IGB

Leibniz Institute of
Freshwater Ecology
and Inland Fisheries

Plans to regulate the River Oder pose risks to nature and sustainable use

IGB Policy Brief

Summary

The River Oder is one of the last relatively near-natural large rivers in Europe. Yet the government of the Republic of Poland is planning to develop the River Oder with funding by the World Bank, the EU, and the Council of Europe Development Bank. While Germany has also actually committed to the development in a bilateral agreement, the specific German implementation plans and timelines have not been made public yet. Already now, one thing is for sure: the measures will irreversibly destroy valuable habitats of many rare and endangered animal and plant species on both the Polish and the German side of the river. The plans violate EU law in several respects and endanger not only the environment, but also agriculture on both sides of the River Oder.

This conclusion is reached by researchers from the Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB), Germany's largest freshwater research centre. The researchers have contributed to the previous planning process by conducting scientific studies, preparing expert opinions and providing specialist advice. In this *IGB Policy Brief,* the authors now urgently recommend that the European Commission, the Federal Government and the Brandenburg State Government take further diplomatic and legal action against the Polish development project and also stop the development plans in Germany. Instead, all levels of government are urged to support the protection of the River Oder as an ecological focus area.

Plans to regulate the River Oder pose risks to nature and sustainable use

The River Oder is one of the last large relatively near-natural rivers in Europe. Over a stretch of around 500 kilometres (from near Wrocław to Świnoujście), the river flows freely, flanked by species-rich alluvial floodplains that are still intact in many places, until it reaches the sea. From the mouth of the River Neisse near Ratzdorf to the branch of the West Oder north of Schwedt, the national border lies in the middle of the river. As such, the River Oder is the last major river in Germany where fish and other animals can still migrate freely. These near-natural conditions exist because the River Oder has been of little importance for shipping for more than 100 years, implying that comparatively little investment has been made in the river's development and maintenance. To this day, the river and its adjacent floodplains provide important habitat and refuge for many rare and endangered animal and plant species. Numerous designated protected areas (e.g. Natura 2000, national park, regional protected areas) and the occurrence of strictly protected species demonstrate the immense value of this river landscape. And yet the government of the Republic of Poland is now planning to develop the River Oder, funded primarily by the World Bank, the EU, and the Council of Europe Development Bank. Germany has also actually committed to the development in a bilateral agreement. While details of the Polish plans are already available, Germany's specific implementation plans and timelines have not yet been made public. However, it is already clear that the anticipated objectives cannot be achieved, and that the measures will irreversibly destroy valuable habitats on both sides of the river.

Poland's plans ignore the aquatic ecological and hydrological knowledge on the Oder River basin, acquired over decades, and are far from complying with the basic principles of good hydraulic engineering practice. Moreover, according to the IGB experts, the plans violate European environmental law in several respects, in particular the EC Water Framework Directive (WFD, 2000/60/EC), the Habitats Directive (HD, 92/43/EEC) and the EC Birds Directive (2009/147/EC).[1] These violations will also occur through measures on the German side. At the same time, the future of agriculture in the German and Polish Oder valley is in grave danger because the planned construction measures will further lower the groundwater table.

Neither of the arguments put forward in favour of the development – the measures seek to improve flood protection and to promote the economic development of inland navigation – is robust. The costs are disproportionate to the benefit, and the environmental damage would be irreversible. An overriding public interest, which would be a basic legal requirement for an exception under the European Water Framework Directive (WFD) for the development, cannot be credibly demonstrated. This is the conclusion reached by researchers from the Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB), Germany's largest freshwater research centre, which has been conducted research on the River Oder for almost three decades. The scientists urgently recommend that the European Commission, the Federal Government and the Brandenburg State Government take diplomatic and legal action against the Polish development project; stop the plans on the German side; and protect the River Oder as an ecological focus area at all levels of government.

Development endangers numerous species, habitats and the Lower Oder Valley National Park

A key objective of the measures is to homogenise the river bed: width and depth variability of the principle stream, the formation of scours and banks, would be irretrievably lost – and yet they are the basis for the existence of many protected fish species. The River Oder is the focus area for the reintroduction of the Baltic sturgeon (Acipenser oxyrinchus); the development would destroy key habitats and jeopardise this species'

1 Infringements are also to be expected of the EC directives on the assessment of the effects of certain plans and programmes on the environment (2001/42/EC), on the assessment of the effects of certain public and private projects on the environment (85/337/EEC) and even of the EC Trans-European Transport Network (TEN-T) guidelines, which envisage the Baltic-Adriatic Corridor as a rail link.

conservation programme. The sustained efforts to reintroduce Atlantic salmon *(Salmo salar)* in Poland would also be thwarted – in 2020, returning spawners were recorded for the first time in the Drawa, a tributary of the River Oder. Germany's only stable population of migratory whitefish *(Coregonus maraena)* would also be critically endangered – and with it, most probably, the entire stock of this species in the Baltic Sea since the spawning habitats in the River Oder are crucial for this species. The only population of the Baltic Golden Loach *(Sabanejewia baltica)*, stabilised only recently following complex coherence measures, would probably be wiped out entirely. The burbot *(Lota lota)* population is of national importance and would also lose habitat and decline significantly as a result of the development. Large mussels and rare insects are predicted to suffer population collapse. The protected resources in Germany's only floodplain national park, the Lower Oder Valley National Park, are threatened by the development plans and the associated lowering of the groundwater table. In addition, the objectives of the Federal "Blue Belt Germany" programme, to environmentally upgrade secondary federal waterways would be at risk (Wolter 2018, 2019; Gessner 2019).

Good professional practice is being ignored: rather than enhancing security, the development would increase the risk of flooding and drought

The development plans fundamentally ignore decades of knowledge from the fields of freshwater ecology, (eco-)hydrology and hydraulic engineering. The central argument put forward to justify the measures is the supposed danger of flooding due to ice drift. This danger, it is said, can only be controlled by the use of larger icebreakers with a draught of 1.80 metres, for which the entire 153 kilometre stretch of the border Oder River would have to be developed. For the past 70 years, however, the existing icebreaker fleet has always succeeded in breaking the ice on the River Oder, whenever necessary. In addition, there is no scientific evidence that increased ice drift is to be expected on the River Oder in the future, necessitating larger icebreakers. On the contrary, the average number of ice days in the Oder region fell by 14.4 to 24.6 days between 1961 and 2018 (UBA 2020). Following this trend, the number of ice days after completion of the development measures would probably be less than ten per year. In the same vein, at no point during the planning process it was investigated whether any alternatives existed to the supposedly necessary deepening of the river by regulating it using standard groynes. This had already been neglected prior to the drafting of a "Concept for the regulation of the border Oder River" (BAW 2014), commissioned in 2011, and the 2015 agreement between the Federal Republic of Germany and the Republic of Poland on improving the situation on waterways in the border region (BGBL 2015).
A new analysis (Gerstgraser 2018) has disproved that the measures set out in the BAW concept would result in a deeper fairway. The development will not offer any improvement in terms of flood risk. At best, the measures will be flood-neutral in some sections, while increasing the risk of flooding in the sections where there are plans to extend and raise the existing groynes and upgrade the dykes on the Polish side. This means that the development will not reduce the risk of flooding, but increase it: in the event of extreme weather events, large volumes of water would flow very quickly in the even narrower river channel; peak flows would rise more quickly; and the reduced floodplain areas would no longer be able to buffer these flood peaks. To fundamentally eliminate potential flood hazards on the River Oder solely technical measures are not suitable. Ecological approaches such as dyke relocation would be much more efficient for this purpose.

Giving the river more space would also address the real problem of the River Oder and its floodplains – the problem of increasing water shortages and drought due to climate change. The region already has one of the lowest rainfall rates in Germany (DWD 2020), with an annual rainfall of less than 600 litres per square metre (600 millimetres). By comparison, this annual precipitation is less than the daily water consumption of five people in Germany, which is 125 litres per capita (BDEW 2020). There is therefore an urgent need to retain more water in the landscape to preserve the valuable ecosystems and to be able to continue using land for agriculture. Developing the river would have the exact opposite effect: a faster water flow, degradation of the river bed and the lowering of the water table would result in even faster drainage of the landscape. The droughts of recent years have already shown the effects to be expected: the available water resources, which are dwindling under climate change, will not even suffice to achieve the envisaged fairway depth of 1.80 metres. Already today, the lowest fairway depths are only approx. 50 centimetres for months (WSV 2020a).

Transport figures show that the River Oder has no sustainable potential for inland navigation

What is remarkable in the overall context of the ice breaking plans is that the deepening of the River Oder would result in its categorisation as a Class IV European inland waterway. This would enable access to more European funding for further development to promote inland navigation – without using the ice breaking as kind of pretext argument. And yet there is absolutely no

sustainable potential for inland navigation on the River Oder, owing to its hydromorphology, ongoing climate change, and low traffic density. The added value is not economically feasible: the volume of traffic on the German side of the River Oder is so low (well under 250.000 tonnes) that the route is not shown separately in the traffic report of the Federal Waterways and Shipping Administration (WSV 2020b). In the catchment, goods are usually transported via the Hohensaaten-Friedrichsthaler waterway, and only a fraction via the River Oder. Taken together, the average total annual cargo handled in the ports of Eisenhüttenstadt and Schwedt came to only 246.500 tonnes in the period from 2009 to 2019 (Amt für Statistik Berlin-Brandenburg 2010-2020). Polish statistics on volumes transported by inland waterway on the Lower Oder River in Poland indicate an average of 1.37 million tonnes for the years 2010 to 2013. No upward trend was apparent in recent years either (Polish Central Statistical Office 2020). For comparison: in 2018, 11.5 million tonnes of goods were transported on the River Elbe, and 166 million tonnes on the River Rhine, excluding the West German Canal Network (WSV 2020b). The long-term effects of developing the Oder River channel will neither lead anywhere close to those levels in Poland nor in Germany.

Environmental impact assessment with serious technical shortcomings and a tendentious conclusion

As the IGB researchers found in their own expert reports (Gessner 2019; Wolter 2018, 2019), the environmental impact assessment (EIA) carried out prior to the Polish measures failed to meet the minimum technical quality standards – even after the necessary revision. The methodology applied and the data used are inadequate. Any effects on the German side of the River Oder were completely ignored; no transboundary EIA was carried out. In addition, the assessment focuses solely on the construction work, and neglects the long-term impact. The actual objective of regulating the river, and the associated river morphological and environmental impairments, such as the narrowing and monotonisation of the course of the river, with little width and depth variance, the entire removal of scours and banks, combined with the loss of valuable habitats, spawning grounds and habitats of numerous endangered species; these changes and the damage caused are not mentioned, nor are they assessed.

Overall, the EIA and its argumentation and evaluation must therefore be regarded as tendentious. A properly conducted EIA would conclude that, given the high ecological value of the River Oder and its floodplains, it would be impossible to even remotely offset the irreversible ecological damage caused by such a large development project, or to mitigate it by taking coherence measures. Furthermore, there is no robust demonstration that an overriding public interest – which is legally required under the WFD – justifies these measures. This can also be assumed to be the case with regard to plans on the German side, the specific implementation and timelines of which have not yet been made public.

Conclusion

The IGB researchers urgently recommend that the European Commission, the Federal Government and the Brandenburg State Government take diplomatic and legal action against the Polish development project; stop the plans on the German side; and argue for the protection of the River Oder as an ecological focus area at all levels of government. No overriding public or economic interests are identifiable that justify the planned measures. Some serious hydraulic engineering errors have been made over the past century and lessons were learned from them. These errors must not now be repeated on the River Oder. The effects of climate change, resulting in an increase in extreme events such as flooding and drought, should be mitigated by preserving and expanding floodplain retention areas along the River Oder that efficiently retain water in the landscape. In this way, nature conservation and the sustainable use of the river and its floodplains can be reconciled. Ultimately, the extremely low degree of target achievement in the implementation of the WFD, the HD and the national biodiversity strategy also emphasises that Germany can by no means afford to sacrifice further valuable ecosystems.

List of references

Amt für Statistik Berlin-Brandenburg (2010-2020): Statistischer Bericht. Binnenschifffahrt im Land Brandenburg. 4. Vierteljahr 2009-2019. Amt für Statistik Berlin-Brandenburg (Ed.), Potsdam. Online: *https://www.statistik-berlin-brandenburg.de/publikationen/Stat_Berichte/2020/SB_H02-01-00_2019q04_BB.pdf* [8.12.2020]

BAW (2014): Aktualisierung der Stromregelungskonzeption für die Grenzoder. Gutachten im Auftrag der WSA Eberswalde, Karlsruhe. Online: *https://www.wsa-oder-havel.wsv.de/Webs/WSA/Oder-Havel/DE/Wasserstrassen/BauwerkeAnlagen/SRK_Grenzoder/BAW_Gutachten_lang_DE.pdf?__blob=publicationFile&v=1* [8.12.2020]

BDEW (2020): Trinkwasserverwendung im Haushalt. Online: *https://www.bdew.de/service/daten-und-grafiken/trinkwasserverwendung-im-haushalt/* [09.11.2020]

BGBL (2015): Bekanntmachung des deutsch-polnischen Abkommens über die gemeinsame Verbesserung der Situation an den Wasserstraßen im deutsch-polnischen Grenzgebiet (Hochwasserschutz, Abfluss- und Schifffahrtsverhältnisse). Bundesgesetzblatt, Bonn. Online: *http://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&jumpTo=bgbl215s0845b.pdf* [27.11.2020]

DWD (2020): Zeitreihen und Trends. Online: *https://www.dwd.de/DE/leistungen/zeitreihen/zeitreihen.html?nn=344886* [09.11.2020]

Gerstgraser (2018): Wirksamkeit des geplanten Flutpolders Miedrzyodrze und der Stromregelungskonzeption für den Hochwasserschutz der Oder. Gutachten im Auftrag des Deutschen Naturschutzrings, Cottbus. Online: *https://www.dnr.de/fileadmin/Positionen/2018_06_20_Oderprojekt_Bericht_Gerstgraser_final.pdf* [08.12.2020]

Gessner (2019): Stellungnahme zu den von der Republik Polen vorgestellten Unterlagen zur grenzüberschreitenden Umweltverträglichkeitsprüfung. Ausbau der Grenzoder in Polen: Projekt "1B.2 Etappe I und Etappe II Modernisierungsarbeiten am Grenzfluss Oder im Rahmen des Projektes des Hochwasserschutzes im Zuflussgebiet von Oder und Weichsel". Fachgutachterliche Stellungnahme im Auftrag des Landesfischereiverbandes Brandenburg/Berlin e.V., Werder (Havel). Online: *https://www.igb-berlin.de/sites/default/files/media-files/download-files/gutachten_oder_igb_2019_jg.pdf* [8.12.2020]

Polish Central Statistical Office (2020): Inland waterways transport in Poland in 2019. Online: *https://stat.gov.pl/obszary-tematyczne/transport-i-lacznosc/transport/transport-wodny-srodladowy-w-polsce-w-2019-roku,4,10.html* [3.11.2020]

UBA (2020): Anpassung an den Klimawandel: Die Zukunft im Tourismus gestalten. Umweltbundesamt (UBA) & Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit (BMU) Ed., Dessau-Roßlau & Berlin. Online: *https://www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/anpassung_an_den_klimawandel_die_zukunft_im_tourismus_gestalten_barrierefrei.pdf* [8.12.2020]

Wolter (2018): Stellungnahme zu den Unterlagen in deutscher Sprache im Rahmen des Beteiligungsverfahrens zu den grenzüberschreitenden Umweltauswirkungen des geplanten Projekts mit dem Titel "1B.2 Stufe I und Stufe II Modernisierungsarbeiten an der Grenzoder als Teil des Hochwasserschutzprojekts im Einzugsgebiet der Oder und der Weichsel". Gutachten im Auftrag des Deutschen Naturschutzrings, Berlin. Online: *https://www.igb-berlin.de/sites/default/files/media-files/download-files/gutachten_oder_igb_2018_cw.pdf* [8.12.2020]

Wolter (2019): Zusammenfassende Stellungnahme zu den zu den von der Republik Polen vorgelegten Unterlagen in deutscher Sprache zur grenzüberschreitenden Umweltverträglichkeitsprüfung. Gutachten im Auftrag des Deutschen Naturschutzrings, Berlin. Online: *https://www.igb-berlin.de/sites/default/files/media-files/download-files/gutachten_oder_igb_2019_cw.pdf* [8.12.2020]

WSV (2020a): Fahrrinnen- und Tauchtiefen zwischen Elbe und Oder. Online: *https://www.elwis.de/DE/dynamisch/gewaesserkunde/f_t/* [10.11.2020]

WSV (2020b): Wasserstraßen- und Schifffahrtsverwaltung des Bundes (Ed.) (2020): Verkehrsbericht 2018. Wasserstraßen- und Schifffahrtsverwaltung des Bundes, Bonn. Online: *https://www.gdws.wsv.bund.de/SharedDocs/Downloads/DE/Verkehrsberichte/Verkehrsbericht_2018.pdf?__blob=publicationFile&v=3* [8.12.2020]

Imprint

Editor
Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB)
in the Forschungsverbund Berlin e.V.
Müggelseedamm 310
12587 Berlin
Phone: +49 (0)30 641 815
Email: info@igb-berlin.de
www.igb-berlin.de
Facebook: IGB.Berlin
Twitter: @LeibnizIGB
Newsletter: www.igb-berlin.de/newsletter

Responsible authors
Dr. Christian Wolter and Dr. Jörn Gessner

Editing
Johannes Graupner

Layout
unicom Werbeagentur GmbH

Translation
Teresa Gehrs, LinguaConnect, Osnabrück

Cover picture
Diversely structured floodplain and bank sections, such as existed on the photo taken near Reitwein in June 2009, ought to be the hydromorphological model for the ecological development of the River Oder. They provide excellent habitats for many protected species and also natural flood control. Instead, a parallel dam has since been built in the river at Reitwein to deepen the fairway.
© Harald Schulz

Über diese Publikation
"Research for the Future of our Freshwaters" is IGB's guiding principle. This involves giving objective and evidence-based information and advice to policymakers, authorities, associations, industry, educational institutions and the public. Within the institute's publication series called *IGB Outlines,* which includes the *IGB Policy Brief,* IGB disseminates evidence-based information to the public free of charge. Responsibility for the content of the publications rests with the respective authors.

Proposal for citation
IGB (2020): Plans to develop the River Oder pose risks to nature and sustainable use. IGB Policy Brief, Leibniz Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany. [Link]

DOI: https://dx.doi.org/10.4126/FRL01-006424698