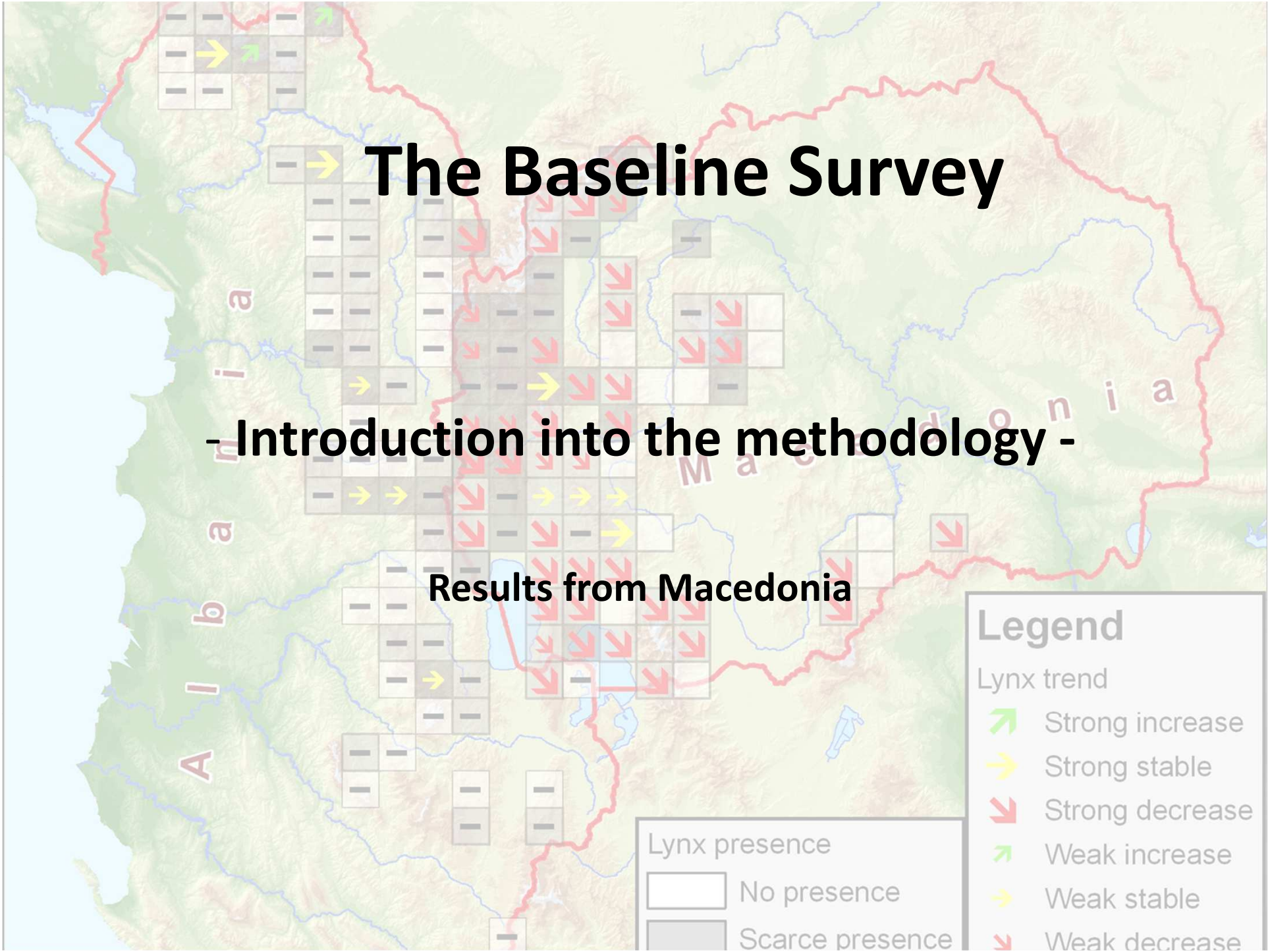
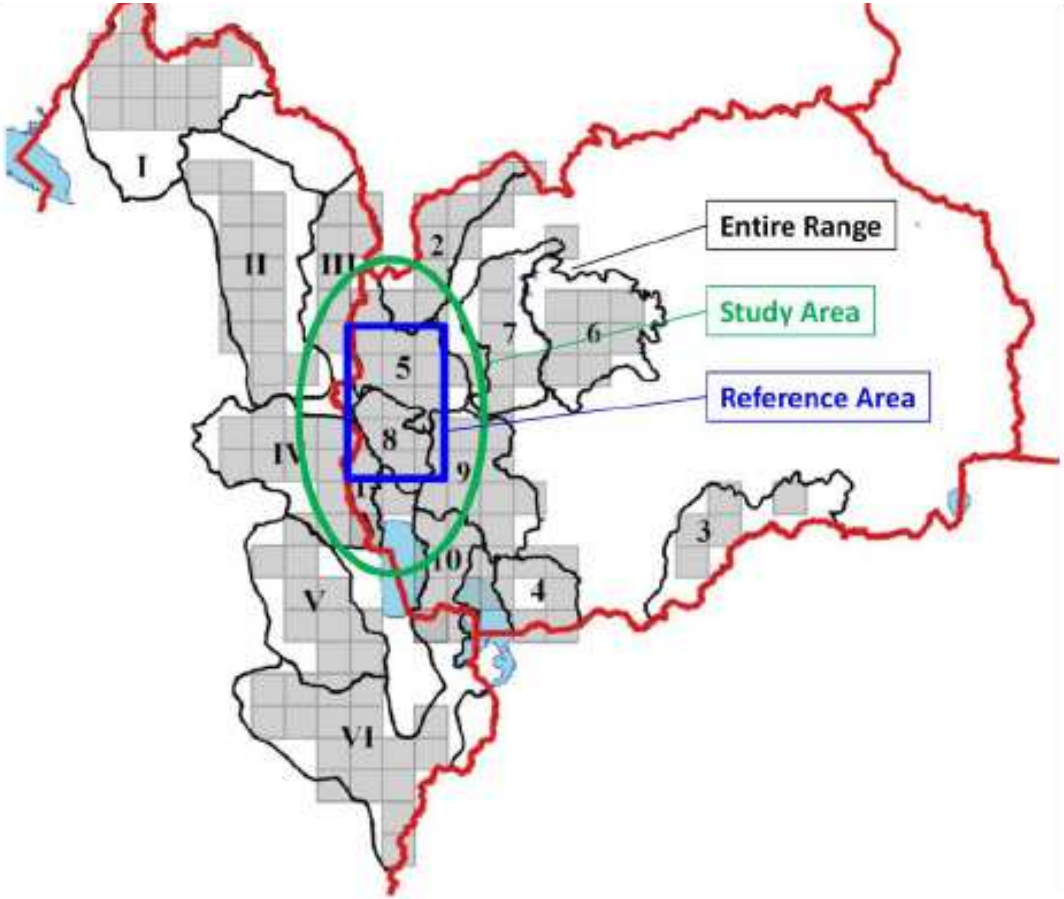
# The Baseline Survey

## - Introduction into the methodology -

### Results from Macedonia






**Level I** (entire range, sub-units will be prioritised) – 10·10 km grid cells for the occupancy study;

**Level II** (study area) – area for the radio-telemetry work;

**Level III** (reference area) – area for the systematic camera trapping with capture-recapture estimation of density.

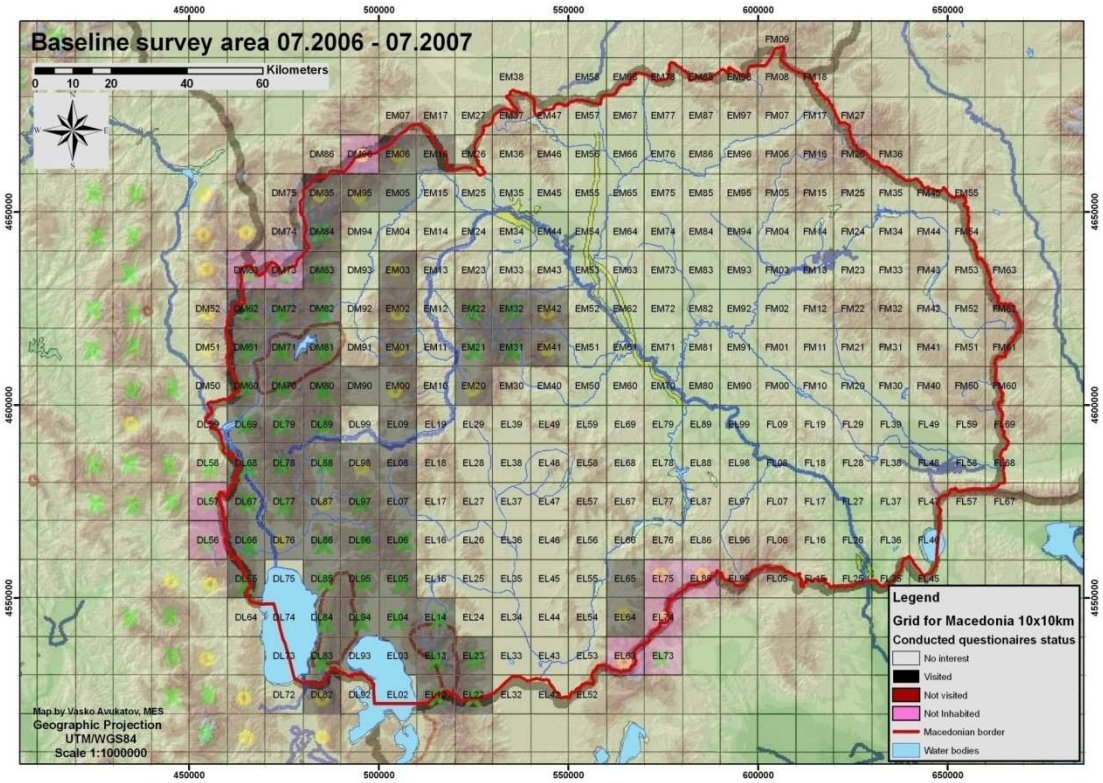
## Methodology for Balkan Lynx Baseline Survey

Purpose:

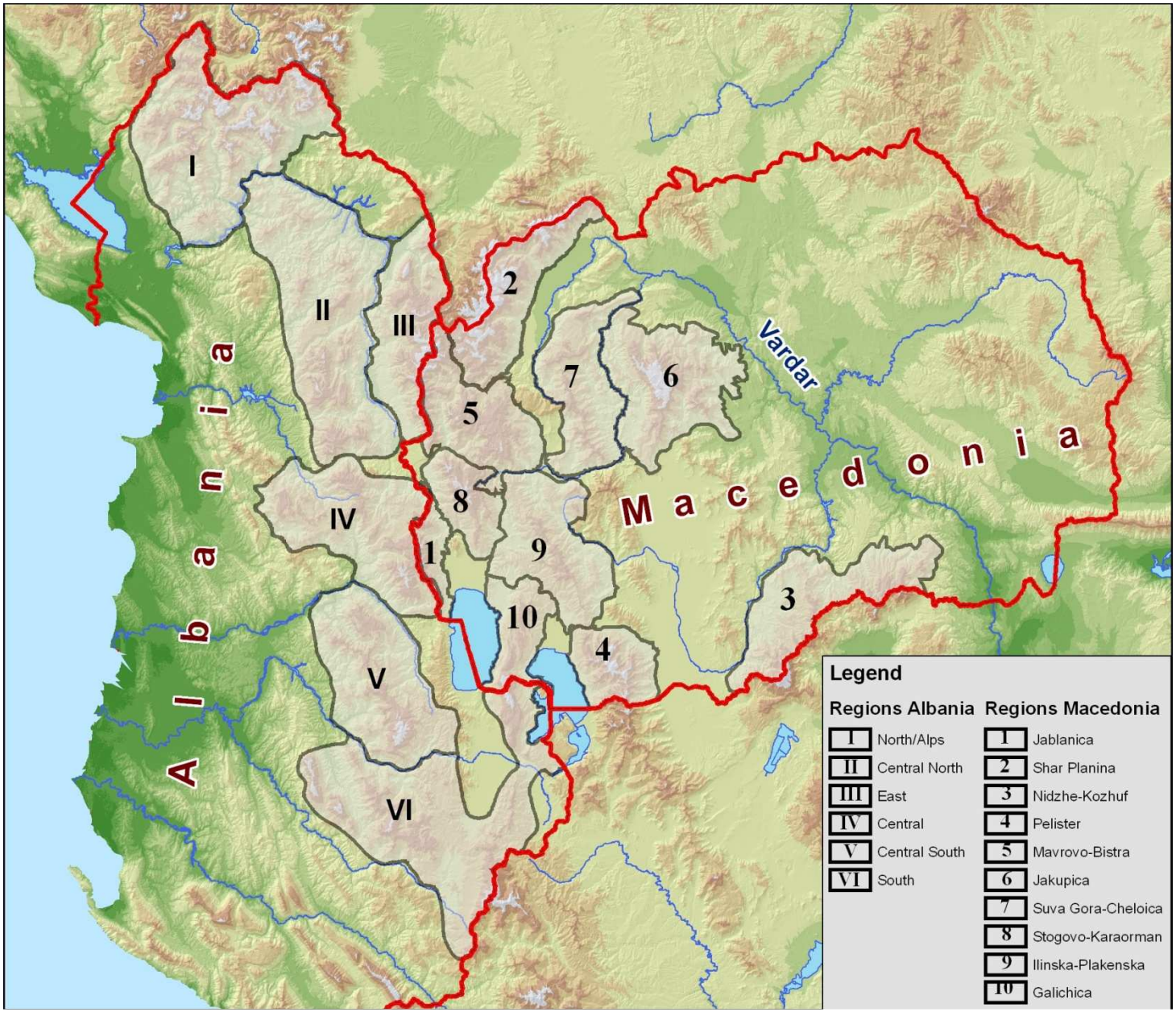
**To systematically collect local knowledge on lynx & potential prey, livestock husbandry and human-large carnivores conflicts**

Defining the study area

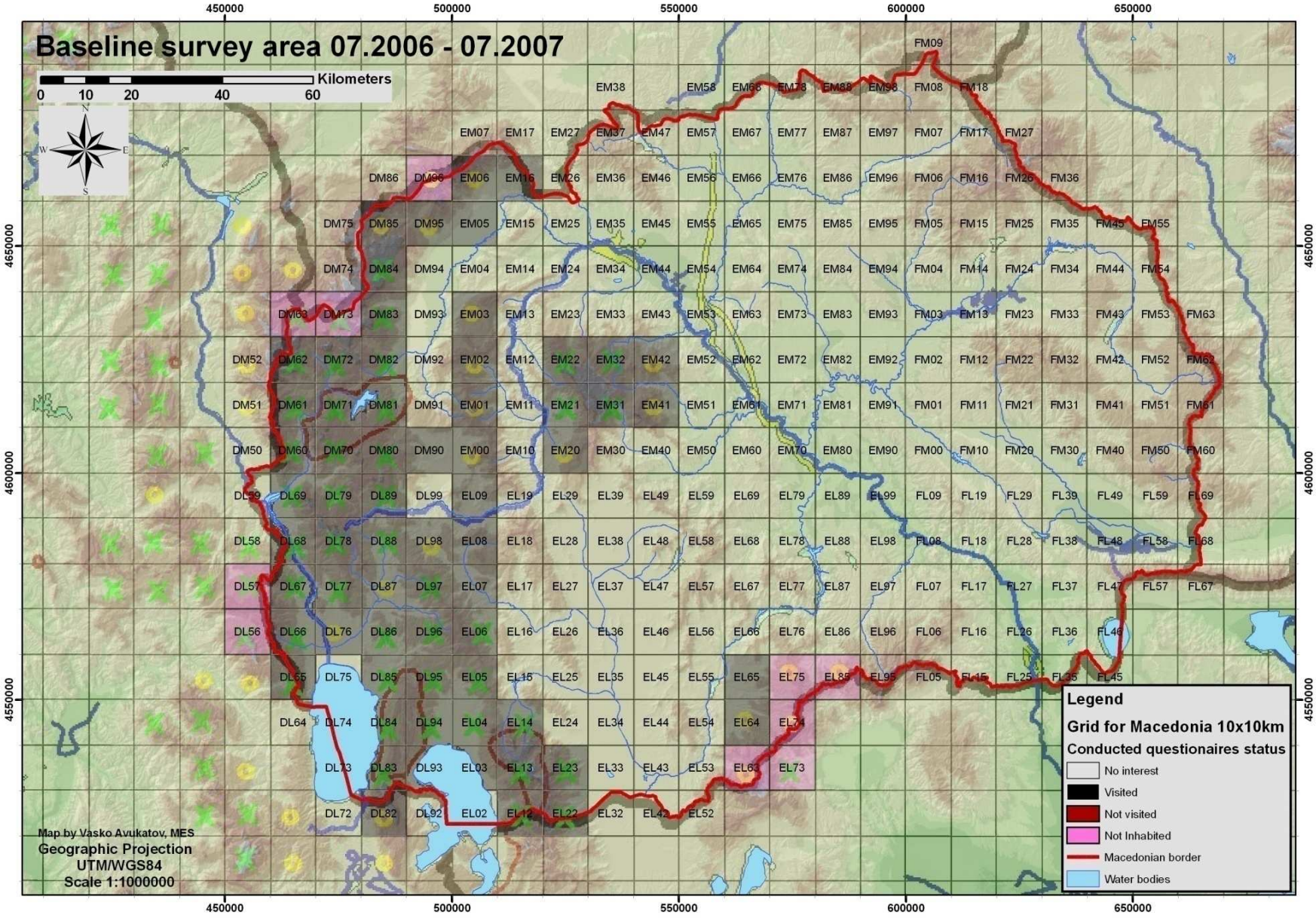
- Maps overlaid with 10x10 km grid
- Study area defined by available information on lynx
- At least 1 village randomly selected per grid cell



# Studied area

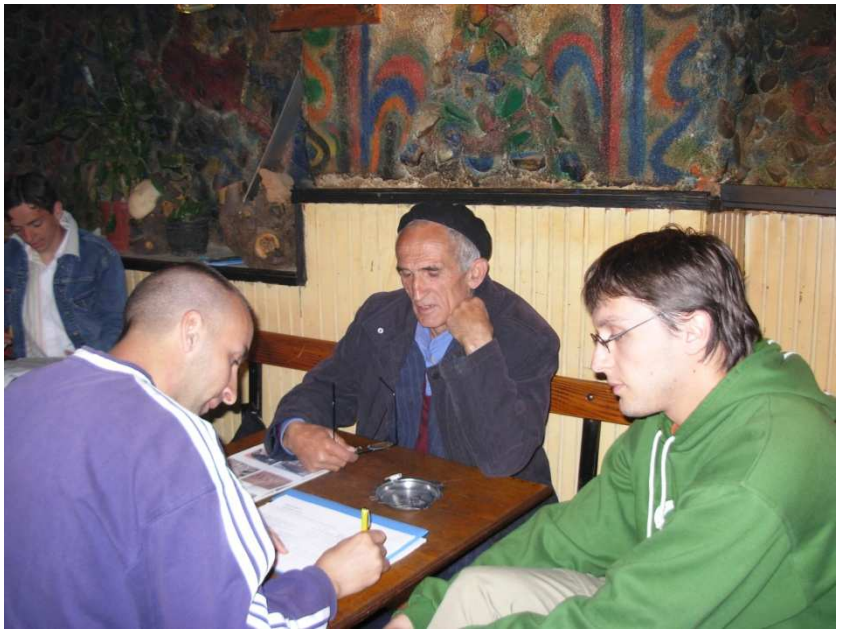


# Studied area



## Questionnaire

- Direct (face to face) interviews
- Different target groups (hunters, game wardens, foresters, shepherds/farmers, shop-owners, random people)
- Period of survey: August 2006 – July 2007



**1. Distribution of species**

We are interested in collecting information on the distribution of a range of species in Macedonia / Albania

| | | | Roe deer | Red deer | Chamois | Wild boar | Hare | Capercaillie / grouse | Red fox | Jackal | Wolf | Stray dogs | Wild cat | Lynx | Bear | No data |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.1** | Is it present in your area? | yes/no | | | | | | | | | | | | | | |
| **1.2** | How common is it? | 1-3 | | | | | | | | | | | | | | |
| **1.3** | Are there more now compared to 5 years ago? | +/=/- | | | | | | | | | | | | | | |
| **1.4** | Have any been found dead? | personal/other person p/o | | | | | | | | | | | | | | |
| **1.5** | When was the last one found dead? | time period | | | | | | | | | | | | | | |
| **1.6** | Have any been killed? | personal/other person p/o | | | | | | | | | | | | | | |
| **1.7** | When was the last one killed? | time period | | | | | | | | | | | | | | |
| **1.8** | Have any been observed? | personal/other person p/o | | | | | | | | | | | | | | |
| **1.9** | When was the last one observed? | time period | | | | | | | | | | | | | | |

**2. Conflicts**

These questions reflect the general situation in the area of the village

Wild animals can sometimes cause problems for people. We are interested in collecting information on any conflicts that occur between the following species and people

| | ? | | Lynx | Bear | Wolf | Jackal | Red fox | Wild cat | Stray dogs | Unknown species | Doesn't know |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.1** | Do you know if any of the following domestic animals been killed in your area in the last 12 months? | | | | | | | | | | |
| | 2.1.1 - sheep | yes/no | | | | | | | | | |
| | 2.1.2 - goats | yes/no | | | | | | | | | |
| | 2.1.3 - pigs | yes/no | | | | | | | | | |
| | 2.1.4 - cattle | yes/no | | | | | | | | | |
| | 2.1.5 - dogs | yes/no | | | | | | | | | |
| | 2.1.6 - chickens / ducks / geese | yes/no | | | | | | | | | |
| | 2.1.7 - donkeys | yes/no | | | | | | | | | |
| | 2.1.8 - horses | yes/no | | | | | | | | | |
| | 2.1.9 - beehives | yes/no | | | | | | | | | |
| **2.2** | If YES in which seasons has the depredation | winter /spring /summer | | | | | | | | | |

**3. Animal husbandry details**

Do you have any domestic animals or beehives?

If YES

| | | |
|---|---|---|
| **3.1** | How many of the following animals do you have at present? | Number |
| | 3.1.1 - sheep | |
| | 3.1.2 - goats | |
| | 3.1.3 - pigs | |
| | 3.1.4 - cattle | |
| | 3.1.5 - chickens | |
| | 3.1.6 - donkeys / mules | |
| | 3.1.7 - horses | |
| **3.2** | How many of the following domestic animals have you personally lost to depredation during the last 12 months? | number /predator /notes |
| | 3.1.1 - sheep | |
| | 3.1.2 - goats | |
| | 3.1.3 - pigs | |
| | 3.1.4 - cattle | |
| | 3.1.5 - dogs | |
| | 3.1.6 - chickens / ducks / geese | |
| | 3.1.7 - donkeys / mules | |
| | 3.1.8 - horses | |

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6. Villag
   – Nar

**4. Socio-economic environment**

| | Present | 15 years ago |
|---|---|---|
| **4.1** Is there a school in the village? (yes/no) | | |
| **4.2** Is it possible to buy gasoline in/near the village? (yes/no) | | |
| **4.3** How far away is the closest doctor? (km) | | |
| **4.4** What is the population of your village? (number) | | |
| **4.5** How many houses are occupied? (% of total number) | | |
| **4.6** Is there a bus service? (yes/no) | | |
| **4.7 a** Is there a shop in the village? | | |
| **4.7 b** Is there a cathering fscility in the village? | | |

**5. Informant**

| | |
|---|---|
| **5.1** Are you a permanent / seasonal resident? | |
| **5.2** How long have you lived in this village? | |
| **5.3** Your name? | |
| **5.4** Occupation? | |
| **5.5** Sex? | |
| **5.6** Age? | |
| **5.7** General impressions of informant (Notes) | |

**6. Village**

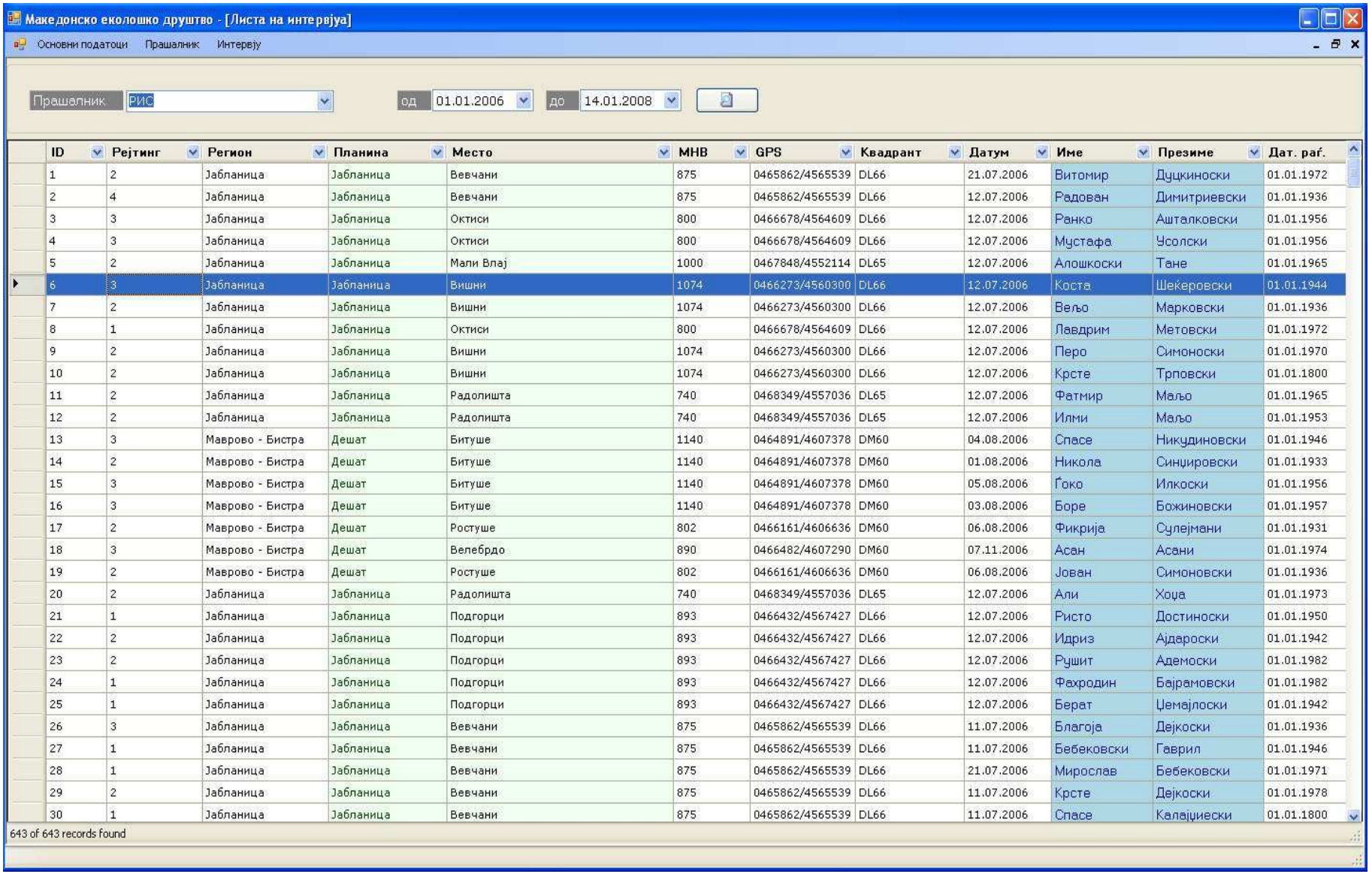
| | |
|---|---|
| **6.1** Village name | |
| **6.2** GPS location | |
| **6.3** General impression of village * | |

* e.g. % abandoned houses

Access – road for cars (4x4 only or not), road quality (asphalt or dirt), bus service etc.

Date:_____

# Sample size: 553 interviews in 149 villages in Macedonia



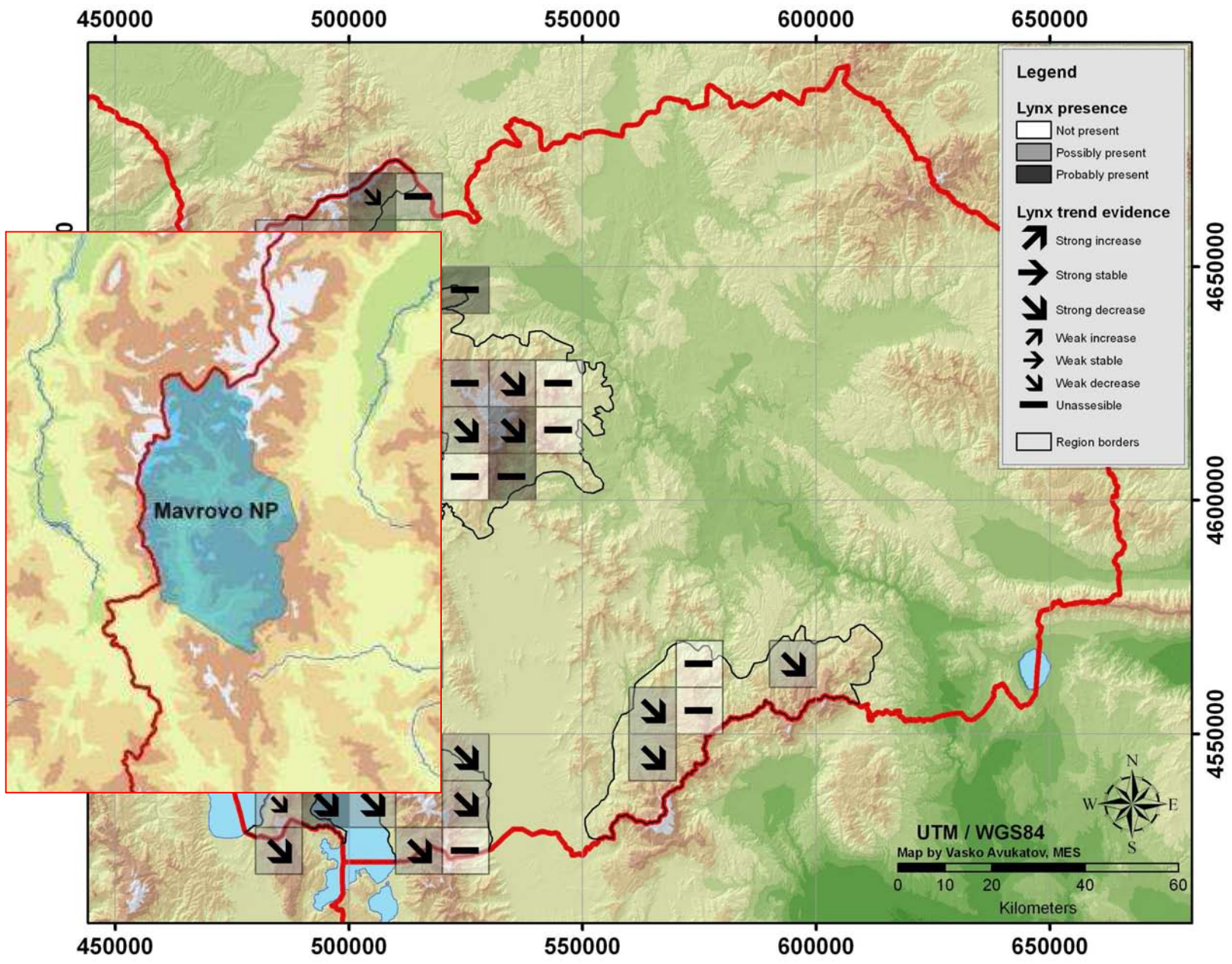
Македонско еколошко друштво - [Листа на интервјуа]

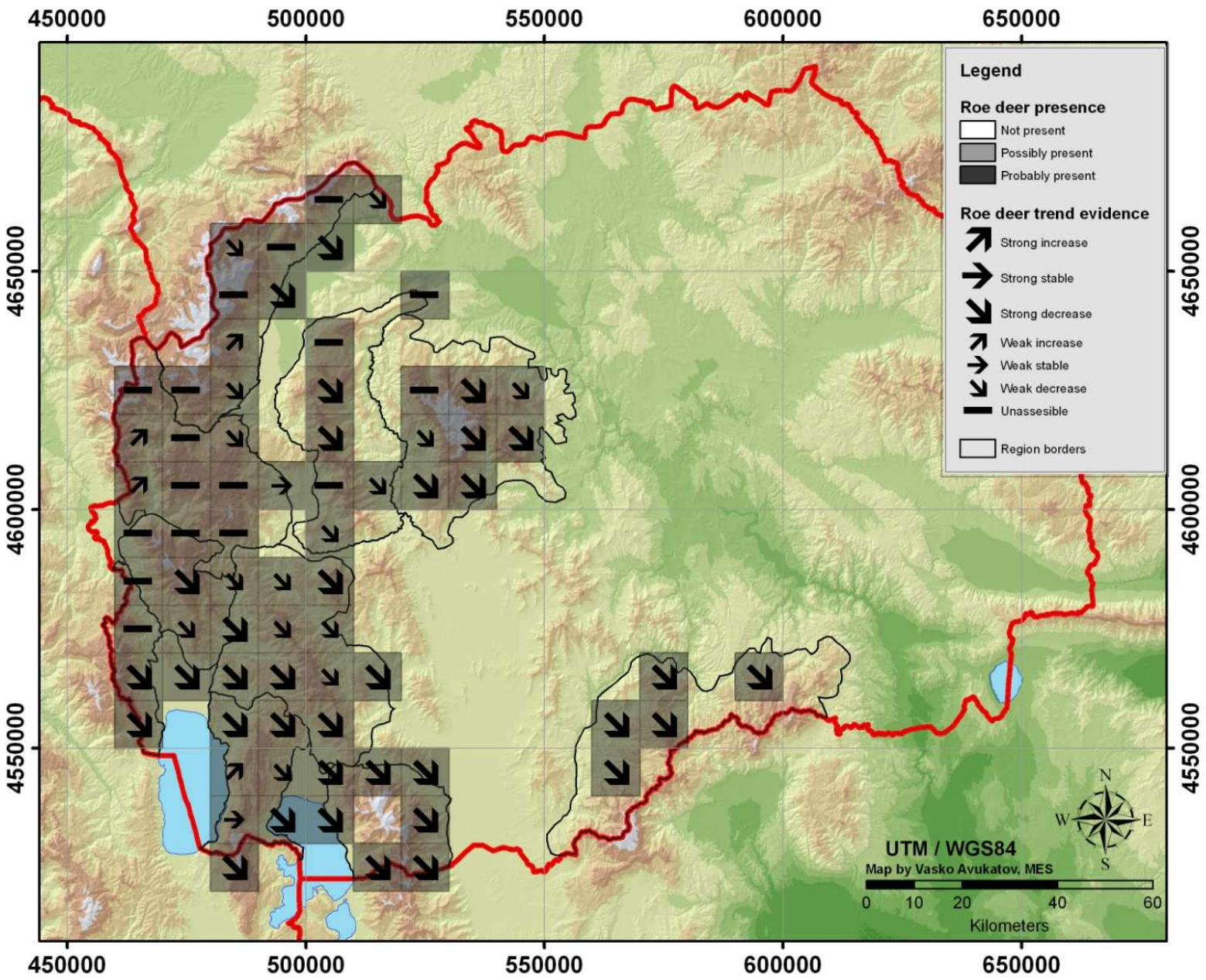
Основни податоци | Прашалник | Интервју

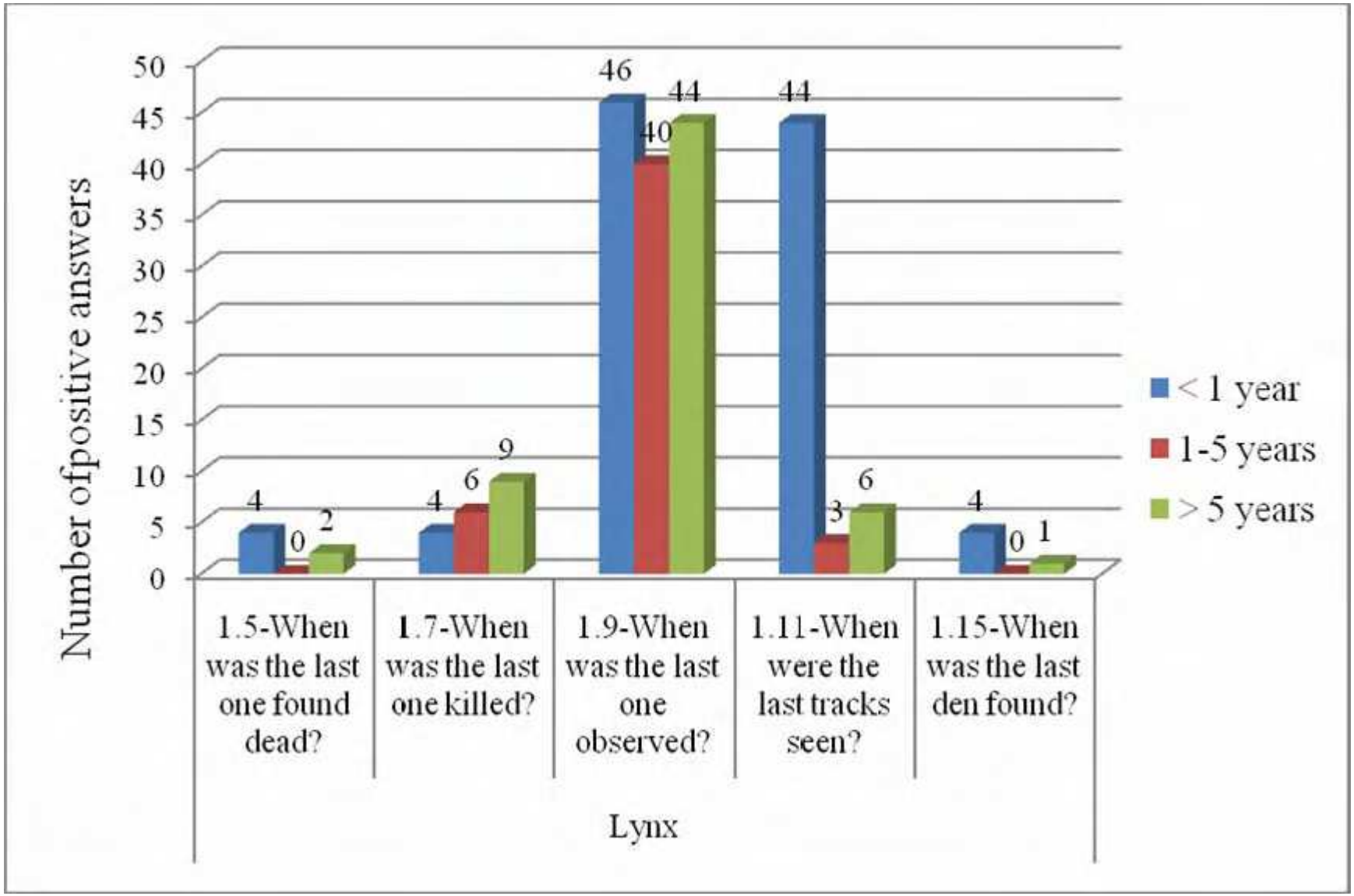
Прашалник: РИС | од: 01.01.2006 | до: 14.01.2008

| ID | Рејтинг | Регион | Планина | Место | MHB | GPS | Квадрант | Датум | Име | Презиме | Дат. раѓ. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | Јабланица | Јабланица | Вевчани | 875 | 0465862/4565539 | DL66 | 21.07.2006 | Витомир | Дуцкиноски | 01.01.1972 |
| 2 | 4 | Јабланица | Јабланица | Вевчани | 875 | 0465862/4565539 | DL66 | 12.07.2006 | Радован | Димитриевски | 01.01.1936 |
| 3 | 3 | Јабланица | Јабланица | Октиси | 800 | 0466678/4564609 | DL66 | 12.07.2006 | Ранко | Ашталковски | 01.01.1956 |
| 4 | 3 | Јабланица | Јабланица | Октиси | 800 | 0466678/4564609 | DL66 | 12.07.2006 | Мустафа | Усолски | 01.01.1956 |
| 5 | 2 | Јабланица | Јабланица | Мали Влај | 1000 | 0467848/4552114 | DL65 | 12.07.2006 | Алошкоски | Тане | 01.01.1965 |
| 6 | 3 | Јабланица | Јабланица | Вишни | 1074 | 0466273/4560300 | DL66 | 12.07.2006 | Коста | Шекеровски | 01.01.1944 |
| 7 | 2 | Јабланица | Јабланица | Вишни | 1074 | 0466273/4560300 | DL66 | 12.07.2006 | Вељо | Марковски | 01.01.1936 |
| 8 | 1 | Јабланица | Јабланица | Октиси | 800 | 0466678/4564609 | DL66 | 12.07.2006 | Лавдрим | Метовски | 01.01.1972 |
| 9 | 2 | Јабланица | Јабланица | Вишни | 1074 | 0466273/4560300 | DL66 | 12.07.2006 | Перо | Симоноски | 01.01.1970 |
| 10 | 2 | Јабланица | Јабланица | Вишни | 1074 | 0466273/4560300 | DL66 | 12.07.2006 | Крсте | Трповски | 01.01.1800 |
| 11 | 2 | Јабланица | Јабланица | Радолишта | 740 | 0468349/4557036 | DL65 | 12.07.2006 | Фатмир | Мало | 01.01.1965 |
| 12 | 2 | Јабланица | Јабланица | Радолишта | 740 | 0468349/4557036 | DL65 | 12.07.2006 | Илми | Мало | 01.01.1953 |
| 13 | 3 | Маврово - Бистра | Дешат | Битуше | 1140 | 0464891/4607378 | DM60 | 04.08.2006 | Спасе | Никудиновски | 01.01.1946 |
| 14 | 2 | Маврово - Бистра | Дешат | Битуше | 1140 | 0464891/4607378 | DM60 | 01.08.2006 | Никола | Синџировски | 01.01.1933 |
| 15 | 3 | Маврово - Бистра | Дешат | Битуше | 1140 | 0464891/4607378 | DM60 | 05.08.2006 | Ѓоко | Илкоски | 01.01.1956 |
| 16 | 3 | Маврово - Бистра | Дешат | Битуше | 1140 | 0464891/4607378 | DM60 | 03.08.2006 | Боре | Божиновски | 01.01.1957 |
| 17 | 2 | Маврово - Бистра | Дешат | Ростуше | 802 | 0466161/4606636 | DM60 | 06.08.2006 | Фикрија | Сулејмани | 01.01.1931 |
| 18 | 3 | Маврово - Бистра | Дешат | Велебрдо | 890 | 0466482/4607290 | DM60 | 07.11.2006 | Асан | Асани | 01.01.1974 |
| 19 | 2 | Маврово - Бистра | Дешат | Ростуше | 802 | 0466161/4606636 | DM60 | 06.08.2006 | Јован | Симоновски | 01.01.1936 |
| 20 | 2 | Јабланица | Јабланица | Радолишта | 740 | 0468349/4557036 | DL65 | 12.07.2006 | Али | Хоџа | 01.01.1973 |
| 21 | 1 | Јабланица | Јабланица | Подгорци | 893 | 0466432/4567427 | DL66 | 12.07.2006 | Ристо | Достиноски | 01.01.1950 |
| 22 | 2 | Јабланица | Јабланица | Подгорци | 893 | 0466432/4567427 | DL66 | 12.07.2006 | Идриз | Ајдароски | 01.01.1942 |
| 23 | 2 | Јабланица | Јабланица | Подгорци | 893 | 0466432/4567427 | DL66 | 12.07.2006 | Рушит | Адемоски | 01.01.1982 |
| 24 | 1 | Јабланица | Јабланица | Подгорци | 893 | 0466432/4567427 | DL66 | 12.07.2006 | Фахродин | Бајрамовски | 01.01.1982 |
| 25 | 1 | Јабланица | Јабланица | Подгорци | 893 | 0466432/4567427 | DL66 | 12.07.2006 | Берат | Џемајлоски | 01.01.1942 |
| 26 | 3 | Јабланица | Јабланица | Вевчани | 875 | 0465862/4565539 | DL66 | 11.07.2006 | Благоја | Дејкоски | 01.01.1936 |
| 27 | 1 | Јабланица | Јабланица | Вевчани | 875 | 0465862/4565539 | DL66 | 11.07.2006 | Бебековски | Гаврил | 01.01.1946 |
| 28 | 1 | Јабланица | Јабланица | Вевчани | 875 | 0465862/4565539 | DL66 | 21.07.2006 | Мирослав | Бебековски | 01.01.1971 |
| 29 | 2 | Јабланица | Јабланица | Вевчани | 875 | 0465862/4565539 | DL66 | 11.07.2006 | Крсте | Дејкоски | 01.01.1978 |
| 30 | 1 | Јабланица | Јабланица | Вевчани | 875 | 0465862/4565539 | DL66 | 11.07.2006 | Спасе | Калајџиески | 01.01.1800 |

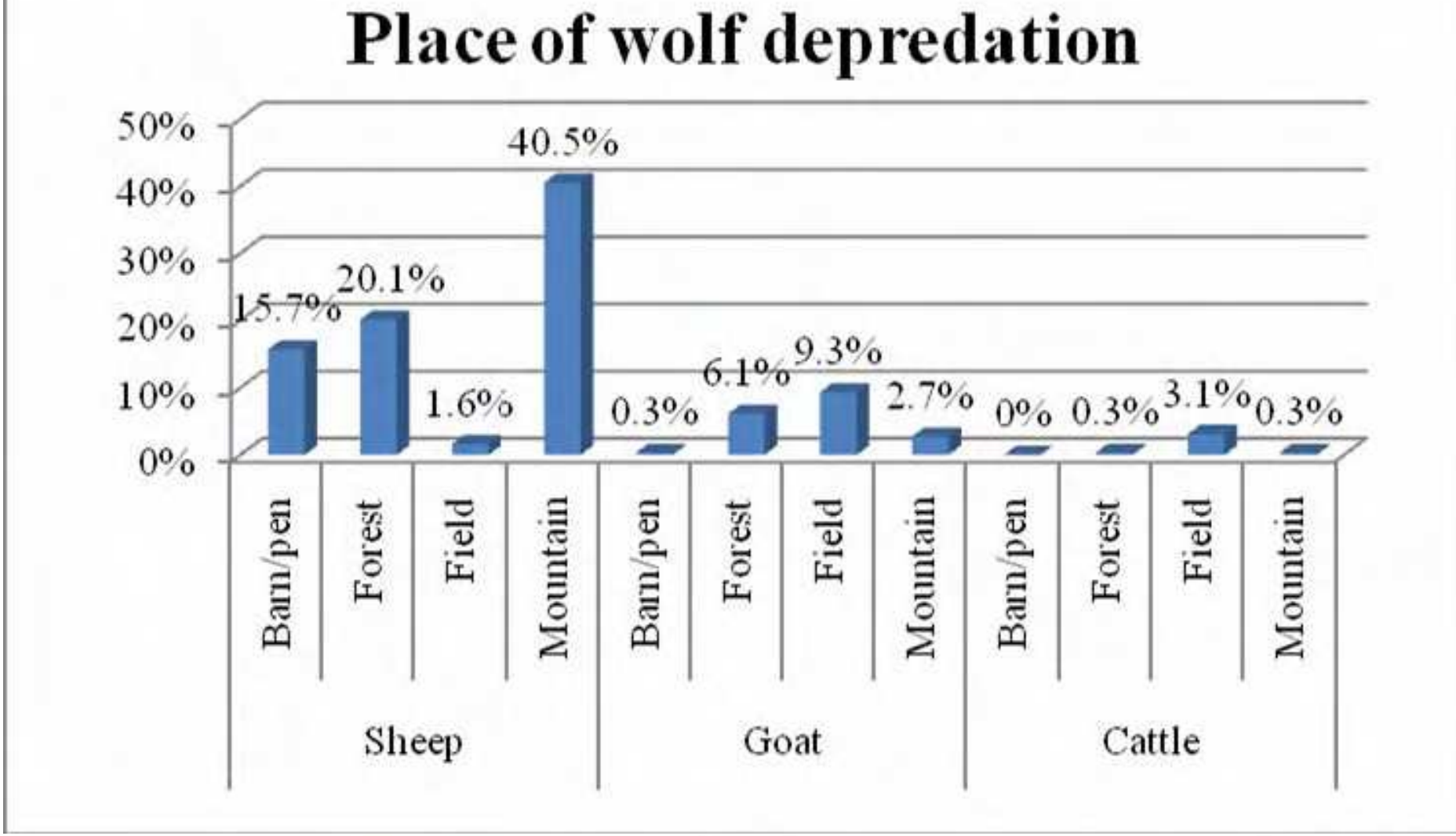
643 of 643 records found


450000
500000
550000
600000
650000
4650000
4600000
4550000
Legend
Lynx presence
Not present
Possibly present
Probably present
Lynx trend evidence
Strong increase
Strong stable
Strong decrease
Weak increase
Weak stable
Weak decrease
Unassesible
Region borders
Mavrovo NP
N
W
E
S
UTM / WGS84
Map by Vasko Avukatov, MES
0 10 20 40 60
Kilometers

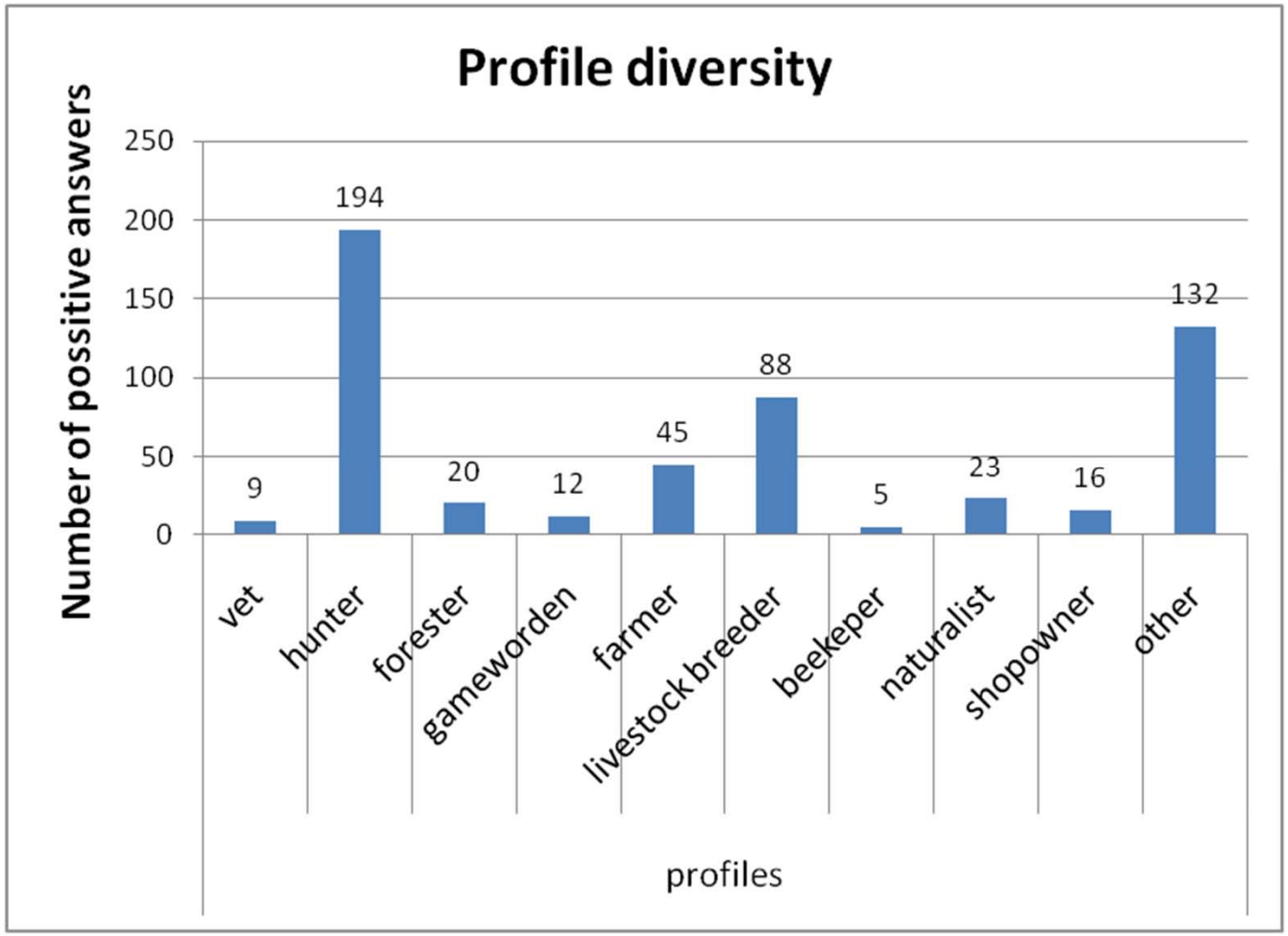

450000
500000
550000
600000
650000
4650000
4600000
4550000
Legend
Roe deer presence
Not present
Possibly present
Probably present
Roe deer trend evidence
Strong increase
Strong stable
Strong decrease
Weak increase
Weak stable
Weak decrease
Unassesible
Region borders
N
W
E
S
UTM / WGS84
Map by Vasko Avukatov, MES
0 10 20 40 60
Kilometers


Number ofpositive answers
50
45
40
35
30
25
20
15
10
5
0
4
0
2
4
6
9
46
40
44
44
3
6
4
0
1
1.5-When was the last one found dead?
1.7-When was the last one killed?
1.9-When was the last one observed?
1.11-When were the last tracks seen?
1.15-When was the last den found?
Lynx
< 1 year
1-5 years
> 5 years

# Conflicts


Place of wolf depredation
50%
40%
30%
20%
10%
0%
15.7%
20.1%
1.6%
40.5%
0.3%
6.1%
9.3%
2.7%
0%
0.3%
3.1%
0.3%
Barn/pen
Forest
Field
Mountain
Barn/pen
Forest
Field
Mountain
Barn/pen
Forest
Field
Mountain
Sheep
Goat
Cattle

# Profiles incorporated in Macedonia



# “By post”-questionnaires

- 128 specially adopted questionnaires are posted to all veterinary stations in Macedonia
- 59 specially adapted questionnaires are posted to all Hunter’s Associations in Macedonia
- Very limited result obtained in MK

- Reporting on the main results
- Statistical overview of the most important question derived from the general public - LEK
- Rising public awareness for lynx and its prey (dissemination of promotional material)
- Category 3 data, needed for a safe start of the wider scientific research
  - Camera-trapping
  - Radio-telemetry
- Repetitive concept – see the changes in people's opinion on ecology and attitude