2020

sustainable opportunity

STURGEON CONSERVATION FARM



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The succession of programs

"INNOVATIVE REPRODUCTION STURGEON FARM & SUSTAINABLE HARVESTERS"

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Continent Europe has the privilege of having one of the largest freshwater river basins in the world, organized around the river called the Danube. With a length of 2,500 km, from its springs to its discharge into the Black Sea, the Danube is both a natural habitat and a migration corridor for some of the largest fish species in the world.

The Danube has been a source of water in a unique biological and vegetal diversity as well as food through fishing that has been done since time immemorial, for all the civilizations and populations that lived and developed on its shores.

The river basin of the Danube and the tributary rivers represent more than 8 % of the entire surface of Europe, giving rise to a magnificent delta at the meeting with the Black Sea. Delta that is home to hundreds of thousands of migratory birds and a unique flora and fauna in the world.

Sturgeons (family Acipenseridae) are one of the most endangered groups of animals from world. Sturgeons (family Acipenseridae, order Acipenseriformes, infraclass Chondrostei) are among the most ancient fish still present on Earth, dating back to Upper Cretaceous times and believed to have diverged from an ancient pre - Jurassic teleost lineage approximately 200 million years ago. They are considered “living fossils” because they do not seem to have changed much morphologically since from the time of aparition.

In the lower part of the Danube, on the arms that cross the Danube Delta today live and migrate the last flocks of the most famous sturgeon species: Acipenser Gueldenstaedtii, called Nisetru in Romanian, or "Russian Sturgeon" because this species is also found in the Sea Caspian, Acipenser Stellatus called Trout in Romanian or "Sturionul Stelat" and the largest sturgeon in Europe sturgeon (Huso huso) called Morun in Romanian, known as "Beluga". These species are anadromous, coming to live in the Black Sea, while the sturgeon Acipenser Ruthenus called Cega in Romanian, known as "Sterlet" is a potamodromous, living only in the Danube River and its large tributary rivers.

European sturgeon and Nava sturgeon (Acipenser Sturio, or Acipenser Ship) are probably extinct or in very small quantities, their presence has not been reported for a very long time.

Sturgeons breed in early spring, some of them migrating in autumn from the Black Sea and wintering in the waters of the Danube river in winter.

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The reproduction of these sturgeons until the 19th century included migrations over incredibly long distances. But their epic journey upstream, today is fragmented by the dams of hydropower plants and hydrotechnical constructions on the regulation of the river water level through dams.

The use in the construction industry of habitat elements such as gravel or sand from the Danube river bed as well as shipping routes for ships and barges are other factors of stress and pressure on these species.

But the most dramatic cause of their disappearance in modern times is poaching and inefficient policies, often carried out by corrupt, unspecialized administrative instruments and under political control with no vision and no respect for the environment.

The Danube is in serious trouble and sturgeons are the first indicator of the health of the aquatic environment.

For over 3,000 years, sturgeons have been mentioned in the writings of the times or captured in the accounts of ancient writers. Their fishing was a great attraction for the people on the banks of the river and beyond. From the 12th century until the

17th century, the management of sturgeon fishing at the Danube was almost always under the protection and management of a Genoese or Venetian governor.

But the decline of sturgeon populations is not only the consequence of the anthropogenic effects of the last century, hydrotechnical constructions and water basin pollution as a result of industry and intensive agriculture that has developed in the river basin. The decline of sturgeons begins in the Middle Ages and continues rapidly into the early days of the 20th century. In the 14th century sturgeons were fished "as much as possible" by placing fences that forced them to enter directly into rows of ruthless hooks lined up between the waters, called "carmace", hanging by the tens of thousands in the gates fence left free.

There are days in the annals of history of the capture of over 2,000 large sturgeons, and a large sturgeon ... was that specimen that had to be pulled ashore with two pairs of oxen. At the Grigore Antipa Museum there was an impeccably reconstructed sturgeon, which would have weighed over 1,500 kg alive.

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During the communist period in Romania, the ruthless decimation of sturgeons continued in order to obtain the coveted caviar, which was exported all over the world. In modern times (also a kind of communism mixed with an adherence of a facade polished to the values and principles of the European Union), caviar has become just like in Roman times a luxury, only for the political class and its acolytes.

This phenomenon has encouraged large-scale poaching as an illegal activity and the illicit sale of sturgeon or caviar, often under the watchful eye of the authorities, with corruption going to the highest level in the state.

The fear of specialists is that sturgeon numbers are so small that even if miraculously poaching were stopped and all thresholds and artificial dams were exceeded, sturgeons would be in great difficulty due to the loss of critical mass of specimens capable of reproduction.

The idea of repopulating sturgeon brood is only one facet, which only solves the desperate situation of sturgeon, but repopulating sturgeon brood is within our reach today and we must do it before it is too late.

But this is not an easy thing, because the subject must be in agreement with 19 countries with different national cultural specificities, with traditions and customs, sometimes not exactly ecological, and the coordination of such a project is extremely delicate and generally destined to failure.

On the other hand, preserving the purity of the genetic lines is the keystone of the success of any project, a purity that must be preserved and certified with great care, compared to each sturgeon chick released in the natural environment.

The danger of inbreeding or the appearance of specimens whose future reproductive capacity is compromised is very high.

It is not an easy project and from the perspective that from the first day from hatching to the release of each sturgeon in the wild, it must be treated like a wild fish, without being fed with artificial food, or be exposed to the artificial environment of the farm.

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Light, temperature, noise level, pool texture, water column height, chemical and microbiological parameters of the water must not be outside the natural environment. Great attention must be paid to the phenomenon of "friendship" the so-called domestication of sturgeon performed by farm staff when fed.

The largely repopulated failed programs of Iran, Russia, and even countries bordering the Danube, such as Austria, Hungary, Bulgaria, and of course Romania championing the systemic failure of any repopulation, can be taken as negative references.

These activities, and especially the moratoriums on in situ repopulations, cannot be done without the contribution and without the contribution of experts dedicated to the field such as: Paolo Bronzi, Mikhail Chebanov, Thomas Friedrich, Ralf Reinartz, Jörn Gessner, Leonardo Conciu, Radu Suciu and others. members, experts of the World Society for the Conservation and Protection of Sturgeon (WSCS), or other programs.

All these experts will be invited whenever they need to offer their expert services for a fee as collaborators hired to ensure the accuracy of the scientific and technical development of the project.

The history of efforts and intentions to repopulate the Danube is rich in initiatives and challenges since the Berne Convention of 2005, when a first "Action Plan for the Conservation of Sturgeons in the Danube Basin" was developed, which was then ignored, even by its signatories.

The suspension of sturgeon fishing in parts of the Danube belonging to Serbia, Bulgaria and Romania in 2006, was followed by a period of several years, in which no sturgeon was officially fished, but in fact all parties involved did so.

An operative group was created for the sturgeons on the Danube, but at least on the Romanian side it was led by people who did not have the necessary skills to understand such an extremely complex subject.

The Sturgeon 2020 programs supported by the European Danube River Basin Strategy (EUSDR) are another example of how the road to sturgeon heaven is paved with the good intentions of politicians.

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The adoption of the “Pan European” Action Plan for sturgeons with the involvement of the best experts tried to promote the issue of migratory species in the Danube at a political level that would involve all partners and those interested in concerted actions.

A pilot project "LIFE-Sterlet" with reference to the restoration of populations in the Danube on the Austrian side proposes a much higher approach to the specific issues of the release of young specimens adapted to the wild environment of Acipenser Ruthenus in the Danube.

Other programs have been identified that aim to raise the young in the most natural conditions possible before they are released, but for now these issues have been resolved in isolated cases and with reference to stocks of sturgeon in extremely small quantities, or mostly just on paper.

But the disarming situation of sturgeons depends in the future on the situation in the migration channel, which is blocked along the Danube, by more than 35 hydrotechnical constructions, which will certainly never be removed, some protecting large cities from catastrophic floods, or additional corridors of migration will be created in due time and that in the fight for the survival of these species will

take precedence the economic arguments combined with a form of inertia of passive conservatism and indifference.

At this moment, the repopulation with small sturgeon seems to be the only way to preserve the natural diversity of the Danube basin. These repopulations must be made on all segments of the Danube both in the lower and middle and in the upper part of the Danube.

Advanced genetic control is a mandatory component in any endeavour.

These projects must be carried out and supported at least a few decades from now in order to reach a mass critical to the survival of sturgeon species in the future and to create a biological mass with the characteristics of a gene bank in the hope of repairing the migration corridor and lost habitat through anthropogenic interventions.

Between April 2015 and March 2016, a program called "STURGENE" took place. Program to identify the main measures that should be implemented in the coming years to preserve and ensure the genetic background of sturgeon in the Danube and to prevent their extinction.

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A field survey of existing farms and aquaculture facilities was launched in Serbia, Bulgaria, Romania and Ukraine at the beginning of the project, in order to identify possible locations for a future breeding station, where to identify optimal conditions for ex conservation situation, but the final report did not identify in these countries even a single farm with suitable facilities and in working order to be used in the repopulation with small sturgeon of the Danube.

In order to facilitate the harmonization of conservation activities between stakeholders from different Danube countries, a roadmap has been prepared and disseminated for the implementation of ex-situ conservation measures in the countries in the middle and lower Danube, with the support of the International Commission for the Protection of Danube River and EUSDR - PA 6 (Biodiversity).

The roadmap outlines the main directions that should be addressed in the next few years to support the implementation of these ex-situ conservation activities, for a fee by potential private operators with experience in sturgeon breeding, genetic

purity and adaptation of these herds sturgeons return to the wild with a chance of survival.

The measures planned for 2016 are summarized below:

• Feasibility study for conservation, as a basis for the ex-situ conservation program (conducted)

• Genetic inventory of captive sturgeons to select suitable female and male candidates for future restocking programs (completed)

• Establishment of a high capacity breeding unit (unrealized)

In fact, this point is the subject of the draft application

• Launch of an immediate rescue program for the sturgeon Acipenser gueldenstaedtii (the species most at risk of extinction) (unrealized)

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Between 2016 and 2020, a program was developed on "Sustainable protection of sturgeons in the lower Danube by preventing and combating poaching and illegal trade in wild animals."

The project was called: LIFE for Danube Sturgeons and was carried out in partnership by specialists and teams of volunteers from countries such as Austria, Bulgaria, Germany, Romania, Serbia, Ukraine. The management of this program was done through the LIFE program of the European Commission for Environment and Climate Action.

The International Commission for the Protection of the Danube River (ICPDR) also works to ensure the sustainable and equitable use of freshwater and freshwater resources in the Danube River basin. The work of the ICPDR is based on the Danube River Protection Convention (DRPC), the major legal instrument for cooperation and transboundary water management in the Danube River Basin.

In 2018 ICDPR launched a document called "Strategy for Sturgeons". Considering sturgeons a first-priority challenge.

The strategy is built around the idea of repopulating and restoring migration channels, stopping poaching and industrial pollution of the Danube river basin.

The largest stock of the sturgeon population in the European Union still living in the wild can be found in the lower Danube Catchment. Today sturgeons belong to the most threatened species on the IUCN Red List.

The factors driving sturgeons to extinction in the European Union are manifold and include over-exploitation and illegal marketing (stemming from improper fishery management and insufficient legal enforcement of fishing bans), blocked migration routes through dams and loss or degradation of habitats and other negative pressures such as pollution and poaching.

The whole of humanity, and especially Europe, has a duty and a mission to save sturgeons from extinction.

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