

APPLICATION OF THE RESULTS OF THE NATIONAL LEVEL GREEN INFRASTRUCTURE (GI) ASSESSMENT

...enabling us to live with opportunities offered by nature



green
infrastructure
networks of nature

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LECHNER MINISZTERELNÖKSÉG



*Lechner Nonprofit Ltd.
Department of Spatial Planning*

ConnectGREEN
29/09/2021. Visegrád



SZÉCHENYI 2020



HUNGARIAN
GOVERNMENT

European Union
European Regional
Development Fund



INVESTING IN YOUR FUTURE



Strategic Assessments supporting the long term conservation of natural values of community interest as well as the national implementation of the EU Biodiversity Strategy to 2020

Beneficiary: Ministry of Agriculture

- Partners:**
- Centre for Ecological Research of the Hungarian Academy of Sciences
 - Institute for Soil Sciences and Agricultural Chemistry, Centre for Agricultural Research of the Hungarian Academy of Sciences
 - Research Institute for Agricultural Economics
 - **Lechner Knowledge Center**
 - Hortobágy National Park Directorate
 - Kiskunság National Park Directorate



APPLICATION FRAMEWORK OF GI RESULT

A national programme of state nature conservation



Brief overview of Lechner Knowledge Centre's activities



ARCHITECTURE & BIM



HERITAGE PROTECTION



GEOINFORMATICS & SPATIAL PLANNING



LAND REGISTRY



URBANISM & SMART CITY



GEODESY & CARTOGRAPHY



DOCUMENTATION & PLAN ARCHIVE



REMOTE SENSING & 3D CITY MODELS

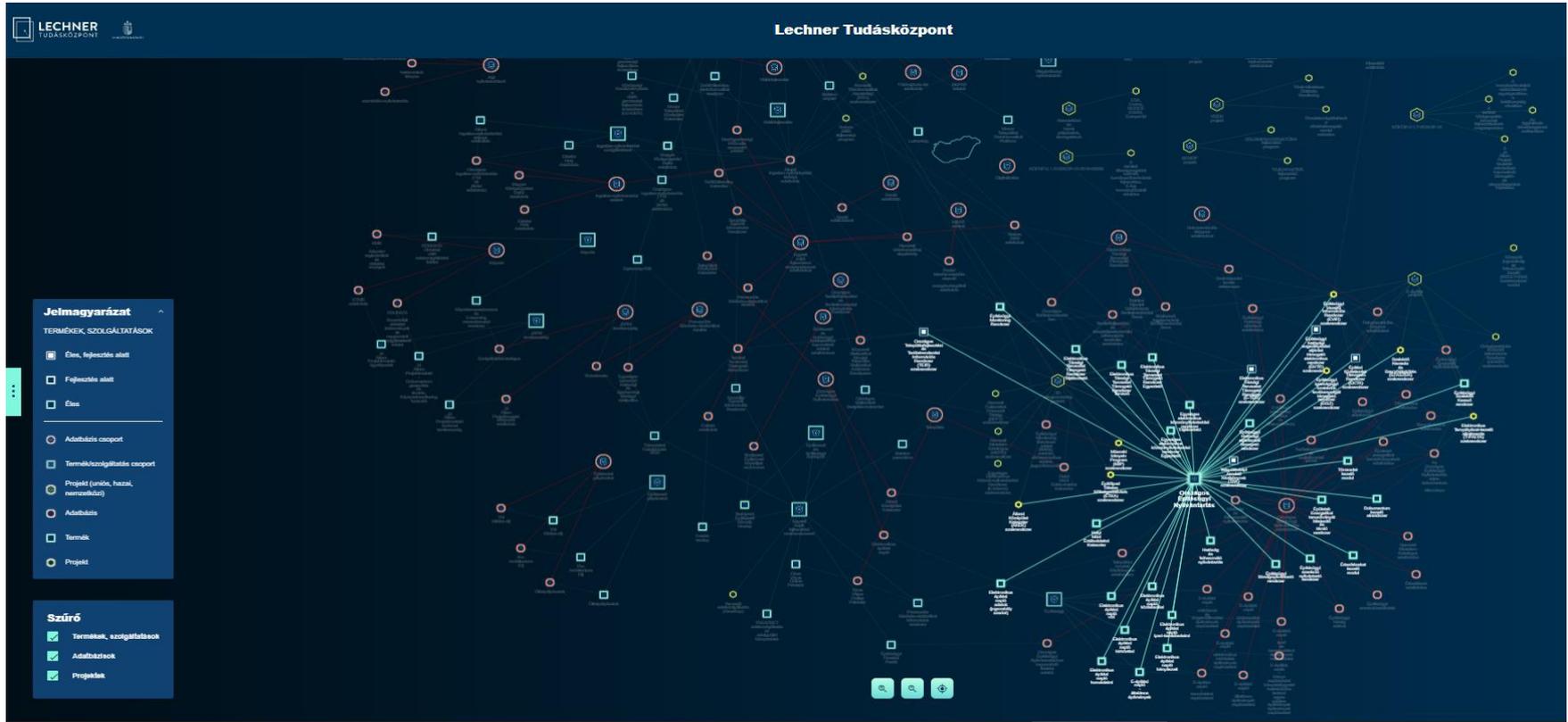


APPLICATION FRAMEWORK OF GI RESULT

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Innovative GIS data management framework: Lechner Monitor



APPLICATION FRAMEWORK OF GI RESULT

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Integrated analysis of national geospatial datasets: Orthophoto in 3D



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Integrated analysis of national geospatial datasets: Built environment



APPLICATION AREAS OF GI RESULTS

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- Nature conservation
- Agricultural land use policy
- **Regional level (physical) spatial planning**
- Local (LAU2) level spatial planning
- Forestry
- Water management
- etc.



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OUTCOMES RELEVANT IN SPATIAL PLANNING

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- **Map of ecological condition**
- **Map of potential landscape (ecological) corridor**
- **Green infrastructure network map of Hungary**
- Target areas of the improvement of ecological condition (maintenance, improvement of condition with and without ecosystem-type change)
- Habitat suitability maps (based on the potential vegetation map, especially forest habitats suitability)
- Map of conflict areas (where ecosystem-type change is needed due to environmental conflicts)



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Spatial planning system in Hungary

National Spatial Development Concept

Regional development concepts and programmes of counties and high priority regions

Integrated Urban (local) Development Strategy



National Spatial (Physical) Plan

Regional physical spatial plans of counties and high priority regions

Local Structural Plan
(including land use categories and infrastructure networks)

Local Building Regulation and Regulation Plan
(including map of zones)

Townscape Requirements



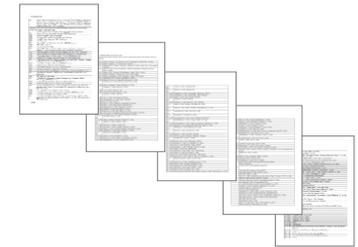
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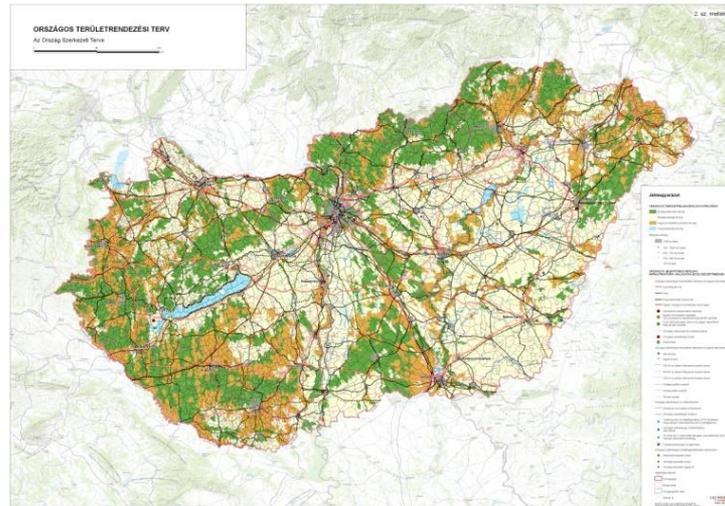


Content of national and regional Spatial (physical) plans

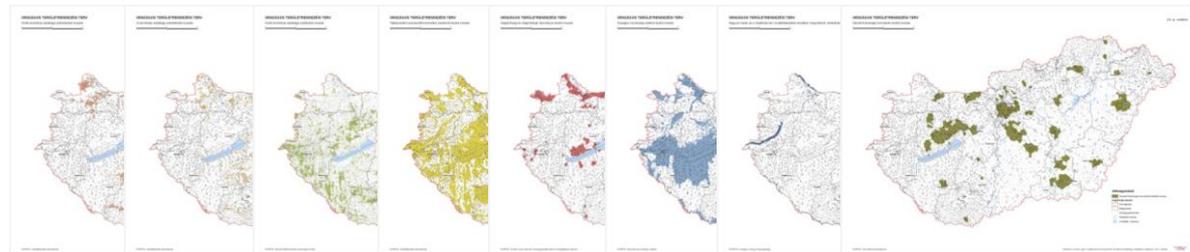
Regulation



Structural Plan

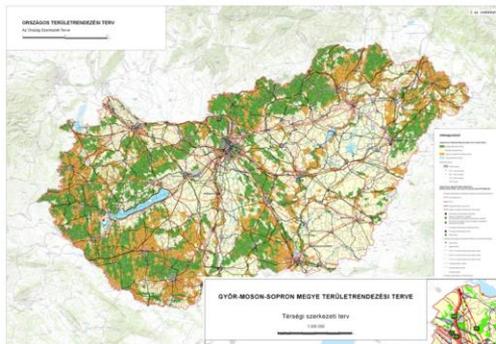


Zonal Plan



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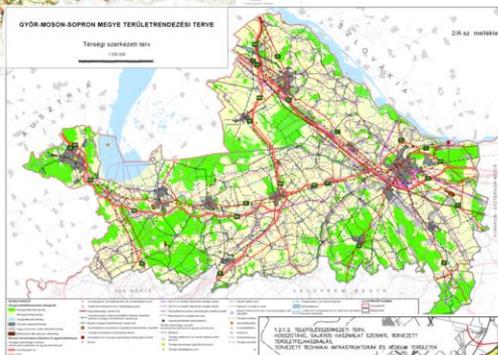
National Spatial Plan (OTrT.)

$S = 1: 500\ 000$



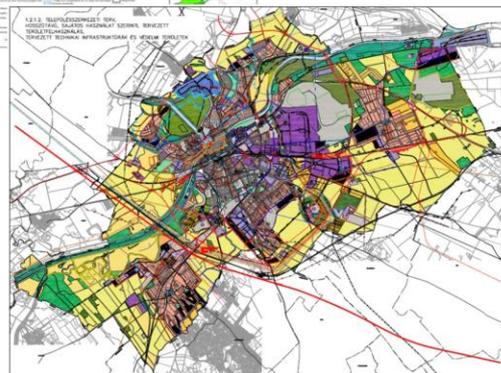
Spatial plans of counties and high priority regions

$S = 1: 50\ 000 - 1: 100\ 000$



Local (urban) level spatial plans

$S = 1: 10\ 000$





Physical spatial planning at county level

II. Zonal plan

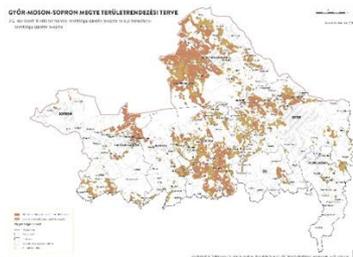
Zones: a territorial unit with special characteristics applied in national, high priority regional and county spatial plans.

E.g.

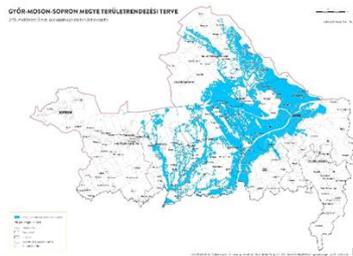
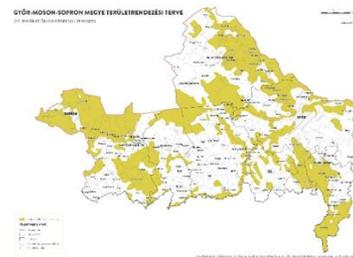
Ecological network



High quality arable land



Landscape protection area



Areas of high water bed

Flood risk area

Győr agglomeration and interacting settlements in Sopron area and



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Land use category: built up (urban) area

Conflict areas: planned built up areas overlap with excellent ecological status areas.

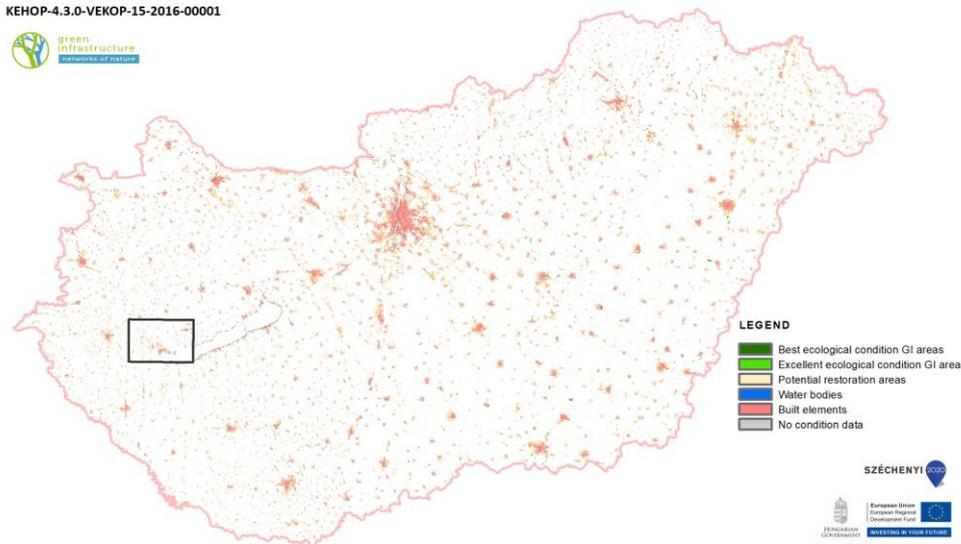
- Revision of the planned road network (planned elements).
- Regulation related to implementation of planned elements of road network (if the modification is not solvable).

Overlap of intervention areas and urban area

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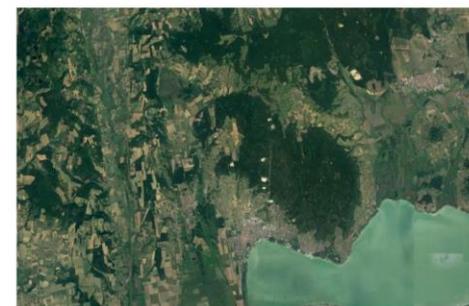
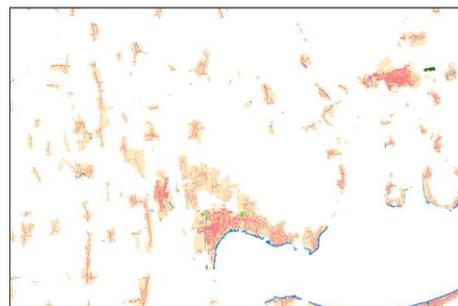
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LEGEND

- Best ecological condition GI areas
- Excellent ecological condition GI areas
- Potential restoration areas
- Water bodies
- Built elements
- No condition data

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Road network

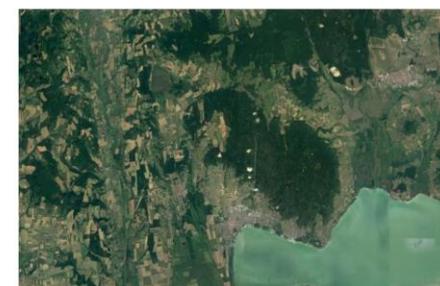
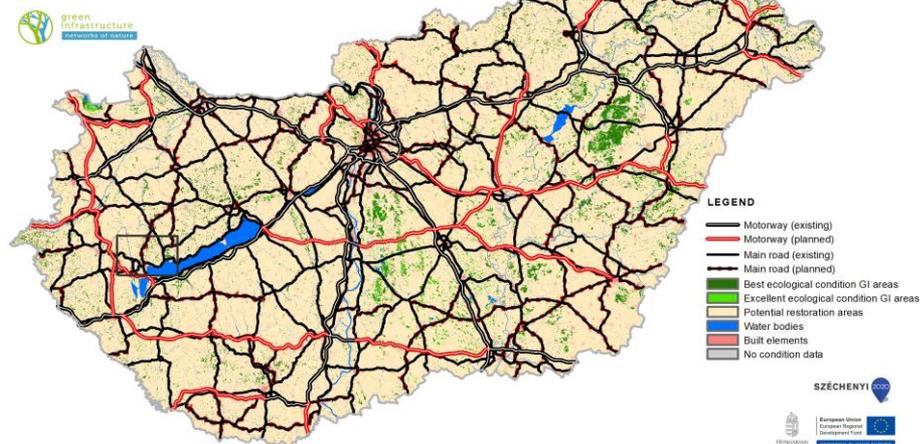
Conflict areas: intersections of roads with planned landscape ecological corridors and areas with excellent ecological status.

Recommendations:

- Revision of the planned road network (planned elements).
- Regulation related to implementation of planned elements of road network (if the modification is not solvable)

NSP – Road network and basemap of national green infrastructure development plan

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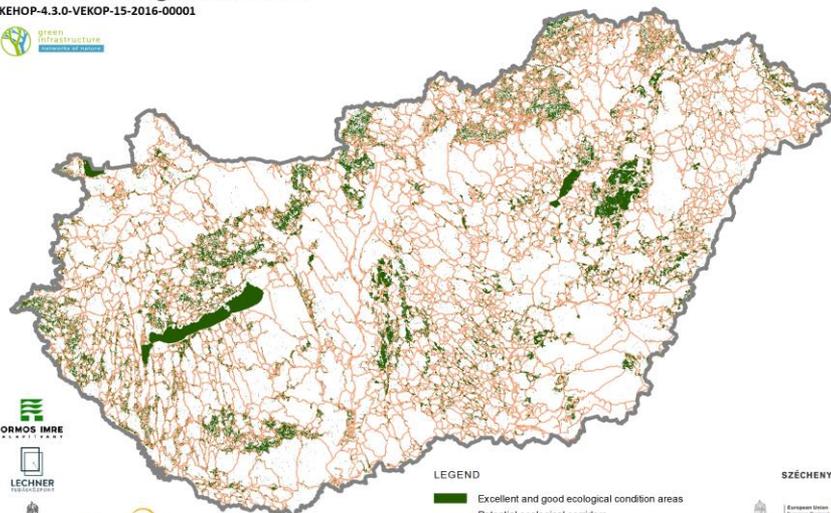


Potential ecological corridors

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LEGEND

- Excellent and good ecological condition areas
- Potential ecological corridors



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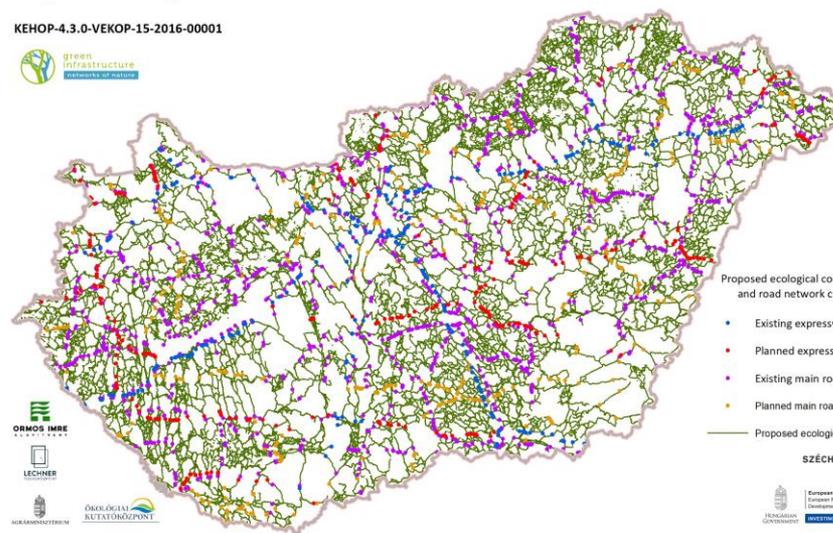


Proposed ecological connections and road network crossing

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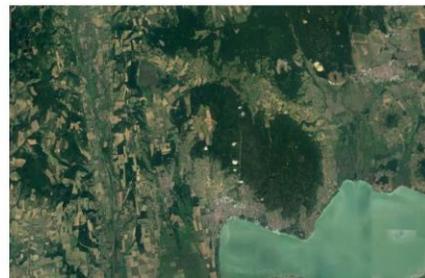
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Proposed ecological connections and road network crossing

- Existing expressway
- Planned expressway
- Existing main road
- Planned main road
- Proposed ecological connection

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Proposed zone of green infrastructure

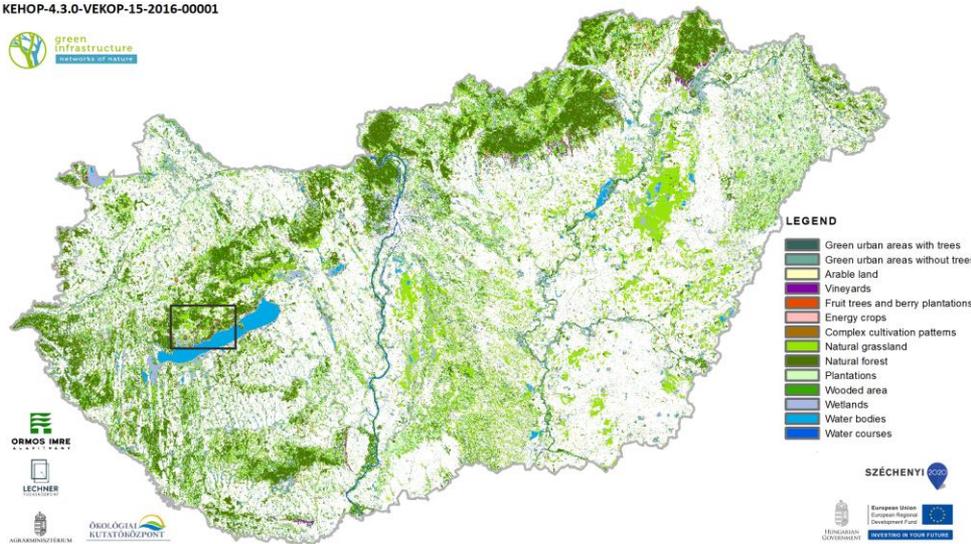
Based on the delimitation of the national GI network, it is possible to introduce (a) new zone(s) into NSP.

Recommended regulation:

- limitation of urban sprawl,
- regulation of the infrastructure development,
- limitation of the designation of mining area,
- limitation of the establishment of power station.

Existing network elements of the national green infrastructure according to land cover

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LEGEND

- Green urban areas with trees
- Green urban areas without trees
- Arable land
- Vineyards
- Fruit trees and berry plantations
- Energy crops
- Complex cultivation patterns
- Natural grassland
- Natural forest
- Plantations
- Wooded area
- Wetlands
- Water bodies
- Water courses



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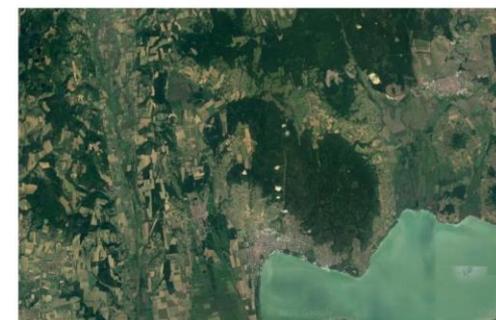
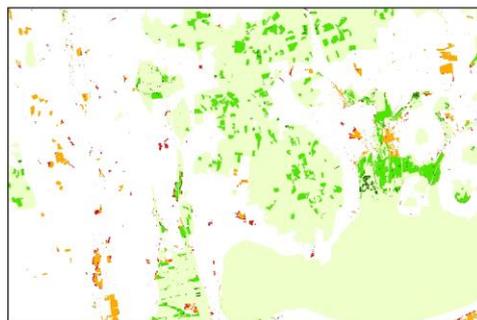
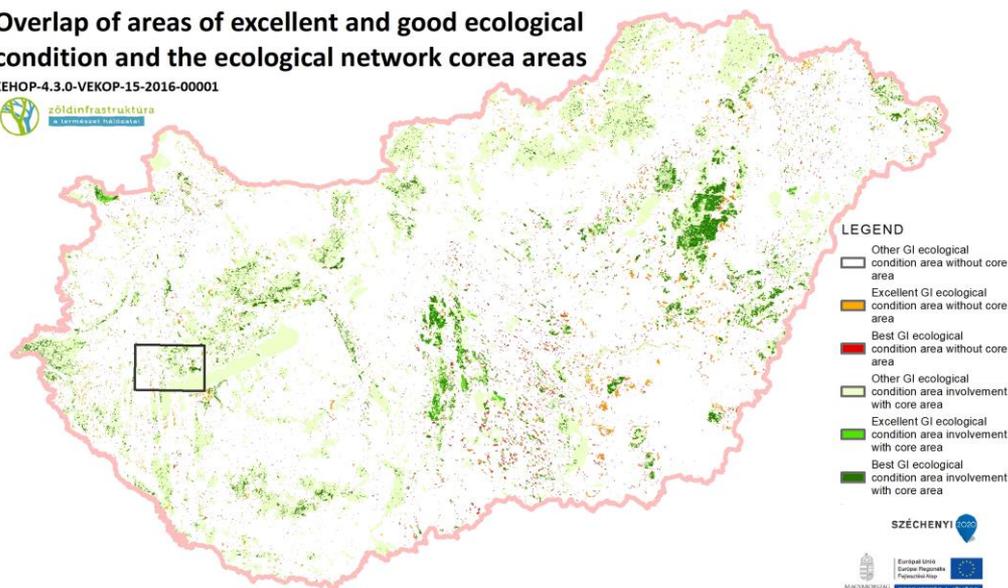


Core area of ecological network

Integration of areas with excellent ecological status (based on the ecological status map of GI project) into the core area of ecological network.

Overlap of areas of excellent and good ecological condition and the ecological network core areas

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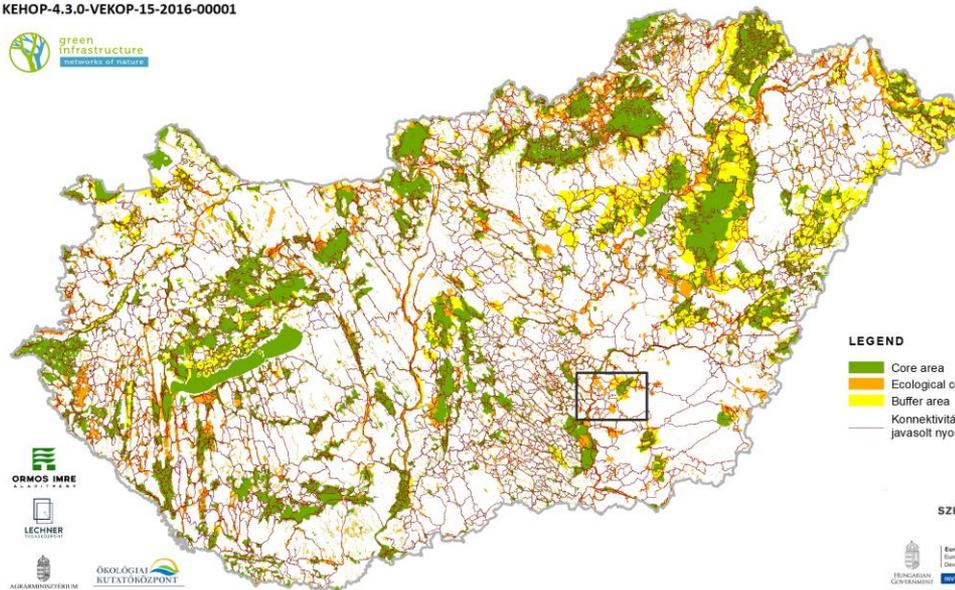


Ecological corridor of ecological network

- Revision of ecological corridors of ecological network by using the ecological corridor map of GI project.
- Improving the connectivity of areas of excellent and good ecological state by developing ecological corridors.

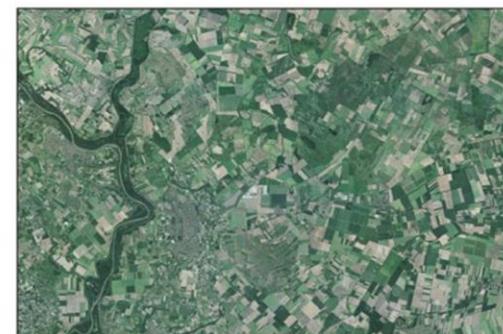
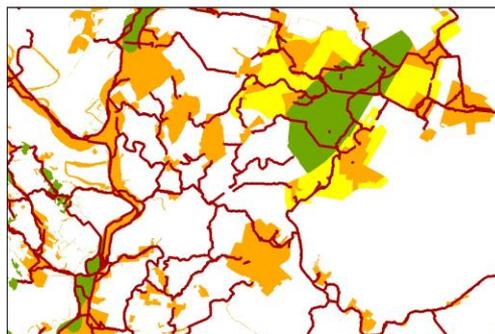
Improvement of connectivity of excellent and good ecological condition areas through ecological corridor development

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LEGEND

- Core area
- Ecological corridor
- Buffer area
- Konnektivitás javításának javasolt nyomvonal



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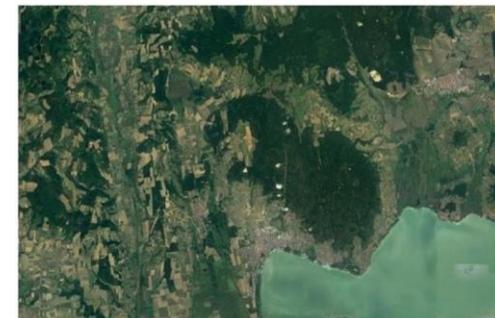
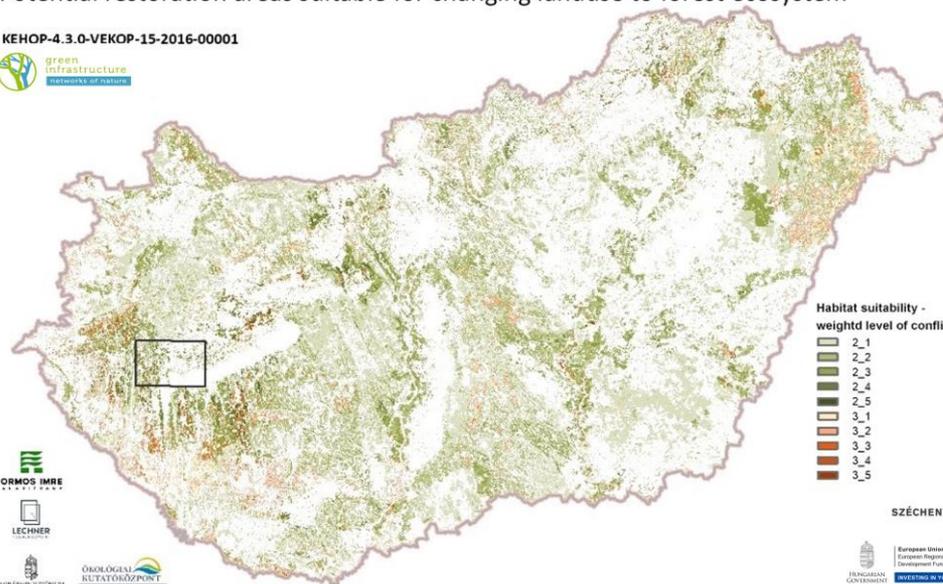


Area for afforestation

Revision of the delimitation of the zone of afforestation based on the habitat (forest habitat) suitability map (suitability of forest habitats) and conflict map.

Potential restoration areas suitable for changing landuse to forest ecosystem

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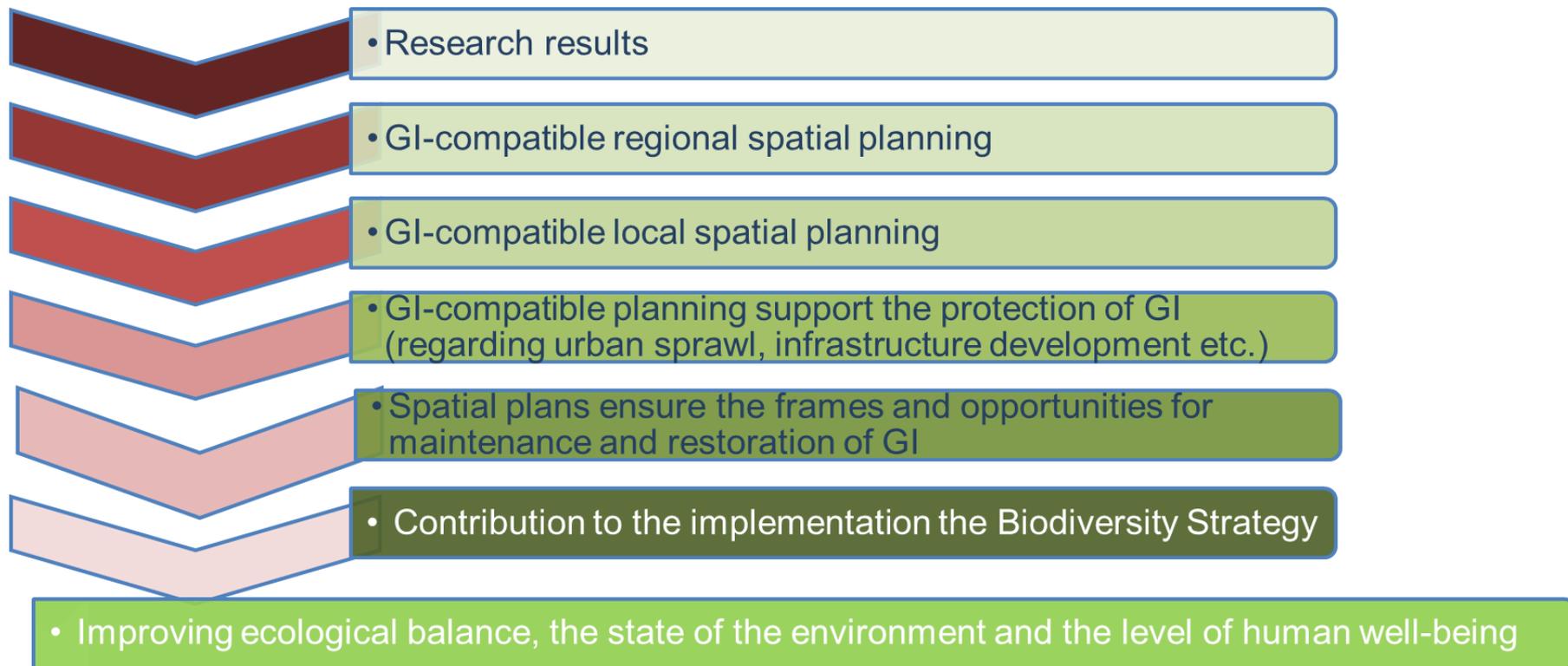
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SUMMARY

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