Results of the MME (BirdLife Hungary) Great Bustard Protection Progam (1994-2004)

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Illmitz, Austria, 14 - 18 September 2004

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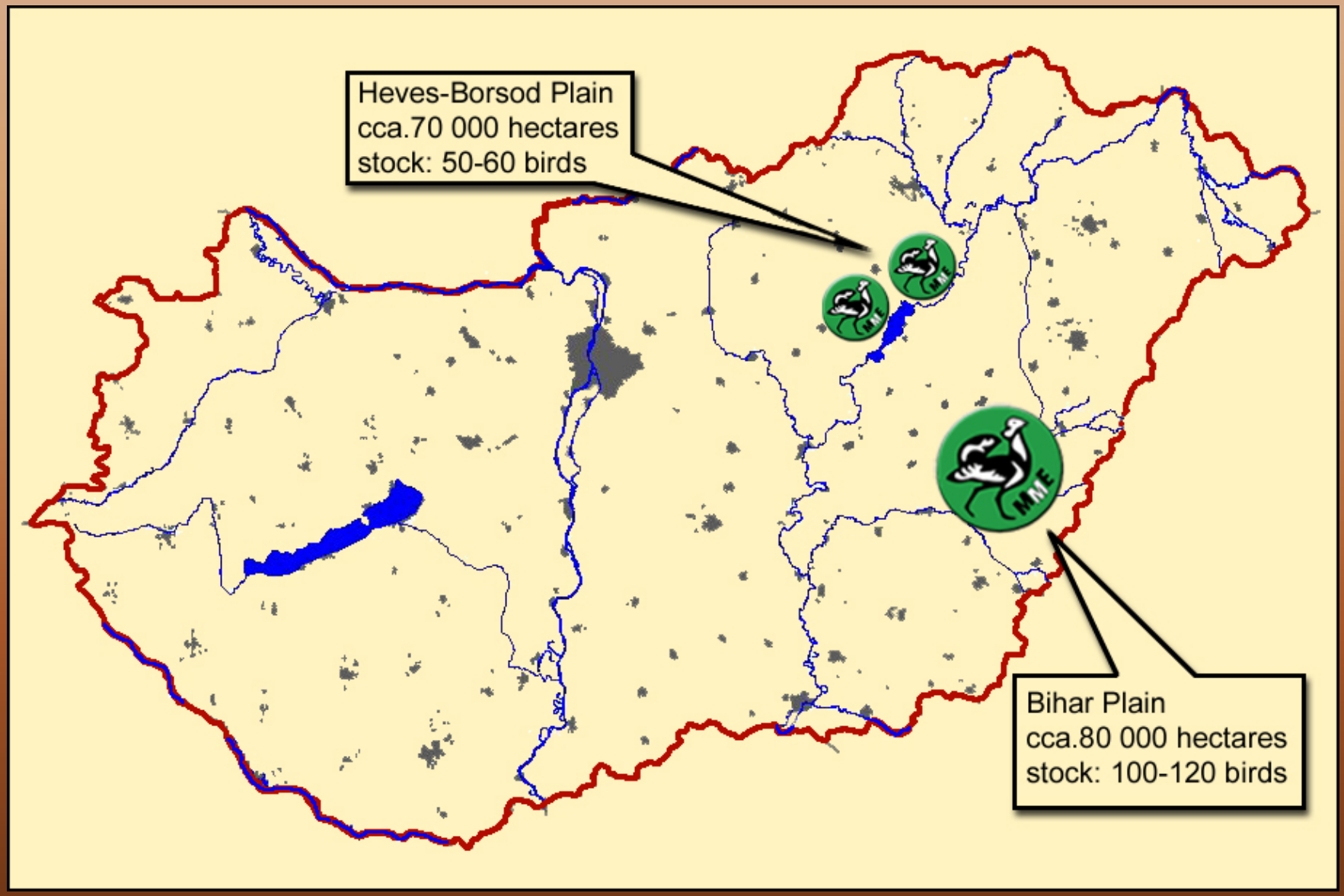
MME, Great Bustard Protection Program Operational Districts

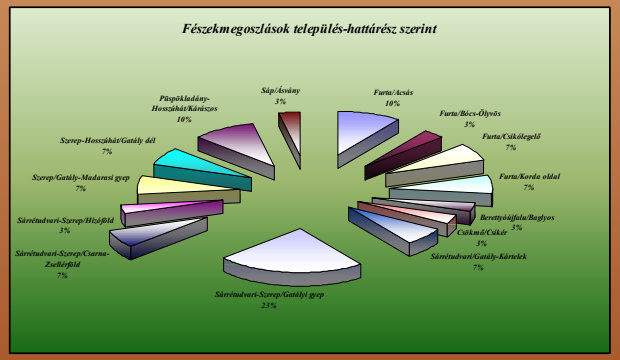


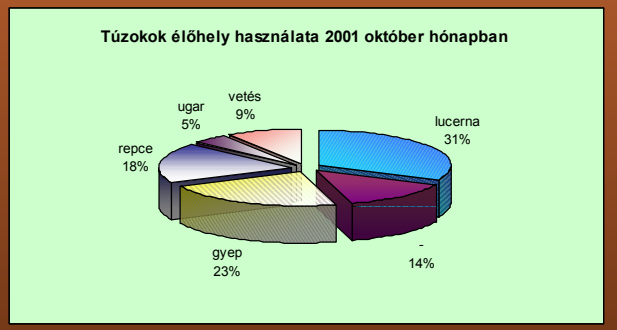
Monitoring 1. Data collecting and processing I.

Dátum	hó	Település	Határrész	KB/NyB	UTM	Szum	HÍM	hím	Tojó	Növényzet	Megjegyzés
2001.06.01	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	1	-	-	napraforgó	
2001.06.02	6	Csökmő	Szöcsködi puszta	KB	ET20C1	**12**	12	-	-	gyep	átballagtak az ugarra
2001.06.02	6	Csökmő	Szöcsködi puszta	KB	ET20C1	**3**	3	-	-	parlag	20-24 kakas rendszeresen itt
2001.06.02	6	Furta	Kanta-köz	KB	ET31C2	**1**	-	-	1	gyep	BXX-XXI körzetben
2001.06.05	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	1	-	-	lucerna	**ŐRK.1.-Hamvas cs. mellett**
2001.06.05	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	1	-	-	lucerna	**ŐRK.2.-Hamvas cs. mellett**
2001.06.05	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	-	-	1	lucerna	ŐRK.1 közelében/Sarjút ül?
2001.06.05	6	Csökmő	Csíkér	KB	ET11D4	**1**	-	-	1	gyep	F:B23/2001
2001.06.06	6	Szerep	Gatály/Madarasi gyep	NyB	ET13B2	**1**	-	-	1	gyep	F:B24/2001 és F.gyanú
2001.06.09	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	1	-	-	gyep	peckes séta
2001.06.09	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	1	-	-	lucerna	peckes séta
2001.06.11	6	Szerep	Gatály/Madarasi gyep	NyB	ET13B1	**1**	-	-	1	gyep	F:B25/2001
2001.06.11	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	1	-	-	lucerna	Örkakas/sarjufészek lehetősége
2001.06.12	6	Csökmő	Szöcsködi puszta	KB	ET20C1	**15**	15	-	-	parlag	? fata morgana miatt
2001.06.12	6	Berettyóújfalu	Baglyos	KB	ET42B3	**1**	-	-	1	gyep	fészek helyszíneléskor
2001.06.12	6	Furta	Bócs/Pap-tag	KB	ET32D4	**4**	2	-	2	lucerna	rendszeres jelenlét
2001.06.12	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	-	-	1	lucerna	Hoffmann Károly és társai megf.
2001.06.12	6	Sárrétudvari/Szerep	Gatály	NyB	ET13B1	**2**	-	-	2	-	Fészekőrzők a Gatályban
2001.06.13	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	1	-	-	kukorica	Hoffmann Károly és társai megf.
2001.06.14	6	Sárrétudvari	Gatály/Csikólegelő	NyB	ET13B1	**1**	-	-	1	gyep	
2001.06.14	6	Sárrétudvari/Szerep	Gatály	NyB	ET13B1	**2**	-	-	2	-	
2001.06.14	6	Sárrétudvari	Gatály/Csikólegelő	NyB	ET13B1	**1**	-	-	1	gyep	
2001.06.14	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**2**	-	-	2	-	
2001.06.14	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**2**	2	-	-	gyep	
2001.06.15	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**3**	2	-	1	gyep	
2001.06.15	6	Sárrétudvari	Gatály/Csikólegelő	NyB	ET13B1	**1**	-	-	1	gyep	két napja ugyanott/fióka?
2001.06.15	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**6**	2	-	4	gyep	Hoffmann Károly és társai megf.
2001.06.16	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**2**	2	-	-	gyep	az egyik DÜRGÖTT
2001.06.17	6	Sárrétudvari	Csarna	NyB	ET12A1	**1**	-	-	1	tavaszi árpa	F:B26/2001
2001.06.17	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**2**	-	-	2	gyep	elrepületk, majd ide visszaszáltak
2001.06.17	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**2**	-	-	2	ugar	ide repültek vissza táplálkozni
2001.06.17	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	-	-	1	-	az egyik ty. elrepült H.ht irányába
2001.06.17	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**1**	1	-	-	-	érkezett az ott maradt tyúkhoz
2001.06.22	6	Sáp	Ásvány/Korgó	NyB	ET23B1	**1**	1	-	-	gyep	régi les közvetlen közelébe
2001.06.25	6	Sárrétudvari	Gatály/Csikólegelő	NyB	ET13B1	**2**	-	-	2	gyep	
2001.06.25	6	Sárrétudvari/Szerep	Gatályi gyep	NyB	ET03D3	**7**	1	-	6	gyep	
2001.06.25	6	Sárrétudvari	Gatály/Kártelek	NyB	ET13B1	**2**	-	-	2	-	
2001.06.26	6	Szerep	Sándoros/Nagy-Sárrét	NyB	ET02C4	**9**	8	1	-	lucerna	pihennek, táplálkoznak
2001.06.26	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**2**	2	-	-	gyep	Róka ügy
2001.06.26	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**5**	-	-	5	bab	**Elhullott bejelentés**
2001.06.27	6	Sárrétudvari/Szerep	Gatályi gyep	NyB	ET03D3	**7**	2	-	5	gyep	
2001.06.27	6	Szerep	Sándoros/Nagy-Sárrét	NyB	ET02C4	**9**	8	1	-	lucerna	pihennek, táplálkoznak
2001.06.27	6	Csökmő	Szöcsködi puszta	KB	ET20C3	**14**	14	-	-	-	
2001.06.27	6	Sárrétudvari/Szerep	Gatály	NyB	ET03D3	**2**	-	1	1	gyep	TOJÓ CSIBÉVEL/UJHELYI i. mf.

B30/2001.

Dátum: 2001.07.30.
időbeliség: Megtalálás: 07.29, bejelentés: 07.30, helyszínelés 07.30 (árpa aratáskor)
Hely pontos megnevezése: Szerep-Hosszúhát, gatály dél (FB27-el szomszédos árpa tábla)
GPS Koordináta: N:47° 14' 23", E:21° 07' 10"/elev:~ 84m
Megtaláló/Bejelentő: Bagdi Géza
Növényzet: Őszi árpa
Munkaművelet: kaszálás
Tojások száma: -, fészekcsészét találtak kelésnyomokkal
fészek tájolása, jelölése, védőzóna: -
ismert felzavarások száma: -
Zavaró tényezők:-
Tyúk viselkedése: - (többször láttak a környéken tojót csibével)
Őrkakas: nincs látható közelségben
intézkedés: -
Költés eredménye: kikelt
Egyéb fontos információ:





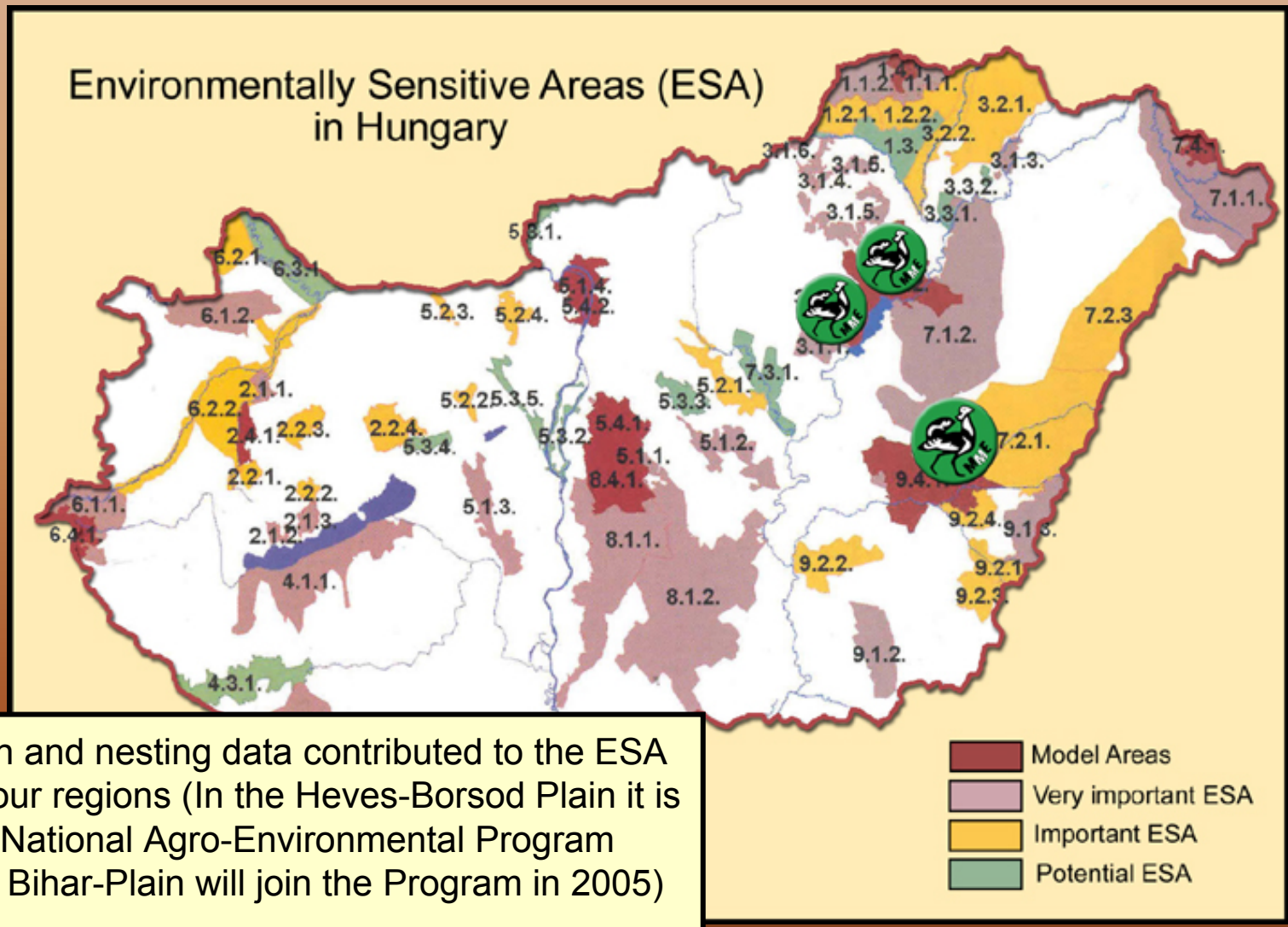
Field observations and nest data are collected in an Excel file, that is automatically suitable for generating simple statistics.

Monitoring 2. Data collecting and processing II.

Observations are presented also on a map, with the help of suitable colouring, that can perfectly reflect observation density. We also apply GPS that is a practical way of storing spot-like field data (e.g. nests).

Expected development of our data base: GIS (Geographic Information System)

Monitoring 3. Extra usability of Our data - ESA



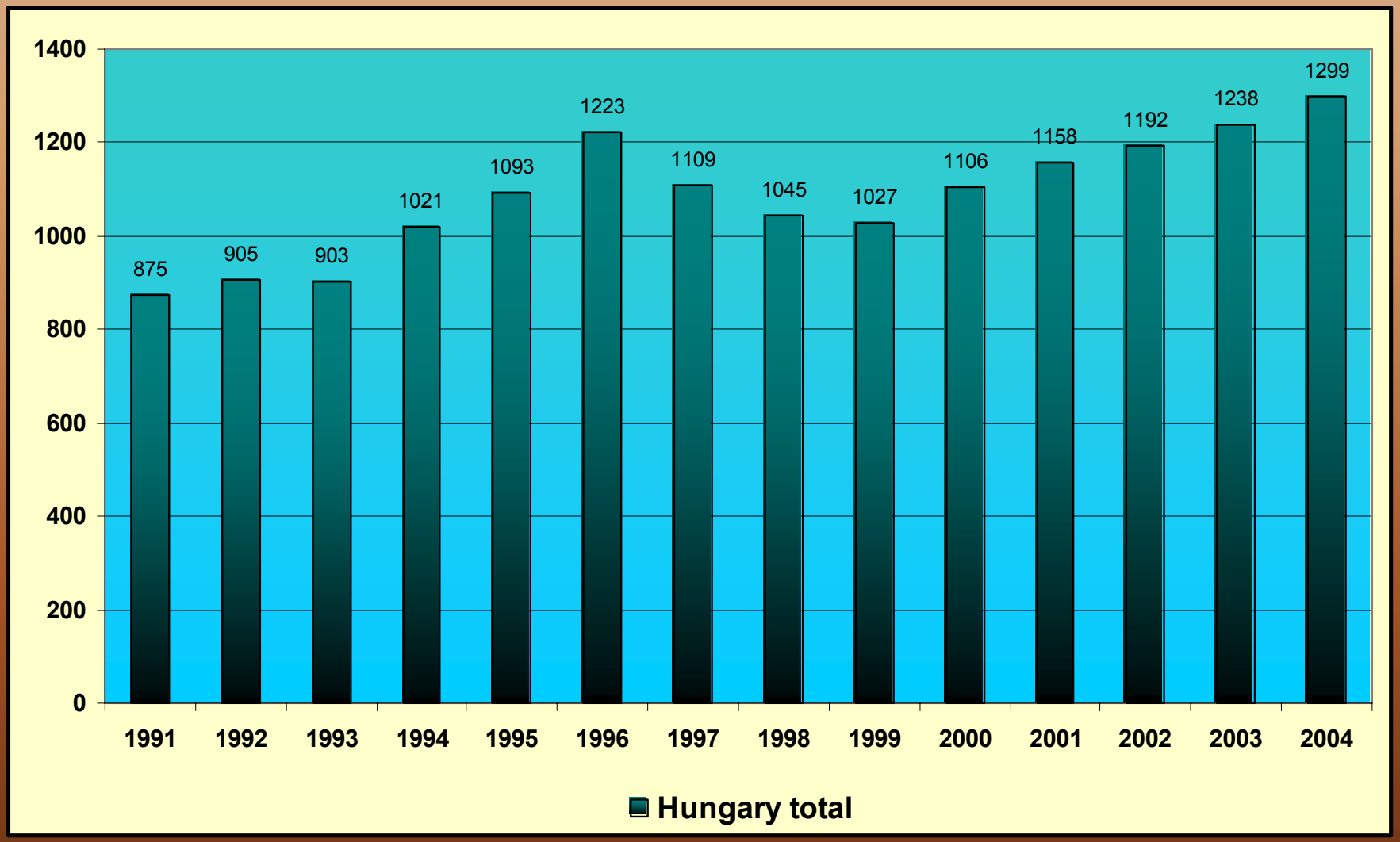
Our observation and nesting data contributed to the ESA designation in our regions (In the Heves-Borsod Plain it is the 3rd year of National Agro-Environmental Program based on ESA, Bihar-Plain will join the Program in 2005)

We take part in the ESA Monitoring and the yearly review on the Heves-Borsod Plain

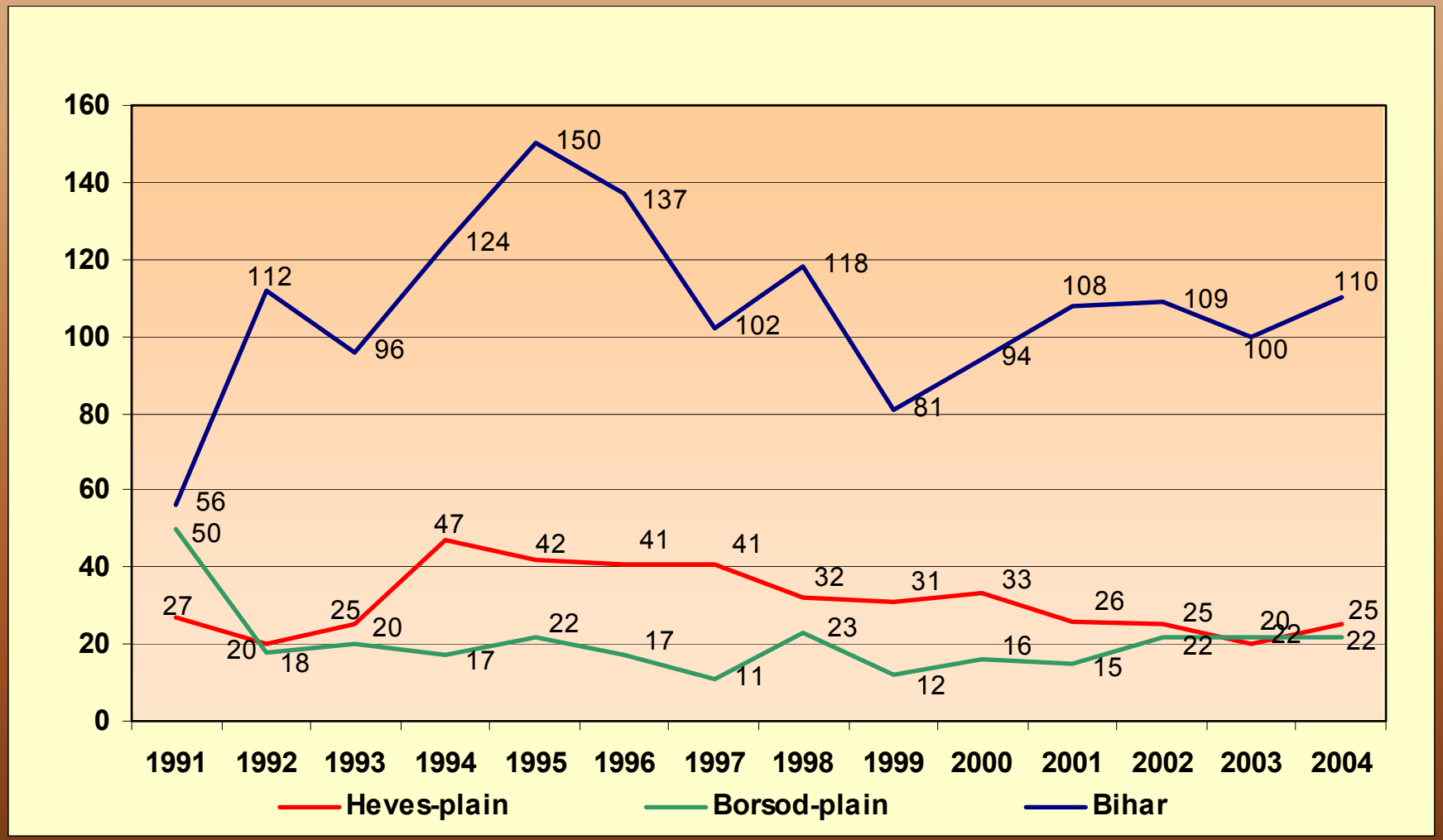
Monitoring 4. National Bird Censuses

Name of region/year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Kisalföld	53	49	56	60	57	80	93	86	111	89	99	106	114	116
Kiskunság	255	272	252	311	275	362	324	304	381	381	405	444	487	442
Hevesi-sík	27	20	25	47	42	41	41	32	31	33	26	25	20	25
Borsodi-mezőség	50	18	20	17	22	17	11	23	12	16	15	15	22	22
Bihar	56	112	96	124	150	137	102	118	81	94	108	109	100	110
Hortobágy	160	169	88	122	139	116	147	96	92	110	92	115	115	120
Dévaványa	242	222	335	340	378	436	370	333	318	337	370	363	337	412
Minor populations total	32	43	31	??	30	34	21	53	1	46	43	15	43	52
Hungary total	**875**	**905**	**903**	**1021**	**1093**	**1223**	**1109**	**1045**	**1027**	**1106**	**1158**	**1192**	**1238**	**1299**

Monitoring 5. Population trends I. – Changes of the Hungarian Great Bustard population (1991-2004)



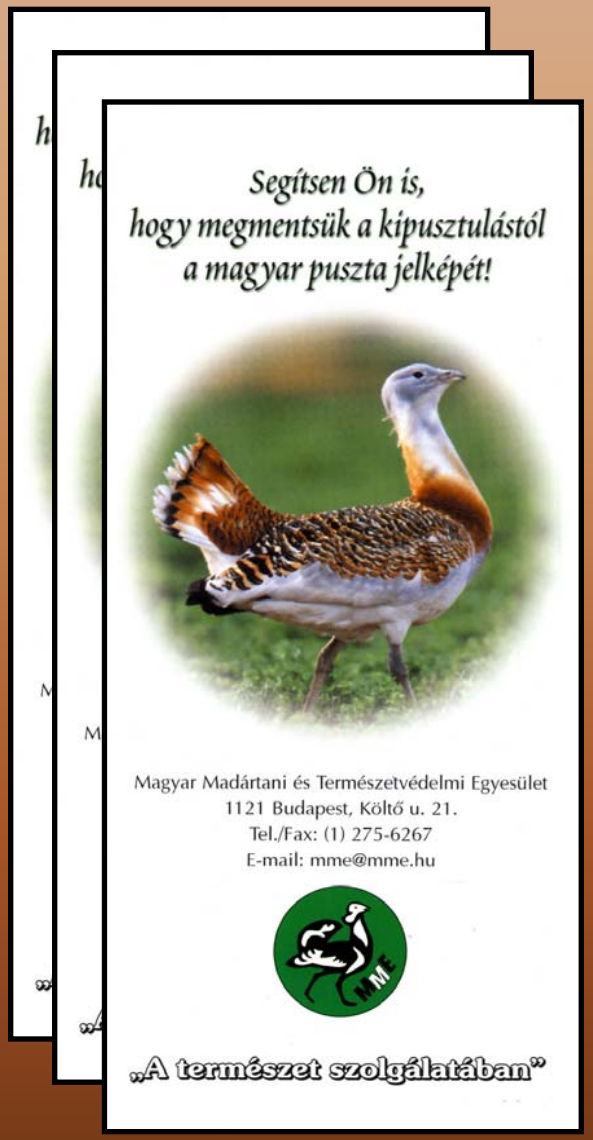
Monitoring 6. Population trends II. – Changes of Great Bustard population on the MME operation districts (1991-2004)



Nest protection 1. Informing the rural people I.

Before the nesting season our posters are placed in each settlements of the program district in the cooperatives' offices, farmers' shops, groceries, schools, public billboards etc. These posters contain information about the Great Bustard and our program, along with the contact persons, numbers.

Nest protection 2. Informing the rural people II.



The most important target groups of our information activity are tractorists and other agricultural machine drivers.

Leaflets and stickers show the National Park guards' and our phone number and some useful information about nest protection.

Nest protection 3. Existing nest observation

This is the best way to protect the nest but unfortunately only 2-4 nests are found per year.

Because

…more time, more volunteers with quality observation equipment and field experience would be needed…

But

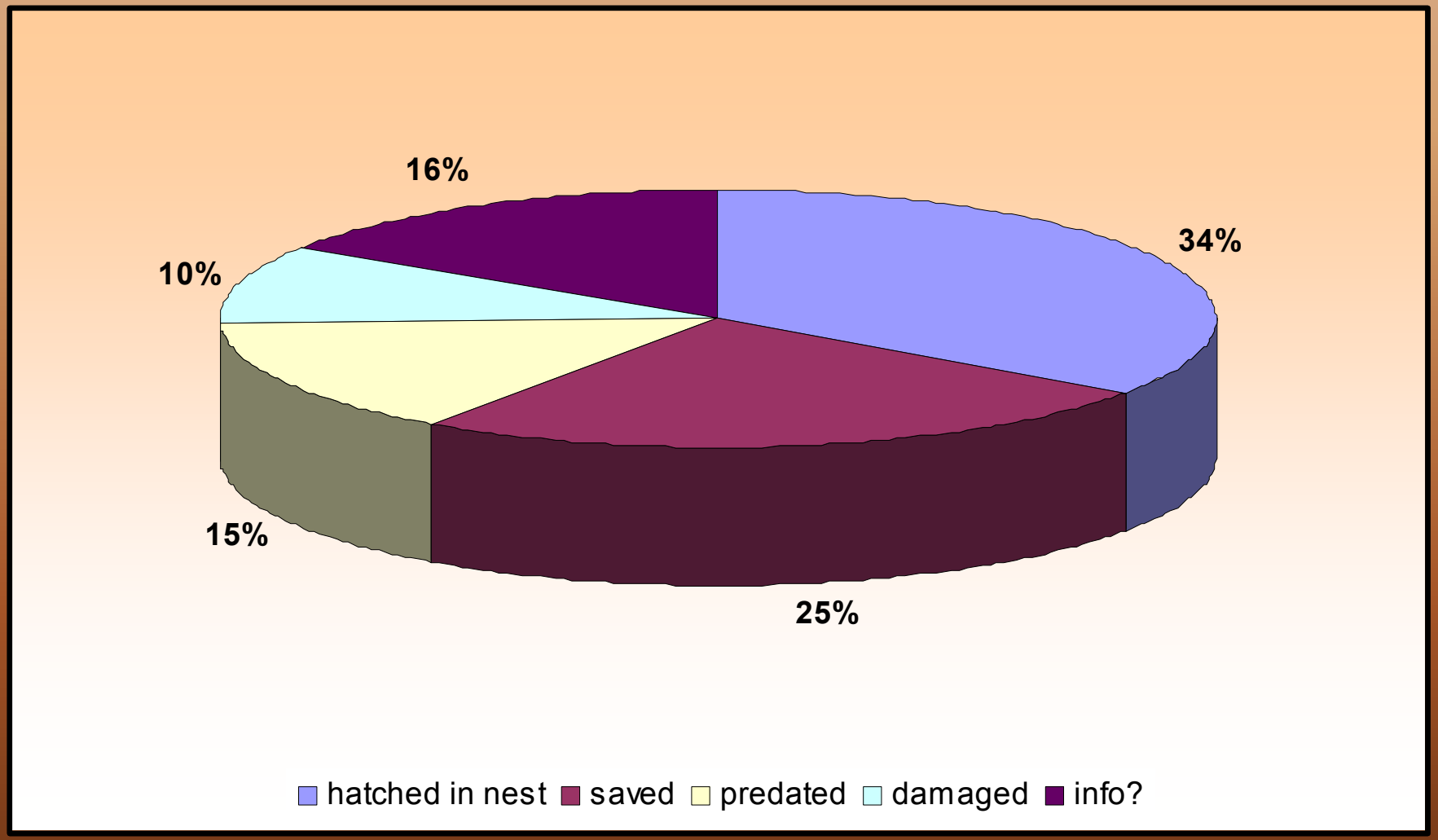
With the help of our nest database we can reduce the observated territories and concentrate on the most frequented nesting places.
On the other hand we planned to use modern technology in nest observation e.g. aerial thermo-video scan of the nesting fields. (Without source it is a „dream” presently.)

Nest protection 4. Results I. – Results of nest and chick protection in the operation districts of the Program (1994-2004)

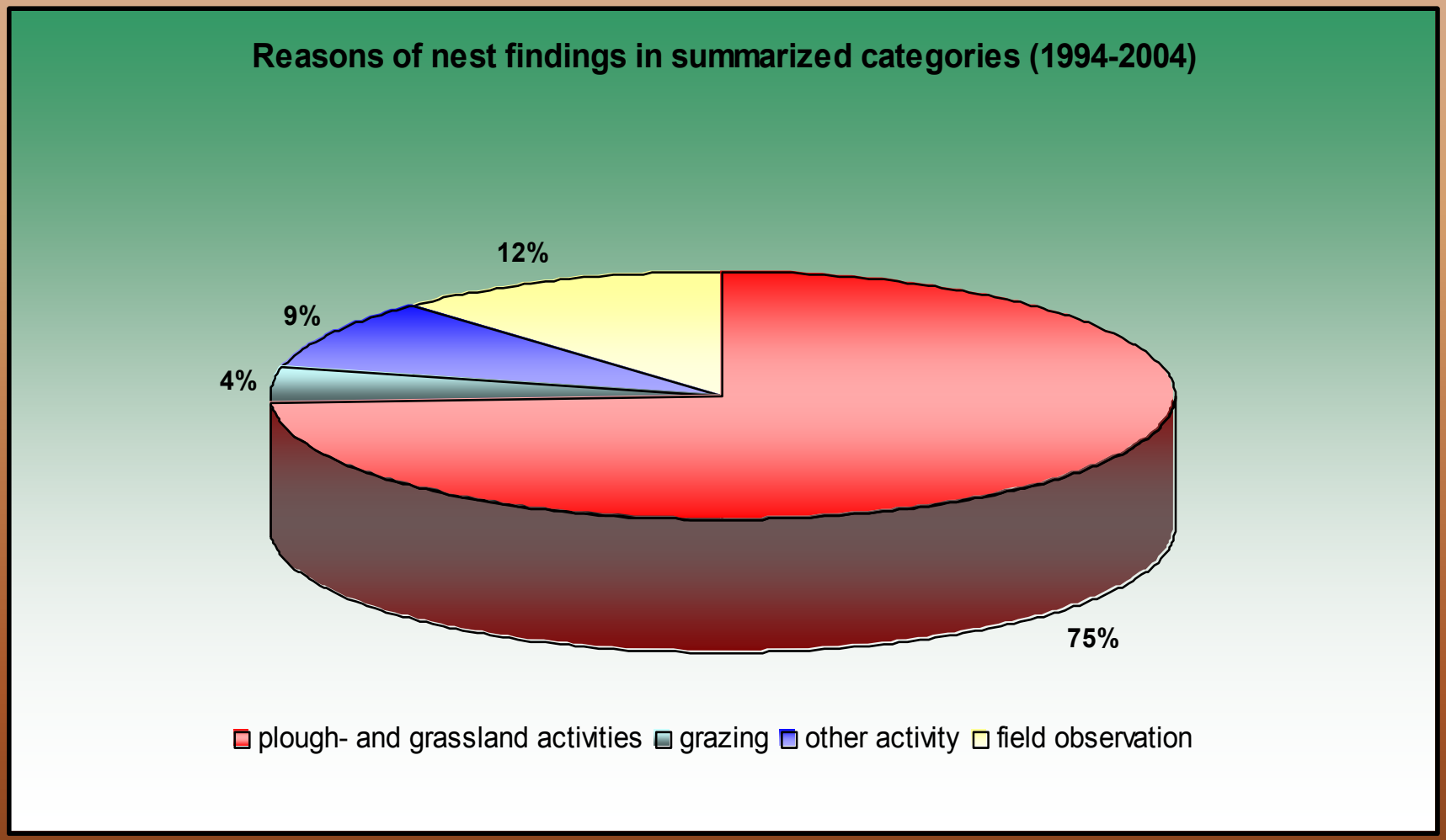
Result/year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	total
Known nests	40	23	20	24	16	26	24	34	31	24	29	291
Hatched in nest	23	5	3	12	3	10	9	7	10	9	10	101
Chick protection	6	7	6	3	0	3	5	0	1	0	3	34
Saved eggs	23	16	4	23	9	16	10	13	24	13	25	176
Predated eggs	11	4	15	10	4	8	11	16	10	11	3	103
Dameged by human	9	4	2	0	6	4	0	1	0	1	1	28
No exact inf.???	1	2	10	2	6	2	3	11	1	4	4	46

Our main results are: 34% of the nests were hatched in the field and 176 eggs were saved and delivered to the Rescue Center (Dévaványa)

Nest protection 5. Results II. – Results of nest protection in the operation districts of the MME (1994-2004)



Nest protection 6. Reasons of nest findings (1994-2004)



cca. 80 % of the nests found by agricultural activity

Endangering factors 1. Mowing

Except of observations the gross of nests are found due to agricultural activity.

50-70% of the nests are found due to alfalfa and grass mowing.

Survival chances of such nests are very low and significantly increase the effect of predators.

A „real killer” type

Occassionally the female and the eggs are perished.

The more effective are the mowing machines, the more wildlife is endangered.

Black page

Animal-alarm hanging chains are rarely used even in the nature protection areas.

„The female often stands till the end, paralyzed by shock, and perishes with the nest.”

Dr. István Sterbetz (in: A TÚZOK. Mezőgazdasági Kiadó, 1971)

Female killed by mowing machine at Furta, with her eggs (2001) …

….and other victims.

The female escaped in the last moment, but the mower totally uncovered her nest and one egg was destroyed.

Endangering factors 2. Extreme weather, high-voltage lines

Extreme winter weather, 2002/2003. Fortunately the stock has survived without notable loss.

End of white male due to high-voltage line. We suppose 1-3 birds perish this way per year in the Bihar-plain.

Endangering factors 3. Disturbing, habitat loss

Camomile collecting causes significant disturbance in the grass nesting habitats. Other problem is that collector people (frequently poorest citizens with low income) generally does not inform us about found nests and it is difficult to control their activity and keep them away even from protected areas.

Outside protected areas the general problem of habitat degradation is the ploughing up of grassland though these fields lay frequently on low-produvctivity soils.

Endangering factors 4. Predators and buffer zone problem

15-20% of the known nests in the last 11 years were perished due to predators.

The Great Bustard female has a fine mimicry that is hiding her perfectly in the intact vegetation.

Mowing, disking „opens" the nesting fields. Most tractorist leave large buffer zones but the nests are generally in the margin of it, in such case the effect of predators significantly grows and further human disturbance is expected around the zone.

Effect of predators will probably increased due to:

- Fox immunization
- Hooded Crow and Magpie stock increase
- Few pro hunter does not do predator control well
- Few senseless law limit stray dog hunting

We are in touch with pro hunters in our operation districts. As far as possible we help their predator control work. In some cases we gave free support to their work.

Protection in wintertime 1.

I. Our most important task is to organise rape sowings at the end of the summer.

Syngenta Seeds Ltd.

Supports 100 ha rape sowings each year – starting in 2001.

More than 1500 hectares rape sowings were supported by MME Great Bustard Protection Program with the help of several sources in the last 11 years.

Protection in wintertime 2.

II. The main task in the wintertime is stripping snow away from the rape fields and deliver cabbages in case of extrem weather conditions (e.g. 2002/2003). This is a team work with National Park's and farmers' and our machines.

uncover the rape field

exploration of the stock with snowmobile

cabbage delivery

teamwork with NP's guards

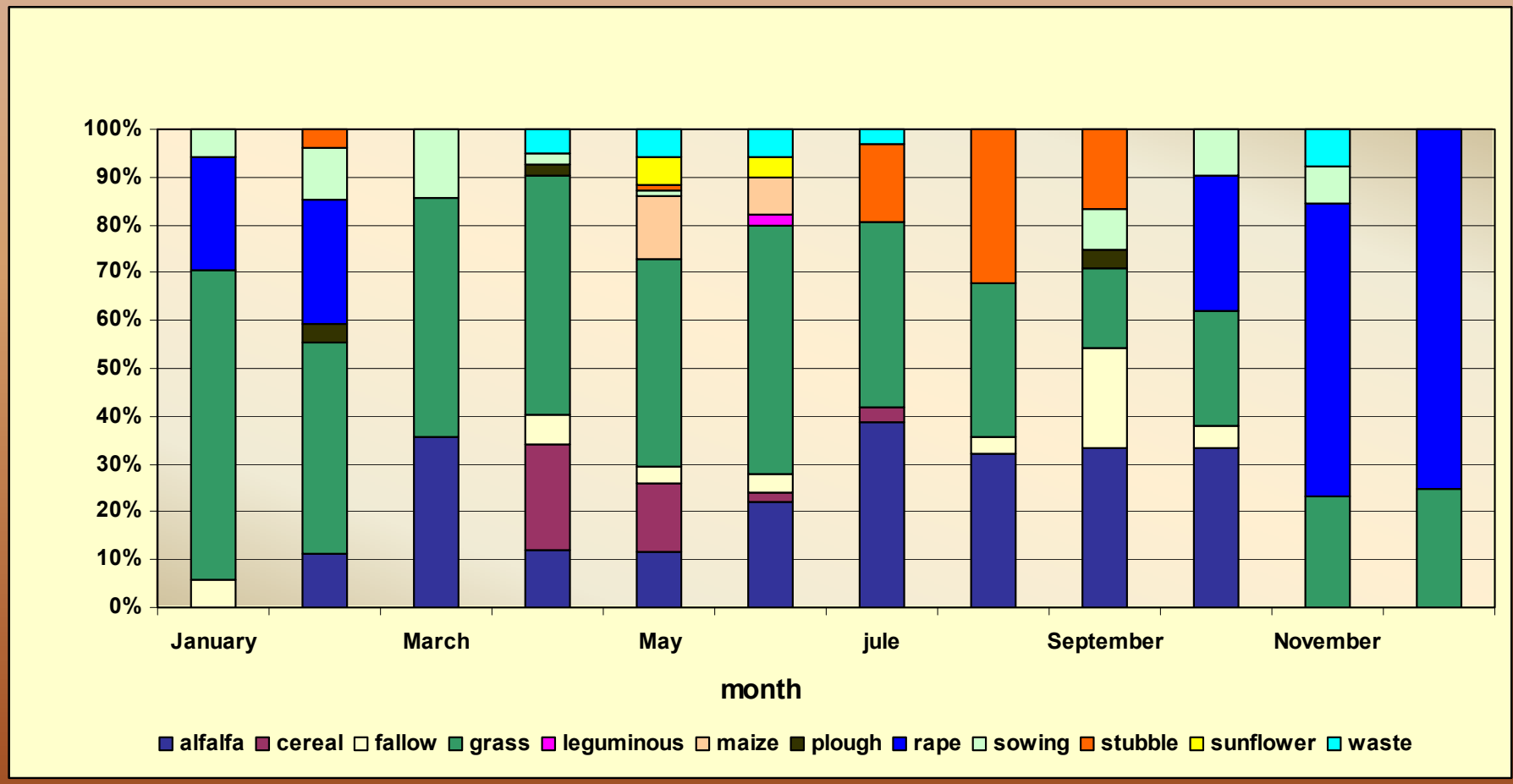
Fields of our research

One of the most important things according to the effective protection work is to know more about the species.

- Habitat use
- Nest place choice, nest-covering behaviour
- Ethological observation
- Interaction between the stock and their environment and its changes
- Effectivness of the protection work
- Collecting historical and folk remains

…and we would like to introduce new technologies (e.g. radio and satellite tracking, thermo-video nest observation and finding, nest observation with video…but there is no source for these yet…

Fields of our research – Examples 1. Habitat use



Our database contains several hundreds of registers relating to habitat use per year. Summarized data draws the stock habitat use that depends on the season, precipitation, vegetation structure of the habitats etc. Generally the habitat use is connected to the traditional „Great Bustard vegetation” e.g. grass, alfalfa, cereals, fallow, rape etc.

It is interesting that the birds occasionally prefer root crops e.g. corn, sunflower, sugar beet.

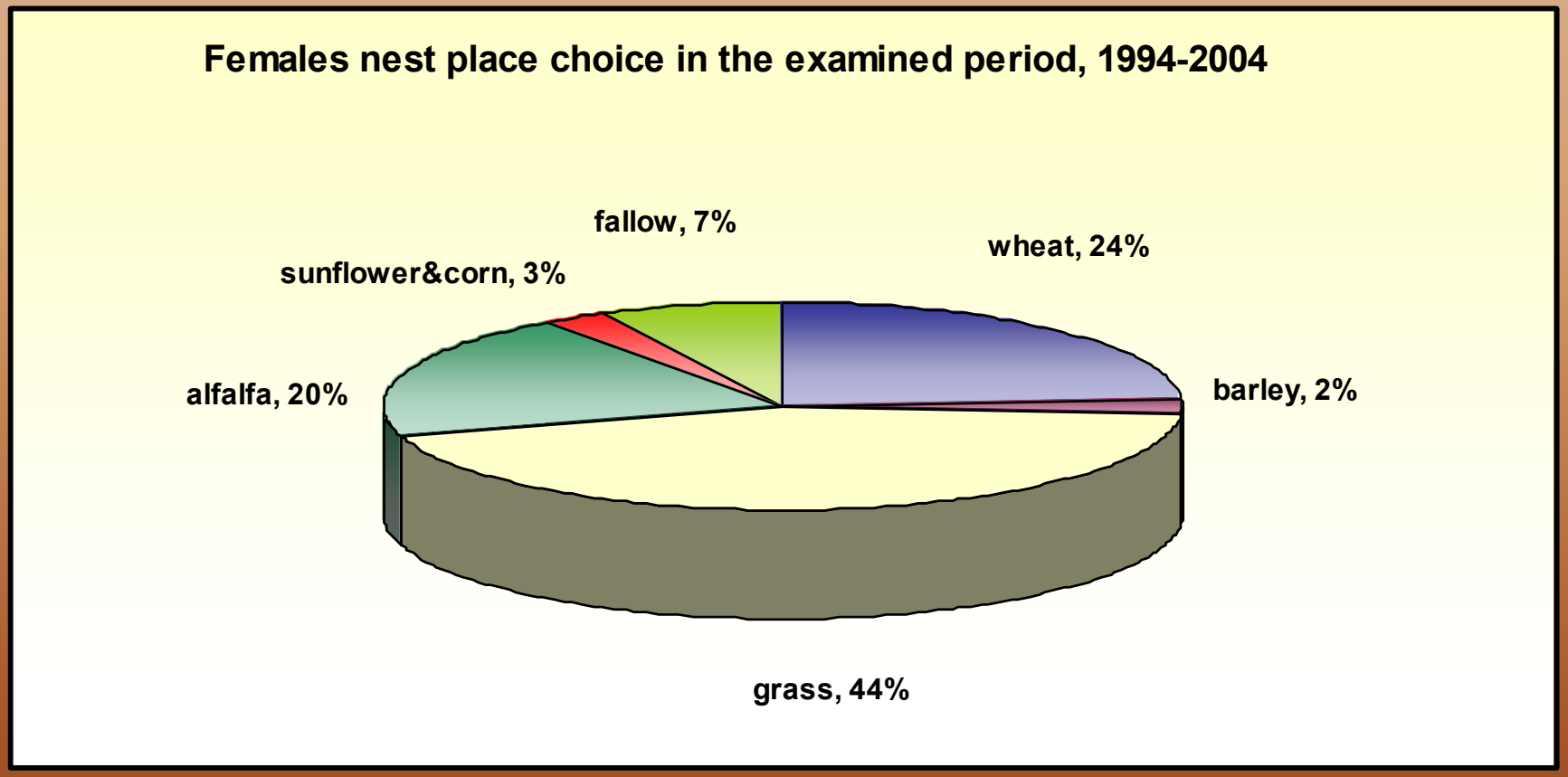
Fields of our research – Examples 2. Feeding

She eats melandrium

Great Bustard is a mixed feeding species. Two examples about it.

Female trying to catch grasshopper

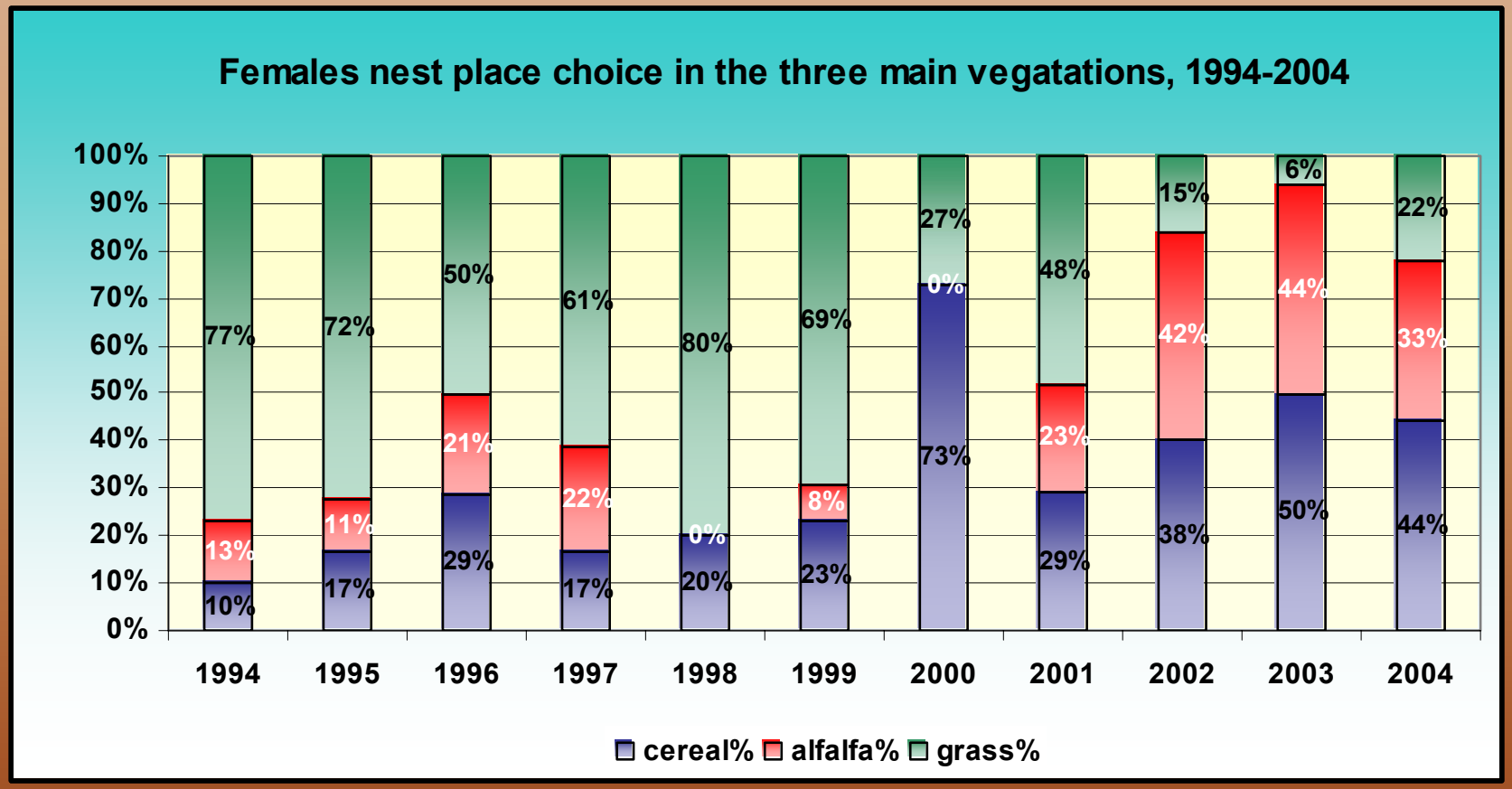
Fields of our research – Examples 3. Nest place choice



90% of the nests were found in 3 main vegetations (cereal, alfala and grass), but these rates are changing to each other year by year.

See next page

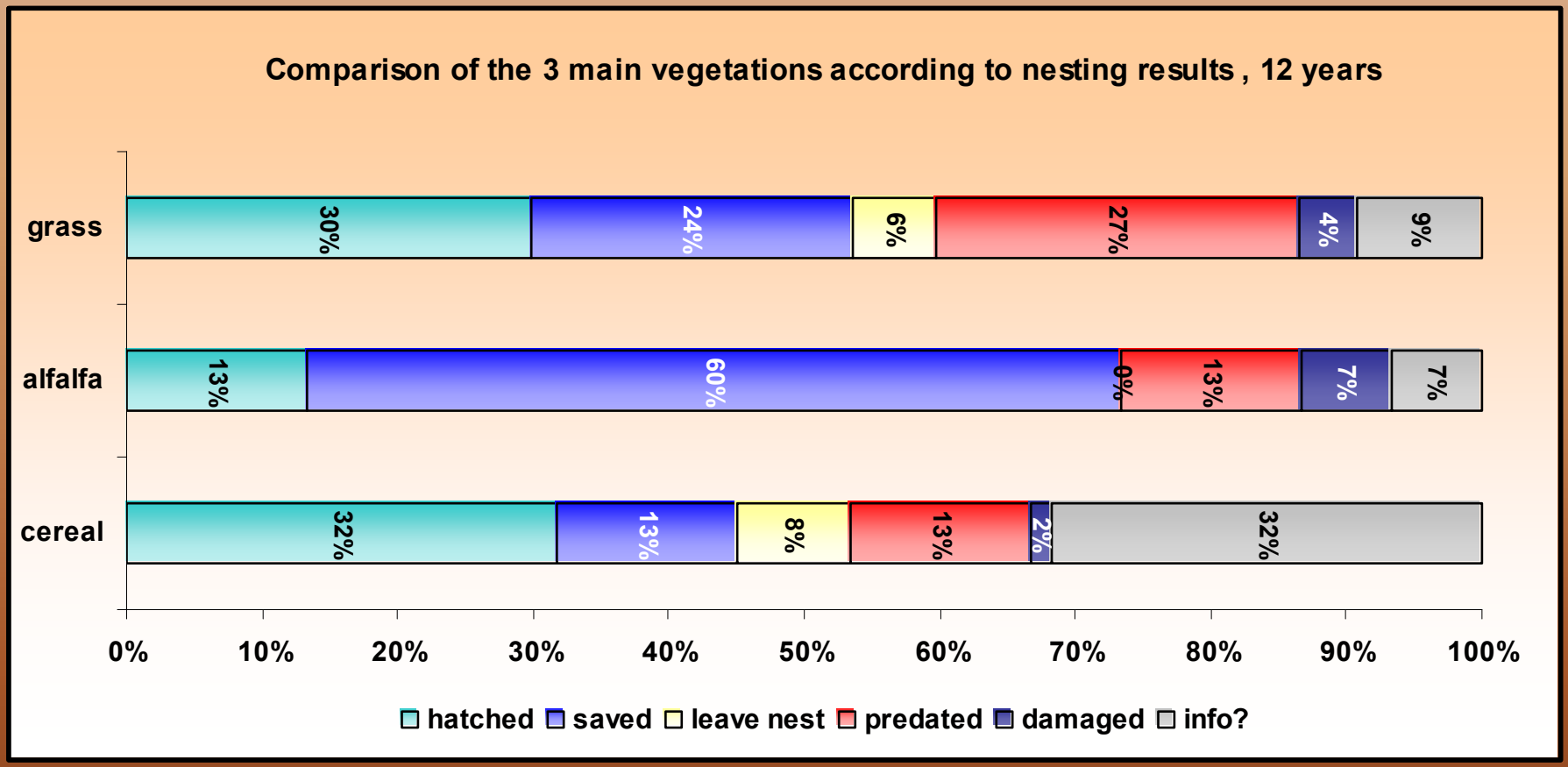
Fields of our research – Examples 4. Nest place choice II.



These data show the yearly differences but it is not fully representative because many nests are left unfound in cereal and grass thanks to few reasons (e.g. no chemicalization, no mowing etc.)
Regarding succesful hatching there are significant differences between the above mentioned vegetations.

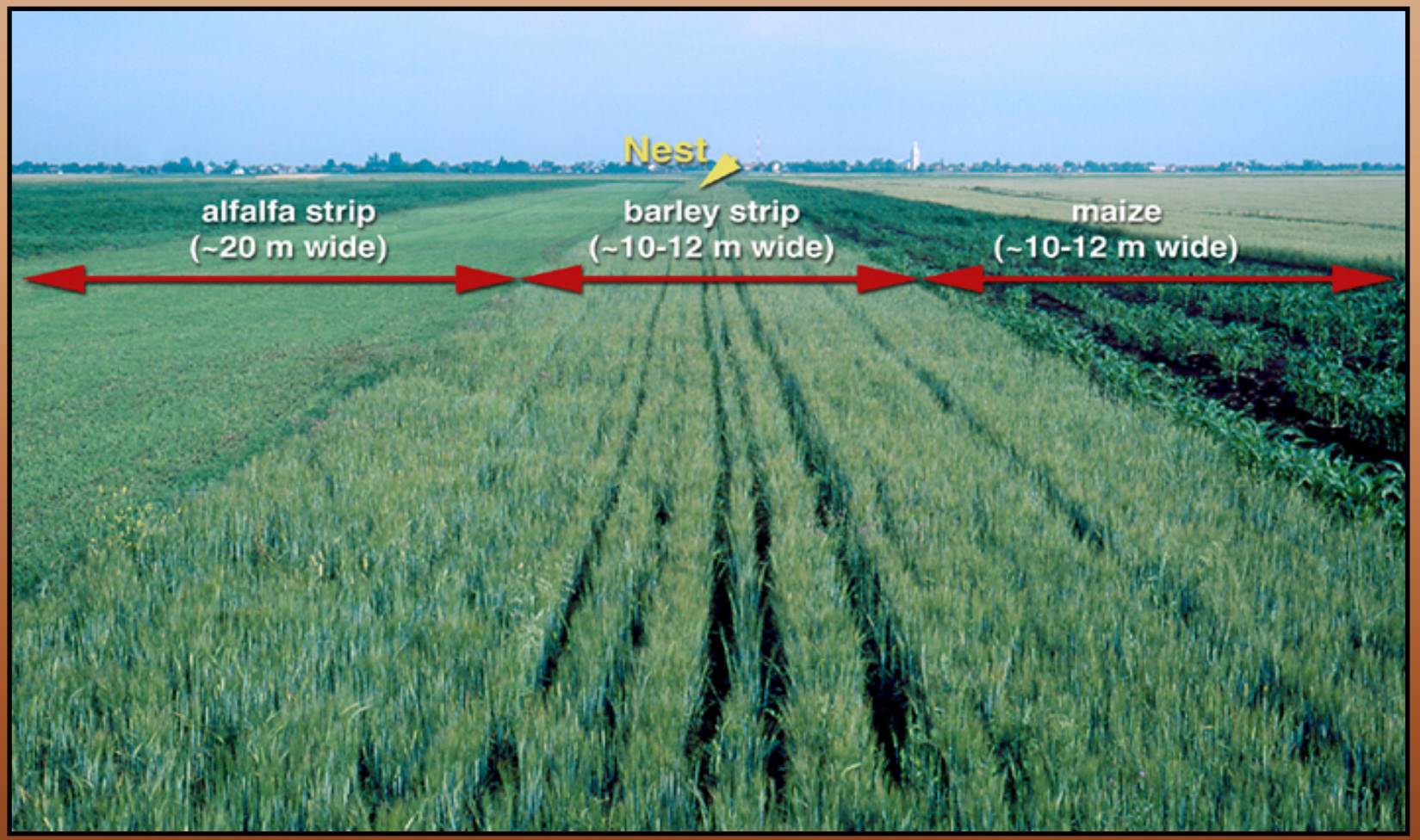
See next page

Fields of our research – Examples 5. Hathcing success regarding to the preferred vegetations



Summarised nesting data of 11 years show that cereal and grass vegetation gave the best results. Alfalfa is the week point of nest protection: due to the mowing it is absolutely disadvantageous for the females, but it is a preferred habitat.

Fields of our research – Examples 6. Interaction between habitat changes and nest place choice.



Due to agricultural field rearrangement the habitats changed. The main tendency was the subdivision of the large fields, thus habitat disturbance grows significantly. Great Bustards could adapt to the new habitat structure that ensures wider range of food but significantly disadvantageous to the nesting.

Fields of our research – Examples 7. Nest covering behaviour

Nest coverd with remains of the preceding crop (corn)

….and covered with the same crop parts (cereal)

According to our observations some nests in agricultural vegetation are covered with plant remains. It obviously increases the nest comfort e.g. against mud. Interesting that such careful females show greater adherence to their nests, they are more tolerant to disturbance.

Fields of our research – Examples 8. Ethological observation on display site

Young male's attempt

Display phases

See more on poster

Fields of our research – Examples 9. Collecting remains from the past

Unique photo about „domesticated bustards” from Eastern Hungary (Nagykunság, Karcag), made in the fifties.

Our profession

„… it is not an empty phrase to insist, that in certain populations, even in a wider prospect we should hope on till the end for the recovery of species …”

Dr. István Sterbetz (in: A TÚZOK, 1971.)

Thank you for attention