Supplementary information

Table S1 | Data sources and search execution.

Database	Field(s) searched	Query string (exact)	Notes
Scopus	TITLE-ABS-KEY	TITLE-ABS-KEY("green infrastructure*" OR "ecological network*" OR ecological framework* OR ("greenbelt" or (green near/0 belt)) OR “ecological corridor*” OR “greenway*” OR “reserve network*” OR “green network*” OR “green corridor*” OR “green and blue space*” OR “biological corridor*” OR “transfrontier conservation area*” OR “conservation corridor*” OR “biodiversity corridor*” OR “territorial system of ecological stability”	Executed 22 Aug 2025. Export performed in batches due to platform export limits; batches were unioned before deduplication.
Web of Science	TS	TS ("green infrastructure*" OR "ecological network*" OR ecological framework* OR ("greenbelt" or (green near/0 belt)) OR “ecological corridor*” OR “greenway*” OR “reserve network*” OR “green network*” OR “green corridor*” OR “green and blue space*” OR “biological corridor*” OR “transfrontier conservation area*” OR “conservation corridor*” OR “biodiversity corridor*” OR “territorial system of ecological stability”	Executed 22 Aug 2025. Records from WoS Core Collection.

Table S2 | European country list defined using first author affiliation. Note: country list reflects the countries observed in the European-affiliated subset; regional labels follow UN M49 subregions (see note on Channel Islands/Jersey).

Country	Region
Albania	Southern Europe
Austria	Western Europe
Belgium	Western Europe
Bulgaria	Eastern Europe
Croatia	Southern Europe
Czechia	Eastern Europe
Denmark	Northern Europe
Estonia	Northern Europe
Finland	Northern Europe
France	Western Europe
Germany	Western Europe
Greece	Southern Europe
Hungary	Eastern Europe
Iceland	Northern Europe
Ireland	Northern Europe
Italy	Southern Europe
Jersey*	Northern Europe
Latvia	Northern Europe
Lithuania	Northern Europe
Luxembourg	Western Europe
Malta	Southern Europe
Netherlands	Western Europe
North Macedonia	Southern Europe
Norway	Northern Europe
Poland	Eastern Europe
Portugal	Southern Europe

Romania	Eastern Europe
Russia	Eastern Europe
Serbia	Southern Europe
Slovakia	Eastern Europe
Slovenia	Southern Europe
Spain	Southern Europe
Sweden	Northern Europe
Switzerland	Western Europe
Ukraine	Eastern Europe

Note: * Jersey is a self-governing British Crown Dependency (Bailiwick of Jersey) and is listed as a "country or area" in the UN M49 standard (code 832), classified under Northern Europe.

Table S3 | Temporal trends in European term usage. Poisson or Negative Binomial regressions of annual term counts against year, fitted to complete years only (1970–2023). β is the fitted log change per year; "%/year" reports exp(β) − 1. Negative Binomial models were selected when overdispersion was detected. Significance codes refer to model *p*-values (* p<0.05, ** p<0.01, *** p<0.001).

Term	Model	Beta_year	%/YEAR	P	SIG
Green infrastructure	negbin	0.32	37.7	2.4e-45	***
Green and blue spaces	negbin	0.225	25.2	1.3e-09	***
Ecological framework	poisson	0.137	14.7	4.6e-10	***
TCA	poisson	0.133	14.3	1.7e-03	**
Ecological network	negbin	0.124	13.2	2.6e-36	***
Green corridor	poisson	0.122	13	5.2e-10	***
Ecological corridor	poisson	0.119	12.7	3.3e-17	***
Greenbelt	poisson	0.062	6.4	8.5e-15	***
Biodiversity corridor	poisson	0.059	6.1	4.9e-05	***
Greenway	poisson	0.058	6	1.1e-05	***
Green network	poisson	0.038	3.9	3.0e-01	
Reserve network	poisson	0.018	1.8	2.3e-01	
TSES	poisson	0.014	1.4	7.4e-01	
Conservation corridor	poisson	-0.004	-0.4	9.6e-01	
Biological corridor	poisson	-0.009	-0.9	8.1e-01	

Note: Overdispersion was assessed by comparing the residual deviance to degrees of freedom and by inspecting dispersion statistics; Negative Binomial models were used when overdispersion was evident.

Table S4 | Top 10 documents by European citation.

Title	Authors	Year	Source	Citations	WoS Categories
Nature and health	Hartig, T., Mitchell, R., De Vries, S., & Frumkin, H.	2014	Annual review of public health	2352	Public, Environmental & Occupational Health
Dynamics and stabilization of the human gut microbiome during the first year of life	Bäckhed, F., Roswall, J., Peng, Y., Feng, Q., Jia, H., Kovatcheva-Datchary, P., ... & Wang, J.	2015	Cell host & Microbe	2288	Microbiology; Parasitology; Virology
Promoting ecosystem and human health in urban areas using green infrastructure: a literature review	Tzoulas, K., Korpela, K., Venn, S., Yli-Pelkonen, V., Kaźmierczak, A., Niemela, J., & James, P.	2007	Landscape & Urban Planning	1813	Ecology; Environmental studies; Geography; Geography, Physical; Regional & Urban Planning; Urban Studies
Adapting cities for climate change: the role of the green infrastructure	Gill, S. E., Handley, J. F., Ennos, A. R., & Pauleit, S.	2007	Built environment	1463	NA
Classifying and valuing ecosystem services for urban planning	Gómez-Baggethun, E., & Barton, D. N.	2013	Ecological economics	1160	Ecology; Economics; Environmental sciences; Environmental studies
What is the best dose of nature and green exercise for improving mental health- a multi-study analysis.	Barton, J., & Pretty, J.	2010	Environmental science & technology	1156	NA
Community and ecosystem responses to recent climate change.	Walther, G. R.	2010	Philosophical Transactions of the Royal Society B: Biological sciences	970	NA

Challenges and strategies for urban green-space planning in cities undergoing densification: A review.	Haaland, C., & van Den Bosch, C. K.	2015	Urban forestry & urban greening	964	Plant sciences; Environmental studies; Forestry; Urban studies
A new habitat availability index to integrate connectivity in landscape conservation planning: comparison with existing indices and application to a case study.	Saura, S., & Pascual-Hortal, L.	2007	Landscape & urban planning	857	Ecology; Environmental studies; Geography; Geography, physical; Regional & urban planning; Urban studies
Utilising green and bluespace to mitigate urban heat island intensity.	Gunawardena, K. R., Wells, M. J., & Kershaw, T.	2017	Science of the total environment	828	Environmental sciences

Table S5 | Aggregation of WoS Subject Categories into ten macro-disciplinary groups. The grouping is conceptually aligned with the twelve disciplinary areas identified by Leydesdorff et al. (2013) but simplified to improve interpretability and to avoid overly fragmented flows. Only representative subject categories are shown in the table.

Macro-category	WoS Subject Categories	Focus
Life Sciences & Biomedicine	Anatomy & Morphology; Biochemistry & Molecular Biology; Biotechnology & Applied Microbiology; Cell Biology; Genetics & Heredity; Immunology; Microbiology; Neurosciences; Oncology; Pharmacology & Pharmacy; Physiology; Toxicology; Public, Environmental & Occupational Health; Veterinary Sciences; Nursing; Medicine (all specialties)	Biological structure and function, mechanisms of life, disease processes, and clinical/health applications in humans and other organisms.
Environmental & Earth Sciences	Ecology; Biodiversity Conservation; Environmental Sciences; Environmental Studies; Forestry; Soil Science; Geosciences, Multidisciplinary; Geology; Geochemistry &	Natural ecosystems, environmental change, conservation, and the physical Earth system, including atmosphere, hydrosphere and lithosphere.

	Geophysics; Meteorology & Atmospheric Sciences; Oceanography; Limnology; Water Resources; Remote Sensing; Green & Sustainable Science & Technology	
Agriculture & Food Systems	Agriculture, Multidisciplinary; Agronomy; Agricultural Economics & Policy; Agricultural Engineering; Agriculture, Dairy & Animal Science; Fisheries; Horticulture; Food Science & Technology	Agricultural production systems, rural landscapes, agroecology, food production, processing and safety, and associated socio-economic aspects.
Engineering & Technology	Engineering, Civil; Engineering, Mechanical; Engineering, Electrical & Electronic; Engineering, Chemical; Engineering, Environmental; Engineering, Industrial; Engineering, Manufacturing; Engineering, Aerospace; Construction & Building Technology; Materials Science (all); Energy & Fuels; Telecommunications; Automation & Control Systems; Robotics	Design, development and application of technical systems, infrastructure and materials, including industrial and environmental engineering solutions.
Physical & Chemical Sciences	Physics, Applied; Physics, Multidisciplinary; Physics, Condensed Matter; Physics, Particles & Fields; Chemistry, Physical; Chemistry, Organic; Chemistry, Inorganic & Nuclear; Chemistry, Analytical; Chemistry, Multidisciplinary; Crystallography; Optics; Spectroscopy; Acoustics; Thermodynamics	Fundamental physical and chemical processes, properties of matter and energy, and experimental/theoretical approaches in physics and chemistry.
Mathematics, Computer & Information Sciences	Mathematics; Mathematics, Applied; Statistics & Probability; Operations Research & Management Science; Computer Science, Artificial Intelligence; Computer Science, Information Systems; Computer Science, Interdisciplinary Applications; Computer Science, Software	Quantitative theory and methods, algorithms, modelling, data and information systems, and decision-support approaches.

	Engineering; Computer Science, Theory & Methods; Information Science & Library Science; Computer Science, Hardware & Architecture	
Social Sciences, Economics & Policy	Economics; Business; Business, Finance; Management; Political Science; Public Administration; Development Studies; Sociology; Social Work; Criminology & Penology; Education & Educational Research; Education, Scientific Disciplines; Psychology (all subfields); Behavioral Sciences; Health Policy & Services; Social Sciences, Interdisciplinary	Social, economic and political systems, institutions and behaviour, including policy design, governance, education and health-related social sciences.
Urban & Regional Planning / Geography	Urban Studies; Regional & Urban Planning; Geography; Geography, Physical; Transportation; Transportation Science & Technology; Architecture; Environmental Studies (when urban-focused); Area Studies	Spatial organisation of human activities and settlements, land-use planning, infrastructure and mobility, particularly in urban and regional contexts.
Arts & Humanities	History; History of Social Sciences; History & Philosophy of Science; Archaeology; Philosophy; Religion; Literature (all subfields); Linguistics; Art; Music; Theater; Film, Radio, Television; Cultural Studies; Classics; Humanities, Multidisciplinary	Cultural, historical, philosophical and artistic dimensions of human societies, including language, narratives, heritage and critical theory.
Multidisciplinary & Interdisciplinary Fields	Multidisciplinary Sciences; Mathematical & Computational Biology; Science & Technology other Topics; Humanities, Multidisciplinary; Social Sciences, Interdisciplinary; Area Studies	Cross-cutting research that explicitly integrates concepts, methods or data from multiple disciplines and cannot be assigned to a single domain.

Table S6 | Working definitions, dominant application areas, and municipal decision rules for connectivity terminology. Definitions synthesised from the scientific literature and policy glossaries.

Functional family	Term	Working definition	Diagnostic cues (what the term usually implies)	Typical scale	Evaluation emphasis	Key source(s)
Strategic umbrella concepts	Green infrastructure	Strategically planned network of natural and semi-natural areas and environmental features, designed and managed to deliver multiple ecosystem services and enhance biodiversity.	Umbrella term; multi-functionality; planning/strategy framing; often cross-sector.	City - Regional scale	Service delivery; access; governance; co-benefits; specify mechanism; scale.	European Commission (2013);
Strategic umbrella concepts	Green and blue spaces	Set of vegetated (green) and water (blue) spaces used as an inventory/ descriptor of nature assets (often in cities), not necessarily	"Spaces" emphasis; access/ proximity; parks/ riverfronts/ wetlands; can be health/ planning-led.	City	Availability, accessibility, quality; do not assume connectivity unless specified.	World Health Organization, 2023

		implying connectivity.				
Strategic umbrella concepts	Ecological network	Coherent system of core areas linked by corridors/ stepping stones and buffer zones to maintain ecological processes and species movement.	Conservation-led; “core areas + corridors”; network design; protected areas often central.	Landscape, regional or national.	Ecological function/ connectivity outcomes; network integrity and permeability.	Bennett & Mulongoy (2006); Hilty et al. (2020); Jongman & Pungetti (2004)
Strategic umbrella concepts	Green network	Connected system of green spaces (often urban) that supports recreation/ access and environmental functions; may overlap with GI but more “network of greenspaces/ routes”.	Planning/ municipal language; access routes + greenspace links; can be people-first.	City	Access/ connectivity for people + greenspace provision; specify if ecological connectivity is intended.	Moseley et al., 2013
Strategic umbrella concepts	Ecological framework	Integrative spatial framework used	Framework/ overlay language; prioritisation; guiding decisions; often used in	Regional, city, national, bioregional.	Governance; prioritisation rules; implementation	Jongman & Pungetti (2004);

		in planning/ design to structure ecological assets and priorities; a “strategic layer” rather than a single corridor mechanism.	greenway/ river corridor planning.	Never at micro-scale (street, park)	logic; specify mechanisms used (corridors, buffers, etc.).	Baschak & Brown (1995)
Land-use containment policies	Greenbelt	Policy-designated belt of protected/ open land around a city to contain sprawl and preserve open space; connectivity may be incidental.	Growth management/ containment; zoning; permanence/ limits to development.	Metropolitan, regional or peri-urban ring	Containment effectiveness + land-use outcomes; do not assume ecological connectivity.	Kühn, 2003
Species connectivity mechanisms	Ecological corridor	Linear or stepping-stone element that facilitates wildlife movement between habitat patches by increasing landscape permeability.	Conservation framing; connectivity outcomes; designated corridor/ stepping stones.	Local/ landscape scale (connecting habitat patches).	Functional connectivity, permeability, target taxa/ habitats, monitoring of movement/ genetic flow.	Hilty et al. (2020); Jongman & Pungetti (2004)

Species connectivity mechanisms	Biodiversity corridor	Corridor framed around biodiversity conservation outcomes; typically implies habitat linkage for multiple taxa or priority biodiversity.	"Biodiversity" emphasis; multi-taxa; may be policy-led branding.	Local/ landscape scale (multi-habitat, multi-species connectivity).	Biodiversity outcomes + connectivity; specify focal biodiversity components and indicators.	Hilty et al. (2020)
Species connectivity mechanisms	Biological corridor	Corridor concept explicitly framed around biological movement/gene flow; often used interchangeably with ecological corridor.	Species/ biota emphasis; conservation corridors; often a synonym.	Landscape, regional scale (often national or transboundary).	Same as ecological corridor; specify taxa and mechanism.	Hilty et al. (2020)
Species connectivity mechanisms	Conservation corridor	Corridor designated as part of wider conservation strategy (often multi-jurisdictional), sometimes linking protected areas.	"Conservation" emphasis; strategic corridor programmes; governance/institutionalisation.	Landscape, regional or national (never street or district; rarely purely municipal unless part of a regional system).	Governance + corridor effectiveness + protected-area linkage performance + involvement of stakeholders	Green & Sandbrook, 2021

Species connectivity mechanisms	Reserve network	Network of reserves/ protected areas treated as core sites; may (or may not) explicitly include corridors/ buffers.	Protected-area system language; reserve design; systematic conservation planning framing.	Regional, national or continental (never municipality).	Representativeness + coherence + connectivity elements; clarify whether corridors are included.	Bennett & Mulongoy (2006)
Species connectivity mechanisms	Transfrontier conservation area (TCA)	Cross-border conservation initiative comprising protected areas and adjacent lands managed cooperatively; may support connectivity but is primarily governance/ designation.	International boundary; cooperation; joint management/ governance.	Very large landscape, regional or multinational (hundreds to thousands of km²).	Representativeness + coherence + connectivity elements; clarify whether corridors are included.	Bennett & Mulongoy (2006)
Species connectivity mechanisms	Territorial system of ecological stability (TSES)	Developed in Czechoslovakia in the mid-1980s. The methodology involves designing TSESs as systems of	Central/ Eastern Europe planning term; biocentres/ biocorridors; legal/ planning integration.	Local, regional or national (multi-tiered hierarchy).	Ecological stability + connectivity function + implementation in plans; compliance with legal standards.	Skokanová & Slach (2020)

		biocentres and biotic migration corridors hierarchically arranged within biogeographical units.				
Human connectivity mechanisms	Green corridor	Networks of linked landscape elements that provide cultural, recreational, and ecological benefits to the community; may be mobility-first or amenity/ greening-first; ecological claims need specification.	In cities, the term “green corridor” is commonly applied to linear green links—often designed for walking and cycling while also moderating local microclimates. Taken together, these links can constitute a green network that supports regular exposure to nature and associated wellbeing benefits.	Street, neighbourhood or municipal.	Clarity on primary function (people vs ecology); continuity and design standards.	Aly & Amer, 2010; Aman et al., 2022
Human connectivity mechanisms	Greenway	Linear open space (often along rivers/ rail corridors) managed for recreation and active travel, sometimes with	Trails/ paths; riverside corridors; mobility/ amenity; multi-use linear space.	Neighbourhood, municipal or regional.	Access, mobility, safety, continuity; co-benefits; specify ecological intent if relevant.	Ahern (1995)

	ecological functions.	

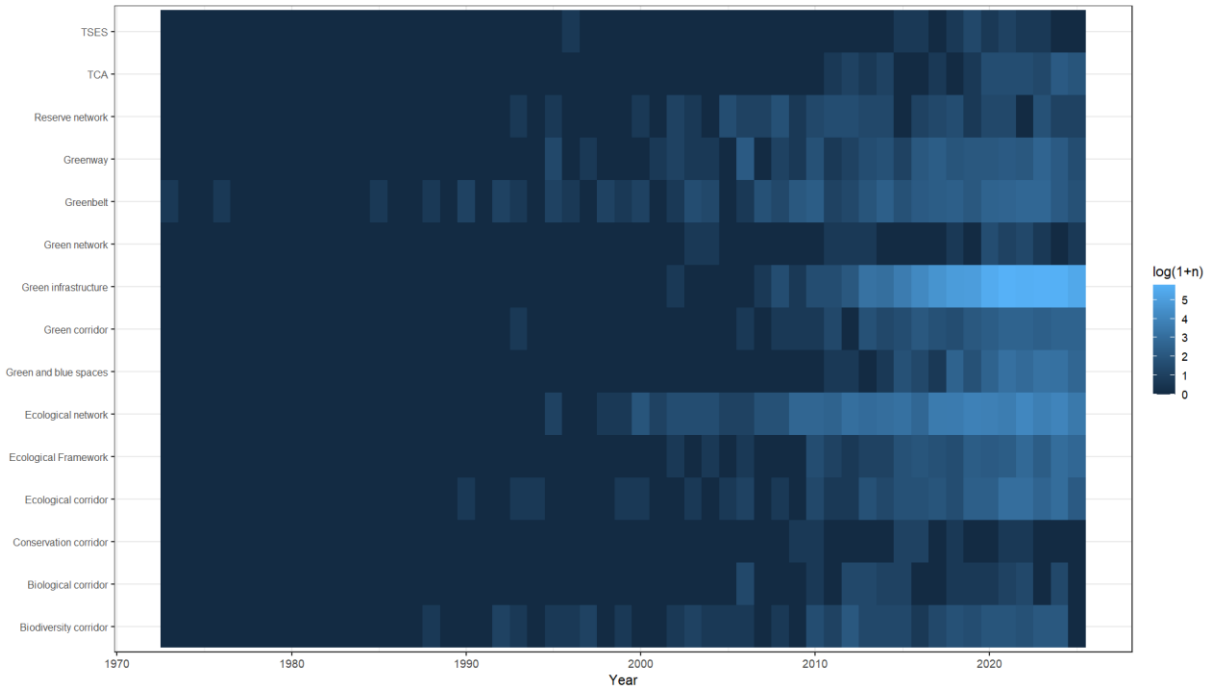


Figure S1 | Annual usage of connectivity-related terms in European-affiliated publications, 1970–2025. Each cell shows the number of journal articles assigned to each focal label within the European subset, defined by first-author affiliation in geographic Europe. Colour intensity represents log-transformed annual counts, log(1+n), to improve comparability across labels with different absolute frequencies. Years 2024–2025 are shown descriptively but were excluded from trend models to reduce the influence of recent indexing lags; models were fitted to the 1970–2023 period and are reported in Supplementary Table S3.

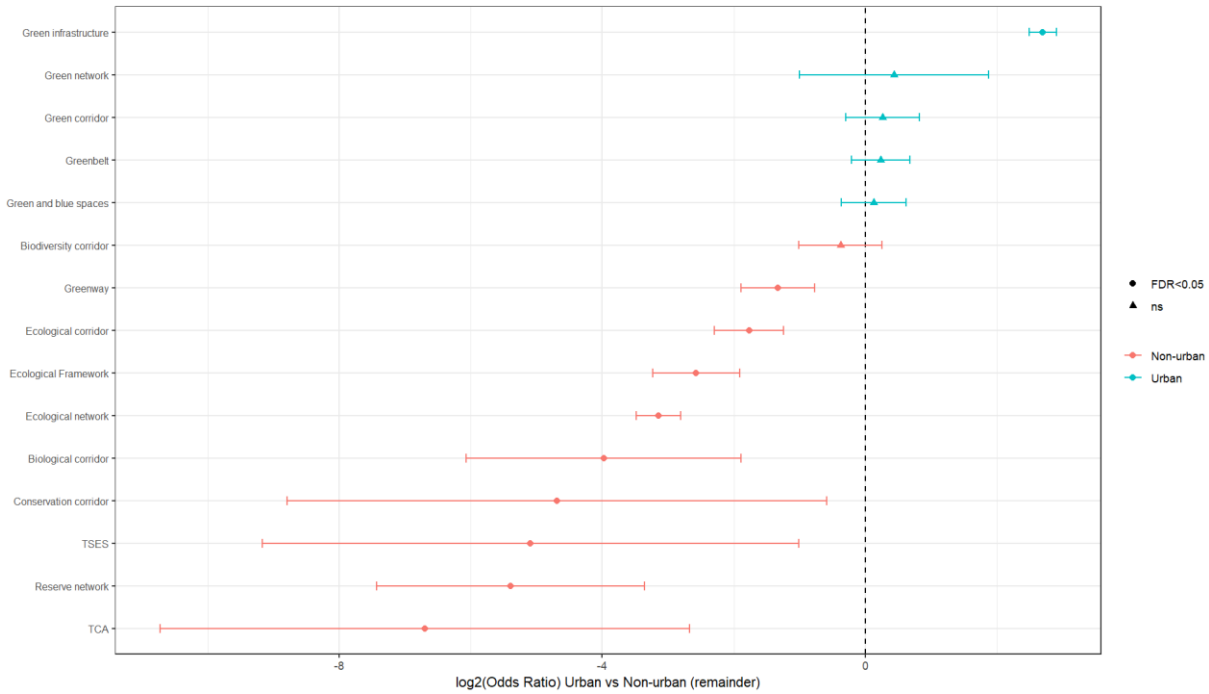


Figure S2 | Urban vs non-urban context effects across focal labels (European subset). Points show log2(odds ratios) with 95% confidence intervals comparing the likelihood of each label appearing in urban-tagged versus non-urban (remainder) records (Fisher's exact test; Benjamini–Hochberg–adjusted p-values). Values >0 indicate urban-leaning labels and values <0 indicate non-urban-leaning labels. Colours denote effect direction (urban- vs non-urban-leaning) and point shapes denote FDR significance (FDR<0.05 vs ns).

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