

## Background Information on the „Indicative European Defragmentation Map“ (IEDeM)

Biological diversity is a fundamental basis for life and human health. In order to safeguard nature's ecosystem services for future generations, it is essential to conserve as many species as possible with their genetic diversity and the diversity of their habitats. Biological diversity in Europe remains under serious threat. The main reasons for this threat to animal and plant species are the destruction, isolation and fragmentation of their habitats. Climate change has added a new dimension to this danger. This increases the need for landscape connectivity for populating and repopulating habitats and for genetic interaction between populations.

Many member states have national concepts for a biotope network and for connecting habitats. Combining these creates a central European network. The Indicative European Defragmentation Map is a first compilation of the planned networks in – Austria, Belarus\*, Belgium (Flame), Czech Republic, Denmark, Estonia, France, Germany, Hungary, Latvia, Lithuania\*, Netherlands, Poland, Portugal\*, Spain and Switzerland.

The map provides an initial overview of an important part of Europe's green infrastructure – the ecological core areas and the connecting ecological corridors within and between member states that form a Europe-wide network of green infrastructure which strengthens, inter alia, the EU Natura 2000 Network.

Member states had already made efforts in the past to avoid fragmentation and habitat destruction caused by linear infrastructure projects where possible and to take compensatory measures. These compensatory measures include the restoration of habitats. Preventive and mitigation measures include the construction of crossings above and below motorways and railway lines. These artificial measures are also a component of green infrastructure and are illustrated on the map, insofar data about those wildlife crossings were available.

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\* in studying and processing

By compiling the networks and defragmentation measures in the new developed map, an assessment of fragmentation due to the planned TEN-T now is possible because detailed country-specific concepts are available.

The member states have developed their own planning instruments, on the basis of EU regulations, for assessing the impacts of fragmentation as intervention. For a better understanding of the mapped data supplementary information on the network planning of the individual countries are available. These guidelines or information sheets provide background and additional information, for example about the methods and regulations on the individual network of the countries and the responsible institutional contacts. Further they contain regulations on preventing fragmentation and on planning and constructing wildlife crossings for biological diversity in these countries.

Efforts had already been made in the past to visualise ecological coherence for biodiversity conservation throughout Europe with the Pan European Ecological Network (PEEN)<sup>1</sup>. However, the PEEN-Map was not detailed enough to estimate the impacts, for example of linear infrastructure plans at EU level. This was due to the fact that when the map was drawn up, there were an insufficient number of detailed concepts in many countries, or these concepts had not been published and were therefore not accessible.

In May 2018 the EEA published an informing strategic to support policy and decision-making on Green Infrastructure and restoration planning<sup>2</sup>. This methodological guidance should promote mapping and planning the GI as a dynamic and resilient network.

An important step of the potential GI is shown that integrates the natural capacity of areas to deliver ecosystem services with the core habitats and wildlife corridors for large mammals within the EU territory.

As a further step and extension the IEDeM could be used, because these map integrates existing and potential national networks as a summary of different types of ecosystems (woodlands, wetlands, dry and open habitat) interlinked by corridors.

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<sup>1</sup> [https://www.researchgate.net/publication/226412795\\_The\\_pan\\_European\\_ecological\\_network\\_PEEN](https://www.researchgate.net/publication/226412795_The_pan_European_ecological_network_PEEN)

<sup>2</sup> [https://www.eustafor.eu/uploads/ReportGI\\_EUSTAFORcomments.pdf](https://www.eustafor.eu/uploads/ReportGI_EUSTAFORcomments.pdf)

## Potential scope of application

The IEDeM can support the integration of environmental concerns into European transport infrastructure planning, i.e. the Trans-European Transport Network (TEN-T). European transport planning also set itself the task, with the 2011 White Paper, of becoming more sustainable and environmentally friendly: "...In practice, transport has to use less and cleaner energy, better exploit a modern infrastructure and reduce its negative impact on the environment and key natural assets like water, land and ecosystems...".<sup>3</sup>

An overlay of the Indicative European Defragmentation Map (IEDeM) with the planned and in some cases established corridors of the Trans-European Network-Transport (TEN-T) visualises existing and future fragmentation of the European biotope network by TEN-T. Extending the TEN-T will lead to an additional loss of habitats and to further fragmentation. In order to reduce the environmental impacts of the expansion and construction of the European transport network, preventive and mitigation measures to conserve the European biotope network are required in addition to measures that can at first only be outlined at national level. In accordance with the user-pays principle, these mitigation measures have to be financed from the transport budget because they would not be necessary if infrastructures were not being built. Where the existing infrastructure of the Trans-European Transport Network has already led to fragmentation of important habitat corridors, reconnection through functional wildlife crossings is required. To achieve this, the establishment of a reconnection programme for TEN-T is recommended, financed from the transport budget.

The construction of these wildlife crossings is intrinsically linked to the creation and restoration of an ecological hinterland connection. As well as making the European transport infrastructure more environmentally friendly, the map, once developed further, could also provide a basis for a new support programme along the lines of a Trans-European Network Green Infrastructure by defining areas eligible for support.

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<sup>3</sup> see: <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52011DC0144>  
[https://ec.europa.eu/transport/sites/transport/files/themes/strategies/doc/2011\\_white\\_paper/white-paper-illustrated-brochure\\_en.pdf](https://ec.europa.eu/transport/sites/transport/files/themes/strategies/doc/2011_white_paper/white-paper-illustrated-brochure_en.pdf)

The Indicative European Defragmentation Map makes it possible to estimate the scale of planned fragmentation by the TEN-T at European level as a first step. The actual scale of fragmentation can only be assessed at national level, including transboundary linkages.

### For further information, please contact

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