

# E40 waterway would destroy biodiversity hotspots and key protected areas

Study reveals huge and devastating impacts of planned E40 waterway on biodiversity sites in Poland, Belarus and Ukraine













### Summary

Expert assessment shows that implementation of the E40 waterway would lead to huge and unacceptable impacts on key protected areas, habitats and species. The study makes clear that this gigantic infrastructure project should be abandoned on biodiversity grounds alone.

The detailed analysis<sup>1</sup> by the Save Polesia partnership, published in September 2022, has examined the protected areas which are likely to be impacted by the proposed E40 waterway. Looking at both direct and indirect impacts on protected areas in Poland, Belarus and Ukraine, the report reveals the staggering high number of sites that would be impacted: 193 international and 139 national protected areas!

These impacts would be significant at European level and be completely at odds with international and European biodiversity commitments that the three countries have entered into, including commitments under the Convention on Biological Diversity as well as Ramsar and Bern Conventions. In Poland, the E40 project is also at odds with commitments under the EU Biodiversity Strategy.

The predicted devastating biodiversity impacts reinforce the many arguments against the E40 waterway project. It is thus not surprising that a panel of 25 international scientists and practitioners recognise this inland waterway as one of the top emerging issues of concern for global biodiversity conservation<sup>2</sup>.

#### The report has found that:

- In total, 193 international protected areas (PAs) with a total area of 33,328 km<sup>2</sup> would be impacted by the E40 waterway; a total size larger than Belgium.
- 73 international PAs with a total area of 20,058 km<sup>2</sup> (larger than the size of Slovakia) would be impacted directly by the E40 waterway.
- 120 international PAs, with a total area of 13,270 km<sup>2</sup> (larger than the land area of the Netherlands) are very likely to be impacted indirectly by the E40 waterway.
  - These include:
  - 66 Natura 2000 sites in Poland
    52 Emerald sites in Belarus and Ukraine
  - 16 Ramsar sites
  - 55 IBAs (Important Bird and Biodiversity Areas)
  - 2 Transboundary UNESCO-MAB sites
  - 2 Baltic Sea (HELCOM) sites.
- At least 43 of these international PAs with a total area of 17,064 km<sup>2</sup> would have serious impacts.
- In total, 139 national PAs with a total area of 22,250 km<sup>2</sup> would be impacted (directly and indirectly) by the E40 waterway.
- Many of the international and national sites about half the total area are in Polesia, Europe's largest wetland wilderness.
- Fourteen key biodiversity hotspots would be impacted.
- Rare species would be impacted including Aquatic Warbler, Greater Spotted Eagle, Giant Noctule Bat and the carnivorous Waterwheel Plant.
- Highly threatened habitats would be impacted including floodplain hardwood, alluvial forests, transition mires and quaking bogs.
- Potential river basin wide hydrology impacts need further investigation.

<sup>&</sup>lt;sup>2</sup> Sutherland, WJ et al (2021), A 2021 Horizon Scan of Emerging Global Biological Conservation Issues, in Trends in Ecology & Evolution, Volume 36, Issue 1, January 2021, Pages 87-97. Available from https://www.sciencedirect.com/science/article/abs/pii/S0169534720303062











<sup>&</sup>lt;sup>1</sup> Save Polesia (2022) E40 waterway: impacts on protected areas in Poland, Belarus and Ukraine, September 2022



## Background: Polesia and the E40 waterway

Polesia is Europe's Amazon – a vast wilderness area stretching across Belarus, Poland, Russia and Ukraine <sup>3</sup>. Polesia's spectacular biodiversity is recognized internationally and many sites have been designated as areas of international importance for nature conservation.

The E40 waterway <sup>4</sup> is a transnational initiative aiming to link the Baltic and Black Seas by an approximately 2,000 km long navigable connection running from Gdansk in Poland to Kherson in Ukraine. This could have very serious impacts on the natural and cultural heritage and people of Polesia as well as more wide-ranging effects on economies and the global carbon balance.

A feasibility study for E40 waterway was published in 2015 <sup>5</sup>. This proposes that the route would go through the river systems of Vistula, Bug, Pina, Pripyat and Dnieper (see figure 1). Along the majority of its course it would go through free-flowing rivers, and several parts would need to be straightened, dammed, dredged, or drained. While some shipping channels already exist, the extent of the proposed new development is so massive that it threatens an environmental catastrophe in the region.



Figure 1: Overview of the planned E40 waterway route and the river channels.

<sup>&</sup>lt;sup>5</sup> Maritime Institute in Gdansk (2015) Restoration of Inland Waterway E40 Dnieper –Vistula: from Strategy to Planning. Final Feasibility Study Report – Corrected Report (According to the remarks and requirements introduced by Willem Zondag, Legal and Technical Consultant). Gdansk, December 2015.











<sup>&</sup>lt;sup>3</sup> See factsheet "About Polesia – A unique wilderness of global importance"

<sup>&</sup>lt;sup>4</sup> See factsheet "Polesia under threat – How a new waterway could destroy Polesia's natural environment"



A second, more detailed feasibility study was undertaken on the E40 waterway route in Poland. While the final version is still not publicly available, interim information published in March 2020 recommended further study of three route options based on variant 3 <sup>6</sup>. All three of these options would be extremely damaging to nature<sup>7</sup>.

While the E40 waterway might appear a complete route on the map, some of its sections are either completely unsuitable for shipping or have low shipping classes (I-III), meaning they are not suitable for freight transport. For example, in Poland only 66.5 km of the Lower Vistula river is currently at the required international technical standards for freight transport<sup>8</sup>.

Hence, to make E40 waterway fully navigable to shipping class IV (the requirement for an international waterway <sup>9</sup>) extensive infrastructure works would be needed, including 12-15 dams on the Vistula in Poland, a roughly 160 km long new channel with seven locks in Poland, five to six dams in Belarus and extensive dredging and channel straightening, including in the Chernobyl Exclusion Zone. Works of this extent would make this one of the most complicated and expensive construction projects in the world. While detailed planning continues, initial implementation has started with some piecemeal dredging of the Pripyat river within the Chernobyl Exclusion Zone <sup>10</sup>.

# Expert study

The E40 waterway would have a range of impacts on people and the environment, including on protected areas (PAs) of international importance. The extent of the threat has led to experts recognising the E40 waterway as one of the top emerging issues of concern for global biodiversity conservation.

To better understand how many and which PAs are likely to be impacted directly or indirectly by the proposed E40 waterway, partners of the Save Polesia coalition undertook a detailed analysis. This factsheet summarises the findings of the nature conservation experts. The full report is available here.

#### What the assessment looked at in detail:

- PAs directly on the proposed E40 waterway route and those likely to be subject to indirect impacts especially from changes in hydrology.
- Potential impacts on international PAs (Natura 2000, Emerald, Ramsar, IBAs, UNESCO-MAB and HELCOM).
- Potential impacts on national PAs.
- Potential impacts on key biodiversity hotspots, rare species and threatened habitats.
- Potential impacts on river basin wide hydrology.

Available from https://mdwe70.pl/wp-content/uploads/2021/03/3.2.3.-Mapa-srodladowych-drog-wodnych.-cz.-3a.pdf <sup>9</sup> European Agreement on Main Inland Waterways of International Importance (AGN), Geneva, 19 January 1996.

<sup>&</sup>lt;sup>10</sup> Save Polesia (2020) news story Dredging of the Pripyat river within the Chernobyl Exclusion Zone completed. Available from https://savepolesia.org/dredging-of-the-pripyat-river-within-the-chernobyl-exclusion-zone-completed/











<sup>&</sup>lt;sup>6</sup> Port of Gdansk and Jacobs (2020) Interim multicriteria analysis information from Polish E40 feasibility study published on http://www.programwisla.pl/etap2.html [now offline]

<sup>&</sup>lt;sup>7</sup> Save Polesia (2020) news story E40 waterway feasibility study in Poland: Worrying initial results published. Available from https://savepolesia.org/e40-waterway-feasibility-study-in-poland-worrying-initial-results-published/

<sup>&</sup>lt;sup>8</sup> Wojewódzka-Król, K and Rolbiecki, R (2008) Mapa Śródlądowych Dróg Wodnych. Diagnoza stanu i możliwości wykorzystania śródlądowego transportu wodnego w Polsce. Published in Sopot.

Available from https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg\_no=XI-D-5&chapter=11&clang=\_en



# Findings

#### The E40 waterway would cause devastating impacts on almost two hundred international protected areas

Having analysed and verified the available data, the experts conclude that the number and size of PAs either directly or indirectly impacted by the proposed E40 project, is extremely alarming:

| Table 1: Number and size of international PAs impacted |                           |  |
|--|---------------------------|--|
| Variant  | along the whole E40 route | in Polesia   |
| Direct impacts   | 73 sites<br>20,058 km²    | 25 sites<br>9,432 km²<br>(≙ 5.1 % of the total area of Polesia)  |
| Indirect impacts*                                      | 120 sites<br>13,270 km²   | 59 sites<br>7,255 km²<br>(≙ 3.9% of the total area of Polesia)   |
| Total impacts  | 193 sites<br>33,328 km²   | 84 sites<br>16,687 km²<br>(≘ 9.0 % of the total area of Polesia) |

\* including hydrology impacts

#### A wide range of types of international protected areas would be impacted

- 66 Natura 2000 sites would be impacted in Poland, a total area of 5,182 km<sup>2</sup> which equates to almost 8.5 percent of the
  Polish Natura 2000 network area; 14 of these sites would be directly impacted and nine river valley sites would have
  serious impacts.
- 52 Emerald sites would be impacted (39 in Polesia), a total area of 24,098 km<sup>2</sup> which is almost the size of North Macedonia and 3.5 percent of the total area of Emerald sites in Belarus and Ukraine.
- 16 Ramsar sites would be impacted, a total area of 4,570 km<sup>2</sup> which is more than 26 percent of the total area of Ramsar sites in Poland, Belarus and Ukraine. Eleven of these sites, 4,194 km<sup>2</sup> are in Polesia.
- 55 Important Bird Areas (IBAs) would be impacted, a total area of 16,858 km<sup>2</sup>, which is larger than Montenegro and 16 percent of the total area of IBAs in Poland, Belarus and Ukraine. 26 of these sites, 10,845 km<sup>2</sup>, are in Polesia.
- Two transboundary UNESCO-MAB sites, one of them in Polesia, would have indirect impacts, a total area of 6,670 km<sup>2</sup>.
- Two Baltic Sea (HELCOM) sites in Poland would be directly impacted, a total area of 641 km<sup>2</sup>.













#### Experts anticipate serious impacts for at least 43 of the international PAs with a total area of 17,064 km²

Constructing the E40 waterway would seriously impact 31 sites in Belarus (15 Emerald sites, five Ramsar sites, ten IBAs and the Belarus section of the West Polesia Biosphere Reserve) and 13 in Poland (two SPAs, seven SACs, one Ramsar site and three IBAs).



Figure 2: International protected areas directly (red) and indirectly (orange) impacted if the E40 waterway is built.













#### Constructing the E40 waterway would adversely impact almost 140 national protected areas

Looking at the sites protected on national levels, the number and size of those predicted to have impacts from the planned E40 waterway is grave:

| Table 2: Number and size of national PAs impacted |                           |  |
|---|---------------------------|--|
| Variant   | along the whole E40 route | in Polesia   |
| Direct impacts                                    | 54 sites<br>14,130 km²    | 9 sites<br>6,531 km²<br>(≙ 3.5% of the total area of Polesia)    |
| Indirect impacts*                                 | 85 sites<br>8,120 km²     | 38 sites<br>5,892 km²<br>(≙ 3.2% of the total area of Polesia)   |
| Total impacts                                     | 139 sites<br>22,250 km²   | 45 sites<br>12,423 km²<br>(≙ 6.7 % of the total area of Polesia) |

\* including hydrology impacts



Figure 3: National protected areas directly (red) and indirectly (orange) impacted if the E40 waterway is built.













#### E40 project would risk future of key biodiversity hotspots

If the E40 waterway is built, at least fourteen biodiversity hotspots would be impacted, the study authors conclude. These are areas with a significant level of threatened biodiversity, that are hence strongly protected by different international designations. Impacts on these unique sites could lead to more wide ranging effects on the survival of species populations as well as habitats.

#### The identified affected hotspot sites include:

- Pripyatsky National Park and Almany mire in Belarus,
- Eight Natura 2000 sites in the Lower and Middle Vistula Valleys, plus Dolny Wieprz Natura 2000 and peatland in the Tyśmienica, Bystrzyca, and Wieprz River catchments in Poland,
- and National Nature Park Pripyat-Stokhid and Chernobyl Radiation and Ecological Biosphere Reserve in Ukraine.

#### Report highlights severe impacts on the survival of rare species and threatened habitats

By adversely impacting a diverse range of PAs of national or international importance, it is obvious that particular species and habitats would be affected as well. Species in Polesia predicted to be impacted by the planned E40 waterway include the threatened Aquatic Warbler, Greater Spotted Eagle, Giant Noctule Bat and the carnivorous Waterwheel Plant. In the Polish Vistula Valley many bird and aquatic species would be impacted including Sandwich Tern, Little Tern, Common Ringed Plover, Oystercatcher, Common Shelduck, Atlantic Salmon and European Eel.



Figure 4: Polesia hosts more than 60 percent of the world's population of the Aquatic Warbler, Europe's rarest migratory songbird.













In addition, iconic mammals like Brown Bear, Wolf, Elk and Lynx may have their habitats and migration pathways disrupted. Birds migrating through the Pripyat floodplain (more than 1.5 million birds annually) may have their habitats and thus migration affected. If E40 waterway is built this may impact the intactness and availability of foraging, breeding and resting sites along pathways and thus affect the survival of migratory animals.

Key habitats that would be impacted in Polesia by the E40 project are open water, grassland, forest and mire habitats. The experts predict particular impacts on floodplain hardwood or alluvial forests, transition mires and quaking bogs. Thus, habitats that are already highly threatened in Europe, would be put in further jeopardy.



Figure 5: The meandering Wieprz river in Poland.

#### Potential River Basin wide hydrology impacts need further investigation

The expert assessment included a scoping exercise looking at internationally PAs in river basins through which the E40 waterway would pass. This identified 407 international PAs (Natura 2000, Emerald, Ramsar, UNESCO and Baltic Sea sites) which may have hydrological impacts, 118 of which are in Polesia. On top of those sites identified as very likely to have direct or indirect impacts, the analysis indicates additional 214 potentially impacted sites (35 of them in Polesia). These impacts could be more serious in light of climate change, and the present scoping analysis is an underestimate as it did not look at IBAs due to limited capacity. To get a full picture of the hydrology impacts, further investigation is needed.













## Who is Save Polesia?

Our coalition now includes four organizations from four countries. While working on the analysis, the coalition also included organization APB-BirdLife Belarus.



#### APB – Birdlife Belarus

APB was operating until mid-March 2022. Its mission was the conservation of biological diversity for the benefit of the present and future generations and involvement of people in active nature protection activities.



#### Bahna, Belarus

The aim of Bahna is to prevent further degradation of the environment and to preserve natural habitats and biodiversity of our country.



#### FZS – Frankfurt Zoological Society, Germany

FZS invests in wilderness areas of global significance – "legacy landscapes" – with aesthetic and natural values, pristine landscapes, important ecosystem processes or values, and endemic and endangered species.



#### NECU - National Ecological Centre of Ukraine

NECU is an NGO with branches in a dozen of Ukrainian cities. It works to bring environmental consideration into the core of any decision making.



#### **OTOP – Polish Society for the Protection of Birds**

OTOP's mission is to protect birds and their habitats and establish and manage new bird reserves. The organisation has strong educational work in order to increase public support for nature conservation.

