*Appendix 4. The final set of indicators developed for the mapping and assessment of ecosystem condition in the Hungarian MAES for the major ecosysytem types (ET), along with their SEEA-ECT condition type (Czúcz et al. 2021).*

| Indicator | Urban | Agricultural | Grasslands | Forests | Wetlands | Water | SEEA-Ecosystem condition type | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | **Ecosystem type** | |
| **Biodiversity indicators** | | | | | | | | |
| Ratio of present bird species compared to the expected (%)* | | (x) | x | x | x | (x) | B1 | Compositional state characteristics |
| WFD biological components | | | | | | x | B1 | Compositional state characteristics |
| **Anthropogenic transformation of the vegetation** | | | | | | | | |
| Departure of the current vegetation from the Potential Natural Vegetation | | | x | | x | | | *Natural resource management* |
| **Soil characteristics** | | | | | | | | |
| Soil fertility | **x** | **x** | **x** | **x** | **x** | | | Pre-aggregated indicators |
| **Landscape-level indicators** | | | | | | | | |
| Number of ecosytem types (1 km radius) | x | x | x | x | x | x | C1 | Landscape characteristics |
| (Shannon) diversity of ecosytem types (1 km radius) | x | x | x | x | x | x | C1 | Landscape characteristics |
| Land take (based on Corine Land Cover time series) 2000-2018 | | x | | | | | | Pressures |
| Loss of grasslands | | | x | | | | | Pressures |
| Forest area changes | | | | x | | | | Pressures |
| Proportion of Natura 2000 areas in the different ecosystem types | x | x | x | x | x | x | | Protected areas |
| **Ecosystem-type specific indicators** | | | | | | | | |
| Proportion of seminatural areas | | 300 m radius | 300, 500, 1000 m radius | | 220 m radius | | C1 | Landscape characteristics |
| Average parcel size | | x | | | | | *C1* | *Landscape characteristics* |
| Number of cultivated plants (no or no/ha) | | x | | | | | B1 | Compositional state characteristics |

| Indicator | Ecosystem type | | | | | | SEEA-Ecosystem condition type | |
|---|---|---|---|---|---|---|---|---|
| | Urban | Agricultural | Grasslands | Forests | Wetlands | Water | | |
| **Ecosystem-type specific indicators** | | | | | | | | |
| Areal proportion of alfalfa and green fallow | | x | | | | | *C1* | *Landscape characteristics* |
| Areal proportion of alfalfa and green fallow | | x | | | | | *C1* | *Landscape characteristics* |
| Proportion of fallow land | | x | | | | | *C1* | *Landscape characteristics* |
| Proporton of maize | | x | | | | | *C1* | *Landscape characteristics* |
| Proportion of protected areas (AES or HVNA) | | x | x | | | | | Protected areas |
| Proportion of seminatural grasslands (300, 500, 1000 m radius) | | | x | | | | | *Ecosystem extent* |
| Distance to (any) roads | | | x | | | | | Pressures |
| Distance to major roads | | | x | | | | | Pressures |
| Distance to surface water | | | x | | | | A1 | Physical state characteristics |
| Distance to canals | | | x | | | | A1 | Physical state characteristics |
| Frequency of water cover (Water and Wetness Probability Index) | | | x | | x | | A1 | Physical state characteristics |
| Proportion of wetlands (220 m radius) | | | | | x | | | *Ecosystem extent* |
| Presence of surface water and temporary surface water (220 m radius) | | | | | x | | A1 | Physical state characteristics |
| Presence of roads (within the 20 m cell) | | | | | x | | | Pressures |
| Heterogeneity of wetland types | | | | | x | | *B1* | *Compositional state characteristics* |
| Number of native tree species | | | | x | | | B1 | Compositional state characteristics |
| The proportion of native tree species in the upper and lower canopy layers (%) | | | | x | | | B1 | Compositional state characteristics |
| **Ecosystem type** | | | | | | | | |

| Indicator | Urban | Agricultural | Grasslands | Forests | Wetlands | Water | SEEA-Ecosystem condition type | |
|---|---|---|---|---|---|---|---|---|
| **Ecosystem-type specific indicators** | | | | | | | | |
| Number of native admixing tree species | | | | x | | | B1 | Compositional state characteristics |
| Presence of the main tree species characteristic of the specific habitat type in the expected proportion | | | | x | | | B1 | Compositional state characteristics |
| The proportion of the native mixing tree species compared to that expected in the specific habitat type | | | | x | | | B1 | Compositional state characteristics |
| The proportion of non-native tree species in the upper and lower canopy layers (%) | | | | x | | | B1 | Compositional state characteristics |
| The proportion of invasive tree species in the upper and lower canopy layers (%) | | | | x | | | B1 | Compositional state characteristics |
| Number of age cohorts | | | | x | | | B2 | Structural state characteristics |
| Difference between the lowest and highest cohort age (years) | | | | x | | | B2 | Structural state characteristics |
| Presence of old (>=100 years or 60 in the case of native softwood forests) trees | | | | x | | | B2 | Structural state characteristics |
| Number of (10-cm) dbh-classes | | | | x | | | B2 | Structural state characteristics |
| (Shannon) diversity of (10-cm) dbh-classes – considered only if number of (10-cm) dbh classes >2 | | | | x | | | B2 | Structural state characteristics |
| Presence of large (dbh>50) trees | | | | x | | | B2 | Structural state characteristics |
| Presence and type of the shrub layer | | | | x | | | B2 | Structural state characteristics |
| Proportion of urban green areas (trees) within the settlement | x | | | | | | C1 | Landscape characteristics |
| Proportion of urban green areas (non-tree) within the settlement | x | | | | | | C1 | Landscape characteristics |

| Indicator | Ecosystem type | | | | | | SEEA-Ecosystem condition type | |
|---|---|---|---|---|---|---|---|---|
| | Urban | Agricultural | Grasslands | Forests | Wetlands | Water | | |
| **Ecosystem-type specific indicators** | | | | | | | | |
| Proportion of urban green areas within the settlement | x | | | | | | C1 | Landscape characteristics |

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