

# DANUBE RIVER BASIN MANAGEMENT PLAN

UPDATE 2021

## ANNEX 12

Overview of Key Measures to Avoid the Extinction of Danube Sturgeons and Necessary Supportive Actions

**ICPDR** **IKSD**

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for the Protection  
of the Danube River  
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Internationale Kommission  
zum Schutz der Donau



## **Overview of key measures to avoid the extinction of Danube sturgeons and necessary supportive actions**

### **1. Ex situ broodstocks/ Reproduction and release programmes**

Given the critically endangered status of the Danube sturgeon species and the high risk of their extinction, even in the short term, it is an urgent priority to establish non-commercial/non-private facilities, both in the Upper/Middle Danube and the Lower Danube, for authentic Danube sturgeon broodstocks to secure the genetic diversity of all sturgeon populations by establishing basin-wide so-called ex-situ programmes following best practice guidelines for husbandry with secure funding for construction and operation and jointly managed by catchment countries. Back-up facilities need to be established to minimise the risk of losing the genetic resources due to technical or other failures. Long term breeding plans need to be established and regular control of husbandry methods have to ensure genetic purity and diversity as well as fitness for survival of juveniles from these facilities.

Reproduction and release programmes must be put in place and implemented following the best practice guidelines and monitored to control the success rate of release actions. The regional coherence of measures has to be secured through basin-wide coordination for all population restoration facilities and monitoring actions

### **2. Follow-up of the We Pass project**

The We Pass project is the first concrete project to identify technical solutions for restoring a major ecological corridor for sturgeon migration in the Danube River Basin across the Iron Gate dams. It aims to provide significant benefits at the scale of the River Basin by creating access to sturgeons from the Black Sea to almost 1000 kms of the Danube and its associated habitats for, inter alia, spawning and nursery purposes. The search for solutions, which will benefit all migratory fish in the Danube, has received significant financial support from the EU. The corresponding activities of the ICPDR and Contracting Parties are fully in line with the European Green Deal and the proposed EU Biodiversity Strategy 2030 with its emphasis on restoring freshwater ecosystems, the natural function of rivers and restoration of rivers into free-flowing rivers. The ICPDR is committed to follow through with implementation of solutions to ensure sturgeon migration across the Iron Gate and to ensure that infrastructure development in the Danube River Basin does not prejudice ecological connectivity in the basin and ensure that, with a view to this, Article 4(7) of the Water Framework Directive is strictly applied.

### **3. Effectively enforced multi-decadal fishing bans**

Restoration of habitats and migration corridors will not be effective unless fishing of sturgeon remains prohibited until viable populations are established. For the Danube this will require a multi-decadal approach. Any exceptional catch allowance e.g. for scientific purposes or the establishment of artificially maintained populations in special facilities must also be monitored closely. The implementation and enforcement of existing legislation to prevent illegal, unregulated and undocumented (IUU) fisheries in marine and freshwater must be strengthened and adequate resources as well as continuous capacity building and targeted training for relevant enforcement authorities need to be provided. The fishing sector must be involved and alternative income sources for affected communities developed.

#### **4. Habitats, Migration Corridors and Controls on Infrastructure Development**

Successful sturgeon migration, which is a necessary component of their natural lifecycle, depends on the availability of different habitats along their migration route as well as on their ability to overcome any existing barriers which can prevent their migration. The network of habitats and migration routes must extend to the scale of the Basin in order to be effective. Habitat availability is understood in terms of both location and timing of habitat use as well as the resources and conditions needed to enable this use. Mapping of different sturgeon habitats on the Danube River and its tributaries is highly important. A first basin-wide map was developed in the MEASURES project and will need continuous and coordinated updating, based on the shared set of methods and techniques described in the MEASURES project “Danube Migratory Fish Habitat Manual” to ensure comparability and interoperability throughout the basin. It will enable all countries in the Danube River Basin to coordinate their activities concerning mapping sturgeon habitats, mapping and monitoring of any disturbances by human activities (e.g. dredging, port construction, dams or weirs) and potential restoration measures. Special consideration will have to be given to ensure the full implementation of the requirements of Article 4(7) of the WFD to minimize the impact on sturgeon habitats and migration routes due to changes in hydrology and structure of water bodies, e.g. as a result of new infrastructure or activities in the riverbed. A map of sturgeon habitats could be available as a useful tool when assessing future infrastructure works and enabling environmental impact assessment for particular sectors of the Danube River Basin.

#### **5. Monitoring and control of by-catch in marine fisheries**

While there are no records of incidental bycatch of sturgeon in Black Sea fisheries, it is equally clear that given the critical state of stocks and the acute risk of extinction of the remaining sturgeons that bycatch in marine fisheries may threaten the effectiveness of conservation action taken in the Danube River Basin. It will therefore be important for ICPDR and Contracting Parties to seek cooperation with fisheries and environmental authorities in non-Danubian Black Sea States, the Black Sea Commission, FAO (GFCM) and the World Bank/GEF to seek improved information on the extent to which such bycatch is taking place and its impact on sturgeon populations and identify coherent regional management options (such as technical solutions, fisheries restrictions, closed areas and seasons) with a view to their implementation and establishing the appropriate monitoring thereof. Action in this respect will bring the ICPDR into line with the proposed EU Biodiversity Strategy 2030 and its emphasis on eliminating by-catch or reducing it to levels allowing full recovery of species threatened with extinction in marine fisheries.

#### **6. Coordination with sturgeon conservation in the Black Sea Basin**

As the Danube sturgeon populations are shared with those of the Black Sea Basin, coordination with marine management and conservation efforts in that basin is crucial to ensure the effectiveness of actions in the Danube River Basin. It is therefore important for the ICPDR and its Contracting Parties to seek actively specific and close cooperation on sturgeon conservation in the Black Sea, inter alia with the Black Sea Commission, FAO (GFCM), the World Bank and GEF as well as Black Sea States on issues such as monitoring of sturgeon populations and the impact of marine fisheries on these, protection of sturgeons through technical fisheries regulation and designation of marine protected areas. Furthermore, it will be important to cooperate with non-Danubian States in the Black Sea Basin on protection and conservation of sturgeon in their internal and inland waters.

The objective of the wider cooperation with Black Sea Basin States and the relevant international organisations should be to ensure a regional coherence of measures and approaches to maximise the effectiveness of policies and measures.

The effectiveness of the actions outlined above is critically dependent on a number of additional, supportive actions that are also required to facilitate effective management of sturgeon conservation in the Danube River Basin. The most important issues are the following:

### **7. Sturgeon Population Monitoring**

The impact of implemented measures for improving sturgeon populations in the Danube River Basin is impossible to monitor without prior knowledge of status of native stocks of sturgeons. Due to the migratory nature of the sturgeon, monitoring needs to be based on agreed common metrics and methodologies, a shared monitoring network and interoperable equipment throughout the Danube River Basin and the adjacent Black Sea catchment. It is necessary to integrate sturgeon monitoring into fisheries management plans in each country and to collect monitoring data on a basin-wide scale. It could include monitoring annual recruitment from the wild and capturing young of the year (YOY) sturgeons, sampling and tagging YOY sturgeons and sampling and telemetry study of adult sturgeons. Telemetry is the most effective monitoring technique and will require standardized equipment throughout the monitoring area. As some scientists from Danubian countries are active in COST Action “The European Aquatic Animal Tracking Network” (ETN) this network could be used as scientific base for the preparation of a sturgeon telemetry study. National fisheries authorities, fishermen and relevant international organisations should be involved to enable effective implementation of sturgeon telemetry study.

### **8. Establishment and maintenance of a Danube Migratory Fish Database**

This will support the implementation of “Strategy for ecological corridor conservation in the Danube catchment” developed under the MEASURES project. The MIS will be used to collect relevant information on migratory fish and their habitats in the Danube River Basin and allow users to find and visualise specific information about particular migratory fish and their habitats more easily. MIS has a Library (open access publications, articles and reports), a meta database (relevant datasets in the region) and a Data Centre (monitoring data of migratory fish including habitats and corridors). It will thus also be a one-stop shop for information for use in management of the recovery of sturgeon populations in the Danube River Basin. Like other such databases, MIS will need to be maintained and regularly updated to retain its utility as a management tool.