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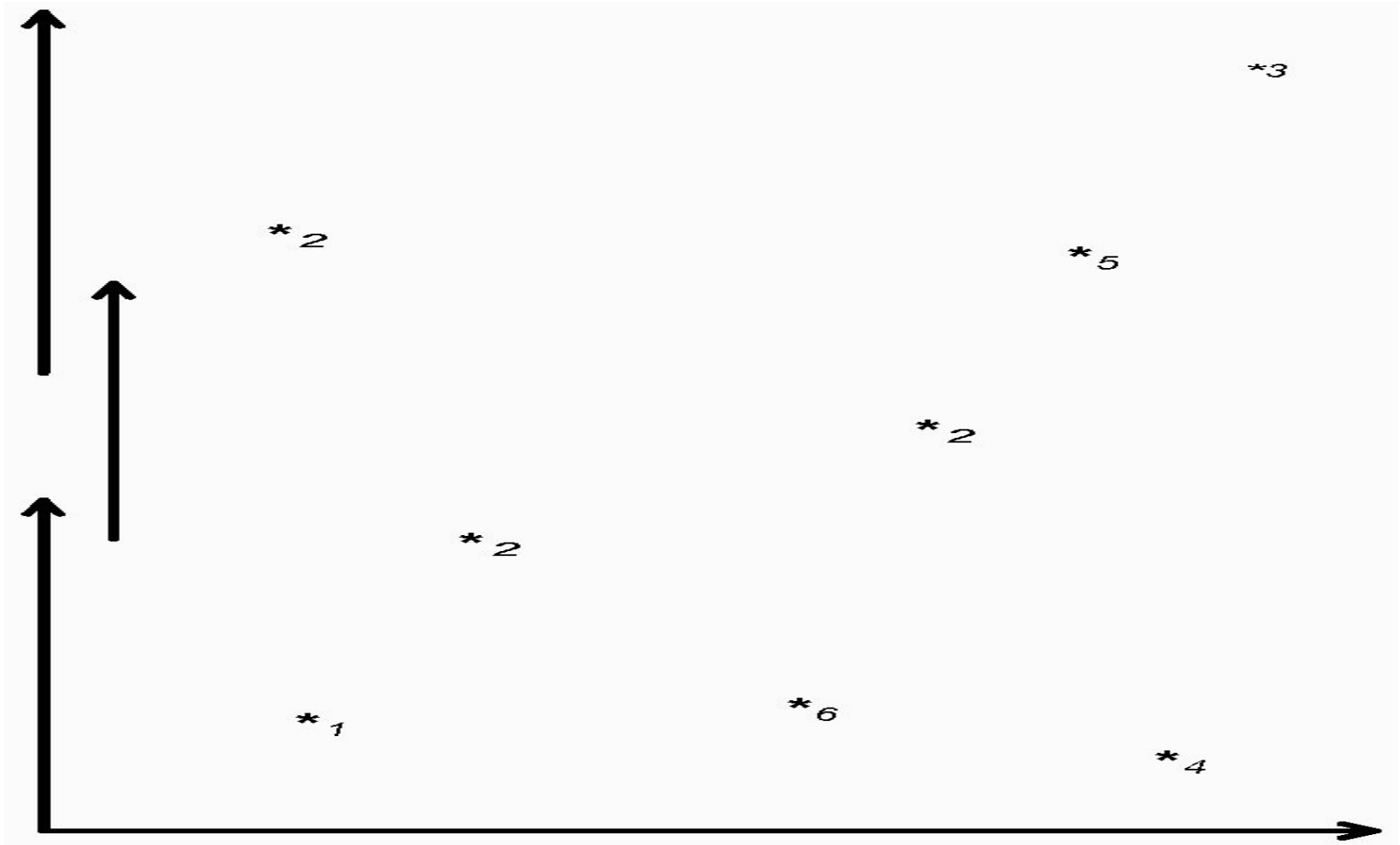


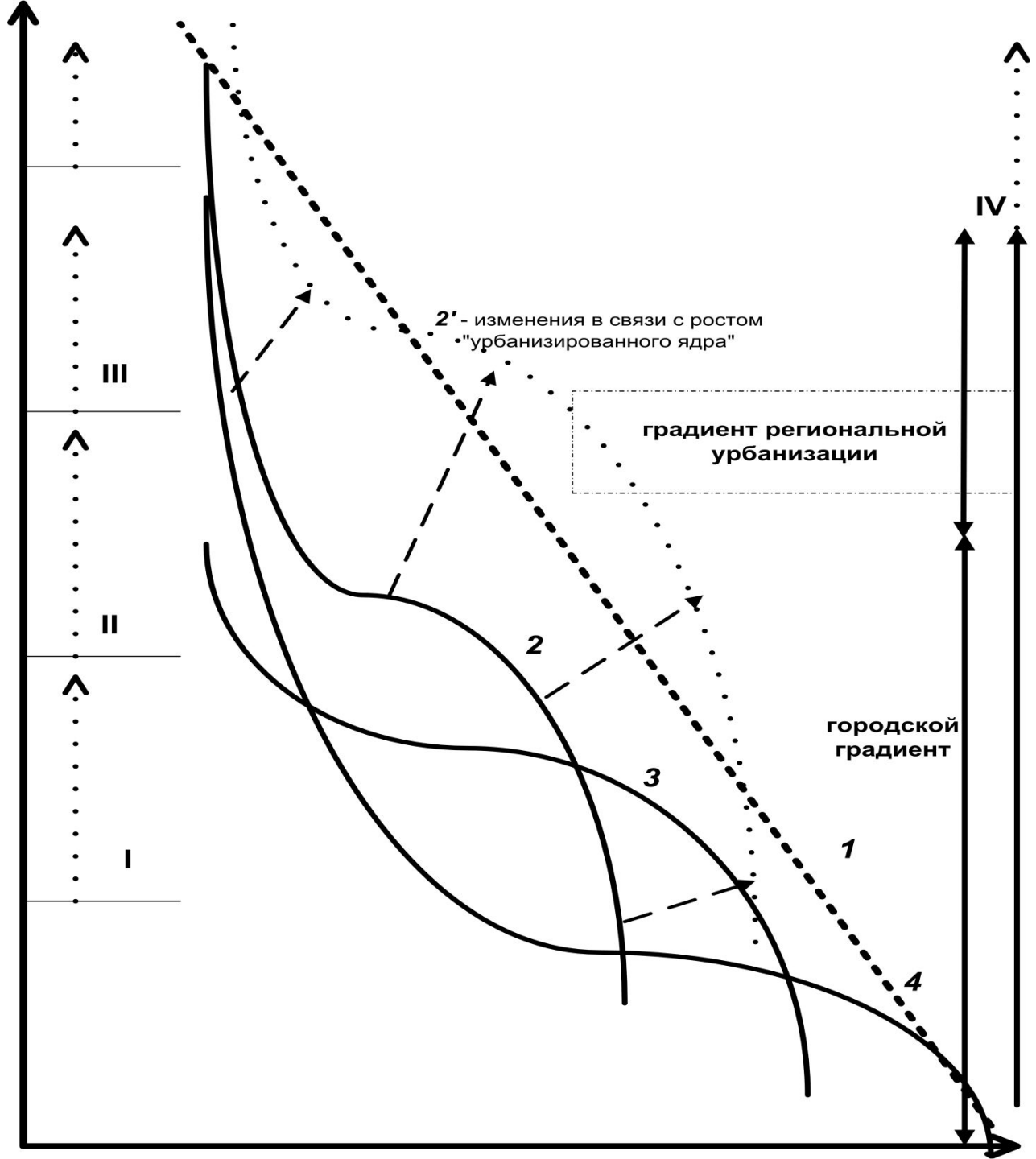


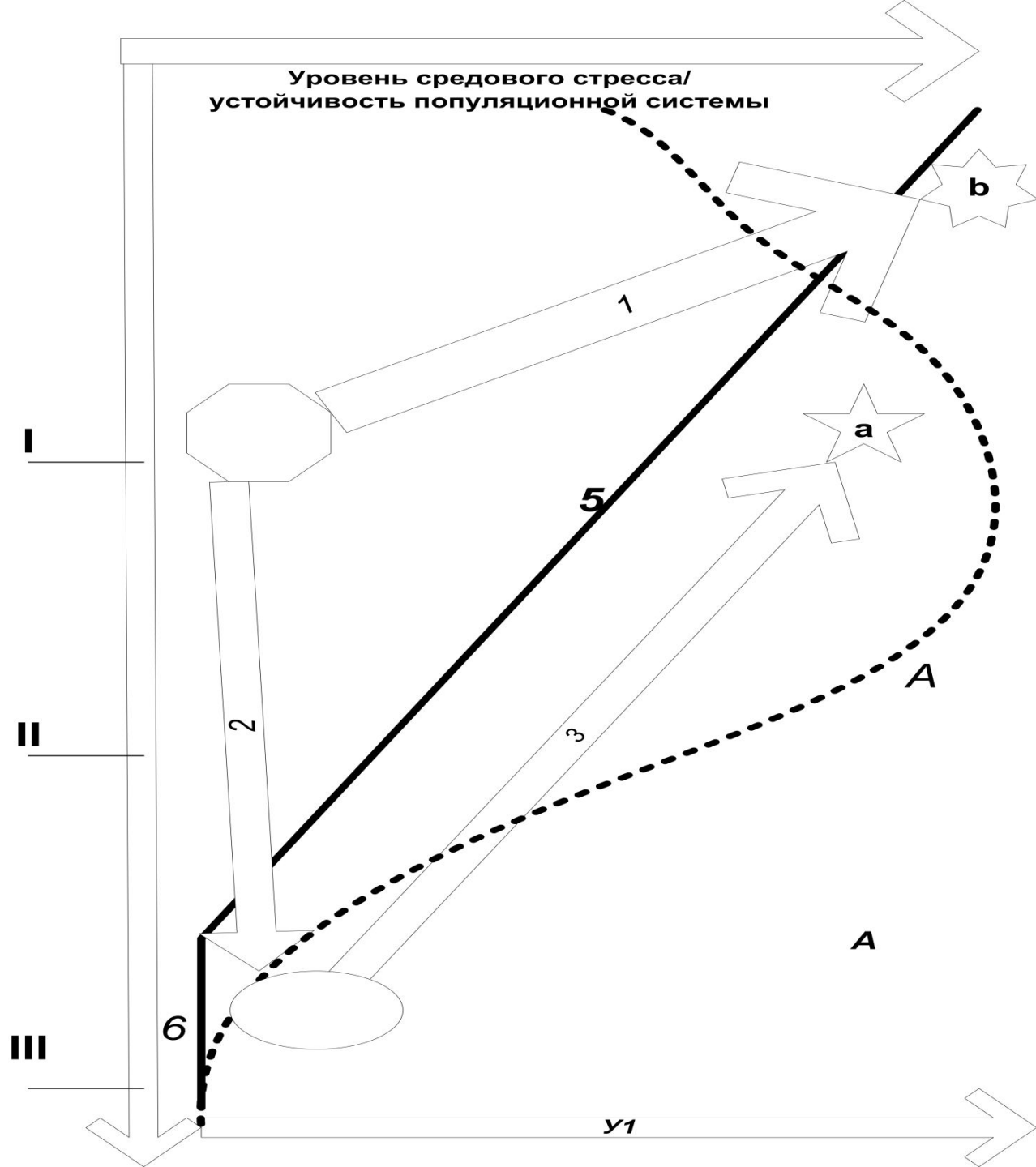


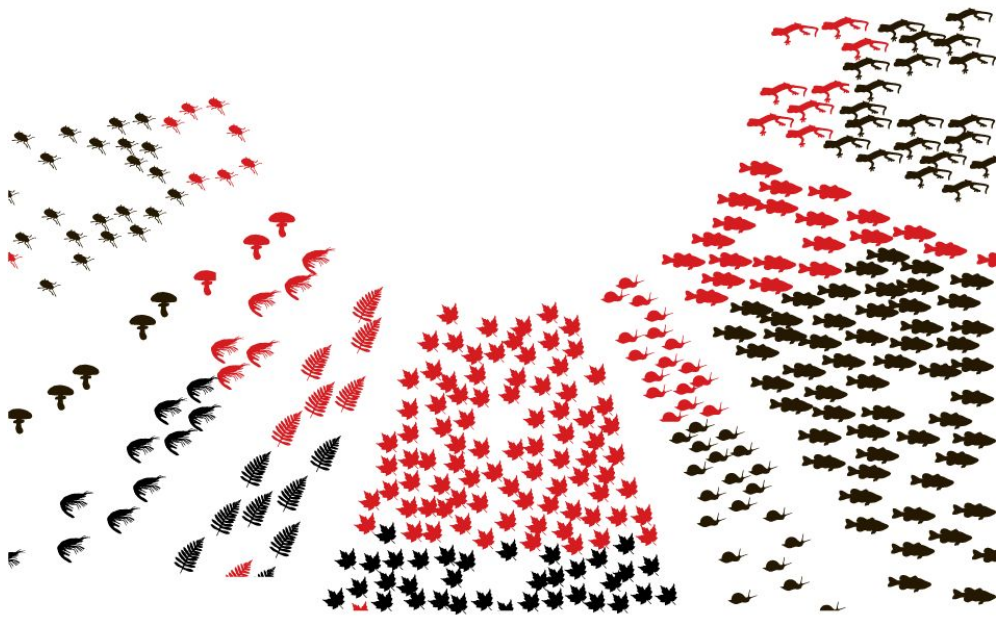
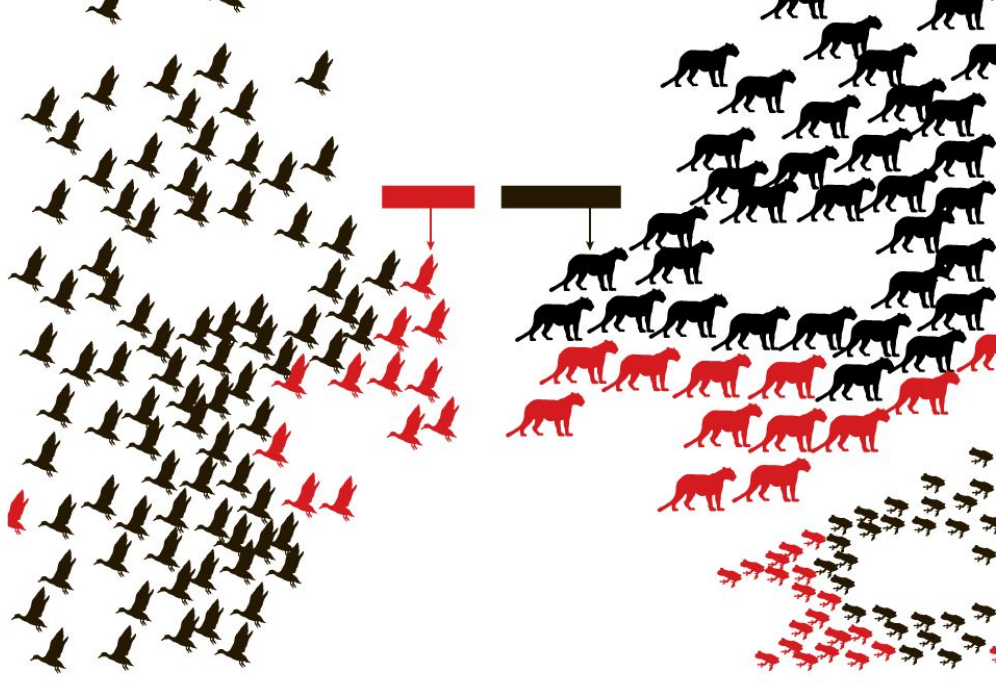
Место городских местообитаний среди других вариантов “островного ландшафта”.

- 1 – лесные микрофрагменты в зоне лесостепи), 2 – участки старовозрастных еловых (2а), “старых мелколиственных” (2б), и широколиственных лесов (2в) в урбанизированных регионах,
3 – “острова” природных территорий в структуре урбандошфта ,
4 – краевые популяции видов, переживших длительный период роста численности и быстрого расширения ареала,
5а – фрагментация участков южнотаёжных лесов автодорожной сетью







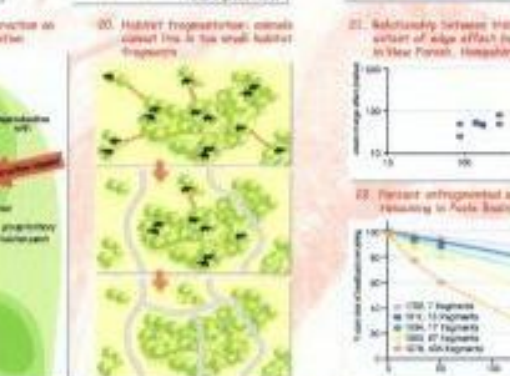
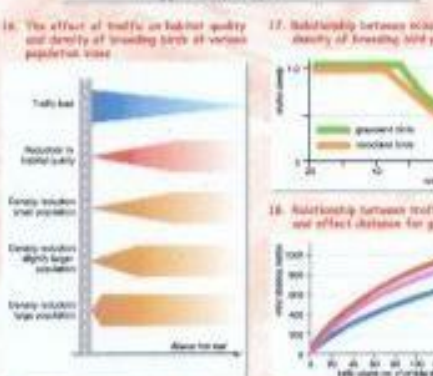
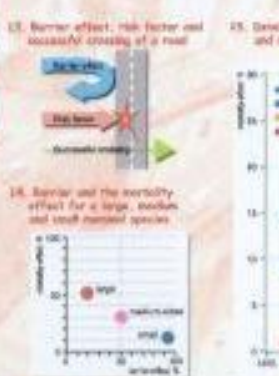
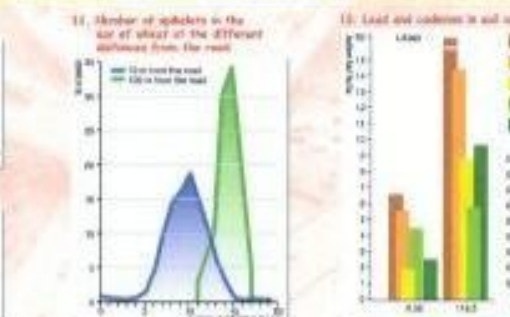
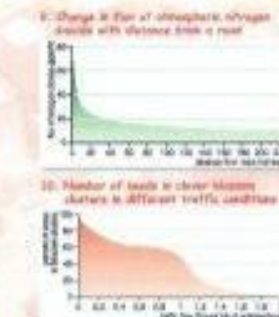
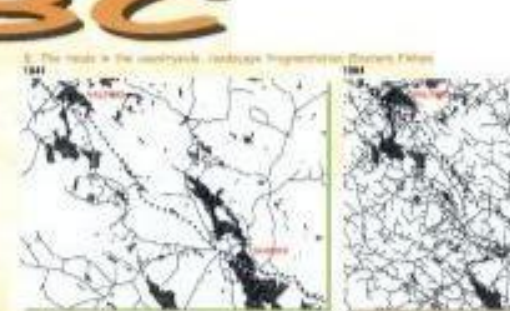
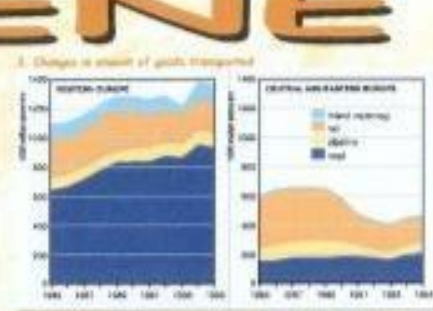
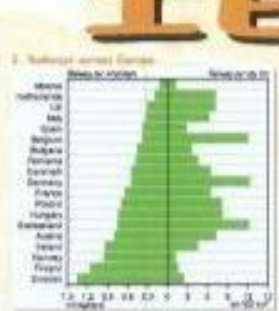
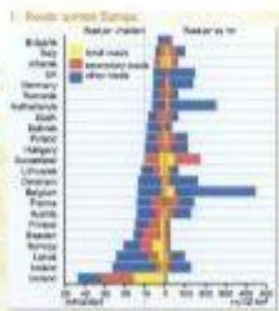


IENE ABC

FACTS

PROBLEMS

SOLUTIONS



24. Conditions affecting use of a passage

Species group	Species	Effect
Amphibians	Water voles, etc.	Large water areas or embankments surrounding the passage.
Reptiles	Large snakes, etc.	Large water areas or embankments surrounding the passage.
Small mammals	Water voles, etc.	Large water areas or embankments surrounding the passage.
Large mammals	Large deer, etc.	Large water areas or embankments surrounding the passage.
Carabid beetles	Large beetles, etc.	Large water areas or embankments surrounding the passage.
Beetles	Large beetles, etc.	Large water areas or embankments surrounding the passage.
Ungulates	Large deer, etc.	Large water areas or embankments surrounding the passage.

The IENE principles

1. IENE is an international network of scientists and engineers working on road infrastructure and its impact on the environment.
2. The main objective of the network is to exchange knowledge, to improve coordination between researchers, to discuss infrastructure design and to provide an advice on infrastructure design.
3. The European Network for Infrastructure Quality (ENIQ) is a European network of scientists and engineers working on road infrastructure and its impact on the environment.
4. ENIQ is a European network of scientists and engineers working on road infrastructure and its impact on the environment.
5. ENIQ is a European network of scientists and engineers working on road infrastructure and its impact on the environment.

References

See the IENE website for more information on the network and its activities.

Fragmentation

IMPACT ON THE ECOSYSTEMS

High level of fluctuating asymmetry of leafhoppers near the highway

High level of fluctuating asymmetry of leafhoppers near the highway

High level of fluctuating asymmetry of leafhoppers near the highway

High level of fluctuating asymmetry of leafhoppers near the highway



Concrete road

Asphalt road

Macadam road

Country road

Highway

Defragmentation

- Loss of the soil, natural resources
- Exposure of materials
- Increased material concentrations of salts and toxins
- Changes in hydrological regime and microclimate
- Delay in development of seeds
- Increasing of physical landscape heterogeneity
- Increasing of the population density
- Disruption of existing gene pool highways

Pathways of de-lignin salt to vegetation:
 1 - deposition on parts of trees above ground.
 2 - throughfall.
 3 - deposition of soil and on ground vegetation.
 4 - throughfall.
 5 - throughfall.
 6 - ground-water transport.
 7 - additional effects.

0 100 200
 Road from left to right

www.iene.

