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Epidemiological situation of African swine fever and proposal for decreasing the infected and high risk areas in some counties of Hungary

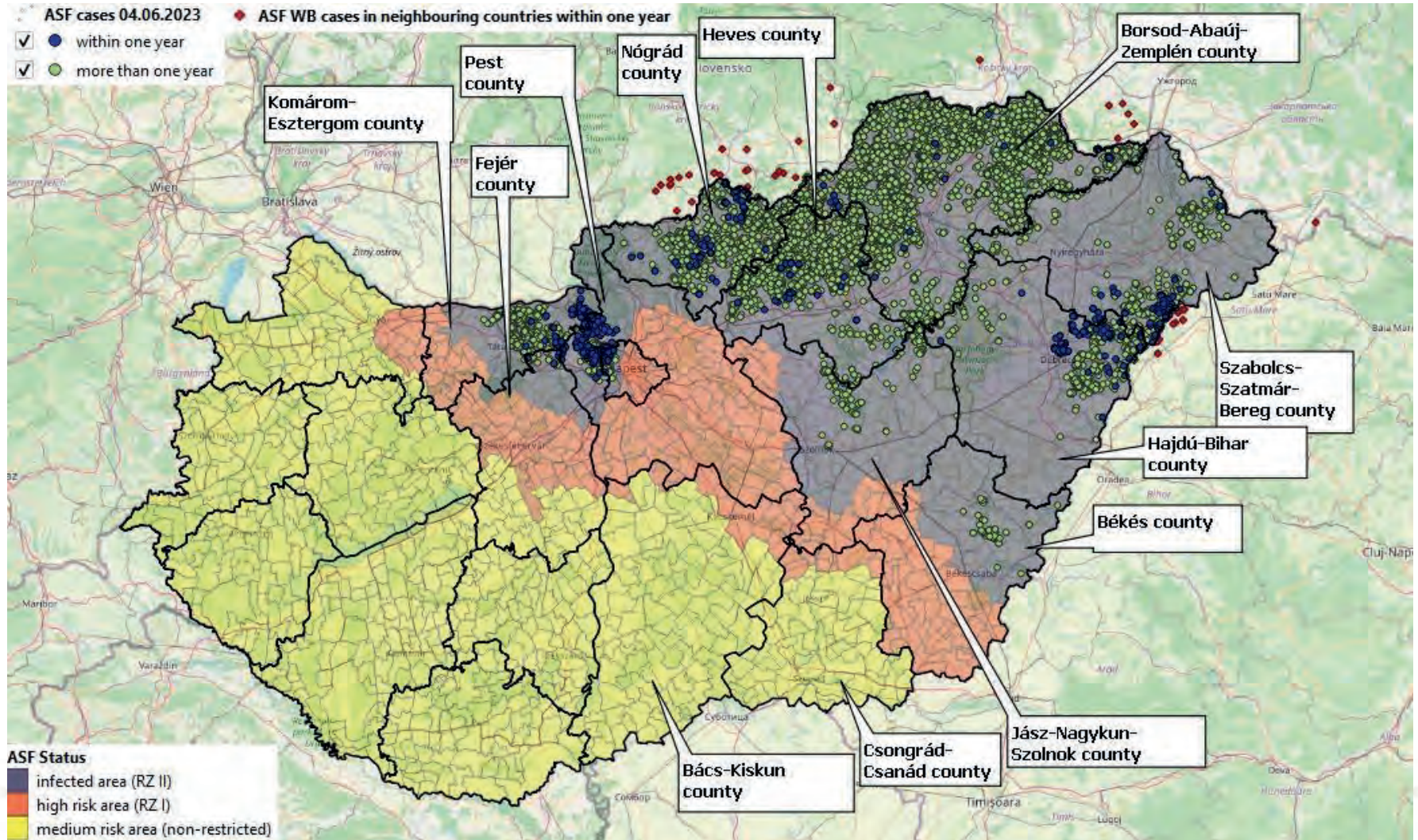
Meeting of the Standing Committee of Plants, Animals, Food and Feed

21st June, 2023



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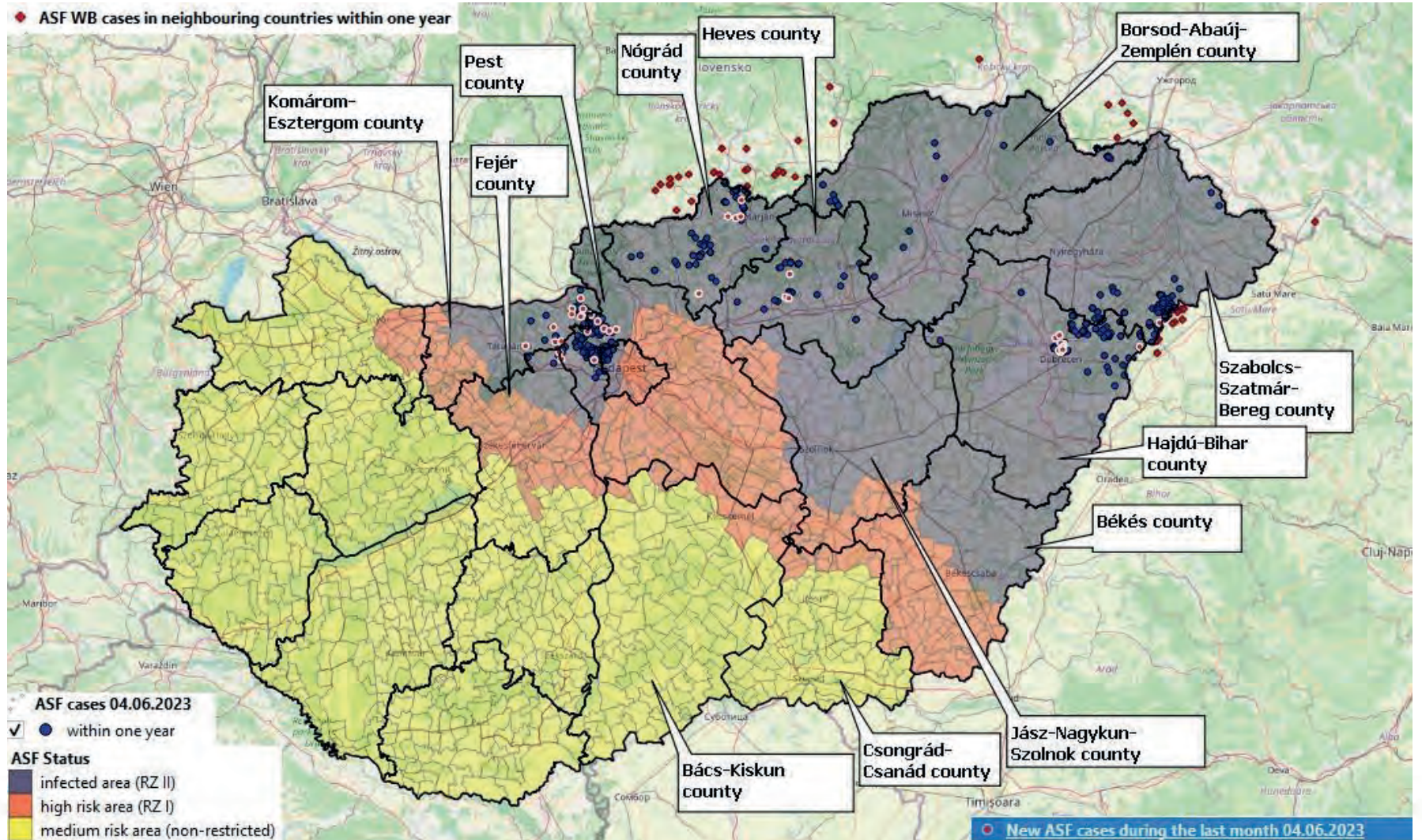
Current situation - ASF in wild boars in Hungary, all cases & cases close to HU





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Current situation - ASF in wild boars in Hungary, cases within one year



Counties infected with ASF in Hungary, the first and last cases (in wild boar)

County (in order of confirmation)	First case		Last case	
	Date	Category	Date	Category
Heves	21.04.2018.	Found dead	---	---
Szabolcs-SZ-B	16.05.2018.	Found dead	---	---
Borsod-A-Z	02.10.2018.	Shot (decrease popul.)	---	---
Nógrád	28.10.2018.	Found dead	---	---
Hajdú-Bihar	29.04.2019.	Found dead	---	---
Jász-N-SZ (1 st wave)	30.08.2019.	Found dead	21.11.2020.	Found dead
Pest (1 st wave)	28.09.2019.	Found dead	23.07.2020.	Found dead
Békés	09.12.2019.	Found dead	06.07.2020.	Found dead
Komárom-E	15.02.2020.	Found dead	---	---
Fejér	10.08.2021.	Found dead	---	---
Pest (2 nd wave)	23.10.2021.	Shot (decrease popul.)	---	---
Jász-N-SZ (2 nd wave)	28.01.2022.	Found dead	28.01.2022.	Found dead

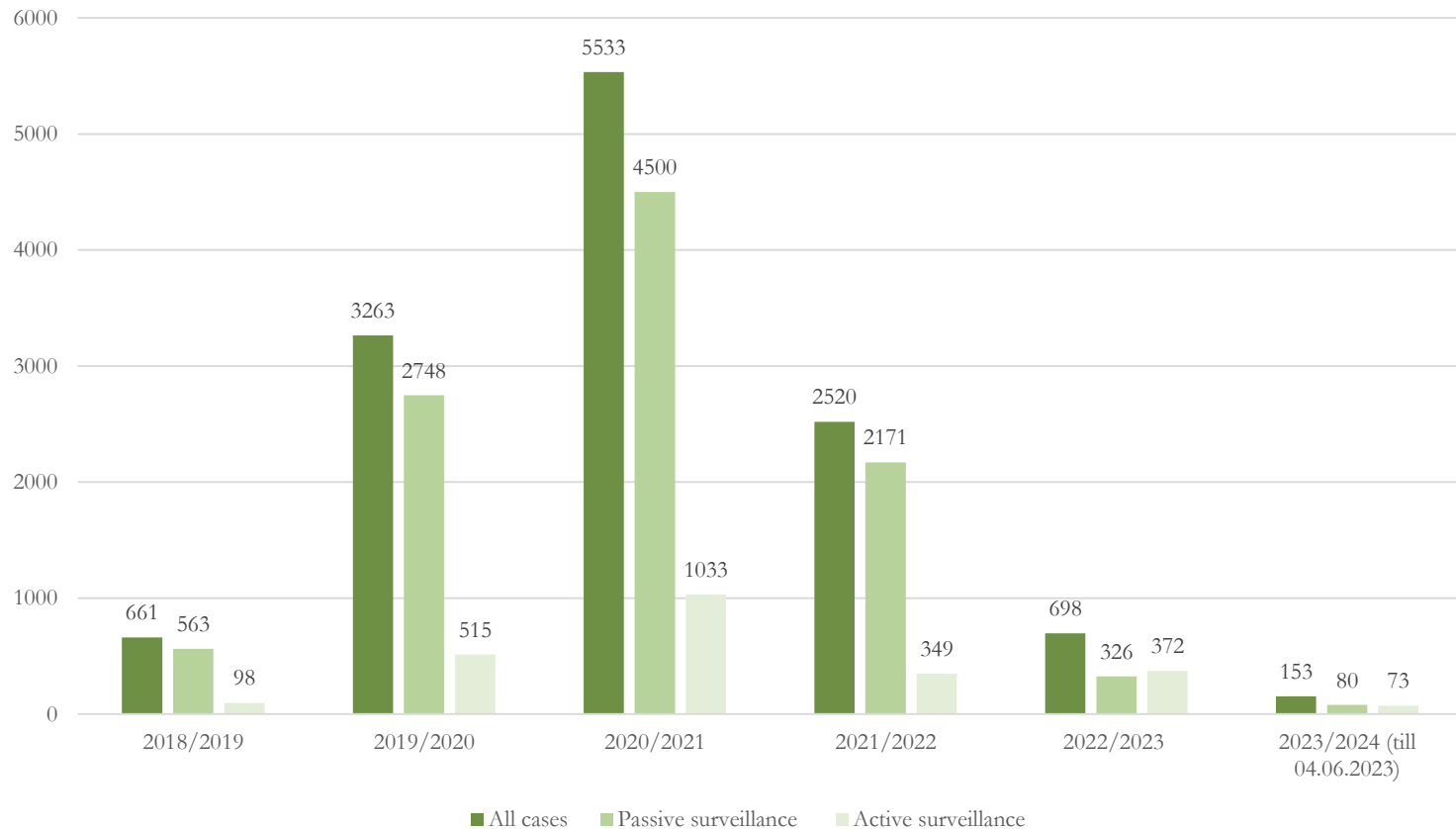
Table of all wild boar ASF cases till 04.06.2023

County	Passive surveillance		Active surveillance	All cases	Passive surv. %
	Total	Found dead			
Békés	108	107	12	120	90,00
Borsod-A-Z	5326	5285	795	6121	87,01
Fejér	39	39	5	44	88,64
Hajdú-Bihar	407	396	224	631	64,50
Heves	1909	1893	456	2365	80,72
Jász-N-K	154	149	26	180	85,56
Komárom-E	508	496	180	688	73,84
Nógrád	1068	1068	379	1447	73,81
Pest	347	312	192	539	64,38
Szabolcs-Sz-B	522	514	171	693	75,32
HU total	10388	10259	2440	12828	80,98

ASF cases in Hungary by hunting year, until 04.06.2023

Hunting year	Passive surveillance		Active surveillance	All cases	Passive surv. %
	Total	Found dead			
2018/2019.	563	553	98	661	86,17
2019/2020.	2748	2703	515	3263	84,22
2020/2021.	4500	4464	1033	5533	81,33
2021/2022.	2171	2156	349	2520	86,15
2022/2023.	326	308	372	698	46,70
2023/2024 (until 04.06.2023)	80	75	73	153	52,29
Total so far	10388	10259	2440	12828	80,98

ASF cases in wild boars in Hungary in the last 5 hunting years and the current hunting year



ASF surveillance system in wild boars

- Virological test (PCR) conducted
- Enhanced passive surveillance:
 - All wild boars found dead
 - All road-killed wild boars
 - All wild boars shot for displaying clinical symptoms
- Active surveillance: clinically healthy wild boars shot for decreasing the population of during hunts
 - All such wild boars in RZ I (high-risk) and RZ II (infected)
 - 10% prevalence / 95% confidence detection in medium-risk area



Whole
country

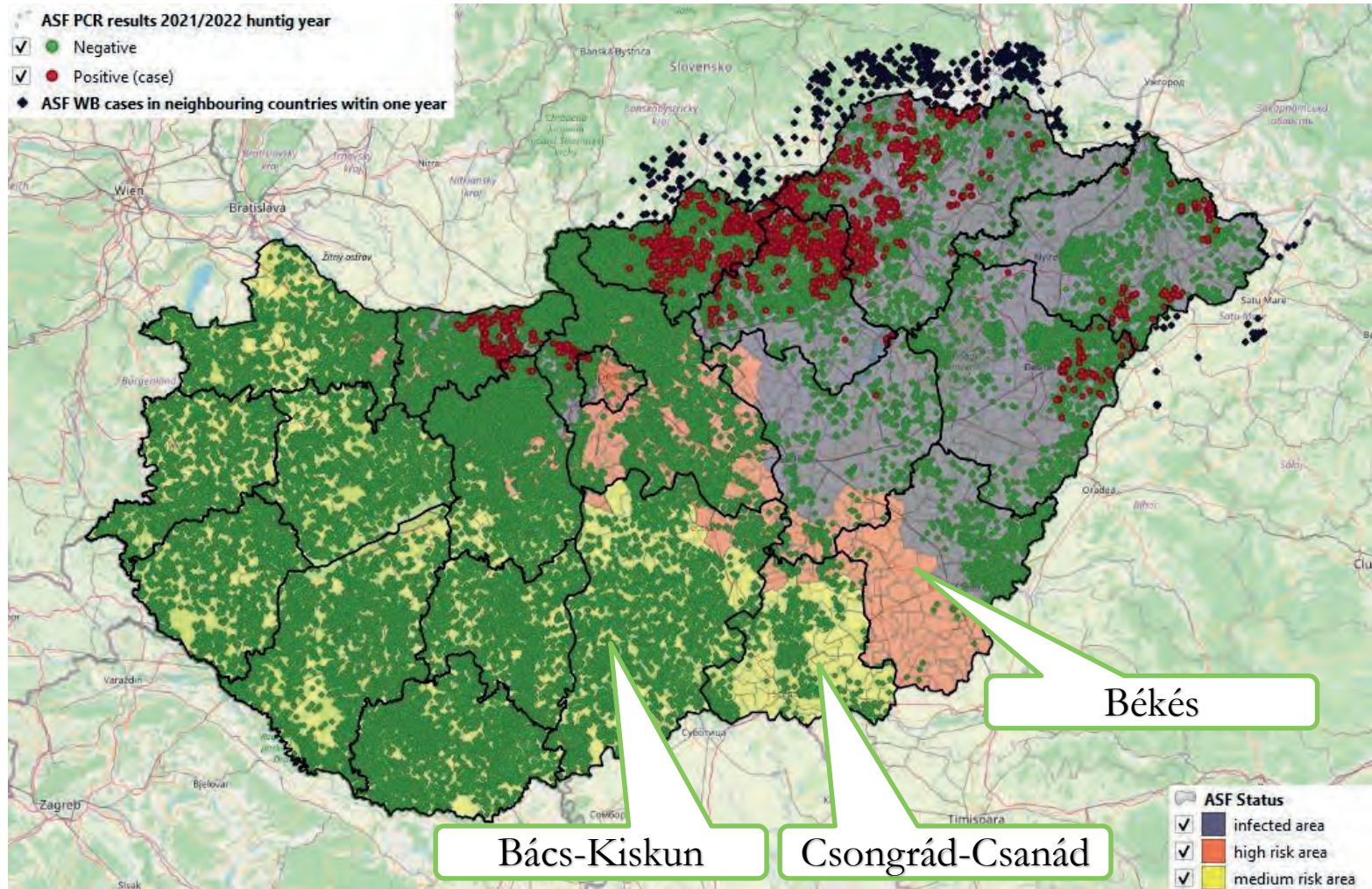
Results of PCR tests for detection of ASF in the 2021/2022. hunting year by counties

County	Passive surveillance				Active surveillance		Total	
	All passive		Found dead		Negative	Positive (case)	Negative	Positive (case)
	Negative	Positive (case)	Negative	Positive (case)				
Bács-Kiskun	7	0	4	0	2423	0	2430	0
Békés	22	0	21	0	1234	0	1256	0
Borsod-A-Z	218	803	204	799	1590	85	1808	888
Csongrád-Cs	4	0	1	0	922	0	926	0
Fejér	78	10	39	10	7323	2	7401	12
Hajdú-Bihar	51	85	42	85	1912	29	1963	114
Heves	159	488	152	487	2082	79	2241	567
Jász-N-K	8	1	4	1	911	0	919	1
Komárom-E	165	218	125	217	7576	27	7741	245
Nógrád	232	444	219	444	7351	81	7583	525
Pest	287	32	219	26	14099	16	14386	48
Szabolcs-Sz-B	52	90	43	87	2536	30	2588	120
Other counties	479	0	331	0	13122	0	13601	0
HU total	1762	2171	1404	2156	63081	349	64803	2520



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Results of PCR tests for detection of ASF in the 2021/2022. hunting year by counties



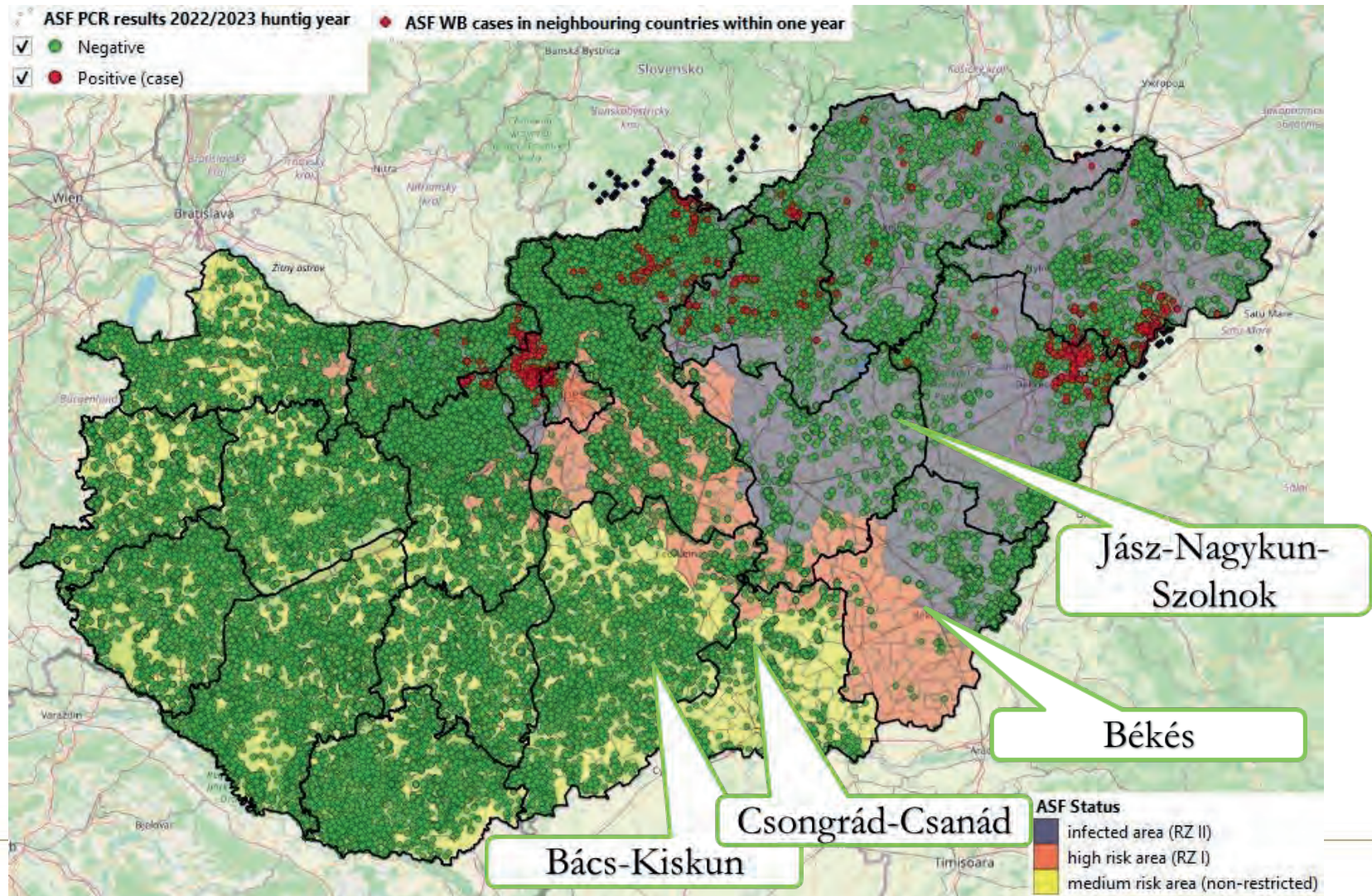
Results of PCR tests for detection of ASF in the 2022/2023 hunting year by counties

County	Passive surveillance				Active surveillance		Total	
	All passive		Found dead		Negative	Positive (case)	Negative	Positive (case)
	Negative	Positive (case)	Negative	Positive (case)				
Bács-Kiskun	7	0	4	0	2372	0	2379	0
Békés	12	0	12	0	1125	0	1137	0
Borsod-A-Z	91	32	78	32	2118	16	2209	48
Csongrád-Cs	8	0	5	0	733	0	741	0
Fejér	56	28	27	28	5926	1	5982	29
Hajdú-Bihar	26	71	21	70	1743	76	1769	147
Heves	68	42	54	42	2118	15	2186	57
Jász-N-K	9	0	5	0	937	0	946	0
Komárom-E	92	9	58	8	5857	35	5949	44
Nógrád	134	32	118	32	7469	53	7603	85
Pest	231	78	156	62	11645	118	11876	196
Szabolcs-Sz-B	41	34	37	34	2869	58	2910	92
Other counties	413	0	284	0	12421	0	12834	0
HU total	1188	326	859	308	57333	372	58521	698



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Map about the results of PCR tests in the 2022/2023. hunting year by counties





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Results of PCR tests for detection of ASF in the 2023/2024 hunting year by counties until
04.06.2023

County	Passive surveillance				Active surveillance		Total	
	All passive		Found dead		Negative	Positive (case)	Negative	Positive (case)
	Negative	Positive (case)	Negative	Positive (case)				
Bács-Kiskun	1	0	1	0	941	0	942	0
Békés	3	0	3	0	259	0	262	0
Borsod-A-Z	8	6	6	6	559	0	567	6
Csongrád-Cs	0	0	0	0	180	0	180	0
Fejér	3	1	2	1	1333	2	1336	3
Hajdú-Bihar	7	16	7	16	385	22	392	38
Heves	13	5	9	5	516	1	529	6
Jász-N-K	2	0	2	0	223	0	225	0
Komárom-E	28	16	20	12	901	19	929	35
Nógrád	15	7	15	7	885	5	900	12
Pest	40	13	33	12	1672	18	1712	31
Szabolcs-Sz-B	11	16	10	16	822	6	833	22
Other counties	87	0	66	0	3060	0	3147	0
HU total	218	80	174	75	11736	73	11954	153



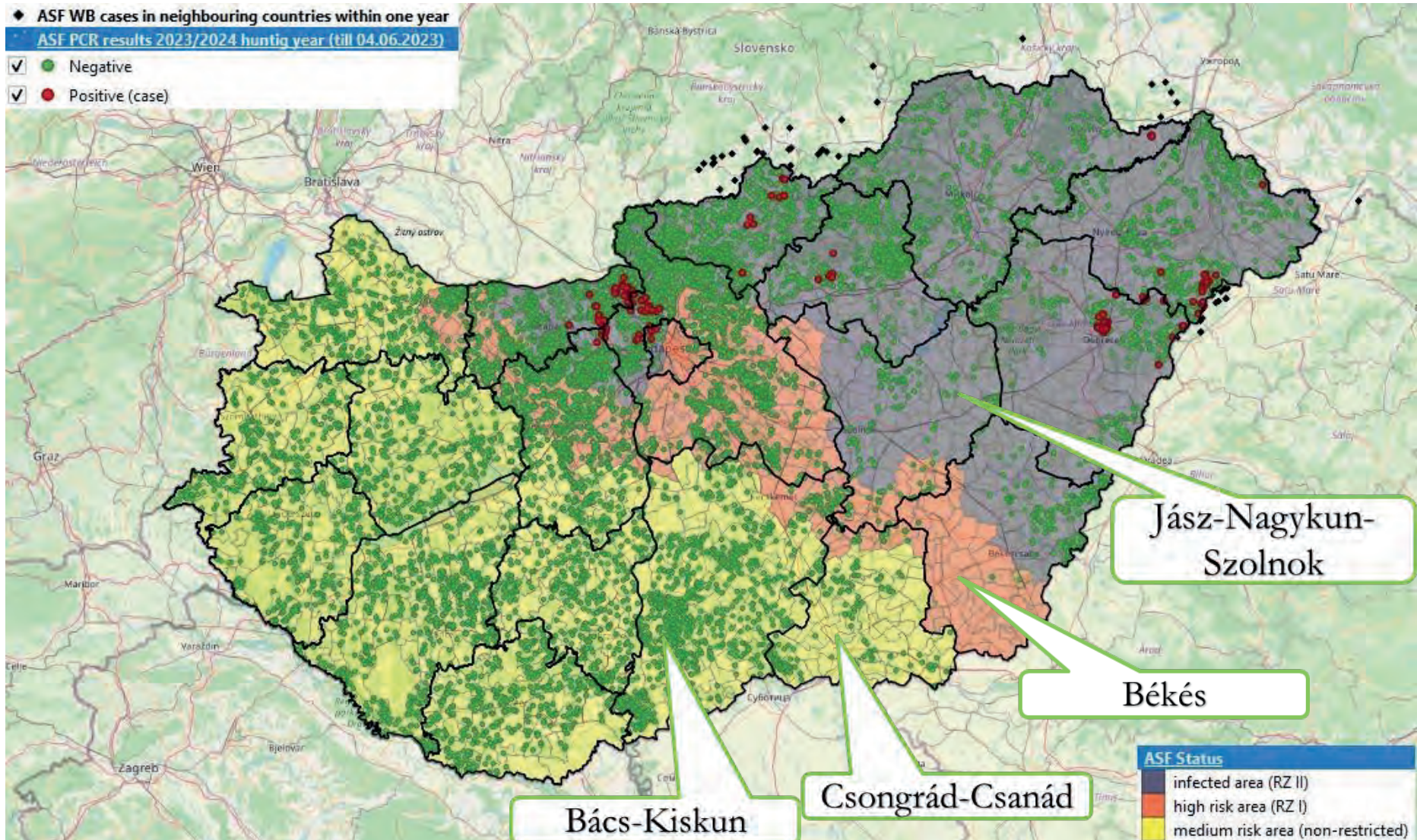
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Map about the results of PCR tests in the 2023/2024. hunting year by counties until 04.06.2023

◆ ASF WB cases in neighbouring countries within one year

ASF PCR results 2023/2024 hunting year (till 04.06.2023)

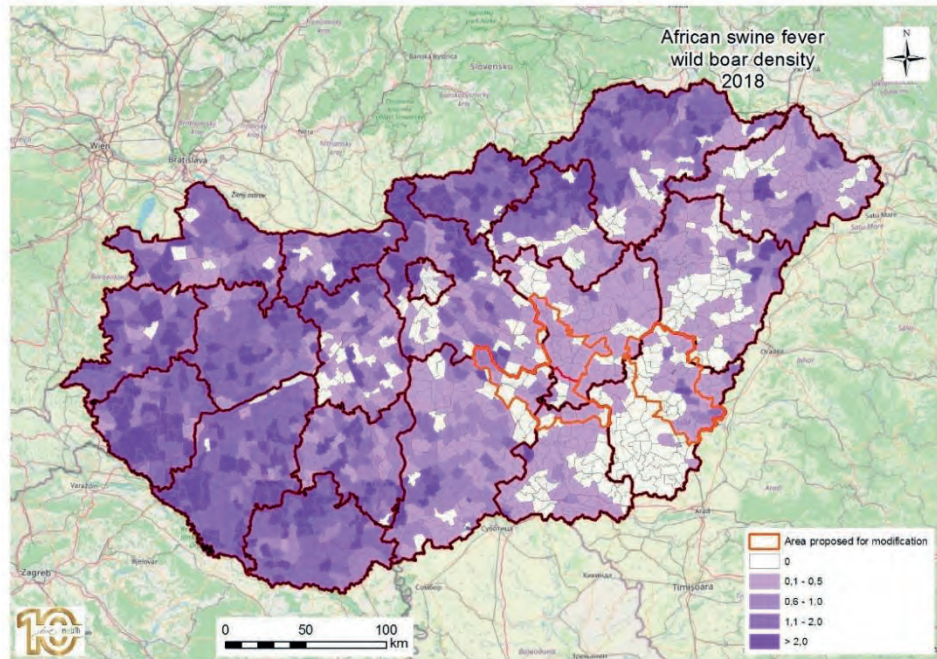
- ✓ ● Negative
- ✓ ● Positive (case)



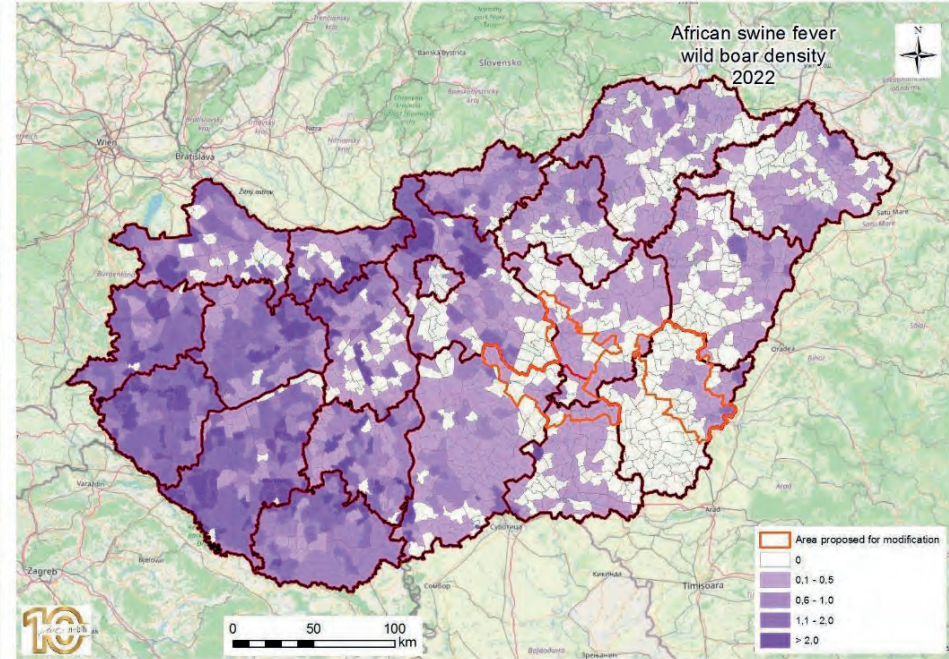


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Maps about the density of wild boars in February 2018 and 2022



2018

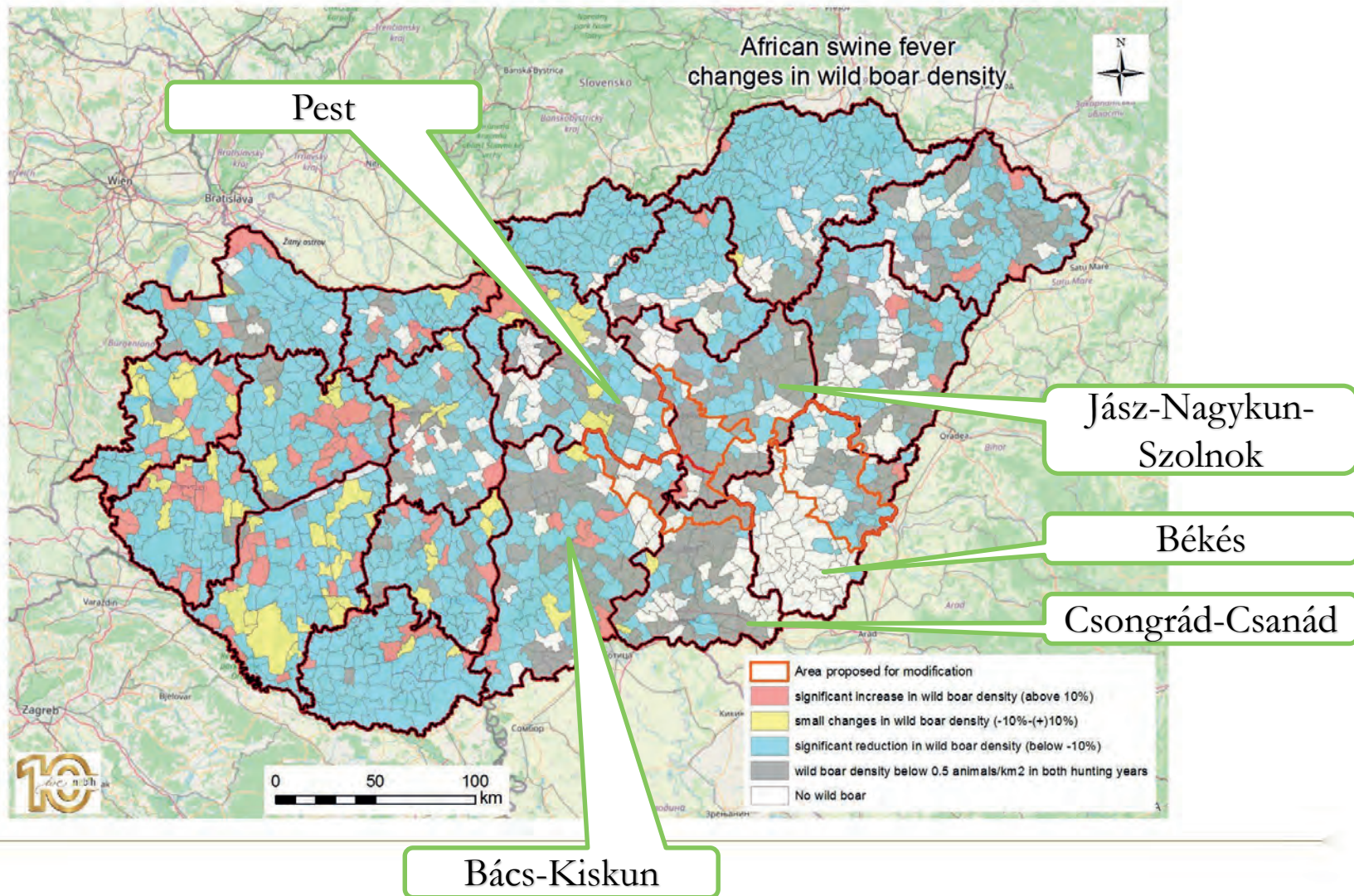


2022



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Map about the change in density of wild boars between February 2018 and 2022





Risk-analysis system for ASF I.

- Set up in February 2018 by the Risk-Analysis Taskforce of the National CSF and ASF Expert Group
- Comprised of two levels: technical (first) and expert (second)
- Effectiveness of risk-analysis:
 - Over 99% of all confirmed wild boar cases up until the 4th June, 2023 occurred within the infected area
 - Starting from the 10th December, 2019, all confirmed wild boar cases occurred within the infected area

Risk-analysis system for ASF II.

Technical (first) level

- Identification of GMUs of particular risk (infected), high risk and medium risk with an own algorithm (operable in R)
 - Identification procedure is based on: wild-boar population density of the GMU; as well as distance from wild boar outbreaks occurring in Hungary and on territories of neighbouring countries close to the Hungarian border within one year
 - Visualization: QGIS software
-

Risk-analysis system for ASF III.

Expert (second) level

- Final decision: Expert Group – factoring in other important elements, such as
 - Effective barriers (natural and artificial)
 - Epidemiological information (special emphasis on newer occurrences)
 - Geographical location (compared to older cases)
 - Distance from the border of RZ I and RZ II

Updating

- New risk-assessment after any substantial change in the epidemiological situation

Modification of the system

- If experiences indicate so

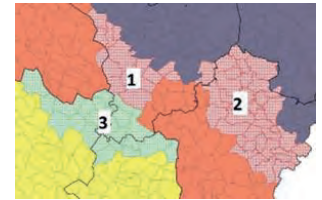


Principles of decreasing the size of areas of RZ I and RZ II

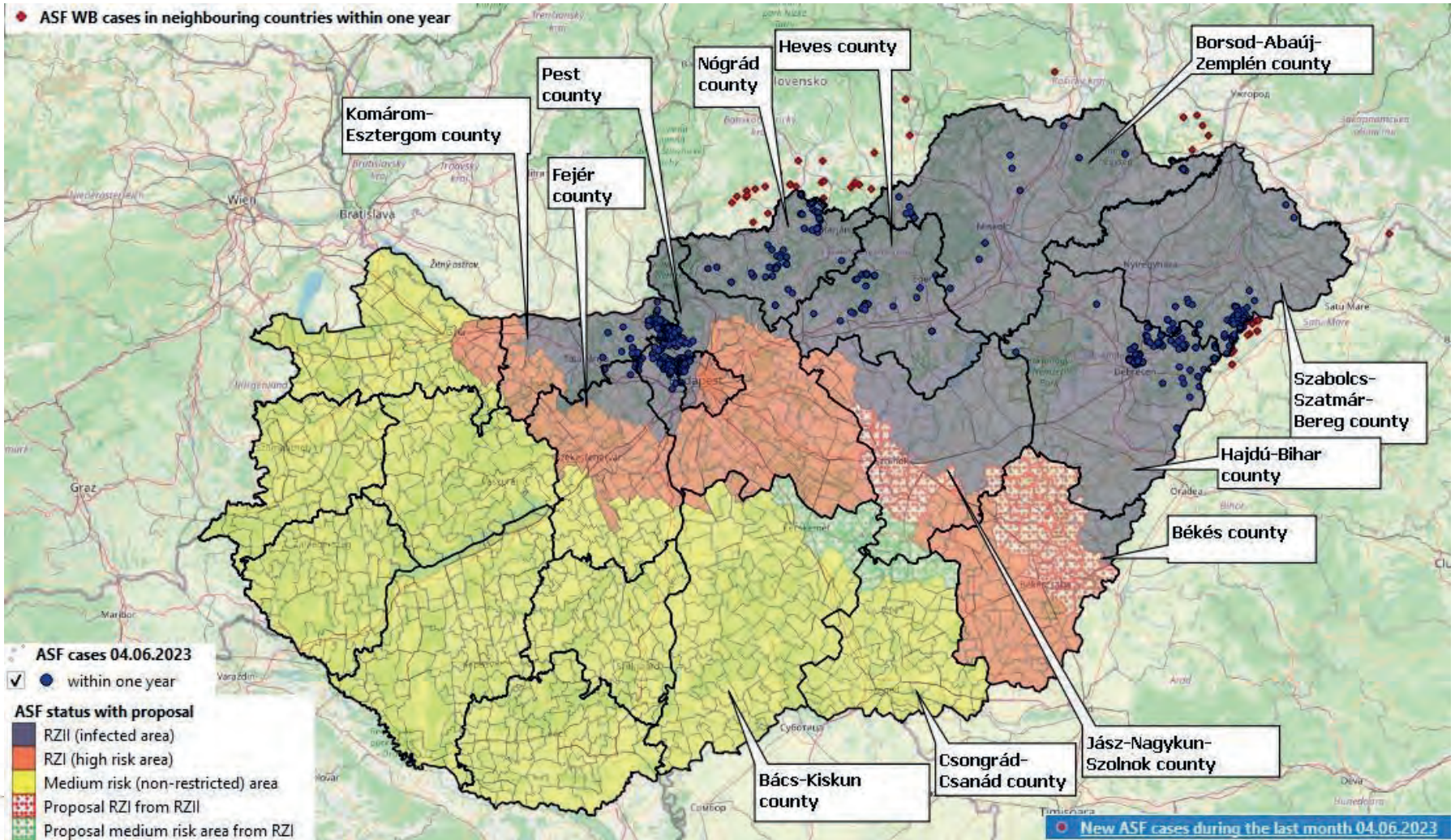
- According to the risk assessment (based on the occurrences of the past year), the GMU does no longer belong to the infected or high-risk category
- PCR during the previous six months: at least as many negative test from wild boars shot to decrease the population and/or found dead that is expected in accordance with its risk-category (infected or high-risk) and estimated wild boar-population
- In case of a wild boar from the territory which was shot due to clinical symptoms or victim of road-kill: negative PCR
- Infected area: GMU is neither part of the strictly restricted area nor is it adjacent to any such GMUs
- Special requirements for the minimum number of the negative PCR tests: contiguous area of five or more GMUs; GMU with extremely low wild-boar population (10 or less animals)



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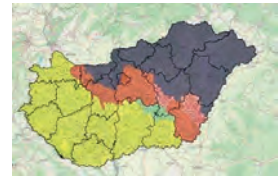


Decrease proposal of the National Expert Group – country

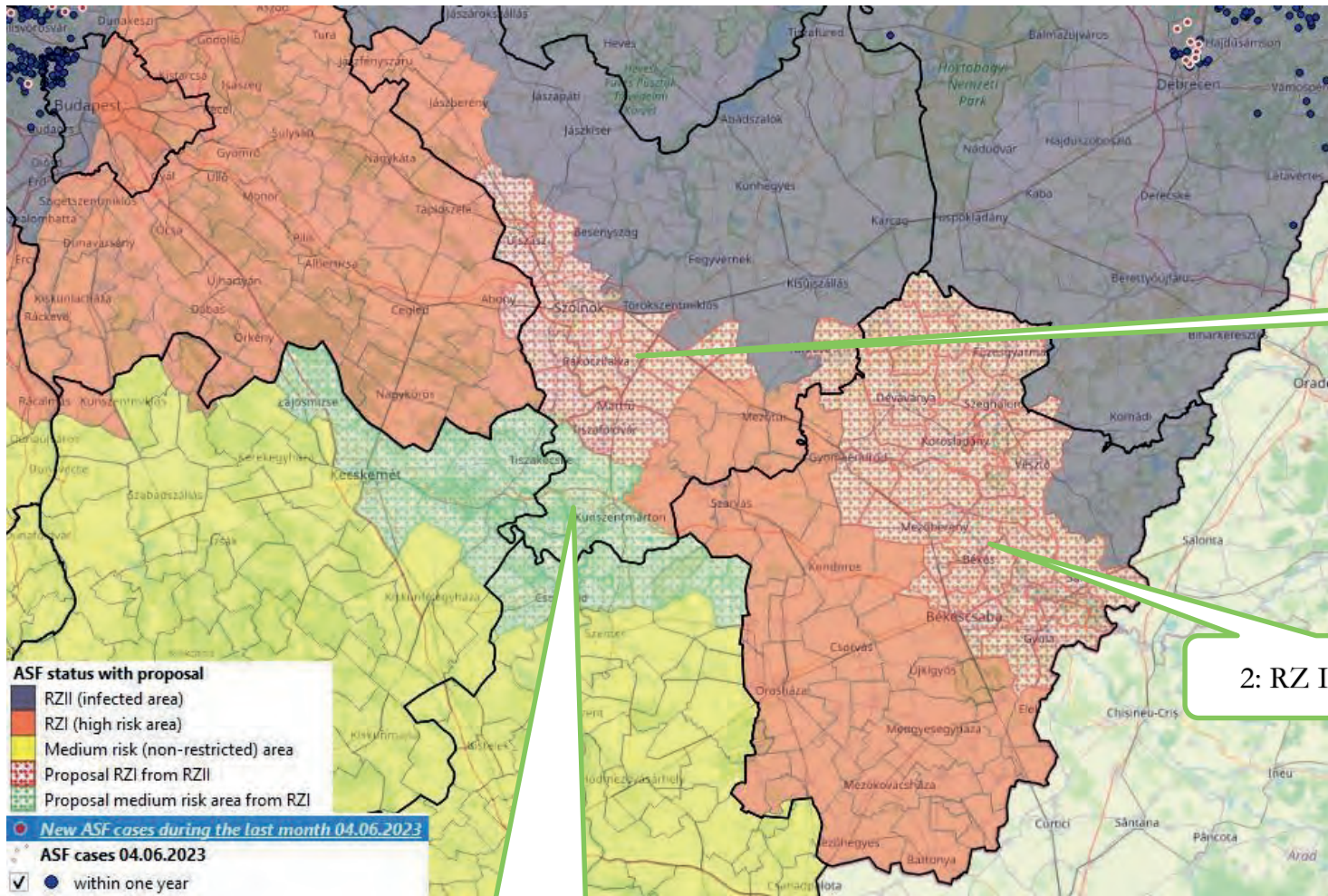




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Decrease proposal of the National Expert Group - closeup



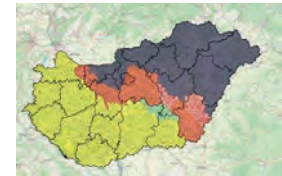
1: RZ II → RZ I

2: RZ II → RZ I

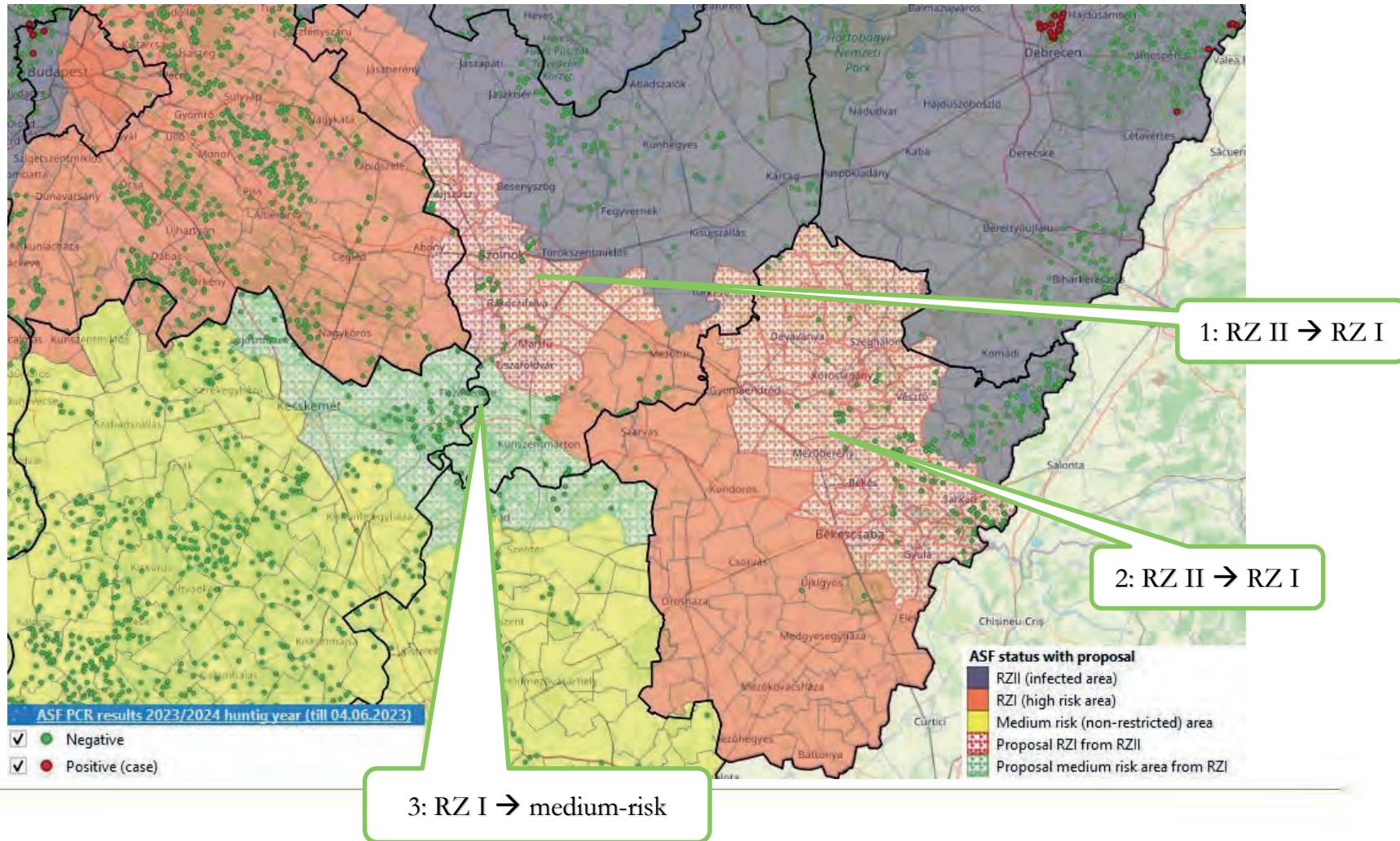
3: RZ I → medium-risk



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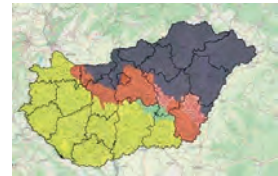


Decrease proposal of the National Expert Group – closeup with PCR- results

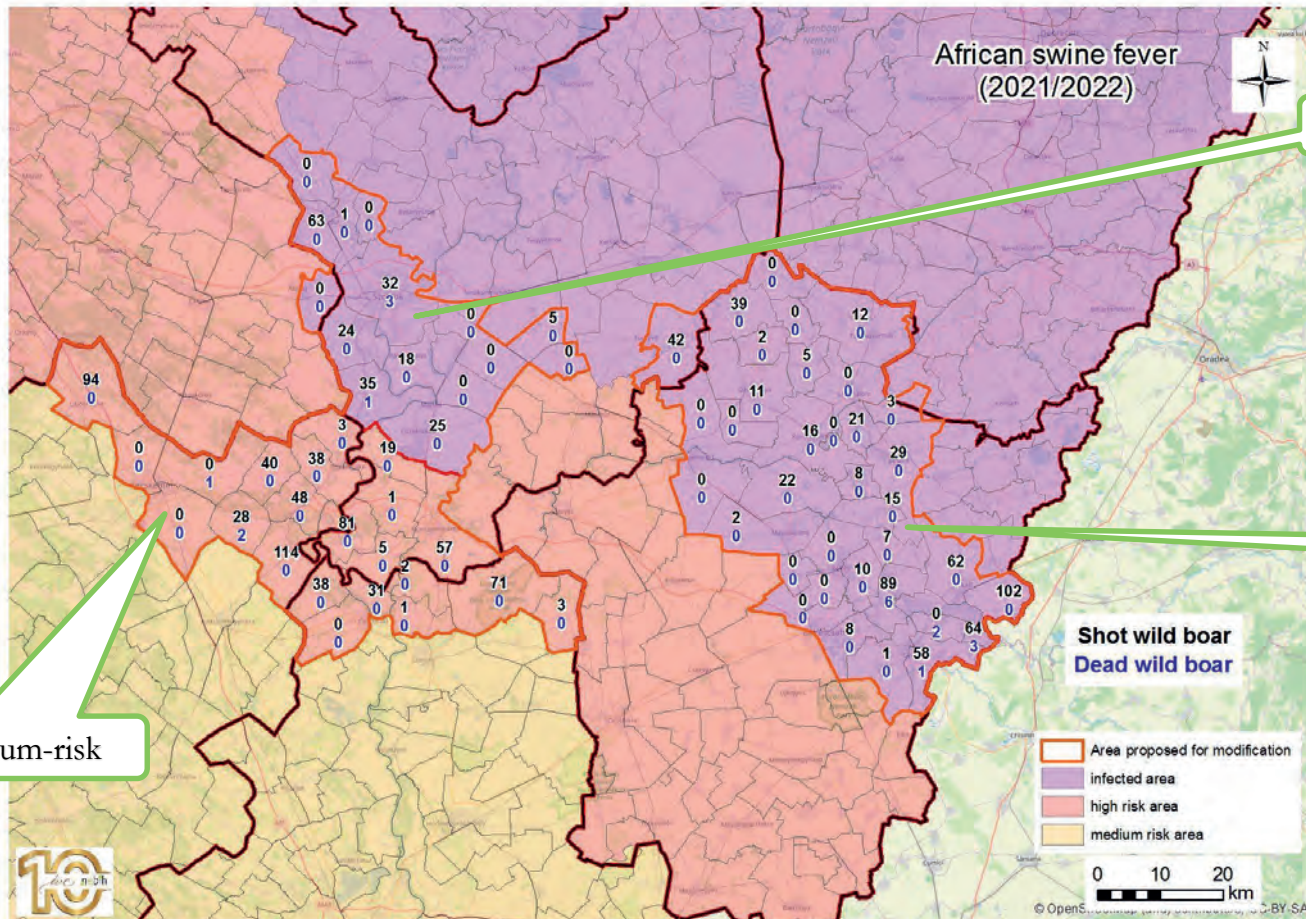




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Map about the area proposed for modification, shot and dead wild boars in 2021/2022 hunting year reported to the Hunting authority



1: RZ II → RZ I

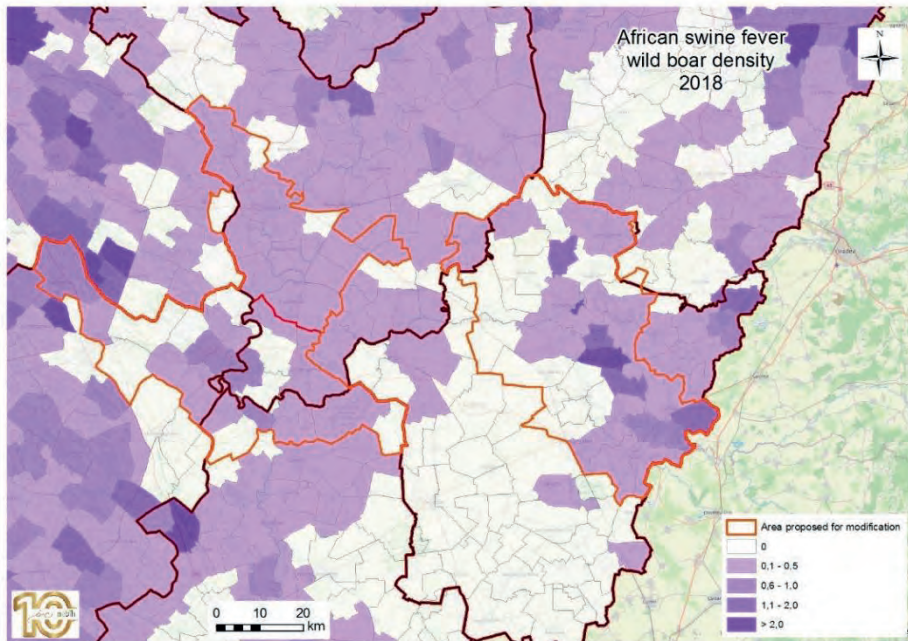
2: RZ II → RZ I

3: RZ I → medium-risk

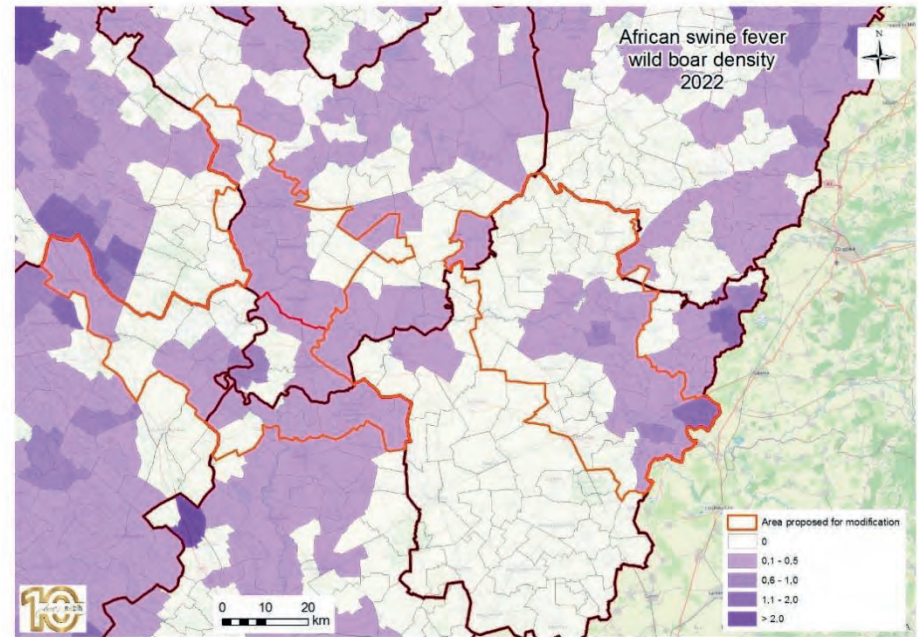


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Wild boar density in February 2018 and 2022 in the area proposed for modification



2018

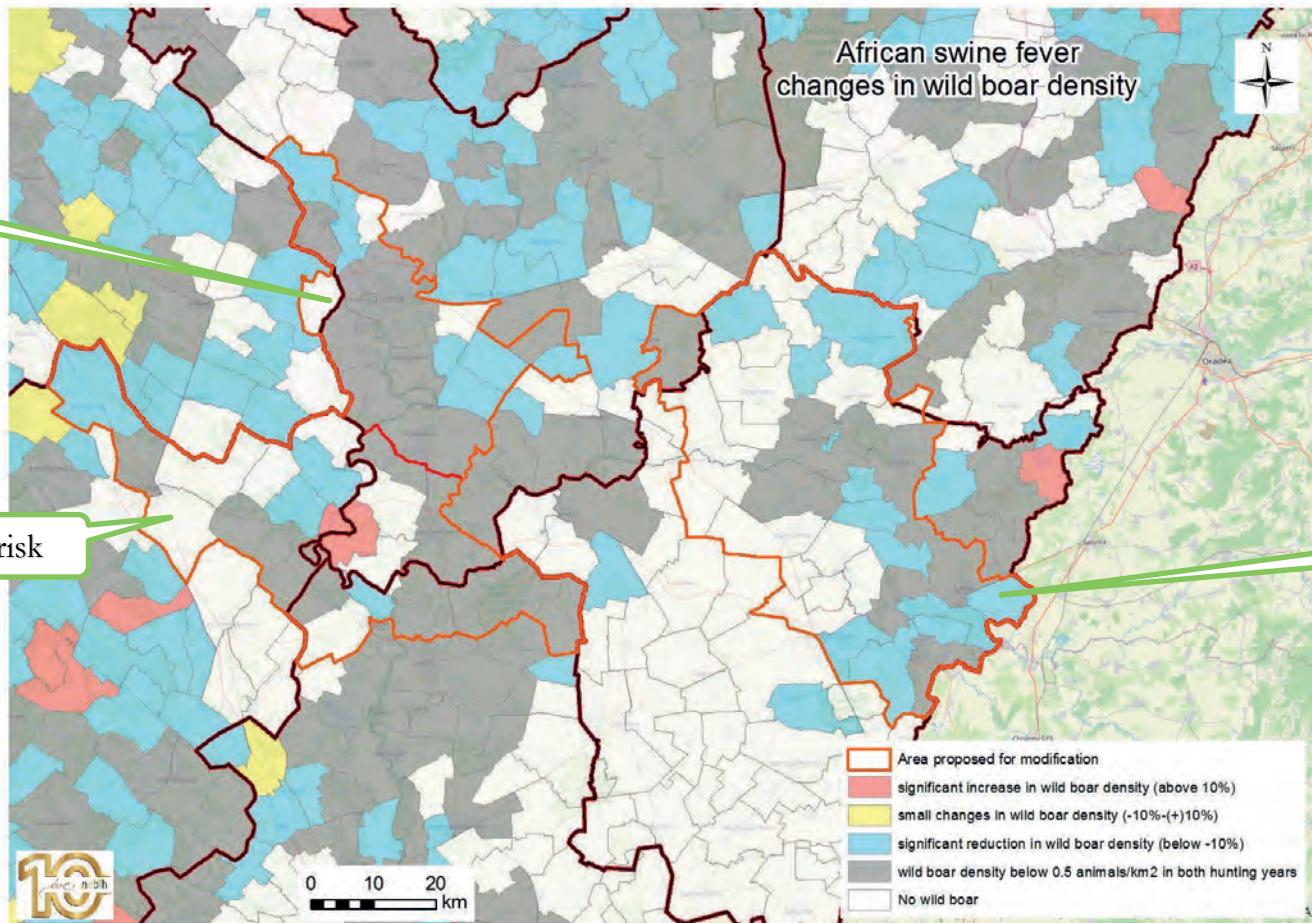


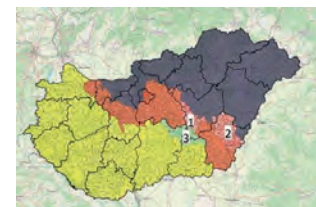
2022



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Map about the change in density of wild boars between February 2018 and 2022 in the areas proposed for modification





Data pertaining to territories included in the proposal

Proposed territory	1	2	3	Abbreviations D = WB found dead WB = WB victim to roadkill SCS = shot due to clinical signs S = Healthy shot WB
All affected GMUs	14 (J-NK-Sz) 1 (Pest)	34 (Békés) 1 (J-NK-Sz)	10 (B-K) 7 (Cs-Cs) 5 (J-NK-Sz)	
No of GMUs with estimated population of 0-10	13	24	14	
No of GMUs with estimated population of 11-100	2	11	8	
No of GMUs with estimated population of over 100	0	0	0	
Total area (km ²)	1057	2365	1713,60	
Density of WB-population in 2022 (WB/km ²)	0,068	0,13	0,15	
Confirmation of last occurrence	6 Oct., 2019.	6 July, 2020.	No occurrence	
Negative PCRs, hunting year 2021/2022	2 D, 2 DA, 206 S	10 D, 1DA, 726 S	1 D, 1 DA, 682 S,	
Negative PCRs, hunting year 2022/2023	2 D, 229 S 2 DA	6 D, 573 S	6 D, 676 S 2 DA 1 SCS	
Negative PCRs during the 6 months prior to the proposal	1 D, 125 S	5 D, 282 S	5 D, 303 S	
Negative PCRs, hunting year 2023/2024 (until 4 June)	1 D, 50 S	2 D, 130 S	142 S	



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Thank you for your attention!

