A large, dead sturgeon fish is shown lying on a dark, metallic surface, possibly the deck of a boat. The fish is oriented vertically, with its head at the top. A significant, horizontal incision has been made along its side, exposing the internal organs and the underlying structure. The fish's skin is a mix of grey and brown, and its scales are visible. The background shows the metal structure of the boat, including a blue rope and some mechanical parts.

POACHING OF STURGEON: STILL A CONTINUING THREAT TO THE SURVIVAL OF WILD STURGEON IN THE LOWER DANUBE REGION

UPDATED EVIDENCE FOR STURGEON TRAFFICKING (2016 - 2023)
July 2024

WWF contributors:

Bulgaria: Borislava Margaritova, Stoyan Mihov
Romania: George Caracas, Alexandru Fratea, Cristina Munteanu
Ukraine: Darya Boldarieva
Sturgeon Initiative: Jutta Jahrl, Beate Striebel-Greiter

Acknowledgment for data provisions go to:

Romania

Police General Inspectorate- Public Order Direction
Border Police General Inspectorate
National Agency for Fishing and Aquaculture
National Environmental Guard

Bulgaria

General Directorate Border Police
Executive Agency for Fisheries and Aquaculture
National Customs Agency
Regional Inspectorates of Environment and Water

Ukraine

State Fisheries Agency of Ukraine with Black Sea Fishing Patrols
Customs officials
State Border Guard Service
State Environmental Inspection
State Judicial Administration of Ukraine



WWF-CEE gratefully acknowledges funding support from the LIFE Programme of the European Union. All views and opinions expressed are solely those of WWF-CEE and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor CINEA can be held responsible for them.



© George Caracas/ WWF-Romania. Danube Delta Romania Sf Gheorghe



CONTENTS

SUMMARY	41
INTRODUCTION TO THE PROBLEM	6
METHODOLOGY	8
RESULTS AND DISCUSSION - A REGIONAL OVERVIEW	9
Number of cases	9
Geographic distribution and hotspots	10
Fishing gear reported as used for illegal activities	12
Affected victims - individuals and species	13
Overall documented trends	15
Inconsistency of data	15
Legal situation	15
Involvement of corruption	16
Impact on shared populations	16
RESULTS FOR BULGARIA	17
Number of trafficking cases	17
Sturgeon specimens seized	17
Fishing gear seized	18
Localization of incidents	19
Control efforts	20
RESULTS FOR ROMANIA	21
Number of trafficking cases by year	21
Number of cases per species	22
Fishing gear seized	22
Number of specimens seized	24
Quantity of sturgeon meat and caviar recorded in seizures	24
Localization of incidents	25
Control efforts	27
RESULTS FOR UKRAINE	29
Number of trafficking cases by year	29
Number of cases and number of specimens seized per species	30
Fishing gear seized	32
Quantity of sturgeon meat and caviar recorded in seizures	32
Localization of incidents	32
Discussion of results	34
RECOMMENDATIONS	35
1. Law enforcement	35
2. Judiciary	37
3. All market actors including consumers	37
4. General recommendations for replication	37

SUMMARY

This report provides an update to the analysis of sturgeon trafficking cases in the Lower Danube region.

This report provides an update to the analysis of sturgeon trafficking cases in the Lower Danube region. Cases include violations of fishing bans and regulations, seizures of illegal fishing gear and sturgeon specimens, or sturgeon products entering the trade chain illegally. The data compiled and analysed in this report are largely provided by law enforcement authorities from Bulgaria, Romania, and Ukraine.

Overall, 395 cases of illegal activities targeting or involving sturgeon, identified between 1 January 2016 and 31 December 2023, are included in this study – out of which 144 cases in Bulgaria, 157 cases in Romania and 94 cases in Ukraine. After an initial increase, the yearly number of cases remained relatively stable, ranging between 50 and 65 cases per year.

The gear involved in poaching varies, but traditionally used unbaited hook lines (karmaci) targeting sturgeons are still in use in Bulgaria and Romania, despite being declared illegal. In total 988 karmaci, adding up to at least 37 km in length, have been reported only in Bulgaria.

The number of individuals countable in all cases totals 1031 sturgeons, including 3 from Bulgaria, 610 from Romania and 418 from Ukraine, yet in reality the numbers are much higher as the data is incomplete. This underlines the continuous damage being done to the last remaining wild sturgeon stocks, whose survival is already severely threatened.

The hotspots on county level contributing to more than a third of the total number of cases in their respective countries remained unchanged over the entire study period: Vratsa Oblast (county) in Bulgaria, Tulcea in Romania, and Odesa in Ukraine.

Due to inconsistencies in reported data and variations between countries and single reporting agencies, the numbers outlined in this report should be considered as the minimum numbers that occurred in the region over the assessed period. In reality, the numbers are certainly substantially higher but cases were not detected, recorded or reported, or relevant information was missing.

For the first time this year, the Romanian Police has thankfully provided information on its general fisheries control efforts, allowing deeper analysis. Two Bulgarian authorities provided data specifically on their controls regarding sturgeon poaching. For comparison between countries a similar report on enforcement efforts would be needed, including information from more authorities.

The data in this report provides the only publicly available compilation of such information for the Lower Danube region, which is otherwise only collected by, and available to, individual national agencies. This allows a better understanding of sturgeon trafficking and enables targeted counter action against these crimes in one of the world's key regions for the survival of these unique fish. The regional compilation of this data is critically important as any action or inaction in one country concerning enforcement of fisheries and trade restrictions affects the shared populations between the three countries.



© Viktor Shevchenko/WWF-Ukraine

INTRODUCTION TO THE PROBLEM

According to the IUCN, sturgeons and paddlefishes (*Acipenseriformes*) are the world's most endangered group of species¹. Their eggs, which are sold as caviar, are among the most valuable wildlife products in international trade, and the consumption of sturgeon meat has a long-standing tradition in many regions.

This has led to heavy overexploitation and a dramatic decline of sturgeons worldwide, including in the Danube and Black Sea countries. As a result, of the six sturgeon species formerly native to the Danube River, two — the European sturgeon (*Acipenser sturio*) and the ship sturgeon (*A. nudiventris*) — are considered locally extinct. Yet, the Black Sea region and the Danube River Basin are among the last remaining European regions with self-reproducing populations of sturgeon species and are therefore considered a priority for sturgeon conservation in Europe. However, all remaining four sturgeon species in the Danube Basin are listed as Threatened by the IUCN Red List. The stellate sturgeon (*A. stellatus*), the Russian sturgeon (*A. gueldenstaedtii*) and beluga (*Huso huso*) are Critically Endangered; while the sterlet (*A. ruthenus*) was recently raised to a higher threat category and has been listed as Endangered since 2022².

Meanwhile, the legal situation on international level and in the Lower Danube Region is clear: targeted sturgeon fishing and the resulting trade in wild-caught sturgeons are banned completely for all native sturgeon species in Bulgaria, Moldova, Romania, Serbia and Ukraine. Furthermore, fishing of all sturgeon is prohibited permanently in all other Black Sea range states (both in river and marine waters), including Georgia, Russia and Turkey. Except Bulgaria, all these bans are permanently enacted in national law. Bulgaria's current sturgeon fishing ban covers a five-year period (from 2021-2025) and a discussion about its prolongation is urgently needed. Additionally, according to the respective laws in Bulgaria, Romania and Ukraine, any accidentally caught sturgeon (bycatch from other fishing activities) or sturgeon seized by authorities must be released

back into the original water basin, regardless of their state (dead or alive).

The Pan-European Action Plan for Sturgeons³, adopted under the Bern Convention and endorsed for implementation under the EU Habitats Directive⁴, has also identified poaching and illegal trade as key threats to the survival or recovery of sturgeon populations. This Action Plan has also been reinstated by a Ministerial Declaration of the International Commission for the Protection of the Danube River⁵.

Sturgeon poaching is one alarming example that wildlife crime continues to threaten species protected under the EU Habitats Directive, which lists all Danube sturgeon species under Annex V, obliging Member States to ensure that their exploitation and taking in the wild is compatible with maintaining their Favourable conservation status. Notably all sturgeon species in Europe are reported by the Member States to be in Unfavourable conservation status. Furthermore, international wildlife trade is regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which lists all sturgeon species and has introduced universal caviar labeling requirements applicable for international and domestic trade. More recently the newly revised EU Action Plan against Wildlife Trafficking, presents a coherent guiding document for the EU and its Member States to combat wildlife crime more effectively within and across EU borders.

Complementing the regulations and directives introduced above, the Environmental Crime Directive⁷ stipulates the criminalization of serious violations of legislation in

1. <https://www.iucn.org/content/sturgeon-more-critically-endangered-any-other-group-species>

2. <https://www.iucnredlist.org/ja/search/grid?taxonomies=100672&searchType=speciesb>

3. <https://rm.coe.int/pan-european-action-plan-for-sturgeons/16808e84f3>

4. Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en

5. https://www.icpdr.org/sites/default/files/nodes/documents/2022_danube_declaration_summary_2.pdf

6. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2022%3A581%3AFIN&qid=1667989438184>

7. Directive 2008/99/EC on the Protection of the Environment through Criminal Law https://environment.ec.europa.eu/law-and-governance/environmental-compliance-assurance/environmental-crime-directive_en

the environmental field and requires Member States to provide for effective, proportionate and dissuasive criminal sanctions. It specifically refers to the killing, destruction, possession or taking of specimens of protected wild fauna as criminal acts with reference to the Birds Directive and the Habitats Directive as well as the trade in specimens of protected wild fauna or flora species or parts or derivatives thereof.

Despite various international policies and national legal protection in recent years, trafficking of sturgeon — which includes both poaching and illegal trade — has been known to occur for many years in all countries of the Lower Danube region, but no systematic data collection existed before WWF published its first report in 2021⁸. As generally observed in

many fields of wildlife crime, data on these illegal activities is hard to find. The availability of solid data on the extent and distribution of sturgeon trafficking in the Danube region is, however, crucial to assess the severity of the issue, localize hotspots, and adequately address this threat. With the populations of Danube sturgeons teetering on the edge of extinction, tackling poaching and illegal trafficking of sturgeon products is a key component to securing the survival of the species.

In the absence of a responsible organisation to compile such data on wildlife crime for populations with transnational distribution, WWF aims to continue collecting and combining this data for Danube sturgeon on the regional level, to the extent possible.



© WWF

8. WWF, 2021, [Evidence for trafficking of critically endangered sturgeon in the Lower Danube Region](#)

METHODOLOGY

The report is based on a compilation of sturgeon trafficking data from Bulgaria, Romania and Ukraine and continues efforts that began during an EU funded LIFE project.

In 2021, WWF published a report on ‘Evidence for **trafficking of critically endangered sturgeon in the Lower Danube region**’⁸, which combined the results of a targeted market survey, including a forensic analysis of collected samples, with a compilation of official data from enforcement authorities on illegal sturgeon fishing activities for the period 2016-2020. The methodology for compiling data from authorities is continued in this report, which provides the third annual update.

The term “wildlife trafficking”, according to the United Nations Office on Drugs and Crime (UNODC), involves the illegal trade, smuggling, poaching, capture, or collection of endangered species of protected wildlife, and derivatives or products thereof. The data compiled in this survey **encompasses different illegal acts and ranges from seized illegal fishing gear to poached sturgeon and caviar**, meat products or whole specimens detected in the trade chain.

THE DATA IN THIS REPORT PROVIDES THE ONLY PUBLICLY AVAILABLE COMPILATION OF SUCH INFORMATION FOR THE LOWER DANUBE REGION, WHICH IS IN PRINCIPLE ONLY COLLECTED BY, AND AVAILABLE TO, INDIVIDUAL NATIONAL AGENCIES.



© Katya Kurakina/WWF-Ukraine

Monitoring Visit Hook Fishing took

The presented data were provided on request by competent authorities, including different police branches, national or regional fishing authorities, customs, and the judicial administration in the case of Ukraine. They were compiled by WWF in a common database. A few cases deriving from reliable media reports were included after double-checks ensured that they were not already covered by authority reports.

For this report, only incidents of **sturgeon trafficking** reported between 1 January 2016 and 31 December 2023 have been considered. While older data are available for Romania and Bulgaria, this report only includes data from 2016 onwards, when new orders were issued in both countries to prolong their national sturgeon fishing bans. For Ukraine, data on sturgeon trafficking has only been recorded regularly as of 2018.

Limitations to interpretations of the data:

Figures and trends in seizure records derived from this data should not be viewed as a complete picture of illegal activities targeting sturgeons in the countries covered in this report. Instead they should be considered only as indicating patterns of illegal activities. There is currently no streamlining between the agencies providing the data concerning either their enforcement efforts or the recording of the information. The level of detail in the reporting varies greatly between cases, between reporting agencies and between countries. This limits the comparability of data obtained. As a result, the numbers provided in this report (i.e., the total number of **specimens affected, the total length of hook lines detected or the total amounts of kilogrammes seized**) are the lowest verifiable numbers and do not reflect the totality of detected cases, as the authors were only able to include information from cases where all relevant detail was provided.

The types of data collected include the:

- type of illegal fishing gear seized (i.e., karmaci – illegal hook lines to catch sturgeons, with length specifications);
- species of sturgeon caught or traded;
- amount of goods discovered (ideally in kilogrammes of fish or number of individual specimens; sometimes the specification only states jars or containers of caviar, which make comparisons or calculations impossible);
- apprehending agency; and
- location of the seizure and the date of apprehension of the poachers or detection of goods (ideally indicating the Danube riverine kilometer, sometimes only the nearest village is named).
- Data on fishing control efforts was made available on request by the Romanian Police and on sturgeon poaching control efforts by the Bulgarian Border Police and Bulgarian Executive Agency of Fishery and Aquaculture only.

Several cases with missing information had to be excluded from this report's calculations.

RESULTS AND DISCUSSION - A REGIONAL OVERVIEW

The present analysis comprises three main countries from the Lower Danube Basin - Bulgaria, Romania and Ukraine.

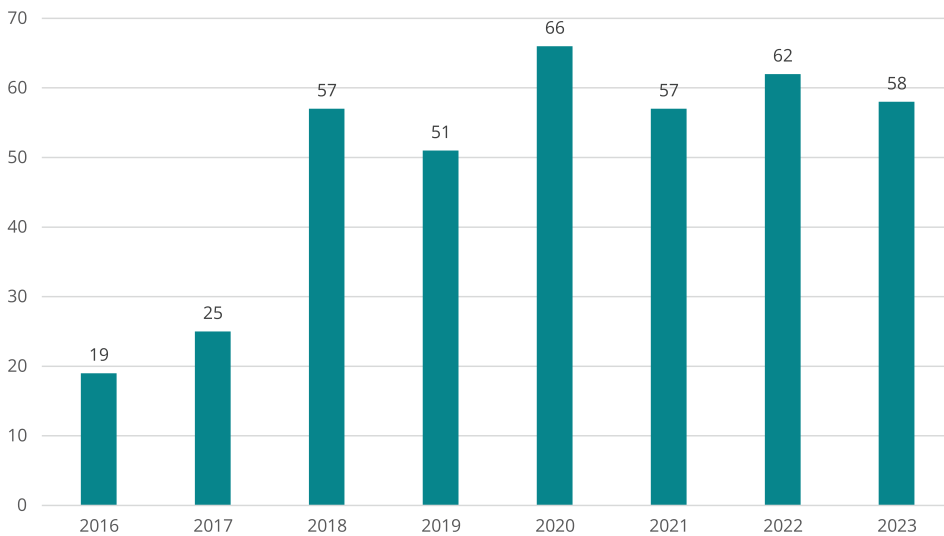
The following illegal activities were documented and collected from responsible national authorities:

- use of illegal gear for targeting sturgeon;
- actual poaching of sturgeons, which were seized in the boats or nets of fishers;
- transportation of poached sturgeon to another destination; and
- illegal selling or import/export of sturgeon caviar or meat.

Number of cases

THE OVERALL NUMBER OF **395 DOCUMENTED CASES OF ILLEGAL INCIDENTS** REGISTERED 2016-2023 CLEARLY POINTS TO THE FACT THAT POACHING REMAINS A SEVERE THREAT TO WILD STURGEON POPULATIONS IN THIS REGION AND OCCURS IN ALL THREE COUNTRIES - **144 CASES IN BULGARIA (36%), 157 CASES IN ROMANIA (40%) AND 94 CASES IN UKRAINE (24%).**

The graph below shows the number of cases of illegal activities involving sturgeon for the period 2016-2023. Since 2018 the number of reported cases per year remains above fifty.



Graph 1. Overall number of cases involving sturgeons (3 countries combined).

In 2023, 55 % of all cases were from Romania, 24% of cases derive from Bulgaria and 21% from Ukraine. As a result, both in the overall reporting period and in 2023, the majority of cases derive from Romania (40% in total, 55% in 2023). This can partly be explained by the large size of the country (compared to Bulgaria) and that Romania controls the main part of the Danube Delta and a large coastline, both very important sturgeon habitats. However, it can also be an indicator for the rather high control efforts by Romanian authorities or result from a more complete reporting of data. The fact that 21% of all cases still stem from Ukraine in 2023, a year of an ongoing war and with a prohibition for civilians to enter vast regions of the Ukrainian delta and coast line, is notable.

Geographic distribution and hotspots

The reported data on the location of detection of illegal activities varied from case to case. In some cases the location was very specific, such as river km in case of Bulgarian data, while in other countries the data was often limited to the name of the county. Finally, in some cases, no information on location was provided hence they had to be excluded from the geographic overview map below.

The two maps show the geographic distribution of the cases on county/oblast level within the region for the entire data collection period 2016-2023, as well as for the latest year 2023 respectively. Colour coding was based on the share of the total number of national cases contributed by each county/oblast.

Over the years the hotspots contributing to more than a third of the total number of cases remained the same within all countries. These are Vratsa Oblast in Bulgaria, Tulcea County

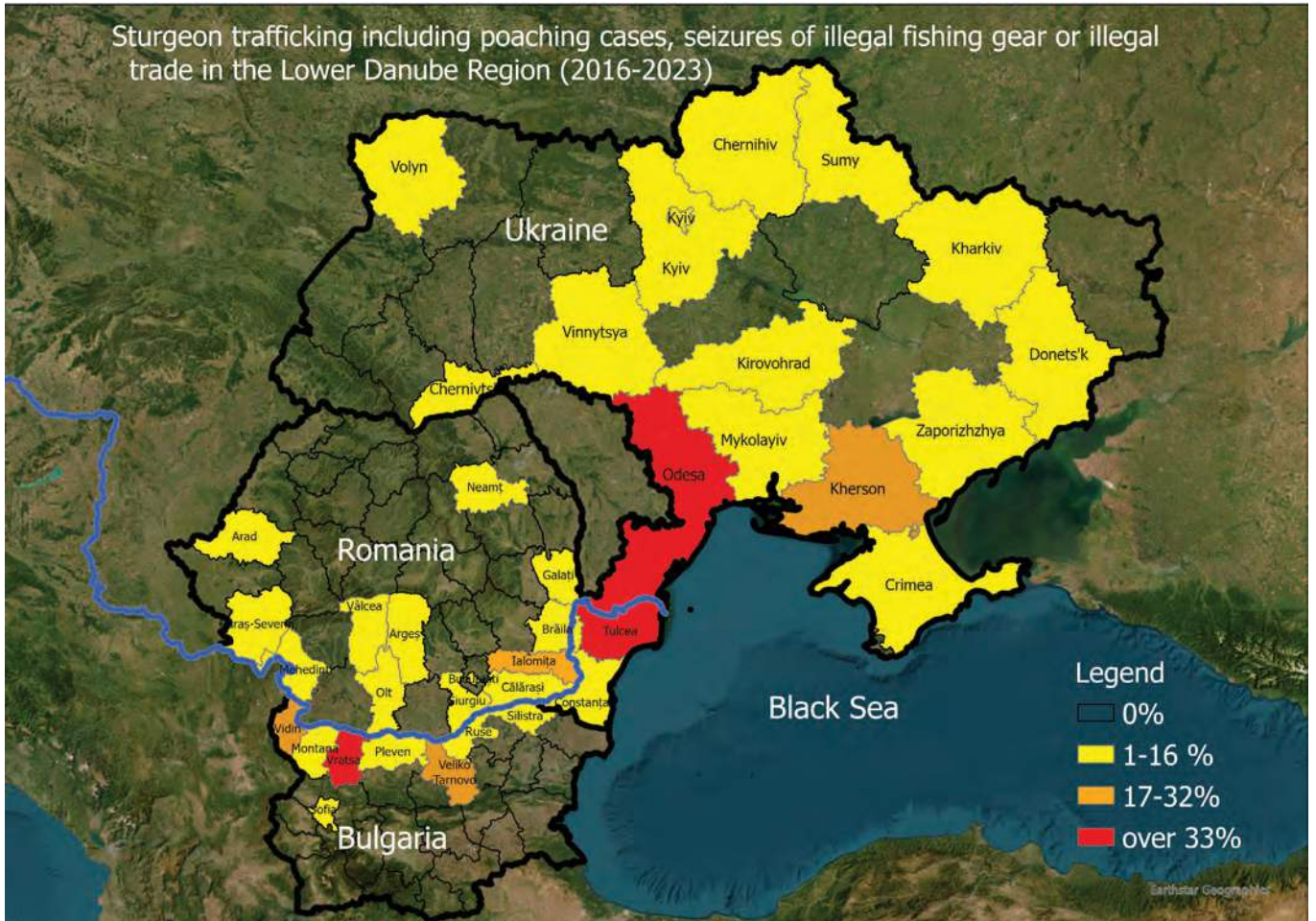
in Romania and Odesa Oblast in Ukraine. Based on this overall picture, it deems important to examine the situation on the Romanian territory vis-a-vis the Bulgarian hotspots along the common Romanian-Bulgarian Danube section regarding fishing habits, risk assessments, control efforts and common controls and exchange of data.

For Ukraine, in 2023 data was provided only for the Oblast Odesa. However, this oblast was the hotspot in the previous years. In 2023, hotspot areas with more than a third of reported cases are the same as in the past eight years, with a rather high number of findings also in Veliko Tarnovo Oblast in Bulgaria.

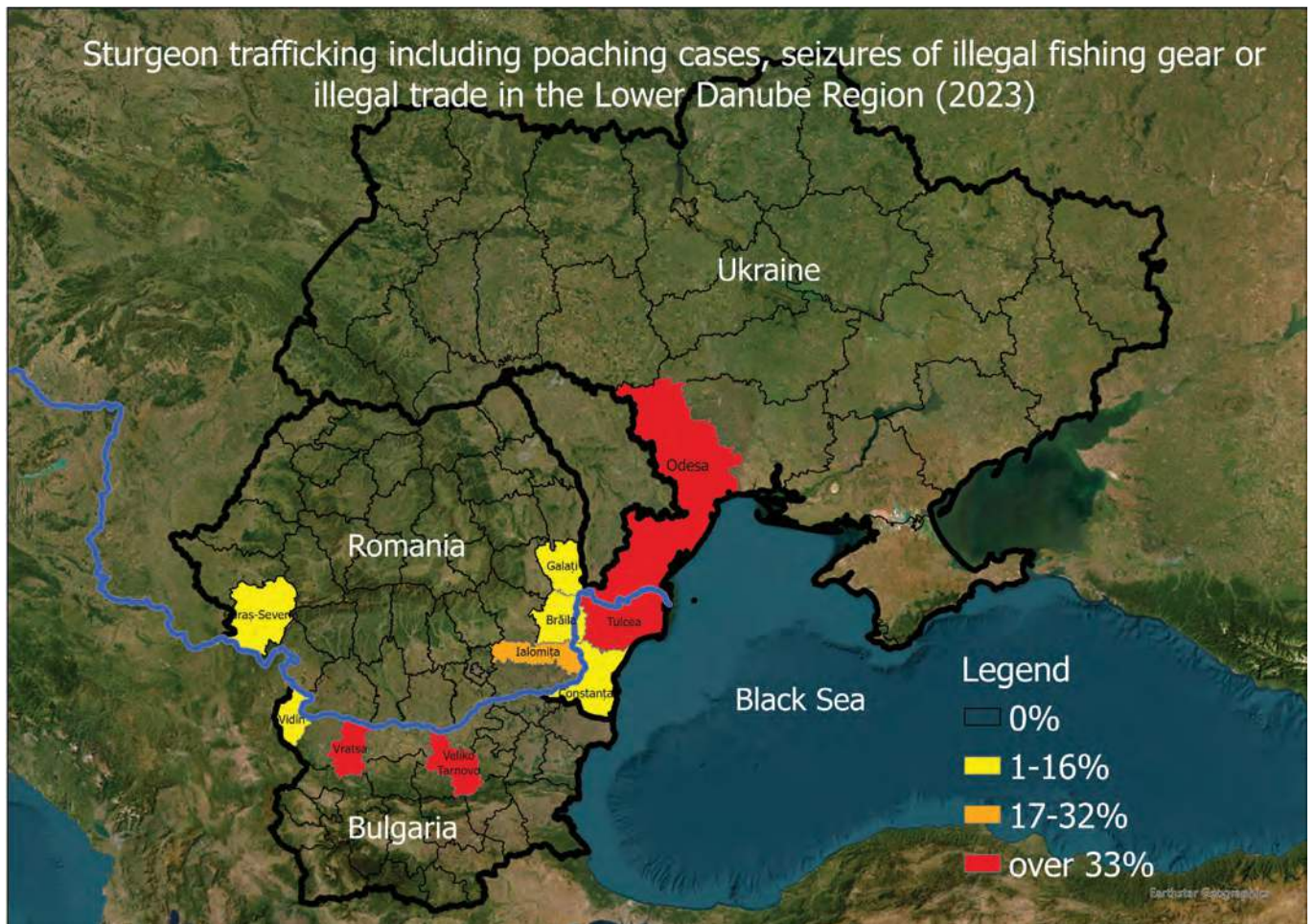
Hotspots and potential risk areas are already clearly demonstrated. In each country, there is one county respectively that stands out over the whole study period with more than a third of all cases on national level. Reasons for this are discussed in the national chapters, although it is evident that a higher likelihood derives already from the geographic situation and the presence of critical sturgeon habitats: the hotspot of Tulcea County (RO) and Odesa Oblast (UA) cover large parts of the Danube Delta and adjoining Black Sea coast. The long-term identified hotspot in Bulgaria is Vratsa Oblast.

Illegal activities involving sturgeons were reported from 56% of Ukrainian counties in the past eight years, showing that authorities detected various illegal activities (poaching, illegal transport or trade) in large parts of the country. These findings confirm that crimes against sturgeons are rather widespread and not only limited to sturgeon habitats. Also in Romania, illegal activities involving sturgeons are not confined to the Danube Delta with the adjacent Black Sea or along the Danube, but to a lesser extent are also detected in inland counties. Cases were reported from 37% of all Romanian counties.

Sturgeon trafficking including poaching cases, seizures of illegal fishing gear or illegal trade in the Lower Danube Region (2016-2023)



Sturgeon trafficking including poaching cases, seizures of illegal fishing gear or illegal trade in the Lower Danube Region (2023)



In Bulgaria, reports were obtained only from counties along the Danube close to sturgeon spawning habitats and from the capital Sofia. Findings of illegal activities were reported from 30% of all Bulgarian counties.

Enforcement efforts may vary geographically and greatly influence the probability of detecting illegal activities. This report therefore includes for the first time an analysis of enforcement efforts. Data from the Romanian Police document that enforcement efforts are concentrated firstly on Tulcea County, and secondly on Ialomița County, resulting in higher numbers of illegal cases involving sturgeons detected. Yet the lower number of control efforts in Galați County resulted in a higher percentage of detections per control (more details are available in the country chapter). This demonstrates the importance of understanding control efforts in interpretation of wildlife crime data. The absence of recorded cases for some counties along the Danube and Black Sea coast does not necessarily prove an absence of trafficking activities. Similarly, it is unclear to what extent the degree of intensity of law enforcement efforts in the identified hotspot counties contributed to the comparatively high number of reported cases in some locations.

Fishing gear reported as used for illegal activities

Various types of fishing gear have been reported as being found in cases involving sturgeons. While some of the gear is used legally for fishing but was applied unlawfully to catch sturgeons, karmaci - the unbaited traditional hook lines used for the targeted catch of sturgeons - are illegal in all three countries.

In many cases the poaching method remains unclear, as gear was reported only in a limited number of cases.

Karmaci (or karmark) hook lines are prohibited fishing gear intended for catching sturgeon. They are long ropes, usually 35-70 meters long, on which very large hooks are attached at every half a meter (about 70-140 hooks per line karmaci). There is no bait on the hooks, but there is a small float attached instead. Very large weights are placed on the ropes so that they lie on the bottom of the river (or sea) at a great depth, and the sturgeon passing near the bottom get hooked on them. The karmaci lines are not visible from the surface, making them very difficult to spot.

In Bulgaria, only karmaci hook lines were seized in the survey period, but to very high amounts: a total of 988 karmaci, adding up to at least 37 km in length. In Romania and Ukraine, the reported gear also included different types of fishing nets used to catch sturgeons, with karmaci found in Romania but not Ukraine. More details are listed in the country chapters.

In particular, karmaci hook lines remain to be a huge problem in the region, as the many findings in the Bulgarian - Romanian common section of the Danube show. Although a decreasing trend on the numbers of these seizures in Bulgaria was observed in 2023, still 109 karmaci lines were found, and reasons for the reduction can only be speculative, without further information on control efforts from the authorities. Surprisingly, in Romania there are no karmaci hook lines seized in the Danube, despite the fact the karmaci hook lines are usually deployed at deepest sections of the river exactly where the borderline between Bulgaria and Romania lies. A very large seizure of 62 karmaci hook lines was made in 2023⁹ on Romania's Black Sea coast in the Danube Delta, with only one seizure of a karmaci hook line reported in previous years. It is unknown if this is due to a sudden increase in the use of the illegal hook lines in the Romanian delta or a result of an intense 4-day operation of authorities. In Ukraine, no seizure of karmaci has been reported so far.

Apart from karmaci, different kinds of fishing nets were used to catch sturgeons illegally in Romania and Ukraine. At least in parts of these cases, sturgeons were most probably not caught in a targeted way but were bycatch not returned to the water immediately, as required by law, and maintained illegally by the fishers. Clearly, the effect on sturgeon populations is still very damaging and enforcement measures against the illegal application of nets are very important.



© Stoyan Mihov, WWF-Bulgaria

9. <https://www.politiaromana.ro/ro/stiri-si-media/stiri/polistii-au-actionat-in-domeniul-piscicol-in-tulcea-si-constanta>

Affected victims - individuals and species

FROM THE - PARTLY INCOMPLETE - DATA AVAILABLE, THE MINIMUM VERIFIABLE NUMBER OF STURGEON SPECIMENS RECORDED IN THE REPORTED CASES TOTALS

1031 INDIVIDUALS

DURING THE STUDY PERIOD. THIS INCLUDES

**3 FROM BULGARIA,
610 FROM ROMANIA,
418 FROM UKRAINE**

AND UNDERLINES THE DAMAGE BEING DONE TO THE LAST REMAINING WILD STURGEON STOCKS.

The actual number of specimens affected may be much higher as several reports lack the information on individual fish.

The outstandingly low number of 3 sturgeons recorded and reported in Bulgaria in combination with a high number of 988 pieces of karmaci hook lines seized signal that this situation merits further investigations. It can be assumed that illegal catches have been taking place, as the effort needed to deploy the hook lines is significant, the risk of being detected by enforcement authorities is considerable and the confiscation of hook lines poses a considerable financial loss for the poachers. The probability that these risks are taken into account by people without getting revenue in the form of actual caught sturgeons is very low. The reasons why no illegally caught sturgeons are detected or seized need a thorough investigation and potentially adaptations **of control tactics and efforts by Bulgarian authorities.**

As gaps in data reporting and differences in type of data (alternatively represented in kilogrammes, specimens, and jars or containers) recorded by different enforcement entities in all countries prevail, it can be assumed that in **reality the number of specimens affected by the collected cases is much higher.** In addition, it is evident that, as in any other form of crime, the cases detected by law enforcement never represent the full picture, always leaving a grey area of undetected cases. In wildlife crime, the undetected cases might be even higher than for other economically more enticing crimes as law enforcement agencies have limited resources and often still attribute crime against wildlife a lower priority, compared to other forms of crime.

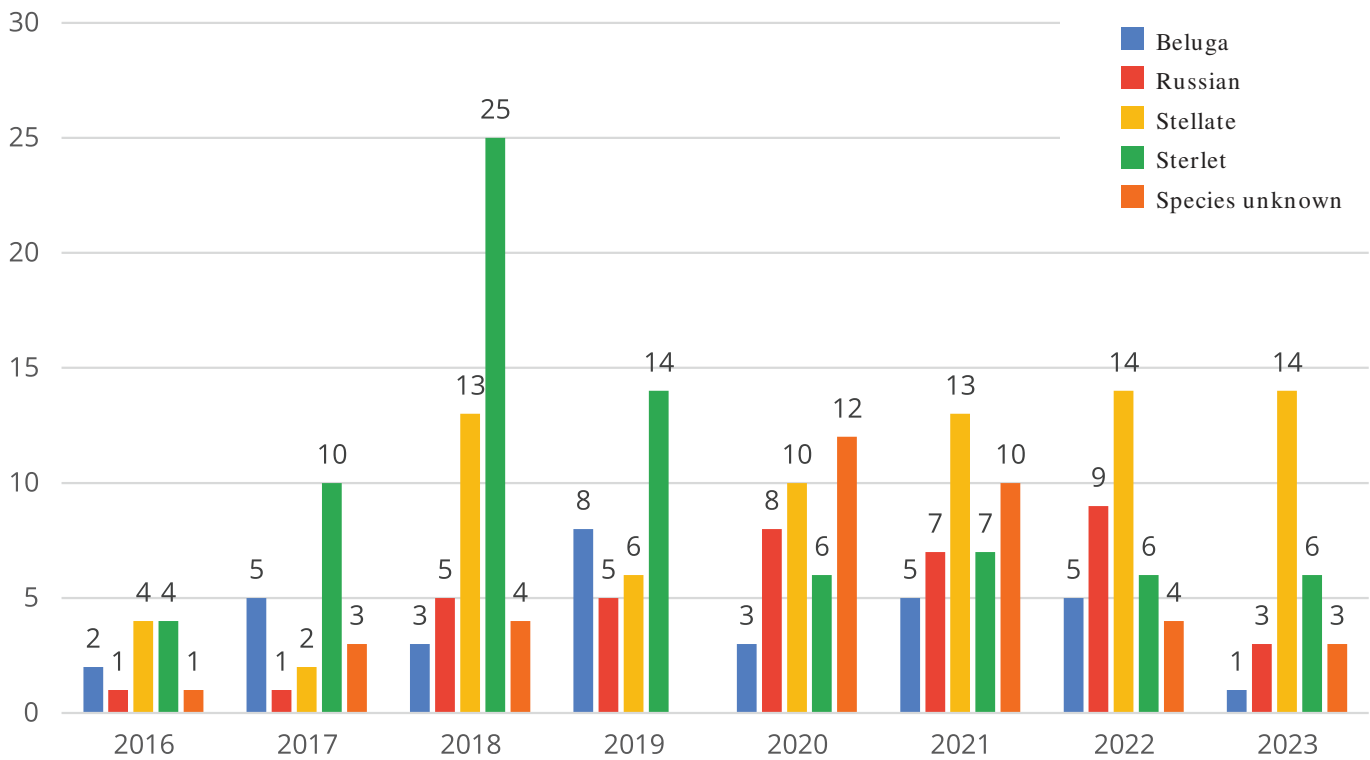
All four native species of sturgeon were found during seizure activities and reported by authorities. The frequency with which a specific species is recorded in the seizures may reflect its natural abundance in the wild. But other considerations can also play a role, such as different enforcement efforts in habitats of different species or at different times in the life cycles.

In order to assess the impact of illegal activities on the respective sturgeon species, each reported case was analysed regarding information on the species involved.

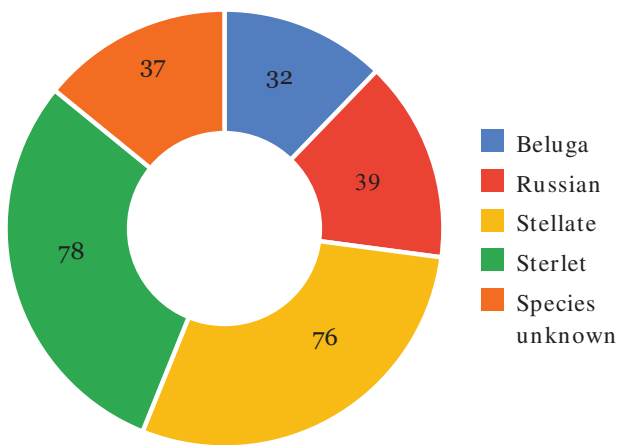
On a regional level, it was only possible to determine the number of cases per species, not the number of individuals, as this information was often not provided. Nevertheless, the number of cases per species allows an estimation of the frequency with which the species fell victim to poaching and trafficking (as it can be noticed in Ukraine, where both sets of data were available and could be compared).

In the graph below (Graph 2), only cases that included information about sturgeon species native to the Danube and Black Sea, and only findings of parts or whole fish have been considered, not of caviar (for which information on species is often missing and precise determination would require genetic analysis).

In cases where several different species were included in the same incident, these are listed individually in the graph (e.g. 3 sterlets and 1 beluga are 2 cases). Where one incident involved several specimens of the same species, it was recorded as one single discovery (e.g. 7 sterlets are 1 case).



Graph 2. Number of cases including information on sturgeon species (regional, per year)



Graph 3. Number of cases including information on sturgeon species (regional, accumulated)

Due to the extremely high number of cases in 2018 involving sterlet (*Acipenser ruthenus*), the species remains the most frequently reported species in total. It is involved in 78 cases and this reflects also the fact that sterlet, though listed as Endangered in the latest IUCN assessment, may still be the most abundant species in the Danube region. Yet, the Critically Endangered stellate sturgeon (*Acipenser stellatus*) follows closely and appears most frequently in the last four years and is mentioned in 76 cases. 39 cases involved the Critically Endangered and extremely rare Russian sturgeons (*Acipenser gueldenstaedtii*), while 32 cases involved the Critically Endangered beluga sturgeons (*Huso huso*). In 37 cases, the specific species of sturgeon was not mentioned.

On country level, the frequencies can differ slightly. In Ukraine, stellate sturgeon is most frequently found, both by cases and by individuals, followed equally by Russian sturgeon and sterlet.

Overall documented trends:

As the information on overall fisheries control efforts of the enforcement agencies regarding time invested or locations surveyed was made available for the first time this year - and only by one Romanian enforcement authority, it remains impossible to reach a solid conclusion as to whether the overall trend of all illegal activities (detected plus undetected) is increasing or decreasing.

Generally, it would be expected that an increase in enforcement efforts would lead to an increase in reported cases at first; and that this would be followed, only after some time, by a subsequent decrease, provided that these efforts are sustained at a similar level, and that illegal activities are discouraged effectively. With the information available, it can only be assumed that numerous cases remain undetected and that the picture painted in this report is only the tip of the iceberg.

As the reported cases have been relatively stable at a higher level since 2018, it can be concluded that enforcement efforts improved in the first years (not least due to training and capacity building under the LIFE for Danube Sturgeon project¹⁰) and that at the same time illegal fishing and trade of sturgeon remain ongoing threats in the region.

Many agencies further struggle with a lack of staff capacity and resources, ranging from boat and fuel to laboratory technology for forensic methods. The area along the Lower Danube, and in particular the delta or the Black Sea coast, is vast and challenging to control. The application of specialized equipment, such as the deployment of sonar to detect hook lines (as demonstrated in Bulgaria) or drones (as piloted in Romania) to detect illegal fishing, is therefore supported by WWF in the region.

As a conclusion, it must be stressed that **the efforts of enforcement agencies should not only be maintained but also further increased to reduce the negative impact of illegal fishing and trade of these highly threatened sturgeon populations.**

Inconsistency of data

The data of this report were provided by several competent agencies, but not by all relevant national authorities. Some data, e.g. on illegal trade in sturgeons and caviar, are probably missing, if no reports from Customs, Food Inspection, etc. were obtained. The report depends very much on the cooperation of authorities and the data and quality of data they are able to provide. The results presented are therefore minimum amounts that can only illustrate what was detected and reported by authorities.

10. <https://danube-sturgeons.org/>

Several cases had to be excluded from the cumulative analysis in this report due to lack of information or inconsistencies.

It is therefore strongly suggested that the format for **reporting data, both on enforcement efforts and sturgeon trafficking, should be harmonized between the different national entities, and between the three countries.** Doing so will facilitate regular and easier comparison of data and allow for a better evaluation of the impact of illegal activities on wild sturgeons and for targeted enforcement measures (optimized timing and localization of controls). Further recommendations to improve the situation are found in the final chapter.

It is also very important to collect more data on **enforcement efforts in order to identify potential connections and better understand trends in cases or geographic distribution of findings.** This will help to find explanations for so far still open questions and to define clear recommendations.

Legal situation

In general, the legal situation regarding sturgeons and their protection can be considered satisfactory in the three surveyed countries, and some improvements have been made in recent years.

In Romania, starting with June 2024, the fishing, detaining, transport and selling of wild sturgeon, outside the Danube Delta Biosphere Reserve perimeter, is a criminal offense and is being punished with imprisonment from 3 to 5 years (before June 2024: 6 months to 3 years) and interdiction to fish for a period of 3 to 5 years (before June 2024: 1 to 3 years).

Nevertheless, **the findings of illegal activities by law enforcement authorities rarely lead to court cases, and if so, consequences for perpetrators are usually low, if any (with confiscations of tools or boats being the most 'painful').** However, it is expected that, in the following years, amendments of legislation will increase the number of cases sentenced with higher fines or imprisonment (e.g. according to the Romanian Criminal Code, no suspension of an execution is possible if the conviction exceeds 3 years of prison).

There is still a need to update legal provisions (e.g. **on fishing, transport and selling of wild sturgeon** caught within Romanian Danube Delta Biosphere Reserve, where these activities are infractions and punished with just a fine and fishing interdiction from 1 to 3 years). But what is critically important is a strict application of laws so that control efforts and finding of criminal activities made by enforcement will have a positive effect on sturgeon conservation.

In Bulgaria the 5-year period of the current fishing ban comes to an end in 2025, and there will be an urgent need to prolong it.

Involvement of corruption

Persistent rumours that corruption may be involved in different aspects of sturgeon trafficking have circulated over the years and include all three countries. The case published in 2022 by the Ukrainian State Bureau of Investigation, including an arrest for alleged bribery, supports these rumours (see country chapter for details). Further investigations and attention on this aspect of involved corruption is required in all countries.

Impact on shared populations

The regional coverage of this report is of crucial importance, as the countries of the Lower Danube and North-Western Black Sea share the same sturgeon populations. Poaching incidents in one country threaten the survival of the entire population. Equally,

enforcement efforts in one country support the protection of the shared populations, thus also benefiting other range countries.

With the worryingly low numbers of sturgeon in the wild, the prevailing direct threat from illegal fishing and trade limits the chances of recovery for stocks and fuels the decline of populations, some of which are literally on the brink of extinction, as demonstrated by IUCN in 2022, when it declared the ship sturgeon (*A. nudiventris*) as regionally Extinct for the Danube region and increased threat status of sterlet (*A. ruthenus*) (IUCN 2022). The **existing legal protection through fishing bans** and trade regulations must become a priority of law enforcement actions and must be enforced **with continuous efforts. If the alarming level of poaching of wild sturgeon cannot be stopped, all other recovery measures are doomed to fail.** Together with the environmental impact, other forms of crimes can be involved and should be investigated, such as loss of taxation revenue, consumer deception or fraud, health and veterinary issues, corruption and the potential involvement of organized crime.



© Evgeniy Polonskiy

RESULTS FOR BULGARIA

The data used in this report on sturgeon trafficking in Bulgaria was obtained from:

- The Bulgarian Border Police,
- Bulgarian Customs,
- The Regional Inspectorate of Environment and Water, and
- The Executive Agency for Fisheries and Aquaculture of Bulgaria.

All data has been gathered between January 2016 and December 2023. The reported cases comprise a range of illegal activities, from the use of illegal gear to actual landing or transportation of poached fish with the intent to trade.

The data provided include:

- references to the type of illegal fishing gear seized;
- species of sturgeon poached;
- the amount of discovered goods (in kilogrammes of fish or number of individual specimens);
- the apprehending agency;
- the date and location (specified as river kilometers);
- for 2023, specific control efforts on sturgeon poaching prevention.

Number of trafficking cases

In Bulgaria, a total of 144 cases of illegal activity linked to the poaching and trade of protected sturgeon species between January 2016 and December 2023 were reported by enforcement authorities. A relatively high number of trafficking cases has been recorded in Bulgaria during the last four years, which could partly be explained by intensified control efforts on behalf of the Bulgarian Border Police as well as the deployment of special sonar equipment allowing for easier detection of illegal poaching tools. In the vast majority

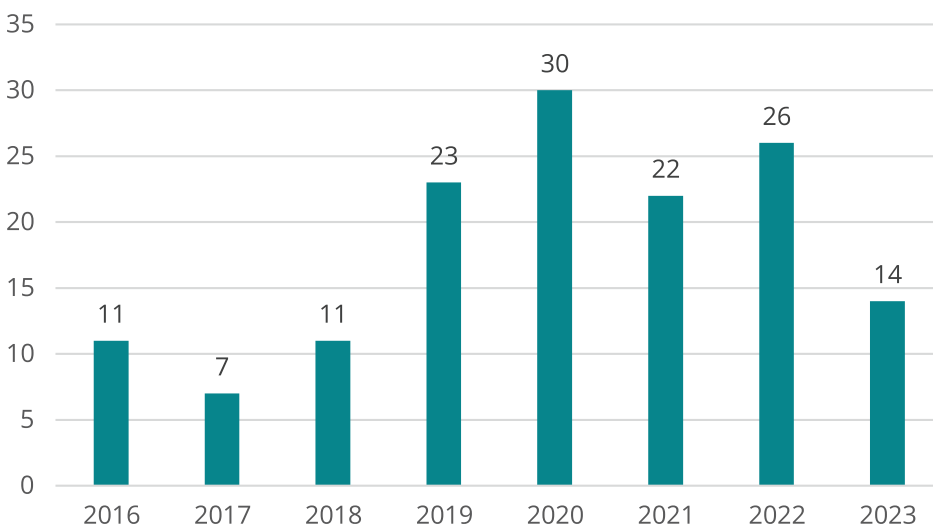
of cases, the cases were discoveries of banned fishing gear; only in 3 cases illegally caught sturgeons were reported.

The data in the graph below (Graph 4) shows that most seizures of illegal fishing gear occurred during the spring, between February and April, coinciding with the spring migration of sturgeon. The second peak is during the autumn migration, mainly in October and November.

Sturgeon specimens seized

Only 3 cases involving a sturgeon specimen were recorded between 2016 and 2023 in Bulgaria. The first was a large female beluga sturgeon caught on 19.02.2019 in the village of Aidemir, Silistra. The two-meter-long specimen, weighing 165 kg, was still alive, and was tagged and released back into the wild by WWF-Bulgaria. The second case was identified on 11.02.2020 near the town of Svishtov and involved a male Russian sturgeon weighing 6,5 kg. It appeared that this specimen was raised in aquaculture and was used as a "bait" for female sturgeons. Sadly, the fish was already dead when it was found. The most recent incident involved a large male beluga sturgeon weighing 100 kg, which was discovered near the town of Kozloduy on 18.03.2020. As the specimen was still alive, it was released back into the wild. All other cases pertain to fishing gear seized, with no fish being reported.

Bulgaria has reported very few cases of illegally caught sturgeon specimens compared to Romania and Ukraine, where hundreds of cases have been reported. At the same time, almost a thousand illegal hook lines for catching sturgeons were confiscated in Bulgaria in the period under review, which shows that poaching is highly prevalent, yet the illegal catch, transport and trade of sturgeon specimens remains almost undetected, and the perpetrators remain unidentified.



Graph 4. Cases of sturgeon trafficking in Bulgaria per year

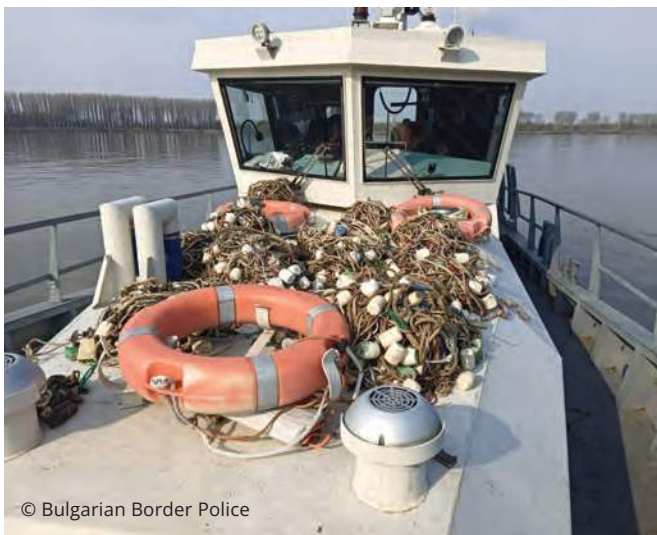
Fishing gear seized

988 pieces of karmaci hook lines were seized by Bulgarian authorities between 2016 and 2023. The reported length of karmaci lines detected by enforcement authorities within this eight-year period has a combined length of more than 37,000 meters. This calculation excludes the length of 109 hook lines reported in 15 cases as their length was not mentioned by authorities.

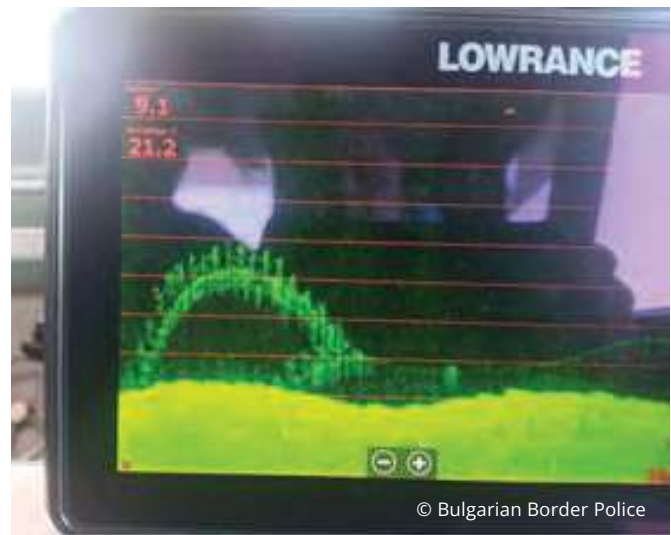
The table below (Table 1) shows the number of hook lines discovered by the Bulgarian authorities.

Year	2016	2017	2018	2019	2020	2021	2022	2023
Number of hook lines	50	26	86	172	260	154	131	109

Table 1. Number of karmaci hook lines found in Bulgaria (2016-2023)



Seized karmaci hook line on board of a Bulgarian Border Police vessel.



Karmaci hook lines visualized on 3D sonar - in this particular case at 9 metres depth

This high number of karmaci hook lines found in Bulgaria is remarkable and is not observed in other countries. At the same time, all karmaci hook lines were seized in the common Romanian-Bulgarian section of the Danube, but there are no reports of seized karmaci hook lines from the Romanian authorities responsible for this river section. These sections should therefore also be controlled by Romanian enforcement authorities, ideally in cooperation with their Bulgarian counterparts. Similarly, the low numbers of illegally caught or traded sturgeons detected and reported in Bulgaria by law enforcement authorities merits deeper investigation. Market investigations and forensic analysis had shown that meat from wild-caught sturgeon could be found offered for sale in restaurants and shops in Bulgaria (4 cases out of 32 tested samples), so it can be

expected that more sturgeon specimens are caught illegally but remain undetected by authorities.

There is a need for training and better equipment for enforcement agencies. Karmaci hook lines are very hard to detect in deep waters. They are neither visible from the surface nor with standard sonar equipment. Special side scan sonars with specific adjustments are needed. WWF tested and supported the application of such equipment in cooperation with the Border Police for the first time. Extracting the detected karmaci from the deep river bottom is also a very specific, potentially dangerous process and targeted training of enforcement officials is required.

Localization of incidents

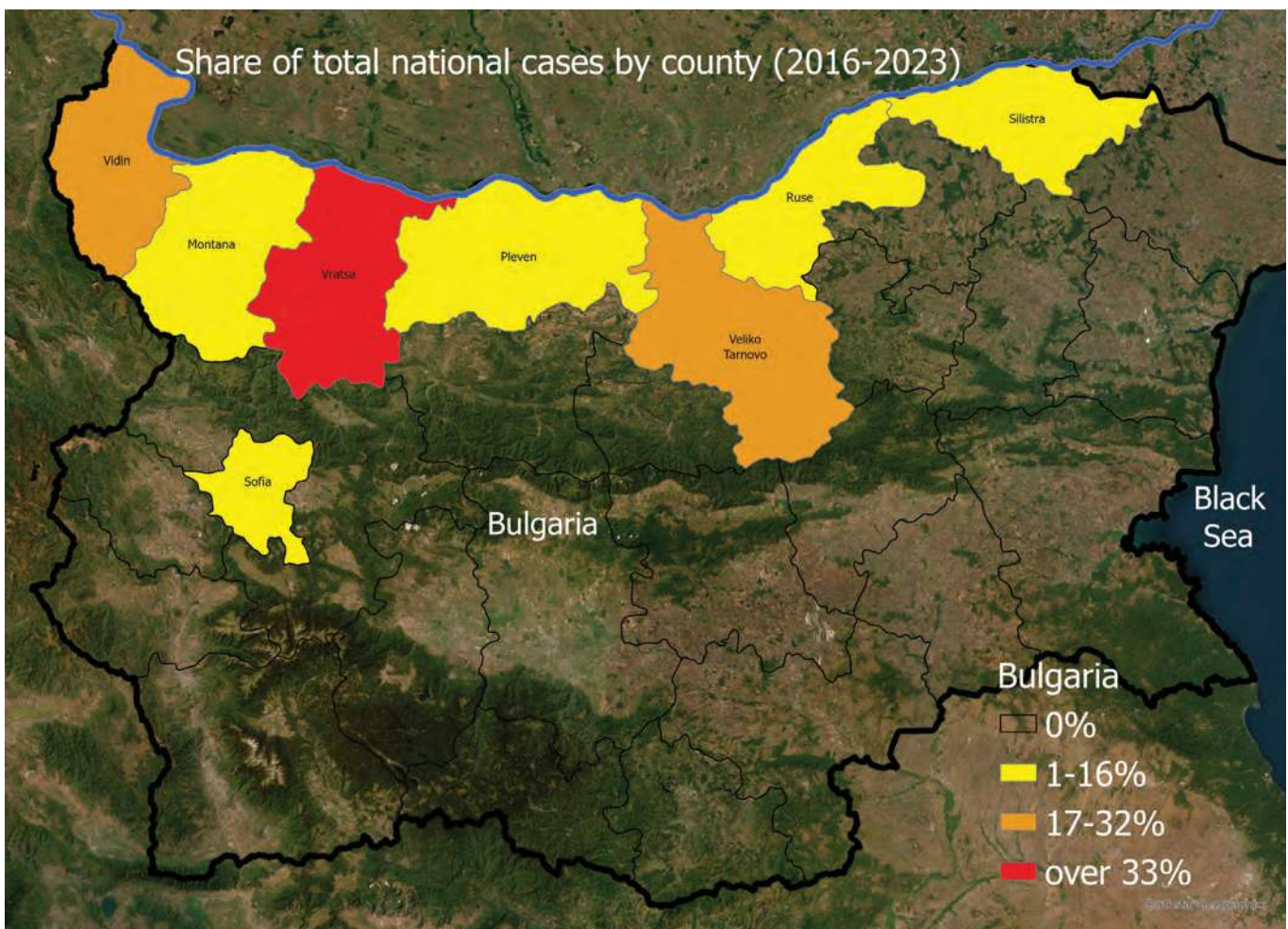
The maps below show the geographic distribution of known illegal activities involving sturgeons in Bulgaria, combined for the period of 2016-2023 and for 2023 respectively. Color-coding is attributed based on the share of the total number of national cases contributed by each county (oblast).

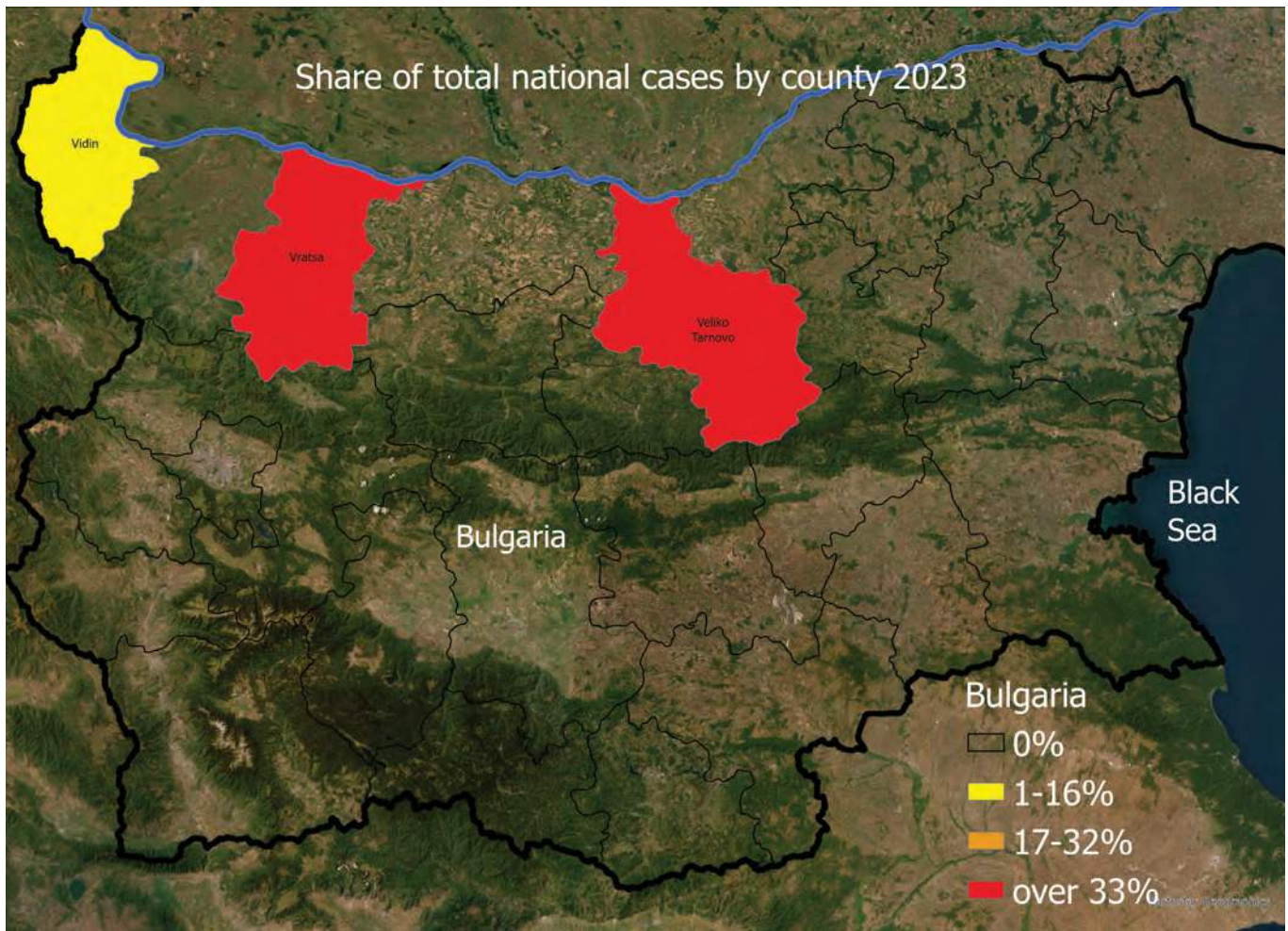
Of the 27 Bulgarian oblasts, cases involving sturgeons were reported from 8 oblasts (representing 30%). These cover the entire length of the Bulgarian stretch of the Danube - with more than a third of all national findings in the oblast Vratsa, both in the eight-year period and in 2023 alone, followed by the Oblasts Veliko Tarnovo and Vidin - and the capital Sofia. No findings were reported from the Black Sea coast.

The localized hotspots of reported illegal activities are connected to the seizures of karmaci hook lines and have moved little over the years - mainly near the islands of Kozloduy (Oblast Vratsa), Oblast Vardim and Island of Belene (Oblast Veliko Turnovo). The reasoning behind the

deployment of the karmaci hook lines at these locations is linked to their mode of use, requiring them to be installed along sturgeon migration routes and wintering bottlenecks – deep, narrow sections of the river, with diverse geography such as in a sidearm or the vicinity of islands. Another reason is connected to the traditional background of karmaci use. Karmaci poaching is a very specific, dangerous and expensive method of poaching and it requires specific knowledge and lengthy training. The method appears to be concentrated in geographically separated, small, and closed communities.

In 2023, considerably less karmaci hook lines were seized in Bulgaria than in previous years, showing a tendency of decrease over the last 4 years. A possible reason might be due to the fact that the hook lines, if seized by authorities, are expensive to replace for the poachers.





Control efforts

The request on specific control efforts targeting detection of sturgeon poaching to Bulgarian authorities was responded to by the Border Police and the National Fishing Authority (EAFA).

The Border Police reported that from 15 checks they had 14 cases of confiscated karmaci, while the EAFA had 1 case of confiscated karmaci from 15 checks. With this specific information only, it cannot be compared to the Romanian data, which includes all general fisheries control efforts.

RESULTS FOR ROMANIA

The Romanian data on sturgeon trafficking stem from reporting by

- The Romanian Police (including the Danube Delta Police Department),
- The Romanian Border Police,
- The National Environmental Guard,
- The National Agency for Fisheries and Aquaculture, as well as from external sources, such as Romanian news outlets or Facebook posts, or Radio Delta.

The data include references to the:

- type of illegal fishing gear involved;
- species of sturgeon poached;
- amount of discovered goods (in kilogrammes of fish/caviar or number of individual specimens).
- apprehending agency;
- location and date of apprehension of poachers or detection of goods; and
- limited information that is available about the potential penalty, the handling of the goods found and related Court proceedings.

The completeness of the data varies greatly from case to case, thus the analysis of the data had to be adapted accordingly.

For the first time, in 2023 the Romanian Police provided data on control efforts for the counties in which a high number of illegal cases was discovered.

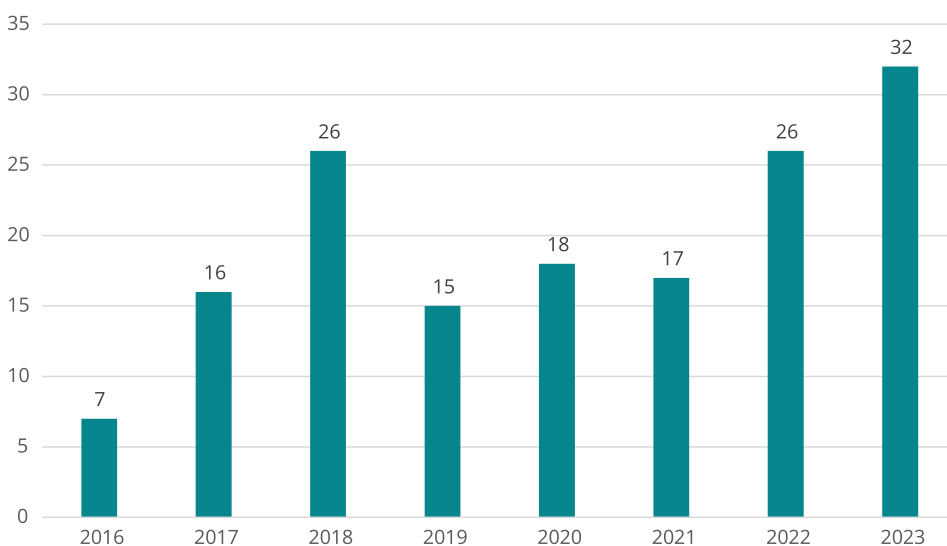
Number of trafficking cases by year

From April 2016 until December 2023, a total number of 157 cases of illegal activities targeting sturgeons were reported in Romania, with 32 cases from 2023 alone.

It should be noted that an additional series of cases related to sturgeons, which allegedly took place between 5 and 9 June 2017, were omitted from this analysis, as the veracity of accounts could not be confirmed with the Romanian authorities.

Reported cases increased as of 2017 and show peaks in 2018 and 2022 but especially in 2023 with 32 cases.

Cases involving illegal activities targeting sturgeons reported from 2016 to 2023 are the highest in the region, compared to Bulgaria and Ukraine, and especially in 2023. The 32 cases in 2023 make up for 55% of all cases reported in the region. This can partly be explained by the large size of the country (compared to Bulgaria) and by the fact that Romania controls the main part of the Danube Delta and a large coastline, both being very important sturgeon habitats. However, it can also be an indicator for the rather high control efforts by the Romanian authorities or result from a more complete reporting of data.



Graph 5. Cases of sturgeon trafficking in Romania per year

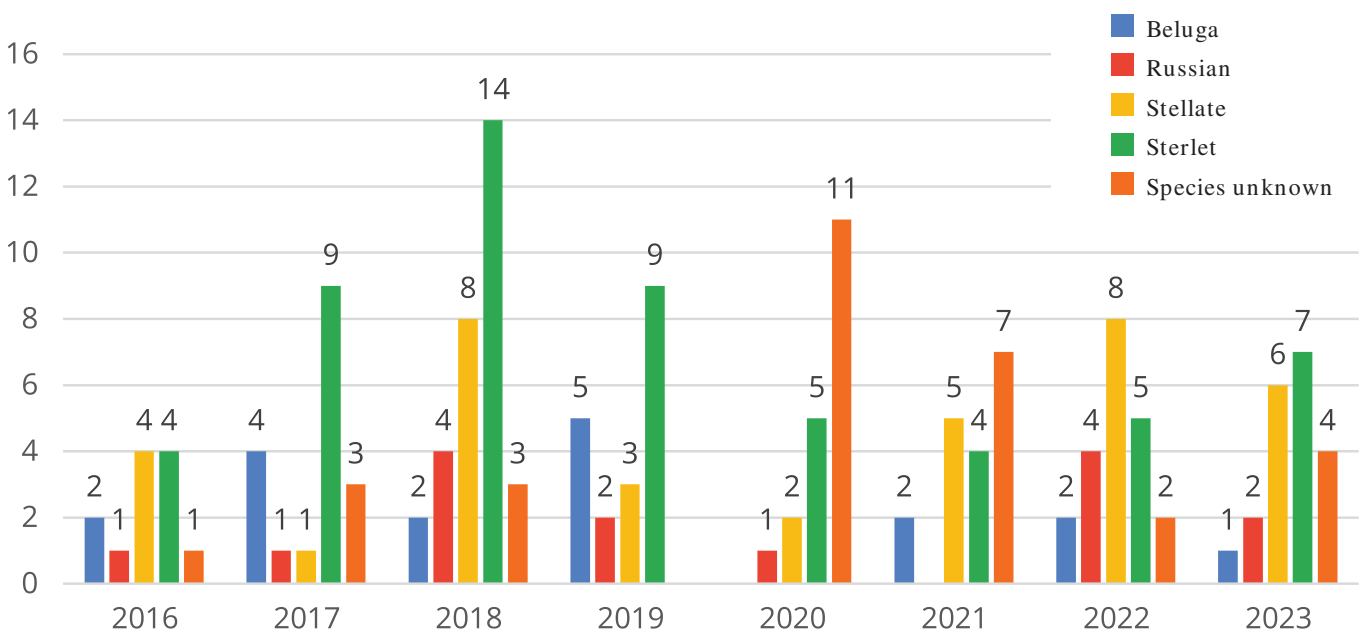
Number of cases per species

The graph below (Graph 6) lists the number of cases by species of sturgeon detected by enforcement authorities between 2016 and 2023 in Romania. It includes the cases in which whole or parts of sturgeons were found as well as caviar when the species was mentioned. If several different species were recorded for one case, they are listed individually in the graph. However, if one case involved several specimens of the same species, it is only listed once.

For the entire monitoring period, 18 cases involved beluga sturgeons, 15 involved Russian sturgeons, 37 involved stellate sturgeons, 57 cases involved sterlet while in further 30 cases

no data regarding the species was provided. These figures and the table below do not include other 15 cases reported by Romanian Border Police in 2023 for Tulcea County involving the seizures of 44 sturgeons, 26 stellate sturgeons and 12 sterlets (32kg), which could not be attributed to individual cases.

It is not possible to determine the number of individuals per species that were affected by the reported criminal activities in Romania, as this information is not available for many cases. Nevertheless, the number of cases per species provides an estimate of the frequency with which the species fell victim to poaching and trafficking (as it can be noted in Ukraine).



Graph 6. Number of cases including information on sturgeon species in Romania (per year)

Fishing gear seized

Of the 157 cases of sturgeon trafficking recorded in Romania between 2016 and 2023, 23 contain indications regarding the fishing gear that was used by the poachers. These include 9 gillnets, 63 karmaci hook lines, 2 monofilament nets and 16 fishing nets (specific type undefined). One of the biggest seizures of illegal fishing gear is reported from 2023, when Romanian Police seized in a 4-day operation in the Danube Delta and Black Sea, 62 karmaci hook lines with a total of 2375 hooks¹¹. In this one operation the police seized gear in the value of 85.150 lei, equaling more than 17.000 Euro.

11. [Politia Română - POLIȘTII AU ACȚIONAT ÎN DOMENIUL PISCICOL, ÎN TULCEA ȘI CONSTANȚA \(politiaromana.ro\)](https://www.politiaromana.ro)



62 karmaci hook lines with a total of 2375 hooks seized in Black Sea in October 2023

<https://www.politiaromana.ro/ro/stiri-si-media/stiri/polistii-au-actionat-in-domeniul-piscicol-in-tulcea-si-constant>

Quantity of sturgeon meat and caviar recorded in seizures

Reporting on sturgeon trafficking in Romania includes sometimes data on the number of sturgeons detected by the enforcement unit, sometimes the weight of the meat discovered, and in some cases both or neither. The table below provides an overview of the amount of sturgeon (kg) and caviar (kg) discovered and recorded by authorities between 2016 and 2023. Taking into consideration that information on quantities was lacking from several cases, the totals have to be taken as minimum numbers and consider that in reality the quantities are much higher. For example, four jars of caviar were seized on 02.10.2018 but were reported without any declarations of weights and had to be omitted from the calculations. Similarly, a case from April 2023 had to be excluded, with 7.8 kg of sturgeon and other species reported, but without clear specification on the proportion of sturgeon.

Thus the minimum quantities total to 4.688,438 kg of sturgeon meat and 58,8 kg of caviar seized in Romania 2016-2023, with 446,238 kg sturgeon meat and 6 kg of caviar reported in 2023.

Year	2016	2017	2018	2019	2020	2021	2022	2023
Meat	419,9 kg	1.292,4 kg	573,4 kg	715,2 kg	431,5 kg	404,9 kg	404,9 kg	446,238 kg
Caviar	-	2,8 kg	0,4 kg	-	22,6 kg	22,6 kg	7,6 kg	6 kg

Table 2. Quantity of seized sturgeon meat and caviar in Romania (2016-2023)

Number of specimens seized

In Romania, during the period analysed in this report, law enforcement authorities detected at least 692 specimens of sturgeon, out of which 139 specimens alone in 2023. The following table breaks down this number by year. Only cases in which authorities reported the specific number of fish involved were used to create the table.

Year	2016	2017	2018	2019	2020	2021	2022	2023
No. of specimens	5	94	190	40	107	62	55	139

Table 3. Number of specimens seized



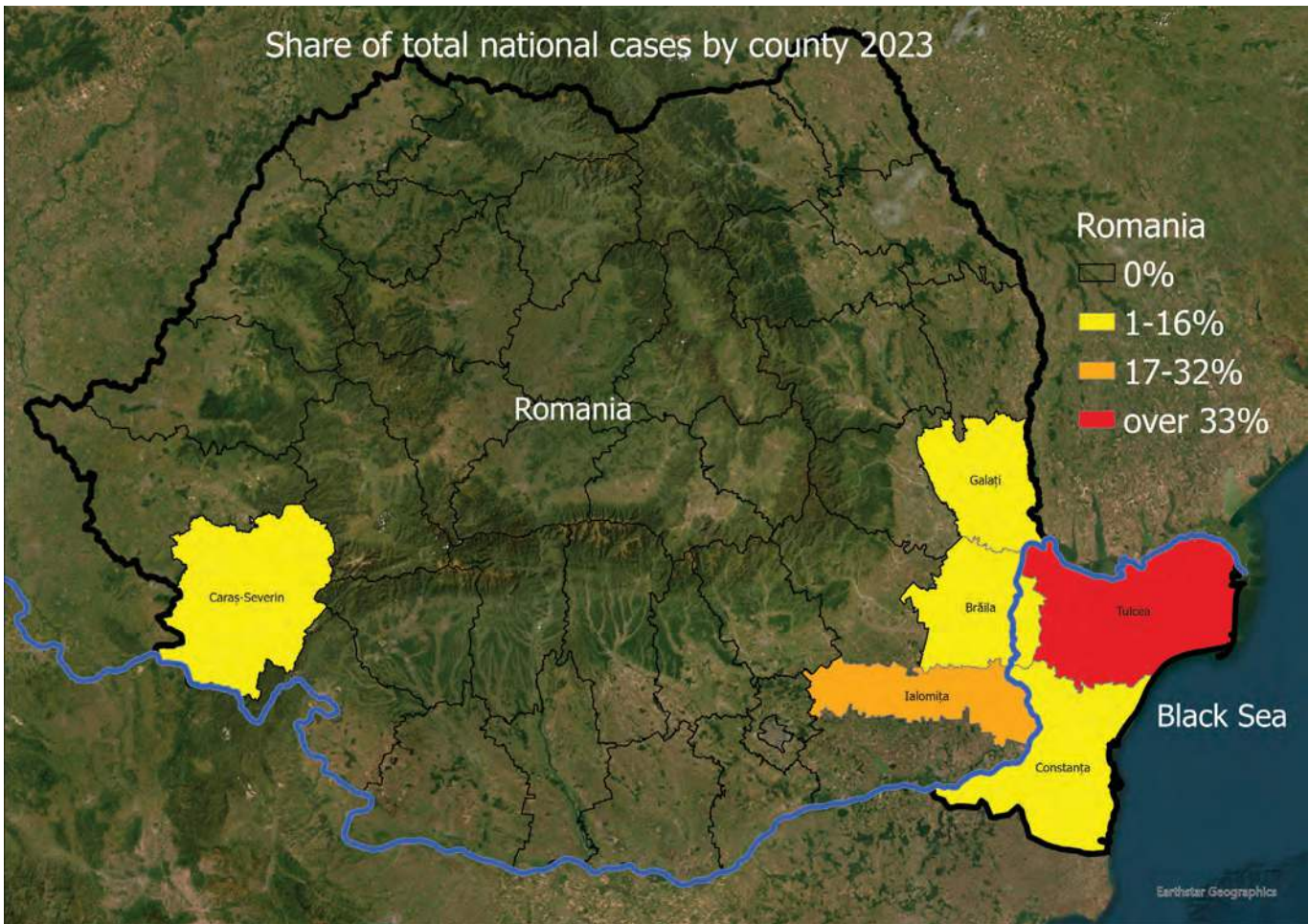
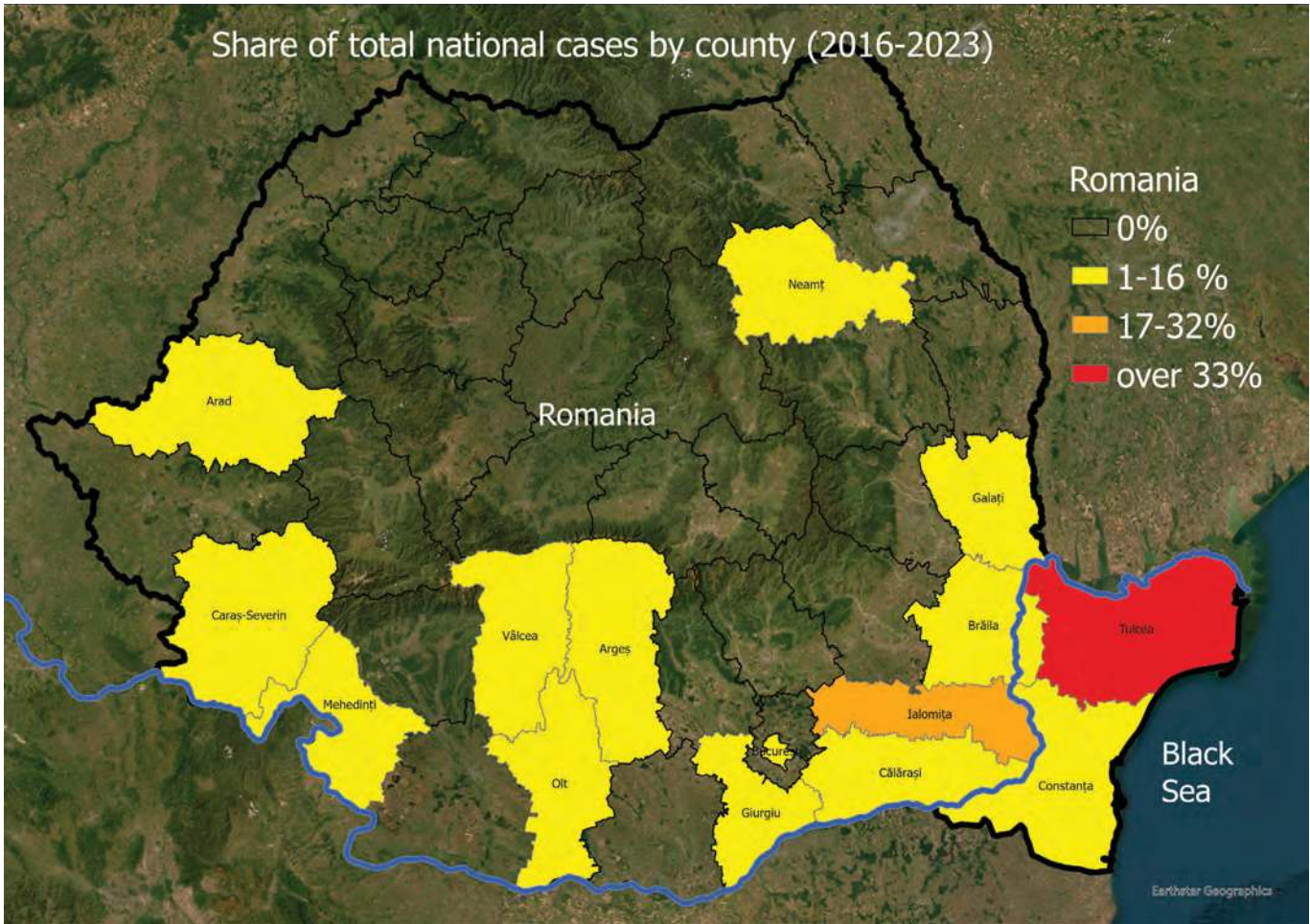
Seven live sturgeon returned to the wild in May 2023.
Extracted from [Youtube video](#) published on 29 August 2023.

Localization of incidents

Based on the data collected, 2 maps depict the geographic distribution of illegal activities involving sturgeons for the periods 2016-2023 and for 2023, respectively.

Colour-coding is attributed based on the share of the total number of national cases contributed by each county. As in previous years, Tulcea County - covering most parts of the Danube Delta - was the scene of more than a third of cases reported, followed by Ialomița County at the Danube with 17-32% of cases.

Of the 41 counties in Romania, cases were reported by 15 (37%) and from the capital Bucharest. These are mainly located on the lowest part of the Danube but illegal activities were also detected further in the Black Sea, up the Danube and inland.



Control efforts

This type of data was collected for the very first time in 2023 and was provided by the Romanian Police General Inspectorate regarding their control efforts to combat illegal fishing and controls of regulations for aquaculture and trade regulations. Other authorities were also enquired but did not provide any data.

The data provided could be divided in several types of controls:

- In inland maritime waters (12 nautical miles under Romanian jurisdiction)
- In continental waters (rivers, lakes, Danube Delta, etc.)
- In fish farms
- With regards to origin, processing storage and capitalization of fish, fish products and other aquatic livings
- With regards to legality of transport of fish, fish products and other aquatic livings
- Other controls

In the present section, data on control efforts were analyzed and compared with cases of illegal activities involving sturgeons. Thus, the analysis is limited to control efforts and cases reported by the Romanian Police only in 2023. Only counties identified as hotspots in 2023 - namely Galați, Braila, Tulcea, Ialomița and Constanta - were taken into account. Caras-Severin County wasn't considered, as the only case from there was reported by the Romanian Border Police for which no information on control efforts was obtained.

At national level, a total of 6.604 controls of fishing, fish production, trade and transport were conducted by the Romanian Police in 2023. A total of 1.368 controls were performed in the five most relevant counties. 14 of these controls (1,02 %) resulted in findings of illegal activities involving sturgeons.

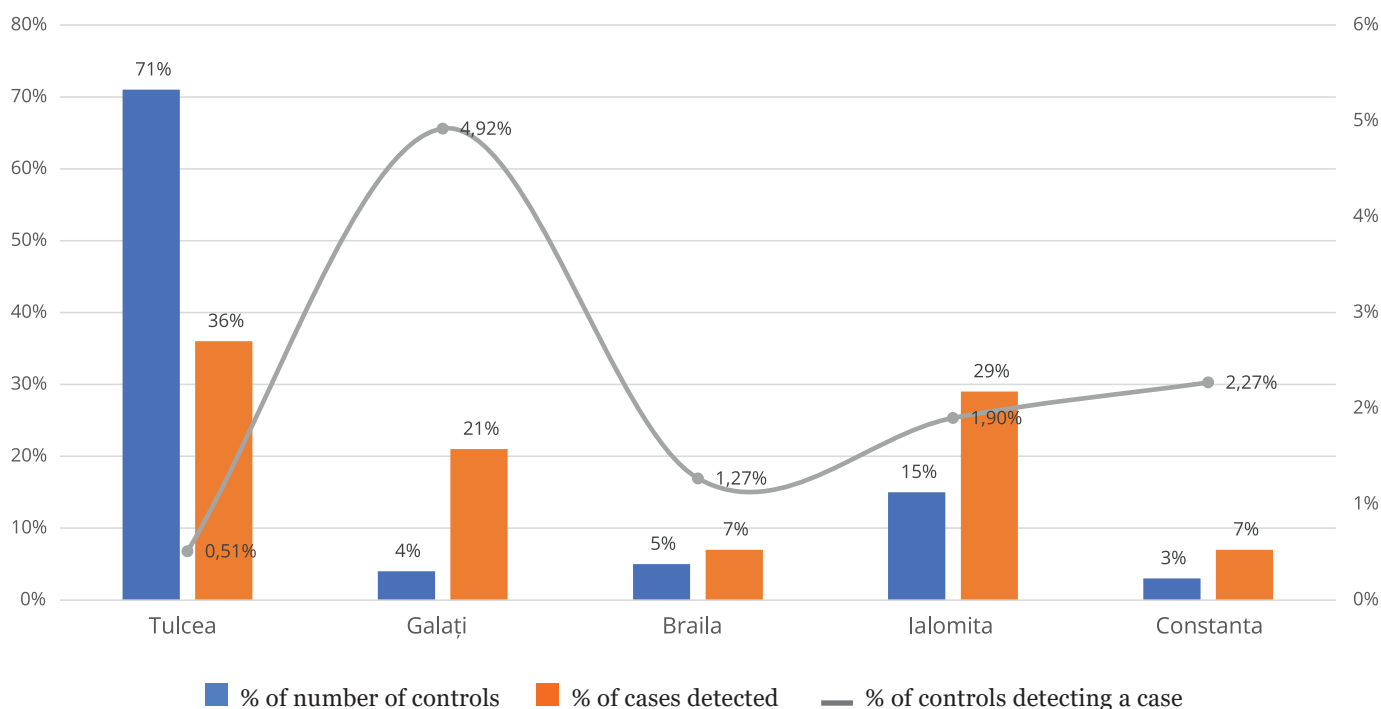
The numbers of controls per county and the types of controls can be seen in the table below:

County	General Fisheries Control Efforts							Sturgeon Cases Detected by Controls	
	In inland maritime waters	In continental waters	In fish farms	In regards to origin, processing storage and capitalization of fish	In regards to transport of fish	Other controls	TOTAL	No. of cases involving sturgeons	Percentage of controls detecting a sturgeon case
Tulcea	26	248	29	194	467	10	974	5	0.51%
Galați	0	25	0	23	4	9	61	3	4.92%
Brăila	0	13	0	9	45	12	79	1	1.27%
Ialomița	0	75	18	1	116	0	210	4	1.90%
Constanța	0	0	8	11	25	0	44	1	2.27%

Table 4. Number of controls and percentage of discovered cases involving sturgeons by Romanian Police in 2023

The analysed data on control efforts shows that the Romanian Police is undertaking by far the most control efforts regarding fishing, in Tulcea County, followed by activities in Ialomița County. In these two counties, also most illegal activities regarding sturgeons were reported by all authorities both in the past eight years as well as in 2023 alone. Yet the detection rate, which can for this purpose be described as

the share of sturgeon cases detected among all control efforts in one county, is rather low. However, the highest detection rates of sturgeon cases compared to the amount of controls were found in Galați, where 4,92 % of controls led to a case involving sturgeons, and in Constanța, with 2,27 % involving sturgeons. Yet, the number of controls is far lower in these counties.



Graph 7. Percentage of fisheries control efforts per county (blue bar) compared to percentage of all sturgeon cases detected in respective county (orange bar) and the detection rate per county (grey line)

For the time being, the increase in the number of illegal sturgeon cases in 2023 cannot be interpreted by the control efforts data. This is due to the lack of data from previous years and the lack of information from other relevant authorities contributing with information about cases to the report.

It is worth mentioning that, starting with June 2024, the Romanian law provisions on sturgeons was changed. According to Art 57 (c) from the Law 176/2024 on **fishing and protection of aquatic living resources**¹² fishing, detaining, transport and selling of wild sturgeon caught outside the perimeter of Danube Delta Biosphere Reserve is a criminal offense and is being punished with imprisonment from 3 to 5 years and interdiction to fish for a period between 3 to 5 years, while in the old legislation it was punished with imprisonment from 6 months to a maximum of 3 years and a fishing interdiction between 1 and 3 years. Moreover, it is obligatory to return any sturgeon bycatch or seized sturgeon immediately into the original water basin

regardless of their state (dead or alive). It is expected that, in the following 2-3 years, this change will increase the number of cases sentenced with imprisonment as according to the Romanian Criminal Code if the conviction is over 3 years there is no possibility to suspend the execution under supervision. There is a need to also update the legal provision on fishing, transport and selling of wild sturgeon caught within Danube Delta Biosphere Reserve where these activities are infractions yet are punished with fine and fishing interdiction from 1 to 3 years.

Considering the majority of cases coming from the delta region, this should be regarded as a high priority.

Data reported by the Courts between 2016 and 2020 show that only 3 cases came to trial, accounting for 3.66% of all illegalities reported by the control authorities. In all cases, it was ordered to “ban the right to fish for one year”, in one case the “community service” was added for 60 days and in another, the defendant was “sentenced to prison” but because he also had other sentences for poaching¹³.

12. Art 57 (c) from the Law 176/2024 on fishing and protection of aquatic living resources, published in Official Monitor no 517/03.06.2024 with further amendments

13. Successful Wildlife Crime Prosecution in Europe (2022). Romanian national report “Wildlife Crime in Romania. Study on Wildlife crime from 2015 to 2020”

RESULTS FOR UKRAINE

For Ukraine, sturgeon seizures were only recorded more regularly by authorities as of 2018, there was only 1 case for 2016 and 2 for 2017 available. The data used in the analysis was obtained from:

- The State Fisheries Agency of Ukraine with reports from the Kherson, Chernivtsi, Odesa, Azov Sea and Black Sea Fishing Patrols,
- Ukrainian customs officials,
- The Ukrainian State Border Guard Service,
- The State Environmental Inspection, and
- The State Judicial Administration of Ukraine.

A few cases stemming from Ukrainian media articles have also been added, if not already covered by authority data.

The reporting includes information about:

- the date and location of the cases;
- indications of the amount of fish involved (in kilogrammes or in number of individual fish);
- the fishing gear used;
- the name of the apprehending agency;
- what happened to the discovered good; and
- details about court cases and penalties.

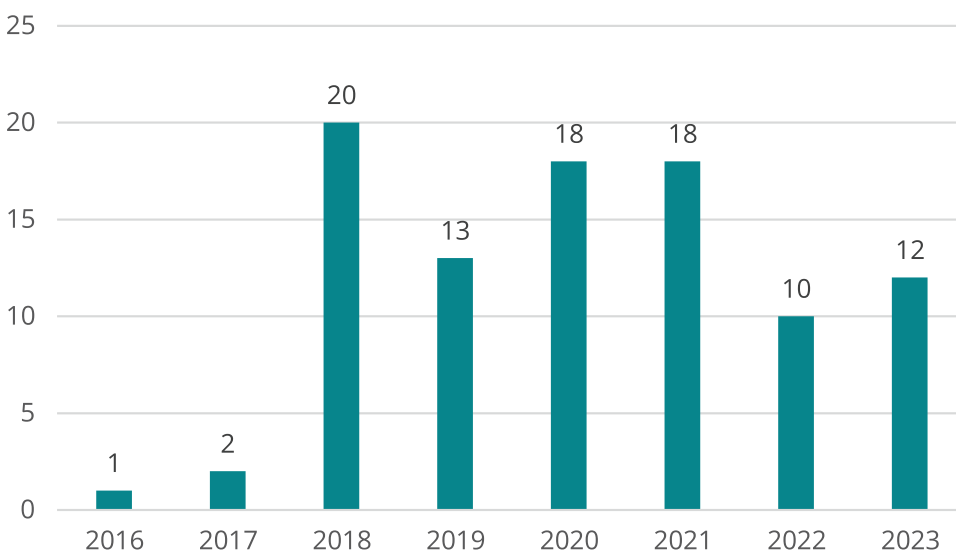
However, the analyses had to be adapted based on the completeness of the data which varied greatly from case to case.

Number of trafficking cases by year

From 2016 to 2023, a total of 94 cases of illegal activities involving sturgeons were recorded.

The graph below (Graph 8) shows the distribution of cases per year.

It should be noted that in Ukraine, only in 2017, a new chapter was added to official reports of the State Fishing Authority containing information on sturgeon trafficking. Therefore, regular reports with information on sturgeon were only available as of 2018. This explains the sudden increase in cases. The decrease of reported cases as of 2022 is likely correlated with the beginning of the war in Ukraine in February that year, which most certainly has an impact on control efforts by responsible authorities as well as restricted access to border regions by civilians and net fishing is currently only permitted in the Ochakovske arm.

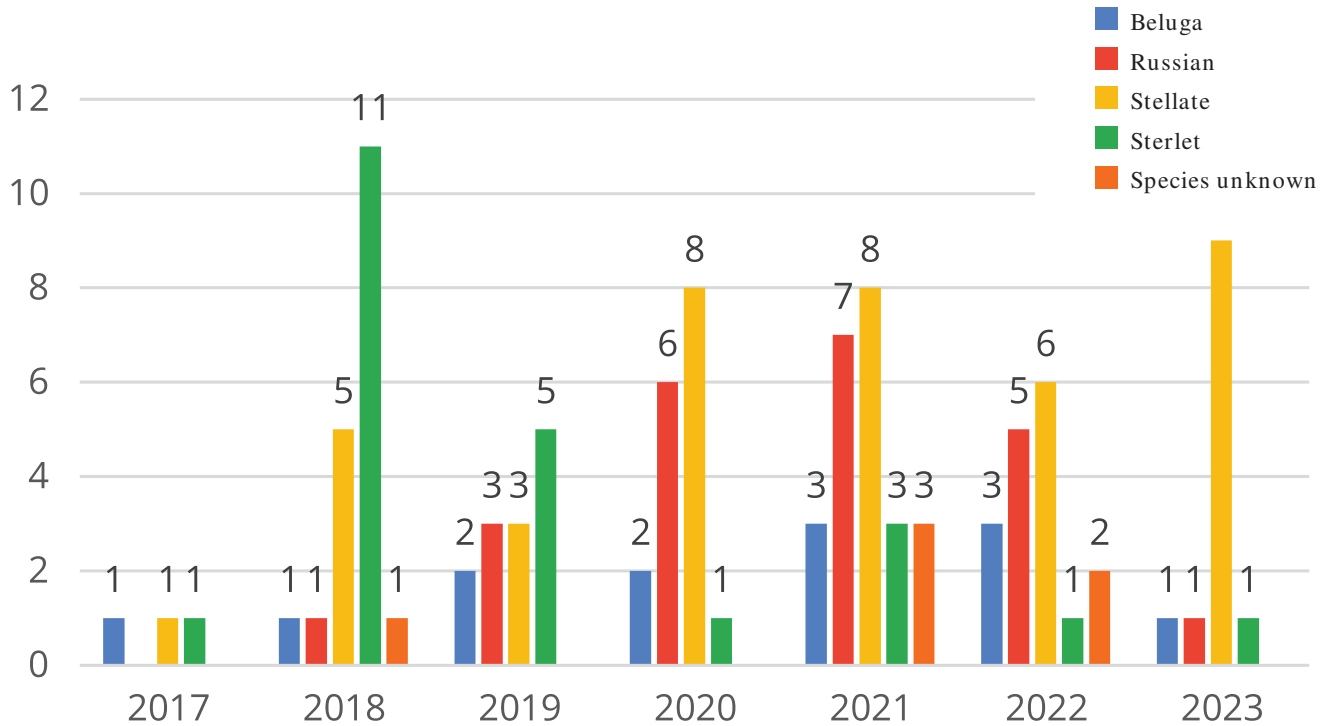


Graph 8. Cases of sturgeon trafficking in Ukraine per year

Number of cases and number of specimens seized per species

From the information gathered within the covered period, 13 cases involved beluga sturgeons, 23 involved Russian sturgeons, 40 cases involved stellate sturgeons and 23 cases involved sterlet. The reporting included also a case of Amur and Siberian sturgeons which are non-native species for the Danube but very popular in aquaculture. In seven cases, the sturgeon species are unknown.

Graph 9 shows the discoveries of species per year. It includes the cases in which whole or parts of sturgeons native to the Danube and Black Sea were found but excludes caviar. If different species were mentioned in the same reported case, they are listed individually in the graph. If one case involved several specimens of the same species, it is only listed once.



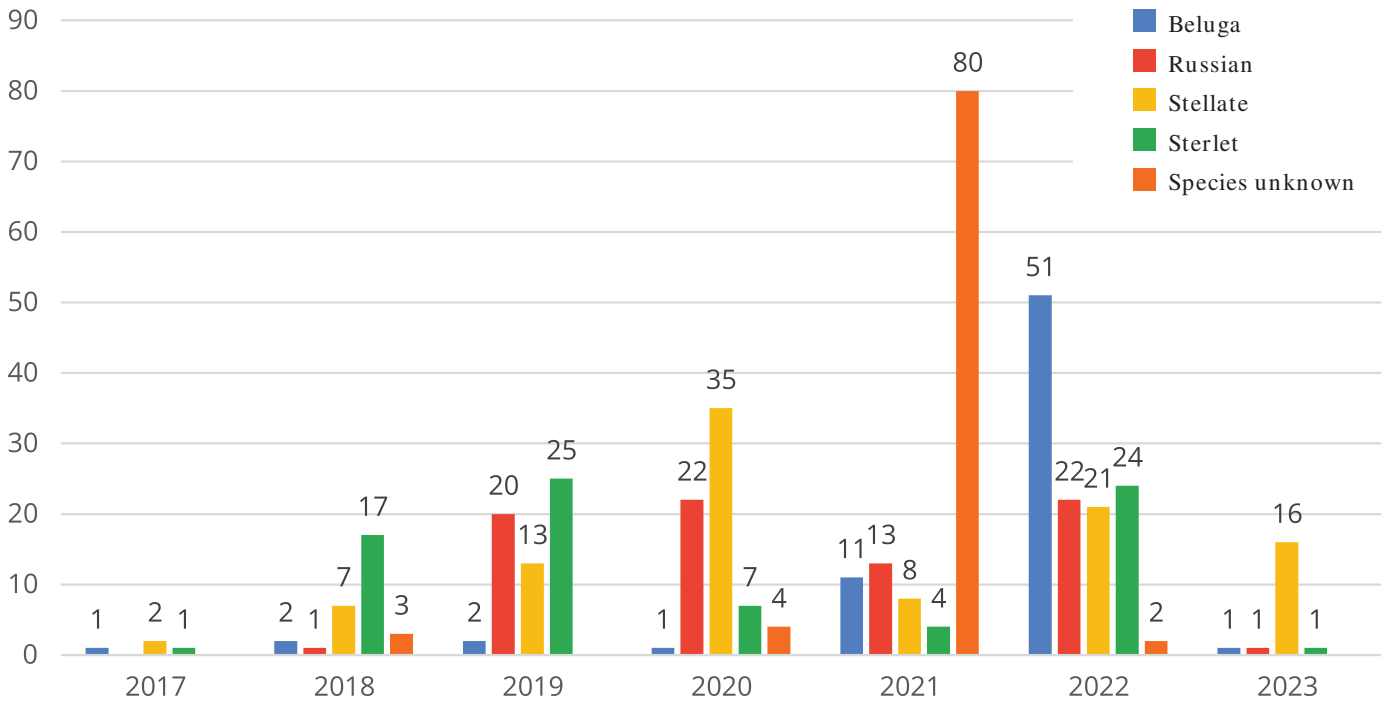
Graph 9. Number of cases including information on sturgeon species in Ukraine (per year)



© Katya Kurakina/WWF-Ukraine

Also regarding the number of specimens seized, Ukraine features the most specific reporting of the three countries analysed in this report. This allows for the data to be broken down not only by the number of fish found per year, in total 418 for the entire period, but also by individual

native species (69 beluga, 79 Russian sturgeon, 102 stellate sturgeons and 79 sterlets). Only cases in which the number of fish was explicitly reported were used in the compilation of the data displayed in the graph.

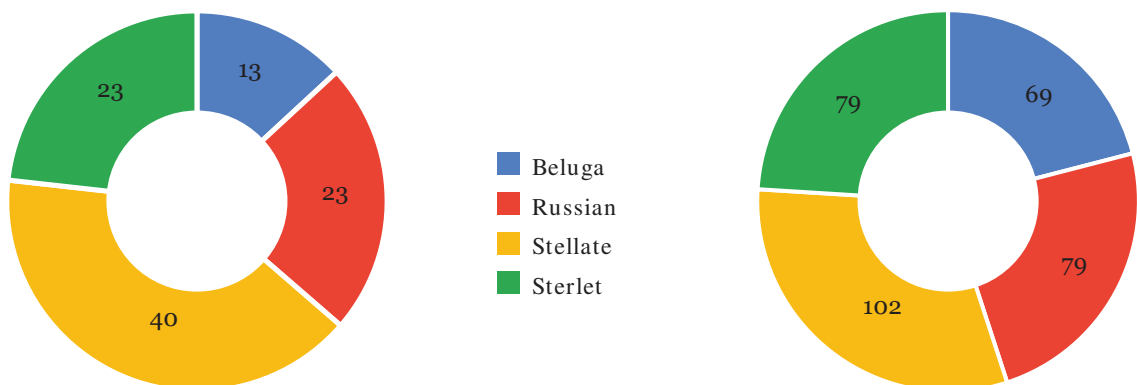


Graph 10. Number of individuals per sturgeon species in Ukraine (per year)

The good data availability in Ukraine allows a comparison of the frequencies of species found per case and per number of individuals, and it is shown that the ranking of findings on species level are very comparable. Most cases and most individuals were from stellate sturgeon, followed

equally by Russian sturgeon and sterlet. Least cases - but proportionally some more individuals - were found with beluga.

Graph 11 only includes data that clearly refers to one of the four species native to the Danube and Black Sea.



Graph 11. Comparison of number of cases mentioning a certain species with the actual number of individuals reported (accumulated)

Fishing gear seized

In Ukraine, 48 of the 94 reported cases include data on the fishing gear used in illegal activities. In one case, scaffolding nets were used, in another floating nets, one featured a fyke net, and in a fourth, authorities found a beam trawl. Gill nets were used in seven different cases, while authorities reported nets (specific type undefined) in a further 37 cases. In three separate cases of 2022, authorities seized a total of nine boats. Especially in contrast to Bulgaria, no karmaci hook lines were reported in Ukraine. Whether they are not used, not found or not reported remains unclear.

Localization of incidents

The maps below show the geographic distribution of the illegal activities involving sturgeons in Ukraine for the study period, 2016-2023, and for 2023 respectively. Colour-coding is attributed based on the share of the total number of national cases contributed by each county (oblast). For 2023, all the reported cases were from the Odesa Oblast, which also accounts for more than a third of all reported national cases each year.

From a total number of 25 oblasts (as of before 2014, including the Autonomous Republic of Crimea), criminal cases involving sturgeons were reported from 14 (56%).

Quantity of sturgeon meat and caviar recorded in seizures

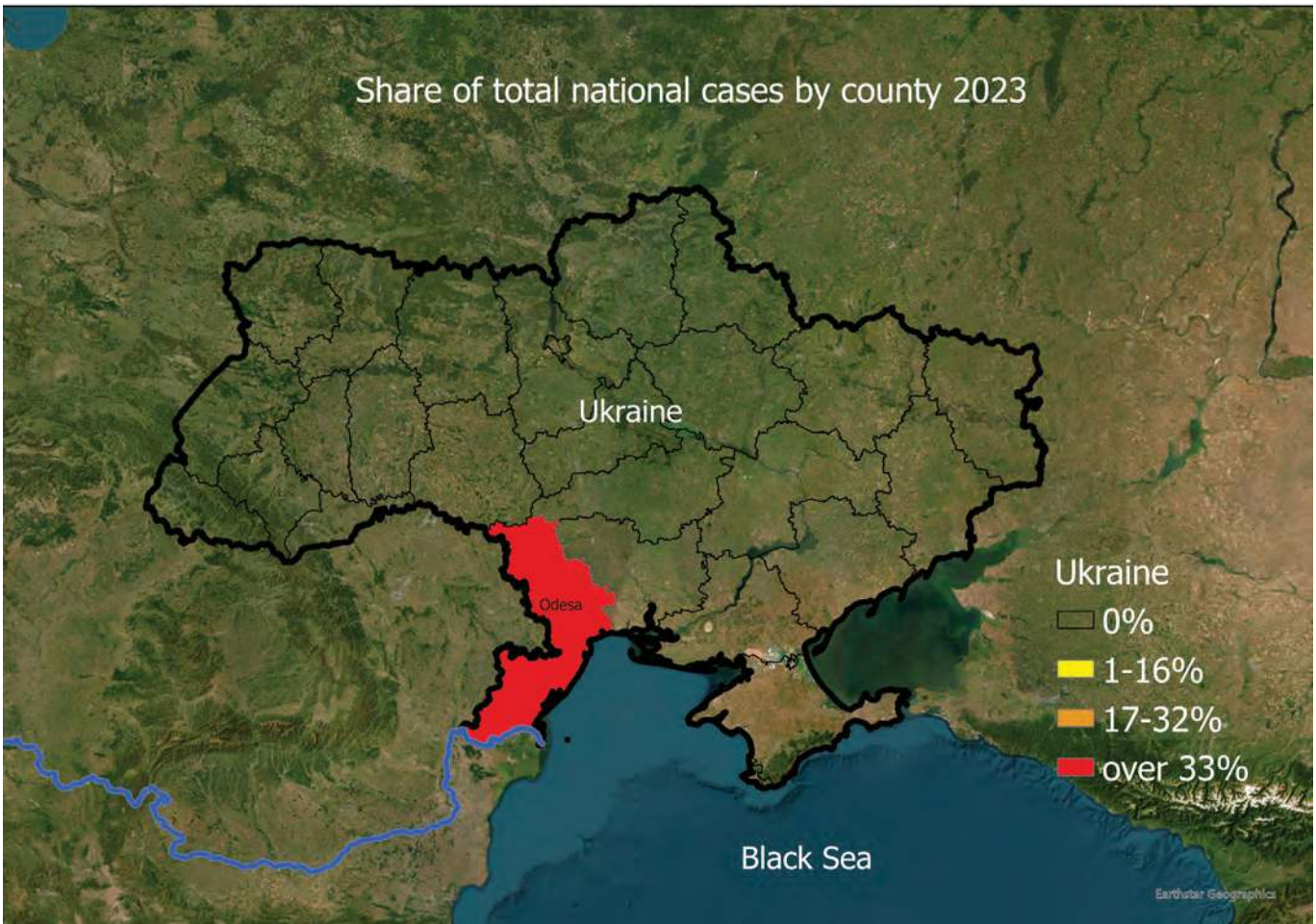
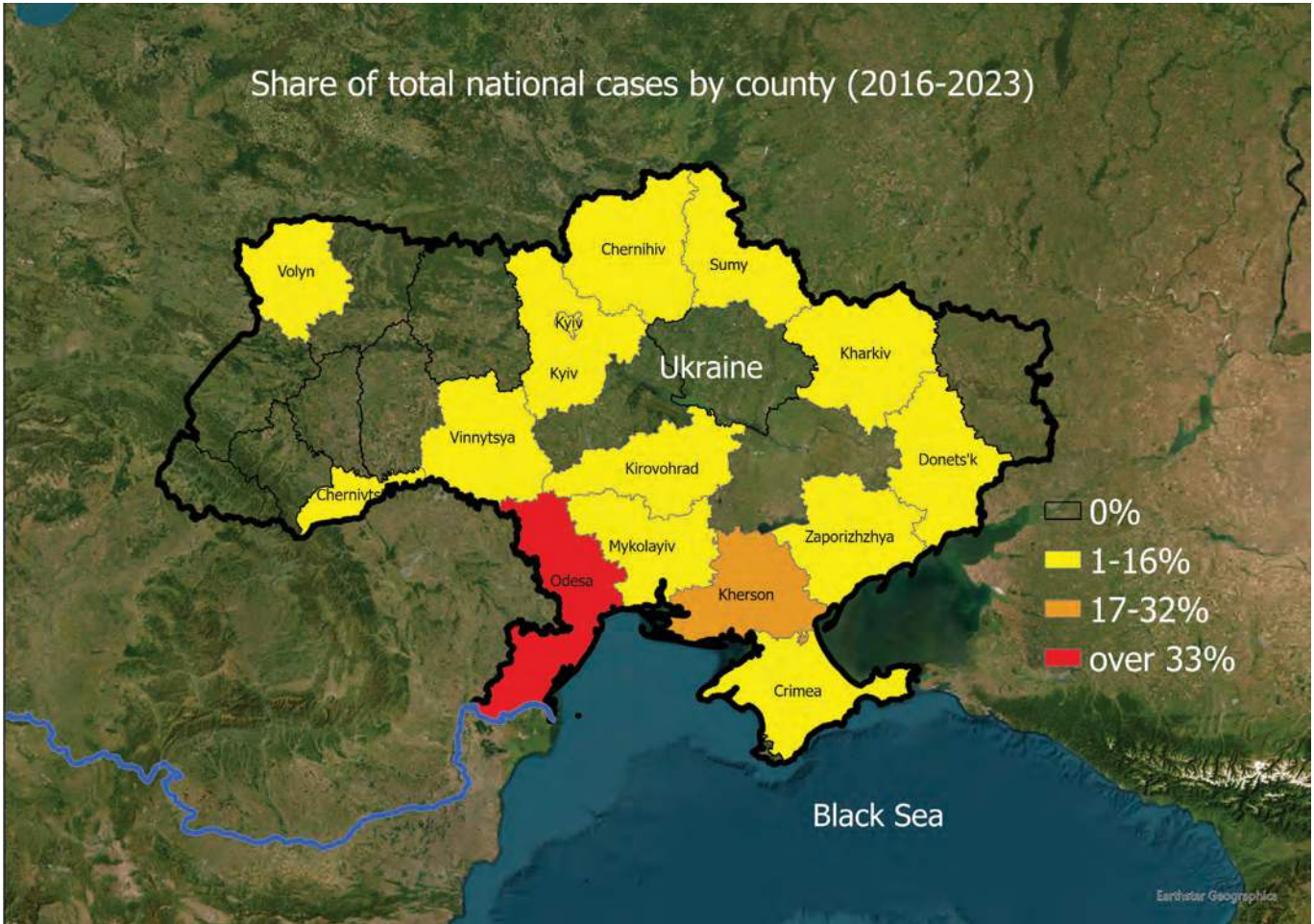
The overview of the amount of caviar and sturgeon meat reported by authorities can be seen in Table 5 (in kilogrammes). The weight of the seized fish was provided in only 40 out of 94 cases documenting a minimum total amount of 930,15 kg of sturgeon meat.

Not all findings of meat, even with declaration of weight, could be incorporated. For example, a total of 7,5 kg of dried sturgeons were seized by law enforcement authorities on 28.11.2017 and 12.08.2018 respectively. As dried fish meat weighs significantly less than fresh fish, these two cases have also been left out from the table below but must have consisted of a considerable amount of sturgeon meat.

In total, 51,15 kg of caviar were seized by Ukrainian authorities, yet in reality amounts are certainly higher. For example, one case from 20.10.2019 involved “40 glass jars and 40 packages” of caviar seized by customs at Boryspil Airport. Because their weight was not reported, this case could not be included in the table below.

Year	2016	2017	2018	2019	2020	2021	2022	2023
Meat	-	3.3 kg	26.6 kg	32.5 kg	225.4 kg	13 kg	478 kg	167.35 kg
Caviar	2.5 kg	-	1 kg	5 kg	35.25 kg	-	3.6 kg	3.8 kg

Table 5. Quantity of trafficked sturgeon meat or caviar in Ukraine



Discussion of results

As of 2022, the enforcement authorities in Ukraine took serious steps towards increased transparency and actively reported cases of seized sturgeon and sturgeon bycatch on their websites and social media channels. Their willingness to deliver more transparent information to the public was notable.

More than a third of all Ukrainian cases have been reported from the Odesa Oblast, which is not surprising due to its large access to the Danube Delta and to the Black Sea coast. However, it may also be related to a lack of equal enforcement efforts in the other regions with sturgeon habitats before 2022. Nevertheless, illegal activities involving sturgeons were reported from 56% of Ukrainian oblasts in the past eight years, showing that authorities detected various illegal activities (poaching, illegal transport or trade) in large parts of the country. These findings confirm that crimes against sturgeons are rather widespread and not only limited to sturgeon habitats.

Due to the ongoing war between Russia and Ukraine, the access to large parts of the Danube, its delta and the Black Sea coastline is prohibited. Nevertheless, authorities reported 12 cases in 2023, including cases where sturgeon were not directly targeted but landed in the boat as bycatch from other fishing activities. Yet, as sturgeons were not returned to the water immediately and maintained illegally by the fishers - the border from bycatch to poaching was crossed, and these cases were included in the analysis.

Two exceptional cases from 2022 remain important to be highlighted, underlining also the need for investigations into wildlife crime and possible links to corruption or bribery. At the beginning of 2022, the large amount of 424 kilogrammes, amounting to a total of 53 fishes, were seized by the Kherson Border Detachment, Black Sea Fish Patrol, and Skadovsk Police. The second exceptional case published by the State Bureau of Investigation (SBI) reports the involvement of bribery in the Odesa region: in September 2022, the SBI reported that two employees of the State Fisheries Agency were involved in illegal fishing by taking bribes from commercial fishermen in the Danube River. These two employees “allowed” fishermen to fish outside of permitted periods and to catch sturgeon without punishment. The report states that in return, the fishermen paid them 50% of the value of the sturgeon catch¹⁴.



Extracted from the website of the Ukraine State Bureau of Investigation, September 2022.

The EU funded LIFE project “Successful wildlife crime prosecution in Europe” (LIFE SWiPE) summarised the findings of wildlife crime in Ukraine in a national report¹⁵, including conclusions and recommendations on the state of related legislation and ways to improve it.

14. <https://dbr.gov.ua/news/dbr-vikrilo-masshtabnu-shemu-nezakonnogo-vilovu-bilugi-ta-sevryugi-v-odeskij-oblasti>

15. <https://stopwildlifecrime.eu/resources/national-reports/ukrainian-national-report/>

RECOMMENDATIONS

The following recommendations are based on the findings of this report and are aligned with the objectives of the Pan-European Action Plan for Sturgeons¹⁶ and the EU Action Plan against Wildlife Trafficking (EU-WAP)¹⁷. The EU-WAP comprises four priorities to be implemented by EU institutions and Member States to respond to the present challenges in a multi-dimensional way:

- 1. Preventing wildlife trafficking and addressing its root causes;**
- 2. Strengthening the legal and policy framework against wildlife trafficking;**
- 3. Enforcing regulations and policies to fight wildlife trafficking effectively; and**
- 4. Strengthening the global partnership of source, consumer and transit countries against wildlife trafficking.**

1. RECOMMENDATIONS FOR LAW ENFORCEMENT

1.1 Ensure a coordinated and structured collection of data and intelligence

It is strongly suggested that all responsible authorities set-up or continue the systematic and detailed reporting of illegal activities and seizures regarding sturgeon. The data structure should be harmonized and shared actively between national agencies. Data should be recorded as completely as possible.

In addition, information on control efforts must be monitored to enable an examination of trends as well as an evaluation of the impact of enforcement measures.

The regular exchange of the data between law enforcement authorities of the Lower Danube countries is encouraged and should serve as a basis for intelligence-led investigations.

1.2 Enhance controls of sturgeon fishing and trade bans

Controls must cover the whole trade chain and include all types of potential poachers and retailers (including fishers, sturgeon producers and intermediaries, shops and markets, restaurants, and online trade). Fishing, domestic and international trades must be rigorously monitored by the responsible agencies.

Inspections must be carried out in cases of reasonable suspicion, but also randomly and unannounced on a regular basis, and should include forensic analysis of samples (see below).

1.3 Secure sufficient resources and capacity building for law enforcement agencies

Effective law enforcement requires sufficient resources for relevant agencies. Adequate manpower, equipment, operational budgets, etc. must be provided. In addition, all responsible agencies need capable and well-trained staff with good knowledge of the complex legal situation, practical experience in the field, and up-to-date information and intelligence.

The deployment of efficient – including new – technologies to detect poaching (sonar, drones, etc.) should be intensified and further investigated.

Regular practical training should be made available to law enforcement officials and targeted information material should support the efficiency of enforcement efforts. Specific training material is available on the WWF website¹⁸ regarding identification of sturgeon species, guidance on how to safely handle sturgeon found in seizures, and on sturgeon trade and caviar labelling¹⁹.

More training material on wildlife crime in general covering legal aspects, prosecution, best practices and enforcement challenges, can be found on the SWIPE website²⁰.

16. <https://rm.coe.int/pan-european-action-plan-for-sturgeons/16808e84f3>

17. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2022%3A581%3AFIN&qid=1667989438184>

18. www.danube-sturgeons.org/material

19. <https://danube-sturgeons.org/material/>:

- Brochure: Sturgeon Identification Guide
- Brochure: How to Handle and Release Sturgeon Safely
- Brochure: Caviar Labelling

20. https://stopwildlifecrime.eu/?post_type=training_material

1.4 Strengthen national inter-agency cooperation and coordination

A number of different law enforcement agencies are responsible for the control of different parts of the trade chain (fishing, transport, aquaculture producers, the processing industry, shops, markets, restaurants, online trade, and international trade). This makes close national cooperation essential. National authorities in the region have started to establish formal or informal groups and are encouraged to increase and expand these networks to include all potentially responsible agencies (e.g., sanitary inspection and food safety agencies that control restaurants). Regular meetings and real time information exchange will assist in developing common approaches. This includes prioritising and focusing enforcement efforts on areas of key concern, and planning and carrying out joint and coordinated controls where those are most needed. Furthermore, agencies can support each other in completing competencies and sharing know-how, capacity and equipment.

1.5 Enhance cross-border cooperation and coordination between authorities at EU and international level

The specific situation of the Lower Danube countries sharing the same sturgeon populations highlights the importance of cross-border cooperation among responsible authorities. This should include regular coordination meetings and exchange of data as well as joint field operations and targeted cross-border enforcement actions. This has already started in the region and should be continued and intensified, particularly in areas where high numbers of cases are found on the other side of the border.

Enforcement agencies should share information about caviar and sturgeon seizures and other findings with the EU and international bodies (EU Enforcement Group, World Customs Organisation, Interpol and EnviCrimeNet²¹, CITES Secretariat, national authorities in involved countries of origin, transit or destination). They should also use appropriate information exchange tools for wildlife law representatives, such as EU-TWIX²². This is of particular

importance within the EU as one common market, where products —including illegal ones —can be transferred freely.

A brochure with guidance on the use of EU-TWIX is available for download²³.

1.6 Carry out consistent state-of-the-art forensic analysis

There is a need for consistent controls of sturgeons and their products, which should – in cases of substantiated suspicion – use genetic and isotope analysis, in order to help detect illegal harvesting and trade, and to guarantee effective monitoring of the sturgeon market chain. These must include sturgeon products that are declared to derive from aquaculture, and caviar containers with CITES labels, as the reliability and integrity of these labels and their CITES codes have been found to be flawed.

Since DNA analysis can often not differentiate wild from farmed products, this method must be combined with other techniques such as isotope analysis. Doing so will verify the species as well as the source and geographical origin.

The capacity of national institutions to carry out the required techniques should be analysed. If there is no national institution that can carry out the tests, the possibility of expanding their profile to be able to do so should be explored. An alternative option would be to have samples analysed in other countries with relevant expertise and resources.

1.7 Increase border controls

Relevant national enforcement authorities should ensure that CITES provisions for sturgeon products leaving or entering their country are observed: specifically, that information regarding the species, source (e.g. wild, captive-bred), geographical origin etc. of the product matches those provided on the CITES documents and on the caviar label/ packaging; and that forensic techniques (see above) are used to minimise the risk of fraud and illegal trade.

A WWF brochure on CITES labelling requirements²⁴ and a training video²⁵ is available.

21. <http://www.envicrimenet.eu>

22. <https://www.eu-twix.org>

23. Brochure: EU-TWIX – Trade in Wildlife Information Exchange, <https://danube-sturgeons.org/material/page/2/>

24. WWF brochure on labelling https://danube-sturgeons.org/wp-content/uploads/2018/11/Caviar-Labelling-Brochure_EN-1.pdf

25. WWF training video on caviar labelling <https://youtu.be/eU-zsD1rACg>

2. RECOMMENDATIONS FOR THE JUDICIARY

Not only do the poaching and illegal trade of sturgeon pose serious threats to the few remaining wild sturgeon populations, but they also impair the costly conservation efforts undertaken by individual states, the EU and conservation organisations. They may also involve fraud, contraband, corruption, forms of organised crime and lost tax revenues for the countries concerned, as well as health and veterinary issues. Wildlife crime targeting sturgeons needs to be taken seriously. Serious cases must be brought to trial and dealt with appropriately, and substantial penalties need to be in place to discourage offenders.

A publication by WWF summarises the legal frameworks concerning sturgeon and related crimes (as of 2020) to raise the awareness of the judiciary on this issue and increase the capacity of staff dealing with wildlife crime²⁶.

More information regarding the wider aspects of wildlife crime ranging from legal considerations to prosecution and enforcement can be found on the website of the SWIPE project²⁷.

3. RECOMMENDATIONS FOR ALL MARKET ACTORS INCLUDING CONSUMERS

Other actors engaged in the trade of sturgeon, such as fishers, aquaculture operators, retailers of all types, and even consumers should be regularly informed, and their awareness of the issue and of their obligations should be raised. The illegality of selling, purchasing and consuming products from wild sturgeon should be highlighted. Targeted awareness campaigns to reduce the demand for wild sturgeon meat or caviar in the Lower Danube region must be implemented.

4. GENERAL RECOMMENDATIONS FOR REPLICATION


Finally, it is strongly recommended that the collection and analysis of seizure data should be repeated in the Lower Danube region every year. Doing so will help evaluate whether or not the situation has changed, and if the measures that have been implemented have had a positive effect.



© George Caracas/WWF-Romania

26. Brochure: Legal Framework for Sturgeon Protection, <https://danube-sturgeons.org/material/page/2/>

27. https://stopwildlifecrime.eu/?post_type=training_material



**OUR MISSION IS TO STOP
DEGRADATION OF THE PLANET'S
NATURAL ENVIRONMENT AND TO
BUILD A FUTURE IN WHICH
HUMANS LIVE IN HARMONY
WITH NATURE.**

© Valentin Zahariev/WWF-Bulgaria



© 2024

WWF® and © 1986 Panda Symbol are owned by WWF.

All rights reserved.

WWF Central and Eastern Europe (WWF-CEE)

Ottakringer Str. 114-116, 1160 Vienna, Austria

Tel. +43 1 5245470-70, www.wwfcee.org