Landscape connectivity - actual (A.2.1.1a)

Definition:
Landscape connectivity is indicated by the number of connected components formed by existing patches in the corridor. Values: **[1] disconnected**; **[2] fragments**; **[3] connected**.

Input data:
- Urban river corridor boundary
- Corridor segment boundary
- Land use data[97] (OSM: landuse=aeroway_polygon, amenity_polygon, landuse_polygon, leisure_polygon, natural_polygon, sport_polygon, and waterway_polygon)
- Edge-to-edge (EE) distance: 200m

Implementation:
The tool *MatrixGreen* for ArcMap is used to perform the component analysis (overall patch network performance), as follows:

1. Vegetated (ecologically functional) and non-vegetated (potential) patches are extracted from the following OSM layers: aeroway_polygon, amenity_polygon, landuse_polygon, leisure_polygon, natural_polygon, sport_polygon, and waterway_polygon. Isolated buildings and overlaps are removed.
2. The resulting patches are merged and converted into a patch set in MatrixGreen. Links with a maximum edge-to-edge (EE) distance of 200m[98] are created.
3. A component analysis of the resulting patch set and links determines the number of connected components in the corridor. If there is one major component crossing the whole corridor the URC is classified as **[3] connected**; if up to 5 largest components which do not cross the corridor could be connected if the EE distance would be increased to 300m, the corridor is classified as **[2] disconnected**; if the corridor is still disconnected after the EE distance is increased, it is classified as **[1] fragmented**.

Results for CS03:
- Number of actual connected components: **1**

97 Land cover data is currently only implied by other tags, such as some types of landuse=*, surface=* and natural=*. Landcover=* to directly tag land cover types is among the proposed features in OpenStreetMap. (Source: http://wiki.openstreetmap.org/wiki/Landcover)

98 The maximum distance of 200 m is based on Andersson, E, Bodin, O, "Practical tool for landscape planning? An empirical investigation of network based models of habitat fragmentation", in Ecography 32: 123-132, 2009.

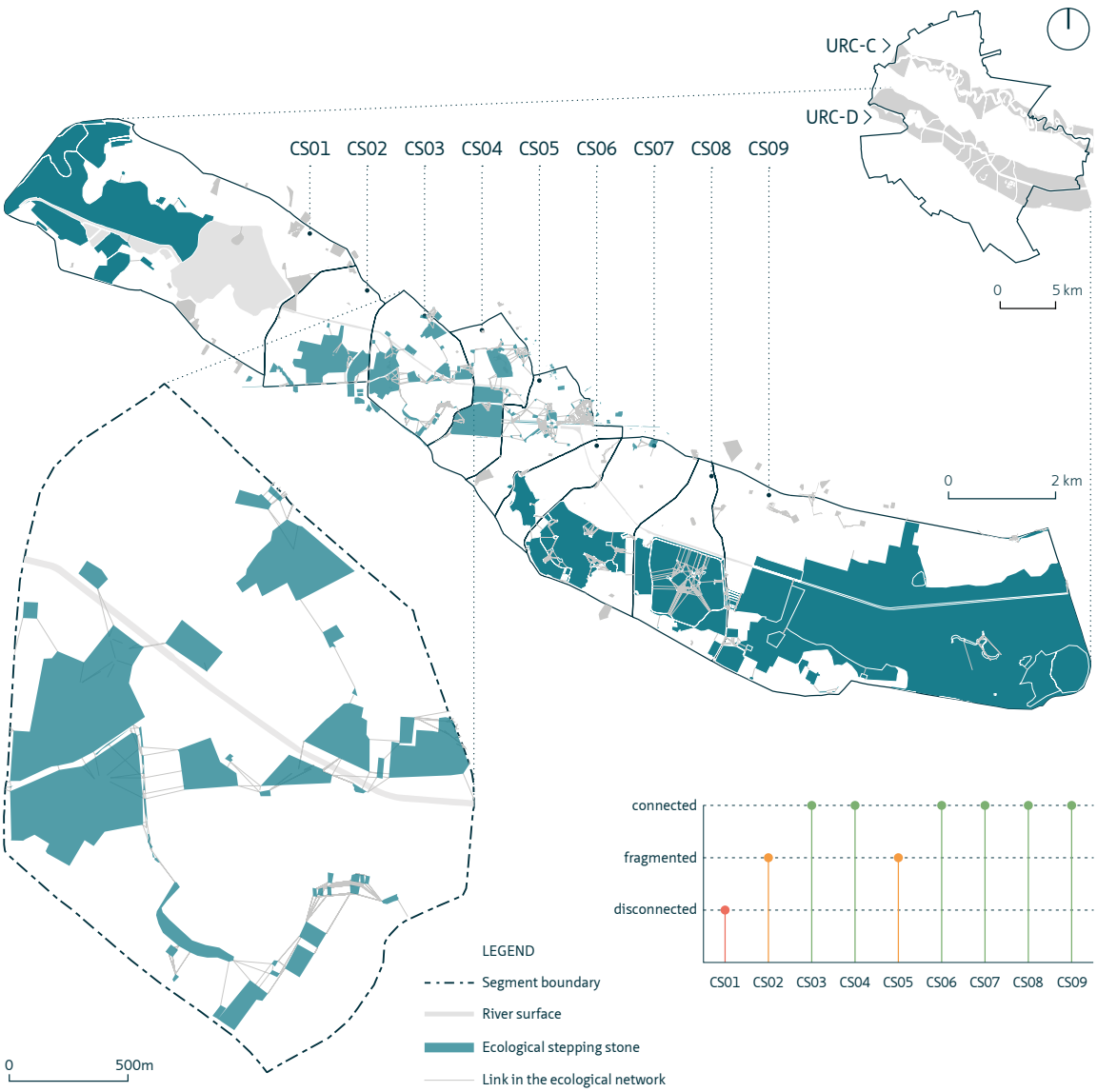

FIGURE APP.E.8 Landscape connectivity along URC Dâmbovița, with detail of CS03.

SEGMENT	VALUE	INDEX
CS01	disconnected	1
CS02	fragmented	2
CS03	connected	3
CS04	connected	3
CS05	fragmented	2
CS06	connected	3
CS07	connected	3
CS08	connected	3
CS09	connected	3

TABLE APP.E.9 Results of indicator A.2.1.1a.

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