



International Workshop
"Danube Sturgeon, where to go?"
17-24 September 2018, Sf. Gheorghe, Romania

Workshop Objectives and Major Outcomes:

1. International Station for Research and Conservation of Danube Sturgeons in the context of Pan European Action Plan for Sturgeons (conceptual note, current context, technical details)

- Presentation by Tudor Ionescu: International Station for Research and Conservation of Danube Sturgeons-Conceptual Note. (Such a facility can save Danube sturgeon biodiversity, development process to be started in 2019).
- Excursion to potential future site on the Central Canal between Sf. Gheorghe and Sulina on the shore of the Black Sea (mosquitos and cows are ruling).
- Discussions on different concepts for future conservation facilities/ ex-situ facilities.
- Presentation on the future Pan-European Sturgeon Action Plan by Dr. Ralf Reinartz and its implications for sturgeon conservation in the Danube and the Black Sea. (A framework for future Action Plans and conservation actions to be presented to the Standing Committee of the Bern Convention in November 2018).

Outlook/ Conclusions:

- The facility is urgently needed. A potential site has already been secured. The future potential facility to preserve sturgeon biodiversity in the Danube and Black Sea is in accordance with the new Pan-European Action Plan.
- The planned system should allow for extension in a modular way.
- The facility should be run by an international board from Danube countries according to national and European law.
- Stakeholders should be involved in activities resulting from facility operation.

2. Laying the basis for Sturgeon Assessment and Monitoring in the Lower Danube and Black Sea Region – including exercises in practical field work

- Presentation on Monitoring and Assessment by Dr. Ralf Reinartz: Population Monitoring – general introduction and definition. (Monitoring, as a series of assessments according to a set of objectives and questions, should be long-term, continuous and comply with the life-cycle).
- Presentation by Tudor Ionescu on the sturgeon life-cycle and associated aspects. (Additional research, e.g. on feeding, homing and imprinting, and other remaining questions/ deficits in knowledge should be conducted within a common strategy).
- Presentation by Tudor Ionescu of current monitoring data and results in comparison with historical data and information from the region (overfishing could be documented for at least one century of commercial sturgeon fishing, legal sizes allowing the catch of juveniles contributed to the population decline; GIS maps documented the dynamics of sturgeon fishery in the Danube and the Black Sea in the last year before the moratorium in 2006).
- Field work on sturgeon assessment and monitoring in the mouth of the Danube and the Black Sea (four times, six sturgeons, consisting of five *Acipenser stellatus* and one hybrid of wild origin were caught and scientifically documented; fishing is impaired by seasonal high densities of jellyfish).
- Discussions with local stakeholders from fisheries (frustration still prevails in the fisheries community because of the following reasons: no compensation was provided for the loss of sturgeon fishery, there was no previous information/ communication to prepare for the moratorium, moratorium not based on scientific study, private enterprises are accused of profiting to the detriment of the fishermen by lobbying towards a moratorium and sell sturgeons

for stocking at the same time; the invasive species *Rapana venosa* potentially has a great impact on the food-base of sturgeons, especially *A. gueldenstaedtii*.

- Costs of monitoring campaigns between 2013 and 2018 (field work and data handling, targeting juveniles and adults of the feeding population in the Black Sea) were optimized and reduced by 50 % due to adaptation and gaining experience.

Outlook/ Conclusions:

- A common transboundary monitoring encompassing the whole sturgeon life-cycle for all species and populations is needed.
- Monitoring should be extended in effort, continuity as well as including additional methodology/ technology to refine information and data and to increase animal welfare (like non-invasive techniques e.g. ultrasound of gonads and internal organs).
- Major reason for sturgeon population decline was overfishing.

3. Defining proper approaches to species protection and ex-situ for the Lower Danube and Black Sea Region: broodstock, facility and procedures

- Presentation by Prof. Dr. Mikhail Chebanov: Sturgeon conservation in the Kuban River, Sea of Azov Basin, Russia (apart from animal welfare, non-invasive techniques and genetic diversity, also a prolonged spawning period, a high variability in the juvenile sizes and patterns of release with regard to location and timing are important for the conservation of a sturgeon population gene-pool).
- Proposal of Plan B by Dr. Jürg Bloesch: Ex-situ conservation using existing commercial private enterprises (fish farms/ hatcheries/ aquaculture facilities) in a single or in a parallel approach with a public facility (Plan A see item 1); a SWOT analysis was performed (see Annex 2). Plan B was discussed controversially and no agreement was reached. It is aiming to identify genetically suitable individuals for potential stocking and keep them separate, while the rest remains for continued economic production.

Outlook/ Conclusions:

- The facility must function according to the principle of a living gene bank for Pontian sturgeons and their release including molecular genetic characterization of breeders, a breeding plan, use of non-invasive techniques for monitoring of breeders, optimization of animal welfare, rearing and propagation with prolonged season of spawning, respecting the ecological requirements of the Danube and the Black Sea.
- Release of animals primarily serves the restoration of populations (not fisheries).
- Know-how from existing facilities for sturgeon conservation has to be incorporated.

4. Topics for joint project proposals for the above

- Tools (strategy & brain) to synchronize research projects and conservation measures with the Pan-European Action Plan and between range countries.
- Project for the development of an International Research and Conservation Facility
- A cooperation between the planned international research station and the State Regional Centre for Sturgeon Gene Pool Conservation "Kubanbioresursi".
- Standardization of methodology and exchange of data and information

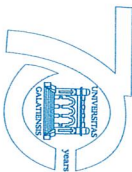
Final remarks

The workshop was conducted in a constructive and polite atmosphere. List of participants: see Annex 1. All formal and also informal discussions contributed to a mutual gain in knowledge. All of this was made possible by the tireless support of the excellent and friendly staff of Sf. Gheorghe Research Facility (Stațiunea de Cercetare Sf. Gheorghe) from the Research and Development Centre for Sturgeon Aquatic Habitats and Biodiversity of the "Dunarea de Jos" University of Galați. *The workshop was financed by MBZ Conservation Found (International Project no. 182518082. and DJUG.*



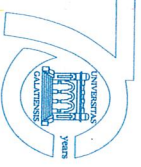
Research and Development Centre for Sturgeon, Aquatic Habitats and Biodiversity

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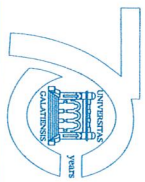


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SWOT Analysis – Sturgeon ex-situ conservation using existing commercial private fish farms (PLAN B)

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| <p>STRENGTHS</p> <ul style="list-style-type: none"> - pragmatic - relatively cheap - fast - more realistic than a new facility - suitable broodstock readily available - flexibility - speed reaction on the requirements - wide possibility to select necessary capacity fast to avoid loss of sturgeon genetic fund - fast involvement of highly qualified experts - available funding - existing facilities - existing broodstock - existing knowledge for propagation and rearing sturgeons - start small with the most critical issues and scale up if successful - | <p>WEAKNESSES</p> <ul style="list-style-type: none"> - private control/monopoly of resources / genetic material - suboptimal rearing conditions - legal difficulties - most careful control of fitness of juveniles before releasing - in Romania the research institutes are from the state; it will be a big contradiction between these institutes and private companies - pressure of private companies on wild populations will be higher - only few breeders for each sturgeon species leading to genetic problems in time - presently there are no broodstocks in Romanian farms (only young breeders) - few persons really may be able to conduct artificial propagation - difficulties to address all the conservation principles to obtain viable and suitable progeny for the wild - difficulties to obtain additional funds for farmers to make them co-interested to keep up with the program - most of the existing farms have not research equipment - in a single farm the mature broodstock for 1 species is limited in number and diversity - the genetic biodiversity of sturgeons from the farm - the farm configuration is not for conservation - fishing of adult sturgeons in the Danube for reproduction - |
| <p>OPPORTUNITIES</p> <ul style="list-style-type: none"> - immediately applicable - use existing broodstock of species that are near to extinction - apply scientific prerequisites of theoretical ex-situ strategy - use potential willingness of selected private aquaculture owners - cooperation between state and private sector - very fast organization of start program in large scale - transfer of good practices - the existence of the constructions aquaculture facilities - use the last specimen that may not be found in the wild - share the expenses with the farmer - involve other farmers in conservation if successful - share research knowledge - | <p>THREATS</p> <ul style="list-style-type: none"> - combination with economy (profit oriented) - intermix of genetics - release of unwanted species - uncontrolled crossing - inbreeding - monopoly of powerful private company - political influence - genetic bottleneck for sturgeon population - adaptive problems during growing facilities (health) - risk to have low genetic diversity - risk to mix progenies with hybrids and have genetic pollution - in the long term the owners may change or loose their interest for conservation activities - farmers may not follow the program according to the signed contract - monopoly of stocking mismanagement - short-term solution - |