

# **Mapping sturgeon habitats: A comprehensive overview of sites, protection status and potential threats in selected river systems**

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# Sturgeons and other dinosaurs...

- Sturgeons are living fossiles (> 200 Mio y)
- Restricted to northern hemisphere (Europe, North-America, East Asia & Siberia)
- Reproduction: freshwater (anadromous & potamodromous)
- Long life cycle (> 150y) – large body size – late maturing

→ **Flagship species** – Indicators for Riverine Ecosystem Health



# Current Status of Sturgeon Conservation

## Main threats:

Hydromorphological alterations (habitat degradation, disruption of migration routes), overfishing, water pollution

## **Sturgeons are the most threatened group of species on the planet.**

- All 26 remaining species at risk of extinction
- 8 species in Europe (7 IUCN CR + 1 IUCN EN)
- Pan-European Action Plan for Sturgeons (Adopted by Bern Convention and endorsed for implementation under EU Habitats Directive)

**Need for Action !**

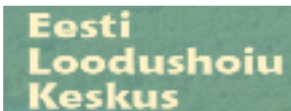
# Supporting Conservation Actions to Implement the PANEUAP for Sturgeons

Sturgeon Conservation – saving ancient Ultimate Treasure of Europe

**SCUTE – a service contract to the EU**



Funded by  
the European Union



UNIVERSITÀ  
DEGLI STUDI  
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IHG  
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Hydrobiology and Aquatic  
Ecosystems Management

Subcontractors:

PhD. Ralf  
Reinartz

# Scope of SCUTE covers...

## ... 8 species:

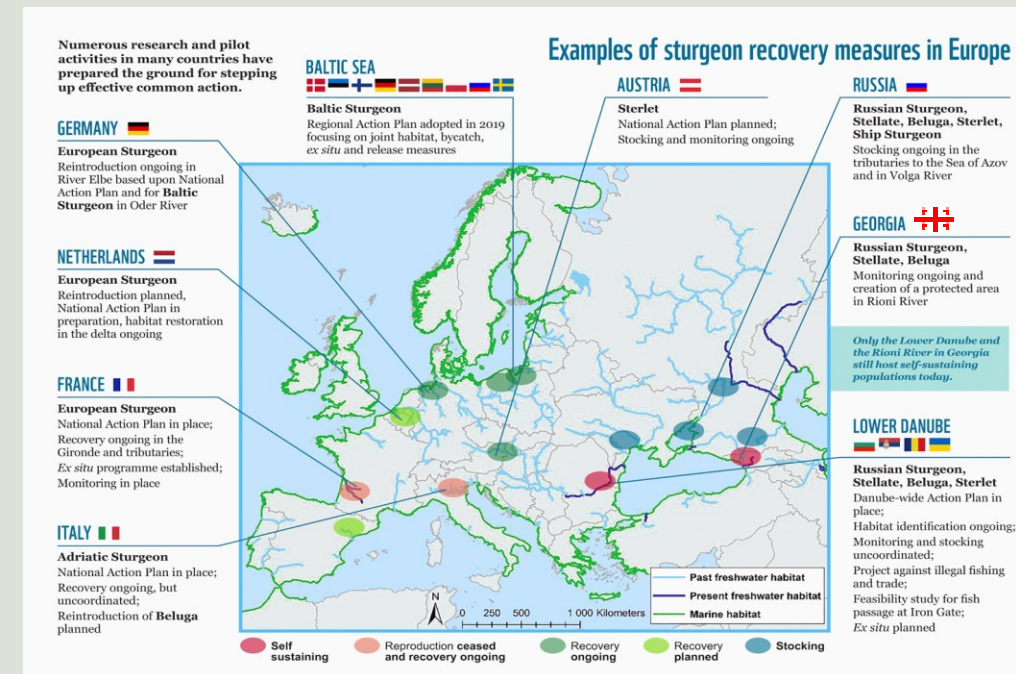
- European Sturgeon
- Baltic Sturgeon
- Adriatic sturgeon
- Sterlet
- Stellate Sturgeon
- Beluga
- Russian sturgeon
- Ship Sturgeon

## ... in 11 Rivers in 18 countries

- Gironde (France)
- Rhine (Netherlands)
- Elbe (Germany)
- Narva (Estonia)
- Gauja (Latvia)
- Nemunas (Lithuania)
- Oder (DE/PL)
- Vistula (Poland)
- Po (Italy)
- Upper-Middle Danube (DE/AT/HU/SK/SL/HR/RS)
- Lower Danube (RS/BG/RO/UA)
- Rioni (Georgia)

## ... in 5 regions:

- North - East Atlantic
- Baltic Region
- Adriatic Region (Italy)
- Upper-Middle Danube
- Lower Danube



# Importance of habitat assessment

## Habitat assessment:

Identifying key habitats & understanding habitat functionality

- Essential for understanding interactions between sturgeon species with environment
- Forms basis for informed decisions on
  - I. Habitat protection & restoration measures
  - II. Ecological corridor reestablishment



## **BUT**

No comprehensive assessment of sturgeon habitats so far

Lack of understanding habitat requirements across life stages and species variations

# THE DANUBE



CONFIRMED  
& HISTORIC  
HABITATS

POTENTIAL  
HABITATS

BARRIERS &  
PLANNED  
INFRA-  
STRUCTURE

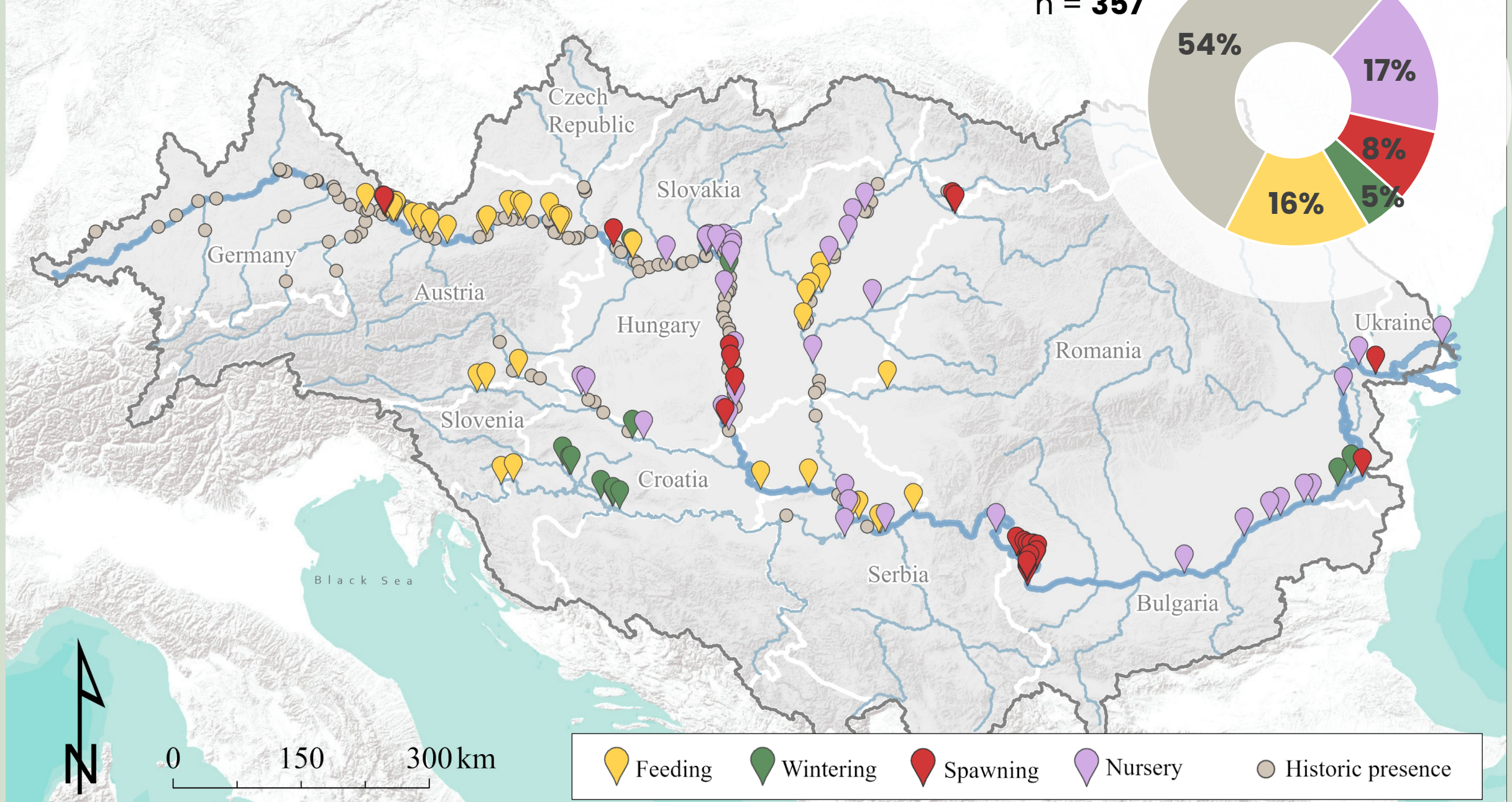
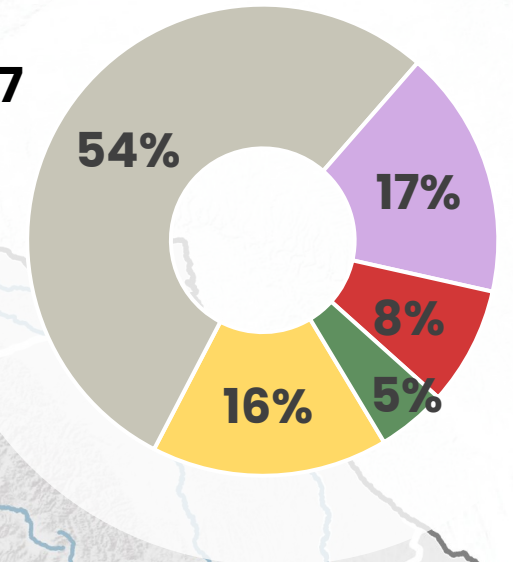
PROTECTED  
AREAS

# CONFIRMED & HISTORIC HABITATS

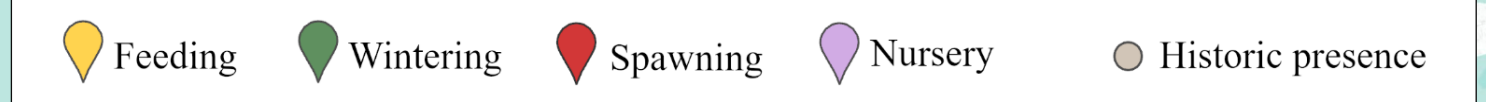


# CONFIRMED & HISTORIC HABITATS

n = 357



0 150 300 km

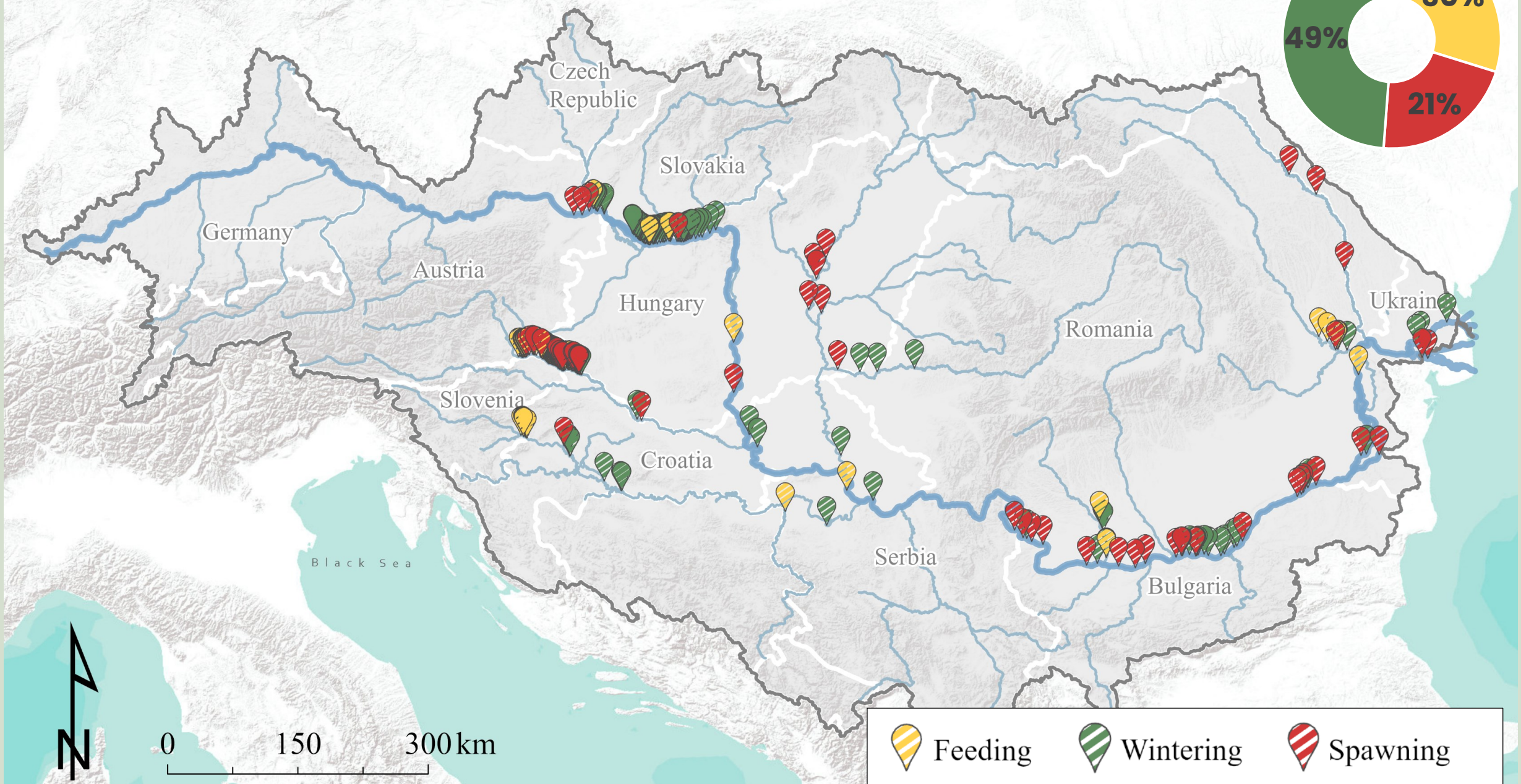
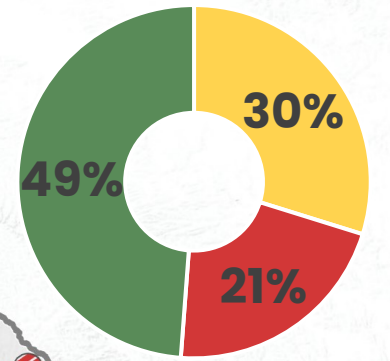





**POTENTIAL  
HABITATS**

# POTENTIAL HABITATS

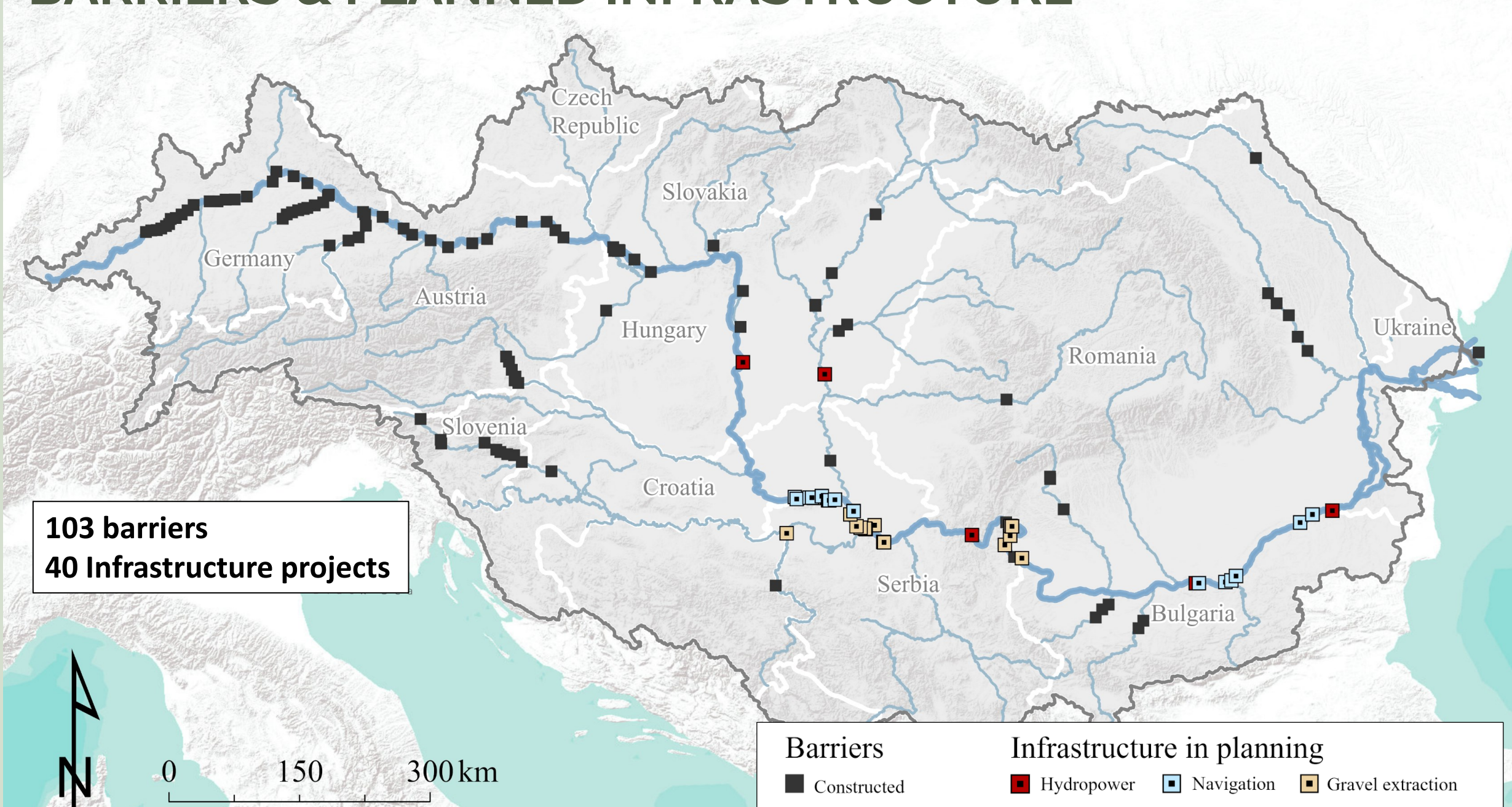
n = 416





**BARRIERS &  
PLANNED  
INFRA-  
STRUCTURE**

# BARRIERS & PLANNED INFRASTRUCTURE



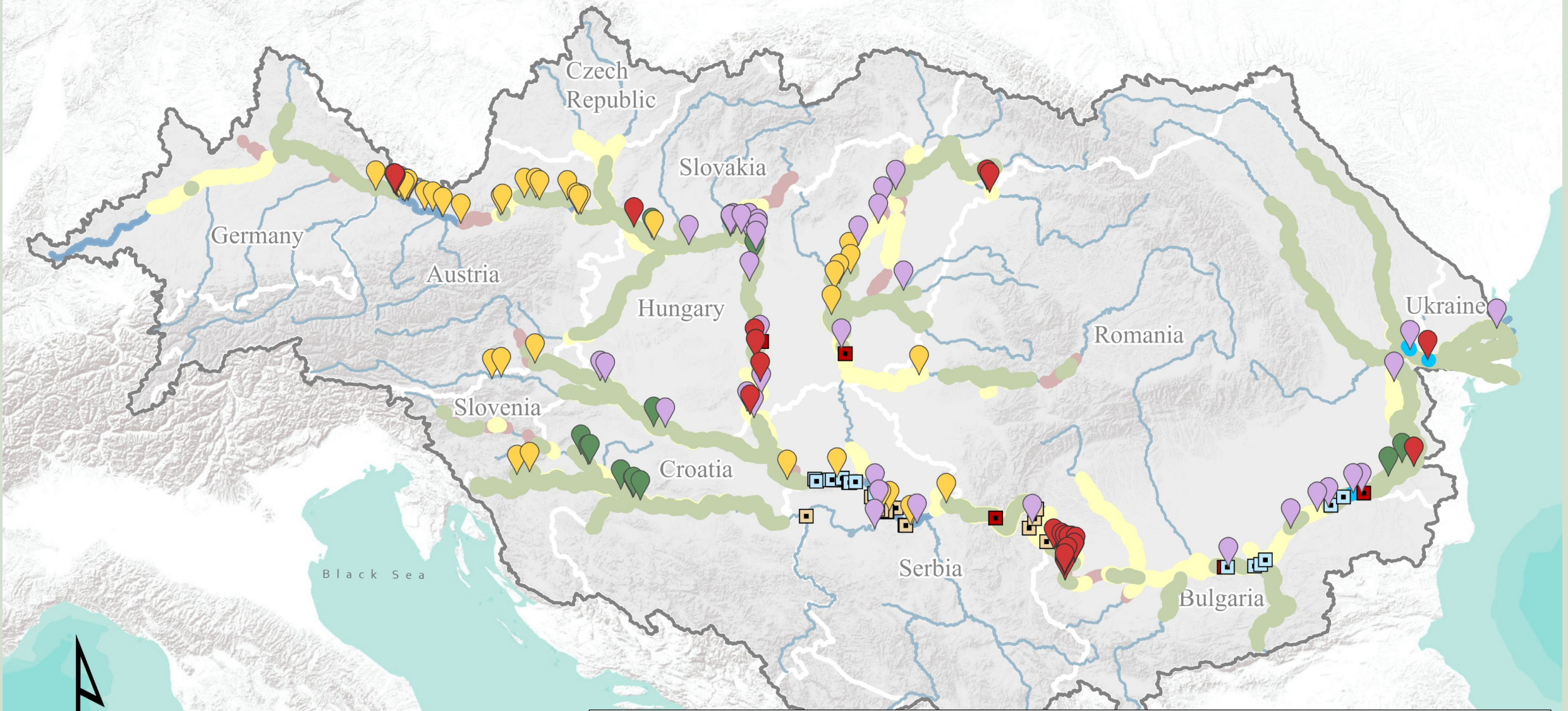
**103 barriers**  
**40 Infrastructure projects**

Barriers		Infrastructure in planning					
■	Constructed	■	Hydropower	■	Navigation	■	Gravel extraction



**PROTECTED  
AREAS**

# PROTECTED AREAS



Large knowledge gaps in all regions; Measures must be adapted to regions' specific challenges

Focus on accessibility and connection of sturgeon habitats critical for establishment of functional ecological corridors

## Challenges and Actions

C: Knowledge gap on habitat characteristic due to missing reference

C: No standardized habitat assessment or data collection

→ **Standardization of habitat assessment and characterization**

C: High data quality variation

→ **Establishment of basin wide habitat database** – for transparent data exchange and updating

C: Effective protection status remains uncertain across all regions

→ **Evaluation of effectiveness of protected areas for sturgeon at national level**

C: Extensive knowledge gaps in marine habitats and migration corridors

→ **Assessment of habitat and migration corridors also in marine environment**

C: Infrastructure projects threatening migration corridors and habitats

→ **Inclusion of conservation stakeholders to influence local planning processes and prevent construction of new harmful infrastructure**



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