



31.3.2023

NOTICE TO MEMBERS

Subject: Petition No 0784/2022 by T. K. (German) on creation of an international preservation area of the Oder river

1. Summary of petition

The petitioner calls for the creation of an area of natural preservation of the Oder river, beginning at its sources in Czechia, continuing on the both flanks of the river in Germany and Poland up to its estuary. This European (international) site would aim at protecting the waterbody of the Oder and securing its cleanness.

2. Admissibility

Declared admissible on 29 November 2022.

3. Commission reply, received on 31 March 2023

In early August 2022, the media started reporting about large amounts of dead fish found along the Oder River.^{1,2} A German-Polish joint task force was formed to investigate the mass kill of fish and other aquatic organisms like freshwater bivalves, molluscs and snails. Polish media reports also mentioned the mortality of birds, ducks, beavers, mussels, and other wildlife³. Most of the fish kills were observed from the end of July 2022 to September 12, 2022, by which time around 360 tons of dead fish were observed. West Pomerania was one of the regions that recorded the largest fish kills, mostly occurring over a 12-day period in mid-August (Figure 1b). The disaster had an ecological impact directly and indirectly affecting nature protected habitats and protected species along 500 km of the river the Oder River. The Commission notes that many areas alongside of the Oder River are already protected under the EU Birds and

¹ See <https://www.bbc.co.uk/news/world-europe-62536918>

² <https://www.bbc.com/news/world-europe-62688036>

³ <https://www.bbc.com/news/world-europe-62688036>

Habitats Directives. Figure 1a shows a screenshot of the various existing protected areas along the Oder River between Eisenhüttenstadt and Szczecin. The screenshot was taken from the Website ‘EU Natura 2000 Network Viewer’ (Source: <https://natura2000.eea.europa.eu/> - September 2022). Sites shown in figure 1a are for example the ‘Stettiner Haff’, the Natura 2000 area "Dolna Odra /Unteres Odertal", and many others.

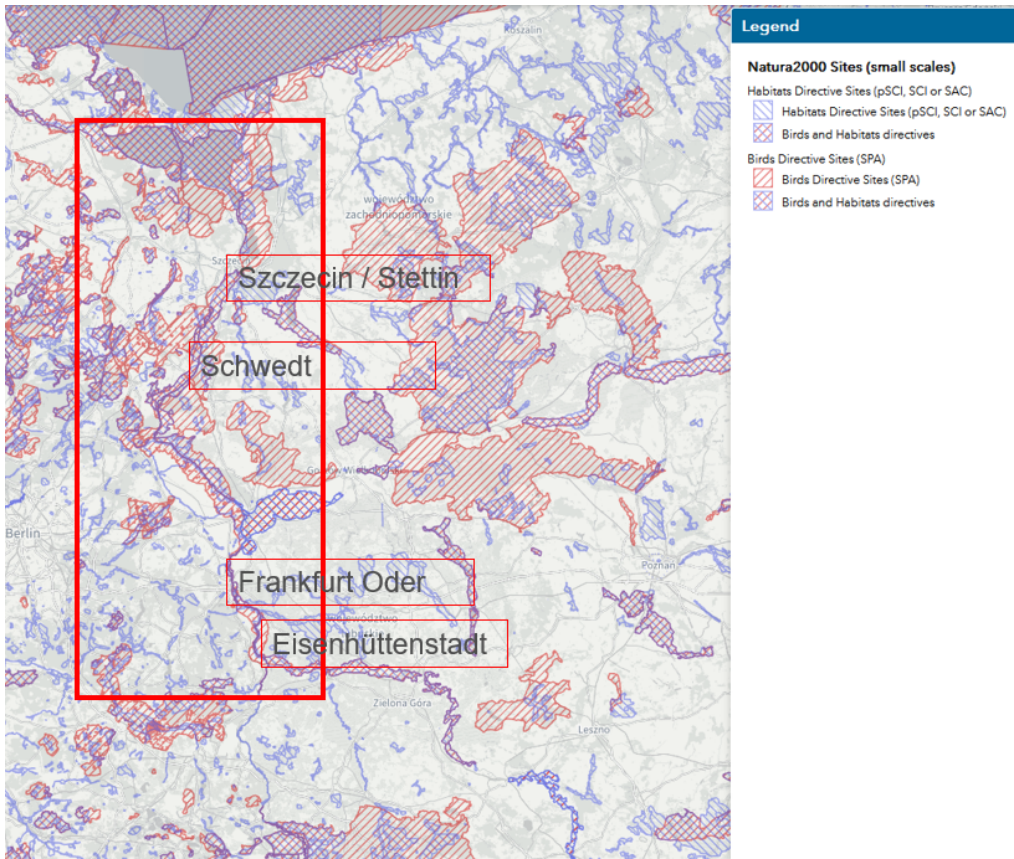


Figure 1a: Illustrative map of Natura 2000 sites (sub-divided into sites protected under the Birds and Habitats Directives) along the Oder River between Eisenhüttenstadt and Szczecin: Source: <https://natura2000.eea.europa.eu/> (September 2022).

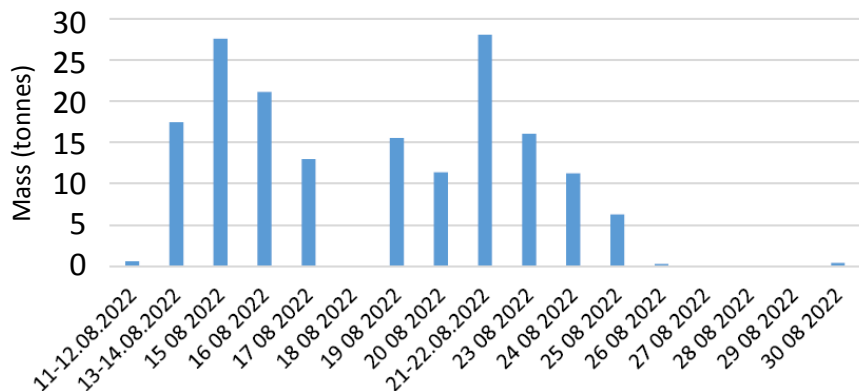


Figure 1b: Distribution of fish deaths in West Pomeranian from the official Polish report.

Designating new protected areas in addition to the mentioned existing areas would certainly

enhance the protection of the Oder River and improve its quality. The Biodiversity Strategy for 2030 sets the objective to legally protect at least 30% of the land in the EU, including inland waters, of which at least one third (i.e. 10% of land) should be under strict protection. Designation of additional areas on or along Oder would therefore contribute to meeting this objective. The Commission will discuss designation of these additional protected areas, including areas under strict protection, with the Member States during bio-geographical seminars starting this year. The possible creation of a cross-border national park on Oder, as called for in the petition, is however outside the remit of EU law. It is indeed within the remit of the Member States to designate new national parks.

The Commission would recall that the start of the disaster was characterised by a lack of understanding of the causes of the fish kill and the limited formal communication, mainly between national competent authorities, but also to the public. This is known to have hampered an early response and efforts to limit the amount of ecological damage, as well as the initiation of possible mitigating measures. The need to ensure enactment of existing communication plans to minimise damage was highlighted in one of the official reports that was published in the aftermath of the event⁴.

Also, high frequency, near real time *in situ* monitoring at Frankfurt am Oder⁵ provided an excellent source of information, reporting an increase of key parameters such as conductivity (indicator of salinity) and chlorophyll-a and a decrease of nitrate.⁶ To increase the understanding and decrease reaction times in cases of possible future disasters, the amount of near real time *in situ* monitoring will have to increase as well. Thus, it is quite certain that the underlying factors are of non-natural origin and that the immediate cause of the deaths was due to a toxic algal bloom identified as *Prymnesium parvum* (releasing prymnesin toxins), a species adapted to brackish salinities.

The *Prymnesium* algal bloom resulted from several multicausal factors. A key factor was the high salinity of the Oder River during this time probably due, at least partly, to discharges of industrial wastewater with a high salt content e.g. from mining activities. The drought, the high sunlight intensity, in combination with the lower water levels and slower flow lead to higher salt concentrations which, coupled with high nutrient concentrations of phosphorous and nitrogen, resulted in the perfect conditions for the toxic algae to thrive.

The exact sources of the salts, as well as the source habitats of *Prymnesium* in the catchment are unclear, but a Polish parliamentary inspection revealed nearly 300 sites of illegal wastewater discharges⁷. Therefore, tackling existing industrial wastewater emissions to the Oder, legal or not legal, is paramount to enhance the protection of the river. At the present time (February 2023), Poland is still obtaining final data on the quality of discharged wastewater, both from legal and illegal sources, and their correlation with hydrological and environmental data.

⁴ <https://www.bmu.de/en/download/status-report-on-fish-die-off-in-the-oder-river>

⁵ <https://lfu.brandenburg.de/lfu/de/aufgaben/wasser/fliessgewaesser-und-seen/gewaesserueberwachung/wasserguetemessnetz/frankfurt-oder/>

⁶ <https://lfu.brandenburg.de/lfu/de/aufgaben/wasser/fliessgewaesser-und-seen/gewaesserueberwachung/wasserguetemessnetz/frankfurt-oder/>

⁷ https://www.euractiv.com/section/politics/short_news/polish-parliamentary-inspection-of-oder-river-reveals-illegal-wastewater-discharge/

The most affected Member States, Poland⁸ and Germany⁹ have published reports analysing the events and the causes to the extent possible and committed to the Oder ecosystem restoration. The EU institutions offered their support in terms of possible funding for compensation and/or restoration, and by making their expertise available. An upcoming joint Commission –EEA report¹⁰ that will be published in early 2023, analysed the event, its causes and consequences and collates recommendations from the German and Polish reports as well experts from the European Commission and the EEA. The recommendations at all levels include:

1. Improve knowledge and monitoring systems of water quality measurements (specifically for harmful algal bloom events).
2. Improve communication and cooperation.
3. Improve emergency response and risk management.
4. Improve regulation, inspections and enforcement.
5. Further investigations are still needed to establish the source of the incident.
6. Improve environmental management through implementation of appropriate pieces of EU legislation such as the Water Framework Directive (WFD) and the Industrial Emissions Directive (IED).
7. Map the exact extent of the ecological damage and develop a plan to restore the physical, chemical and biological integrity of the Oder River, with a specific focus on climate change adaptation.
8. Further research needed to understand how to avoid mass development of *Prymnesium parvum*.

Conclusion

Increasing the number of protected areas along the Oder River will certainly be important to enhance the protection and water quality of the river, but other factors are also very important. Mass blooms of *Prymnesium parvum* in the waters of the Oder River and other rivers and reservoirs may repeat themselves in subsequent years, as has happened in other countries of the world. In order to prevent similar events, it is recommended to improve online monitoring, have mandatory communication of pollution events across international river basin districts, review and implement dynamic control of all licenced discharges and review the role of hydromorphological modifications in slowing the flow allowing time for blooms to develop. In addition, a complete investigation of discharges in the catchment area of the Oder River should be carried out to explain the increase in salt load that played a key role in bloom development.

⁸ <https://ios.edu.pl/wp-content/uploads/2022/10/Wstepny-raport-zespolu-ds.-sytuacji-na-rzece-Odrze.pdf> and <https://ios.edu.pl/projekt/prezentacja-wnioskow-ze-wstepnego-raportu-zespolu-ds-sytuacji-na-rzece-odrze/>

⁹ <https://www.umweltbundesamt.de/presse/pressemitteilungen/fischsterben-eingeleitetes-salz-fuehrte-zur> and https://www.umweltbundesamt.de/sites/default/files/medien/2546/dokumente/statusbericht_fischsterben_in_der_oder_220930.pdf

¹⁰ EU technical report: ‘An EU analysis of the ecological disaster in the Oder River of 2022 - Lessons learned and research-based recommendations to avoid future ecological damage in EU rivers’: <https://publications.jrc.ec.europa.eu/repository/handle/JRC132271>

There is a likelihood of continued presence and spread of this invasive algal species. Therefore, management strategies to prevent future occurrence of events of this nature must now be prioritised in this catchment; it is also advised to deploy such strategies in all other European river basin districts potentially subject to these pressures. An early DNA-based detection method for *Prymnesium parvum* in environmental samples is already underway by Germany.