

Conservation news

Unprecedented mass mortality of aquatic organisms in the River Oder

The 854 km River Oder (Odra in Polish), with a catchment area of 118,861 km², flows through Czechia, Poland and Germany. In late July 2022, it became severely polluted and its fish and aquatic molluscs suffered unprecedented mass mortality (Save the Oder Coalition, 2022, [saveoder.org](https://www.saveoder.org)).

The disaster began in the Polish part of the river on 27 July. At the beginning of August, toxic golden algae *Prymnesium parvum* were detected by the German research institute IGB (Leibniz-Institute for Freshwater Ecology and Inland Fisheries). As these algae are associated with saline waters, the primary cause of their appearance in the river must have been contamination by such waters, most likely from coal mines. The toxins produced by golden algae are lethal to gill-breathing organisms and could have been responsible for the mass die-off. This is the first record of these invasive algae in Poland.

The conservation programme for the Critically Endangered Baltic population of the Atlantic sturgeon *Acipenser oxyrinchus oxyrinchus* turned out to be in vain; some 20,000 young fish, due for release into the river, perished before this could happen as they were being kept in tanks through which contaminated river water was flowing. From the end of July to 12 September, over 249 t of dead fish were taken out of the river. The deaths of millions of fish and molluscs will have a catastrophic effect on the whole ecosystem, including on the hundreds of thousands of waterbirds that winter in the area.

The lower Oder valley is a diverse ecosystem with several dozen protected areas. The Oder influences the ecosystems at its mouth and in the southern Baltic Sea, and these areas are the most important wintering areas of the threatened velvet scoter *Melanitta fusca*, long-tailed duck *Clangula hyemalis* and greater scaup *Aythya marila*.

There has never before been a disaster on such a scale in this region, so its consequences are difficult to predict. Although human activities were undoubtedly responsible, no precise cause has been identified. To prevent a similar catastrophe, scientists have recommended ceasing all regulation of the river, beginning its restoration and improving monitoring. Unfortunately, the Polish authorities are planning the opposite: the implementation of extensive projects for cascading, regulating and deepening the Oder (Ławicki et al., 2017, *Oryx*, 51, 397), a process that has already begun. In addition, the discharge of industrial sewage continues unabated, as evidenced by the sustained high salinity of the river. In the context of this disaster, the Brandenburg Ministry of the Environment has filed a legal complaint against Poland.

Photographic documentation of the mass mortality is available at doi.org/10.17632/kw5pd8ckwy.1.

DOMINIK MARCHOWSKI (orcid.org/0000-0001-7508-9466, dmarchowski@miiz.waw.pl) Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw, Poland.
ŁUKASZ ŁAWICKI (orcid.org/0000-0002-9829-0151) Eco-Expert, Szczecin, Poland

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IUCN Red List reassessment reveals further decline of sturgeons and paddlefishes

Sturgeons have survived epochal ecological changes but are succumbing to the greed of *Homo sapiens*. A Red List update by the IUCN Sturgeon Specialist Group on 21 July 2022 revealed that the already precarious state of sturgeon populations has further declined.

The Chinese paddlefish *Psephurus gladius*, endemic to the Yangtze River, is extinct. Another species endemic to the Yangtze River, the Dabry sturgeon *Acipenser dabryanus*, is categorized as Extinct in the Wild as all animals observed in nature are from restocking programmes. European species are faring poorly: the eight species, although under protection since 1992, are either Endangered or Critically Endangered. One of these, the ship sturgeon *Acipenser nudiiventris*, is extinct in the Danube. The situation of the North American species is slightly better than that of the Eurasian species, as a result of more timely conservation efforts, but their condition has also worsened.

The causes of the disappearance of sturgeons are well known. The first is illegal fishing: although fishing is banned in most of the species' ranges and although > 500 t of caviar are produced annually in aquaculture, poaching is still a serious problem. The second is the loss of migration corridors and habitats because of the development of hydropower. Many species of sturgeons are anadromous and all species migrate long distances: they need to swim upstream during the spawning period, lay their eggs in suitable habitat and freely return to the sea. Finally, pollution of waterways, and changes of discharge and temperature as a result of climate change, and the spreading of invasive species are also threats.

But there remains hope. In the Caucasus, in the Rioni River, the ship sturgeon has reappeared after years of absence (Beridze et al., 2021, *Oryx*, 55, 9). The Adriatic sturgeon *Acipenser naccarii* has shown sporadic reproduction in the Po basin (Congiu et al., 2021, *Oryx*, 55, 816) and has therefore been recategorized from Extinct in the Wild