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**STATUS OF IMPLEMENTATION OF THE ACTION  
PLAN FOR THE CONSERVATION OF STURGEONS  
(*ACIPENSERIDAE*) IN THE DANUBE RIVER BASIN**

*Document prepared by  
the Danube Sturgeon Task Force (DSTF)*

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## **STATUS OF IMPLEMENTATION OF THE ACTION PLAN FOR THE CONSERVATION OF STURGEONS (*ACIPENSERIDAE*) IN THE DANUBE RIVER BASIN**

Considered **the flagship species** of the Danube River Basin (ICPDR, 2016)<sup>1</sup> and valuable indicators of water quality and ecosystem health, sturgeons are nowadays on the **brink of extinction** due to the overexploitation, disruption of spawning migration and loss of habitats.

The **Action Plan for the Conservation of Danube sturgeons** (Sturgeon Action Plan - SAP), **adopted in the frame of the Bern Convention** at the 25<sup>th</sup> Standing Committee, in December 2005 (T-PVS/Inf.2005 12), aims to ensure their recovery. Although several activities were launched by the Danube countries (sturgeon fishery ban implemented gradually in the Lower Danube region, restocking programs, scoping mission for restoring fish migration at the Iron Gates, pollution reduction measures), the conservation status of sturgeon populations continued to worsen: in 2010, the IUCN classified **all long distance migratory species as critically endangered**, while the freshwater species (*A. ruthenus*) was considered vulnerable.

The adoption of the **EU Strategy for the Danube Region** (EUSDR) in June 2011 provided the framework to strengthen transnational cooperation for nature conservation with the support of Priority Area 6 (Biodiversity). In this frame, the **Danube Sturgeon Task Force** (DSTF) was established at the initiative of governmental and non-governmental organizations, research institutes and universities from the Danube Region, to support the achievement of the EUSDR target “to ensure the revival of Danube sturgeons and other indigenous fish species by 2020”. The DSTF mission is to coordinate and foster the conservation of Danube sturgeons in the Danube River Basin and the Black Sea area – to achieve this goal, the first output of the DSTF was the elaboration of **Sturgeon 2020 Program based on SAP**, and its promotion on the political agenda. The program was soon declared a flagship project of the EUSDR PA 6, and in 2016 was considered by the European Commission as one of the **success stories of the EUSDR**<sup>2</sup>. Based on the measures and projects developed by the DSTF supporting partners, several activities foreseen in the SAP were implemented or can be considered now as under development, but many still needs to be developed.

This document summarizes briefly the current status of implementation of the main activities foreseen in SAP and includes several recommendations to improve it. Considering that long distance migratory species are on the brink of extinction, **urgent and concerted measures are required to prevent their disappearance.**

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<sup>1</sup> [ICPDR] International Commission for the Protection of the Danube River. Ministerial Declaration, 9 Feb. 2016, <https://www.icpdr.org/main/mm16>

<sup>2</sup> [EUSDR] EU Strategy for the Danube Region, 2016. Success stories from the Danube Region. <https://www.danube-region.eu/communication/success-stories>

**Table 1. Status of implementation of SAP. Recommendations**

<b>Objective</b>	<b>Status of implementation</b>	<b>Recommendations</b>
<p><b>Objective 1: To develop, adopt and implement a comprehensive policy on sturgeon fisheries and their management covering the whole Danube River Basin and the Black Sea</b></p>	<ul style="list-style-type: none"> <li>• Regional Strategy for the Conservation and Sustainable Management of Sturgeon Populations of the North-West Black Sea and Lower Danube River in accordance with CITES - agreed in 2003 between Ukraine, Romania, Bulgaria, Serbia – partial implementation</li> <li>• The Sturgeon Action Plan (SAP), developed in agreement with the Regional Strategy, and adopted under the Bern Convention, not followed by an intergovernmental agreement at Danube Basin level or in the Black Sea area</li> <li>• In 2011, the EUSDR provided the political frame for transnational cooperation – the Program Sturgeon 2020 was developed based on SAP and promoted on the political agenda</li> <li>• Sturgeon fishery ban imposed since 2006 in Romania, 2009 in Serbia and Ukraine, 2011 in Bulgaria; valid until 2021.</li> <li>• Rare sturgeon restocking actions undertaken by some countries, not coordinated at international level</li> </ul>	<ul style="list-style-type: none"> <li>• Improve transnational coordination and cooperation at national level between the relevant authorities</li> <li>• Develop and adopt an intergovernmental agreement on sturgeon conservation in the Danube Region and NW Black Sea</li> <li>• Develop a transnational implementation strategy of SAP, in cooperation with major stakeholders</li> <li>• Update or create National Sturgeon Action Plans for all Danube countries, harmonized with the transnational strategy</li> <li>• Adoption of National Sturgeon Action Plans by national authorities</li> <li>• Allocate adequate resources for the implementation of National Sturgeon Action Plans</li> </ul>
<p><b>Objective 2: To ensure that scientifically based, best-practice management of sturgeon stocks is applied throughout the Danube River Basin and in the Black Sea and to initiate, support and coordinate the research required for such an approach</b></p>	<ul style="list-style-type: none"> <li>• Coordinated basin-wide research – to be developed</li> <li>• Assessment of sturgeon populations and level of sturgeon by-catch in the Black Sea – missing</li> <li>• Institutional sturgeon databases initiated, creation of a transnational information platform foreseen</li> <li>• Moratorium on sturgeon fishery in place in RO, BG, RS, AT and UA.</li> <li>• Identification of possibilities to involve fishery communities in sturgeon management and conservation, as well as to identify alternative livelihood - planned in various projects</li> </ul>	<ul style="list-style-type: none"> <li>• Launch a transnational monitoring program of sturgeon populations</li> <li>• Launch the assessment of sturgeon by-catch in the Black Sea</li> <li>• Based on the output of this assessment, organize and harmonize transboundary sturgeon management strategies.</li> <li>• Extend the current sturgeon fishery ban until the recovery of wild populations</li> <li>• Develop the social component for local fishery communities</li> <li>• Create locally based initiatives centered around farmed sturgeons to support the species conservation.</li> </ul>
<p><b>Objective 3: To ensure that legislation on sturgeon fisheries and trade is being effectively implemented at national, regional and international levels throughout</b></p>	<ul style="list-style-type: none"> <li>• Assessment of national/international legislation relevant for sturgeon conservation in the Danube and Black Sea countries (including fishery and control policies) – to be developed</li> <li>• Assessment of implementation efficiency of national, regional</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a report listing and analyzing the national laws of Danube countries with regard to sturgeon conservation and water protection</li> <li>• Gap analysis of the implementation of legal requirements and</li> </ul>

<p><b>the Danube River Basin (including the Black Sea) and that gaps and/or obstacles to implementation are identified and addressed</b></p>	<p>and international legal instruments relevant for sturgeon conservation (including fishery policy and trade, protection and restoration of sturgeon habitats, etc) – to be developed</p> <ul style="list-style-type: none"> <li>• Involvement of key stakeholders in the preparation of new legal instruments and/or revision of existing ones – launched</li> <li>• Revision of the EU Water Framework Directive and Habitats Directive – not considered opportune</li> </ul>	<p>recommendations, to improve efficiency and address obstacles</p> <ul style="list-style-type: none"> <li>• Enforcement of national and international environmental and fishery agreements</li> <li>• Inclusion of all Danube sturgeon species under An II of Bern Convention</li> <li>• Increased protection of sturgeons and their habitats at national level to improve their conservation status</li> </ul>
<p><b>Objective 4: To reduce – and ultimately bring a stop to – illegal harvesting of sturgeons by strengthening the implementation and enforcement of fishery legislation and inspection controls at national level.</b></p>	<ul style="list-style-type: none"> <li>• Tools for monitoring effectiveness and enforcement of legislation supporting sturgeon conservation - to be developed</li> <li>• Scarce allocation of human, technical and financial resources for enforcement of sturgeon fishery regulations</li> <li>• Coordination and cooperation between key bodies (e.g. police, fisheries associations, NGOs, researchers) involved in controlling/regulating fisheries – to be improved</li> <li>• Training and capacity building of enforcement agencies – launched</li> <li>• Incentives for fishermen and fishing companies and the sturgeon industry to operate an effective system of self-regulation – not developed</li> <li>• Info systems and exchange mechanisms for rapid intervention on sturgeon fishery management, including law offence – not developed</li> </ul>	<ul style="list-style-type: none"> <li>• Allocate proper resources (human, technical, funding) for law enforcement organizations to allow for prompt interventions and intensify the law compliance check</li> <li>• Develop national rapid warning systems in case of law offense relevant for sturgeon conservation and connect them at transnational level</li> <li>• Improve coordination between enforcement organizations</li> <li>• Provide periodic trainings and state of the art information in sturgeon conservation to enforcement organizations</li> <li>• Improve networking and coordination between sturgeon conservation stakeholders and fishermen and fishing companies.</li> <li>• Create “sturgeon guards” by involving representatives of local communities and other relevant stakeholders, and enable them with intervention rights to support the work of enforcement organizations.</li> </ul>
<p><b>Objective 5: To improve the socio-economic conditions for local-community stakeholders involved in sturgeon fisheries.</b></p>	<ul style="list-style-type: none"> <li>• Sturgeon fishery banned without compensatory measures for fishermen communities</li> <li>• Transnational assessment of sturgeon products market – to be developed</li> <li>• Opportunities for alternative livelihood of local fishermen – to be developed</li> <li>• Local markets restructuring to ensure fair income for legal production of sturgeon products (aquaculture) – to be developed</li> <li>• Local processing of sturgeon aquaculture products to increase their added value – to be developed</li> </ul>	<ul style="list-style-type: none"> <li>• Develop incentives for fishermen respecting the ban</li> <li>• Allocate proper resources and support the development of alternative livelihood for sturgeon fishermen (aquaculture, eco-tourism, bio and traditional products, etc)</li> <li>• Establish local markets for traditional products and create international networks for trade, linking producers with consumers</li> </ul>

<p><b>Objective 6: To reduce significantly, and ultimately to eliminate, illegal international, national and regional trade in sturgeon products</b></p>	<ul style="list-style-type: none"> <li>• DNA based identification system for sturgeons and their products – under development</li> <li>• Individual marking of fish– under development</li> <li>• CITES caviar labelling system – under implementation</li> <li>• Transnational system to verify the CITES documents – to be developed</li> <li>• Assessment and monitoring of the domestic market including the chain from fishermen to restaurants and exporters – to be developed</li> <li>• List of fishing, processing and trading companies in compliance with CITES provisions – to be developed</li> <li>• Establish a “green label” for legally obtained/processed sturgeon products</li> </ul>	<ul style="list-style-type: none"> <li>• Allocate adequate resources to enforcement organizations for controlling the compliance of the fishery ban</li> <li>• Support research to create an “easy to use” DNA identification system for custom offices and enforcement organizations to verify the origin of the sturgeon products</li> <li>• Enhance controls of the production/ distribution/selling chain for sturgeon products to check the provenance of the products</li> <li>• Considering the high amount of enterprises producing (processing and repackaging) the sturgeon caviar/products, foster the introduction of the universal caviar marking system and the corresponding registration of enterprises</li> </ul>
<p><b>Objective 7: To re-establish extinct or near-extinct sturgeon populations in the Danube, by securing future sources of genetic material of all species and populations, by restocking and by temporal supportive stocking.</b></p>	<ul style="list-style-type: none"> <li>• Establishment of live gene banks (including sperm and tissue repositories) – under development</li> <li>• Inventory of sturgeon rearing facilities (including outside the Danube River Basin) – under development</li> <li>• Genetic analysis and inventory of captive brood stock (<i>ex-situ</i> population) in all hatcheries – to be developed</li> <li>• Sharing info on breeding techniques, equipment, prevention of disease spreading – to be developed</li> <li>• Elaboration of a restocking program and code of practice for Danube sturgeons – to be developed</li> <li>• Develop/adapt uniparental propagation methods for the most endangered species, to be able to conduct propagations even in the case of only one breeder of the species, e.g. <i>A. nudiventris</i> – to be developed</li> </ul>	<ul style="list-style-type: none"> <li>• Establish ex-situ conservation facilities to secure the genetic diversity of all Danube sturgeon species (breeding stock, gene bank, etc).</li> <li>• Analyze the status of the existing sturgeon rearing facilities and compile a list of those operating according to best practices</li> <li>• Allocate adequate resources to Implement the restocking program in a coordinated way in all the Danube countries</li> <li>• Monitor the efficiency of the restocking measures and adjust the program accordingly</li> <li>• Support research for developing the uniparental propagation method for critical situations when only one breeder is available</li> </ul>
<p><b>Objective 8: To implement immediate actions – and ultimately a catch moratorium – to ensure the continued survival and population restoration of <i>A. nudiventris</i> and <i>A. gueldenstaedti</i>, both critically endangered.</b></p>	<ul style="list-style-type: none"> <li>• Sturgeon fishery banned in the Lower Danube countries until 2021</li> <li>• Targeted awareness campaigns (adapted to key stakeholder groups) focusing on the status of, and threats to, both species in the Danube Basin – under development In RO, BG, RS, UA</li> <li>• Collect fish from the wild and apply special hatchery procedures for breeding from the captive stock – developed in private hatchery for <i>A. gueldenstaedti</i>.</li> <li>• For <i>A. nudiventris</i>, no special measures taken, the species can be considered extinct in the Lower Danube (only accidental catches in</li> </ul>	<ul style="list-style-type: none"> <li>• Elaborate and implement a special ex-situ conservation strategy for these two species, under expert coordination</li> <li>• Support the development of protocols for special hatchery procedures for these two species</li> <li>• Allocate adequate funding for research to check possible habitats of <i>A. nudiventris</i> in the Middle Danube and collect individuals for assisted propagation</li> </ul>

<p><b>Objective 9: To re-open sturgeon migration routes by enabling upstream and downstream sturgeon passage at dams and other current barriers to sturgeon movements</b></p>	<p>the Middle Danube)</p> <ul style="list-style-type: none"> <li>• Feasibility studies for upstream and downstream fish passage at Iron Gates dams I &amp; II – to be developed (Terms of Reference agreed by Danube countries).</li> <li>• Plan and design fish passage facilities for Iron Gates dams I &amp; II – to be developed after the FS</li> <li>• Implement final design and construction of fish passage facilities at Iron Gates dams I &amp; II and ensure that their efficiency is effectively monitored and evaluated – to be developed</li> <li>• Conduct feasibility study for fish passage at Gabčíkovo dam. – guiding paper developed by ICPDR</li> <li>• Design and implementation of fish passage facilities at Gabčíkovo dam – to be developed after the FS</li> <li>• Identify and assess barriers to sturgeon migration on Danube branches and tributaries, and in the Black Sea coastal zone – map of fish migration barriers in the Danube River Basin developed by ICPDR.</li> <li>• Prioritize mitigation measures for barriers to sturgeon migration and initiate planning, design, construction and monitoring/evaluation of fish passage facilities – to be developed</li> <li>• Prevent mortality of young sturgeons at water withdrawal sites – to be developed</li> </ul>	<ul style="list-style-type: none"> <li>• Allocate funding to study fish behavior at the Iron Gates dams, to select proper technical solutions and location of fish passes.</li> <li>• Involve international teams experienced in sturgeon fish passages to design the FP construction (cooperation between engineers and fish/sturgeon biologists).</li> <li>• Prioritize, design and implement fish passage construction at barriers where sturgeons could migrate</li> <li>• Ensure state-of-the-art and best expertise to design and implement functional fish passages</li> <li>• Monitor the efficiency of the sturgeon passage and improve it where necessary</li> <li>• Ensure allocation of adequate funding by stakeholders (user pay principle).</li> <li>• Map the water withdrawal sites, define and implement measures to prevent the mortality of young sturgeons</li> </ul>
<p><b>Objective 10: To implement appropriate protection, management and restoration measures for key sturgeon habitats and migrations</b></p>	<ul style="list-style-type: none"> <li>• Undertake a gap analysis of current knowledge about key life-cycle habitats and migrations of Danube sturgeons – under development</li> <li>• Complete an inventory of key sturgeon habitats – under development</li> <li>• Develop reference conditions for key habitats and migrations – to be developed</li> <li>• Design and implement appropriate measures for the protection, management and monitoring of existing key habitats/sites for Danube sturgeons – to be developed</li> <li>• Conduct feasibility/prioritization studies for habitat restoration measures at selected sites – to be developed</li> <li>• Implement and monitor habitat restoration measures at priority sites – to be developed</li> </ul>	<ul style="list-style-type: none"> <li>• Allocate appropriate funding to identify key sturgeon habitats and increase their protection status</li> <li>• Monitor the effectiveness of the protection measures</li> <li>• Prioritize the restoration of degraded key habitats</li> <li>• Ensure the restoration of degraded habitats and monitor their use by sturgeon populations</li> <li>• Promote the conservation of key sturgeon habitats and integrity of their migration routes at national and international level</li> </ul>

<p><b>Objective 11: To ensure that water quality and quantity throughout the Danube River Basin meet the conditions required for healthy sturgeon populations at all life-cycle stages.</b></p>	<ul style="list-style-type: none"> <li>• Promote full implementation of the EU Water Framework Directive – developed under ICPDR coordination</li> <li>• Identify critical pollution pressures on sturgeon populations in the Danube River Basin and ensure that appropriate pollution reduction measures are implemented – under development in the frame of WFD, ICPDR coordination</li> <li>• Establish and implement water management plans in the Danube River Basin District in line with the requirements of the WFD - done</li> </ul>	<ul style="list-style-type: none"> <li>• Intensify cooperation with the International Commission for the Protection of the Danube River (ICPDR) to tackle challenges for sturgeon conservation</li> </ul>
<p><b>Objective 12: To avoid further degradation of riverine ecosystems within the Danube River Basin and to ensure that the requirements of sturgeon conservation are fully integrated into implementation of the EU Water Framework Directive in the Danube River Basin.</b></p>	<ul style="list-style-type: none"> <li>• Ensure ecologically sound maintenance of rivers with respect to key sturgeon habitats in line with the EU environmental policies – to be developed</li> <li>• Review proposals for development of navigation in the Danube Basin and ensure that proposals that would have an adverse impact on key sturgeon habitats are neither supported nor implemented – under development, support from ICPDR and EUSDR.</li> <li>• Avoid further construction of flood protection embankments that would have significant impacts on natural floodplains – to be developed</li> <li>• Assess all existing and new proposals for dam construction against the recommendations of the World Commission on Dams (complement the measure on assessing migration barriers) – to be developed</li> </ul>	<ul style="list-style-type: none"> <li>• Develop jointly with ICPDR a Manual or Guiding Principles for river maintenance, to ensure the integrity of key habitats under the challenges of infrastructure projects development .</li> <li>• Perform a SEA of the proposed infrastructure projects along the Danube and its main tributaries, to assess the cumulative environmental impact and ensure that appropriate measures are taken to prevent/mitigate the negative effects</li> <li>• Promote the use of “green infrastructure”, floodplain restoration and natural water retention measures for flood protection instead of “grey infrastructure” measures</li> <li>• Promote the protection of the integrity of protected areas and preservation/ restoration of migration corridors in the rivers of the Danube Basin</li> </ul>