



Bayerisches Staatsministerium für  
Umwelt und Verbraucherschutz



*5th Annual Forum of the EU Strategy for the Danube Region*

*Workshop 2 “Water – non-alternative source for life”*

***Good quality of water as a prerequisite for enhancing sturgeon  
conservation in the Danube River***

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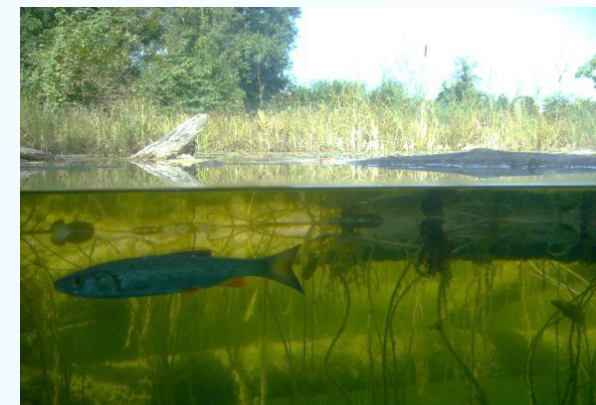
## Why good water quality is important

Danube River - home of millions of organisms; among them - critically endangered species and habitats (Natura 2000 network), incl. sturgeons.

Water quality – crucial for **healthy habitats** and **aquatic communities**.

Besides good chemical status, good **hydromorphology** and **high biodiversity** are necessary to ensure good water quality and ecosystems functionality.

**Functional aquatic ecosystems** are the source of numerous **ecosystem services**: provisioning of food and drinking water, water for irrigation and household consumption, oxygen production, regulation of climate and atmospheric composition, water self-purification, nutrient recycling, mitigation of climate change effects, etc.



## Challenges to secure good water quality in the Danube River Basin

### Danube River – multiple users with effects on Water Quality:

- ▶ Inland Navigation
- ▶ Industry
- ▶ Drinking Water / household abstraction
- ▶ Hydropower plants
- ▶ Nuclear Power Plants
- ▶ Agriculture – irrigations
- ▶ Tourism – water consumption
- ▶ and many more...



## Sturgeons – living fossils and excellent ecological indicators of ecosystems health

Sturgeons are a **flagship species** of the Danube River with unique value for biodiversity, both from the scientific perspective (as “**living fossils**” and **indicators of good water and habitat quality**) and from a socio-economic standpoint (healthy and properly managed stocks could sustain the livelihood of residents).

### Essential to have water in good ecological status!

- Located at the top of the ecological pyramid, sturgeons depend on the trophic levels below.
- Bottom feeders – depend on water and sediment quality.
- Long distance migrants – depend on river longitudinal and lateral connectivity to reach their habitats.



## DSTF and Sturgeon 2020

**Danube Sturgeon Task Force** established in 2012 in the frame of EUSDR PA 6 – support the achievement of target “to ensure the revival of Danube sturgeon and other indigenous fish species by 2020”.

Elaboration of **Program Sturgeon 2020 in 2014** (based on the Sturgeon Action Plan, 2005)

Develop projects and activities, following “Sturgeon 2020”

[www.dstf.eu](http://www.dstf.eu)



# Integrative approach

6. Public awareness

1. Acquire political support

5. Socio-economic measures

2. Law enforcement & capacity building

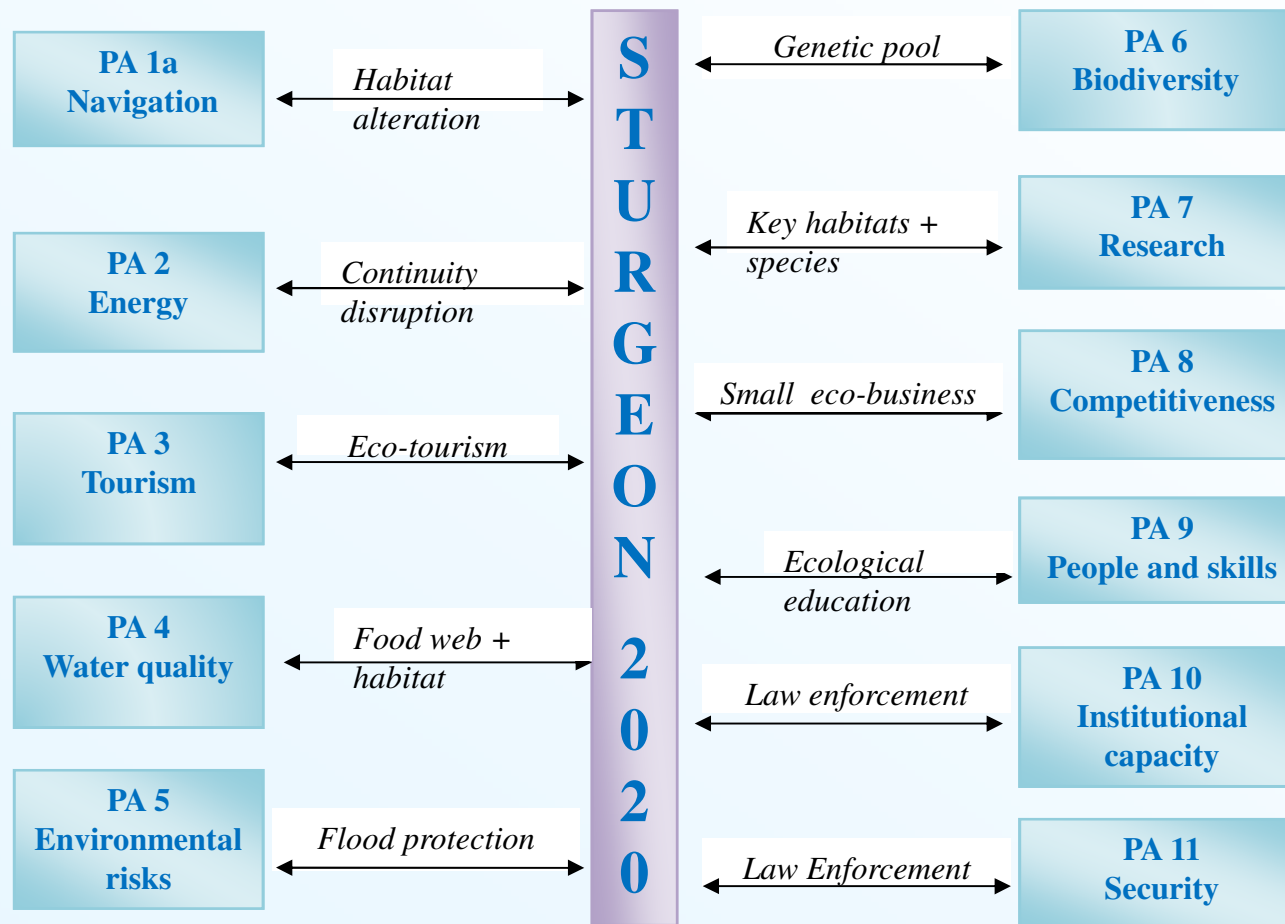
4. Ex situ conservation

3. In situ conservation



# Sturgeon 2020

Requires horizontal coordination with all Priority Areas



# In-Situ Conservation Measures

## Rationale

Sustainable species conservation requires the **preservation of the complete life cycle** in the **natural habitat**. While in the **Upper Danube**, part of the former habitats and the resident species were lost due to pollution, hydropower dams and embankments, the **Middle** and **Lower Danube** still provide valuable habitats, sheltering five out of the former six Danube sturgeon species. However, habitat alteration, disruption of spawning migration and overexploitation brought the wild populations on the verge of extinction.

*Reference: Sturgeon 2020, [www.dstf.eu](http://www.dstf.eu)*



Species Status (according to IUCN and SAP)	Species-specific and region-specific requirements			
	Upper Danube	Middle Danube	Lower Danube	Black Sea
<i>Acipenser guldenstaedtii</i> migratory form (critically endangered)		Iron Gate dams passage upstream / downstream; Reintroduction	Population analysis; Life cycle assessment, Applied in situ measures	Population analysis; Life cycle assessment, Applied in situ measures
<i>Acipenser guldenstaedtii</i> resident form (critically endangered)		Population status; Applied in situ measures (if population can be confirmed)		
<i>Acipenser nudiventris</i> (critically endangered, nearly extinct in DB)		Population status; Life Cycle Assessment; Applied in situ measures	Population status; Applied in situ measures (if population can be confirmed)	
<i>Acipenser ruthenus</i> (vulnerable, declining in MD)	Population analysis: Life cycle assessment; applied in situ measures, if population status for Aschach Stock is confirmed	Population status; Life Cycle Assessment; Applied in situ measures	Population analysis; Life cycle assessment, Applied in situ measures	
<i>Acipenser stallatus</i> (critically endangered)		Iron Gate dams passage upstream / downstream; Reintroduction	Population analysis; Life cycle assessment, Applied in situ measures	Population analysis; Life cycle assessment, Applied in situ measures
<i>Acipenser sturio</i> (critically endangered, extinct in DB)		Reintroduction (after restoration of river continuity at the Iron Gate dams)	Reintroduction	Reintroduction
<i>Huso huso</i> (critically endangered)		Iron Gate dams passage upstream / downstream; Reintroduction	Population analysis; Life cycle assessment, Applied in situ measures	Population analysis; Life cycle assessment, Applied in situ measures



## Bayerisches Staatsministerium für Umwelt und Verbraucherschutz



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