Article

Green Infrastructure—Countering Ecosystem Fragmentation: Case Study of a Municipality in the Carpathian Foothills

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Supplementary Materials: Tables S1–S4 show the calculations of the K_1 and K_2 coefficients for each element of each ecosystem. An average value of the $K_1 + K_2$ coefficient for all elements of each ecosystem was drawn from them. The average values of the $K_1 + K_2$ coefficient for grassy and scrub ecosystems −8,39 (Table S1); forest and tree-based ecosystems −135.87 (Table S2); ecosystems of mosaic-like farmland −187.62 (Table S3); large-scale farmland ecosystems −199.53 (Table S4). The above data was used to further calculate the fragmentation coefficient in Table 4.

Table 4. Development and development types in the territory of Carpathian voivodeships in Poland.

Voivodeship	Total developed area to plot ratio in the voivodeship	Loose development (%)	Compact development (%)
Lesser Poland	18.50	18.90	81.10
Subcarpathian	10.62	18.56	81.44
Silesian	20.90	10.12	89.88

Table S1. Grassy and scrub ecosystems.

Symbol	Ecosystem type	Patch area/total area (ha)	Boundary length/total boundary length (km)	K_1—similarity to a circular shape	K_2—boundary length to surface ration	Coefficient $K_1 + K_2$
a	Permanently or seasonally wet meadows	45.24	3.19	1.34	7.05	8.39
b	Fresh meadows					
						= 8.39

Table S2. Forest and tree-based ecosystems.

Symbol	Ecosystem type	Patch area/total area (ha)	Boundary length/total boundary length (km)	K_1— similarity to a circular shape	K_2—boundary length to surface ration	Coefficient $K_1 + K_2$
a	Mixed forests	140.33	9.86	2.35	7.03	9.37
b	Mixed forests	39.88	4.99	2.23	12.51	14.74
c	Fresh mixed forests	126	8.26	2.08	6.56	8.63
d + e	Fresh deciduous forests + Fresh mixed forests	375.7	18.15	2.64	4.83	7.47
f	Fresh mixed forests	132.75	11.12	2.72	8.38	11.10
g	Fresh mixed forests	42.71	3.92	1.63	9.18	10.87
h	Mixed forests + fresh deciduous and mixed	695.85	27.98	2.99	4.02	7.01

i	Coniferous forests	52.39	6.34	2.47	12.10	14.57
j	Tree rows, small Anthropogenic forests and thickets	38.45	4.04	1.84	10.51	12.35
k	Tree rows, small Anthropogenic forests and thickets	29.66	3.06	1.59	10.32	11.90
l	Coniferous forests+ fresh coniferous	254.84	21.61	3.82	8.48	12.30
m	Fresh mixed forests +fresh deciduous + fresh coniferous	330.33	14.89	2.31	4.51	6.82
n	Mixed forests + fresh mixed	180.17	11.41	2.40	6.33	8.73
						= 135.87

Table S3. Ecosystems of mosaic-like farmland.

Symbol	Ecosystem type	Patch area/total area (ha)	Boundary length/total boundary length (km)	K_1—similarity to a circular shape	K_2—boundary length to surface ration	Coefficient $K_1 + K_2$
a	Mosaic-type farmland	58.96	6.90	2.53	11.70	14.24
b	Mosaic-type farmland	66.78	4.63	1.60	6.93	8.53
c	Mosaic-type farmland	225.00	16.39	3.08	7.28	10.37
d	Mosaic-type farmland	564.3	40.62	4.82	7.20	12.02
e	Mosaic-type farmland	92.85	8.08	2.37	8.70	11.07
f	Mosaic-type farmland	142.46	10.26	2.42	7.20	9.63
g	Mosaic-type farmland	27.85	3.00	1.60	10.77	12.38
h	Mosaic-type farmland	42.61	4.48	1.94	10.51	12.45
i	Mosaic-type farmland	86.77	7.78	2.36	8.97	11.32
j	Mosaic-type farmland	26.48	3.03	1.66	11.44	13.10
k	Mosaic-type farmland	96.42	7.60	2.18	7.88	10.07
l	Mosaic-type farmland	85.12	8.79	2.69	10.33	13.01
m	Mosaic-type farmland	88.44	4.80	1.44	5.43	6.87
n	Mosaic-type farmland	102.05	8.41	2.35	8.24	10.59
o	Mosaic-type farmland	97.41	5.86	1.67	6.02	7.69
p	Mosaic-type farmland	245	19.49	3.51	7.96	11.47
r	Mosaic-type farmland	44.90	4.84	2.04	10.78	12.82
						= 187.63

Table S4. Large-scale farmland ecosystems.

Symbol	Ecosystem type	Patch area/total area (ha)	Boundary length/total boundary length (km)	K_1—similarity to a circular shape	K_2—boundary length to surface ration	Coefficient $K_1 + K_2$
a	Large-scale farmland	25.38	3.19	1.79	12.57	14.36
b	Large-scale farmland	33.35	4.23	2.07	12.68	14.75
c	Large-scale farmland	1114.00	69.72	5.89	6.26	12.15
d	Large-scale farmland	135.06	1.36	0.33	1.01	1.34
e	Large-scale farmland	43.13	4.56	1.96	10.57	12.53
f	Large-scale farmland	40.23	5.28	2.35	13.12	15.47

g	Large-scale farmland	73.27	8.03	2.65	10.96	13.61
h	Large-scale farmland	52.69	4.07	1.58	7.72	9.31
i	Large-scale farmland	55.05	4.97	1.89	9.03	10.92
j	Large-scale farmland	55.01	4.40	1.67	8.00	9.67
k	Large-scale farmland	57.87	5.9	0.41	2.55	2.97
l	Large-scale farmland	32.49	0.83	0.41	2.55	2.97
m	Large-scale farmland	42.69	4.47	1.93	10.47	12.40
n	Large-scale farmland	55.27	4.33	1.64	7.83	9.48
o	Large-scale farmland	430.80	32.86	4.47	7.63	12.09
p	Large-scale farmland	104.81	6.96	1.92	6.64	8.56
r	Large-scale farmland	234.6	18.72	3.45	7.98	11.43
s	Large-scale farmland	158.38	8.36	1.87	5.28	7.15
t	Large-scale farmland	77.18	6.15	1.97	7.97	9.94
u	Large-scale farmland	171.83	10.57	2.27	6.15	8.43
						= 199.53