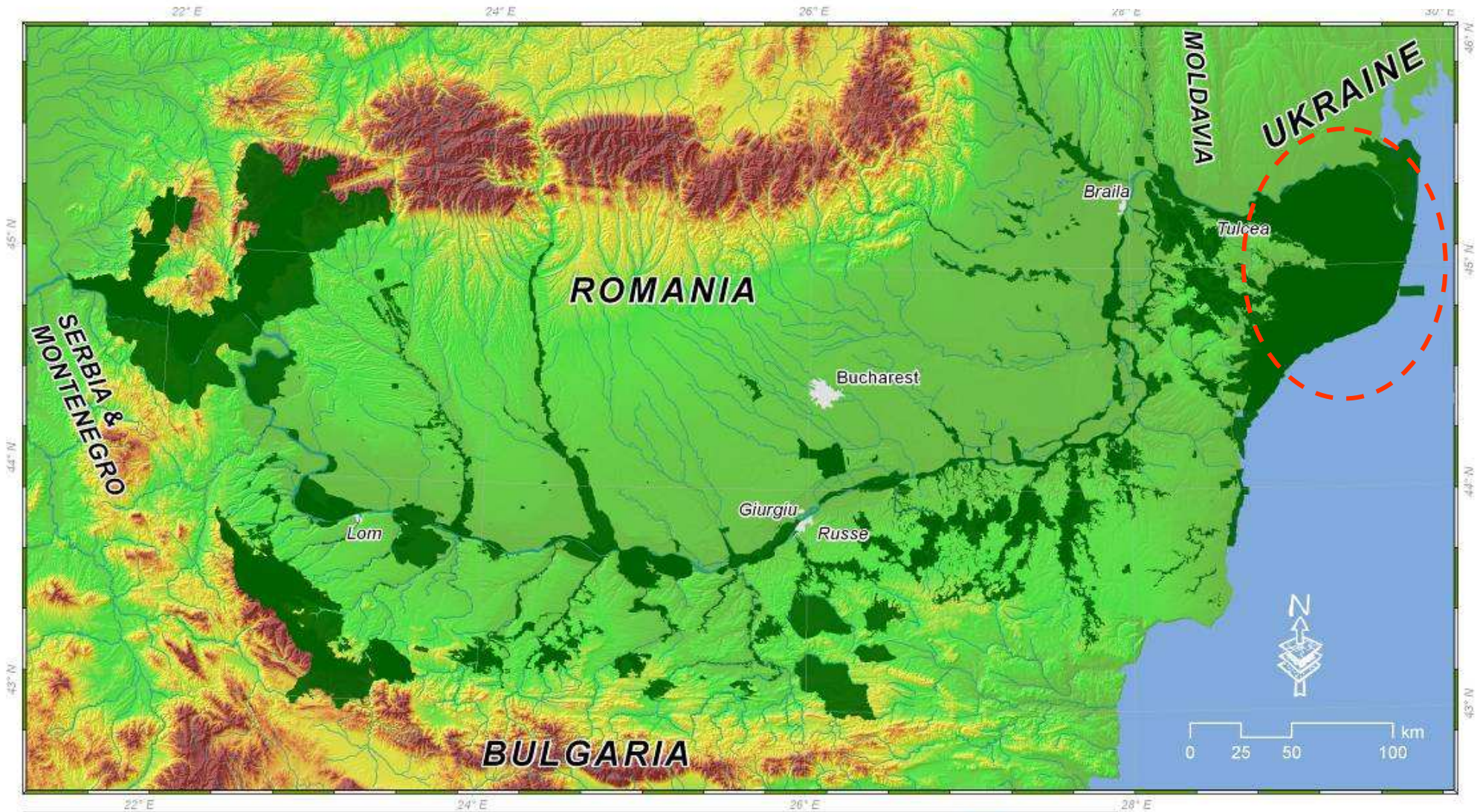
Produced by WWF Danube-Carpathian-Programme
WWF-Auen-Institut (WWF-Germany)
Josefstr. 1, D-76437 Rastatt 1999



WWF for a living planet

LOWER DANUBE GREEN CORRIDOR

Natura 2000 network



Legend:



Protected areas (different categories)



Rivers



Towns

Relief





for a living planet®

Danube Delta: benefits for nature & people through wetland restoration





BEFORE



DYKE REMOVAL



AFTER

Costs: research, design & implementation
EUR 80,000

Benefits: **EUR 99,000/year**
EUR 26/ha/year

3,680 ha

-Water retention, Fish (including 20-25 new jobs), Reed, livestock, tourism activities

Replication: 15,000 ha restored up to date (EUR 390,000/year)

Floodplain restoration areas (implemented, planned, proposed) along the lower Danube and major tributaries, detail view

Legend

Floodplain restoration areas with names:

- Already implemented
- Officially planned
- Proposed


 Danube River basin

 Rivers and lakes

 Morphological floodplain

 Active floodplain

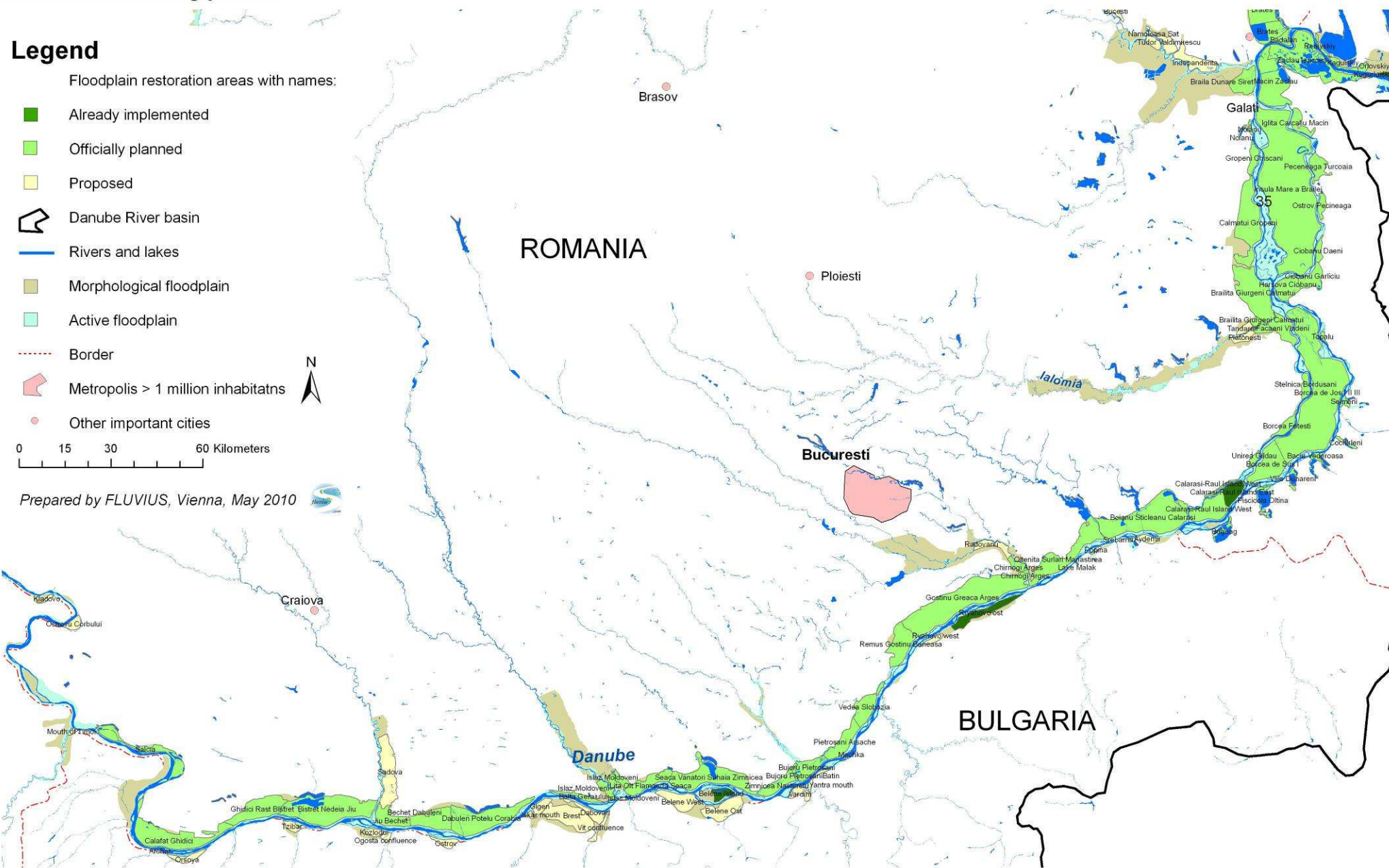
 Border

 Metropolis > 1 million inhabitants

 Other important cities

0 15 30 60 Kilometers

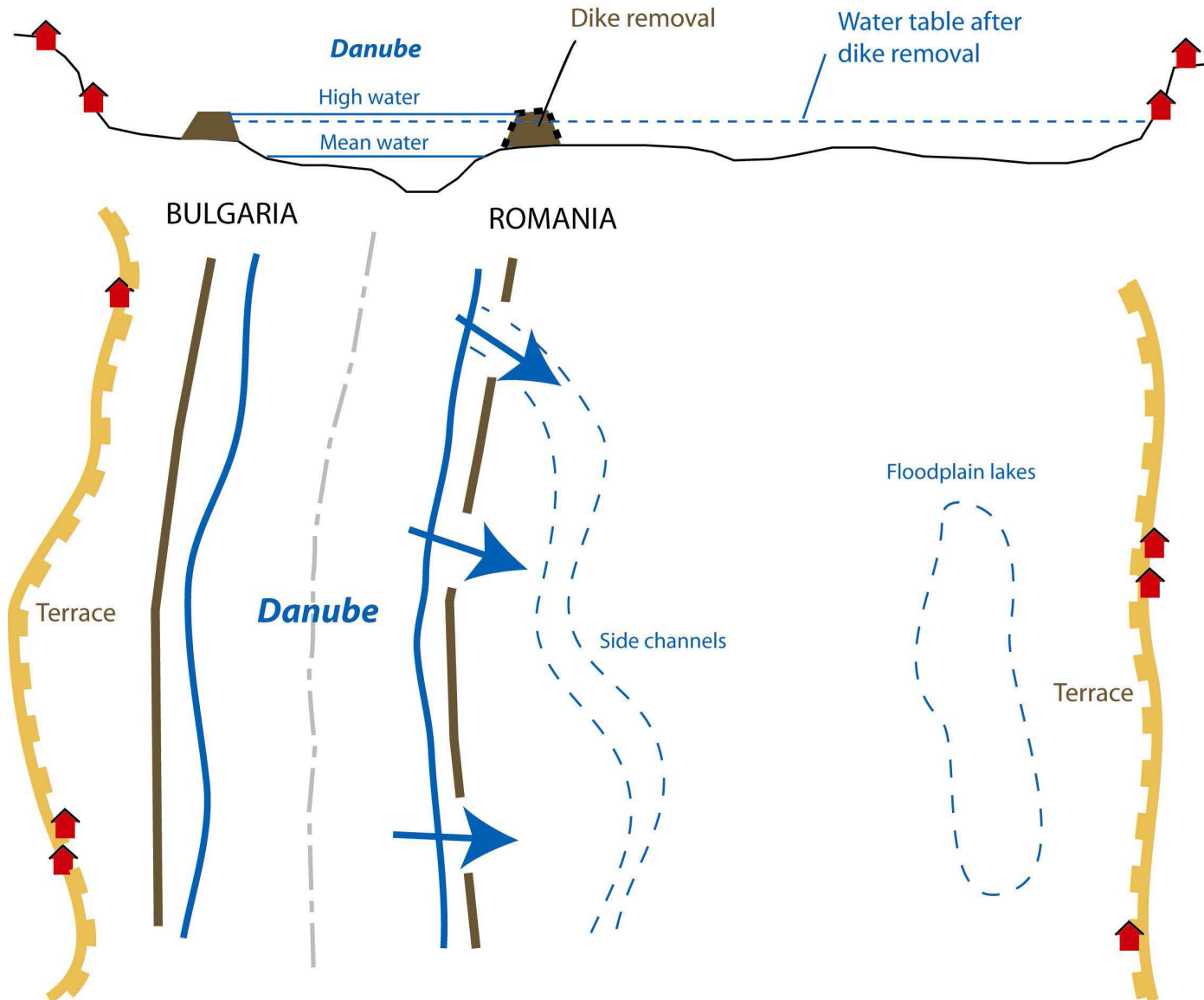
Prepared by FLUVIUS, Vienna, May 2010



Flood control: working with nature can be less expensive and more efficient than man-made solutions



for a living planet®



Floods damage:
2005 – 2006: EUR 1,7 billion
2010: EUR **59 million** (up to date)

Benefits:
223,600 ha
2,100 million m³ flood retention capacity

Additional ecosystem services: **EUR 112 million/year** (EUR 500/ha/year)

Costs of restoration:
EUR 50 million

Lessons learned

1. Long-term process: combine protection + restoration
2. Work at different levels
3. Build effective partnerships, raise awareness and demonstrate opportunities emerging from „working with nature,,
4. Integrate policy and ensure wise use of funds
5. Base work on sound science, reliable data



Opportunities



Lower Danube Green Corridor – link conservation & management of Natura 2000 sites with the broader management of land and natural resources



Additional funding sources for floodplain restoration within Natura 2000 sites (aqua-environment measures)



Payments for ecosystem services

