SUSTAINABLE PROTECTION OF LOWER DANUBE STURGEONS BY PREVENTING AND COUNTERACTING POACHING AND ILLEGAL WILDLIFE TRADE

LAYMAN’S REPORT, PROJECT: LIFE 15 GIE/AT/001004

Photo: © Clemens Ratschan
Experts confirm that sturgeons are highly sensitive to habitat changes and that sturgeon populations have been most seriously affected due to the loss of suitable habitat in the Danube River basin. Altered habitats can immediately impact their spawning, wintering and feeding success and can ultimately lead to their extinction.

**PROJECT OBJECTIVES**

The "LIFE FOR DANUBE STURGEONS" project focused on saving sturgeons, the flagship fish of the Danube. The reasons for their decline are complex, but lack of awareness and information is a root cause of the most important factor: overfishing. Despite strict legal protection, illegal fishing and trade in meat and caviar from wild sturgeons still endanger the last survivors of these ancient and iconic fish species. Seven organisations from six countries teamed up for more than four years (2016-2020) to improve sturgeon protection. Sturgeon Advocates were introduced into the fishing communities and acted throughout the project as mediators, raising awareness among fishermen of the need for sturgeon protection and compliance with legislative measures. Together with fishing communities, alternative income sources were researched and developed to reduce dependency on formerly prestigious but now illegal activities. Law enforcement agencies were supported in building capacity and enhancing their fight against poaching, smuggling, and illegal trade. In addition, markets for caviar and sturgeon meat were closely monitored and informed about legal requirements.

**COORDINATING PARTNER:**

**WWF AUSTRIA**

Project partners: WWF Romania, WWF Bulgaria, WWF Adria in Serbia, WWF Central Eastern Europe, Danube Delta Biosphere Reserve Authority (Romania), Leibniz-Institute for Zoo and Wildlife Research (IZW) (Germany)

**LOCATION**

The project region is the Lower Danube and North-Western Black Sea coast, home to the last viable sturgeon populations in the European Union. Conserving and protecting existing sturgeon stocks is now more important than ever. However, Romania and Bulgaria, two of the lowest-income EU Member States, still bear the greatest overall responsibility for doing so, as well as Serbia and Ukraine, one of which is a candidate for EU accession and the other being a potential candidate.

Ukraine was the first of these 4 countries to prohibit sturgeon fishing in 2000. In 2019, Serbia included the Sterlet in the permanent sturgeon fishing ban. In 2021, Bulgaria extended the sturgeon fishing ban for another 5 years, while the extension is still under discussion in Romania in the early months of 2021.

**TARGET GROUPS**

The project focused on the 3 key target groups in Bulgaria, Romania, Serbia and Ukraine:

- Fishermen and fishing communities, including young people;
- Law enforcement authorities;
- Shops, restaurants, markets, online traders, aquaculture facilities, etc., offering sturgeon meat or caviar.

While the main activities were organised around the needs of those three main groups, interaction with other stakeholders was maintained throughout the entire project to include scientists, protected area administration bodies, NGOs, national, local and EU decision makers, EU and international bodies and interested members of the public, including potential caviar consumers and residents of the Lower Danube and Black Sea regions who are not directly involved in fishing but are still somehow involved in the activity as such.

**STURGEONS ARE ESPECIALLY VULNERABLE TO OVERFISHING BECAUSE OF THEIR LONG LIFECYCLE AND LATE MATURITY, AT AN AGE OF UP TO 20 YEARS.**

**BEFORE THE FISHING BANS WERE INTRODUCED, THE MAIN DIRECT THREAT TO STURGEONS WAS OVERFISHING. TODAY IT APPEARS TO BE POACHING.**

---

**SUSTAINABLE PROTECTION OF LOWER DANUBE STURGEONS BY PREVENTING AND COUNTERACTING POACHING AND ILLEGAL WILDLIFE TRADE**

---

**PROJECT SCOPE AND OBJECTIVES**

**VALUABLE AND THREATENED**

Sturgeons are among the most valuable fish worldwide. Until recently, sturgeons were extremely important for the economies of Romania, Bulgaria and Ukraine and had a significant role in commercial fishing in Serbia. However, the accelerated decline in sturgeon populations over the last decades has been a matter of severe concern for commercial fishermen, scientists, conservationists, states and their agencies.

According to the IUCN Red List, sturgeons are the most endangered group of species globally. There are 27 species of sturgeon (Acipenseriformes), all living in the Northern Hemisphere. They inhabit the rivers, lakes and coastal waters of Europe, Asia and America. In Europe, eight species of sturgeon can still be found, but seven of these are listed as Critically Endangered.

**DANUBE STURGEONS**

Less than a century ago, six species of these ancient fish were native to the Danube: Beluga (Huso huso), Stellate sturgeon (Acipenser stellatus), Russian sturgeon (A. gueldenstaedtii), Sterlet (A. ruthenus), Ship sturgeon (A. niger), and European sturgeon (A. sturio). Five of them are now classified by the IUCN as Critically Endangered, with the European sturgeon already extinct in the Danube and the functional extinction of Ship sturgeon being discussed among experts. Sterlet has been assessed as Vulnerable.

Overfishing – legally in the past and now illegally – is the main direct threat to the survival of Danube sturgeons. The main driver for overfishing is the extremely high economic value of sturgeon caviar. Sturgeon meat is also in demand as a delicacy. Illegal or unreported fishing can make up to 90% of sturgeon catch and sturgeons will not survive unless fishing pressure is greatly reduced.

Furthermore, spawning migration is an integral part of the natural life cycle of all Danube sturgeons. This makes them especially sensitive to the impacts of physical barriers such as dams. Located just below the Iron Gates gorges between Romania and Serbia, Iron Gates is the largest hydropower dam and reservoir system along the entire Danube. The Iron Gates dams do not have technical facilities such as fish passes or bypasses, designed to assist fish migration. The dam encloses the fish and they cannot complete their migration to their traditional spawning sites. Confined sturgeon populations can experience the negative effects of inbreeding and loss of genetic variability.

---

**IN THE PROJET AREA**

Experts confirm that sturgeons are especially vulnerable to overfishing because of their long lifecycle and late maturity, at an age of up to 20 years.
In addition, fishermen were provided sturgeon protection. Instilling a sense of responsibility for connections between fishermen and their incomes, strengthening with marketable skills to supplement gathering data on sturgeon stocks, the Black Sea coast. In addition to Danube; and monitoring and targeted training of fishermen in sturgeon research. Two types of methods were applied fishermen in sturgeon monitoring. alternative approaches were tested as absence of systematic monitoring, effective sturgeon conservation. In the poses a fundamental problem for the lack of empirical data on the cooperates with the project team. All 24 professional fishermen who were pivotal in the “LIFE for Danube Sturgeons” project in all four target countries.

RESULTS

Between July 2018 and September 2020, fishermen equipped with smartphones sent a total of 253 photos and videos of sturgeon – 60 photos from the Danube and 193 from the Black Sea – to WWF Bulgaria. 91 sturgeon specimens of all 4 surviving native species were reported and documented of-the-year, juvenile, and adult sturgeons. Furthermore, fishermen were trained to assist in any future activities to be conducted on numerous fish species which the state has an obligation to monitor. All 24 professional fishermen trained in scientific monitoring during the project can now be employed to support national or European monitoring programmes. Two of the trained fishermen have already been contracted under another project initiative co-funded by the EU.

In this way, fishermen were not only involved in sturgeon research but also enhanced their understanding, appreciation and sense of responsibility for sturgeon conservation. In the entire project region, fishermen started to release sturgeon bycatch and report it voluntarily to the project team and the authorities. This is unarguably one of the major successes of the project.

Fishing communities have been facing fundamental challenges due to their high dependence on declining fish stocks and the limited range of economic alternatives. This has led to poverty and depopulation in their communities. Change is hampered by difficulties in accessing financial support, fragmented and inconsistently institutionalised markets and, particularly, weak entrepreneurship. With a clear lack of other options to earn a living, overexploitation of wild fish stocks continues and, in some cases, this even includes illegal sturgeon fishing. It is therefore an urgent requirement to increase economic and social stability in villages deprived of their former income from sturgeon fishing. Opening opportunities for substitute revenue based on specific local situations will help to reduce pressure on wild fish stocks.

DEVELOPING ALTERNATIVE BUSINESSES IN FISHING COMMUNITIES

Eleven business plans were developed for nine communities in Bulgaria, Romania, Serbia and Ukraine. Most proposed ventures focus on the hospitality and tourism industry. Sustainable tourism — partly based on sturgeons as natural heritage — was identified as a promising business opportunity for five ventures. One sturgeon exhibition centre and two production ventures were also proposed.

All business plans build on local capacities and available resources. Most of the ventures have the capacity to break even in 2 to 5 years. These ventures are in different stages of development. A gourmet food outlet based on fresh fish was built and equipped in Romania and is now in its testing phase. A small grant was secured for training Bulgarian fishermen in customer care and business skills and adapting their boats to take tourists on trips along the Danube. Another venture in Romania will try crowdfunding to purchase e-bikes that will be rented to excursionists. Most ventures need to acquire sufficient funding and some have to gather additional market information to formulate a compelling value proposition for their customers, a total of 35 seasonal jobs and independent earning opportunities would be created. At least 27 households and 75 people would be positively affected by a significant increase in income (30-91% compared to the local average).

It has been possible to foster a sense of responsibility for alternative income generation activities in most targeted fishing communities. This included active collaboration in developing ideas and in providing information. It also extended to business initiatives set up by fishermen themselves, with support from the project.

11 BUSINESS PLANS WERE DEVELOPED FOR NINE COMMUNITIES IN BULGARIA, ROMANIA, SERBIA AND UKRAINE.

After the end of the project

Local leaders are a key factor in instilling a sense of responsibility in communities. Building trust is sometimes difficult, but always crucial. Communities are often hesitant initially and cannot see business opportunities. The most progress was made where a local leader (often the head of the fishing association) endorsed a business plan and became active. However, in some communities, proactive leaders and full venture teams have not yet been identified or formed. Start small and grow. Ventures are planned to be realistic, with low investment costs and small-scale volumes projected for their start-up stages. They generate experience and confidence, attract additional funding and act as pilots for larger income-generating activities. Nevertheless, an experienced and knowledgeable partner is required to provide ventures with hands-on support to successfully start their businesses.
TACKLING STURGEON POACHING JOINTLY WITH LAW ENFORCEMENT INSTITUTIONS

IMPROVING THE ENFORCEMENT OF LAWS AND REGULATIONS

Numerous law enforcement agencies responsible for controlling sturgeon fishing, breeding, trade, exports and imports and businesses such as shops, restaurants or markets offering meat or caviar were involved in targeted capacity building and inter-agency activities. The competent authorities identified an urgent need for improved cooperation between agencies, together with up-to-date knowledge of illegal activities and methods to detect and investigate them.

Cooperation and effectiveness in law enforcement are more important than ever, as there had already been strong indications of increased sturgeon poaching activity in the project region. In Bulgaria and Ukraine, hundreds of karmaci hook lines were discovered and confiscated by the authorities in the spring of 2020, from which two large Beluga sturgeons were rescued and released. Only in May 2020, Romanian law enforcement agencies reported three cases of wildlife crime involving sturgeon. Sterlet, Stellate and Russian sturgeons were found by law enforcement officers in fishing nets and later released. This is not the first recent case of sturgeon poaching in the area. In October 2019, Romanian Danube Delta Police rescued a 200 kg poached Beluga sturgeon.

The following activities were conducted to enhance the legal protection of sturgeons and its effective enforcement:

- Evaluation of national laws and regulations, standards and procedure to identify gaps or obstacles, formulating suggestions jointly with the authorities to overcome them, and advocacy activities for specific improvements.
- Production of informative materials, including 5 brochures and 3 training videos, to increase the capacity and support the work of enforcement officers responsible for sturgeon protection in the Lower Danube and the Black Sea basin.
- National workshops to enhance inter-agency cooperation and jointly develop possible solutions to enforcement problems; and a regional workshop with agencies from neighbouring countries to foster crucial cross-border coordination and cooperation.
- 28 training sessions for 22 law enforcement agencies in the project region, resulting in a total of more than 600 trained law enforcement officers within the project.

RESULTS

As a result of the intensified cooperation with law enforcement agencies, results with significant impacts on policies in all project countries were achieved, including the following:

- Increased control efforts and seizures, including good working relationships with WWF experts in detecting illegal activities and in rescuing seized sturgeons that were still alive;
- A Sterlet fishing and trade ban was introduced in Serbia as a result of a campaign run jointly by WWF and commercial and recreational fishermen;
- In December 2020, the total ban on commercial sturgeon fishing was extended for another 5 years in Bulgaria; in Romania, a permanent extension of the fishing ban has been proposed by the responsible ministry;
- The Ukrainian Customs are now officially in charge of border controls on the wildlife trade. This serious legal gap was identified by the project, which led to amendment of the Customs Act;
- In Ukraine, significant legal amendments were introduced in relation to fishing (gear) restrictions on sturgeon will be extended as an unlimited prohibition from 2021 onwards.
- In Romania, an inter-departmental agreement between all relevant law enforcement authorities was signed and there have been signs that the temporary catch and trade ban on sturgeon will be extended as an unlimited prohibition from 2021 onwards.

Most of the cases that eventually result in prosecution and reach trial proceedings end up with minor penalties and hardly any significant consequences for the perpetrators of wildlife crime. This is the first of a series of WWF information materials for prosecutors and investigators and will be followed by further key communications and joint activities after the end of the project (SWiPE - Successful Wildlife Crime Prosecution in Europe under the LIFE project; LIFE29 GIE/BG/0000846).
ACKNOWLEDGING THE IMPORTANCE
OF YOUNG PEOPLE AND VOLUNTEERS
IN STURGEON PROTECTION

STURGEON WATCHERS - VOLUNTEER PATROLS TO PROTECT STURGEONS

Sturgeon Watchers was initiated in the Ukrainian Danube Delta from 2017 to 2020 as a network of volunteers to support enforcement agencies on their patrols to detect and prevent sturgeon poaching. The volunteers received theoretical and practical training and attended field missions to protect sturgeons on their migration routes.

Four missions took place between June 2017 and July 2020, with volunteers accompanying partner agencies on their patrols to detect and prevent sturgeon poaching. The volunteers received tailor-made online training videos and presentations.

RESULTS

The Sturgeon Watchers missions proved to be an effective contribution to protect sturgeons on their downstream migration. On their joint patrols with enforcement authorities, the volunteers identified and removed illegal fishing gear and freed 6 adult Stellite sturgeons from nets, releasing them back into the river. Local enforcement agencies became increasingly involved and started organising special patrols during the Sturgeon Watchers missions. The volunteers were actively involved in Vylkove, the main fishing community in the Ukrainian Danube delta, and highlighted sturgeons and their protection. Residents appreciated the interest and dedication of people from other parts of the country and this contributed to their acknowledgement of the nature conservation value of their native sturgeons.

After the end of the project

As a result of the partnership established with DBR, it was agreed that the institution will gradually take over the scheme. In July 2020, DBR jointly organised the 4th Mission with WWF. The 5th Mission (in 2021) is to be organised solely by DBR. Local enforcement agencies appreciate the benefits of this activity and continue to support it. Considerable interest has been generated among potential volunteers, which will ensure that the highly effective volunteer programme in the Danube delta will keep on saving sturgeons.

IN Volving young people from fishing communities

The project organised several events, supported schools and eco-clubs and provided a selection of educational publications to maximise the involvement of young members of fishing communities in view of often difficult local conditions and make them familiar with alternative income options and livelihood prospects.

Every year during implementation of the project, Danube Day was celebrated together with fishing communities and their youngest members. Children and young people from Beleu, Ruse, Jurilovca, Tulcea, Prahovo, Vylkove and Kilya took part in celebrations featuring performers by local dance groups and children’s vocal bands, interactive games, photo exhibitions of the rich fauna of the River Danube, a pavement drawing competition, live demonstrations of the natural size of Beluga sturgeon, photo collage workshops and even a triathlon including cycling, kayaking and running.

RESULTS

Among the most active youngsters were those from Active Youth for the Danube and Sturgeons Clubs in Romania, who not only learned about the specific characteristics of sturgeons during summer camps in Tulcea, but also built a canoe, took part in training sessions, hosted Earth Hour activities in Galati and Jurilovca and produced an illustrated booklet on sturgeons.

In 2020, the project team proved to be highly adaptable to the ongoing COVID-19 restrictions and instead of the traditional Danube Day celebrations, the Serbian team launched a virtual exhibition about sturgeons. Entitled Sturgeon’s: A Migratory Treasure of the Danube, this unique exhibition was created by WWF-Adria and local community partners from Negotin to provide people with information about the critical role that communities can play in ensuring the survival of these extraordinary species.

In Bulgaria, attractive celebrations including telescope observations, documentary film screenings, interactive learning games and art installations were held annually (from 2017 to 2019) in several cities on the Black Sea coast, marking the full moon in August, also known as the ‘Sturgeon Moon’.

A 3D sturgeon is one of the ongoing attractions at the Danube Biosphere Reserve visitor centre in Vylkove, Ukraine, where sturgeons are an emblematic species.

AN EDUCATIONAL VIDEO TRANSLATED INTO 5 LANGUAGES FOR STUDENTS AND TEACHERS AND A VIRTUAL EXHIBITION ARE AVAILABLE AFTER THE END OF THE PROJECT.

After the end of the project

All informative materials produced during the project remain available after its completion, including an educational video translated into 5 languages (English, Bulgarian, Romanian, Serbian and Ukrainian), sturgeon education packages for students and teachers and a virtual exhibition. The highly motivated youth clubs and school initiatives will continue raising awareness about sturgeon conservation in their communities. The project partners (WWF and DDBRA) will continue to support them.
FIGHTING THE ILLEGAL STURGEON MARKET IN THE LOWER DANUBE AND THE BLACK SEA BASIN

MARKET SURVEY

A large-scale survey of sturgeon meat and caviar markets demonstrated the occurrence of sturgeon trafficking in the Lower Danube Region and provided first-time evidence of the scale of poaching and the illegal sturgeon trade in Bulgaria, Romania, Serbia, and Ukraine.

Samples of sturgeon meat and caviar were collected in undercover activities from restaurants, shops, markets, aquaculture facilities, fishermen or online suppliers in all four countries from October 2016 to July 2020. The aim was to map the current market situation in the region, with a broad variety of retailers. The samples were analysed genetically to identify the sturgeon species or hybrids they derived from. They were also analysed for isotope composition to assess whether samples were from wild or aquaculture sources. In several cases, their geographical origin could also be determined. This exceptional combination of two forensic methods enabled this first-time insight into the wide range of illegal activities targeting sturgeons.

In all four countries surveyed, sturgeon fishing and trading were illegal within the time frame of the survey (except Serbia, where fishing and trading of Sterlet larger than 40 cm was legal until 1 January 2019).

RESULTS

The survey provided evidence that illegal fishing and trading in wild sturgeon products is alarmingly rife on a regional level. The isotope analysis proved that wild sturgeon products were sold in all four countries, with 27 out of all 145 samples (19%) proving to be of wild origin. Of these illegally sourced samples, 25 were meat and 2 were caviar. 17 samples of caviar (12% of all samples and 29% of all caviar samples) were sold in breach of CITES and EU wildlife trade regulations.

Both whitewashing (selling wild sturgeon products as derived from captive-bred fish) and blackwashing (selling farmed products as derived from wild-caught sturgeon), along with various forms of fraud (meat from other fish sold as sturgeon or artificial products as caviar) were found.

The wide range of illegal activities, from consumer deception to breaching CITES labelling and import regulations, to the illegal trade in wild-caught sturgeon, shows that the survival of highly threatened wild sturgeon species in this region will be dependent on continuous and increased efforts to reduce the threat of wild sturgeon trafficking.

THE ISOTOPE ANALYSIS PROVED THAT WILD STURGEON PRODUCTS WERE SOLD IN ALL 4 COUNTRIES, WITH 27 OUT OF ALL 145 SAMPLES PROVING TO BE OF WILD ORIGIN.

After the end of the project

The project partners reported their findings to the respective national agencies and EU and international bodies and the following recommendations were made for future action: enhanced monitoring of domestic trade; improved labelling as per CITES requirements; intensified cross-border and inter-agency cooperation; increased border controls; state-of-the-art forensic analysis and more and recurrent market surveys.

WWF and project partners gratefully acknowledge funding support from the European Commission. All content and opinions expressed in this publication are solely those of WWF and project partners.

For more information, please contact: sturgeons@wwf.at