

How can sturgeon conservation bring benefit to Black Sea fishery?



Photo: Viorel Gavril, IBB

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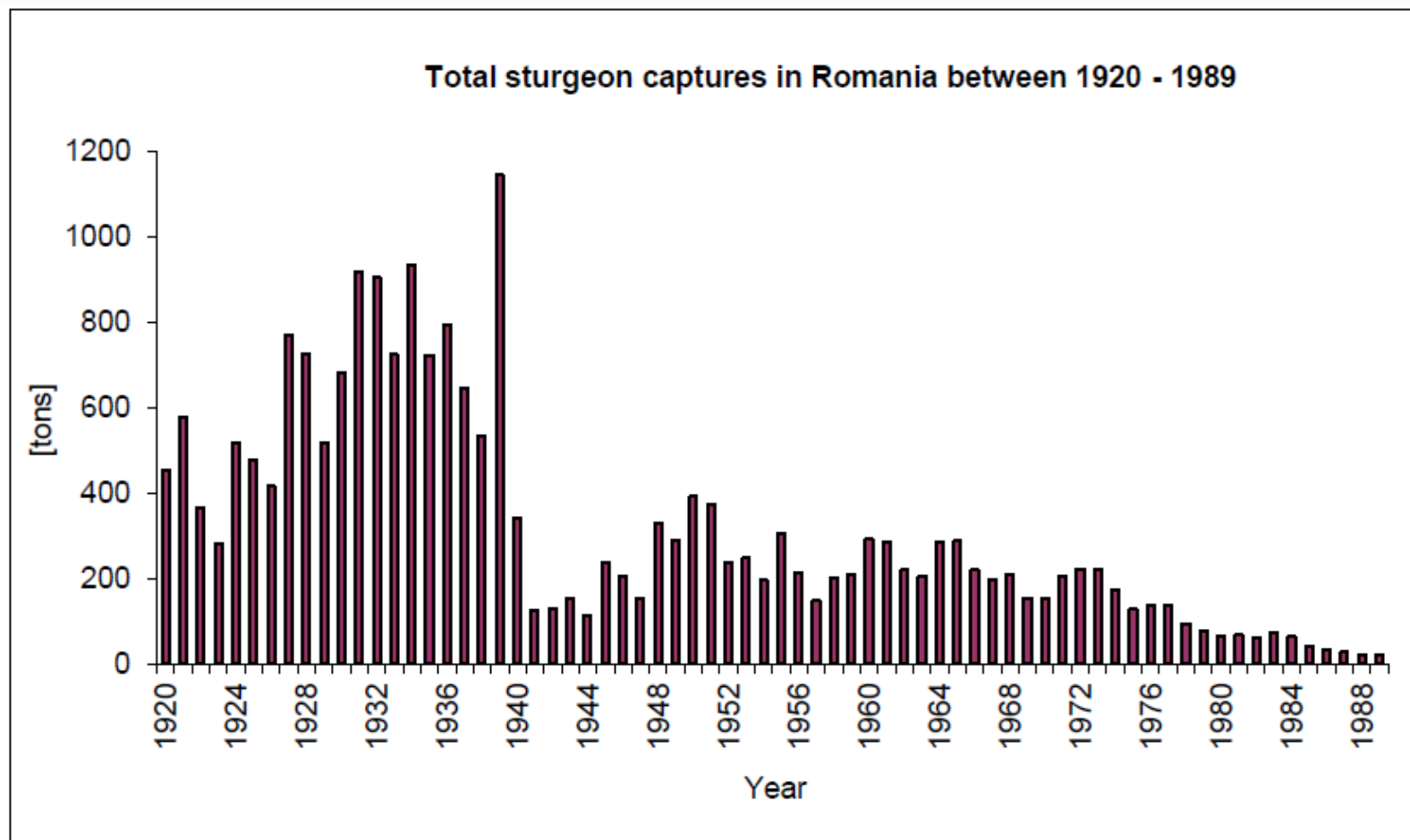
Why sturgeon?

- The most valuable freshwater species due to its caviar
- Considered “living fossil”, survived dinosaur extinction
- High economic, cultural and scientific value
- Iconic species of the Danube - Black Sea Region



Sturgeon fishermen, Sfantu Gheorghe, RO

Important fishery resource in the Danube – Black Sea region



Data source: DDNI, Tulcea, RO

Sturgeon main traits



- Among the oldest species on Earth (approx. 250 mil. years old)
- The largest freshwater fish species (up to 8 m long, 2 t weight)
- Late maturity and longevity
- Lives and feeds near the water bottom (invertebrates, crustaceans, fish)
- Most species are long distance migrants, moving from the Black Sea to the Danube River for spawning
- After reproduction, adults and young sturgeons return to the sea



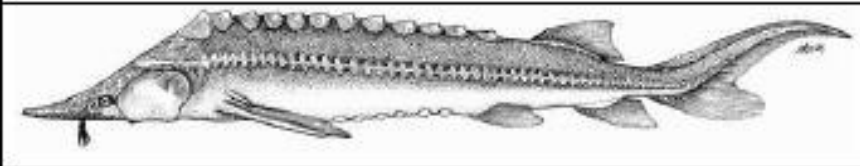
Photo: Radu Suci, IAD RO

Current conservation status

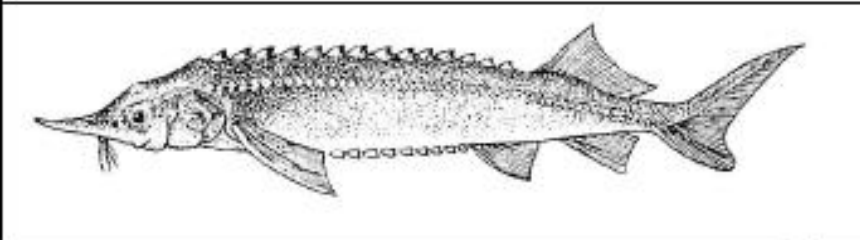
(IUCN, 2010, preliminary assessment 2019)



Russian sturgeon - critically endangered



Ship sturgeon – critically endangered



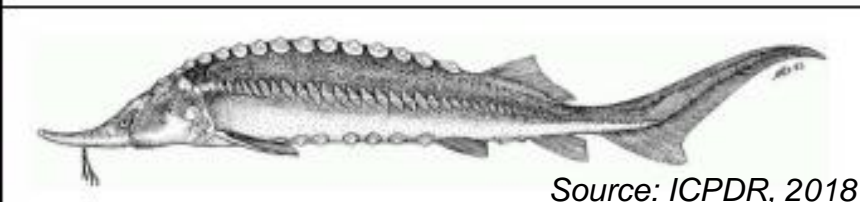
Sterlet – vulnerable



Stellate sturgeon – critically endangered



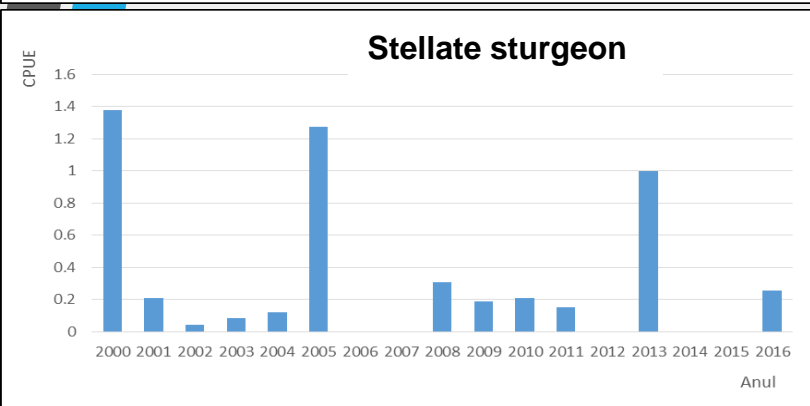
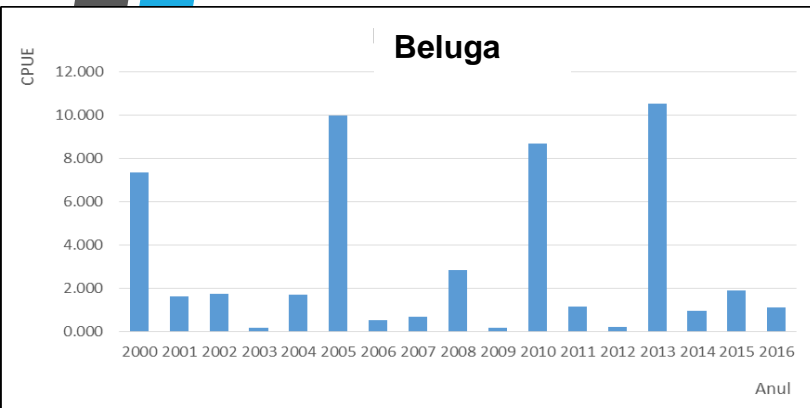
Atlantic sturgeon – critically endangered (EX in DRB)



Beluga – critically endangered ,

Source: ICPDR, 2018

Low success of natural reproduction



Beluga and stellate sturgeon – highly fragmented populations

Russian sturgeon – on the brink of extinction

Ship sturgeon – considered extinct in the LD

Remnant wild populations are weak, need support to avoid extinction



Main causes of decline



Over-harvest (meat, caviar)

Illegal fishery (poaching), by-catch

Pollution

Loss of migration corridors (dam construction)

Destruction of vital habitats (hydrotechnical constructions, dredging)

Reduced number of spawners (Allee effect)

Introduction of non-native species



Conservation measures in the Danube Region



Action Plan for the conservation of Danube sturgeons – Bern Convention (2005)

Sturgeon fishery prohibited in the Danube countries

Sturgeon 2020 – flagship project of the EU Strategy for the Danube Region – Priority Area 6 (2013), success story of EUSDR (2016)

Sturgeons – declared flagship species of the Danube Region (2016)

Pan-European Sturgeon Action Plan – Bern Convention (2018)

**The conservation measures in the Danube Region
need to be mirrored by protection measures
in the Black Sea**

Lessons learned from the Baltic Sea conservation program

- Sturgeon recovery program - difficult after extinction in the wild. Nearly 20 years needed to create proper broodstock and launch restocking programs; many habitats still need restoration
- Fish stocks altered by impact of climate change, invasive alien species, mass tourism in coastal areas, oil industry, hydrotechnical constructions, IUU and by-catch
- The Danube-Black Sea region - major advantage - still hosts wild sturgeon populations, key habitats, natural reproduction
- Protecting the existing gene pool and launching urgent conservation measures prevent the loss of new species

Sturgeon conservation measures proposed for the Black Sea Region

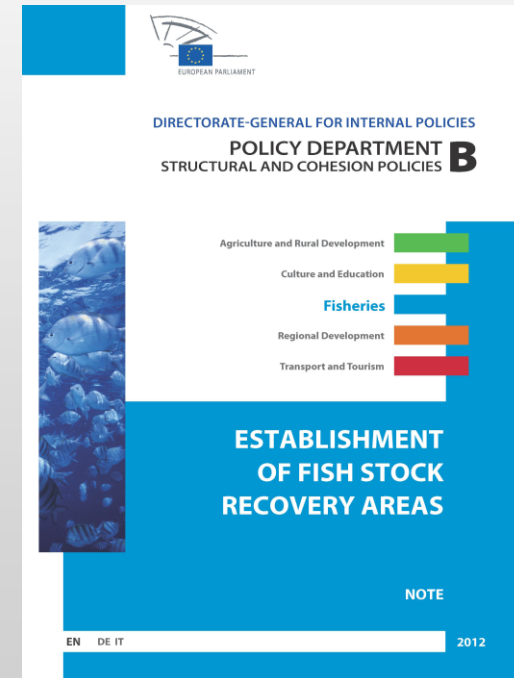


- Scientific monitoring program to identify key sturgeon habitats
- Establish protected areas to shelter these habitats and remaining individuals until their recovery
- Establish aquaculture for conservation facilities in the coastal areas
- Launch sturgeon restocking programs and monitor their effectiveness
- Enhance control of the fishery ban
- Develop alternative livelihood for local communities
- Foster the establishment of commercial aquaculture (local supply)

How the fishery sector could benefit from the protective measures?

Establishment of fish stock recovery areas

- Protect old fish, able to produce more offsprings, who will spread in the adjacent areas, rejuvenating stocks (spillover)
- Contribute to the recovery of marine fish stocks, enhance marine biodiversity and ecosystems resilience
- Worldwide examples prove that they provide long term benefits to biodiversity and local economy (e.g enhance fishery, local tourism)



How the fishery sector could benefit from the protective measures?



Develop alternative livelihood for local communities

- Commercial aquaculture development for sturgeons and other aquatic species for local supply
- Small scale bio-agriculture production to sustain local consumption and tourists
- Create and connect local markets for ecological and traditional products along the Danube River and Black Sea coast
- Support the development of eco-tourism, connecting sturgeon farms, museums, aquariums, fish restaurants with aquaculture products along the Danube – Black Sea coast



Key messages

The Danube-Black Sea case is just an example, but all European sturgeon species are at risk

The pan-European Sturgeon Action Plan presents the key conservation measures required at EU level

The establishment of fish stock recovery areas in all European seas could boost the fishery sector in Europe

For long lasting effects, these areas should be established in cooperation with local stakeholders and compensatory measures/alternative livelihood development should be considered.

Thank you for your attention!



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