30th Anniversary Meeting of the IUCN Sturgeon Specialist Group, Bordeaux, France, Sept. 3rd 2024

Time: 9:00-9:30

30 Years of IUCN Sturgeon Specialist Group

Arne Ludwig*, Pheadra Doukakis and Mohammad Pourkazemi

†In memoriam Vadim J. Birstein the founding chair of the IUCN Sturgeon SG who passed away on June 12th 2023

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Our presentation addresses 30 years of the IUCN Sturgeon Specialist Group starting with its foundation in 1994 and ending with the anniversary in Sept. 2024. We highlight group goals at the beginning and today, major achievements and challenges of the last 30 years, the dynamic of the group, member structure, geographic representation and our role and position in the IUCN Species Survival Commission.

9:30-10:00

A race between conservation and extinction: 30 years efforts for restoration of natural populations of sturgeons and paddefish in China

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There are 8 species of acipenseriformes in China. Since the establishment of IUCN-SSG in 1994, which was also a period of rapid industrialization and economic development in China, *Psephurus gladius* was assessed to be extinct between 2005 and 2010. *A.dabryanus*: nearly 1 million juveniles have been released into the Yangtze River since 2007, but no natural reproduction has been found since 2000, and it is assessed as extinct in the wild; With the implementation of a 10-year fishing ban on the Yangtze River starting in 2021, it is hoped that the Yangtze sturgeon will be able to resume natural reproduction in nearly five years. *A. sinensis*: From 1994 to 2013, the spawning population continued to decline, but there was natural reproduction every year, and natural reproduction has been stopped for 7 consecutive years since 2017. In the past 40 years, tens of thousands of fish were released per year (considered insufficient), and more than 1 million juveniles were released in 2024, hoping to restore natural reproduction of Chinese sturgeon 10 years later (2036). *Huso dauricus* has been harvested every year for the past 30 years, but the wild population has been on the decline and commercial fishing was stopped in 2007. In recent years, more than 1 million 5cm juveniles of *A.schrenckii* and several hundred thousand Kaluga juveniles are restocked to the river yearly. The wild

population of sturgeon shows a recovery trend in recent years. *A.baerii*: No specimens have been collected from the Ili River. *A.ruthenus*: One live fish was collected from Ili River in 2019 and 2021 respectively. *A.nudiventris*: In the Irtysh River, since 2007, 11 wild fish have been collected and preserved, and artificial breeding has been successful in 2020. The Chinese government lists all wild sturgeon populations as national protected animals, of which Chinese paddlefish, Chinese sturgeon, Yangtze sturgeon and Kaluga sturgeon are in the Class I, others are in the Class II. In 2015 and 2018, the state formulated action plans to save the species of Chinese sturgeon and Yangtze sturgeon, respectively. The extinction of the paddlefish is a profound lesson, we hope that the remaining sturgeon population can at least preserve the species, and hope that through banning fishing, restocking programs and habitat restoration, the natural reproduction of its natural population will be restored.

10:00-10:30 (online)

Sturgeon survival and conservation challenges in the Amu Darya

Akbarjon Rozimov[1,2,3,4*], Bakhtiyor Sheraliev[5], Alexey Chernyak[6], Zokirjon Radjabov[7], Xinxin Li[1] and Baocheng Guo[1,2,8*]

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The last recorded specimen of *Acipenser nudiventris* was noted in the Khanka territory of the Amu Darya in 1989 (unpublished data). More recently, our surveys have confirmed sightings of *Pseudoscaphirhynchus fedtschenkoi* in the Kara Darya River, a tributary of the Syr Darya River, during the 2000s (pers comm. Odiljon Shakirov). Both Amu Darya sturgeons continue to persist in the lower reaches of the Amu Darya, however, their survival is severely jeopardized by the construction of the Tuyamuyun dam and ongoing poaching activities. Between 2021 and 2023, approximately 170 individuals of *P. kaufmanni* were illegally hunted in Khorezm, Uzbekistan, purportedly for treatment related to female infertility. Additionally, thirteen individuals of *P. hermanni* were recorded from 2020 to 2023. Our investigations indicate that both the narrow-snout form of *P. kaufmanni* and the long-snout form of *P. hermanni* are on the brink of extinction.

11:00-11:30 (online)

30 years of sturgeon conservation activities in Russia

Mikhail Chebanov[1], Georgy Ruban[2], Nikolai Mugue[3] and Elena Galich[1]

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The presentation considers the dynamics of the population size and the chronology of changes in the categories of different species in the Red Lists (of various levels) for seven sturgeon species in the basins of the Sea of Azov, the Caspian Sea, in Siberian rivers and the Amur River from 1993 to 2023. Monitoring has been done for the Caspian, Azov and Amur sturgeon populations including modeling for the distinct populations. A portfolio of measures were used to stabilize populations including ban on sturgeon fishery; construction of efficient fish passes, dredging activities in river mouths for their renaturation, founding of protected sturgeon zones, enhancement of measurements to combat poaching and sturgeon by-catch (e.g. several elevations in fines and compensation fees, confiscation of property and up to 7 years of imprisonment), significant increase in the stocking activities of different-age groups (the fish were only from genotyped brood stocks; assessing the survival rate of the juveniles), systematic tracing of sturgeons in aquaculture, international agreements and some more.

11:30-12:00

30 years of sturgeon conservation in Iran and the Southern Caspian Sea

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The sturgeon stocks in Caspian Sea have fluctuated a lot in the past 30 years, from the optimal level in the 1980s to the worst in the 2024s, so that 5 of its main sturgeon species are in serious danger of extinction. Here I divided to 3 phases of 10 year each. In the first decade (1995-2004), Sturgeon resources were in relatively good condition, and the alarm of a decrease was sounded, and the most activities took place in this decade. From inclusion of all sturgeon species to CITES appendixes and export restrictions, joint stock assessment, maximum release of sturgeon fingerlings, provision of infrastructure and equipping laboratories, carrying out dozens of research projects and regional and international partnerships from FAO to the European Union and the World Bank in Caspian Environment Program (CEP). In the second decade (2005 to 2014), the predictions came true, Sturgeon resources started to decrease sharply, and the productive supply and the amount of sturgeon fingerling releases started to decline. Stricter regulations, but the results of improvement of resources are worse and more critical. Until 2011, the five Caspian coastal countries voluntarily allocated zero quota for commercial catch and only for research and stock restoration, and the export of wild sturgeon was declared zero. This program continues until now, but the sturgeon stocks did not recover (due to the continuation of illegal fishing and the reduction of release), but sturgeon aquaculture developed and provided the required meat and caviar to some extent. In the third decade (2015-2024), the continuation of the second decade with the approach of further weakening of sturgeon resources, non-realization of national income and sometimes the impact of economic sanctions, oil export and sales and banking sanctions made the situation much more difficult and to a large extent despite the efforts of the country's fisheries and scientific centers , the extinction of species

accelerated and lack of joint stock assessment, international and regional cooperation reached its minimum. The continuation of the current situation is very worrying and we hope that political and economic improvement will be done in the region in favor of rehabilitation sturgeon stocks.

12:00-12:30

30 years of sturgeon conservation in East Europe

Thomas Friedrich*, Gabor Guti, Marian Paraschiv, Radu Suciu, Tudor Ionescu, Inna Hoch, Stoyan Mihov, Cristina Munteanu, George Caracas, Beate Striebel, Nino Peradze, Tamar Beridze, Gerald Zauner, Clemens Ratschan, Jakob Neuburg, Heidrun Eichhorn and many more…

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With six species and several distinct evolutionary significant subpopulations, Eastern Europe is a hotspot in sturgeon biodiversity and hosts some of the last remaining reproductive sturgeon populations in Eurasia. However, overfishing, habitat loss, disruption the migration routes also brought sturgeons to the brink of extinction. Being a political und cultural melting pot with socio-economic disparities, poaching of remaining individuals plays a significant threat to this day. Management and conservation efforts are further challenging due to the multi-nationality of catchments. Over the past 30 years, considerable efforts have been made to protect sturgeon populations in the Black Sea and the Danube. Numerous restoration programs have been initiated, include the restoration of habitats and restocking programs. Scientific research projects have helped to deepen the understanding of sturgeon life cycles and develop conservation measures. In addition, NGOs and local communities have played an important role in raising awareness and combating poaching. Despite these efforts, the situation of sturgeons remains critical and coordinated efforts at national and international level are still needed to secure their future. In- situ restoration of habitats and migration routes as well as protection of remaining populations from IUU fishing as well as multilateral ex- situ programmes, based upon long-term funding schemes are of utmost priority and need to work together to effectively save the sturgeons in the region.

13:30-14:00

30 years of sturgeon recovery measures in Western Europe

Gessner, J., Rochard, E., Ordeix Rigo, M., Mc Cormick, H., Brevé, N., Arndt, GM, Kapusta, A., Poviliunas, J., Tambets, M., Jagrud, L. and Congiu, L.

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The coastal ranges of Western Europe were home of five sturgeon species, namely the Atlantic or Baltic sturgeon (*A. oxyrinchus*), the European sturgeon (*A. sturio*), the Adriatic sturgeon (*A. naccarii*), and one

population of Beluga (*H. huso*). These species were geographically isolated to some degree but the range overlapped especially due to the wide distribution of the European sturgeon that occurred from the Black to the White Sea. All Western European species have been depleted massively during the end of the 19th and the first half of the 20th century, resulting in the loss of the populations in 61 out of 63 river systems despite legal protection of the fish. *A.* naccarii and *A. s*turio persist in one river system each still while all other populations went extinct. Coordinated conservation only gained momentum in the 2000s. After first trials have been implemented in Italy in the 1980s by successfully establishing a captive broodstock of *A. naccarii* and the same in France in the 1990s for *A. sturio*, for which attempts were also carried out in Germany to establish a second ex situ broodstock by the mid-1990s in close cooperation with the French team. The approach was extended to the Baltic sturgeon after genetic evidence has revealed that it represents a population of *A. oxyrinchus* rather than *A. sturio* in the onset of the 2000s. Releases from captive populations have been implemented in the North Sea and the Baltic ranges after 2006 with increasing numbers of partners and offspring released. Today, the presence of the species still largely depends upon releases from ex situ measures in all rage countries, although in Italy, first natural reproduction has been witnessed in the early 2020s. The presentation summarized the approaches taken in the different regions, means of collaboration and harmonization as well as the main challenges that still persist to bring the species back to a sufficiently large population that can sustain itself.

14:00-14.30

30 Years of Sturgeon and Paddlefish Conservation Efforts in North America

James A. Crossman[1], Molly A.H. Webb[2], Tim J. Haxton[3], and Andrea D. Schreier[4]

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Sturgeons and paddlefish in North America have been significantly affected by overfishing and illegal fishing for wild caviar and meat, fractured migration corridors due to dams, habitat loss, and pollution leading to either substantive declines in abundance, collapse of natural recruitment, or both. There are eight species of sturgeons, one subspecies of sturgeon, and 1 paddlefish species on the continent. In 2022, the IUCN Sturgeon Specialist Group classified five species as vulnerable, three as endangered, and two as critically endangered. Six of these listings reflect further species declines since the previous IUCN assessment in 2000. While inter-jurisdictional co-management presents a challenge for some species, significant conservation work has occurred over the last 30 years for all sturgeons and paddlefish in North America. Conservation efforts have included immediate actions to prevent extirpation through releases from conservation aquaculture, habitat restoration, and research to better understand physiological tolerances, genetics, and bottlenecks for recruitment. The North American Sturgeon and Paddlefish Society was founded in 2012 to support information exchange and foster interdisciplinary and multidisciplinary research on all aspects of sturgeons and paddlefish. The future viability of sturgeon and paddlefish in North America depends on our ability to resolve issues with natural recruitment, restore spawning habitats, reconnect critical habitats in regulated rivers, and ensure stressors associated with climate change are identified and mitigated.

IUCN supported projects

14:30-15:00

Sturgeon Conservation in Georgia

Michelle Klailova, Bianca Roberts, Mikheil Potskhishvili, Janeli Rogava, Gizo Seskuria, Tamar Edisherashvili and Tamar Beridze

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Due to declines in sturgeon over the last century, their status in the Eastern Black Sea Basin needs urgent review. Fauna & Flora with Ilia State University began working on sturgeon trade in 2013, and along the Rioni River and Georgian Black Sea Basin in 2017. We monitor the Rioni with fishermen 7 months/year for poaching incidents; we work closely with local communities to raise awareness, and we build local capacity to tackle the sturgeon trade and to monitor population status. Due to our close cooperation with fishers, and active field research, we have collected over 250 genetic samples of 5 different sturgeon species including non-native species and the ship sturgeon, and trialed multiple monitoring methods. Since 2018 we have captured 17 juveniles indicating the river is still used for spawning. We have published 7 journal articles, supported 2 PhDs and 4 master's theses and developed a sturgeon genetics program in-country. Our work now includes habitat assessments and acoustic telemetry.

15:00-15:30

STURGEX – creation of an ex- situ broodstock for Danube Sturgeons

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While two out of six Danube sturgeon species are already locally extinct, the status of the three remaining anandromous species requires immediate *ex situ* conservation actions to preserve the remaining genetic diversity. These *ex situ* actions must maintain an autochtonous genetic diverse broodstock, operating under the state of the art for reproduction and husbandry methods for releases of juveniles and must be jointly managed and available to all catchment states for conservation purposes. Currently no centralized broodstocks in captive genebanks are available and conservation is partially depending on the goodwill of single farmers. In conjunction with the LIFE-Boat 4 Sturgeon project, STURGEX aims to genetically screen fish present in caviar farms, investigating their lineage, pedigree and sex to ultimately select rare genotypes to be included in a centralized broodstock. Furthermore, animals will be tagged and released to the Danube in Romania as a demonstration action. While a clear focus is on the Lower Danube and Black Sea, the broodstock may also be used for re-

introduction in the Middle Danube as well as in the case of beluga sturgeon also in the Adriatic Basin in the mid-term.

15:30-16:00

Saving sturgeons by tackling bycatches and illegal trade and bysupporting key fishing communities in developing alternative incomesources (S.O.S Romania)

Cristina Munteanu et al.

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According to the Pan-European Action Plan for Sturgeon (PANEUAP), the most severe and direct threats to wild sturgeon populations, in the Danube and Black Sea area, are poaching and bycatch. The presentation reports on progress made on two work plans with fishing communities - by-catch reporting and the development of alternative economic activities to fishing. These should on the one hand raise awareness of the sturgeon situation and internalize sturgeon conservation activities by fisherman's and on the other hand reduce poaching. A survey and analysis of samples of sturgeon provide insight into the presence of illegal products on the market.

16:00-17:00

Final discussion: Three Decades of Conservation Efforts and Challenges

Chaired by Arne Ludwig, Jörn Gessner & Leonardo Congiu

This final discussion will offer a platform to review the key activities and efforts of the IUCN Sturgeon Specialist Group in sturgeon conservation. We will examine the notable initiatives and contributions made over the years, while also addressing the significant challenges and issues encountered. This discussion aims to provide a balanced overview of the achievements and ongoing difficulties in sturgeon conservation, encouraging an open dialogue about the lessons learned and future directions.