VIENNA DECLARATION

on Global Sturgeon Conservation

Part I: Recommendations

Preamble

Sturgeons and Paddlefishes (Order Acipenseriformes) comprise 27 species of which the vast majority are endangered (see IUCN Red List), while several of these species have reached critical status. This situation calls for more coordinated and concise action to prevent the species from extinction while at the same time sturgeons in this context also serve as umbrella species for other faunal elements that are affected by the same drivers. Sturgeons are excellent ambassadors for habitat related conservation approaches due to the fact that they utilize various habitats during the completion of their life-cycle. A consequent protection of habitats for sturgeons will evoke restrictions on the utilization of rivers, coastal and marine waters and the resources associated to them but these will benefit all faunal elements.

The World Sturgeon Conservation Society (WSCS) published the RAMSAR DECLARATION ON GLOBAL STURGEON CONSERVATION in 2005 outlining the guiding principles for measures urgently needed to ensure the future of sturgeons. To meet the persisting and emerging challenges in sturgeon conservation, the 8th International Symposium on Sturgeons (ISS 8) held from September 10th to 16th, 2017 in Vienna with a participation of about 300 sturgeon specialists from 32 countries felt the need to re-iterate, update and partly revise the key recommendations affecting the effectiveness of conservation management while at the same time emphasizing the requirement to apply best practice when planning or implementing activities to:

1) protect and preserve sturgeon species as emblematic flagship or umbrella species on biodiversity conservation for future generations;
2) account for the need for long-term and adequately-resourced sturgeon conservation measures supported by improved governance frameworks;
3) protect and restore rivers as dynamic, disturbance driven systems. Their hydro morphology and ecosystem services depend upon intact functionality as well as longitudinal/lateral connectivity;
4) ensure that attempts to restore and protect sturgeon populations to effective control and combat fraud and illegal, unregulated and unrecorded catch and trade while at the same time supporting sustainable aquaculture as an alternative mode of production of sturgeon commodities.

To serve these targets aiming at increased effectiveness of conservation and restoration of sturgeons, the ISS 8 developed the following recommendations for consideration by the respective sturgeon range states, regional and international agencies dealing with species conservation.

On behalf of the WSCS Board of Directors, of WWF International, the ISS8 Scientific Advisory Committee as well as the ISS8 participants

Neu Wulmstorf and Vienna, April, 12th, 2018

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Recommendations

Habitat Quality and Restoration

Habitat protection, river regulation, flood protection, and inland navigation

Recommendation 1: Recovery measures through *ex situ* conservation and re-stocking programs require urgent and vigorous *in situ* protection and habitat restoration measures: (a) all spawning habitats of Acipenseriformes must be identified and effectively protected through national and eventually international legislation; (b) the legal frameworks such as the EU Habitats Directive as well as Conventions such as RAMSAR, Biological Diversity, Bern, Oslo-Paris, Helsinki, Bucharest, and Barcelona must be fully implemented to effectively enhance the conservation status of the species through improvements of their different habitats.

Recommendation 2: Flood protection and inland navigation infrastructure have to be planned in an integrated fashion aiming to maintain to the greatest extent possible the natural hydrodynamics as well as to ensure connectivity and functionality of ecosystems. Infrastructure projects that have not been designed in such an integrated fashion must not be implemented.

Damming

Recommendation 3: New dams on sturgeon and paddlefish rivers should not be constructed. However, if unavoidable, they must be designed with state-of-the-art mitigation measures, such as properly designed passage facilities accommodating free upstream and downstream migration of all life phases of sturgeons (adults up to several meters long as well as fragile early life phases), other faunal elements, as well as permit sediment transport. Furthermore, these measures must also protect habitats and benthic communities in the upstream and downstream sections. Design considerations must incorporate climate change effects, anticipating the dynamic changes in precipitation patterns (e.g. extreme floods and extreme droughts) over a time horizon of at least 50 to 80 years, further reducing the proportion of the flow available for energy generation.

Recommendation 4: Dams have eliminated sturgeon spawning and overwintering habitats in river sections upstream or downstream of the installations. The existing facilities have to be retrofitted with structures for effective fish protection and passage both upstream and downstream (for early life phases and adults)***.*** Other dam impacts, for instance, on sediment transport and discharge (e.g. out of season peak discharge, hydro-peaking, changes in temperature regime) require mitigation as well. Side channels with at least 30% of the flow under any conditions would massively reduce the impact of such facilities.

Recommendation 5: Where the construction of efficient fish passage is not viable as a result of the low capacity of the existing facilities, the removal of such facilities must be considered.

Recommendation 6: Prioritization of conservation and mitigation measures on sturgeon rivers should be applied at catchment level to maintain the ecological functions and to ensure the highest feasibility and the lowest adverse impact of technical infrastructure.

Fisheries Management

Recommendation 7: Fisheries management (e.g. planning, inspection, supervision, protection, and enforcement) and other conservation actions must be properly integrated at all levels to ensure that both aspects are adequately implemented by personnel with appropriate expertise and resources backed up by an efficient and integrated legal framework.

Recommendation 8: The legal prerequisites of fisheries regulations must reflect the dimension that poaching imposes on conservation efforts and on populations of long-lived species. Therefore, substantial fines and/or custodian sentences have to be in place. The judiciary should be adequately informed about the context and implications of such offenses to ensure that substantial penalties are imposed.

Recommendation 9: Communities that traditionally relied on sturgeon fisheries for their livelihood have to be supported in generating alternative means of income in order to facilitate compliance with fisheries bans or harvest slots.

Recommendation 10: Fisheries researchers and managers are advised to rapidly develop and implement more selective harvesting methods, thereby preventing (or greatly reducing) the by-catch of sturgeons in fisheries for other target species.

Species Survival and Repositories

Recommendation 11: Preparation of activities to preserve the diversity of sturgeon populations outside of their natural habitat (*ex situ* conservation to save the remaining genetic heterogeneity and to develop potential brood stocks for sturgeon species that are on the brink of extinction) must receive priority and timely support in sturgeon rehabilitation programs.

Recommendation 12: Effective organization of *ex situ* stocks must be shared between range countries to reflect the joint responsibility for population management. This will also help to distribute associated costs of restoration as well as to reduce the risk of losses due to local negative events.

Restocking, Recovery and Re-introduction Actions

Recommendation 13: Stocking as a compensation measure is considered a temporary tool to overcome adverse environmental conditions causing recruitment failure or to initiate self-sustaining populations. A management structure at the national or regional level, according to the species distribution, must be established to coordinate the actions and standardize methods for reproduction, rearing and release.

Trade Control

Recommendation 14: Due to the detrimental impact of uncontrolled, illegal fishing on natural populations, the illegal trade in caviar, sturgeon meat and other products from sturgeons must be a focal area of enforcement actions both nationally, regionally, and internationally. Therefore, it has to include the provision of sufficient resources (including manpower, equipment, operational costs, etc.) for all relevant law enforcement agencies to effectively prevent sturgeon species from over-exploitation.

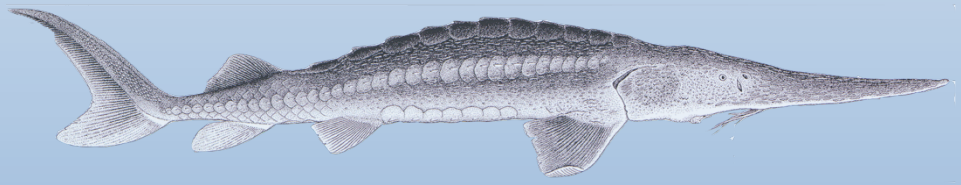
Recommendation 15: Responsible national authorities (e.g. CITES scientific & management authorities, customs, food inspections, law enforcement agencies) are requested to establish formal/informal inter-agency groups (with the involvement of scientific institutions, customs, police, and financial crime specialists) to develop common approaches and harmonized means of tackling illegal wildlife trade, supporting each other in the respective activities and backing up competencies in dealing with legal fraud.

Recommendation 16: Inspections in production and trade are to be carried out unannounced. They must use state-of-the-art techniques (e.g. DNA and isotope analysis) that are necessary to identify the species and origin and thereby guarantee effective monitoring of trade in caviar and other sturgeon commodities. This also needs to include caviar containers with CITES labels, as long as manipulations cannot be ruled out completely.

Recommendation 17: Close cross-border coordination of enforcement actions concerning illegal trade of sturgeon products is required to cope with international criminal networks.

Recommendation 18: Enforcement authorities should increase their attention to the presence and authenticity of labels in line with the latest CITES labeling systems. The professional preparation and the method of application of labels must be standardized at an improved level to prevent misuse and prevent loss of labels during packaging, transport, and storage. Also, the printing quality of the CITES codes should be improved to minimize fraud.

Recommendation 19: To ensure full acceptance in court cases, analytical methods should be harmonized using appropriate scientific and laboratory standards, preferably with regular inter-calibration exercises between laboratories performing DNA and other investigatory analysis.



Aquaculture

Recommendation 20: Sturgeon species produced by aquaculture operations should be routinely monitored in line with national or regional (EU) regulations as well as with regard to environmental compatibility and product safety. To identify and prevent illegal import or laundering of illegally caught fish through aquaculture, the production and trade of sturgeons requires specific monitoring and control measures within the aquaculture industry. To prevent negative interaction between farmed and natural populations/species (e.g. hybridization, disease transmission, misidentification in case of by-catch), effective measures to prevent escapement from the farms should be implemented.

Recommendation 21: The aquaculture industry involved in sturgeon production is strongly encouraged to collaborate in identifying tracking approaches to support enforcement authorities in trade control actions. It is suggested to establish tissue repositories identifying captive stocks to allow a more efficient and fast commercialization of legal sturgeon products.

Recommendation 22: Commercial farms, culturing sturgeons for consumer markets, may in exceptional cases be important partners in conservation programs to bridge the time-window until the required public infrastructure for *ex situ* conservation is in place. Those farms may become conditionally involved and receive support for maintaining publicly owned broodstock of sturgeon species at brink of extinction if the following prerequisites are fulfilled:

1) supervision of the rearing process is carried out under the national/regional conservation authorities implementing the sturgeon recovery programs;

2) the wild fish (until F2 generation) are not owned by the farm but belong to the national or regional sturgeon recovery program, and the farmer is held fully reliable for their availability and the appropriate documentation;

3) the breeders are selected for reproduction based on prior genetic analysis and an agreed-upon breeding plan. The rearing of offspring is separated from production, implementing the recommendations on *ex situ* rearing;

4) utilization of the surplus production of progeny for commercial purposes must take into consideration the demand arising from restoration programs in the catchment before commercial use is permitted in a case-by-case decision by the coordinating body.

Policy Integration and Awareness-Raising

Recommendation 23: Public awareness will need to be raised in order to support and push for political action towards implementation of all the above mentioned recommendations. The general public in sturgeon range countries should be made aware of the value of sturgeons to people and nature and their threat status. In particular, caviar consumers must learn how to avoid illegal products. Key stakeholders from various sectors need targeted information about sturgeon conservation. Awareness of key decision makers will have to be raised about the need for integrated policy responses and implementation of above mentioned recommendations.

This document was presented to and discussed by the participants of the 8th International Symposium on Sturgeons (ISS8) during the final session and finalized by correspondence through expert contributions.

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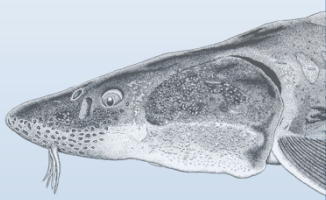

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