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Territorial system of ecological stability (TSES) in the Czech Republic

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The Territorial System of Ecological Stability of the Landscape (TSES) is the only nature conservation tool constituting an ecological network in the landscape in the Czech Republic. The objective of planning and developing the TSES is to halt the unfavourable trend in the development of ecological stability and to permanently provide the landscape with the sustainable biological diversity. The nature conservation tool is clearly embedded in the Czech legal regulations and in spatial planning. Act No. 114/1992 Gaz., as amended later, defines the TSES as an interconnected system of both natural and altered but still semi-natural ecosystems which maintain the natural balance. According to the Act, the delineation and assessment of the TSES is one of the fundamental obligations in general nature conservation to be carried out by physical planning and nature conservation authorities in cooperation with institutions of water management, agricultural land resources conservation and state/public administration in forest management. Pursuant to the above act, the protection of the TSES is mandatory for all owners of land properties.

The TSES consists of three basic elements – biocentres, biocorridors and interactive elements. A biocentre is a habitat or a system of habitats which makes possible by its state and size the permanent existence of a natural or modified, but semi-natural ecosystem. In other words a biocentre is a habitat or a complex of habitats which support the permanent existence of wildlife species populations, species assemblages, guilds and communities as well as of a natural or semi-natural ecosystem. Biocentres are divided into existing and planned. The existing ones are formed by natural and seminatural ecosystems of the high degree of ecological stability (e.g. natural oak woodlands, herb-rich grasslands). TSES plans also recognize proposed biocentres, the areas/patches harbouring ecosystems with a low degree of ecological stability, heavily changed by humans (e. g. fields), which will have to be transformed to provide conditions favourable for wildlife species. Biocorridor

(biotic dispersal & migration corridors) is an area which does not make possible to the critical part of organisms permanent long-term existence, but it makes possible their migration and/or dispersal between biocentres: thus, it makes a real interconnected network from isolated biocentres. The third components of TSES are interactive elements, small areas/patches/plots (often spatially isolated) that provide favourable conditions to some plants and animals significantly affecting the functioning of ecosystems in the cultural landscape.

The TSES is defined at three interconnected levels – supra-regional (= national), regional (= sub-national) and local. There is a dense network of local corridors (of approx. 1 km) linking local biocentres (1 to 3 hectares). The function of regional biocentres is to preserve the sub-national biodiversity. At the regional level, corridors have a width ranging from 20 to 50 metres, and a length ranging from 300 to 1 000 metres. The supra-regional level includes biocentres with an area of more than 1 000 hectares.

The TSES implementation has been still in progress. The plans have been made at the supra-regional (on a scale of 1 : 500 000) and regional levels for the whole country. The plans must be put into effect at local level (land-use plans of municipalities). At present it can be stated that the smaller the municipality, the less frequently is a relevant land-use plan. The TSES therefore acquires general obligatory character within the process of approving land-planning documentation. In practice, the ecological network should also be considered when elaborating proposals for comprehensive land consolidation/re-plotting and for the Forest Management Plan (basic forest management planning tools for both governmental and private owners).

The supra-regional TSES is also part of the Pan-European Ecological Network (PEEN).