

Experiences of habitat mapping in Fertő and Hanság

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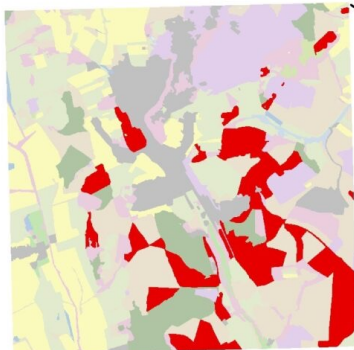
Background

- The National Biodiversity Monitoring System was launched in Hungary in 1997
- Habitat mapping is one of the key elements of the program
- 124 5x5 km squares are being mapped across the country (pseudorandom placement)
- The methodology has become one of the most important elements of the baseline survey of protected and Natura 2000 areas

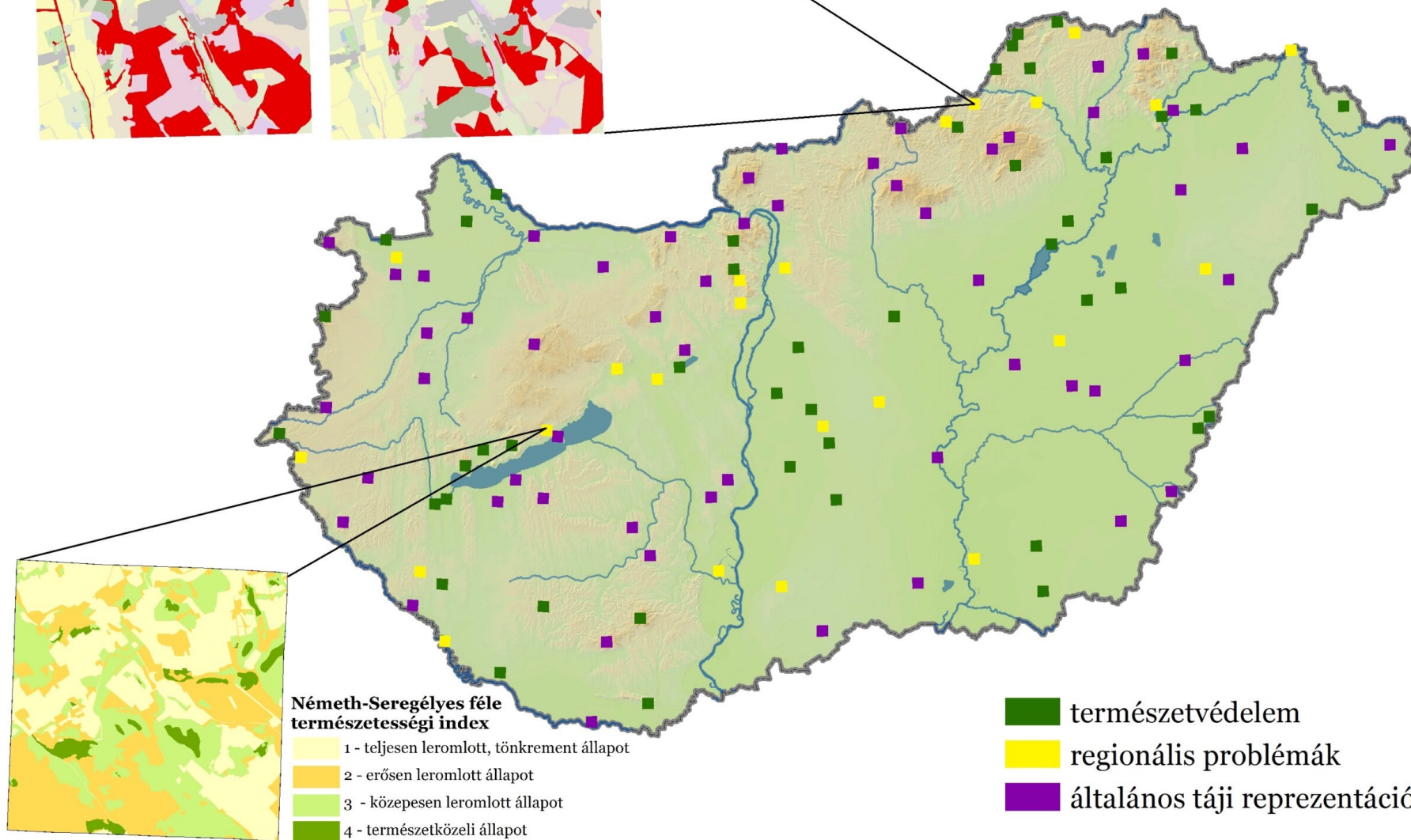


2001

2011



Tölgyesek, Láp- és ligeterdők



Methodology

- Focuses on examining the extent and distribution of habitats
- Standard methodology (2nd edition: Takács and Molnár 2009)
- Standard categories: Á-NÉR (1998), Á-NÉR (2011)
- 1:10000 scale
- Recorded data:
 - Mandatory: Á-NÉR code, naturalness, species list for patches, brief description of patches
 - Optional: degradation symptoms, threatening factors
- Photos



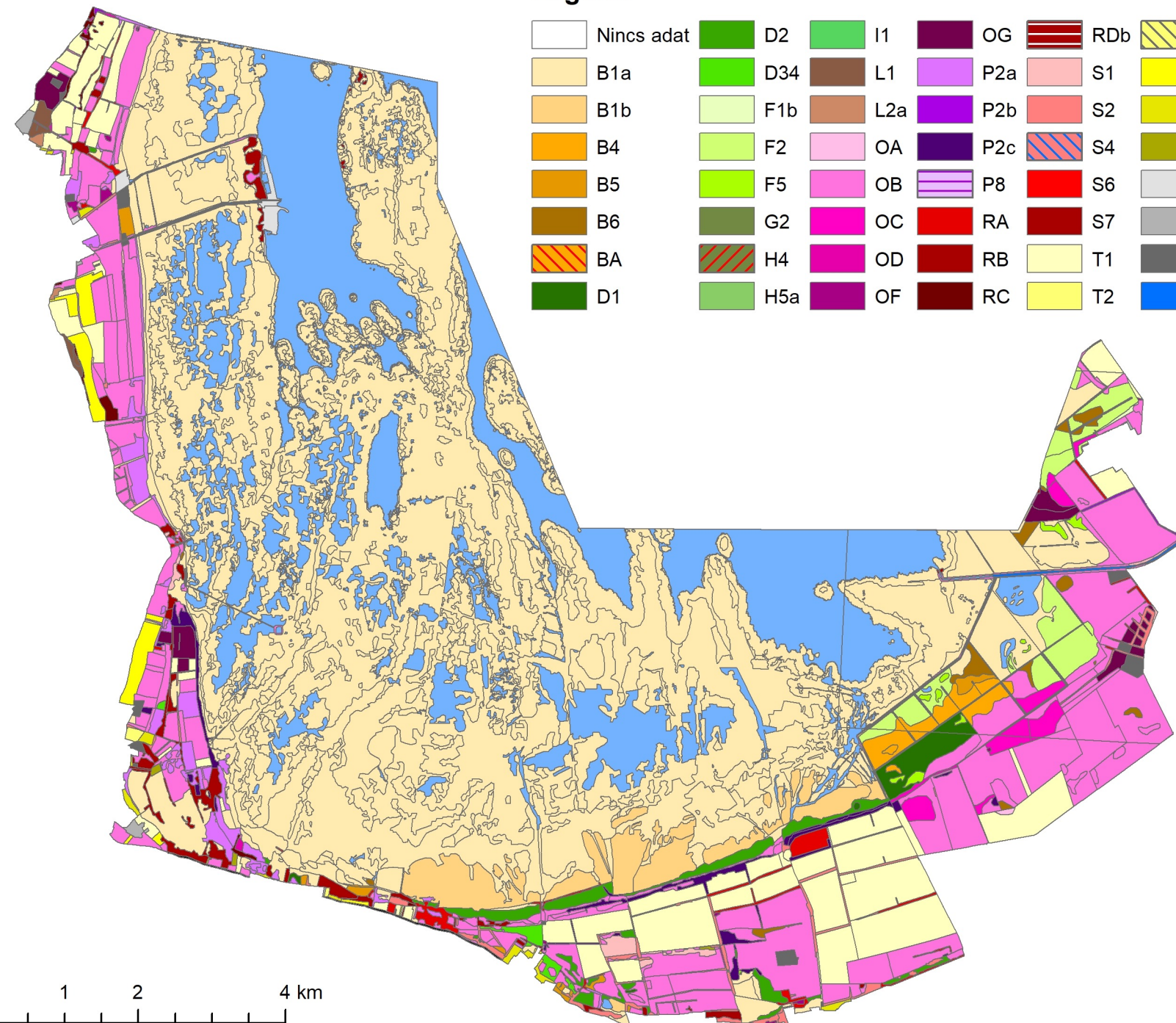
Fertő

- Survey years: 1998 (partial area), 2008, 2017, 2023
- Mappers: Dr. Gergely Király, Keszei Balázs & Gábor Takács
- Mapped area: HUFH20002 Fertő SAC
- Area covered: ~11,300 ha

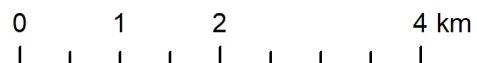


Legend

Nincs adat	D2	I1	OG	RDb	T3	U9
B1a	D34	L1	P2a	S1	T7	U9Nszik
B1b	F1b	L2a	P2b	S2	T9	U10
B4	F2	OA	P2c	S4	T11	U11
B5	F5	OB	P8	S6	U2	
B6	G2	OC	RA	S7	U3	
BA	H4	OD	RB	T1	U4	
D1	H5a	OF	RC	T2	U8	

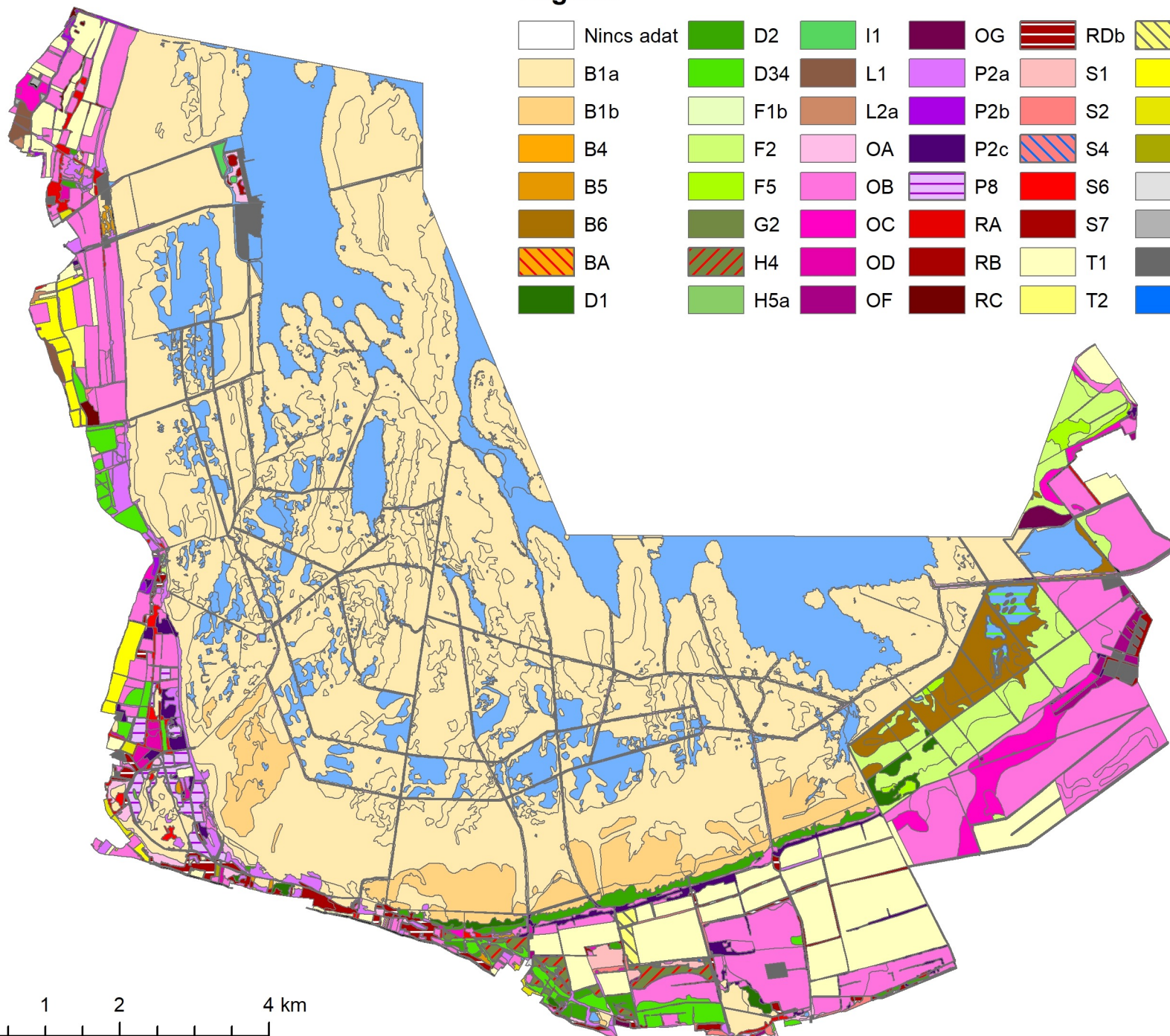


2008

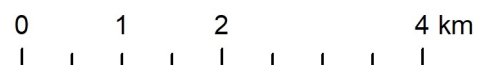


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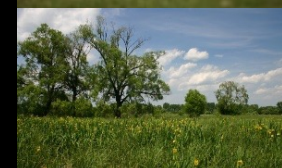


2023

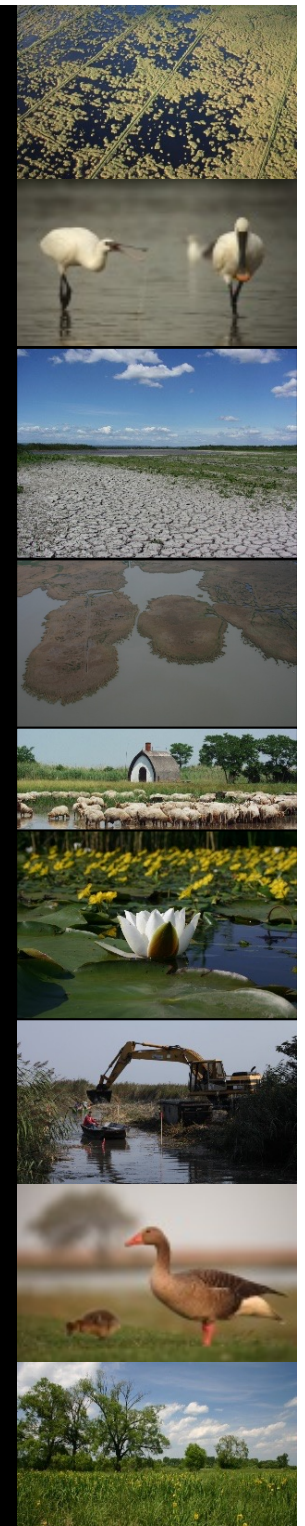
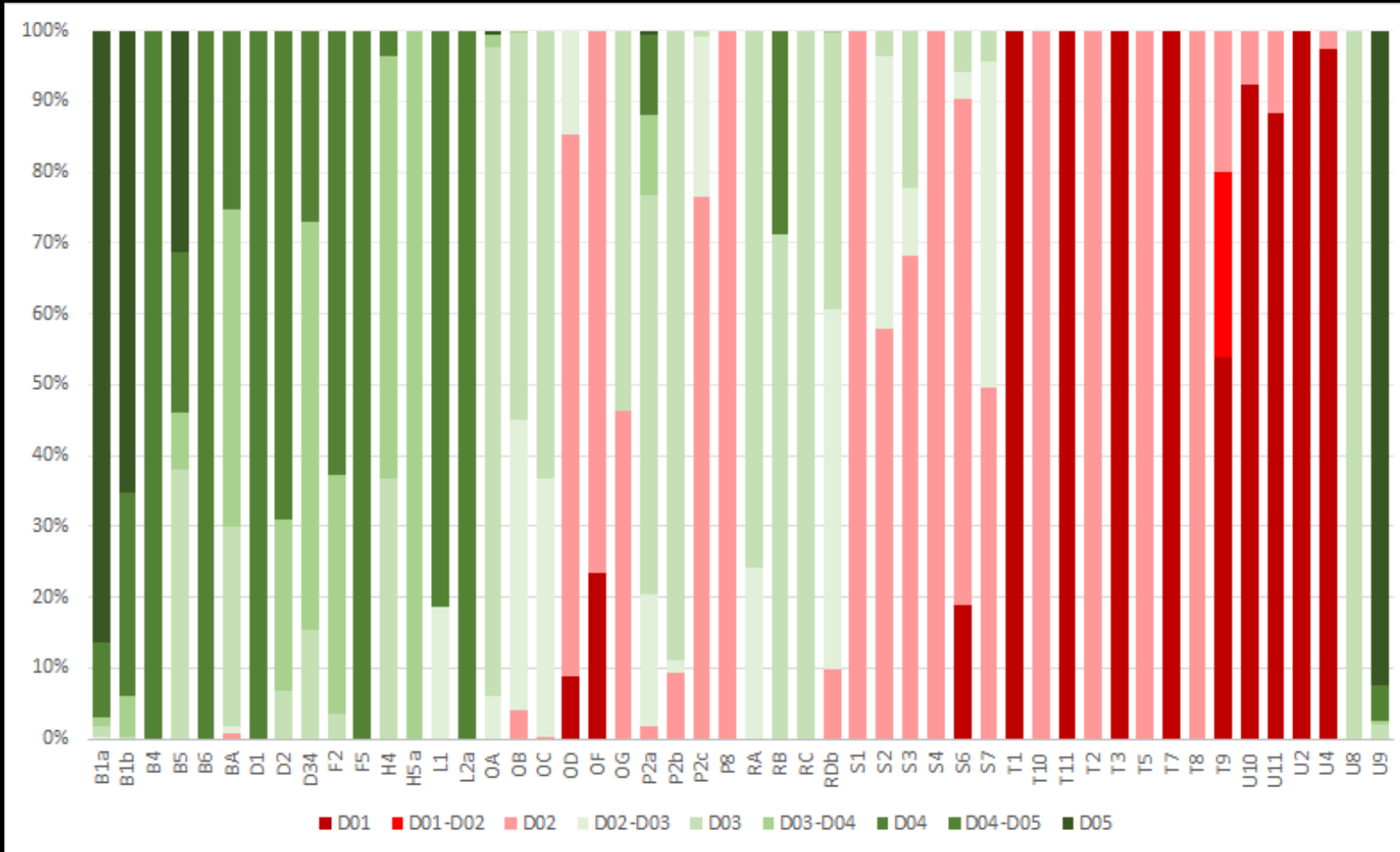


Fertő – Changes of habitats

Élőhelycsoport	2008		2023	
	ha	%	ha	%
Reed beds and marshes (B1a, B1b, B5, B6, BA, I1)	5974,01	52,79	6028,03	53,35
Wet grasslands (D1, D2, D34)	167,20	1,48	229,12	2,03
Alkaline grasslands (F2, F5)	178,17	1,57	310,33	2,75
Open dry grasslands (H5a)	0,03	0,00		
Closed dry grasslands (H4)	0,17	0,00	50,45	0,45
Light-rich oak forests and forest-grassland mosaics (I1, L2a)	17,30	0,15	18,97	0,17
Scrublands and edges (P2a, P2b, P2c)	195,34	1,73	238,41	2,11
Other treeless habitats (OA, OB, OC, stb.)	1545,91	13,66	1447,71	12,81
Other forests and wooded habitats (RA, RB, RC, RDb)	121,42	1,07	139,54	1,24
Planted forest plantations and their derivatives (S1, S2 stb.)	158,67	1,40	98,42	0,87
Agricultural habitats (T1, T2, T3, T7, T9)	856,04	7,56	793,14	7,02
Waters (U8, U9)	2029,60	17,94	1826,76	16,17
Other habitats (U2, U3, U4, U10, U11)	72,00	0,64	118,06	1,03
Summary	11315,86	100,00	11298,90	100,00



Fertő - Naturalness



2023

Fertő – Natura 2000 habitats

Kód	Név	SDF (2004)	2017 (ha)	2023 (ha)
1530*	Pannon szikesek	217,38	567,94	715,72
3150	Eutróf sekély tavak és holtmedrek hínárja	1078	2890,69	2903,98
3160	Láptavak	911	1,34	1,34
6190	Pannon sziklagyepek	0,03	0,34	0,34
6210	Szálkaperjés-rozsnokos xero-mezofil gyepek	-	55,27	54,93
6250*	Síksági pannon löszsztyepppek	0,17	0,31	0,29
6410	Kékperjés láprétek	95,5	81,66	82,14
6440	Ártéri mocsárrétek	252,77	283,33	290,35
7210*	Télisásosok	276	546,39	546,39
7230	Mészkedvelő (meszes talajú) üde láp- és sásrétek	122,23	134,11	38,11
91E0*	Puhafás ligeterdők, éger- és kőrisligetek, láperdők		12,35	15,25
91H0*	Pannon molyhos tölgyesek	13,63	15,54	15,54
91M0	Pannon cseres-tölgyesek	3,67	3,43	3,43



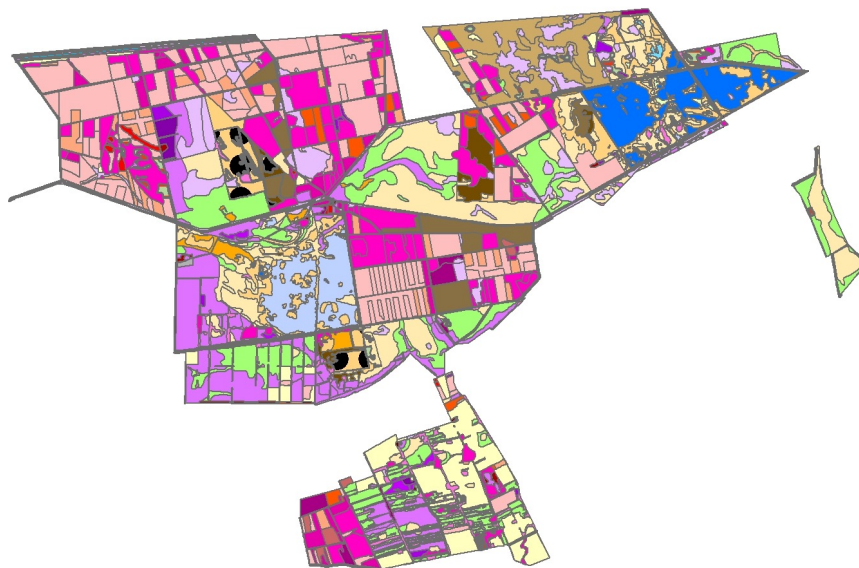
Hanság

- Survey year:
 - 1998 (partial area)
 - 2000, 2008 North-Hanság
 - 2005 Tóköz
 - 2017, 2022 Hanság + Tóköz
- Mappers: Dr. Gergely Király, Balázs Keszei & Gábor Takács
- Mapped area: HUFH30004 Hanság SAC+SPA
- Area covered: 13547 ha



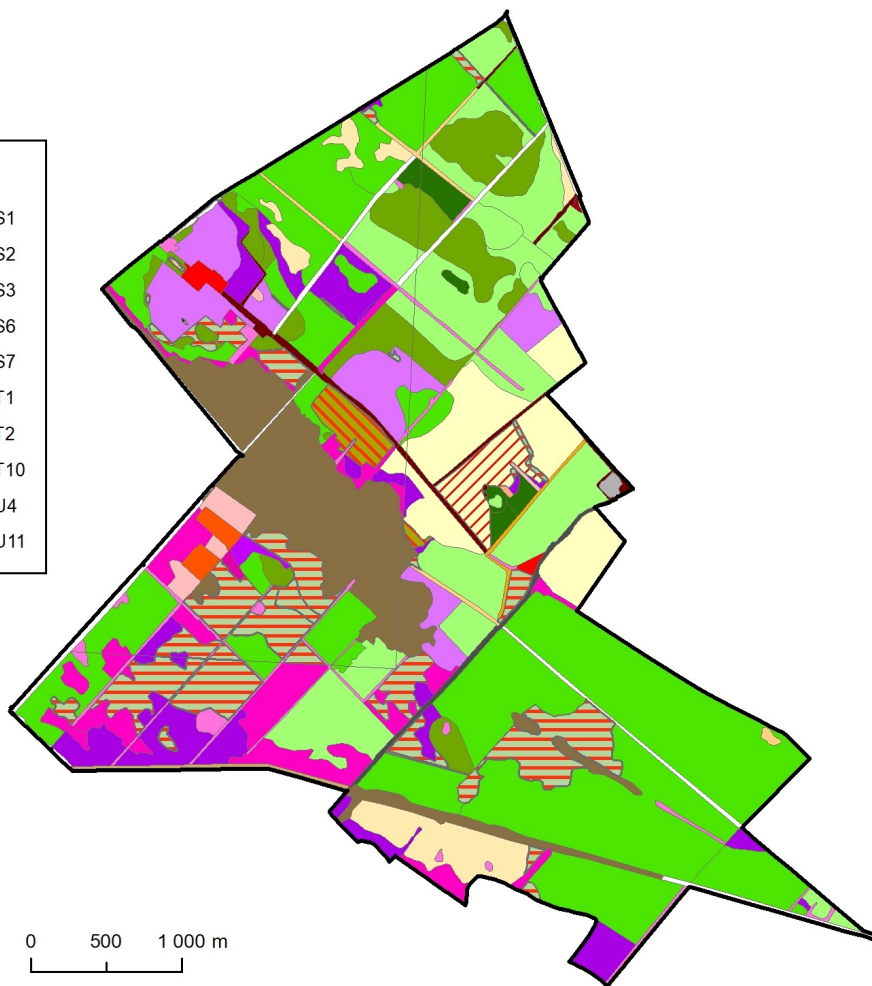
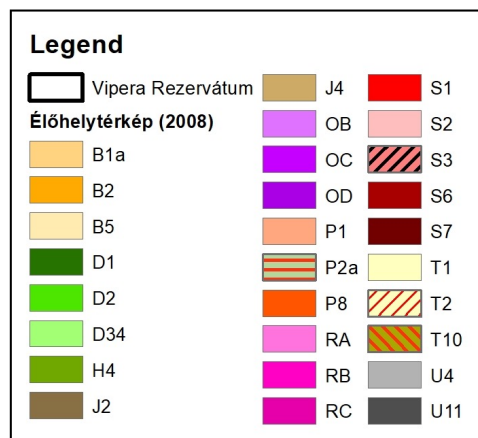
Legend

	A24		D2		K1a		P2c		S3		U10
	Ac		D34		OA		P8		S4		U11
	B1a		H4		OB		RA		S6		U8
	B1b		I1		OC		RB		S7		U9
	B2		J1a		OD		RC		T1		U9 (láp)
	B5		J2		OF		RDd		T2		
	BA		J4		P1		S1		U3		
	D1		J6		P2a		S2		U4		



0 1 2 4 km

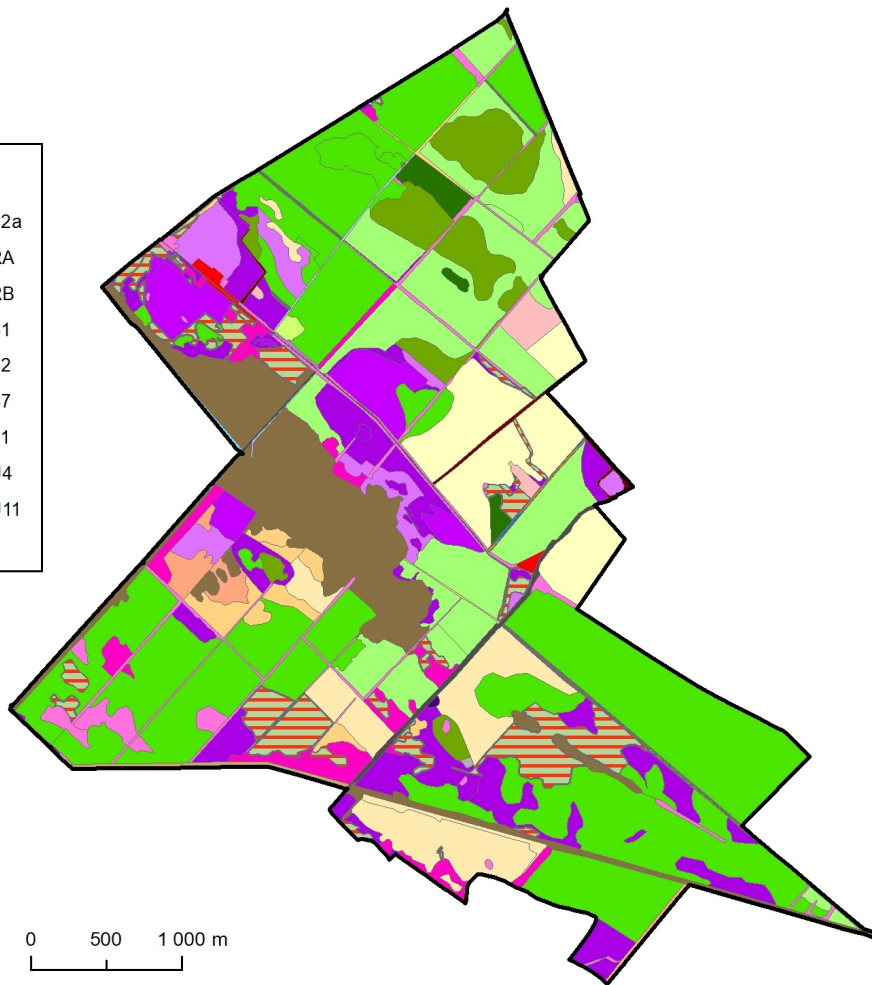
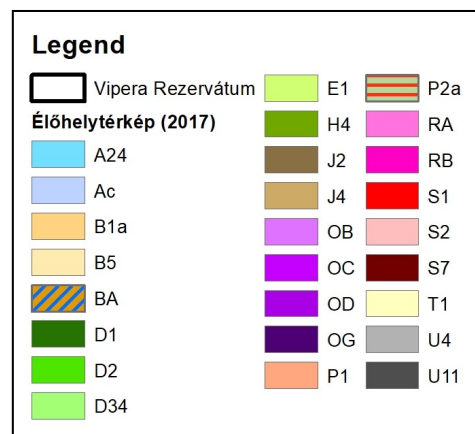
Changes on Viper Reserve



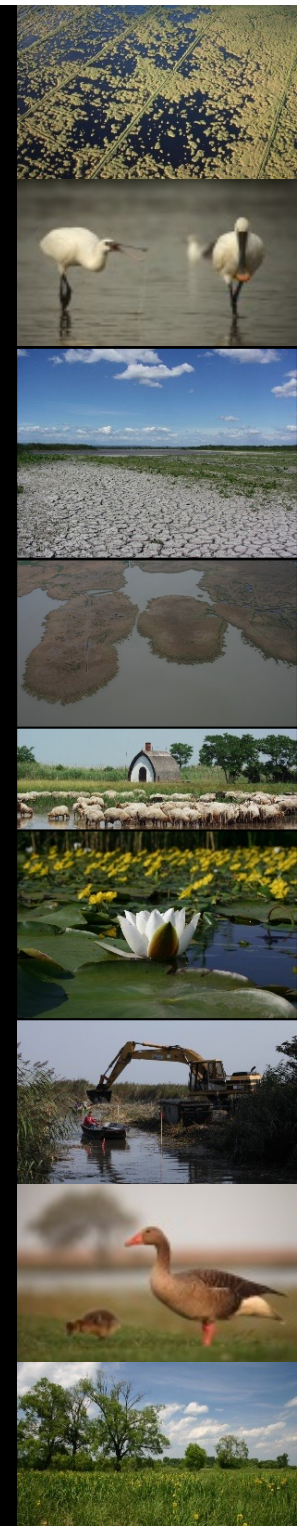
0 500 1 000 m



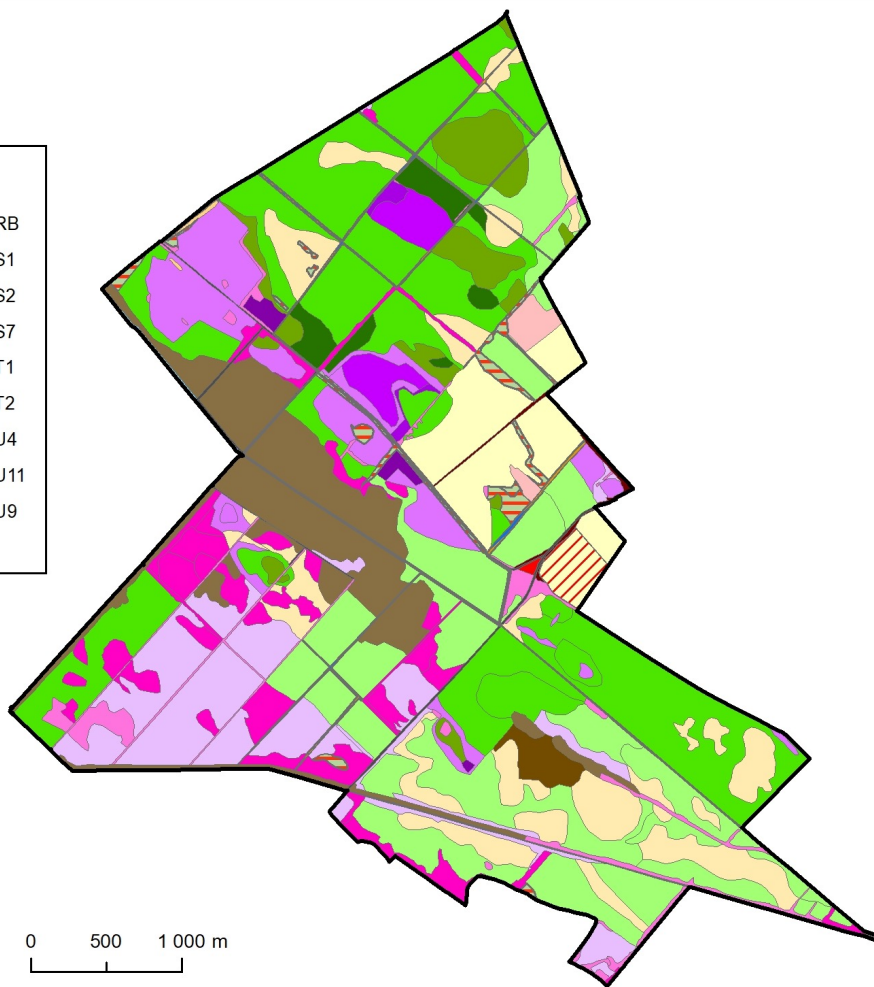
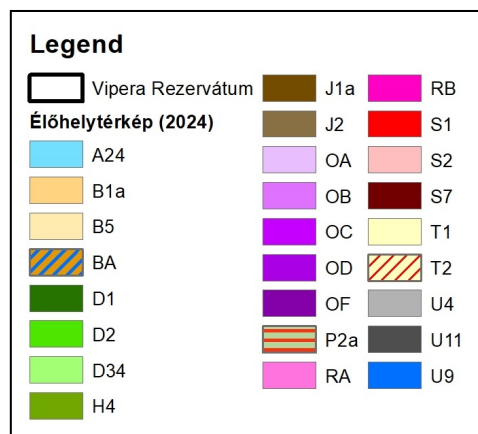
Changes on Viper Reserve



0 500 1 000 m



Changes on Viper Reserve



0 500 1 000 m



Conclusions

- Habitat maps provide important and detailed information about the general condition of areas
- The data can be used effectively when studying habitat-dependent animal species
- They are essential for planning management measures (nature conservation, forest planning)
- Landscape changes can be well documented
- The effects of management measures can be better assessed through targeted examination of sample points



Conclusions

- The acquisition/preparation of aerial photographs used as the basis for mapping is expensive
- There are few high-quality botanical experts who can work to deadlines
- The methodology and category system do not rule out subjectivity – review in progress!
 - Inclusion of remote sensing in the methodology
 - Expansion of recorded data (more time, more money)
 - Training of experts
- The methodology for evaluation and change monitoring needs to be reviewed - review in progress!



A photograph of a calm body of water, possibly a marsh or pond. In the foreground, there are several dead, brown reeds or grasses floating in the water. A single, tall, dead tree trunk stands vertically in the middle ground, its reflection clearly visible in the still water. To the left, there is a small cluster of green trees and bushes. The background is a clear blue sky with a few wispy white clouds. A semi-transparent grey rectangular box is overlaid in the center of the image, containing the text "Thank you for your attention!" in white, bold, sans-serif font.

**Thank you for your
attention!**