



*Great Bustard MoU and LIFE Project Meeting
Illmitz, 9 March 2017*



LIFE Projects for the Great Bustard in Austria and Hungary



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in co-operation with
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The aim of this part of the talk is to inform about conservation activities within LIFE Projects in Austria and Hungary and to show some results from the Austrian LIFE and LIFE+ project, the Hungarian LIFE project and to inform about the new LIFE project Great Bustard.



0 5 10 20 30 km

LIFE Project

*"Cross-border protection of the Great Bustard
in Austria"*

(08/2005-07/2010)

LIFE+ Project

*"Cross-border protection of the Great Bustard
in Austria - continuation"*

(10/2010-12/2015)

**Previous LIFE and LIFE+
Projects for the west
pannonian population of Great
Bustards**

LIFE Projekt

*"Conservation of Otis tarda
in Slovakia"*

(01/2005-12/2009)



**SPAs für die westpannonische
Population der Großtrappe**

(Stand September 2009)



SPA und Projekt - Teilgebiete für die
westpannonische Population der
Großtrappe (Österreich, Ungarn,
Slowakei)



1:750.000

Kartenerstellung:
Technisches Büro
für Biologie
Mag. Rainer Raab

Hintergrunddaten:
BEV, Land BGLD,
Land NÖ; SRTM 90



LIFE+ Natur Projekt
"Großtrappe"
(LIFE09 NAT/AT/000225)



Die Herstellung dieser Karte wird von der Europäischen
Union mit Mitteln des LIFE-Nature Fonds kofinanziert.

A

SK

H

LIFE Projekt

*"Conservation of Otis tarda
in Hungary"*

(10/2004-09/2008)



The LIFE Project

LIFE05 NAT/A/000077



Title: „Cross-border Protection of the Great Bustard in Austria“

Coordinating beneficiary: Austrian Society for Great Bustard Conservation
Bgm. Reinhold Reif (chairman)
post@deutsch-jahrndorf.bgld.gv.at

Project duration: August 2005 to July 2010 (5 years)

Final report until Mid January 2011

Project costs: planned 5.840.760 EURO, real 5.724.776 EURO (98,01 %)



The LIFE+ Project

(LIFE09 NAT/AT/000225)



Title: „Cross-border Protection of the Great Bustard in Austria - continuation“

Coordinating beneficiary: Austrian Society for Great Bustard Conservation
Ing. Werner Falb-Meixner (chairman)
werner.falb-meixner@grosstrappe.at

Project duration: 1st October 2010 to 31st Dezember 2015 (5 years and 3 months)

Project costs: 4.508.481 EURO (thereof 3.381.360 Euro = 75 % EC)



LIFE Project

(LIFE04/NAT/HU/000109)



Title: „Conservation of *Otis tarda* in Hungary“

Coordinating beneficiary: Kiskunság National Park Directorate

Project duration: 1st October 2004 to 30th September 2008

Project costs: 4.349.471 EURO (thereof 1.929.024 Euro = 44,35% EC)



Main achievements - summary



- Monitoring system has been developed in Hungary
 - GIS database from 2005.
 - Standard methodology of data collection
 - GB observations
 - GB nests & breeding
 - GB carcasses found
- Some 2000 ha land purchased and managed on GB friendly way
 - Habitat restoration
 - Extensive management (arable land & grassland)
- 11 km of medium-voltage power lines cabling
 - Much more needed in Hungary even on key sites!
- Information of key stakeholders (farmers & hunters) and general public
 - Still weak point of GB conservation in Hungary
- Management plans for 9 SPAs
 - Revision of key endangering factors and conservation measures
 - Set the course of „new directions” in GB conservation
 - Needs revision after 10 years...



Monitoring Great Bustards



- The national system of Regional Great Bustard Officers was set up in 2004
- Observations points have been registered and stored in GIS system.
- 4 annual monitoring reports of the project were published
- 12 national GB censuses were carried out



Land purchase & habitat management



- 1999 ha land has been purchased
 - total number of contracts signed is 650 (!)
- 573 ha arable land had been converted into grassland
- 268 ha alfalfa field had been established
- 1848 ha fallow was created and/or maintained
- 311 ha oilseed rape was sown at 4 project sites
- 336 ha alfalfa was maintained and managed 'bustard-friendly'
- 2584 ha grassland was managed extensively
- 354 ha winter cereals and other beneficial crops were cultivated



Reduce the risk of mortality



- **Collision**

- 11 kms of medium-voltage power line were buried underground at the Borsodi Mezőség
- 1400 pieces of fireflies have been purchased for installation on electric lines at 6 project sites
 - **Marking is not effective on MVPLs, cabling is the only suitable solution**

- **Rescue of endangered nests**

- 629 breeding females were detected in project period
- 294 nests found with a total number of 515 eggs
 - **Individual protection is not effective and not sustainable**



Information public



- 9 towers and 18 gates have been installed
- 20.000 information leaflets were printed
- 1 video film for farmers was produced
- 6.000 pieces of stickers were made and disseminated among farmers
- 96 farmers' meetings were organized
- 4000 brochures for hunters were produced and disseminated
- 1 documentary film for the hunters was produced
- 14 Regional Hunter-Nature Conservationist Meetings were held
- 18 large and 44 small signboards were designed, prepared and placed out
- 1000 pieces of posters were produced



LIFE Project

(LIFE05 NAT/SK/000115)



Title: „Conservation of *Otis tarda* in Slovakia“

Coordinating beneficiary: The State Nature Conservancy of the Slovak Republic

Project duration: 7th January 2005 to 31st December 2009

Project costs: 2.040.000 EURO (thereof 1.500.000 Euro = 73,53% EC)

Project title: «Cross-border protection of the Great Bustard in Central Europe»

Project acronym: «Great Bustard»

PROJECT LOCATIONS: 4 in Austria and 5 in Hungary

BUDGET INFO:

Total amount: 8,399,265

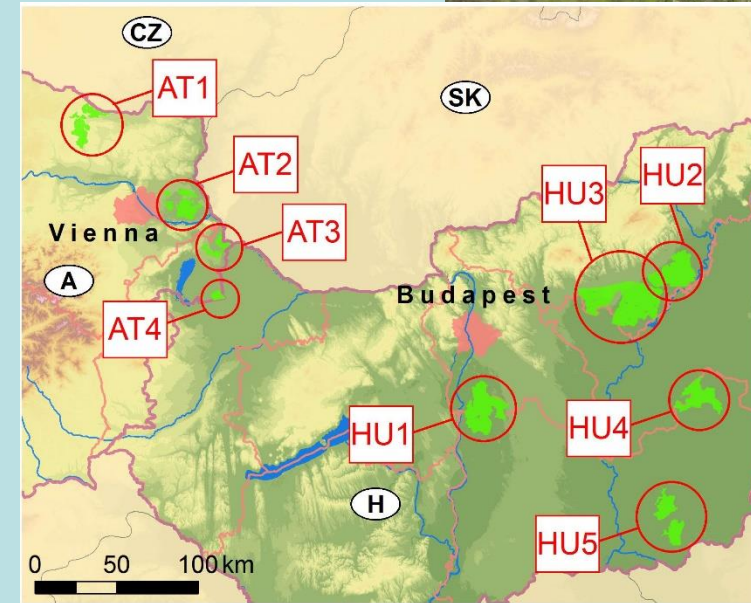
% EC Co-funding: 70.99 %

DURATION: 25/07/16 - 31/12/23

PROJECT'S IMPLEMENTORS:

Coordinating Beneficiary: Österreichische Gesellschaft Großtrappenschutz

9 Associated Beneficiaries (4 from AT and 5 from HU)





MAIN OBJECTIVE

The objectives of this LIFE project are to reduce the threat of collision with power lines, for many years the no. 1 mortality factor for adult and immature Great Bustards not only in Austria.

Transfer of 41.5 km (16.0 km in AT and 25.5 km in HU) of medium voltage power lines below the soil with the support of the energy supplying companies concerned and monitoring of the effectiveness.

The characteristics of the Great Bustard's flight



The male Great Bustard is the heaviest flying bird in the World (together with the male Kori Bustard, Alonso et al. 2009).

Alonso, J. C., Magaña, M., Alonso, J. A., Palacín, C., Martín, C. A. & Martín, B. (2009): The most extreme sexual size dimorphism among birds: allometry, selection, and early juvenile development in the Great Bustard. *Auk* 126: 657–665.

The characteristics of the Great Bustard's flight

While they are tireless fliers and can cover distances of more than 300 km per day (Watzke et al. , 2007), their manoeuvrability is limited by their great weight and large wingspan.



Watzke, H., Oparin, M. L., Kondrantekov, I. A., Oparina, O. S. (2007): The great Bustard population density in the Saratov district east of the river Volga – results of censuses in autumn 1998, 1999 and 2000. *Bustard Studies* 6: 65–74.

Collisions with overhead power lines

- Collision with power lines is indeed the main mortality factor for fully grown great bustards in many areas (e.g. Martín et al. 2004; Palacín et al. 2004, Raab et al. 2012).

Martín, B., Martín, C. A., Palacín, C., Magaña, M., Alonso, J. & Alonso, J. C. (2004): Effect of collision with power lines on the viability of the Great Bustard metapopulation in Madrid province. International Symposium on Ecology and Conservation of Steppe-land Birds, Lleida. Poster.

Palacín, C., Alonso, J. C., Martín, C. A., Magaña, M., Martín, B. & Alonso, J. A. (2004): La Avutarda. In: Madroño, A., González, C. & Atienza, J. C. (Eds.): Libro Rojo de las Aves de España, 209–213. SEO/Birdlife-Ministerio de Medio Ambiente, Madrid.

Raab, R., Schütz, C., Spakovszky, P., Julius, E. & Schulze, C. H. (2012): Underground cabling and marking of power lines: conservation measures rapidly reduced mortality of West-Pannonian Great Bustards *Otis tarda*. Bird Conservation International 22: 299–306.



Measures of the Austrian LIFE and LIFE+ Project



- **transfer** 93 km of 20 kV **power lines** that run through important bustard areas **below the soil** (costs: ca. 50.000 - 80.000 Euro/km)
- **mark** ca. 150 km of 110 kV, 220 kV & 380 kV **power lines** to make them better visible to bustards (costs: ca. 10.000 - 30.000 Euro/km)





Foto: S. Raab

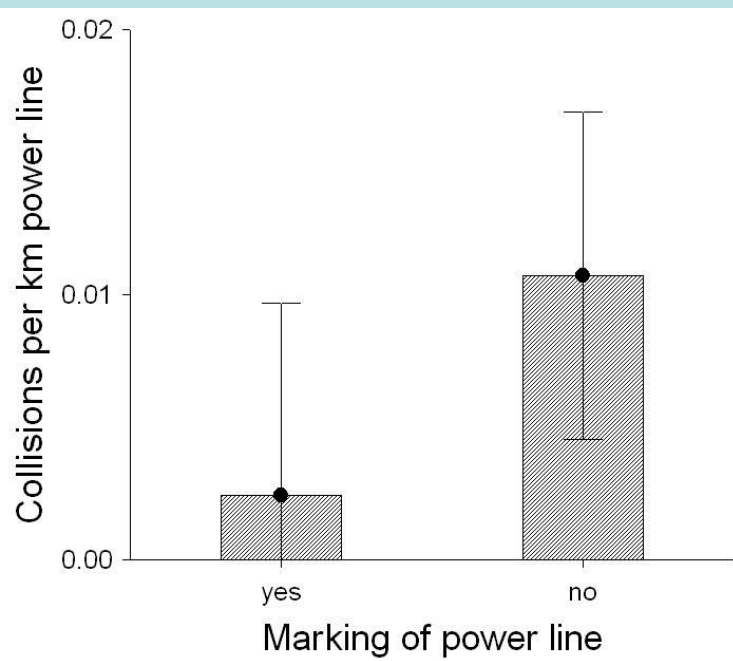




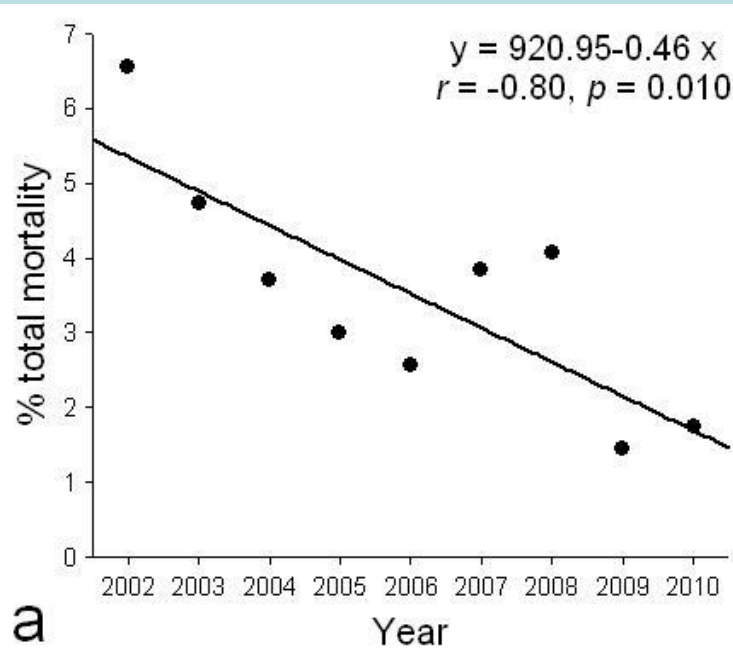






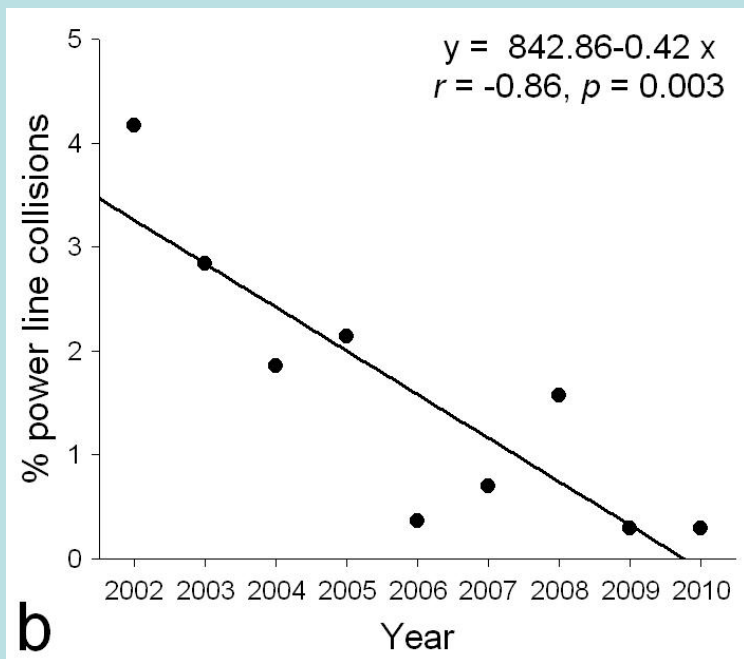


Raab et al. (2012): Underground cabling and marking of power lines: conservation measures rapidly reducing mortality of West-Pannonian Great Bustards *Otis tarda*. Bird Conservation International 22: 299–306.



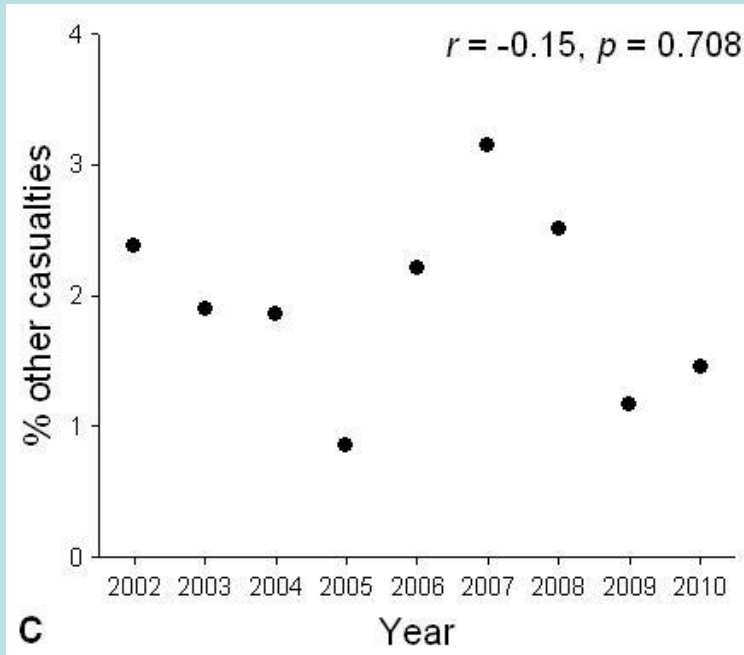
The mortality rate of Great Bustards in our study area (covering 686.5 km²) decreased significantly between 2002 and 2011, predominantly caused by reduced mortality due to power line collisions.

Univariate tests indicate that underground cabling and power line marking significantly decreased power line collision casualties.

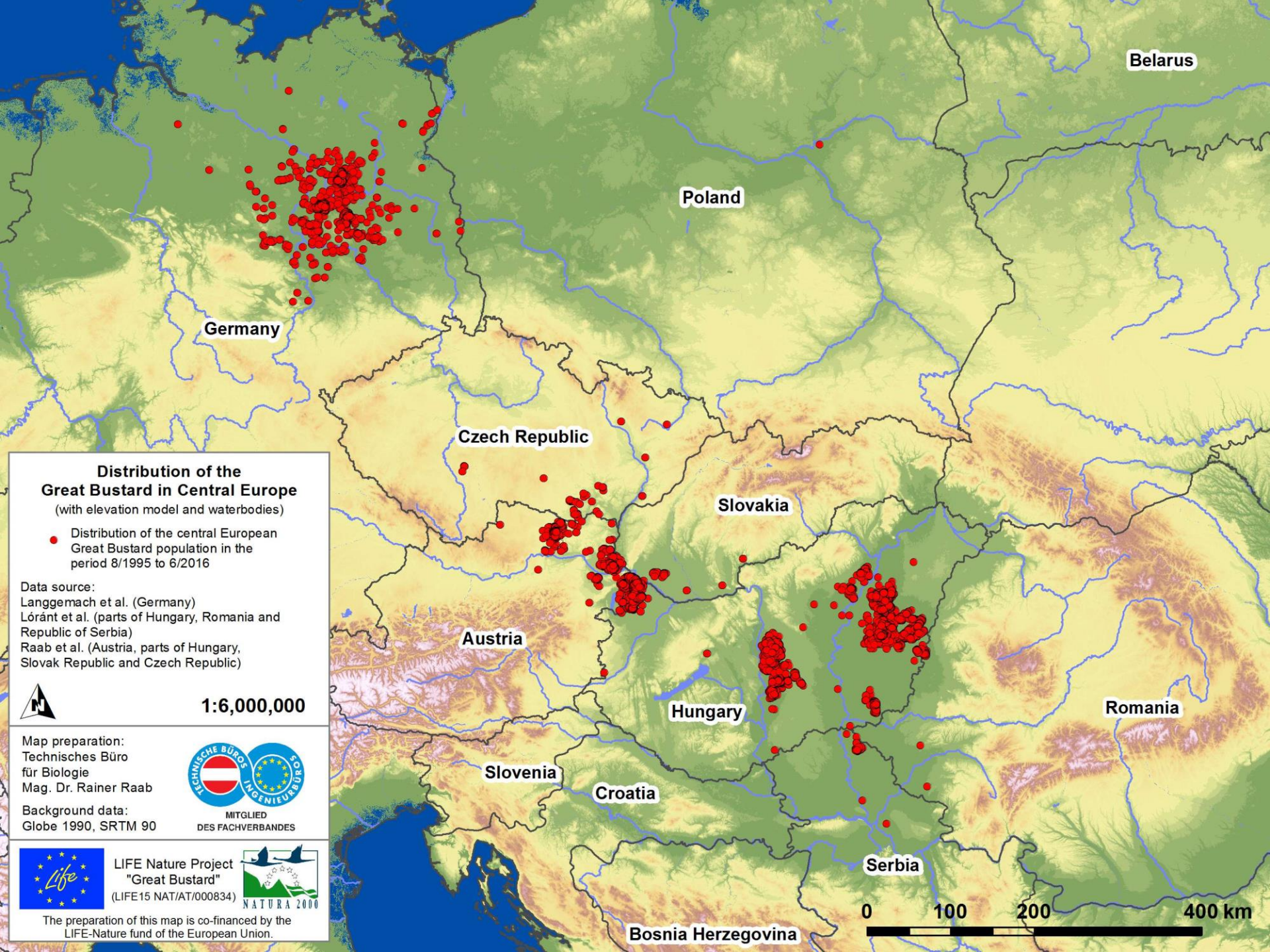


Generalised linear models (GLMs) highlighted the prominent effect of underground cabling.

Our results indicate that five years after underground cabling and marking of power lines within core areas of the West-Pannonian distribution range of the Great Bustard, the population already benefited through a significantly decreased mortality rate.



Both conservation measures most likely contributed strongly to the rapid recovery of the West-Pannonian Great Bustard population observed within the last decade.



Distribution of the Great Bustard in Central Europe

(with elevation model and waterbodies)

- Distribution of the central European Great Bustard population in the period 8/1995 to 6/2016

Data source:

Langgemach et al. (Germany)

Lóránt et al. (parts of Hungary, Romania and Republic of Serbia)

Raab et al. (Austria, parts of Hungary, Slovak Republic and Czech Republic)



1:6,000,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



Background data:
Globe 1990, SRTM 90

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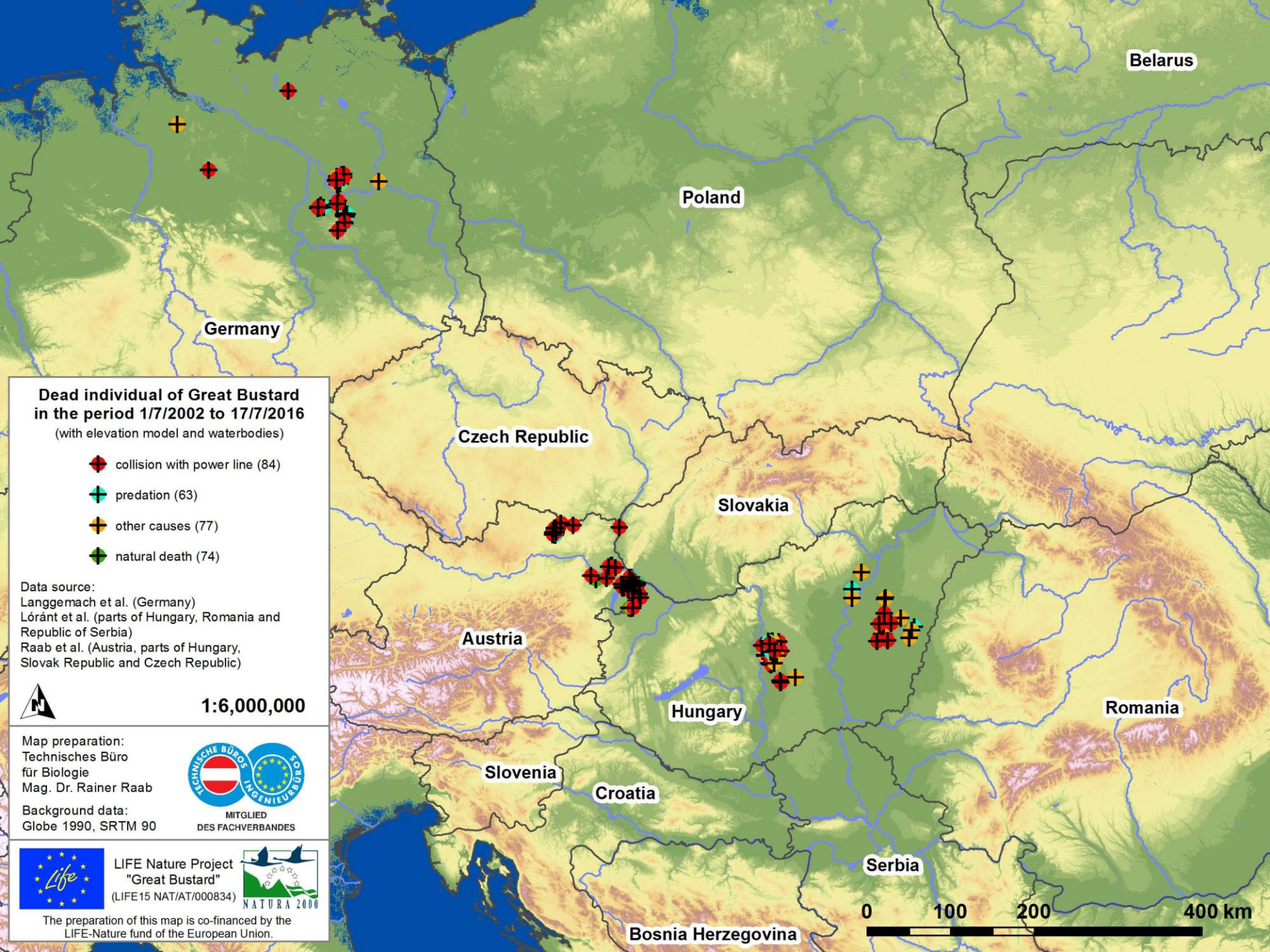


LIFE Nature Project
"Great Bustard"
(LIFE 15 NAT/AT/000834)







The preparation of this map is co-financed by the LIFE-Nature fund of the European Union.

0 100 200 400 km



**Dead individual of Great Bustard
in the period 1/7/2002 to 17/7/2016**

(with elevation model and waterbodies)

-  collision with power line (84)
-  predation (63)
-  other causes (77)
-  natural death (74)

Data source:
Langgemach et al. (Germany)
Lóránt et al. (parts of Hungary, Romania and
Republic of Serbia)
Raab et al. (Austria, parts of Hungary,
Slovak Republic and Czech Republic)

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	West-Pannonian Population		East-Pannonian Population		German Population		Total	
	1/7/2002 - 17/7/2016		15/4/2004 - 30/6/2015		29/8/2002 - 29/9/2013		1/7/2002 - 17/7/2016	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
collision with power line	43	32,33	26	28,57	15	20,27	84	28,19
predation	18	13,53	5	5,49	40	54,05	63	21,14
other causes	9	6,77	54	59,34	14	18,92	77	25,84
natural death	63	47,37	6	6,59	5	6,76	74	24,83
Total	133	100,00	91	100,00	74	100,00	298	100,00

**Dead individual of Great Bustard
in the period 1/7/2002 to 17/7/2016**

(with elevation model and waterbodies)

-  collision with power line (43)
-  predation (18)
-  other causes (9)
-  natural death (63)

Data source:
Raab et al. (Austria, parts of Hungary,
Slovak Republic and Czech Republic)



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Map preparation:
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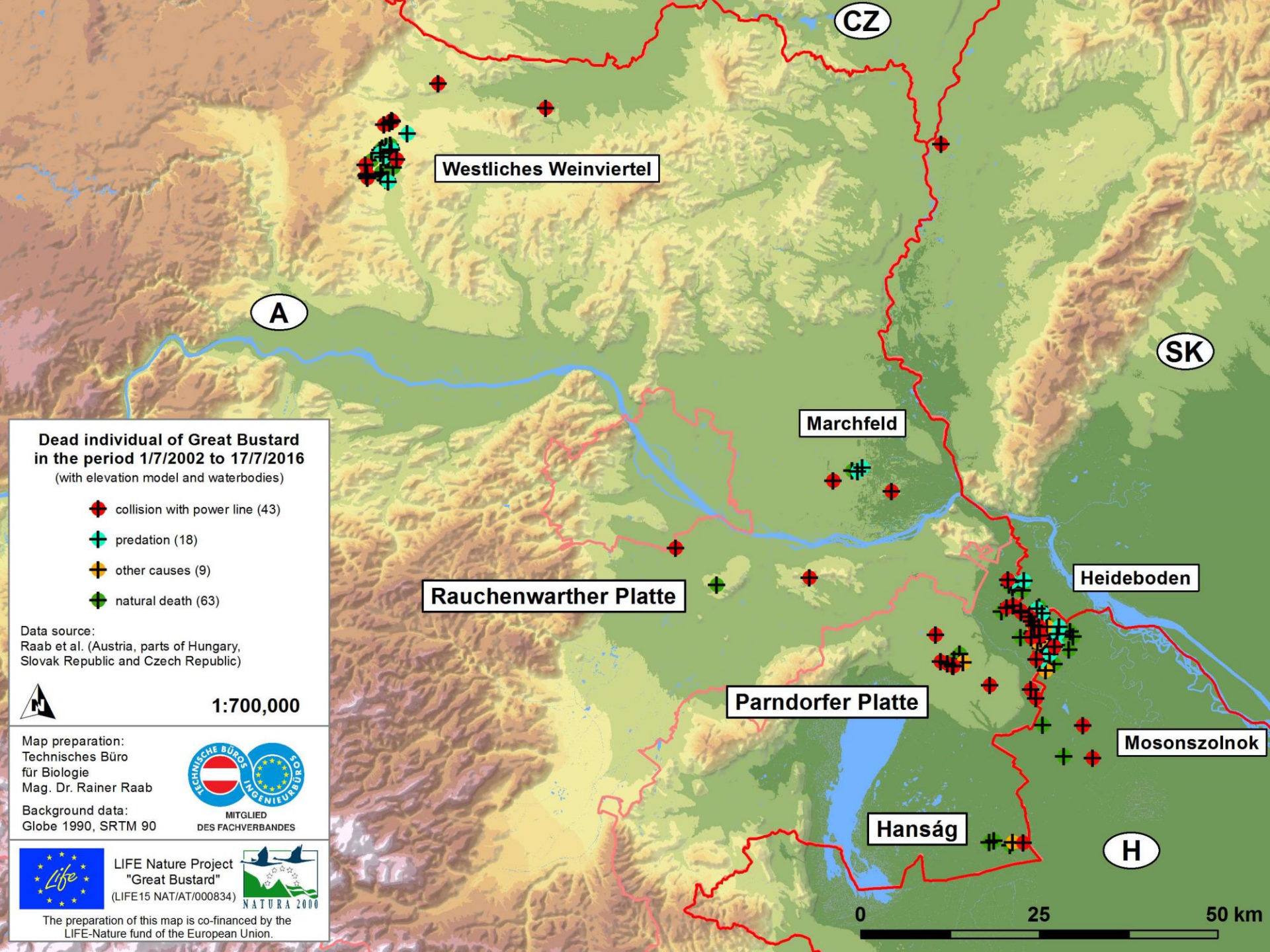
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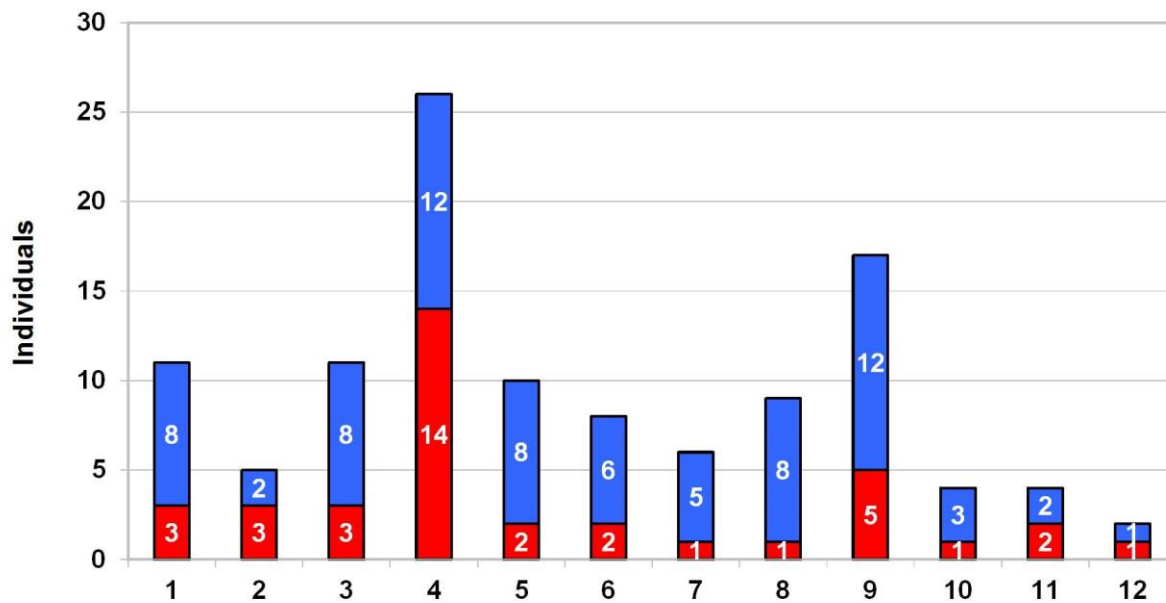


LIFE Nature Project
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Dead individuals of Great Bustard separated by months

in the period 6/2002 to 5/2016

- other causes of death
- death caused by collision with power line

Data source: Raab et al. (2010) and
data from R. Raab and
P. Spakovszky

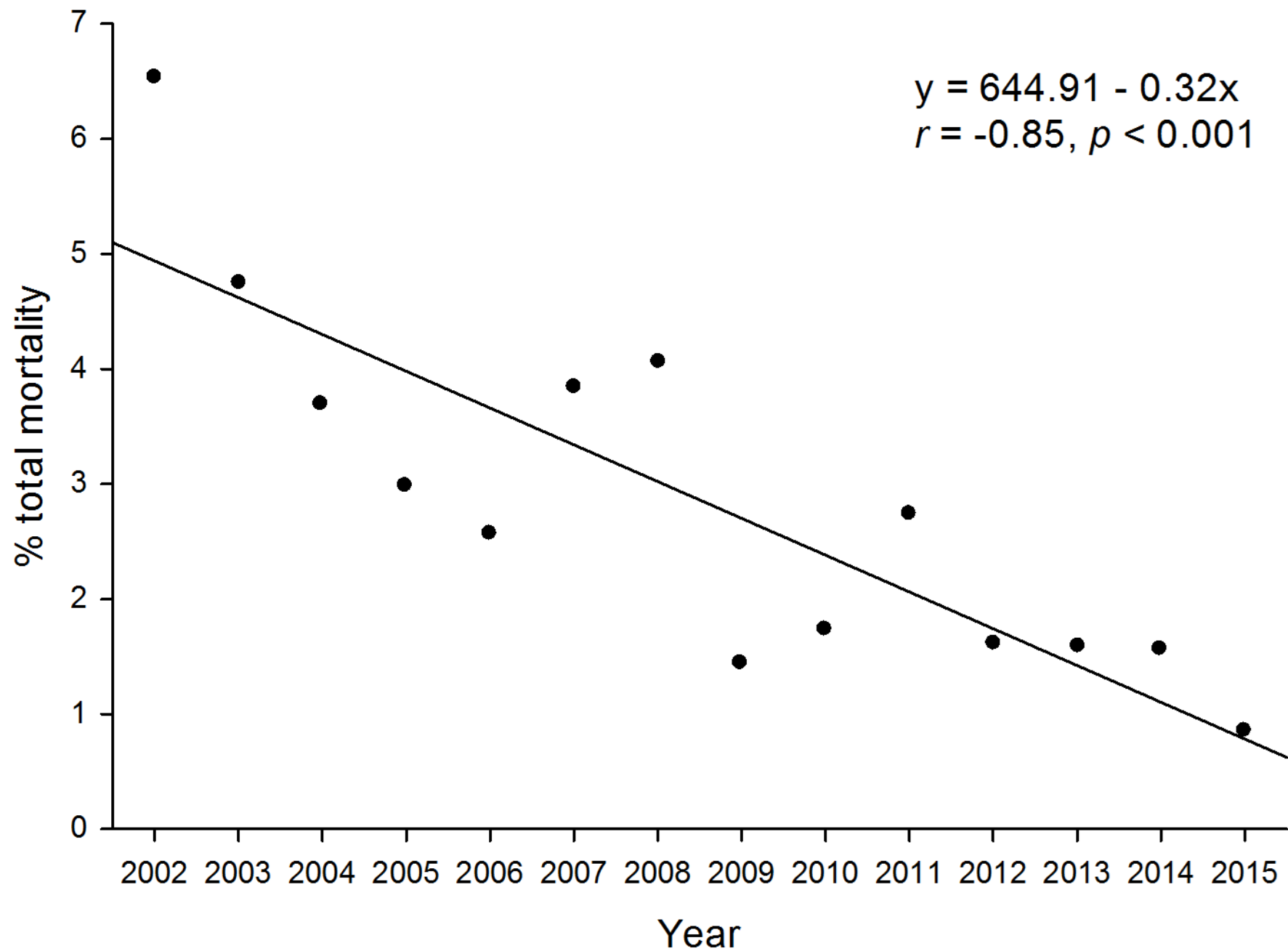
Graphic preparation:
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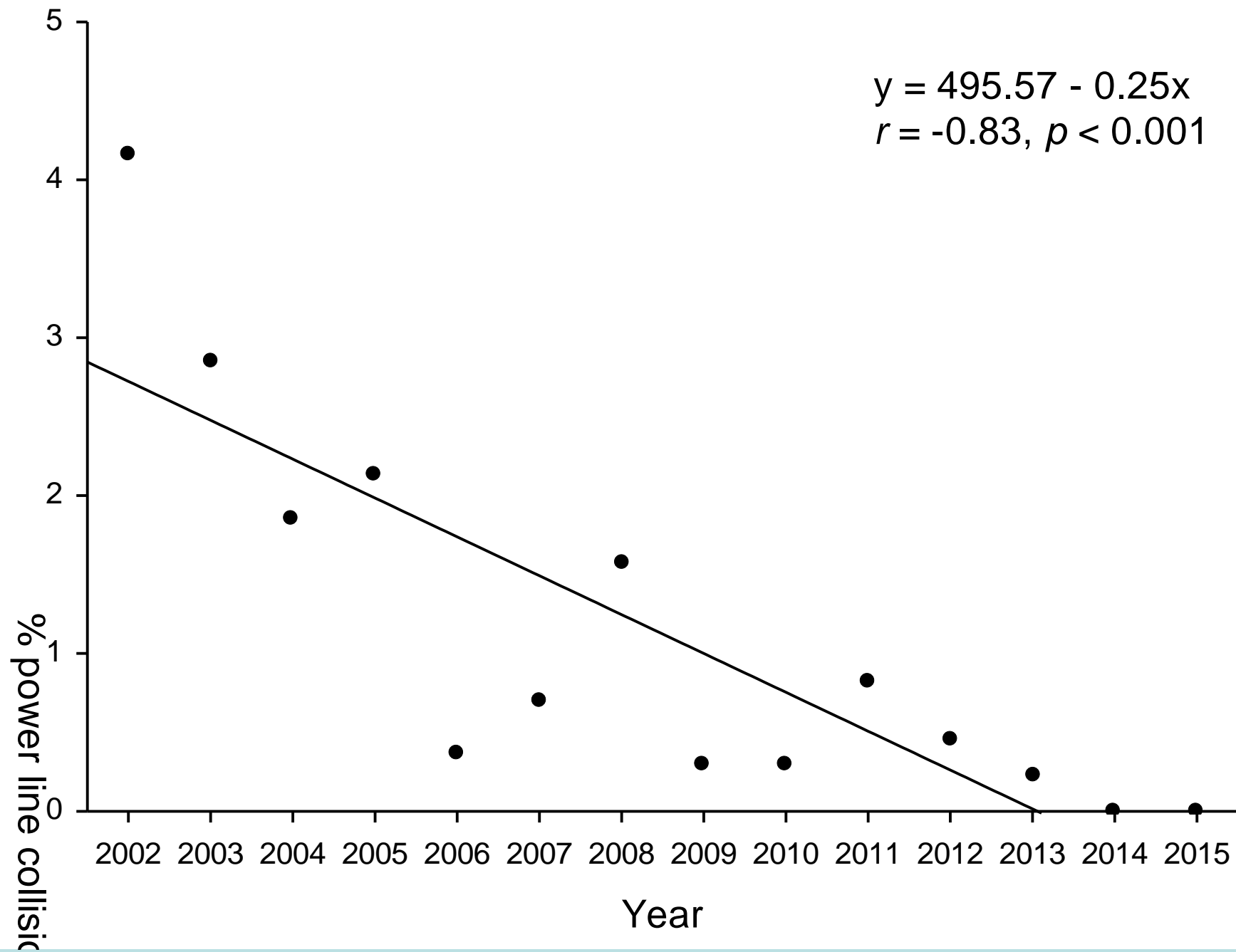


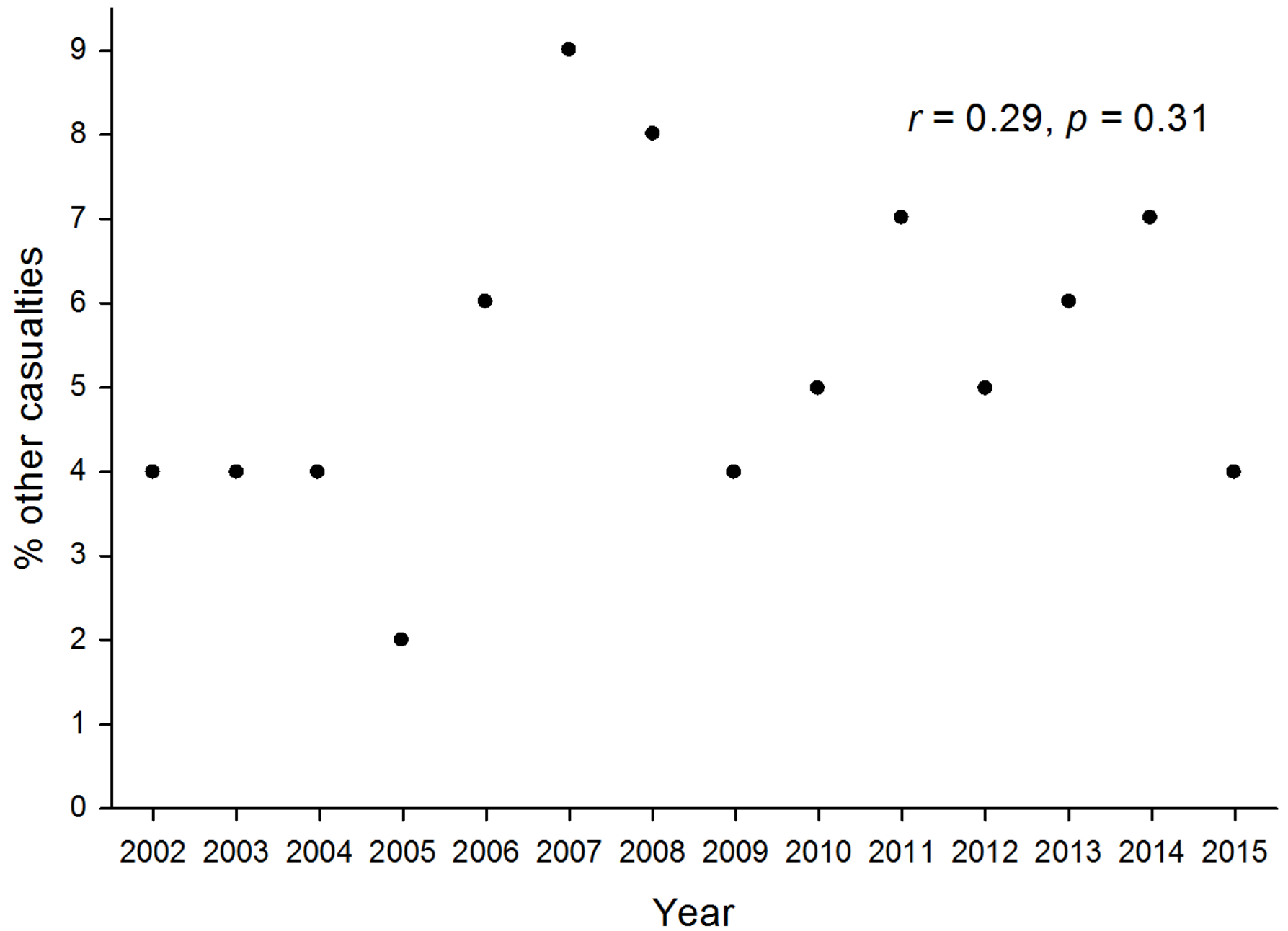
LIFE Nature Project
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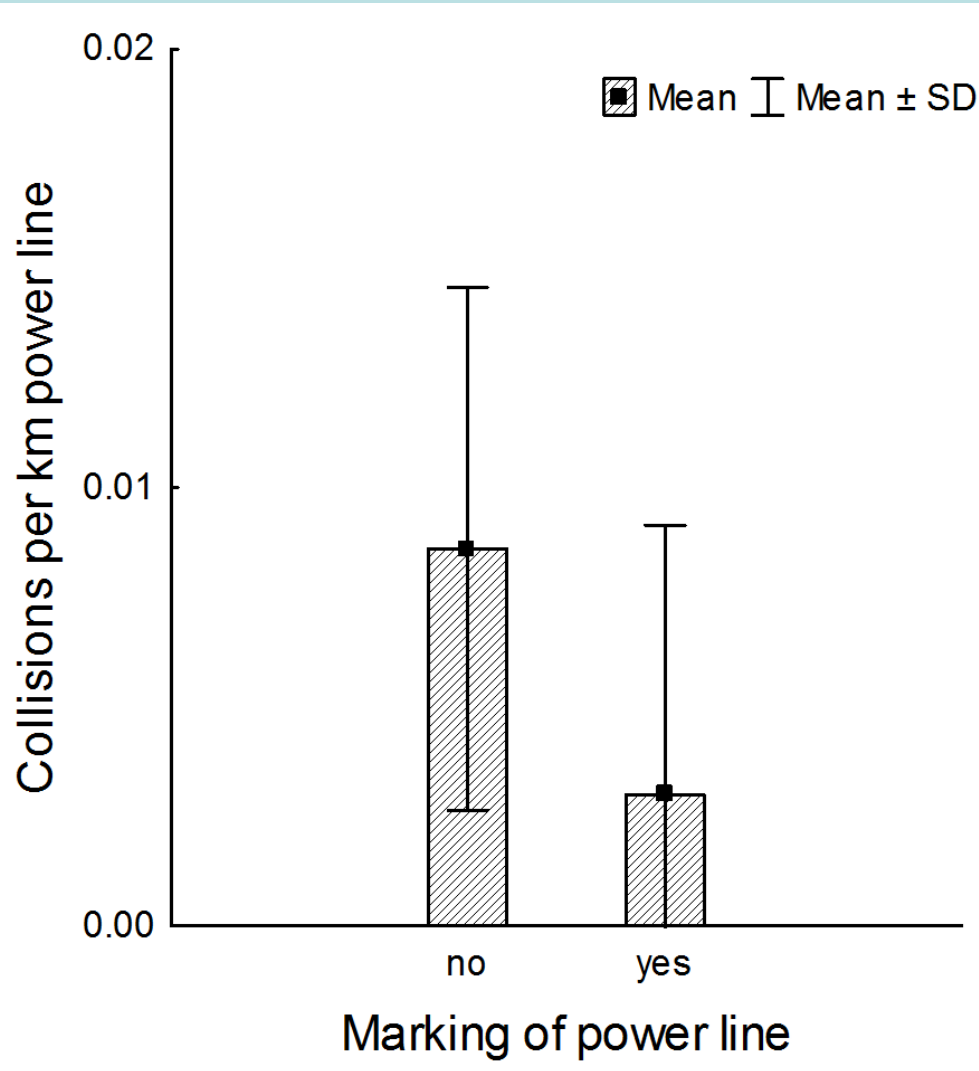
Annual mortality rate due to power line collisions
declined significantly

- with increasing length of underground power lines

(Spearman rank correlation: $r_s = -0.85$, $P < 0.001$)

- with increasing length of marked power lines


(Spearman rank correlation: $r_s = -0.83$, $P < 0.001$)





The number of Great Bustards colliding with power lines was significantly higher at unmarked than marked power line sections (paired Wilcoxon test: $Z = 2.20$, $P = 0.028$).


**Distribution of Great Bustard
in the Project-Sub-Area
"Westliches Weinviertel"**
in the period 5/8/2002 to 26/2/2008
(Individuals)


- 1
- 2 - 5
- 6 - 25
- 26 - 51


 Great Bustard habitat, that was not divided by medium- and high-voltage power lines (4,468 ha)


 20 kV power line, which was removed in Sep. 2006, Aug. 2007, from Jan. 2008 to Feb. 2008 and in April 2008

 selected medium-voltage power line (20 kV)

 110 kV or 380 kV power line, which has been marked between Sep. 2006 and Jan. 2008

 selected high-voltage power line (110, 220 and 380 kV)

 Project-Sub-Area "Westliches Weinviertel" (WWV) = actual Great Bustard habitat

 community borders



1:180,000

Map preparation:
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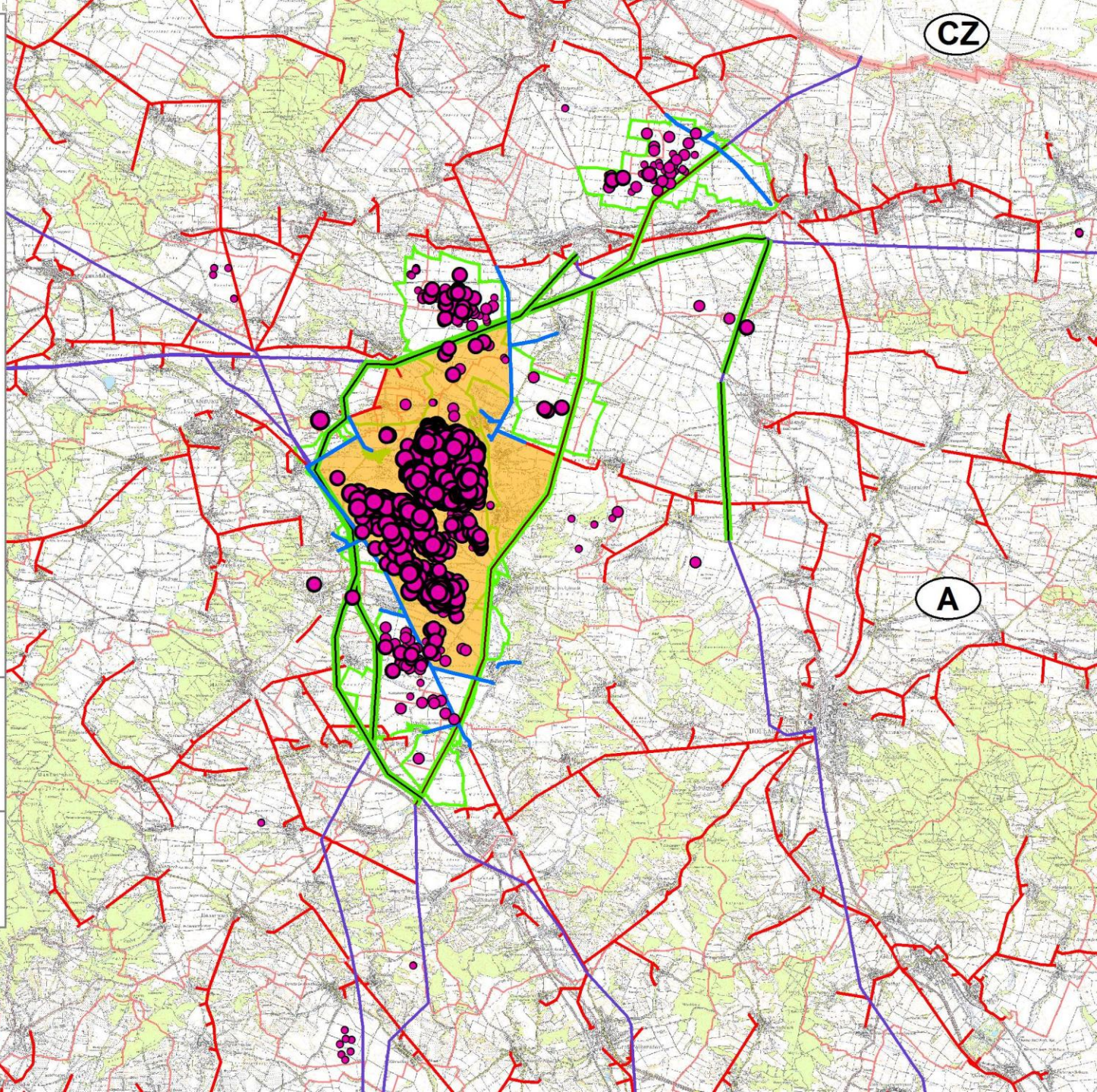


Background data:
BEV, Land NÖ



The preparation of this map is co-financed by the
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0 1 2 4 6 8 km



Distribution of Great Bustard in the Project-Sub-Area "Westliches Weinviertel"

in the period 3/3/2008 to 28/11/2016
(Individuals)

- 1
- 2 - 5
- 6 - 25
- 26 - 65

Great Bustard habitat, that is not divided by medium- and high-voltage power lines (6,801 ha)

20 kV power line, which was removed in Sep. 2006, Aug. 2007, from Jan. 2008 to Feb. 2008 and in April 2008

selected medium-voltage power line (20 kV)

110 kV or 380 kV power line, which has been marked between Sep. 2006 and Jan. 2008

selected high-voltage power line (110, 220 and 380 kV)

Project-Sub-Area "Westliches Weinviertel" (WWV) = actual Great Bustard habitat

community borders



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Background data:
BEV, Land NÖ

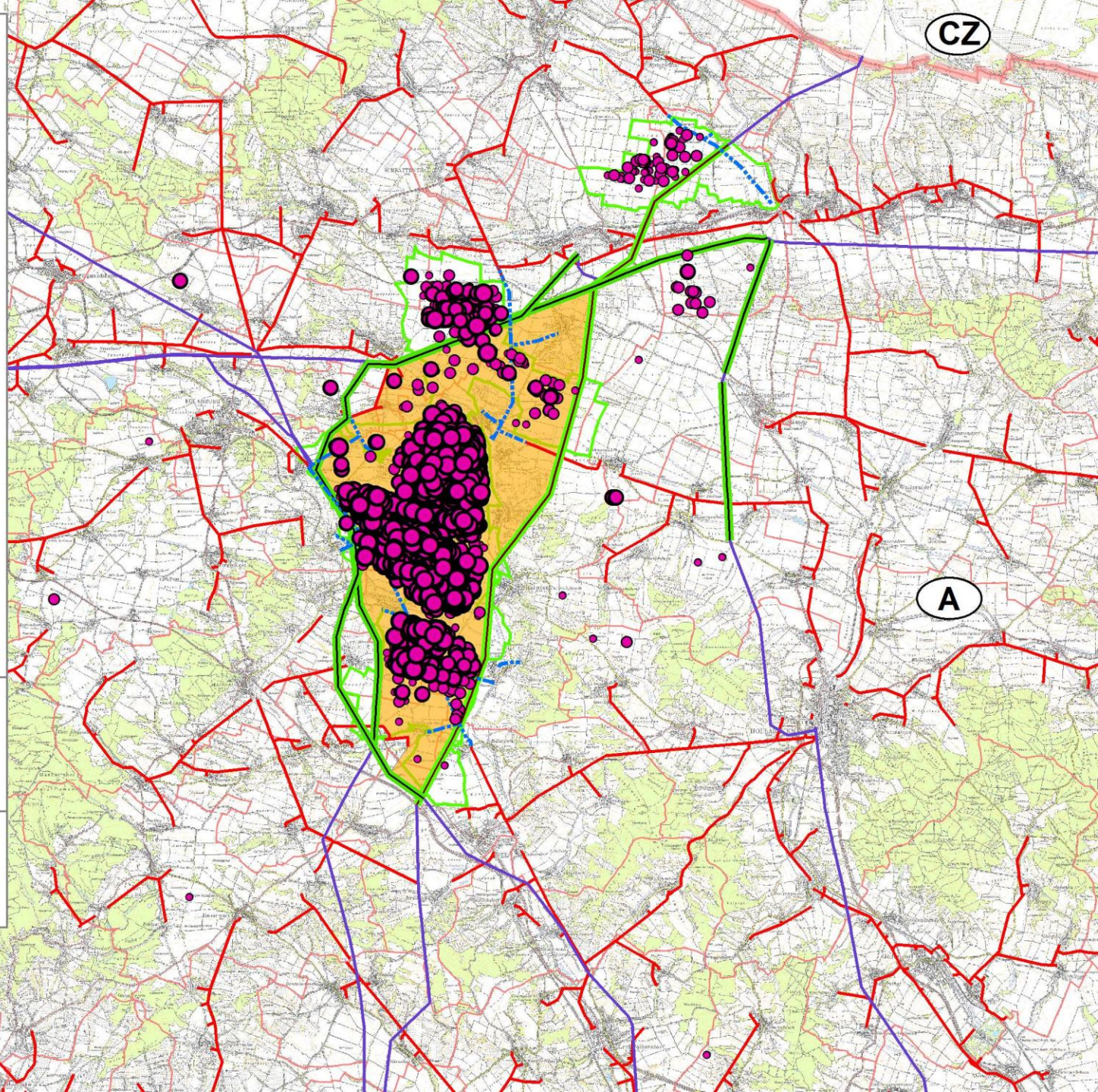


LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)

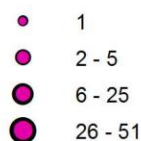


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0 1 2 4 6 8 km



Distribution of Great Bustard in the Project-Sub-Area "Westliches Weinviertel" in the period 5/8/2002 to 26/2/2008 (Individuals)



Flight movements of Great Bustard

Great Bustard habitat, that was not divided by medium- and high-voltage power lines (4,468 ha)

20 kV power line, which was removed in Sep. 2006, Aug. 2007, from Jan. 2008 to Feb. 2008 and in April 2008

selected medium-voltage power line (20 kV)

110 kV or 380 kV power line, which has been marked between Sep. 2006 and Jan. 2008

selected high-voltage power line (110, 220 and 380 kV)

Project-Sub-Area "Westliches Weinviertel" (WWV) = actual Great Bustard habitat

community borders



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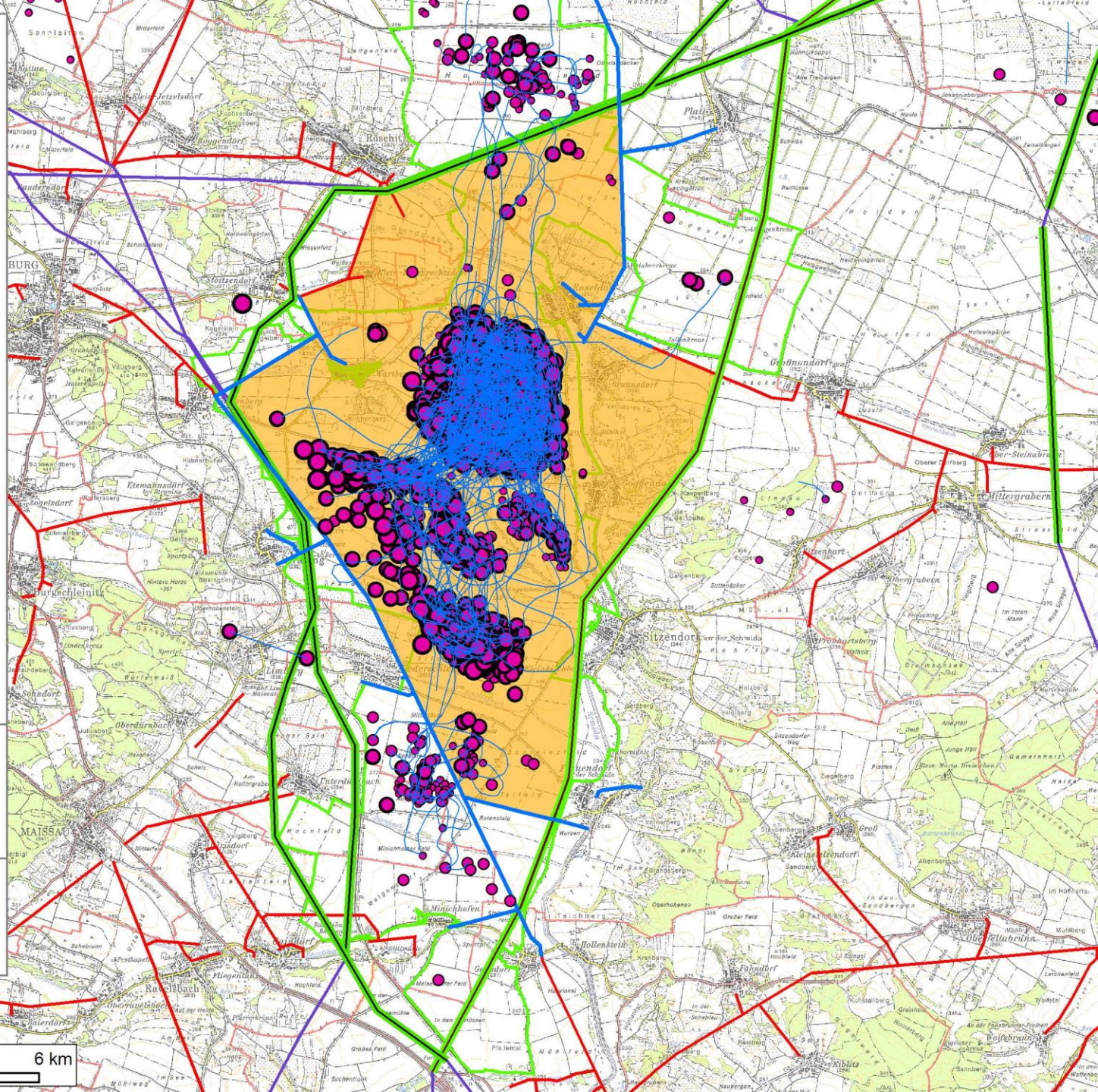
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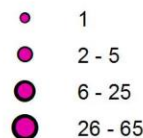
Background data:
BEV, Land NÖ



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Distribution of Great Bustard in the Project-Sub-Area "Westliches Weinviertel" in the period 3/3/2008 to 28/11/2016 (Individuals)



Flight movements of Great Bustard

Great Bustard habitat, that is not divided by medium- and high-voltage power lines (6,801 ha)

20 kV power line, which was removed in Sep. 2006, Aug. 2007, from Jan. 2008 to Feb. 2008 and in April 2008

selected medium-voltage power line (20 kV)

110 kV or 380 kV power line, which has been marked between Sep. 2006 and Jan. 2008

selected high-voltage power line (110, 220 and 380 kV)

Project-Sub-Area "Westliches Weinviertel" (WWV) = actual Great Bustard habitat

community borders

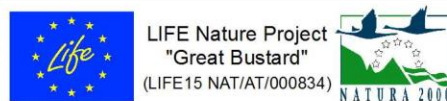


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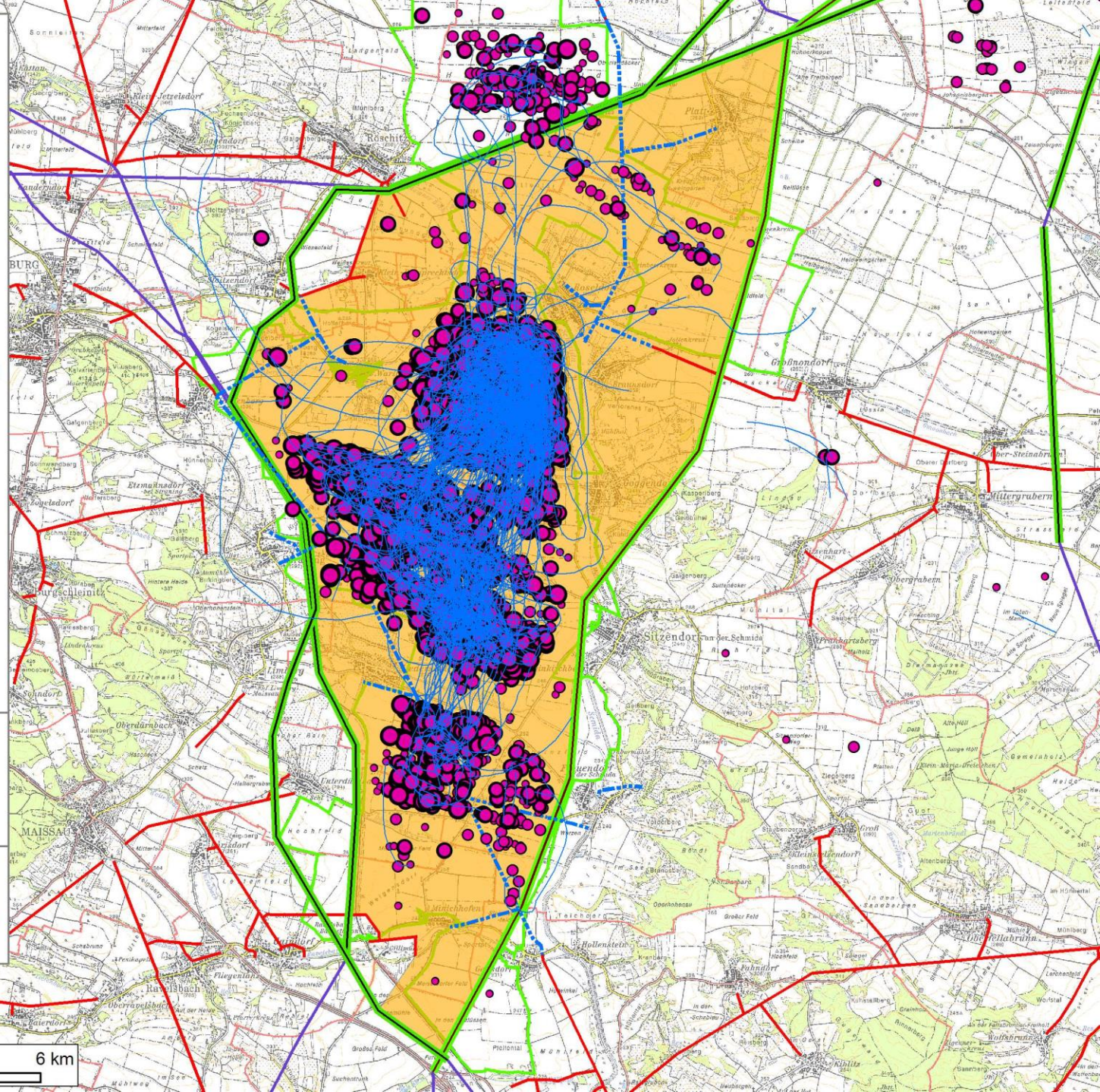
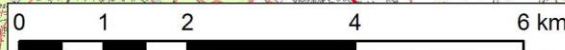
Map preparation:
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Background data:
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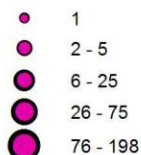


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Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden"

in the period 15/7/2002 to 29/11/2006



Wind turbine (Status: 12/2016)



Great Bustard habitat, that was not divided by medium- and high-voltage power lines (6,934 ha)



20 kV power line, which was removed between 2010 and 2015



20 kV power line, which was removed between 2005 and 2010



selected medium-voltage power line (20 kV)



110 kV, 220 kV or 380 kV power line, which has been marked between July 2006 and May 2008



selected high-voltage power line (110, 220 and 380 kV)



Project-Sub-Area "Parndorfer Platte - Heideboden" (PPH) = actual Great Bustard habitat



community borders



1:180,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

Background data:
BEV, Land BGLD,
APG, Netz BGLD



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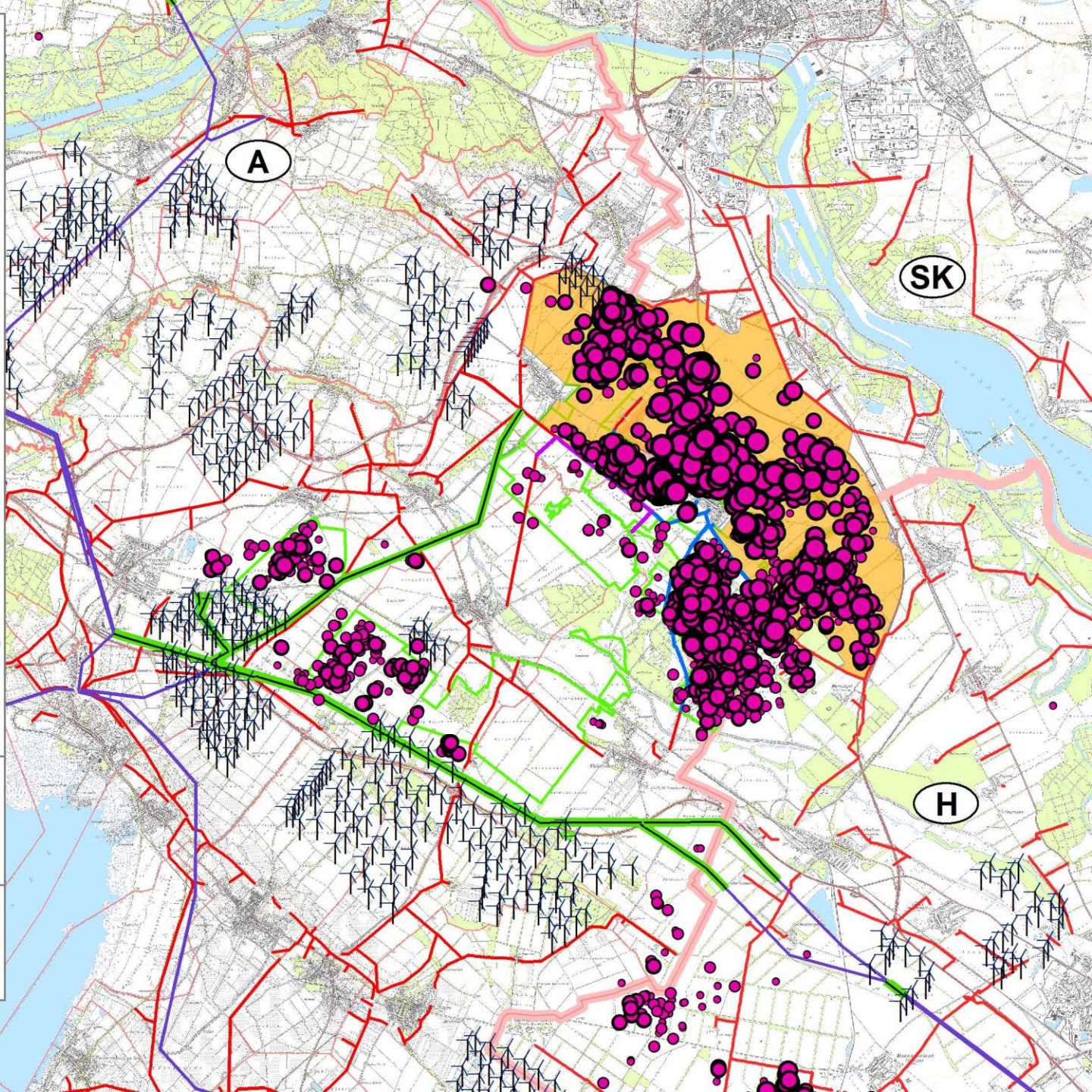


LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



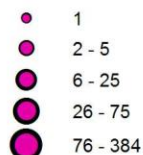
The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.

0 1 2 4 6 8 km



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden"

in the period 2/12/2006 to 10/1/2017



Wind turbine (Status: 12/2016)

Great Bustard habitat, that is not divided by medium- and high-voltage power lines (11,933 ha)

20 kV power line, which was removed between 2010 and 2015

20 kV power line, which was removed between 2005 and 2010

selected medium-voltage power line (20 kV)

110 kV, 220 kV or 380 kV power line, which has been marked between July 2006 and May 2008

selected high-voltage power line (110, 220 and 380 kV)

Project-Sub-Area "Parndorfer Platte - Heideboden" (PPH) = actual Great Bustard habitat

community borders



1:180,000

Map preparation:
Technisches Büro
für Biologie

Mag. Dr. Rainer Raab

Background data:
BEV, Land BGLD,
APG, Netz BGLD



MITGLIED
DES FACHVERBANDES

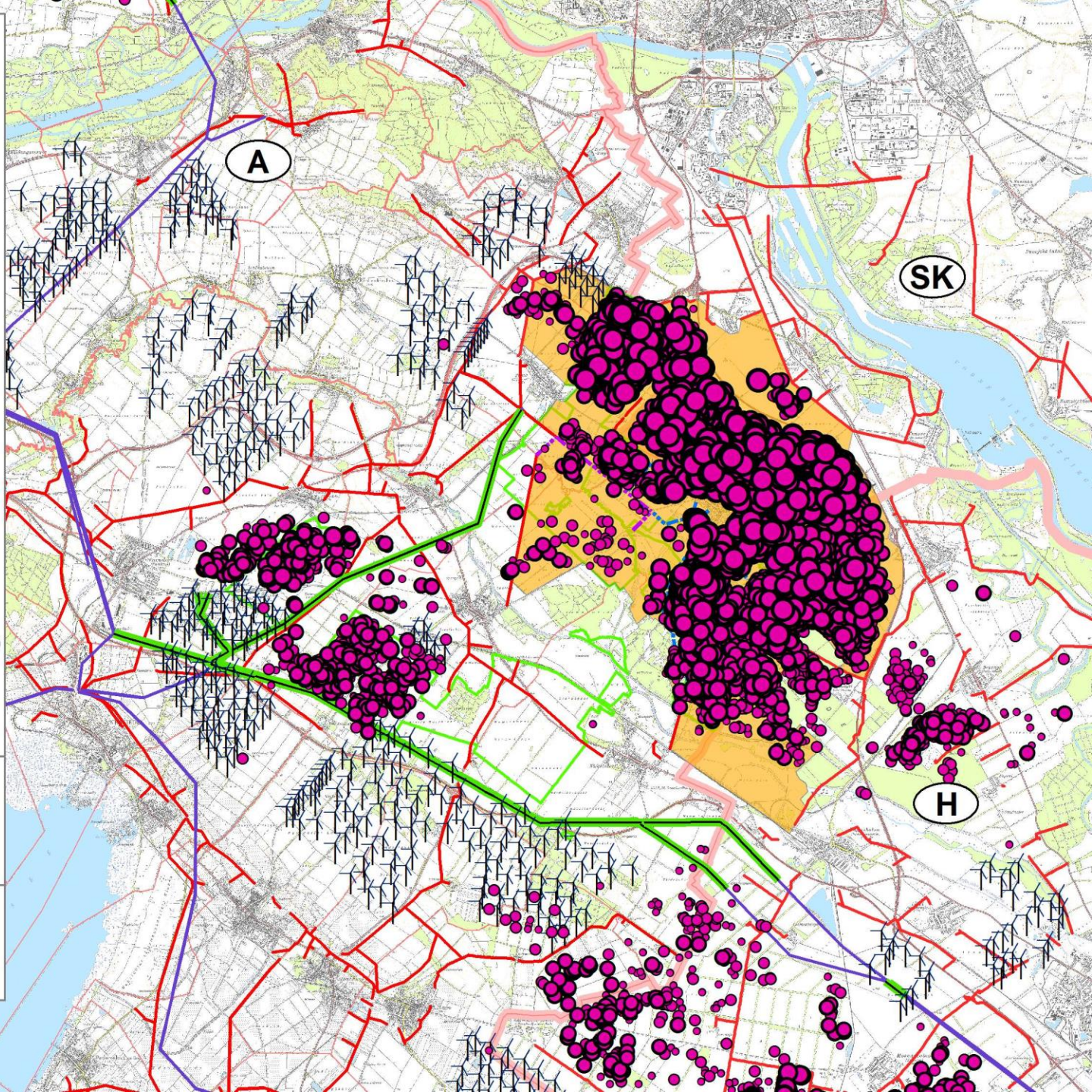


LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



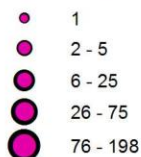
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0 1 2 4 6 8 km



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden"

in the period 15/7/2002 to 29/11/2006



— Flight movement of Great Bustard



Wind turbine (Status: 12/2016)

Great Bustard habitat, that was not divided by medium- and high-voltage power lines (6,934 ha)

20 kV power line, which was removed between 2010 and 2015

20 kV power line, which was removed between 2005 and 2010

selected medium-voltage power line (20 kV)

110 kV, 220 kV or 380 kV power line, which has been marked between July 2006 and May 2008

selected high-voltage power line (110, 220 and 380 kV)

Project-Sub-Area "Parndorfer Platte - Heideboden" (PPH) = actual Great Bustard habitat

community borders



1:90,000

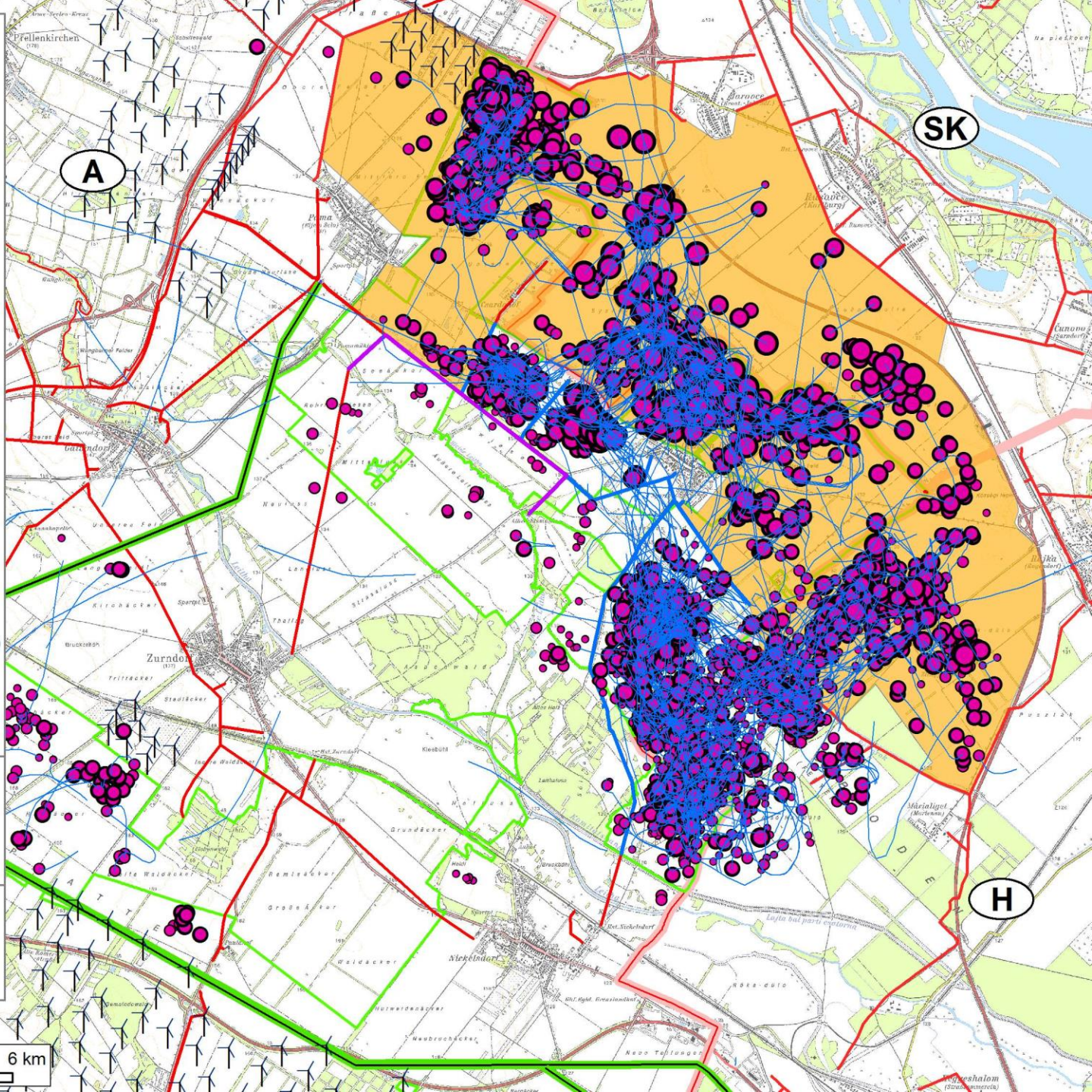
Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab
Background data:
BEV, Land BGLD,
APG, Netz BGLD



MITGLIED
DES FACHVERBANDES

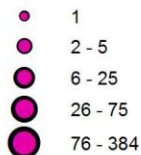


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Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden"

in the period 2/12/2006 to 10/1/2017



Flight movements Great Bustard



Wind turbine (Status: 12/2016)

Great Bustard habitat, that is not divided by medium- and high-voltage power lines (11,933 ha)

20 kV power line, which was removed between 2010 and 2015

20 kV power line, which was removed between 2005 and 2010

selected medium-voltage power line (20 kV)

110 kV, 220 kV or 380 kV power line, which has been marked between July 2006 and May 2008

selected high-voltage power line (110, 220 and 380 kV)

Project-Sub-Area "Parndorfer Platte - Heideboden" (PPH) = actual Great Bustard habitat

community borders



1:180,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab
Background data:
BEV, Land BGLD,
APG, Netz BGLD

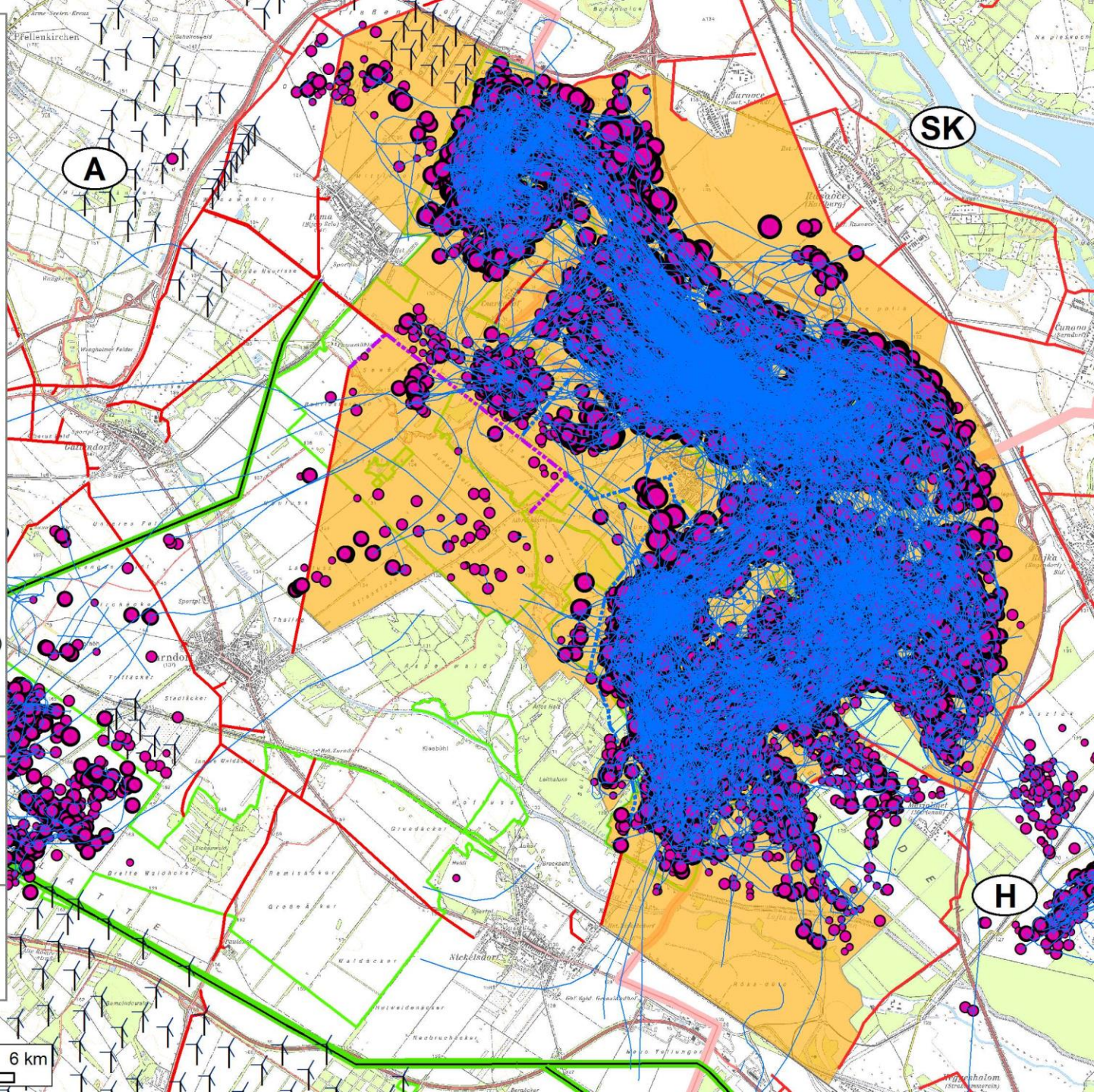


MITGLIED
DES FACHVERBANDES



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.

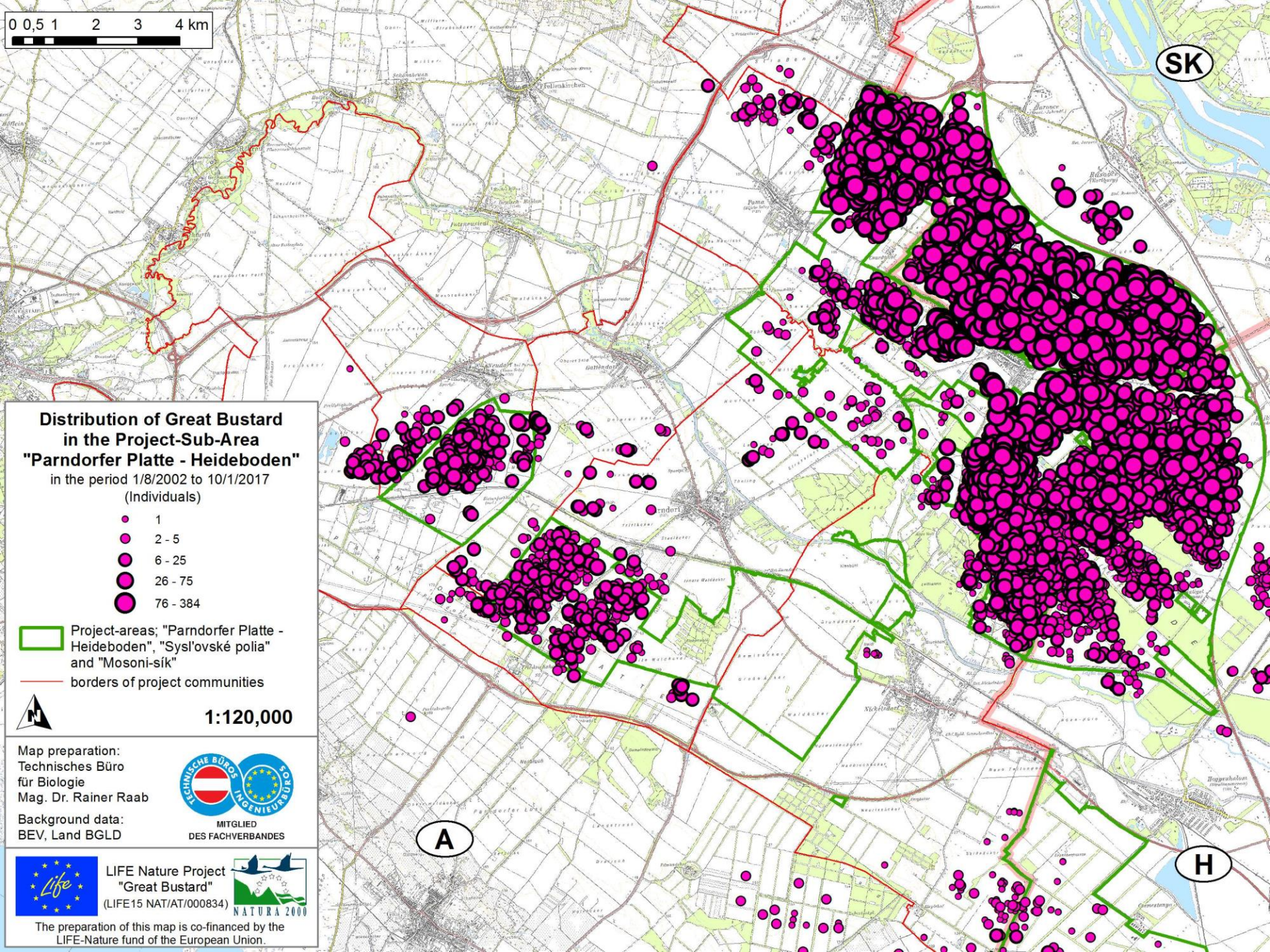
0 1 2 4 6 km





Ergebnisse des Monitorings von
08/2002 bis 01/2017 Teil 1:
Verbreitung der Großtrappe im
LIFE+ Projekt – Teilgebiet
„Parndorfer Platte – Heideboden“

0 0,5 1 2 3 4 km



**Distribution of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"**
in the period 1/8/2002 to 10/1/2017
(Individuals)

- 1
- 2 - 5
- 6 - 25
- 26 - 75
- 76 - 384

Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



MITGLIED
DES FACHVERBANDES

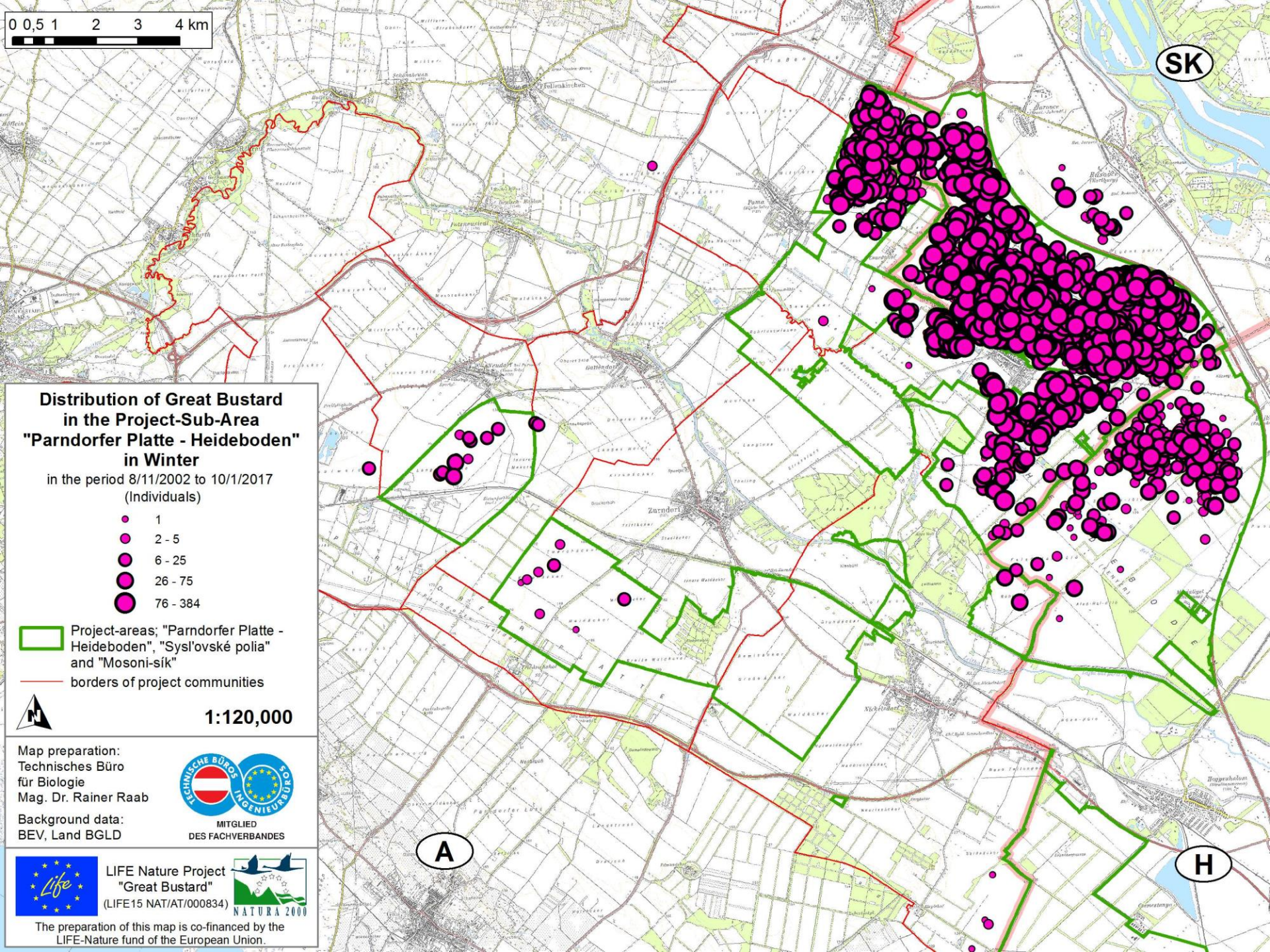
Background data:
BEV, Land BGDL



LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)

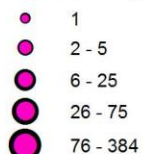


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Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in Winter

in the period 8/11/2002 to 10/1/2017
(Individuals)



Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities

1:120,000

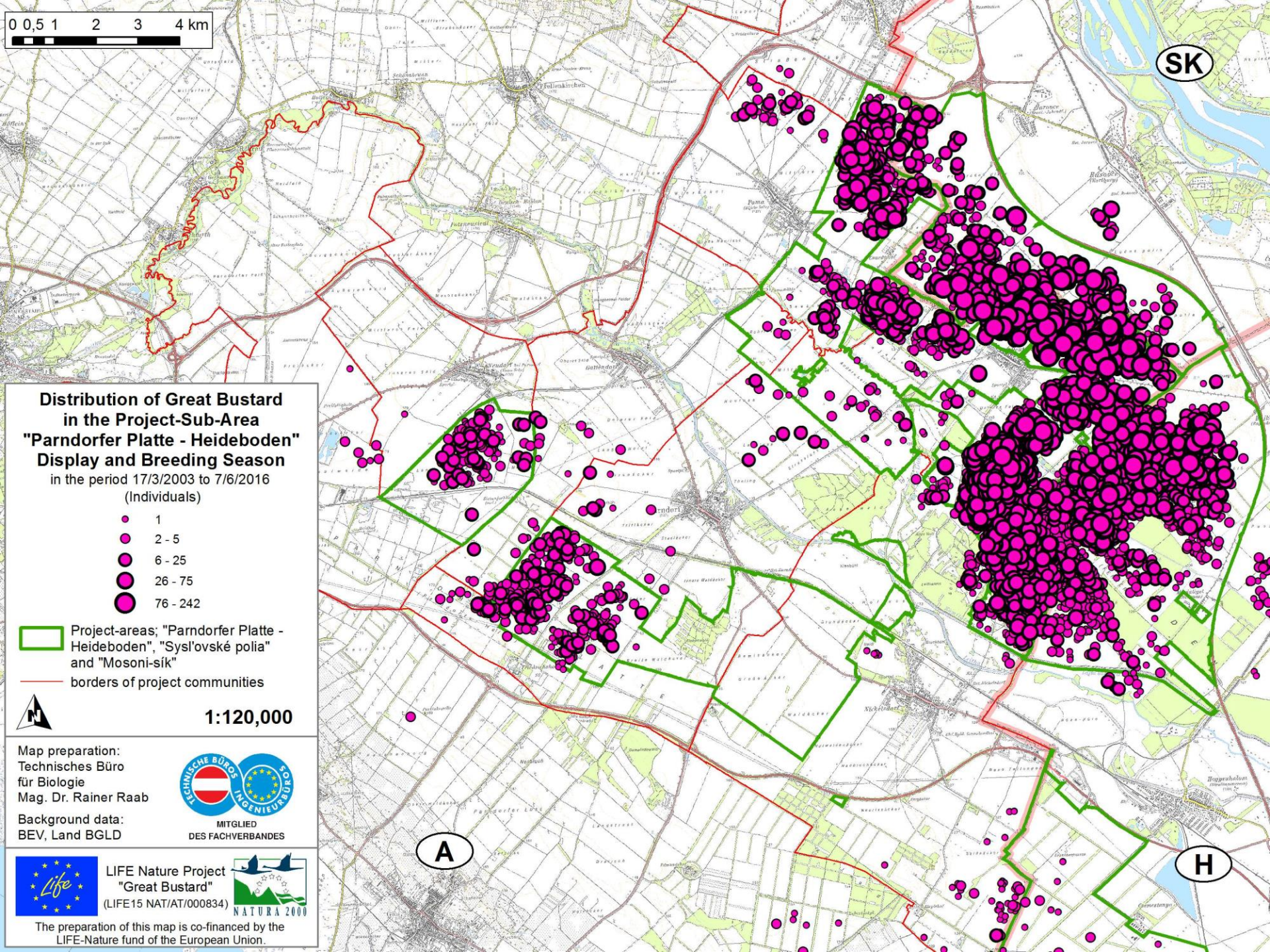
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Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



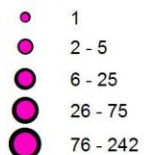
Background data:
BEV, Land BGDL



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.



**Distribution of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"**
Display and Breeding Season
in the period 17/3/2003 to 7/6/2016
(Individuals)



Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities



1:120,000

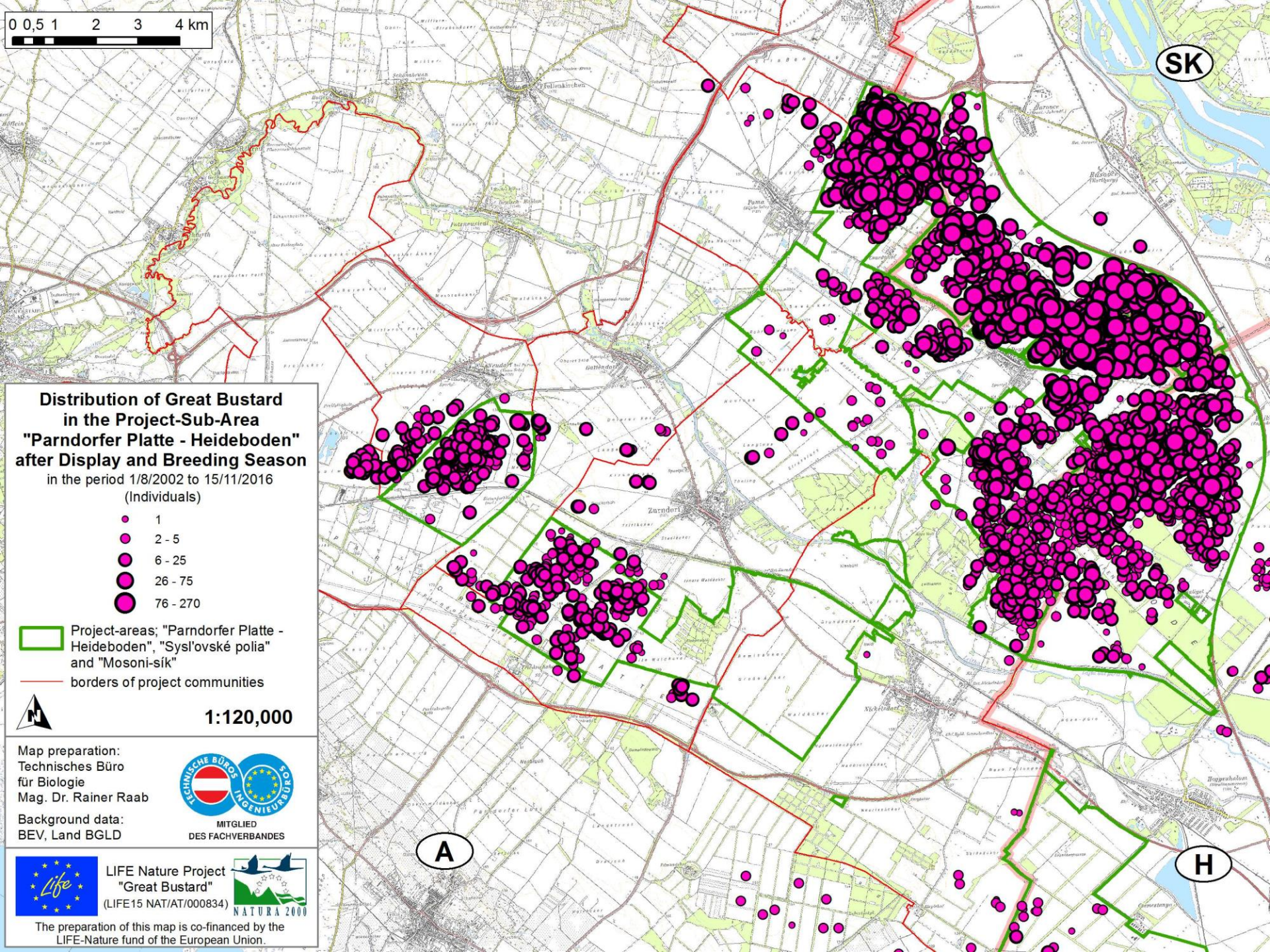
Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



Background data:
BEV, Land BGDL

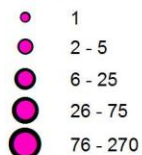


The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.



SK

**Distribution of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"
after Display and Breeding Season**
in the period 1/8/2002 to 15/11/2016
(Individuals)



Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities

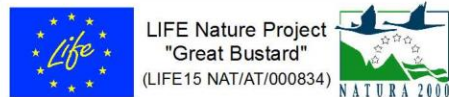


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Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



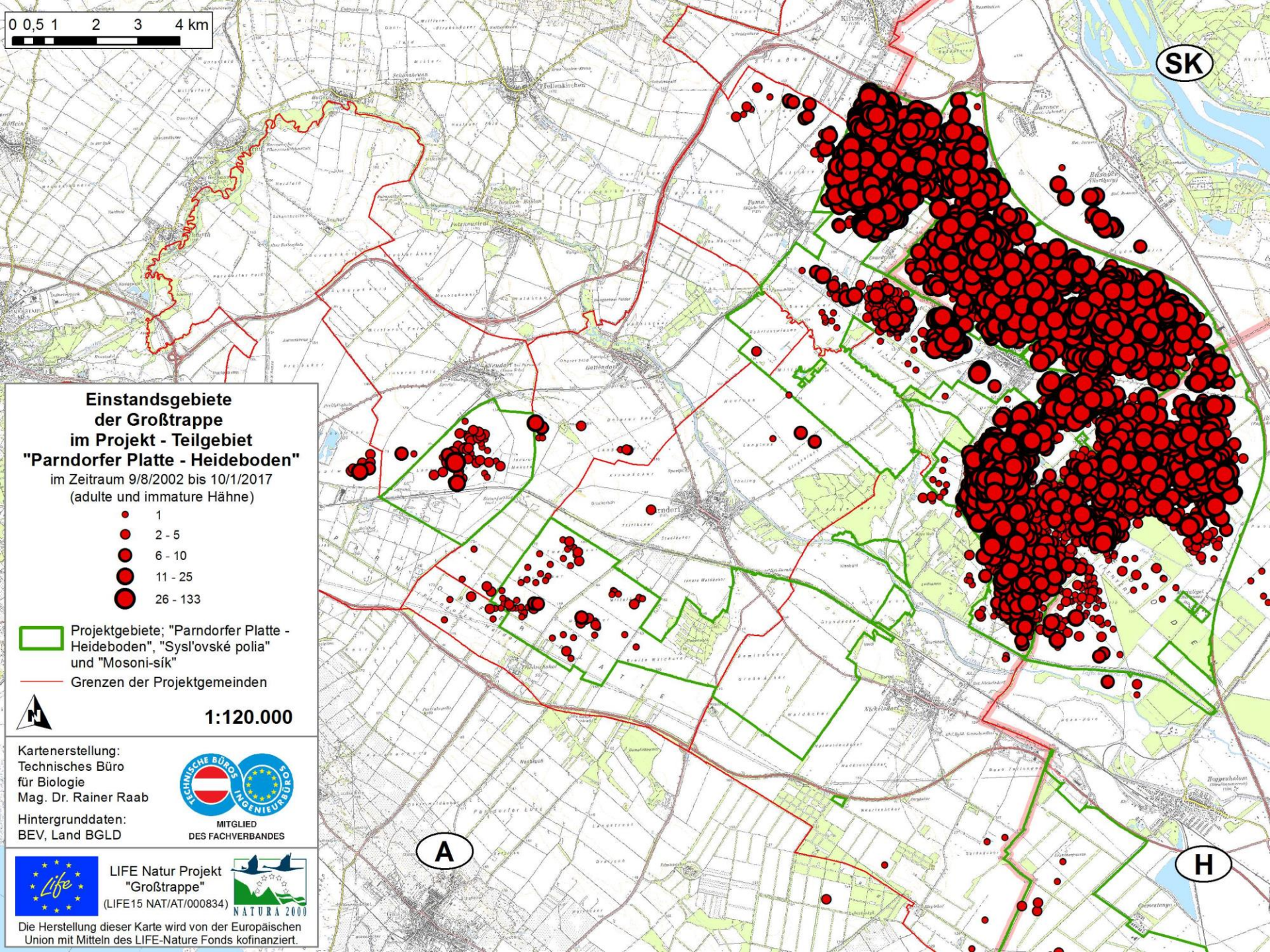
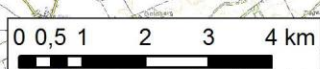
Background data:
BEV, Land BGDL



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A

H



**Einstandsgebiete
der Großtrappe
im Projekt - Teilgebiet
"Parndorfer Platte - Heideboden"**
im Zeitraum 9/8/2002 bis 10/1/2017
(adulte und immature Hähne)

- 1
- 2 - 5
- 6 - 10
- 11 - 25
- 26 - 133

Projektgebiete; "Parndorfer Platte - Heideboden", "Sys'ovské polia" und "Mosoni-sík"

Grenzen der Projektgemeinden



1:120.000

Kartenerstellung:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

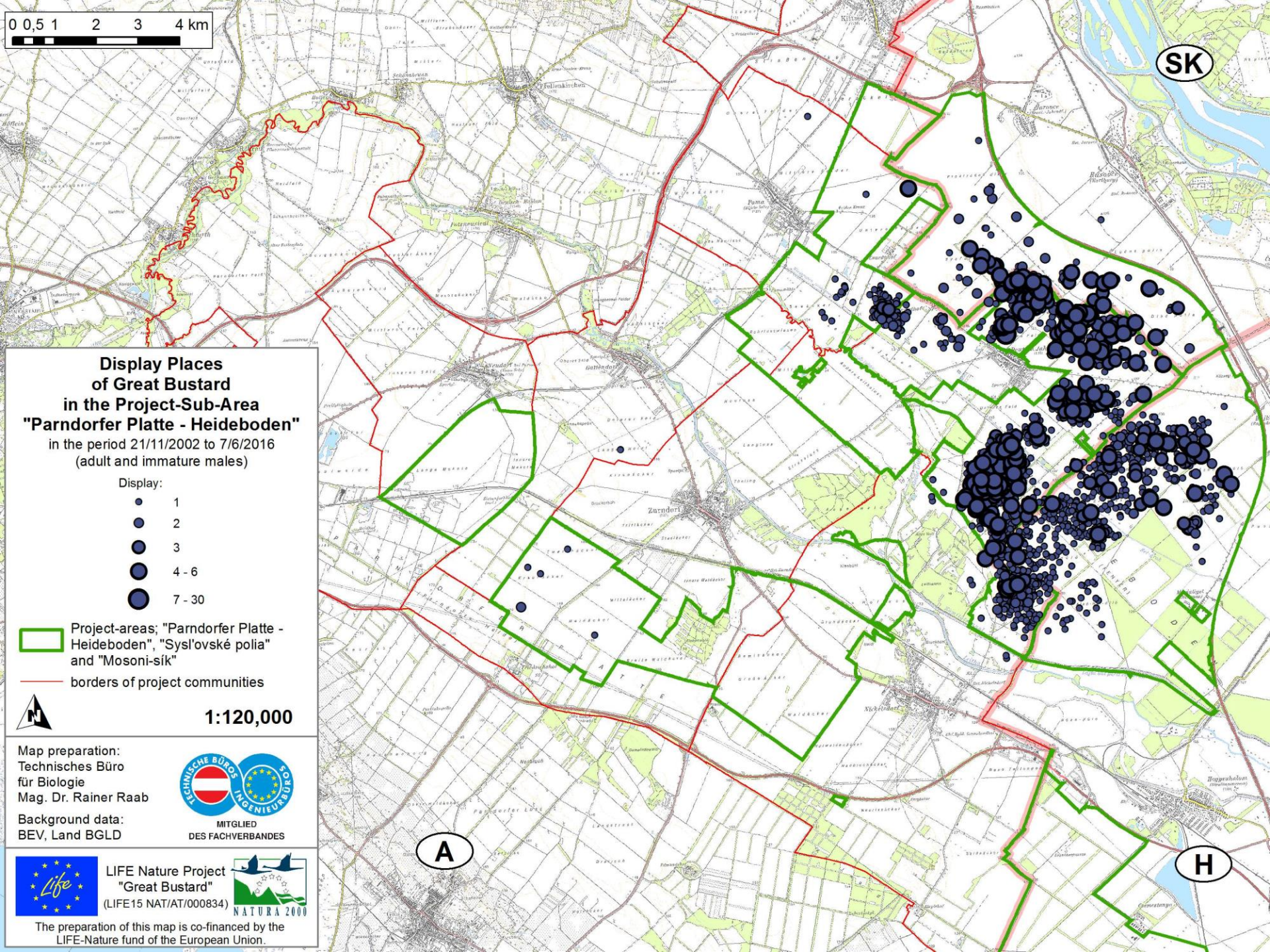


Hintergrunddaten:
BEV, Land BGDL



Die Herstellung dieser Karte wird von der Europäischen Union mit Mitteln des LIFE-Nature Fonds kofinanziert.

0 0,5 1 2 3 4 km



**Display Places
of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"**
in the period 21/11/2002 to 7/6/2016
(adult and immature males)

Display:

- 1
- 2
- 3
- 4 - 6
- 7 - 30

Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
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Mag. Dr. Rainer Raab



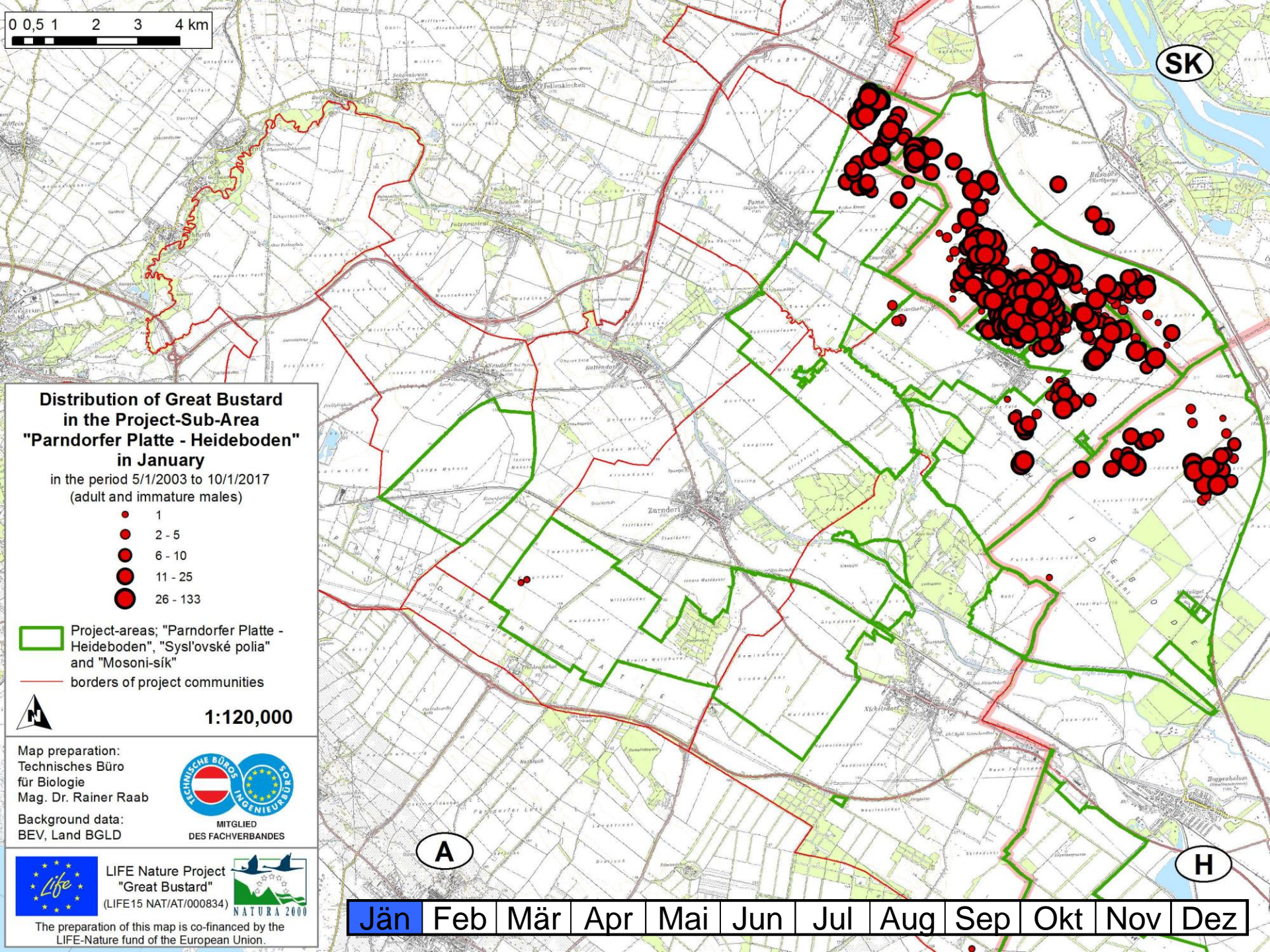
Background data:
BEV, Land BGDL



LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)

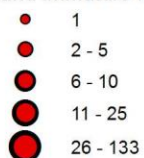


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Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in January

in the period 5/1/2003 to 10/1/2017
(adult and immature males)



 Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

 borders of project communities



1:120,000

Map preparation:
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Mag. Dr. Rainer Raab



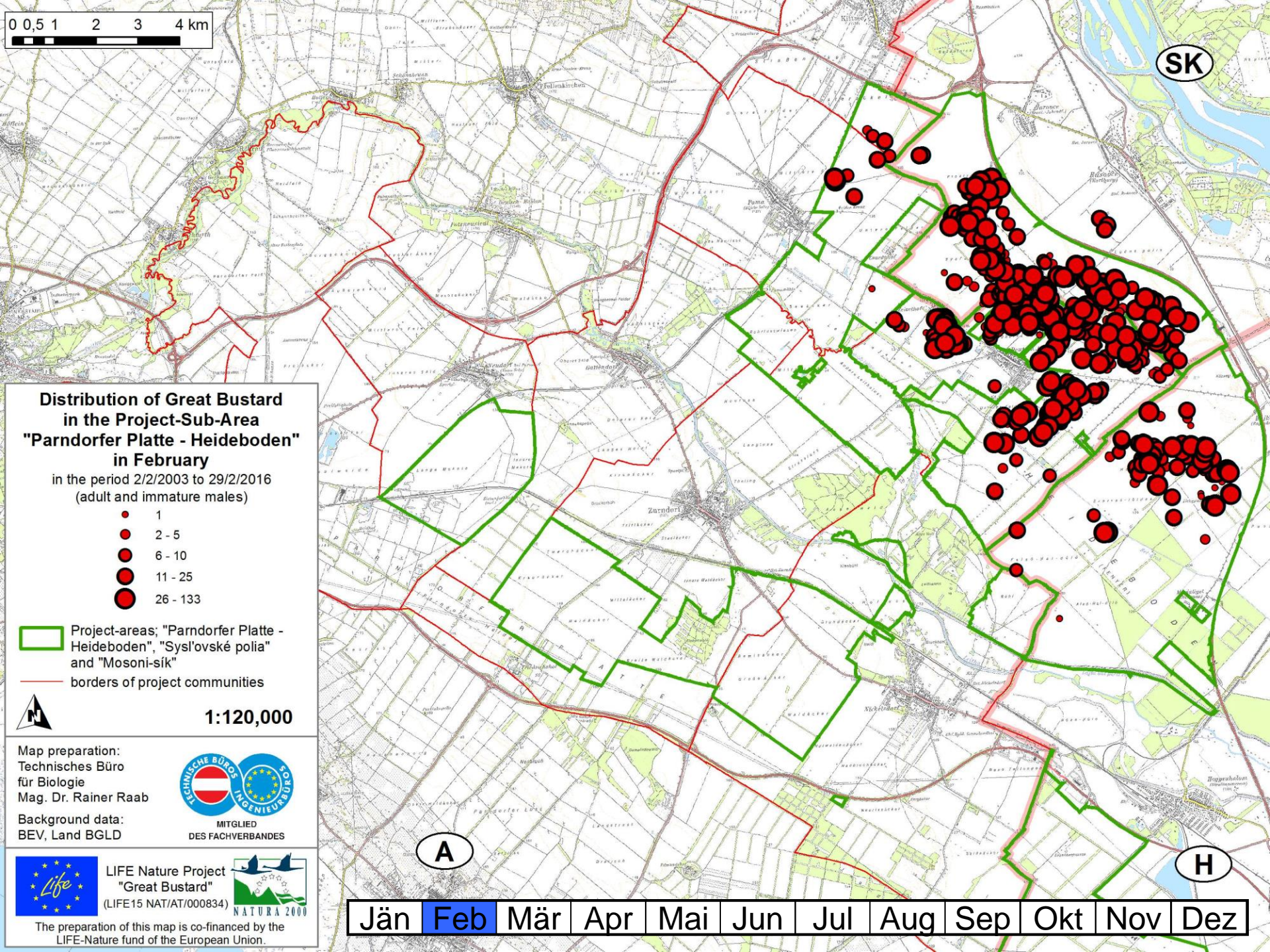
Background data:
BEV, Land BGLD



The preparation of this map is co-financed by the LIFE-Nature fund of the European Union.

Jän Feb Mär Apr Mai Jun Jul Aug Sep Okt Nov Dez

0 0,5 1 2 3 4 km



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in February

in the period 2/2/2003 to 29/2/2016
(adult and immature males)

- 1
- 2 - 5
- 6 - 10
- 11 - 25
- 26 - 133

 Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

 borders of project communities



1:120,000

Map preparation:
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Mag. Dr. Rainer Raab



Background data:
BEV, Land BGLD

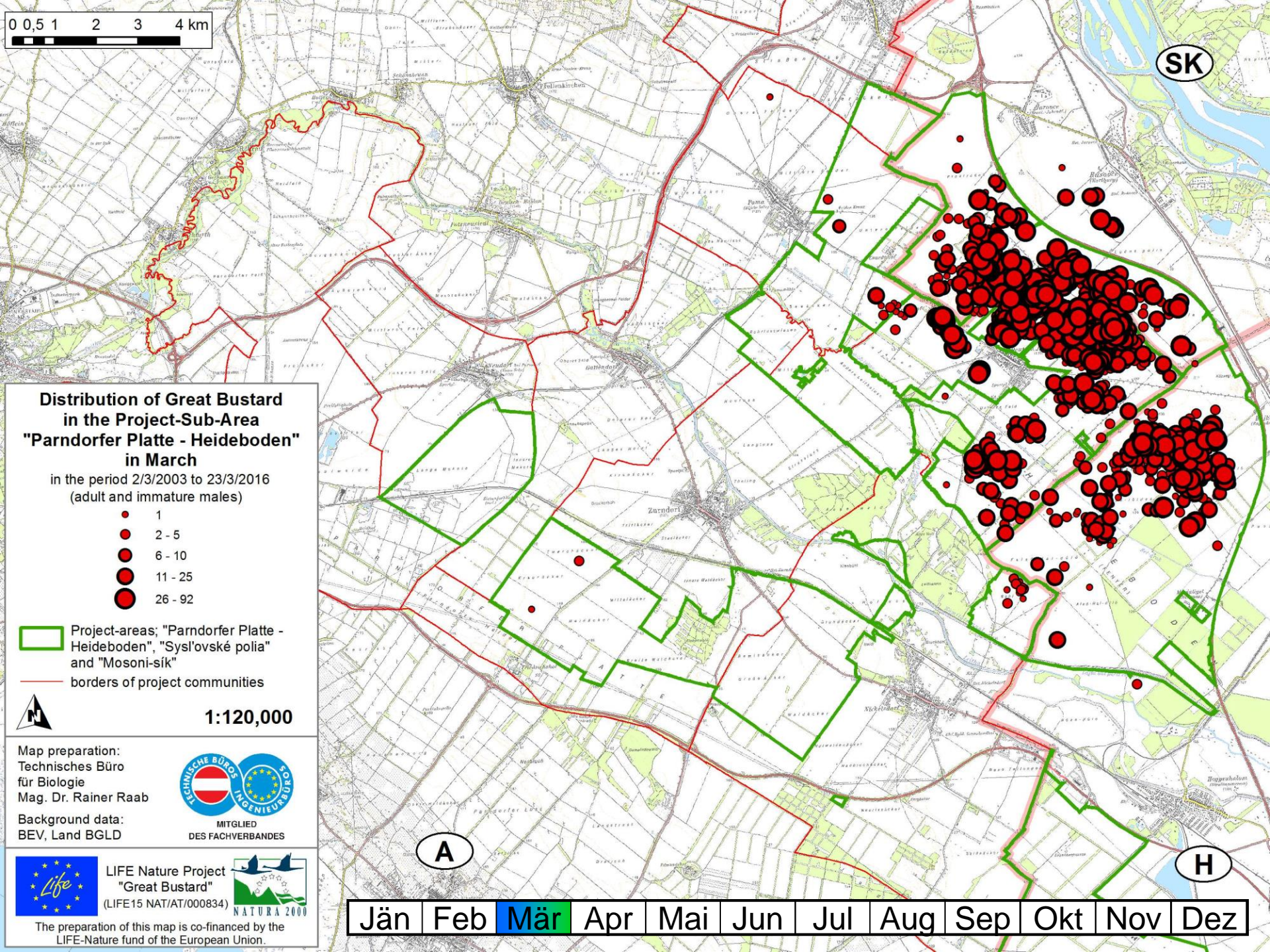


LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



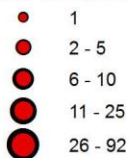
The preparation of this map is co-financed by the
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Jän Feb Mär Apr Mai Jun Jul Aug Sep Okt Nov Dez



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in March

in the period 2/3/2003 to 23/3/2016
(adult and immature males)



 Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

 borders of project communities



1:120,000

Map preparation:
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Mag. Dr. Rainer Raab

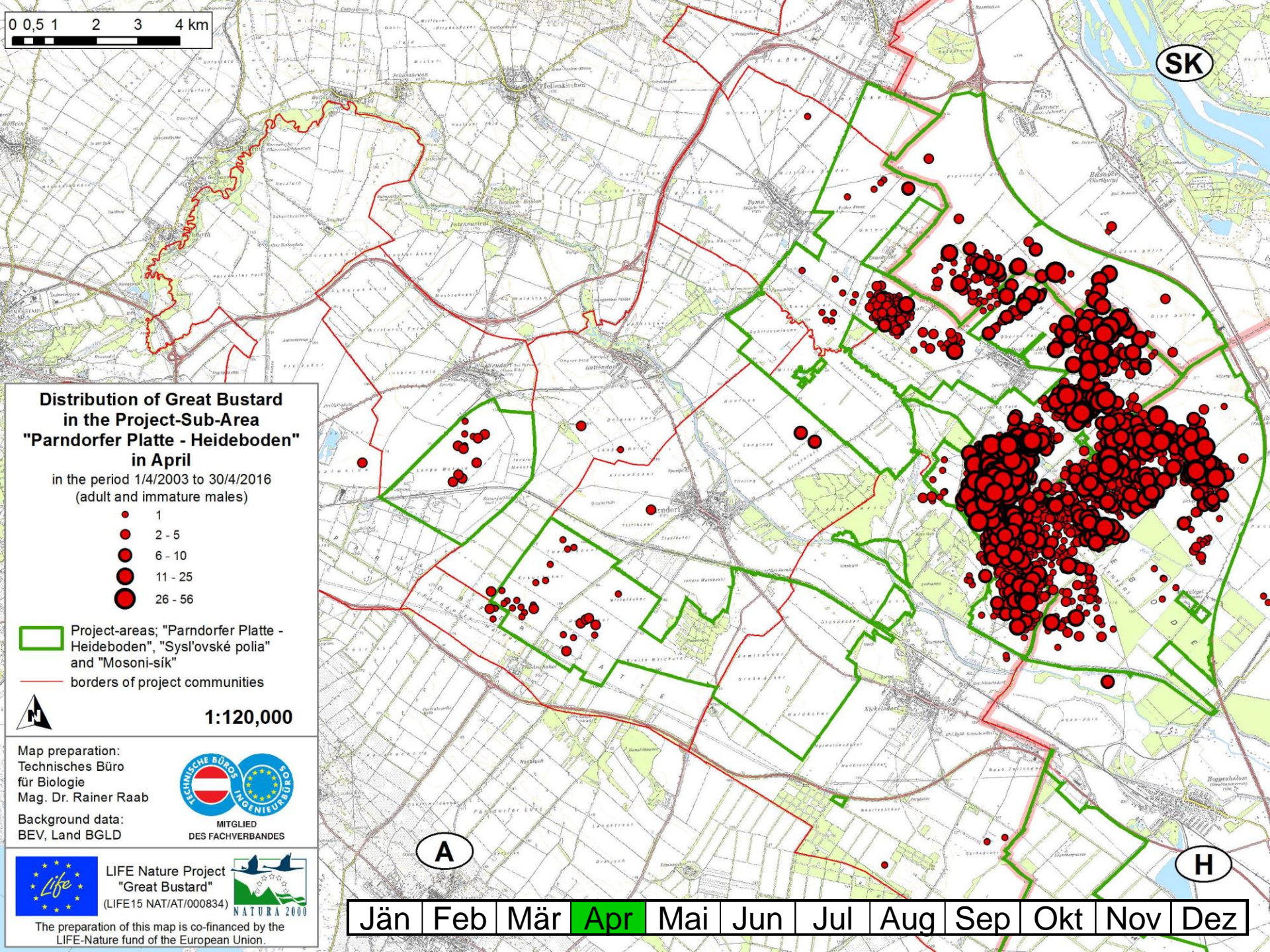


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BEV, Land BGLD



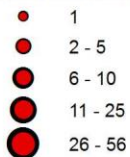
The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.


Jän Feb Mär Apr Mai Jun Jul Aug Sep Okt Nov Dez




**Distribution of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"
in April**

in the period 1/4/2003 to 30/4/2016
(adult and immature males)



 Project-areas; "Parndorfer Platte - Heideboden", "Syslovské polia" and "Mosoni-sík"

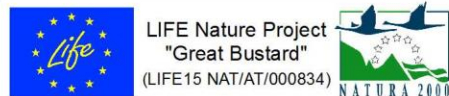
 borders of project communities

1:120,000

Map preparation:
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für Biologie
Mag. Dr. Rainer Raab



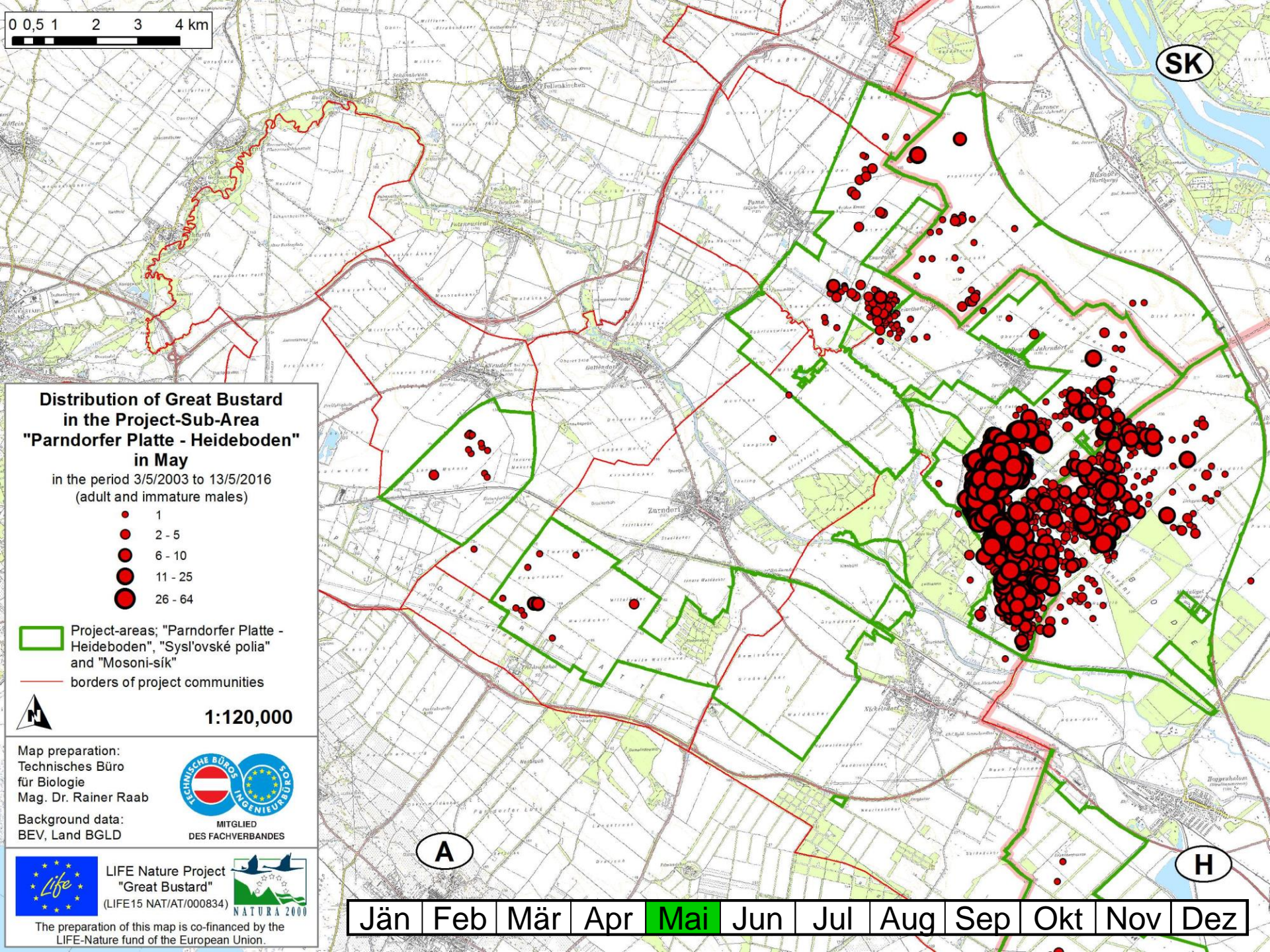
Background data:
BEV, Land BGDL



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Jän Feb Mär **Apr** Mai Jun Jul Aug Sep Okt Nov Dez

0 0,5 1 2 3 4 km



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in May

in the period 3/5/2003 to 13/5/2016
(adult and immature males)

- 1
- 2 - 5
- 6 - 10
- 11 - 25
- 26 - 64

Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



Background data:
BEV, Land BGLD



LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



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Jän Feb Mär Apr **Mai** Jun Jul Aug Sep Okt Nov Dez



SK

**Distribution of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"
in June**
in the period 4/6/2003 to 7/6/2016
(adult and immature males)

- 1
- 2 - 5
- 6 - 10
- 11 - 25
- 26 - 43

Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



Background data:
BEV, Land BGLD



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Jän Feb Mär Apr Mai **Jun** Jul Aug Sep Okt Nov Dez



SK

**Distribution of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"
in July**

in the period 1/7/2003 to 19/7/2016
(adult and immature males)

- 1
- 2 - 5
- 6 - 10
- 11 - 25
- 26 - 61

 Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

borders of project communities

1:120,000

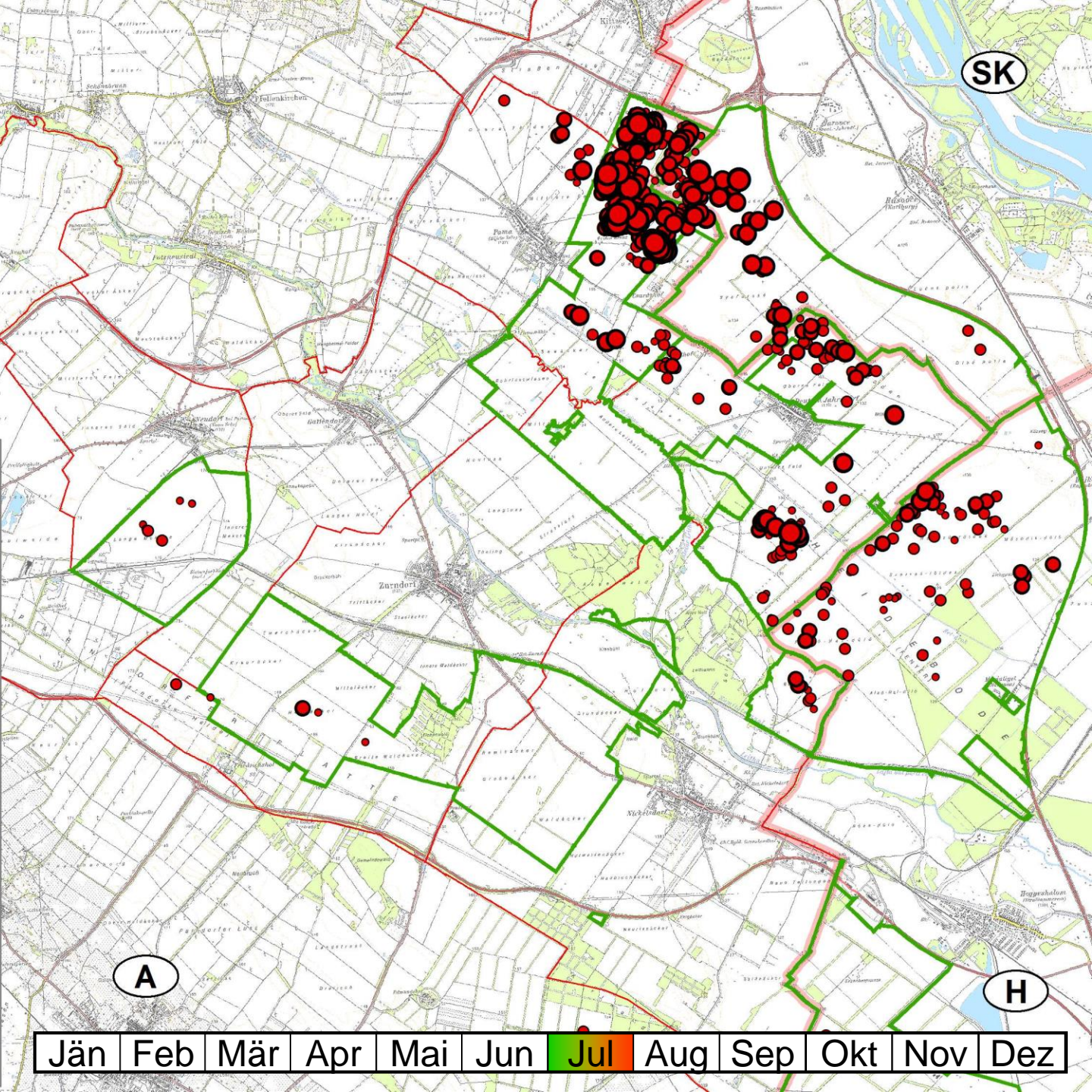
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für Biologie
Mag. Dr. Rainer Raab

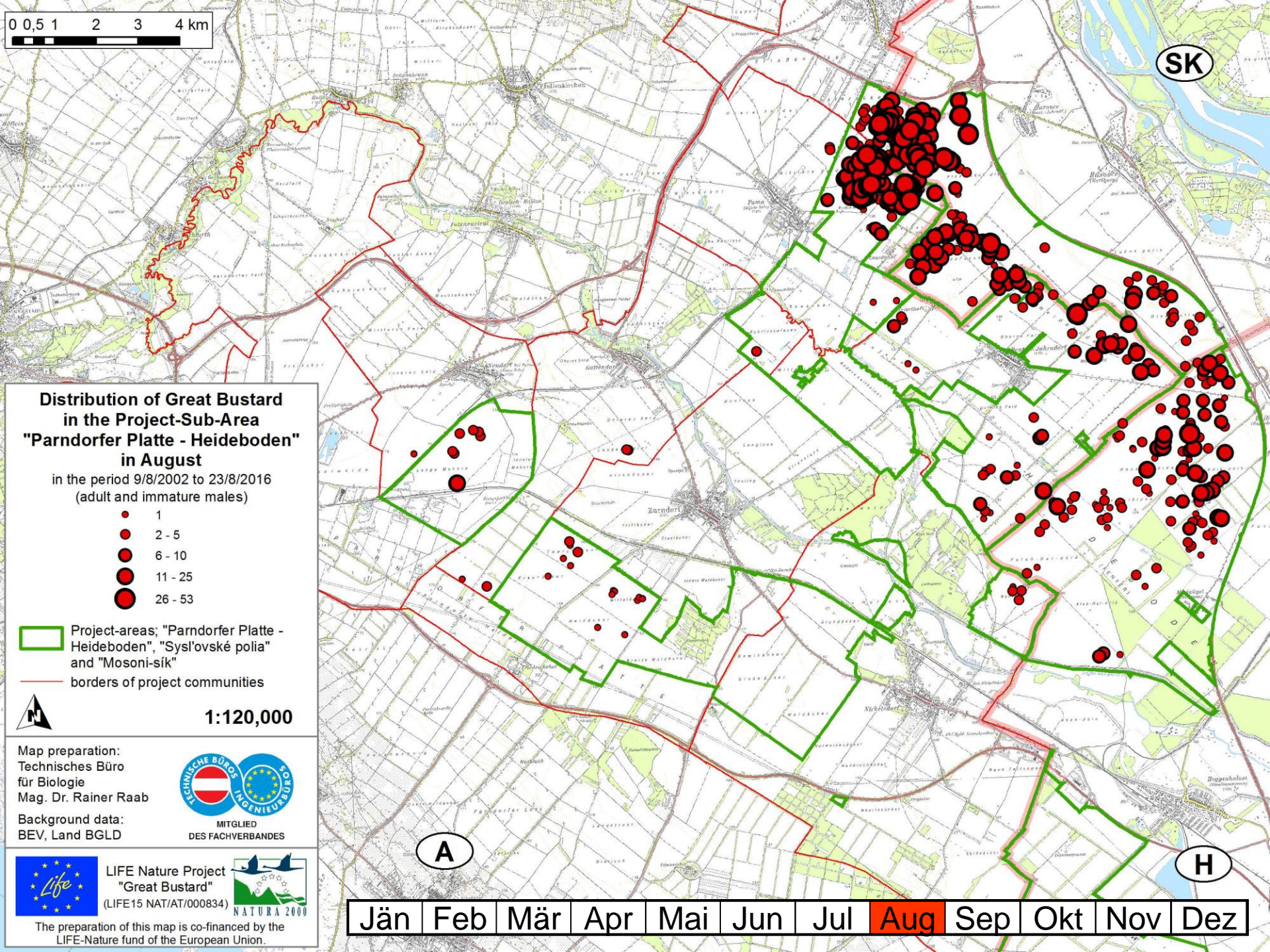
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BEV, Land BGLD

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DES FACHVERBANDES

LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)

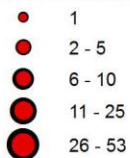
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Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in August

in the period 9/8/2002 to 23/8/2016
(adult and immature males)



 Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

 borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

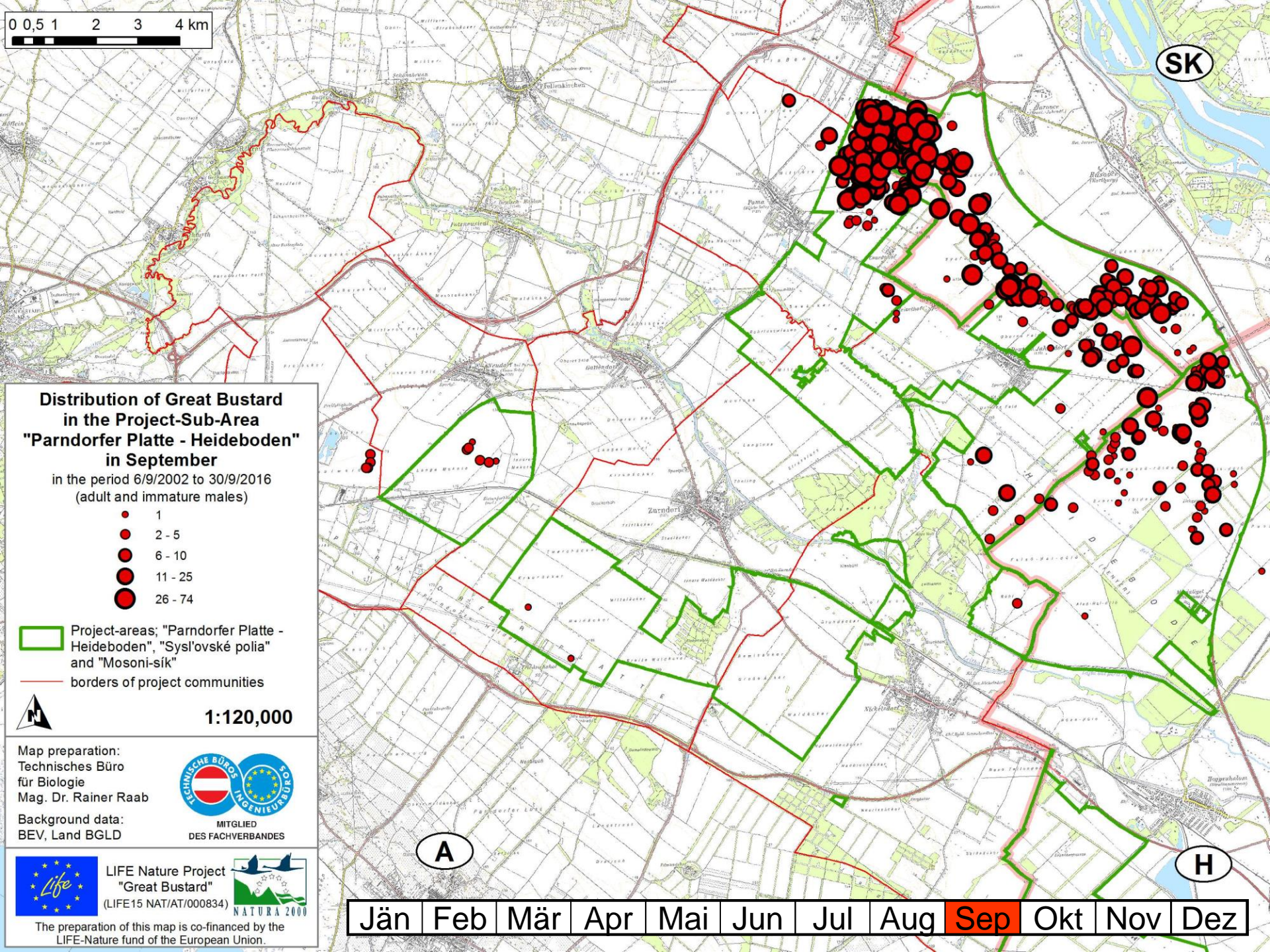


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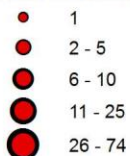
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Jän Feb Mär Apr Mai Jun Jul **Aug** Sep Okt Nov Dez



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in September

in the period 6/9/2002 to 30/9/2016
(adult and immature males)



 Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

 borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



Background data:
BEV, Land BGDL

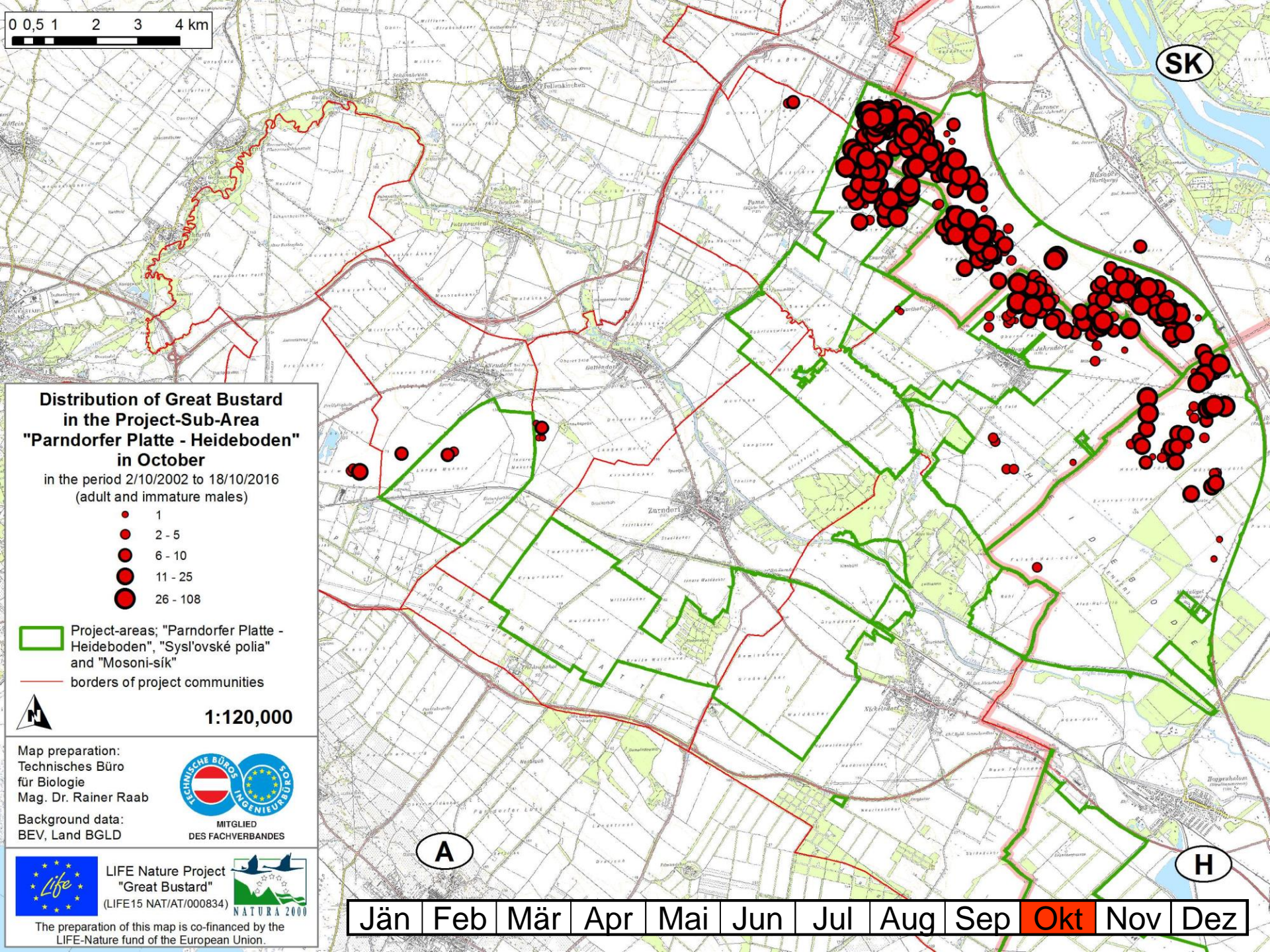


LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



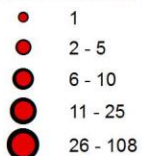
The preparation of this map is co-financed by the
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Jän Feb Mär Apr Mai Jun Jul Aug **Sep** Okt Nov Dez



**Distribution of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"
in October**

in the period 2/10/2002 to 18/10/2016
(adult and immature males)



Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
Technisches Büro
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Mag. Dr. Rainer Raab

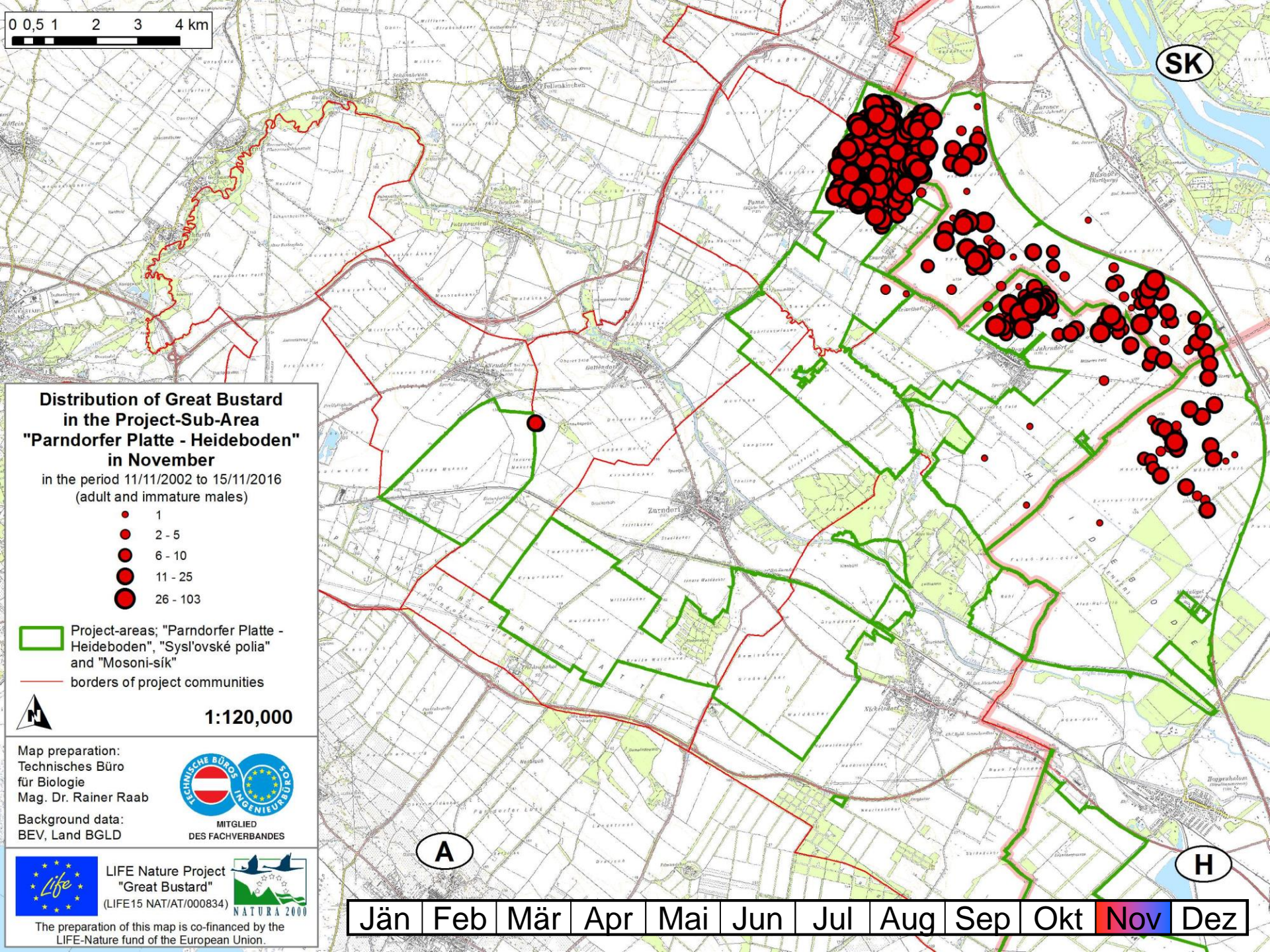


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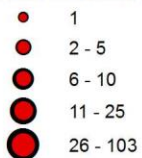
The preparation of this map is co-financed by the
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Jän Feb Mär Apr Mai Jun Jul Aug Sep **Okt** Nov Dez



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in November

in the period 11/11/2002 to 15/11/2016
(adult and immature males)



 Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

 borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



Background data:
BEV, Land BGLD

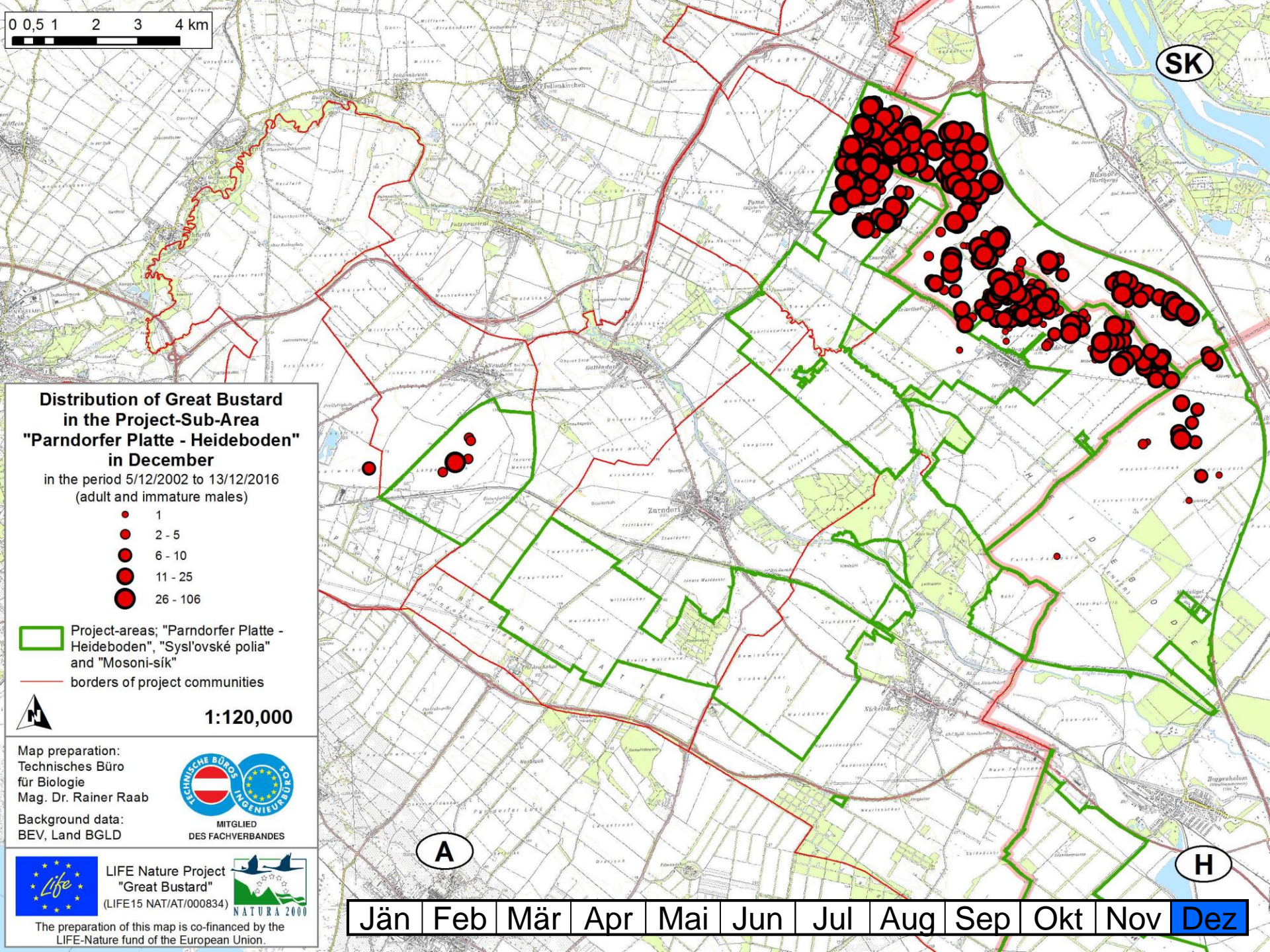


LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)









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Jän Feb Mär Apr Mai Jun Jul Aug Sep Okt **Nov** Dez



in the period 5/12/2002 to 13/12/2016
(adult and immature males)

-  1
 2 - 5
 6 - 10
 11 - 25
 26 - 106

 Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

Background data:
BEV, Land BGLD



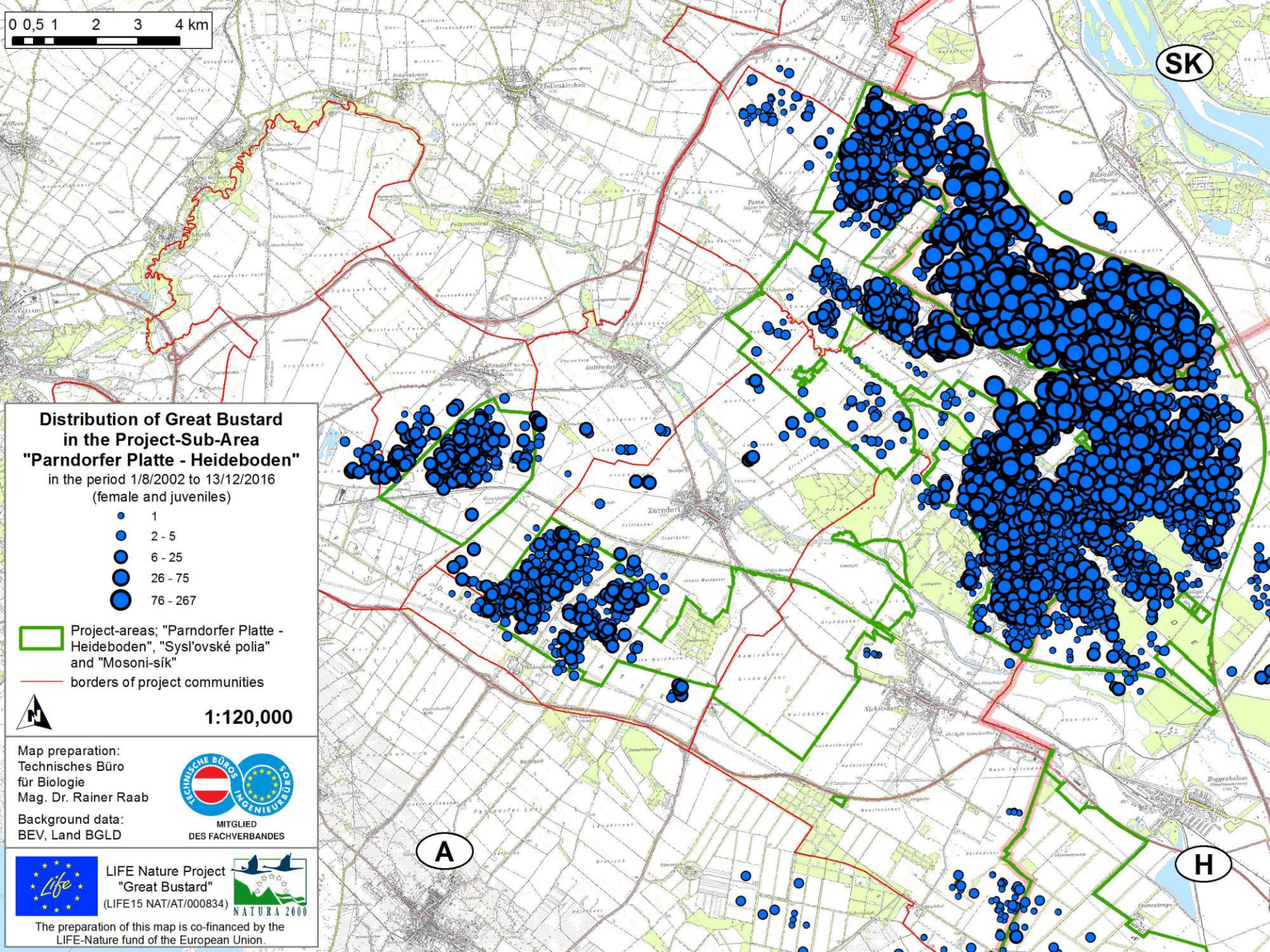
LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



The preparation of this map is co-financed by the LIFE-Nature fund of the European Union.

Jän	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
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0 0,5 1 2 3 4 km



**Distribution of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"**
in the period 1/8/2002 to 13/12/2016
(female and juveniles)

- 1
- 2 - 5
- 6 - 25
- 26 - 75
- 76 - 267

Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



Background data:
BEV, Land BGLD



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.

0 0,5 1 2 3 4 km

SK

Breeding Places of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden"

in the years 2003 to 2015

- 2011 - 2015
- 2006 - 2010
- 2003 - 2005
- sure breeding place
- probable breeding place

Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



Background data:
BEV, Land BGLD



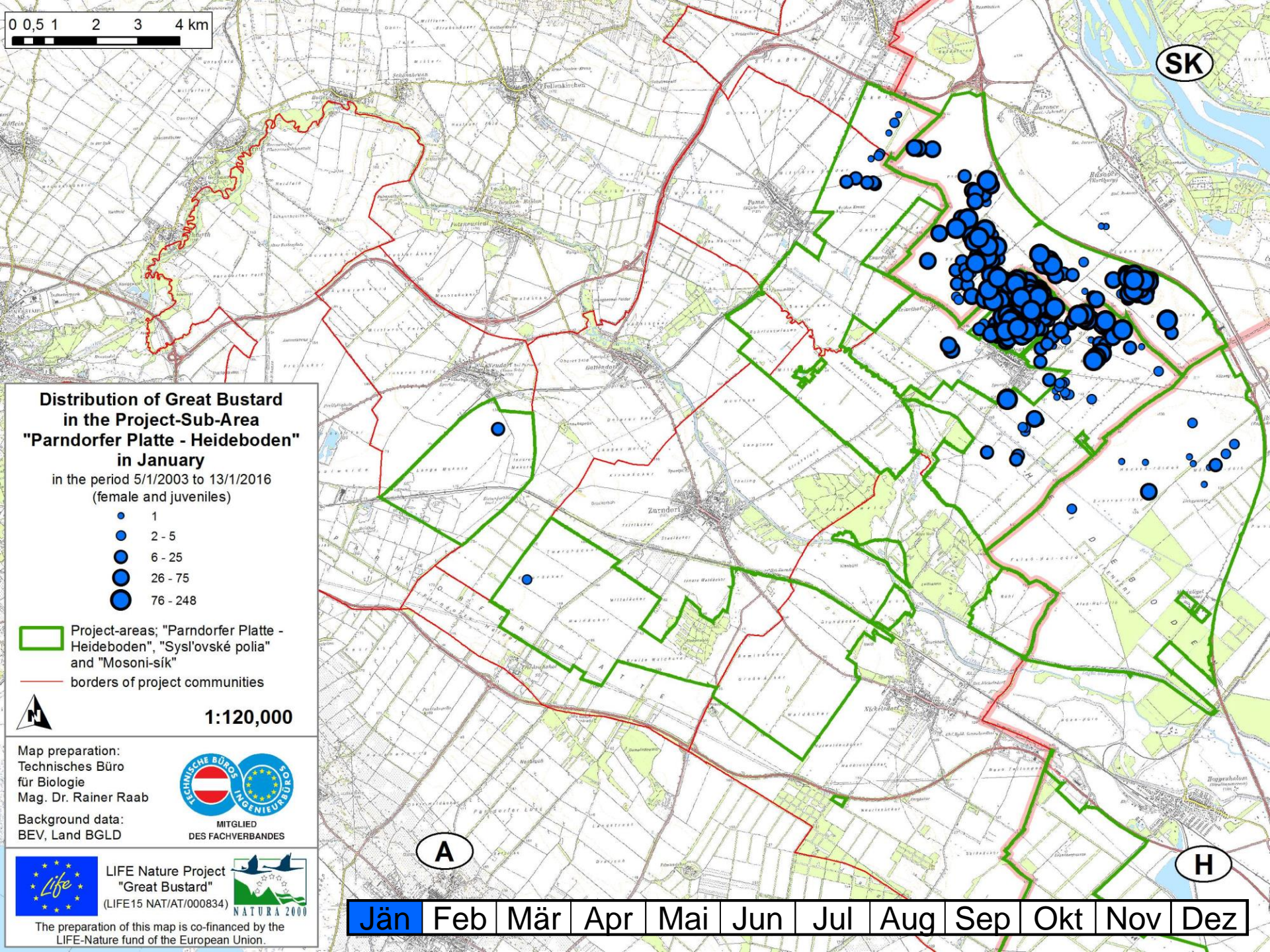
LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



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A

H



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in January

in the period 5/1/2003 to 13/1/2016
(female and juveniles)

- 1
- 2 - 5
- 6 - 25
- 26 - 75
- 76 - 248

Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities

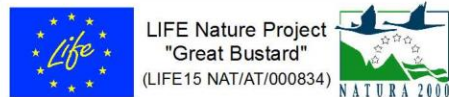


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Map preparation:
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Mag. Dr. Rainer Raab

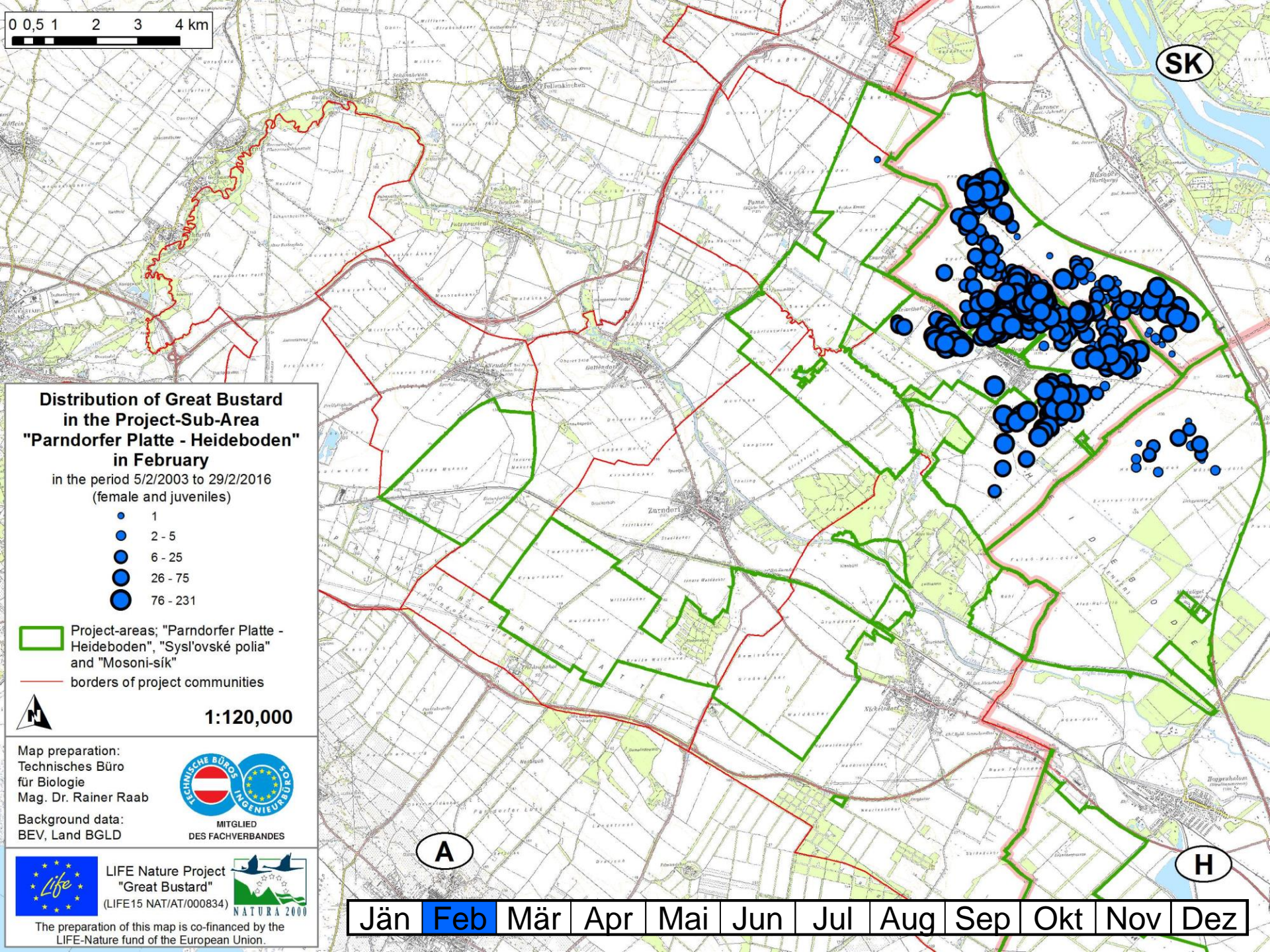


Background data:
BEV, Land BGDL



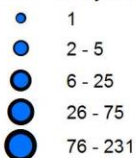
The preparation of this map is co-financed by the
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Jän Feb Mär Apr Mai Jun Jul Aug Sep Okt Nov Dez



**Distribution of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"
in February**

in the period 5/2/2003 to 29/2/2016
(female and juveniles)



Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities

1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

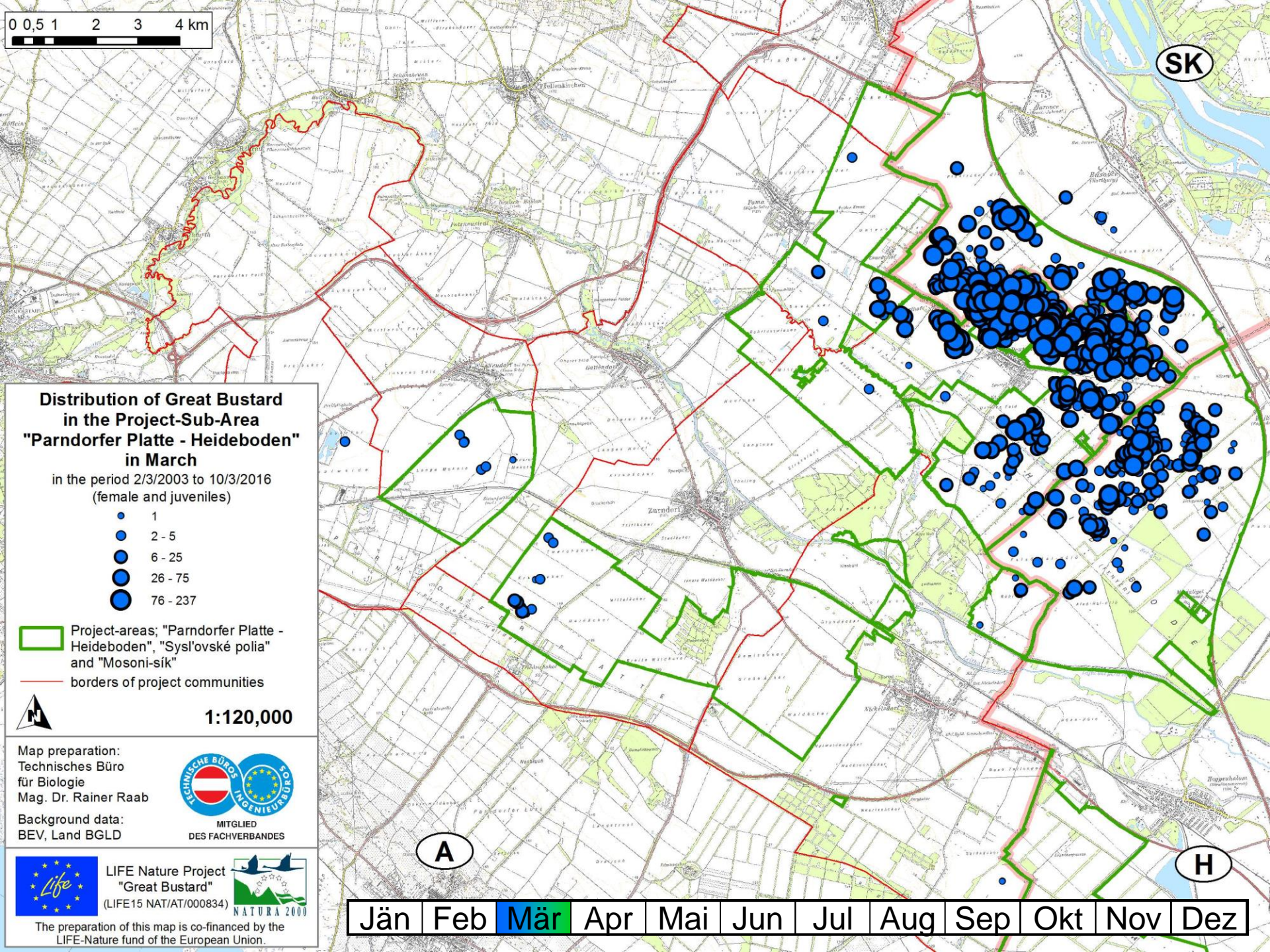


Background data:
BEV, Land BGDL



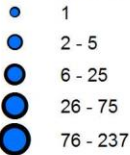
The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.

Jän Feb Mär Apr Mai Jun Jul Aug Sep Okt Nov Dez



**Distribution of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"
in March**

in the period 2/3/2003 to 10/3/2016
(female and juveniles)



Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

Background data:
BEV, Land BGLD



LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



The preparation of this map is co-financed by the
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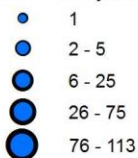
Jän Feb Mär Apr Mai Jun Jul Aug Sep Okt Nov Dez



SK

Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in April

in the period 1/4/2003 to 30/4/2016
(female and juveniles)



 Project-areas; "Parndorfer Platte - Heideboden", "Syslovské polia" and "Mosoni-sík"

 borders of project communities

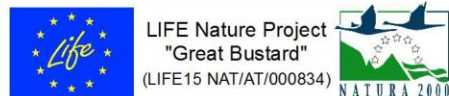


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Map preparation:
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Mag. Dr. Rainer Raab



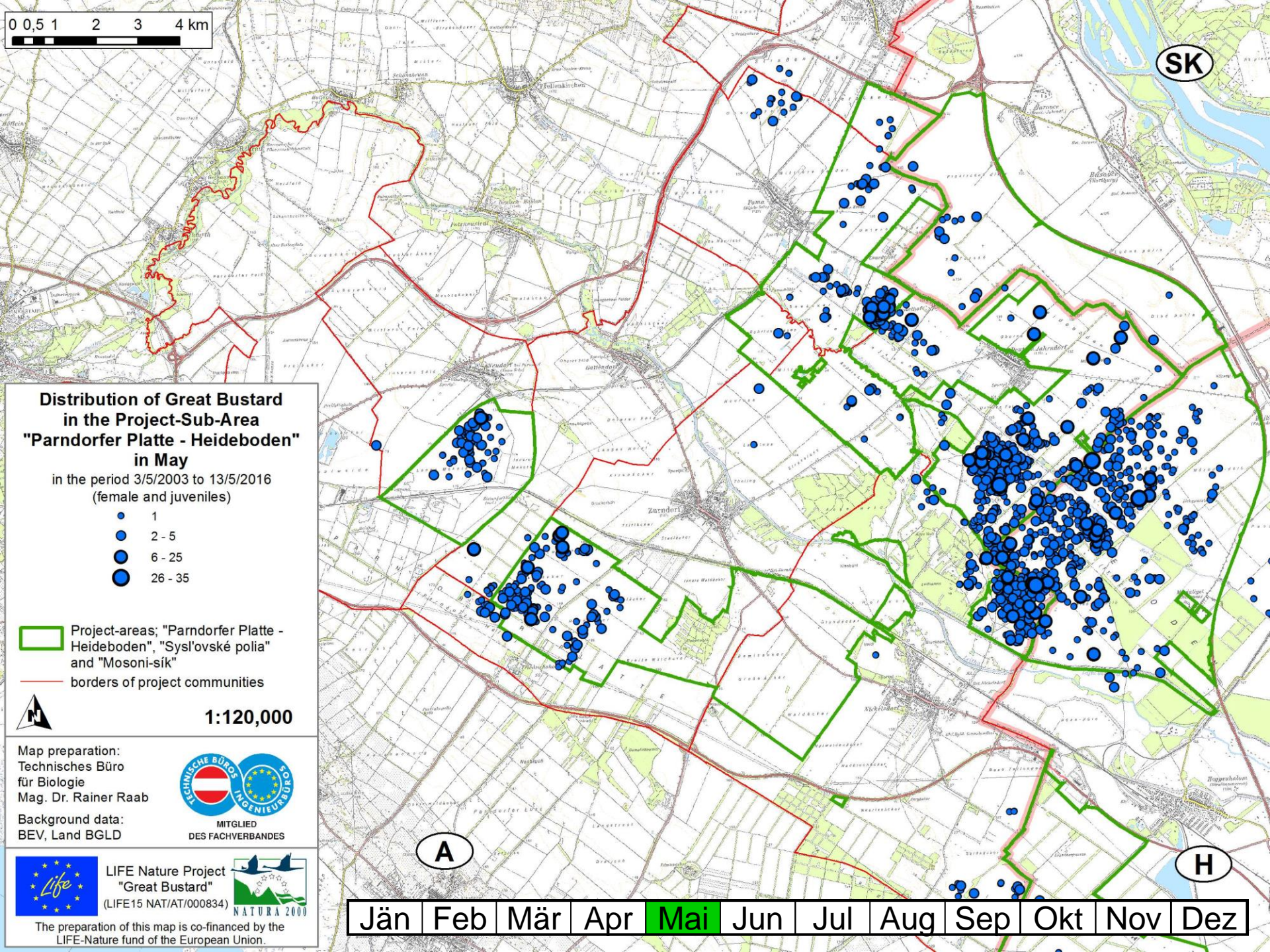
Background data:
BEV, Land BGDL



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Jän Feb Mär **Apr** Mai Jun Jul Aug Sep Okt Nov Dez

0 0,5 1 2 3 4 km



SK

Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in May

in the period 3/5/2003 to 13/5/2016
(female and juveniles)

- 1
- 2 - 5
- 6 - 25
- 26 - 35

Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities

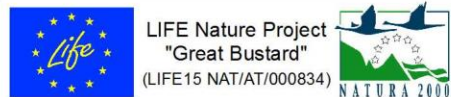


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Map preparation:
Technisches Büro
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Mag. Dr. Rainer Raab



Background data:
BEV, Land BGLD



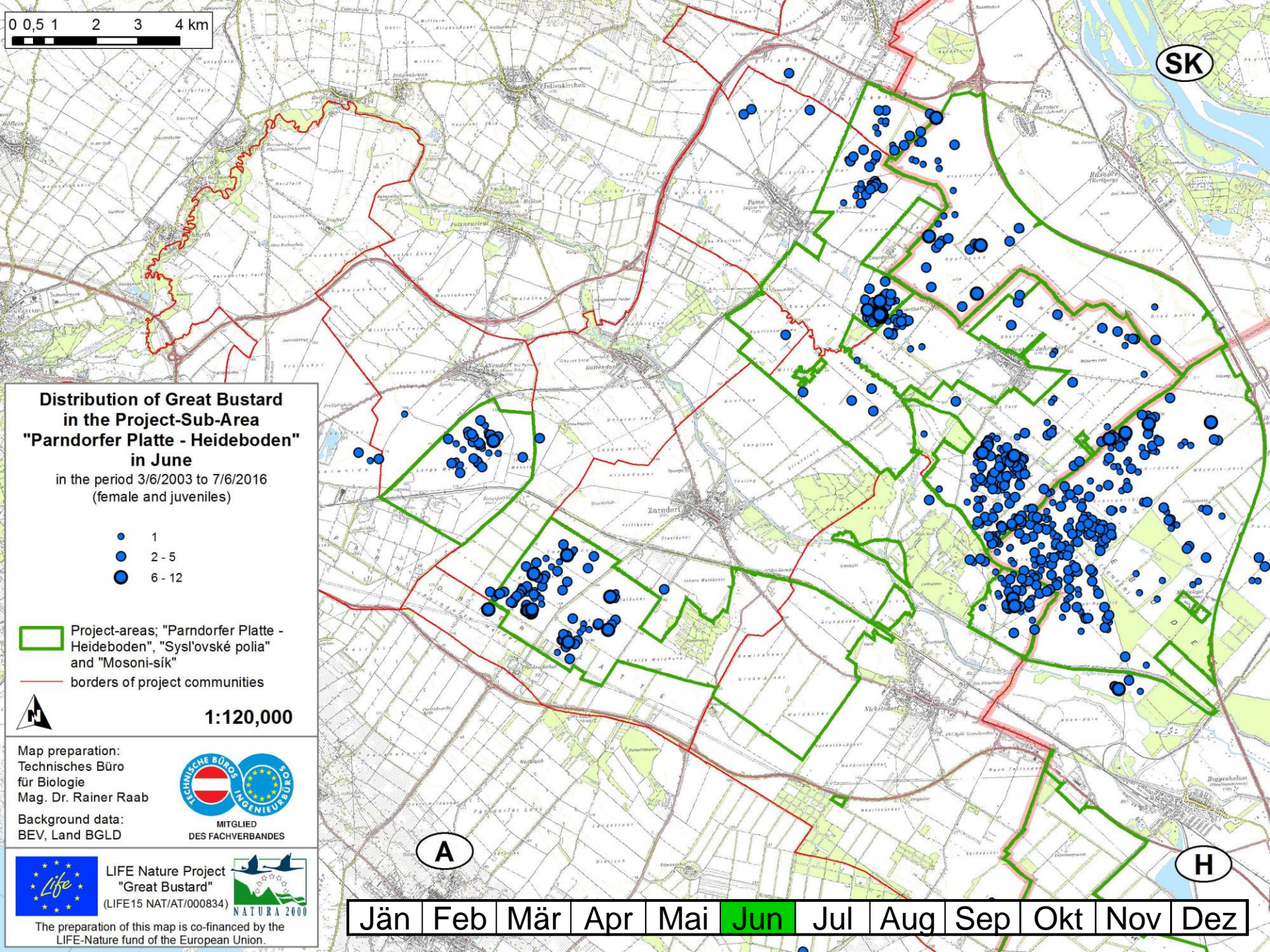
The preparation of this map is co-financed by the
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A

H

Jän Feb Mär Apr **Mai** Jun Jul Aug Sep Okt Nov Dez

0 0,5 1 2 3 4 km



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in June

in the period 3/6/2003 to 7/6/2016
(female and juveniles)

- 1
- 2 - 5
- 6 - 12

Project-areas; "Parndorfer Platte -
Heideboden", "Syslovské polia"
and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
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Background data:
BEV, Land BGLD



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Jän Feb Mär Apr Mai **Jun** Jul Aug Sep Okt Nov Dez



SK

Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in July

in the period 1/7/2003 to 27/7/2016
(female and juveniles)

- 1
- 2 - 5
- 6 - 22

Project-areas; "Parndorfer Platte -
Heideboden", "Syslovské polia"
and "Mosoni-sík"

borders of project communities

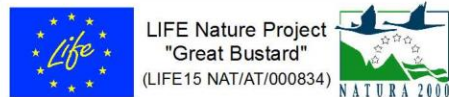


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Map preparation:
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Mag. Dr. Rainer Raab



Background data:
BEV, Land BGDL



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Jän Feb Mär Apr Mai Jun Jul Aug Sep Okt Nov Dez



SK

Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in August

in the period 1/8/2002 to 23/8/2016
(female and juveniles)

- 1
- 2 - 5
- 6 - 25
- 26 - 75

Project-areas; "Parndorfer Platte -
Heideboden", "Syslovské polia"
and "Mosoni-sík"

borders of project communities

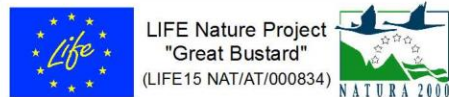


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Map preparation:
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für Biologie
Mag. Dr. Rainer Raab

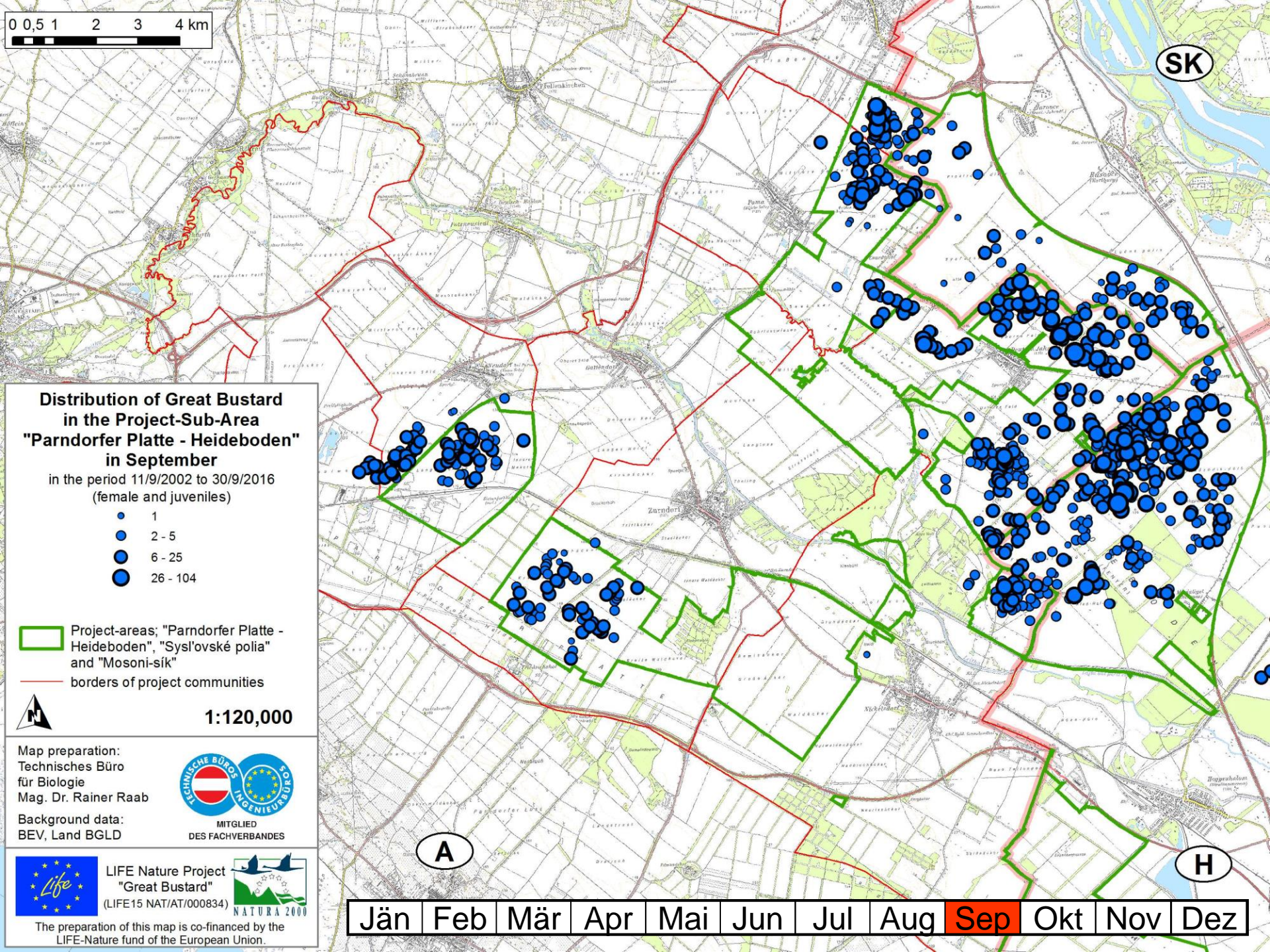


Background data:
BEV, Land BGDL



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Jän Feb Mär Apr Mai Jun Jul **Aug** Sep Okt Nov Dez



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in September

in the period 11/9/2002 to 30/9/2016
(female and juveniles)

- 1
- 2 - 5
- 6 - 25
- 26 - 104

Project-areas; "Parndorfer Platte - Heideboden", "Syslovské polia" and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
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Mag. Dr. Rainer Raab



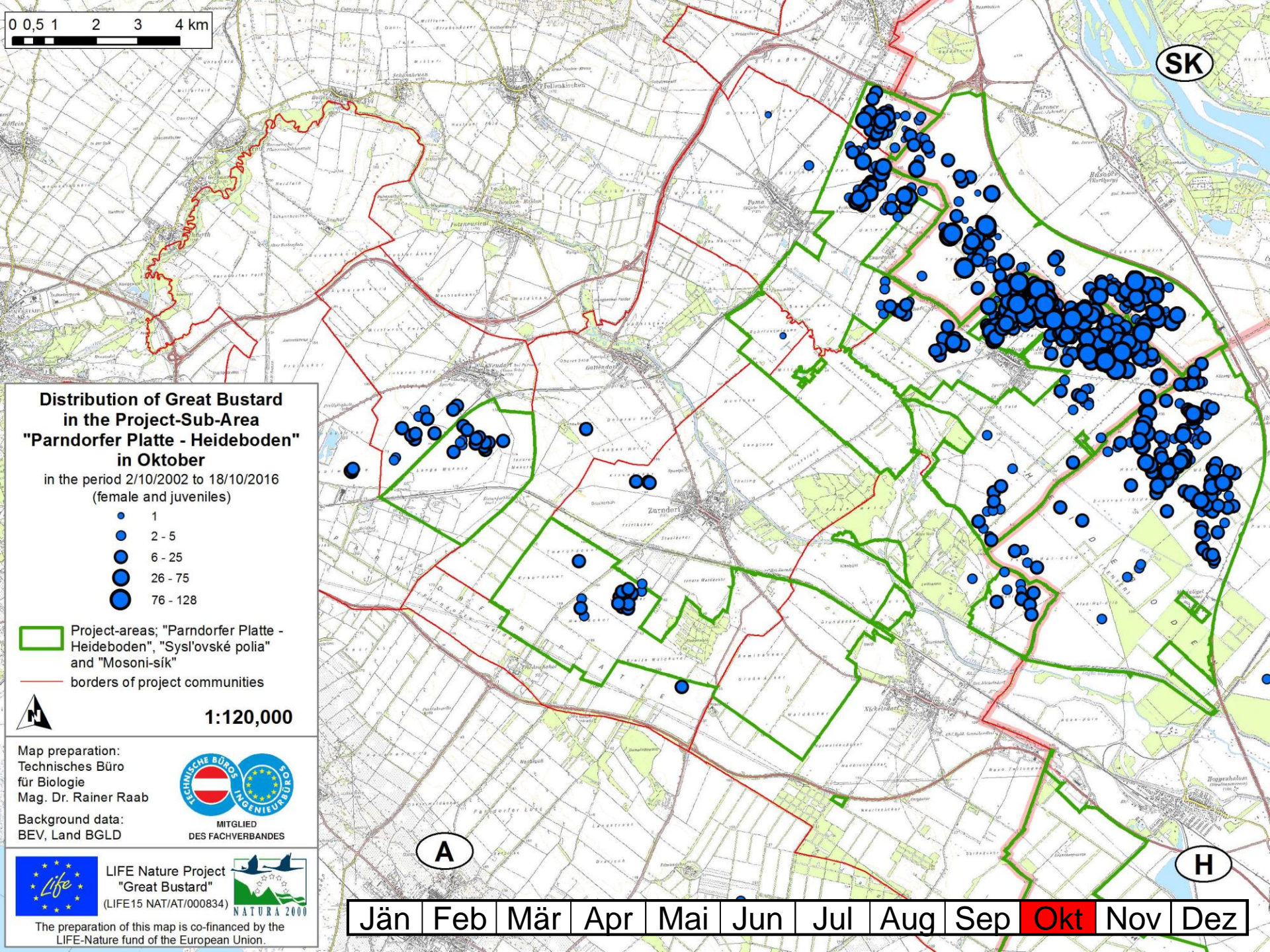
Background data:
BEV, Land BGLD



The preparation of this map is co-financed by the
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Jän Feb Mär Apr Mai Jun Jul Aug **Sep** Okt Nov Dez

0 0,5 1 2 3 4 km



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in Oktober

in the period 2/10/2002 to 18/10/2016
(female and juveniles)

- 1
- 2 - 5
- 6 - 25
- 26 - 75
- 76 - 128

Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities

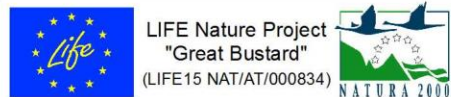


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Map preparation:
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für Biologie
Mag. Dr. Rainer Raab

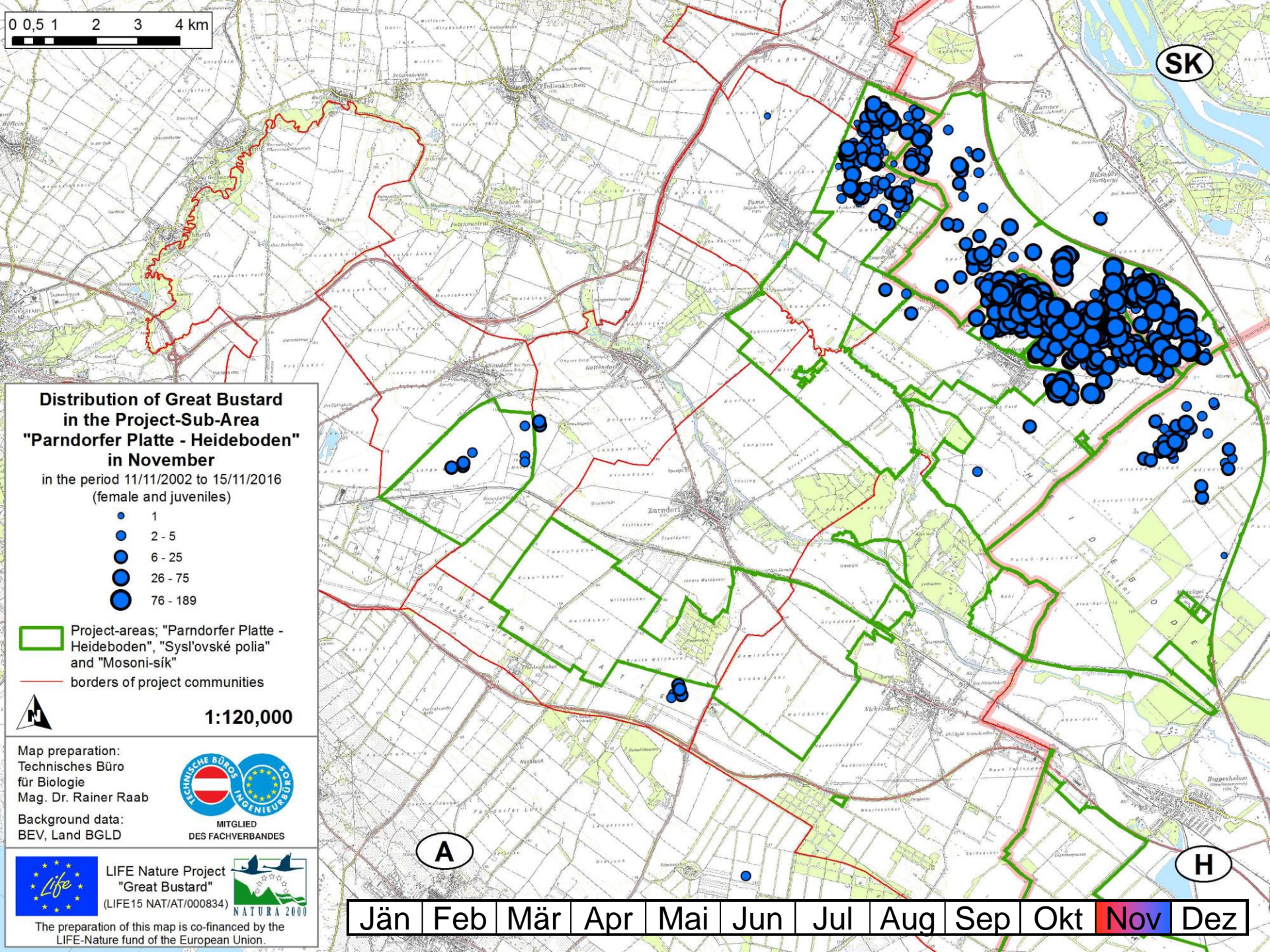


Background data:
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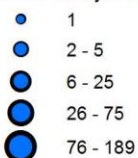
The preparation of this map is co-financed by the
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Jän Feb Mär Apr Mai Jun Jul Aug Sep **Okt** Nov Dez



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in November

in the period 11/11/2002 to 15/11/2016
(female and juveniles)



Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"

borders of project communities



1:120,000

Map preparation:
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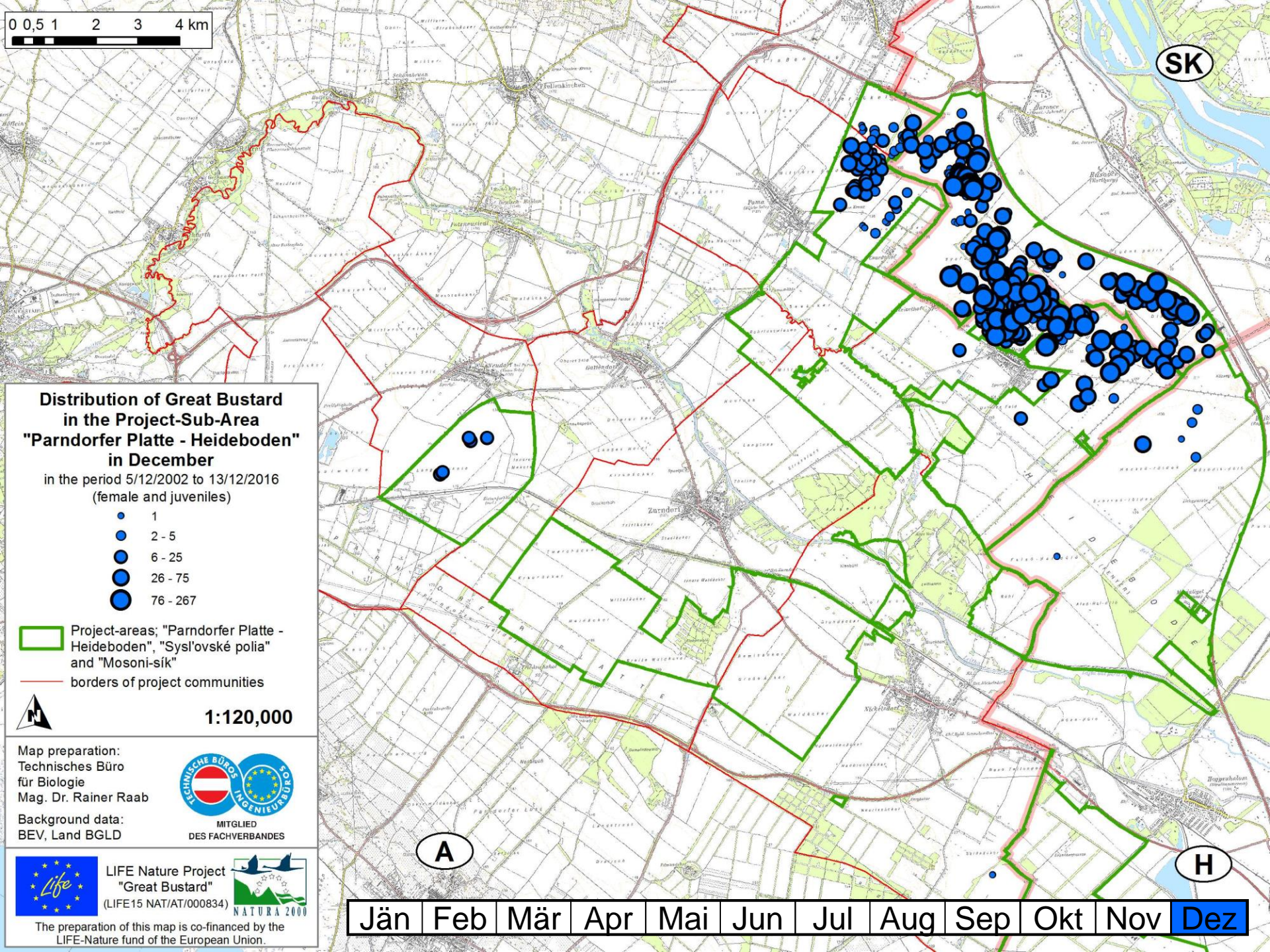


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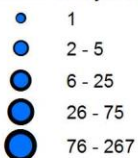
The preparation of this map is co-financed by the
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Jän Feb Mär Apr Mai Jun Jul Aug Sep Okt **Nov** Dez



Distribution of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in December

in the period 5/12/2002 to 13/12/2016
(female and juveniles)



Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

borders of project communities

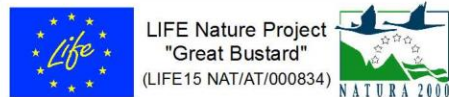


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Map preparation:
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Background data:
BEV, Land BGLD



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.

Jän Feb Mär Apr Mai Jun Jul Aug Sep Okt Nov **Dez**



Flight movements of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden"

in the period 1/8/2002 to 10/1/2017

- Distribution of Great Bustard
- Flight movements of Great Bustard
- ▭ Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"
- borders of project communities



1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



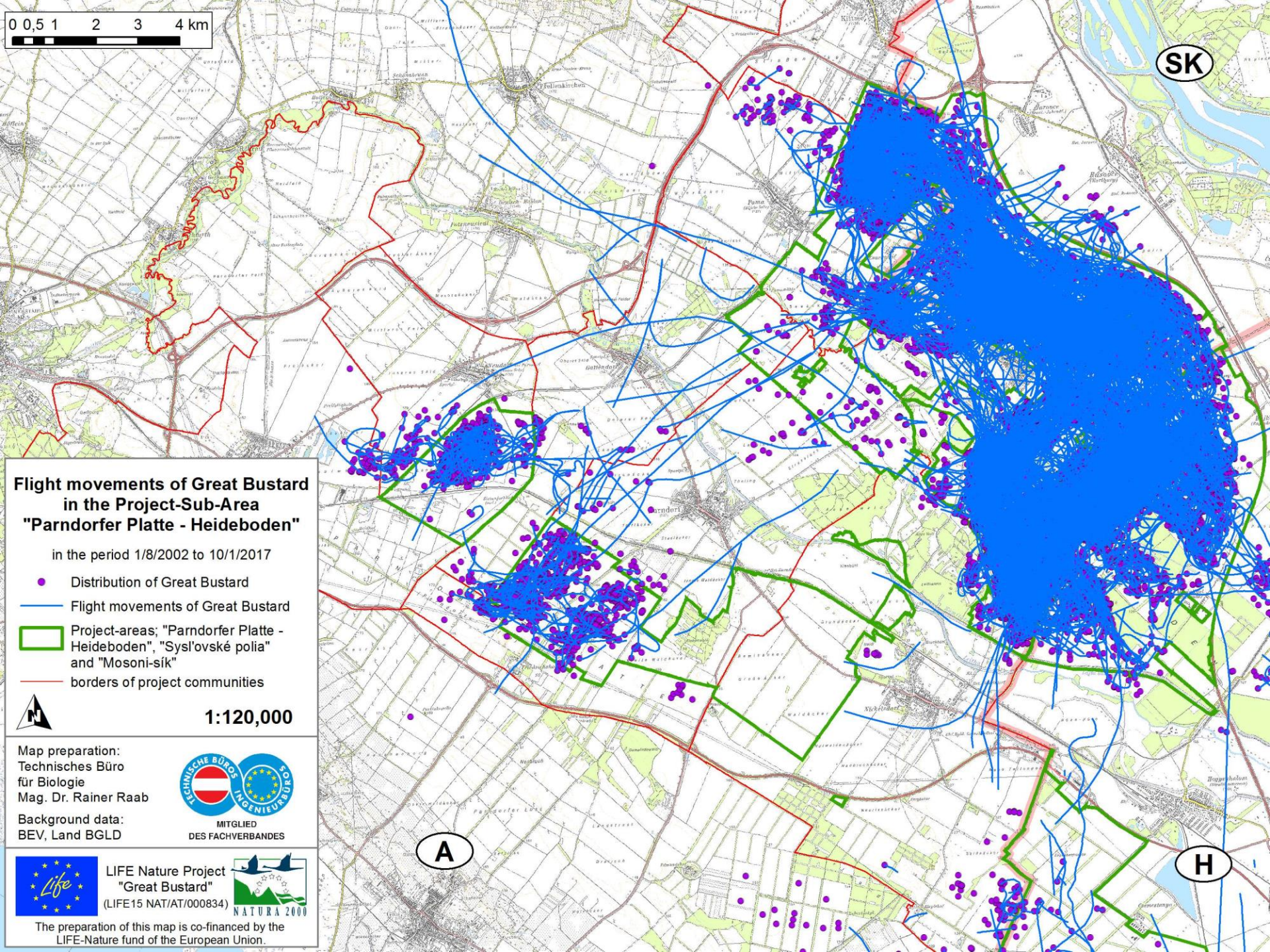
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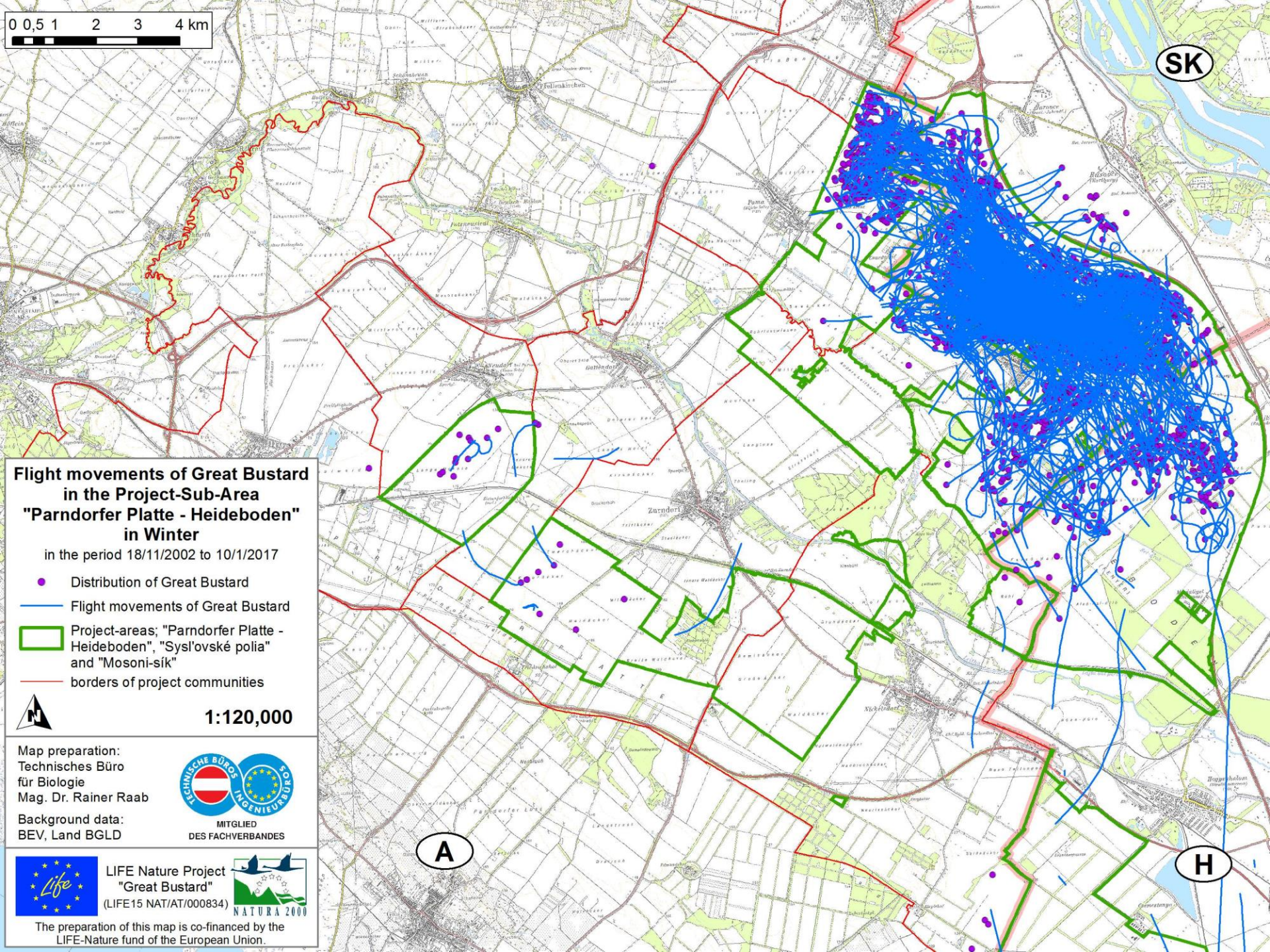
LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.



0 0,5 1 2 3 4 km



SK

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A

Flight movements of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden" in Winter

in the period 18/11/2002 to 10/1/2017

- Distribution of Great Bustard
- Flight movements of Great Bustard
- Project-areas; "Parndorfer Platte - Heideboden", "Sysl'ovské polia" and "Mosoni-sík"
- borders of project communities

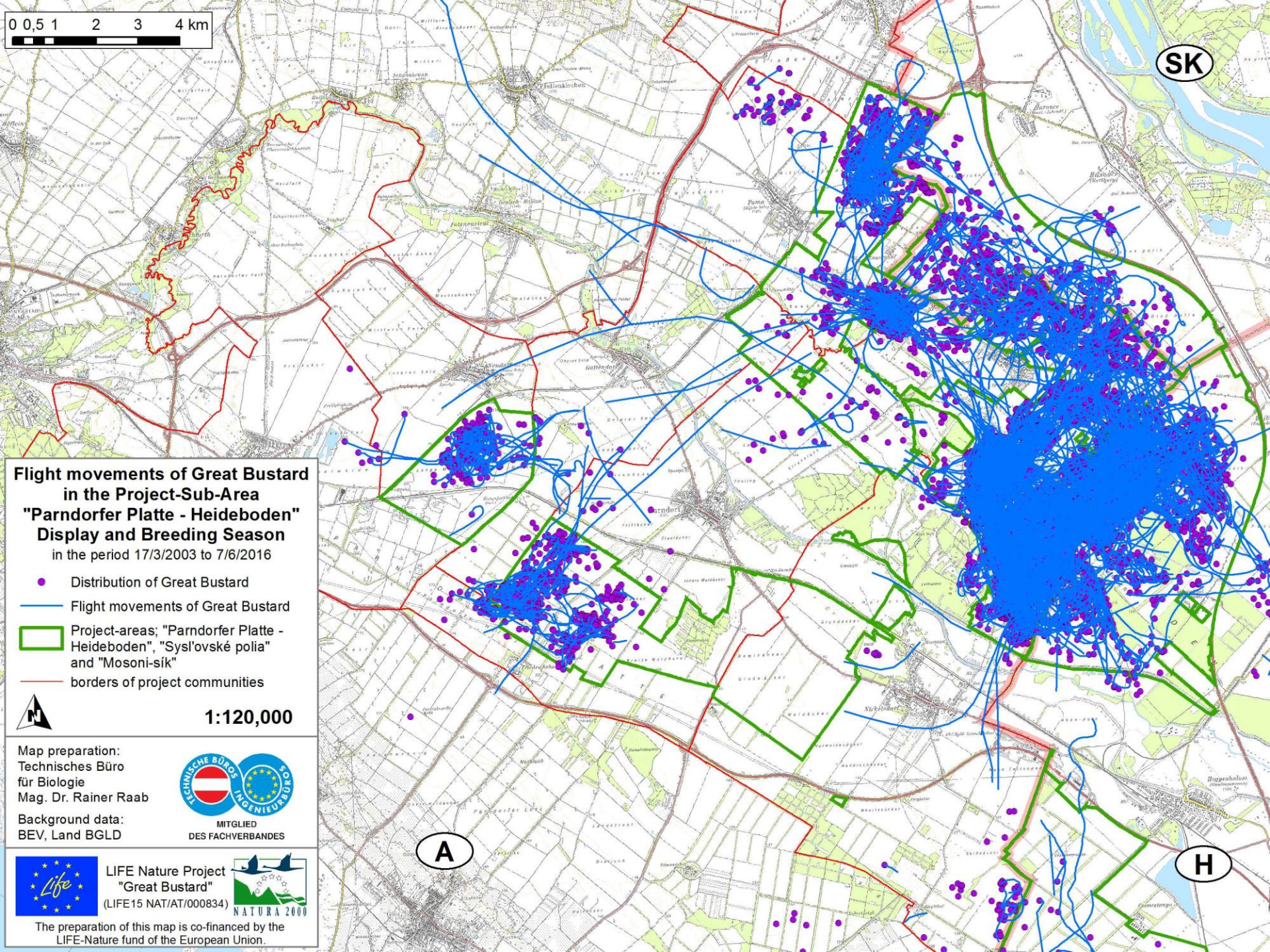
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Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

Background data:
BEV, Land BGLD



The preparation of this map is co-financed by the LIFE-Nature fund of the European Union.



**Flight movements of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"**
Display and Breeding Season
in the period 17/3/2003 to 7/6/2016

- Distribution of Great Bustard
- Flight movements of Great Bustard
- ▭ Project-areas; "Parndorfer Platte - Heideboden", "Syslovské polia" and "Mosoni-sík"
- borders of project communities

1:120,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



Background data:
BEV, Land BGLD

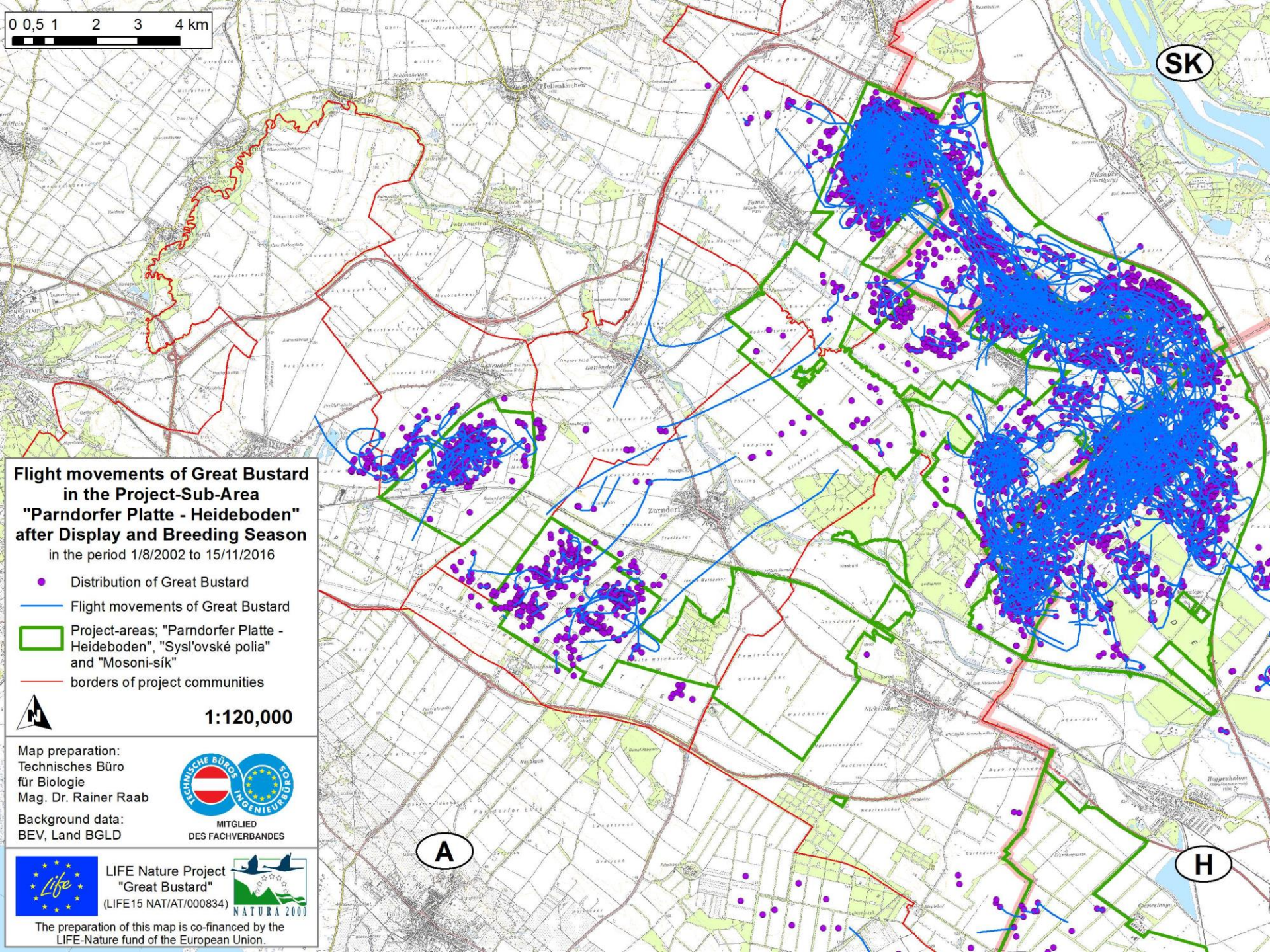


LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.

0 0,5 1 2 3 4 km



**Flight movements of Great Bustard
in the Project-Sub-Area
"Parndorfer Platte - Heideboden"
after Display and Breeding Season
in the period 1/8/2002 to 15/11/2016**

- Distribution of Great Bustard
- Flight movements of Great Bustard
- ▭ Project-areas; "Parndorfer Platte - Heideboden", "Sys'ovské polia" and "Mosoni-sík"
- borders of project communities

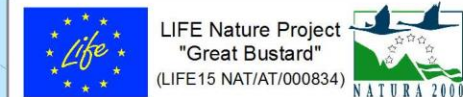


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Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



Background data:
BEV, Land BGLD







The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.

0 0,5 1 2 3 4 km

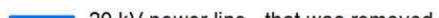
Dead individual of Great Bustard in the Project-Sub-Area "Parndorfer Platte - Heideboden"


in the period 1/6/2001 to 28/8/2016


-  collision with power line
-  natural death
-  predation
-  other causes

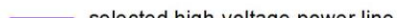



Wind turbine (Status: 12/2016)

 20 kV power line, that was removed
in the course of the LIFE Project

 selected medium-voltage power line
(20 kV)

 110, 220 and 380 kV high-voltage
power line, that was marked between
July 2006 and May 2008

 selected high-voltage power line
(110, 220 and 380 kV)

 Project-areas; "Parndorfer Platte -
Heideboden", "Sysl'ovské polia"
and "Mosoni-sík"

 borders of project communities



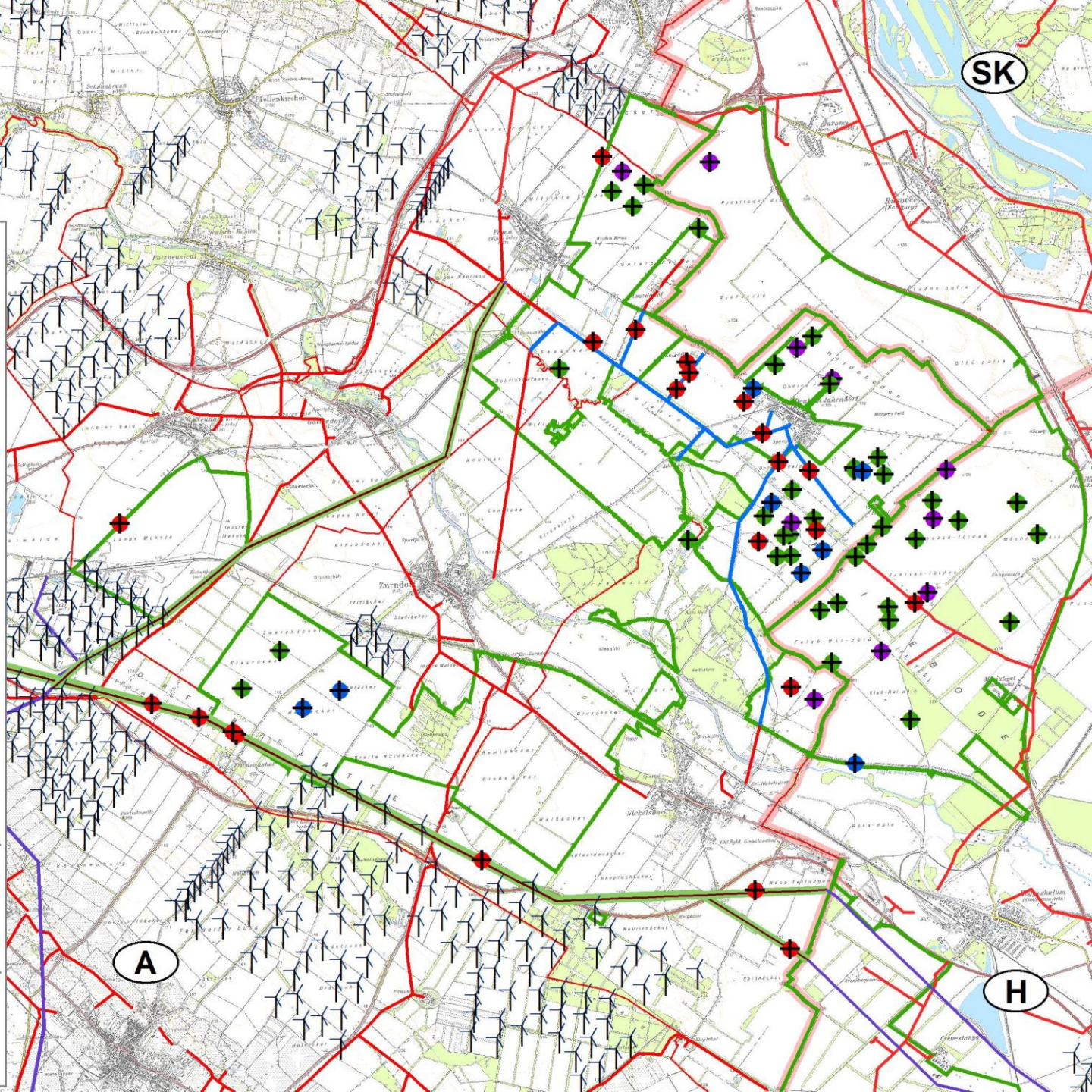
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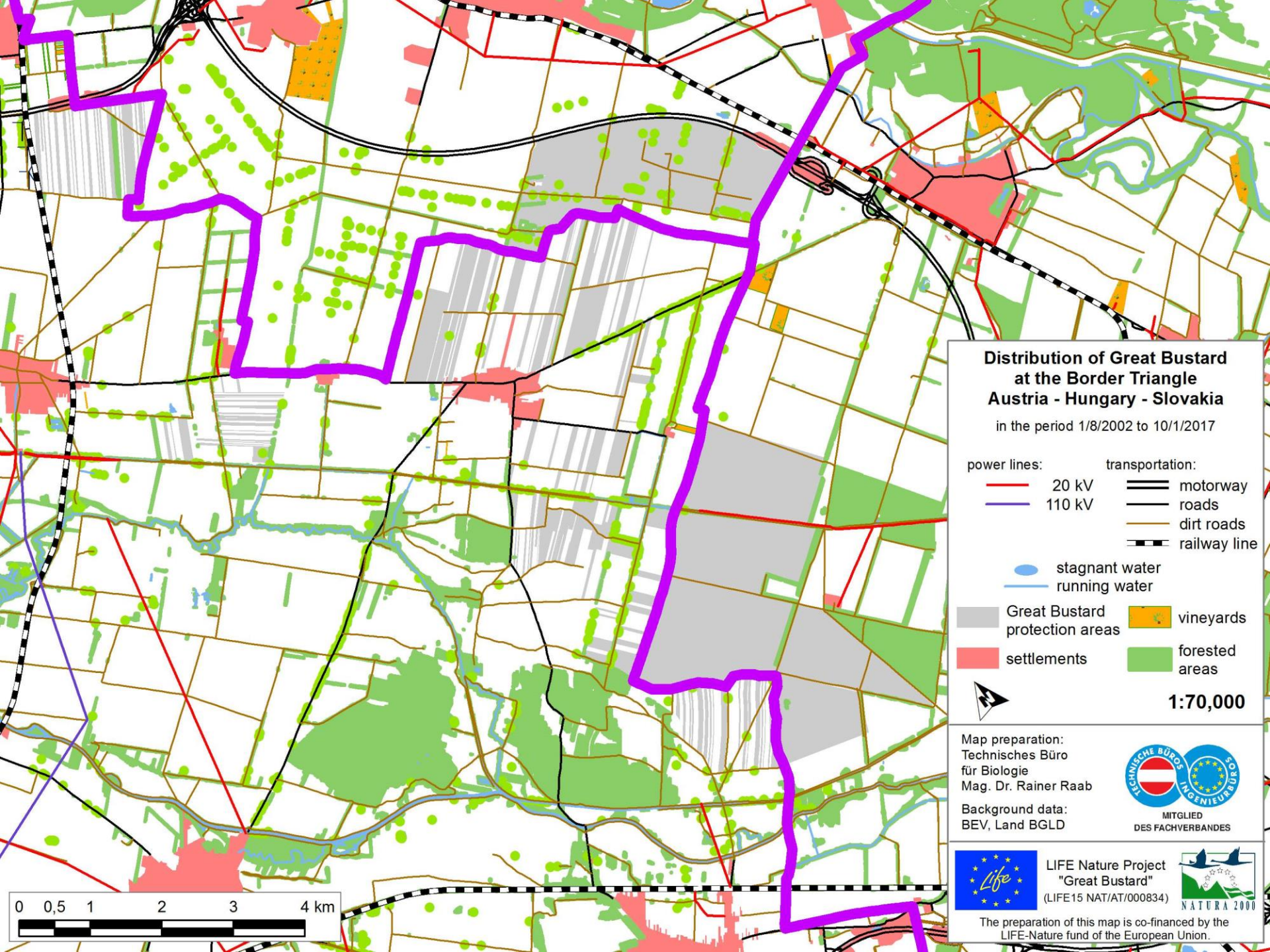
Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

Background data:
BEV, Land BGLD



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.





Distribution of Great Bustard at the Border Triangle Austria - Hungary - Slovakia

in the period 1/8/2002 to 10/1/2017

power lines:

— 20 kV
— 110 kV

transportation:

— motorway
— roads
— dirt roads
— railway line

— stagnant water
— running water

— Great Bustard
protection areas

— settlements

— vineyards

— forested
areas



1:70,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

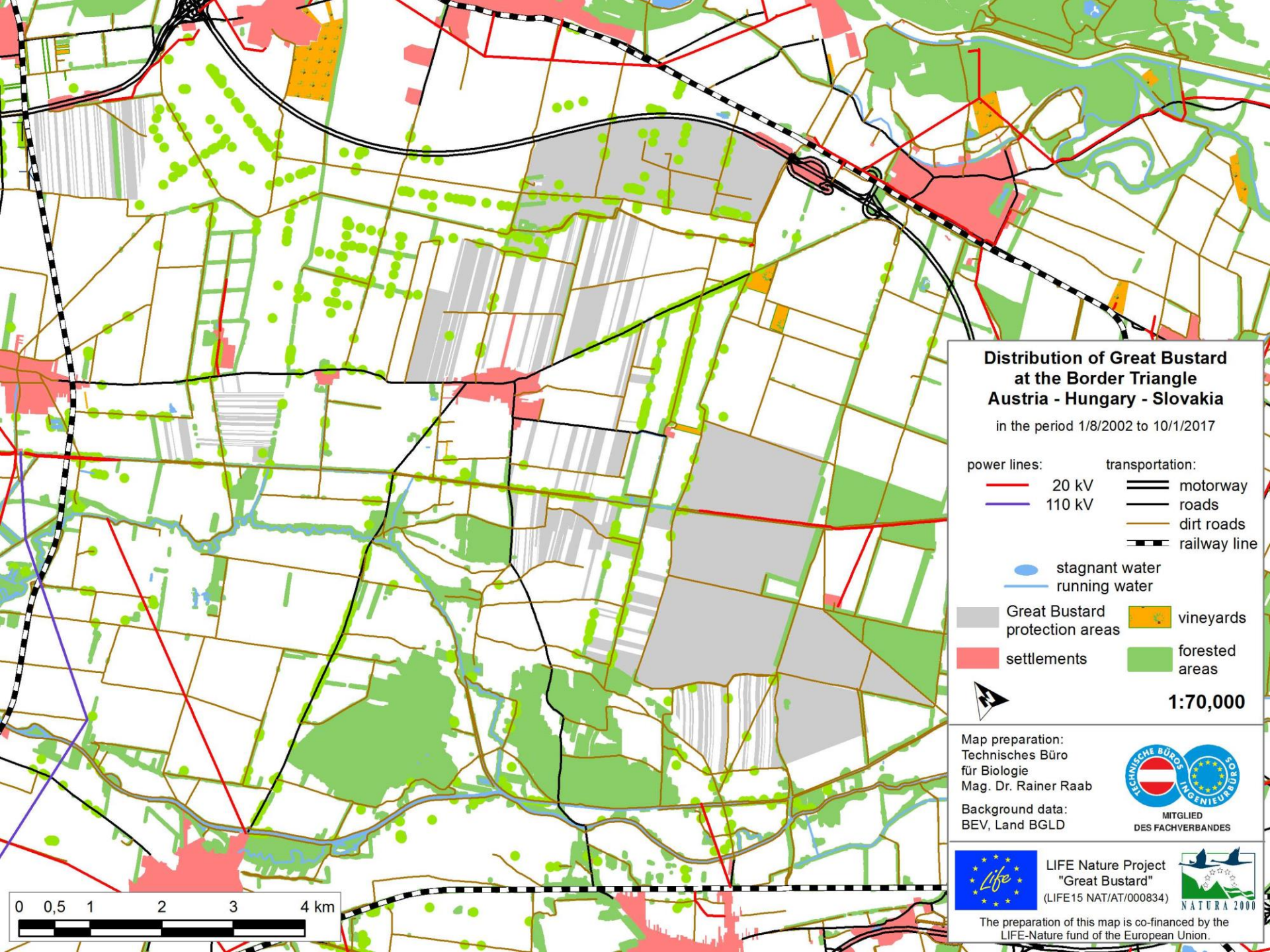
Background data:
BEV, Land BGDL



LIFE Nature Project
"Great Bustard"
(LIFE 15 NAT/AT/000834)



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.



Distribution of Great Bustard at the Border Triangle Austria - Hungary - Slovakia

in the period 1/8/2002 to 10/1/2017

power lines:

— 20 kV
— 110 kV

transportation:

— motorway
— roads
— dirt roads
— railway line

— stagnant water
— running water

— Great Bustard
protection areas

— settlements

— vineyards

— forested
areas



1:70,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

Background data:
BEV, Land BGLD

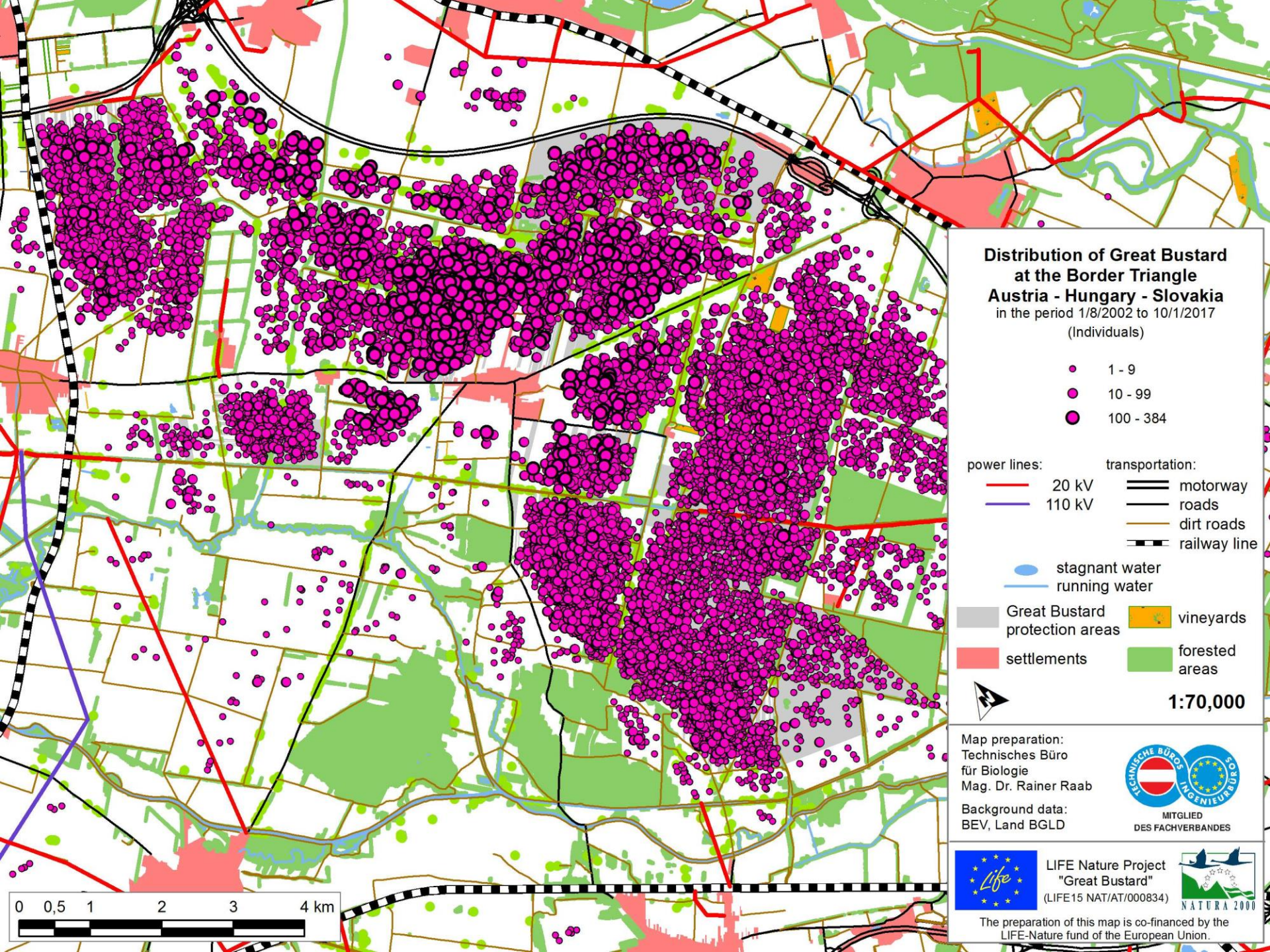


LIFE Nature Project
"Great Bustard"
(LIFE 15 NAT/AT/000834)



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.





**Distribution of Great Bustard
at the Border Triangle
Austria - Hungary - Slovakia**
in the period 1/8/2002 to 10/1/2017
(Individuals)

- 1 - 9
- 10 - 99
- 100 - 384

power lines:

- 20 kV
- 110 kV

transportation:

- motorway
- roads
- dirt roads
- railway line

- stagnant water
- running water

Great Bustard
protection areas

vineyards

settlements

forested
areas



1:70,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

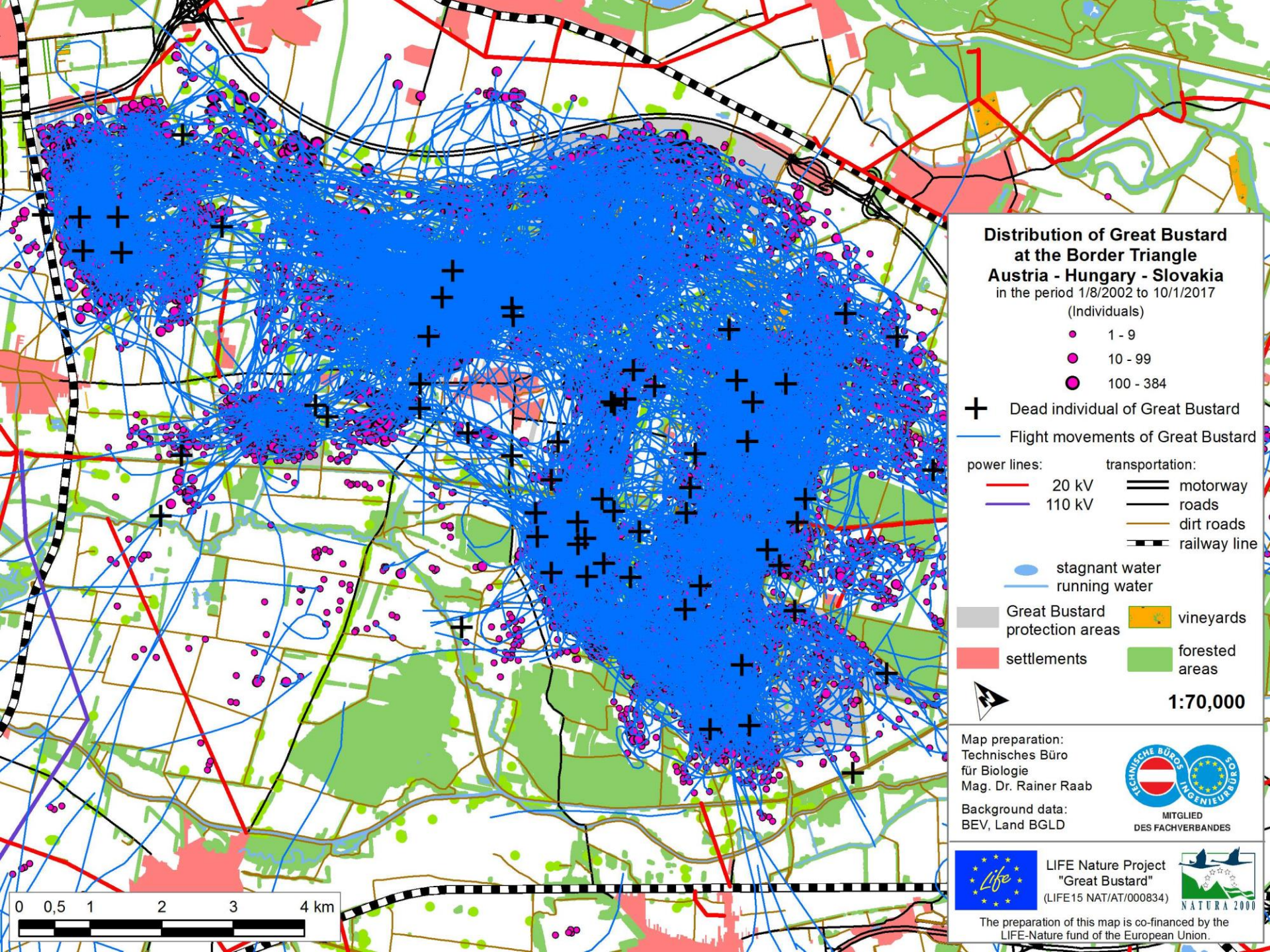
Background data:
BEV, Land BGLD



LIFE Nature Project
"Great Bustard"
(LIFE 15 NAT/AT/000834)



The preparation of this map is co-financed by the
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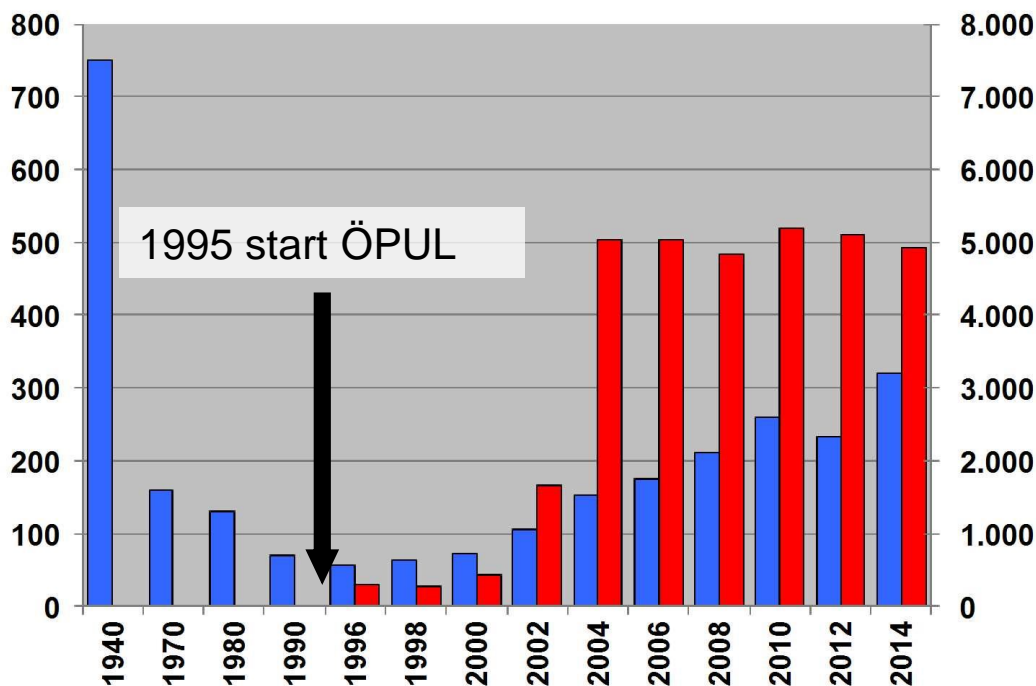




Numbers of the Austrian population of Great Bustard from 1940 to 2014 and the ÖPUL-Bustard protection fields



Numbers of Great Bustard in Austria in the breeding period



ÖPUL-Bustard protection fields in hectares

Size of the Austrian population of Great Bustard and the ÖPUL-Bustard protection fields

- Numbers of the Austrian population of Great Bustard
- ÖPUL-Bustard protection fields in hectares (excl. Hanság)

Data source: Raab et al. (2010) and data from R. Raab and P. Spakovszky

Graphic preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab



LIFE+ Nature Project
"Great Bustard"
(LIFE09 NAT/AT/000225)



The preparation of this map is co-financed by the LIFE-Nature fund of the European Union.

The results show, that the west pannonian population of the Great Bustard are linked together, and the population growth in



the project sub-areas are highly dependent on the availability of protection fields and the implementation of measures at power lines.

Planned measurements in the course of the LIFE - Project "Great Bustard"

in the period 1/8/2002 to 10/1/2017

- 1
- 2 - 5
- 6 - 25
- 26 - 65



Wind turbine (Status: 12/2016)

20 kV power line, which will be buried underground in the course of the LIFE Project "Great Bustard"

20 kV power line, which was removed in the course of the LIFE Project "Great Bustard" 2005 - 2010

110 kV or 380 kV power line, which has been marked in the course of the LIFE Project "Great Bustard" 2005 - 2010

Project-Sub-Area
"Westliches Weinviertel" (WWV)
= actual Great Bustard habitat

community borders



1:180,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

Background data:
BEV, Land BGLD,
APG, Netz BGLD



MITGLIED
DES FACHVERBANDES

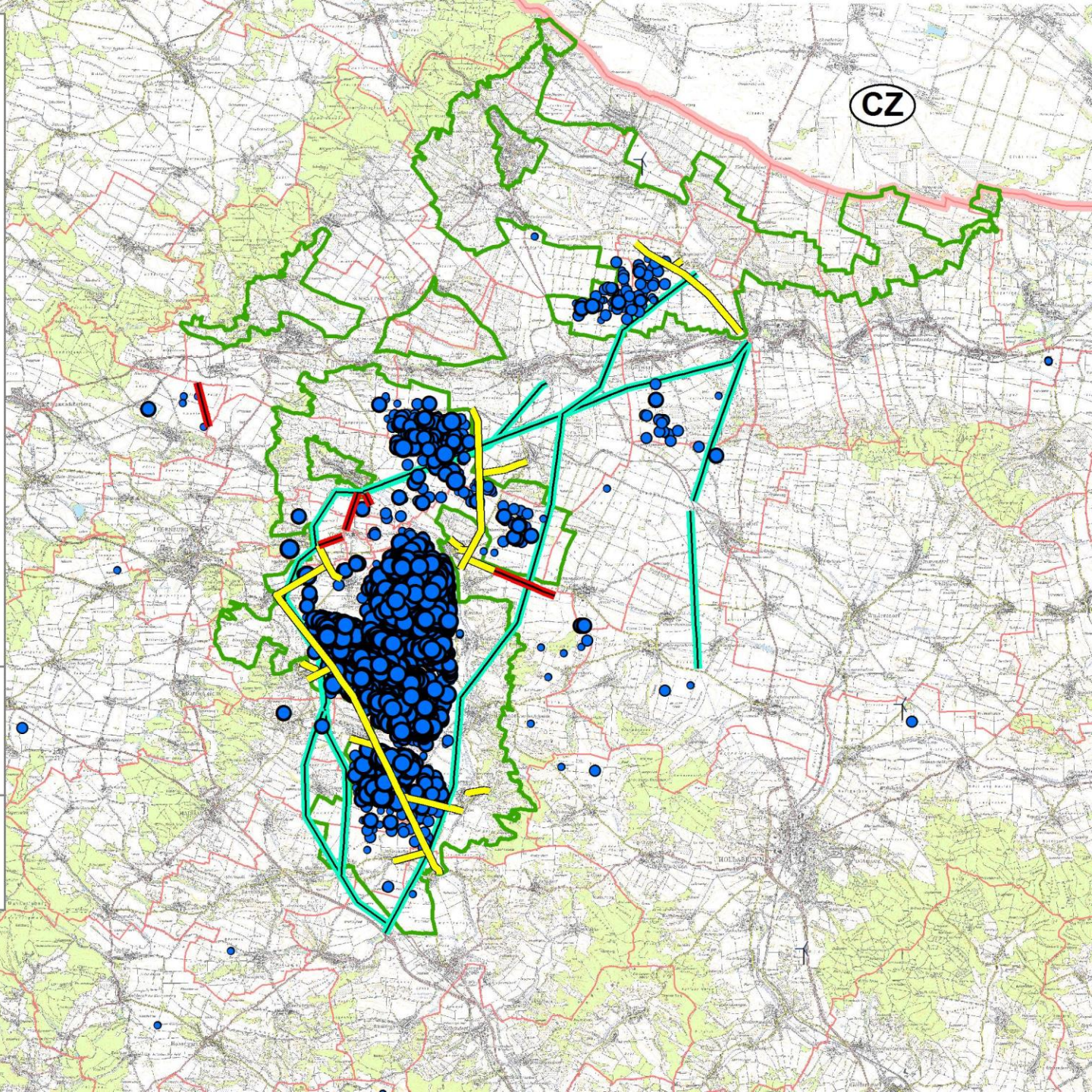


LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.

0 1 2 4 6 8 km



Planned measurements in the course of the LIFE - Project "Great Bustard"

in the period 1/8/2002 to 10/1/2017

- 1
- 2 - 5
- 6 - 16



Wind turbine (Status: 12/2016)

20 kV power line, which will be buried underground in the course of the LIFE Project "Great Bustard"

20 kV power line, which was removed in the course the LIFE+ Project "Great Bustard" 2010 - 2015

110 kV, 220 kV or 380 kV power line, which has been marked in the course of the LIFE Project "Great Bustard" 2005 - 2010

Project-Sub-Area
AT2 Sandboden und Praterterrasse
= actual Great Bustard habitat

community borders



1:180,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

Background data:
BEV, Land BGLD,
APG, Netz BGLD



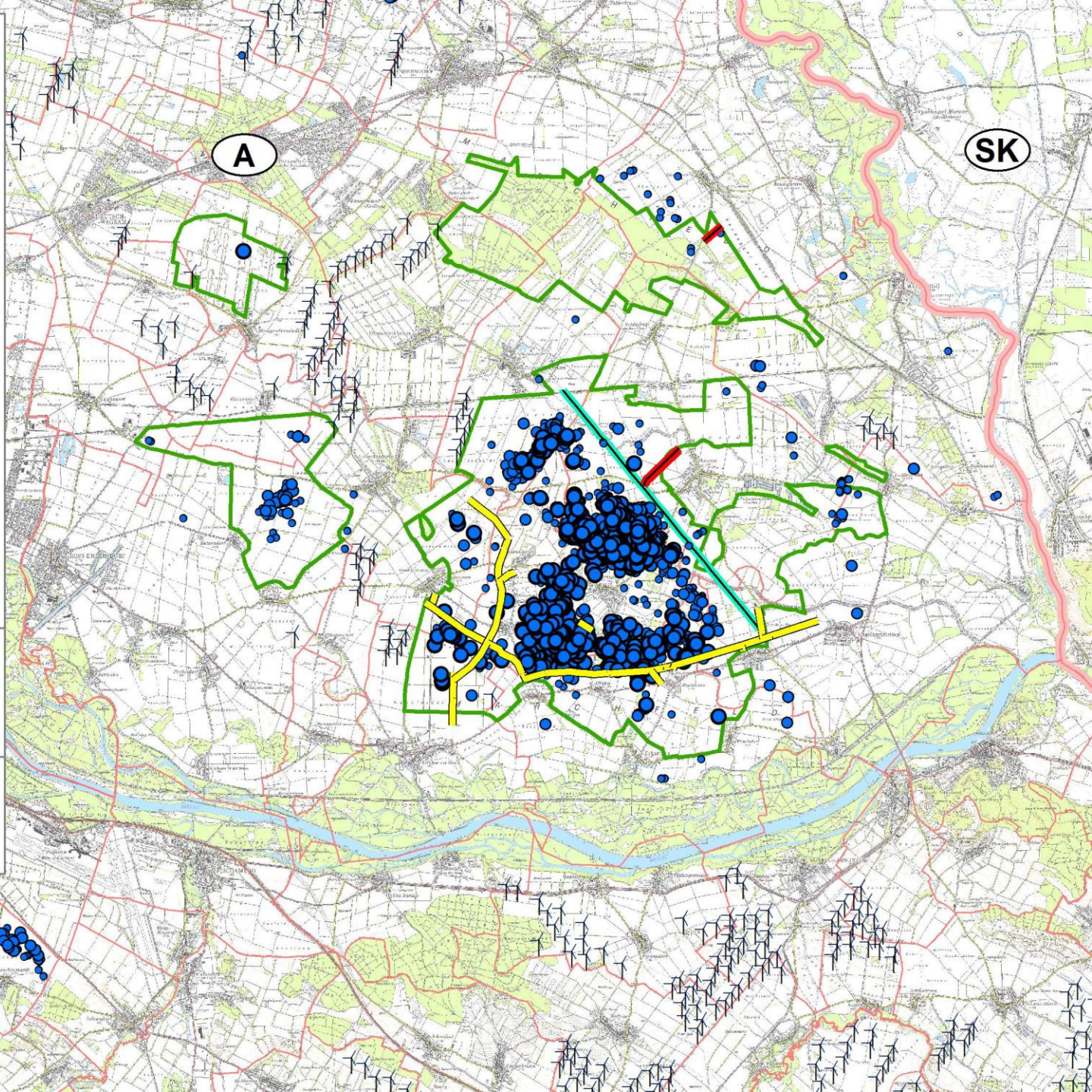
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DES FACHVERBANDES



LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)

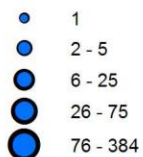


The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.



Planned measurements in the course of the LIFE - Project "Great Bustard"

in the period 1/8/2002 to 10/1/2017



Wind turbine (Status: 12/2016)

20 kV power line, which will be buried underground in the course of the LIFE Project "Great Bustard"

20 kV power line, which was removed in the course of the LIFE Project "Great Bustard" 2005 - 2010 and the LIFE+ Project "Great Bustard" 2010 - 2015

110 kV, 220 kV or 380 kV power line, which has been marked in the course of the LIFE Project "Great Bustard" 2005 - 2010 and the LIFE+ Project "Great Bustard" 2010 - 2015

Project-Sub-Area "Parndorfer Platte - Heideboden" (PPH) = actual Great Bustard habitat

community borders



1:180,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

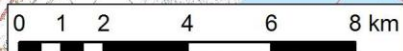
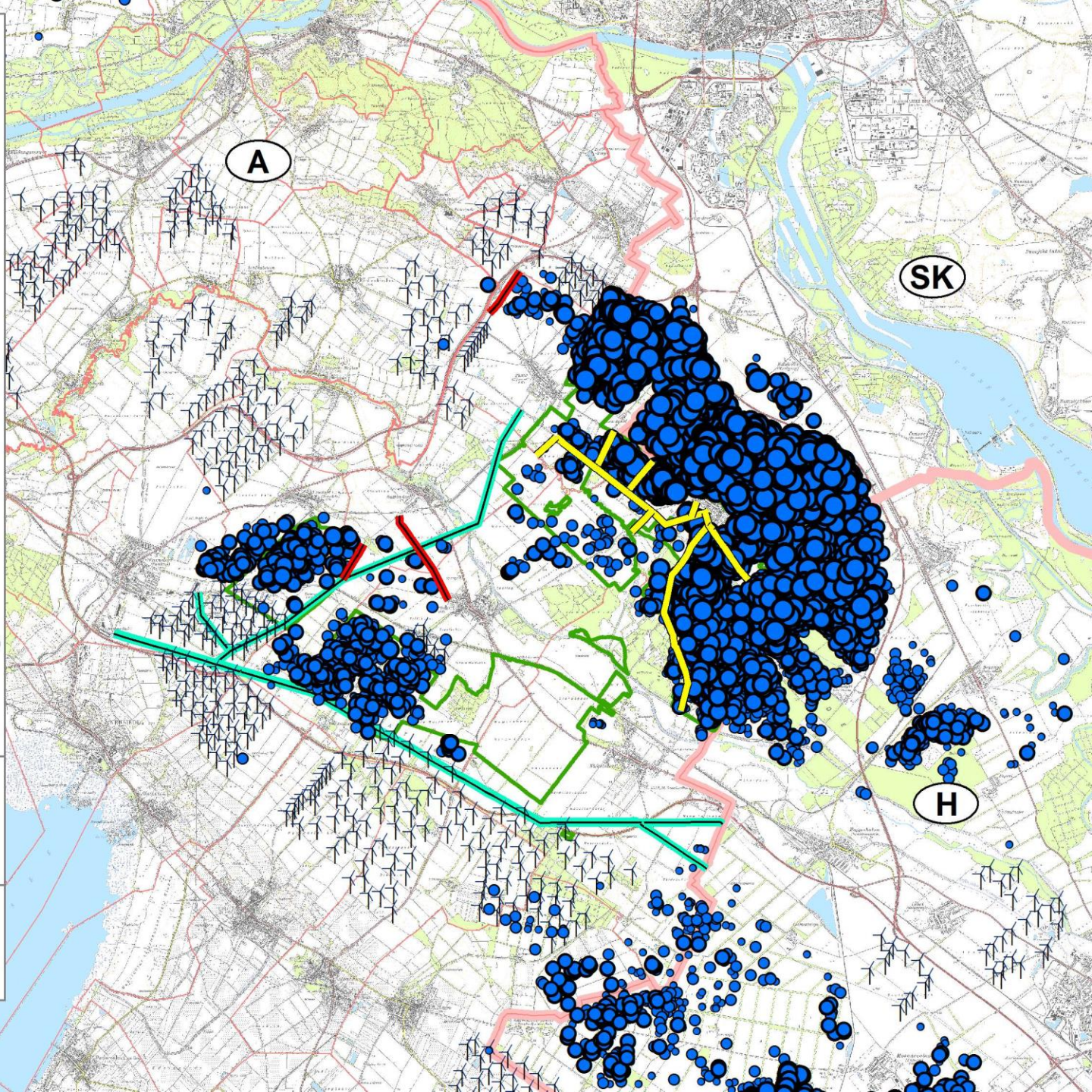
Background data:
BEV, Land BGLD,
APG, Netz BGLD



MITGLIED
DES FACHVERBANDES

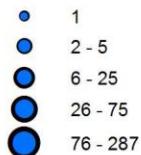


The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.



**Planned measurements
in the course of the
LIFE - Project "Great Bustard"**

in the period 1/8/2002 to 15/7/2015



20 kV power line, which will be buried underground in the course of the LIFE Project "Great Bustard"

Area, in which predator management will be executed in the course of the LIFE Project "Great Bustard"

Project-Sub-Area
HU1 Felső-kiskunsági szikes puszták és turjánvidék

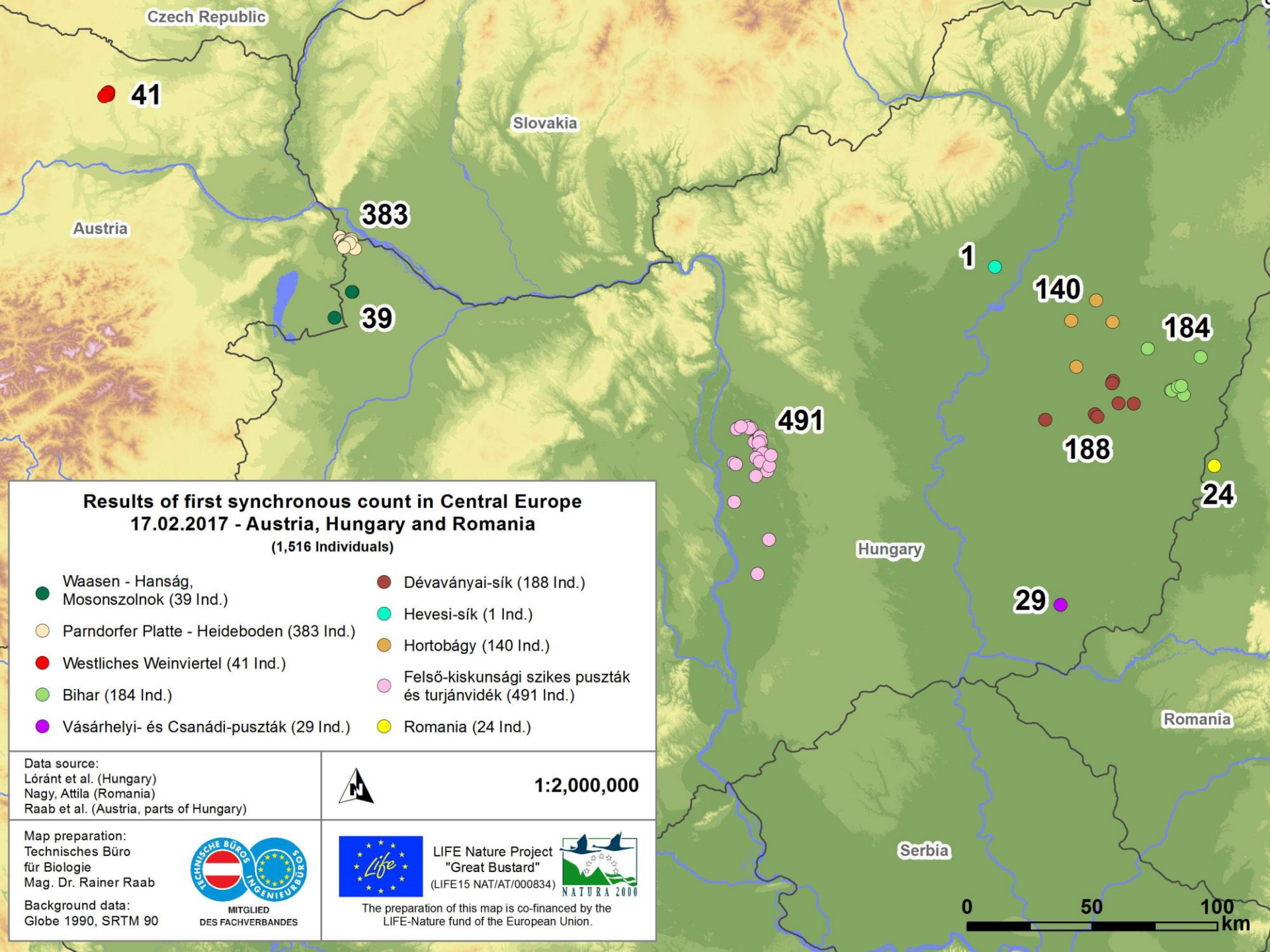
1:180,000

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab
Background data:
ELMÜ, Földmérési és
Távérzékelési Intézet



The preparation of this map is co-financed by the
LIFE-Nature fund of the European Union.





Results of first synchronous count in Central Europe
17.02.2017 - Austria, Hungary and Romania
(1,516 Individuals)

- | | |
|--|--|
| ● Waasen - Hanság,
Mosonszolnok (39 Ind.) | ● Dévaványai-sík (188 Ind.) |
| ● Parndorfer Platte - Heideboden (383 Ind.) | ● Hevesi-sík (1 Ind.) |
| ● Westliches Weinviertel (41 Ind.) | ● Hortobágy (140 Ind.) |
| ● Bihar (184 Ind.) | ● Felső-kiskunsági szikes puszták
és turjánvidék (491 Ind.) |
| ● Vásárhelyi- és Csanádi-puszták (29 Ind.) | ● Romania (24 Ind.) |

Data source:
Lóránt et al. (Hungary)
Nagy, Attila (Romania)
Raab et al. (Austria, parts of Hungary)

Map preparation:
Technisches Büro
für Biologie
Mag. Dr. Rainer Raab

Background data:
Globe 1990, SRTM 90





1:2,000,000



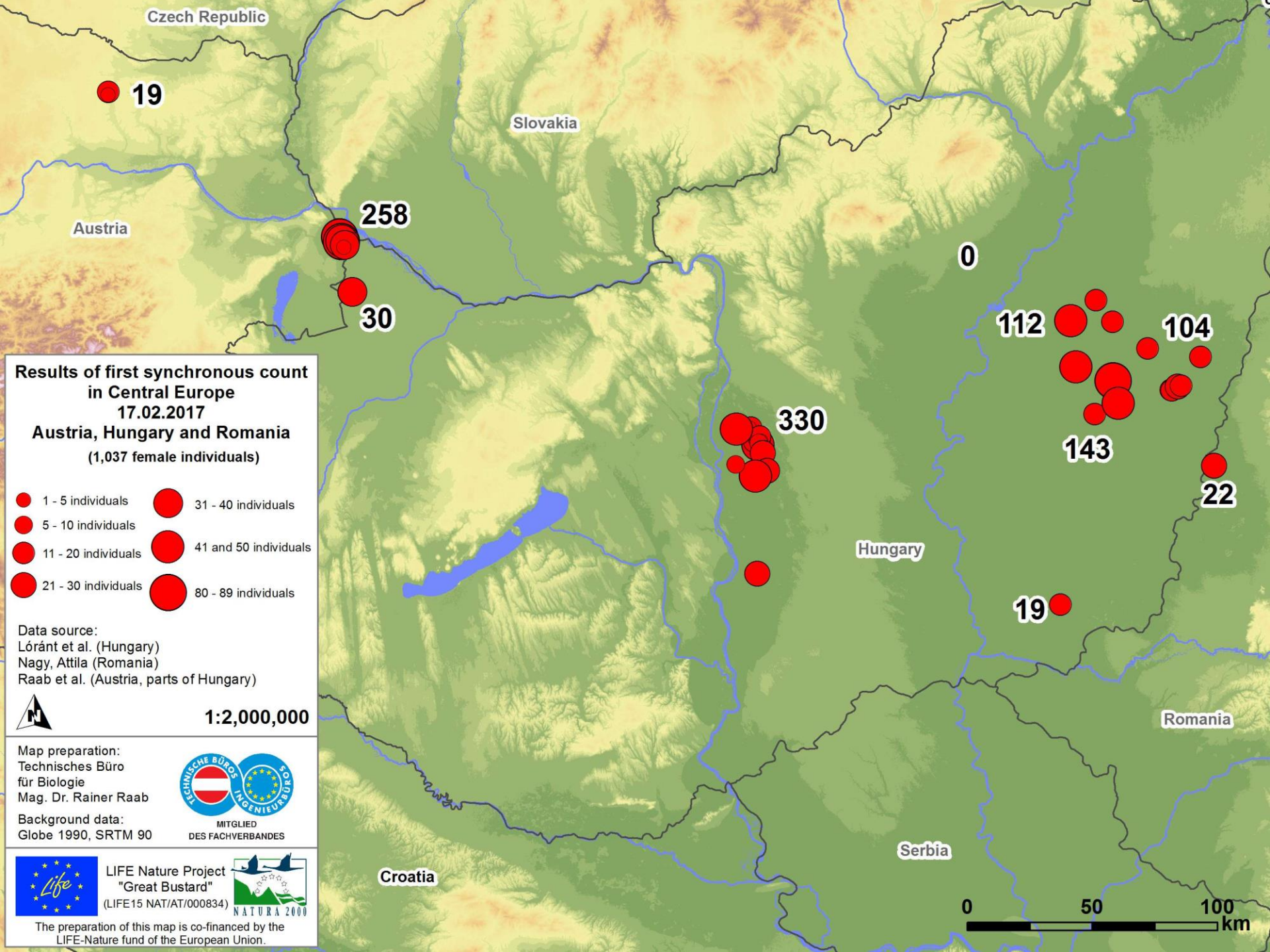
LIFE Nature Project
"Great Bustard"
(LIFE15 NAT/AT/000834)

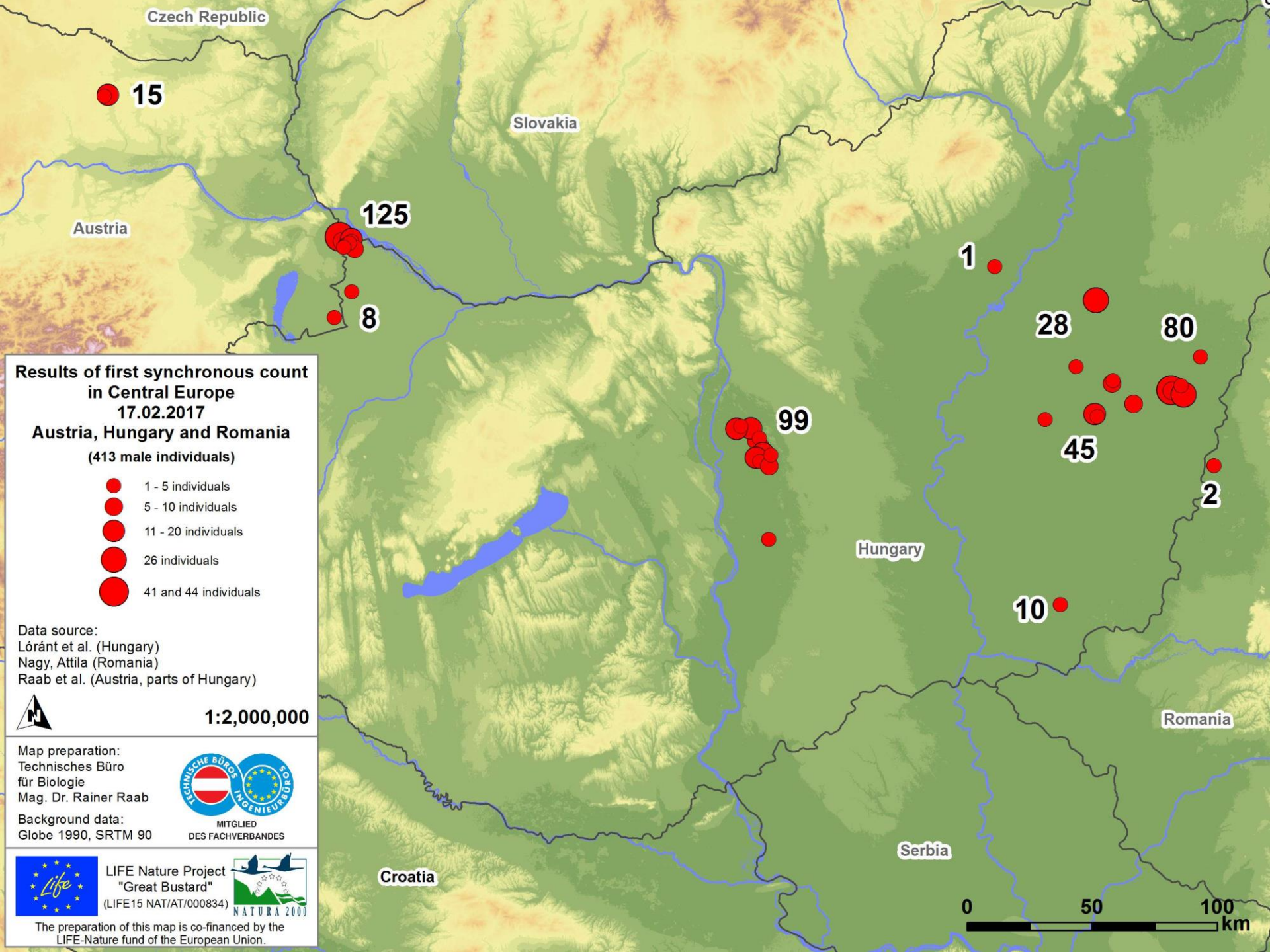


NATURA 2000

The preparation of this map is co-financed by the
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Thank you for your attention!

The LIFE Project "Great Bustard"

LIFE15 NAT/AT/000834 is

supported by the EU and the following
project partners and co-financiers:



elmű hálózat

Part of innogy



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