ENTE PARCO NAZIONALE DELLA MAIELLA
SEDE SCIENTIFICA
FIELD STUDY CENTER
CENTRO DI RICERCA FAUNA SELVATICA
WILDLIFE RESEARCH CENTER
Via del Vivaio, snc 65023 Caramanico Terme (PE) - IT
www.parcomaiella.it
sedescientifica@parcomaiella.it
+39 0864 25 70 331
Parco Maiella
@parcomaiella

Coexistence with large carnivores:
the role of Protected Areas.
Participatory workshop

EUROPARC Workshop
26 November 09:30h CET 2021

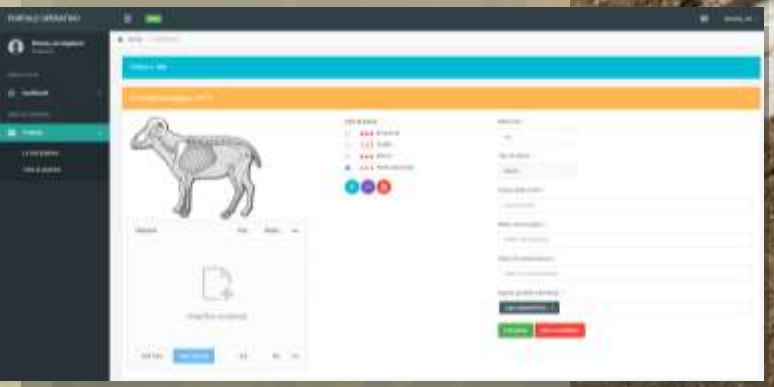
Wolf/human coexistence. Research and management in Maiella National Park.

Simone Angelucci and Antonio Antonucci
Maiella National Park IT

In Abruzzo Region the wolf never disappeared.

‘70s

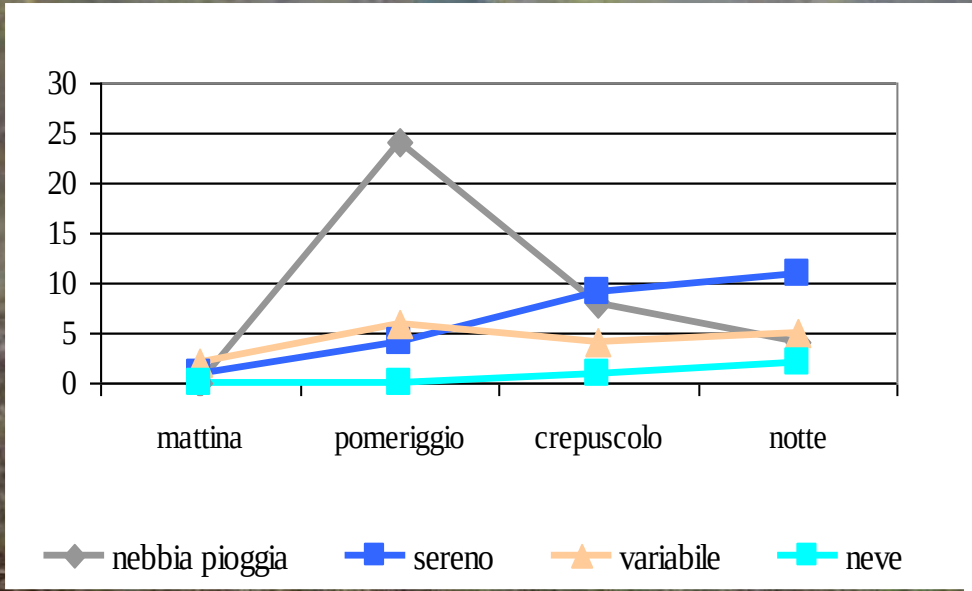
Noughties



STANDARDIZED PROCEDURE OF DAMAGE ASSESSMENT

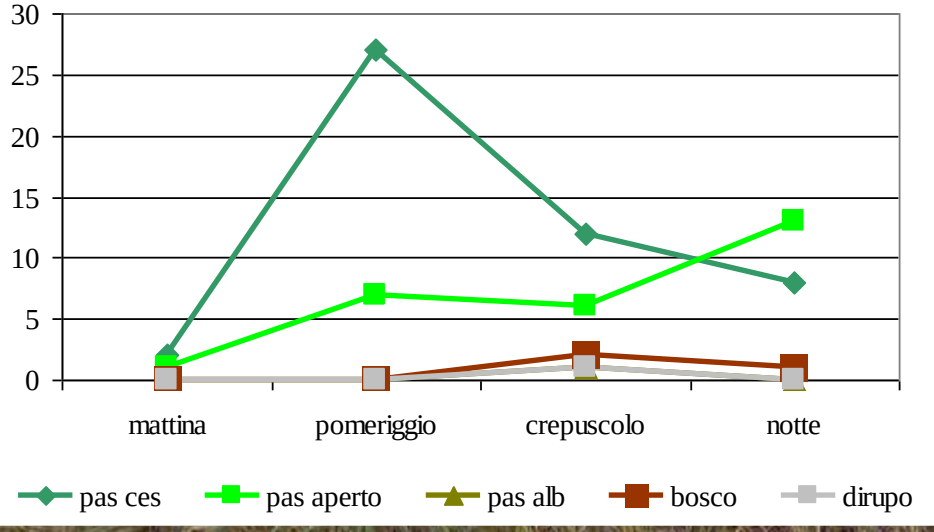
- Cause of death
- Presence and farm assistance
- Rapid and effective compensation
- Limitation degree of discretionary power
- Understanding the context and vulnerability
- Planning prevention measures
- Defining the needs of coexistence

Favourable approach
Pred. < 5 heads

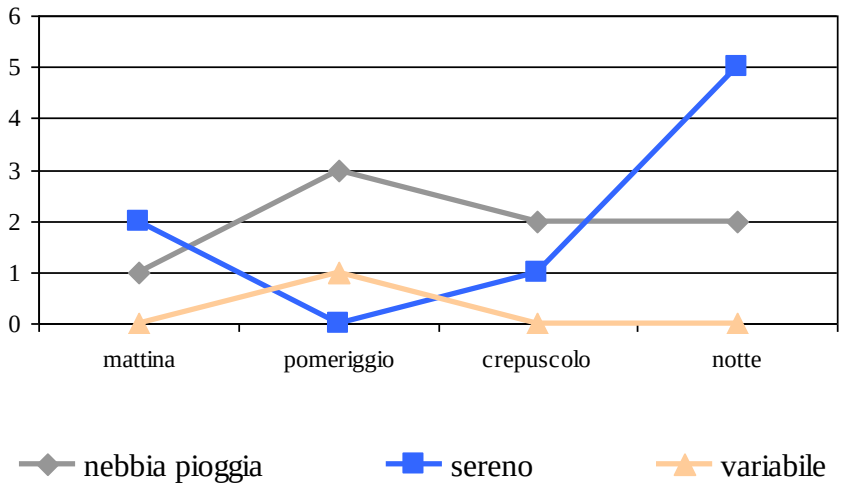


Bushlands in the afternoon
Open grazing lands in the night time

- Rain/fog in the afternoon
- Clear in the night time

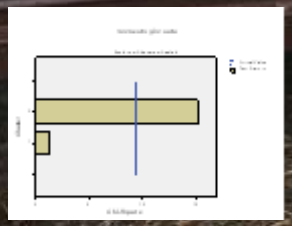


Favourable approach
Pred. > 5 heads



+ Open grazing lands in the night time
No significant data

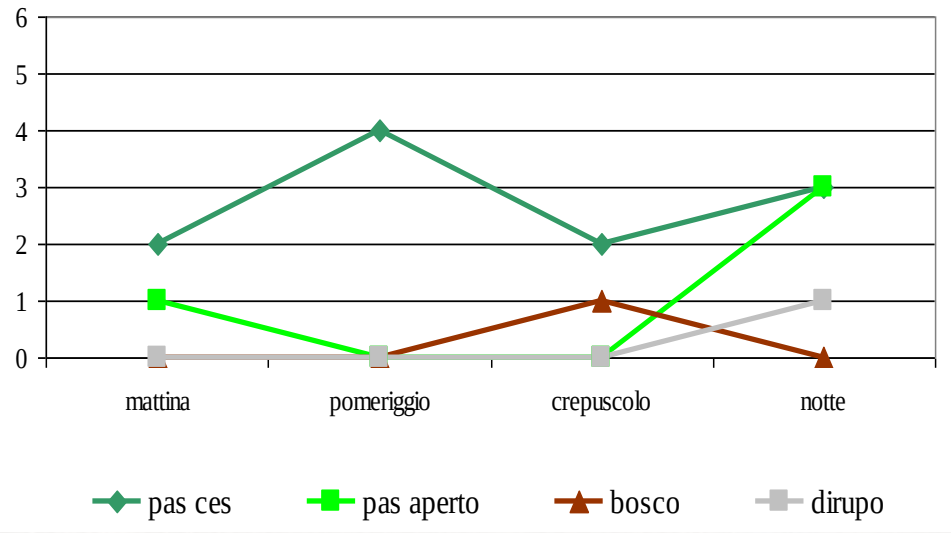
Clear in the night time



- TSCA

-Test U Mann-Whitney, Test W Wilcoxon, Test Z Kolmogorov Smirnov

- χ2 test




UN
RSO PER AMICO

-Grazing domestic animals in MNP

18000 sheep/goats,

2000 cattle,

500 horses

-€ 40.000/year economic compensation

-paltry role of domestic animals in the maintenance of wolf packs

MAIELLA WOLF POPULATION

INTERNAL ACTIVITIES (1998-2003)

- Livestock predation, surveys and georeferencing of presence signs

LIFE COEX (2004-2008)

Improving Coexistence of Large Carnivores and Agriculture in Europe"

- Wolf howling and Snow tracking
- Camera trapping

LIFE WOLFNET (2010-2013)

"Development of coordinated protection measures for Wolf in Apennines"

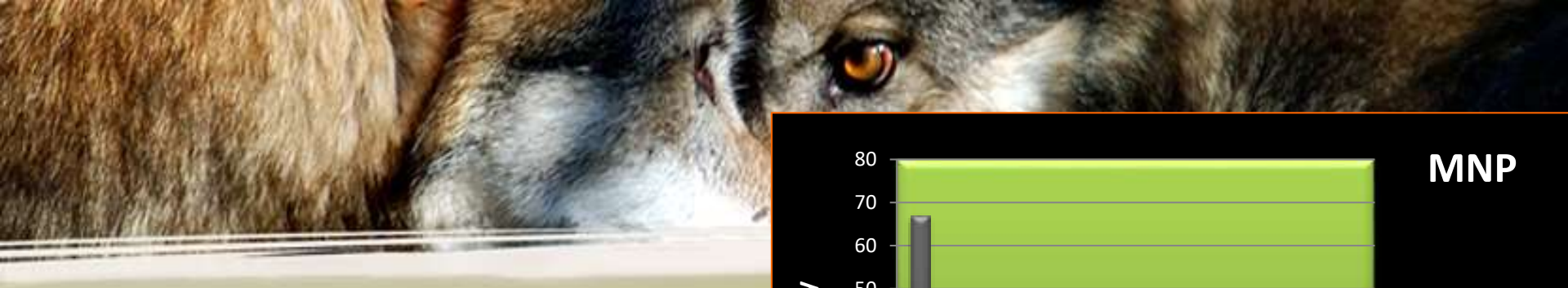
- GPS telemetry
- DNA analysis
- Direct observations

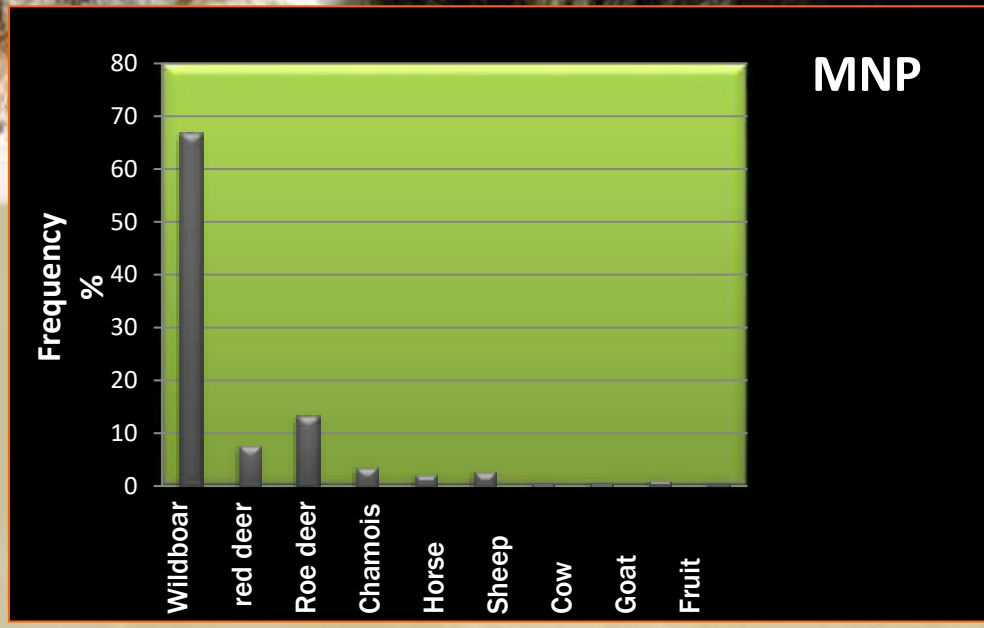
WOLF FEEDING ECOLOGY INSIDE MNP

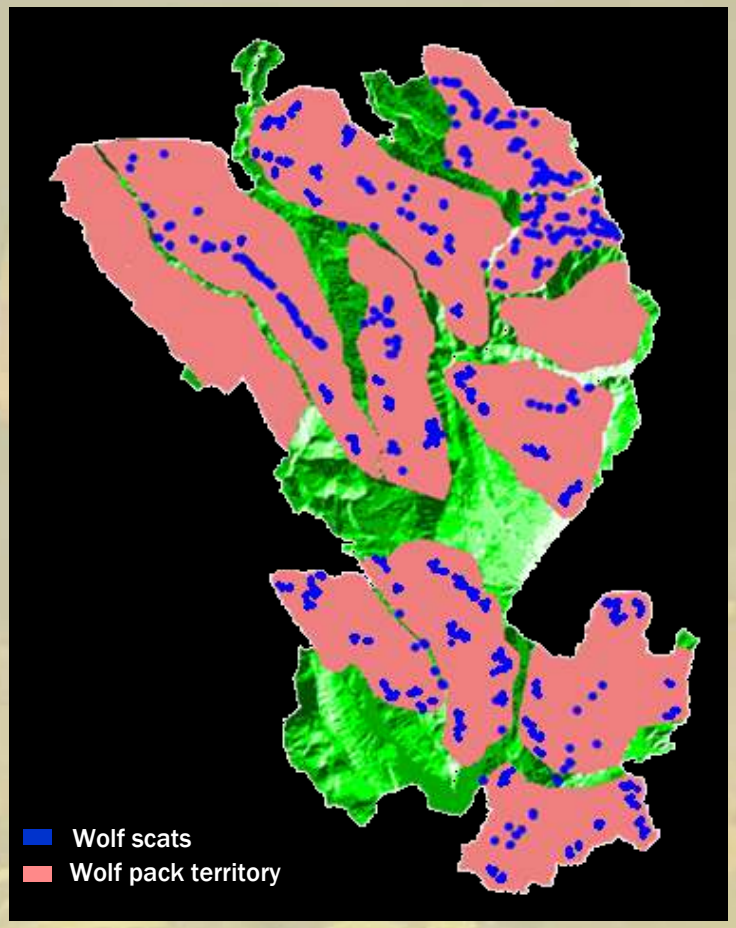
LIVESTOCK PREDATION STUDY

- The average daily nutritional / energy requirement of a wolf;
- The number of wolves present within the Park over the course of a year;
- The actual consumption and nutritional contribution of each killed animal;
- The percentage of animals reported compared to those preyed upon;

30 days per year....







- 517 scats collected

- Wild boar: 67%
- Roe deer: 13.3%
- Red Deer: 7,7%
- Livestock : 5,87%

Roe deer distribution

Chamois distribution

Red deer distribution

Wild boar distribution

Wolf pack territory

Correlation coefficients between the main components extracted from the ACP model performed on the summer and winter diet and the distribution and density of prey species within each pack territory

PREY SPECIES	PC1	PC2	PC1	PC2
	Winter		Summer	
Wild boar	-0.58	-0.64	-0.86	0.38
Red deer	0.14	-0.65	0.59	0.26
Appenine chamois	-0.77	-0.60	0.90	0.32
Roe deer	0.70	-0.51	-0.70	-0.46

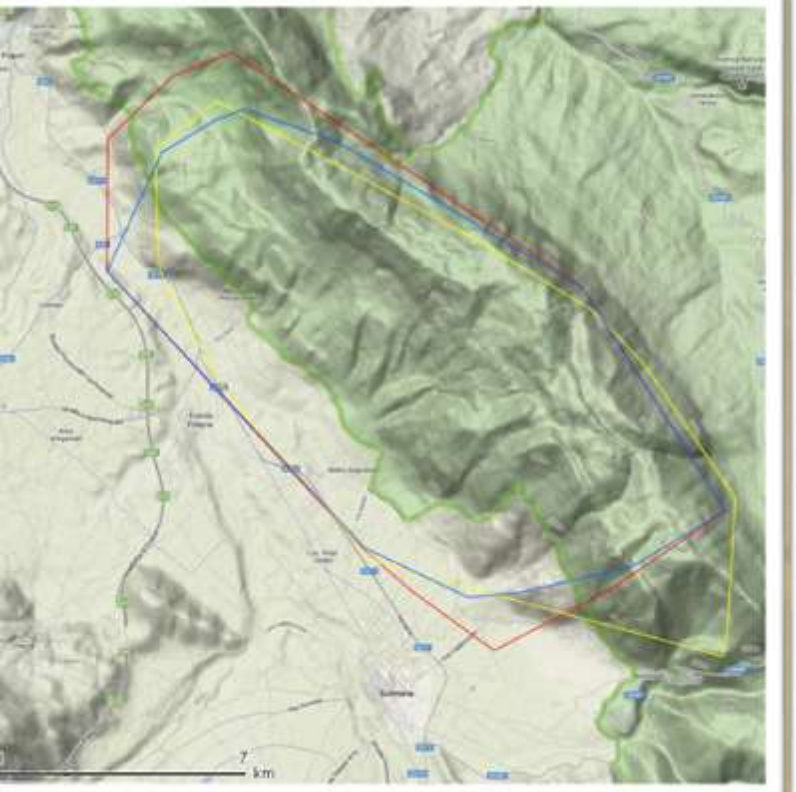
19 wolves (11 females and 8 males) with GPS collars

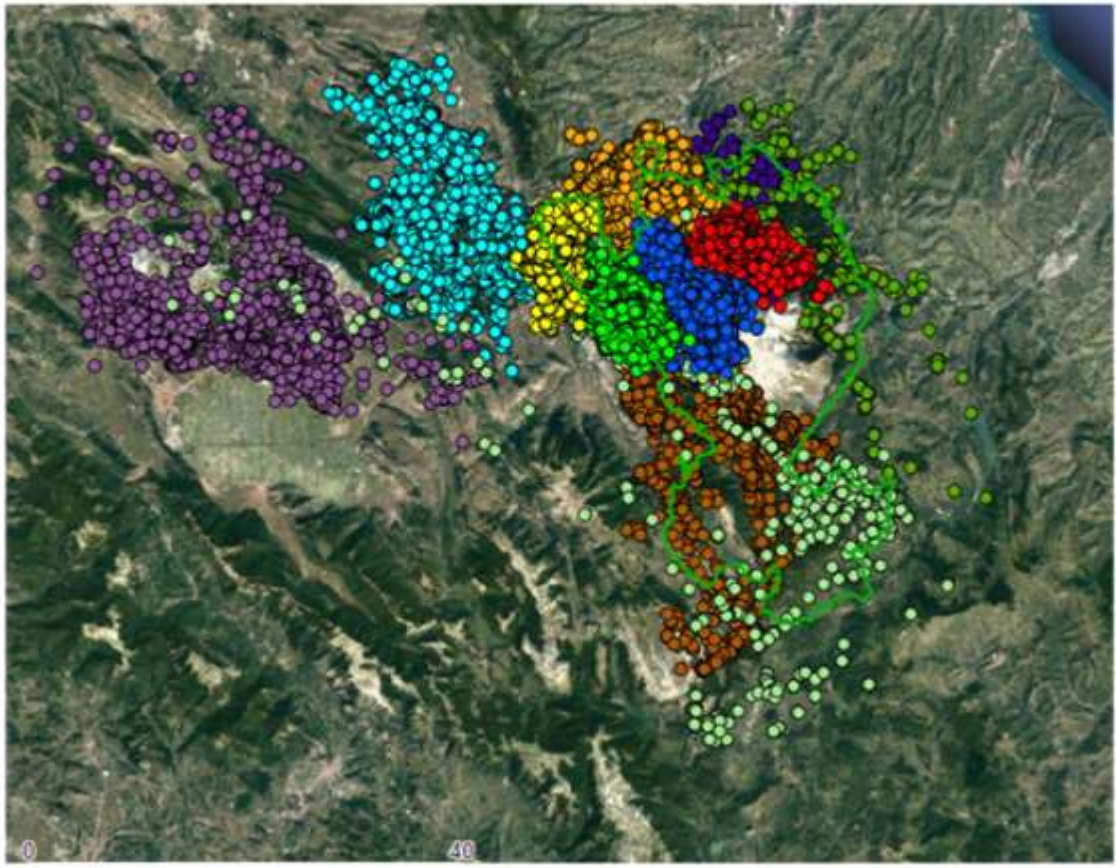
11 different packs

55.000 local. GPS

LIFE WOLFNET /WOLFNET 2.0 (2010-2018)

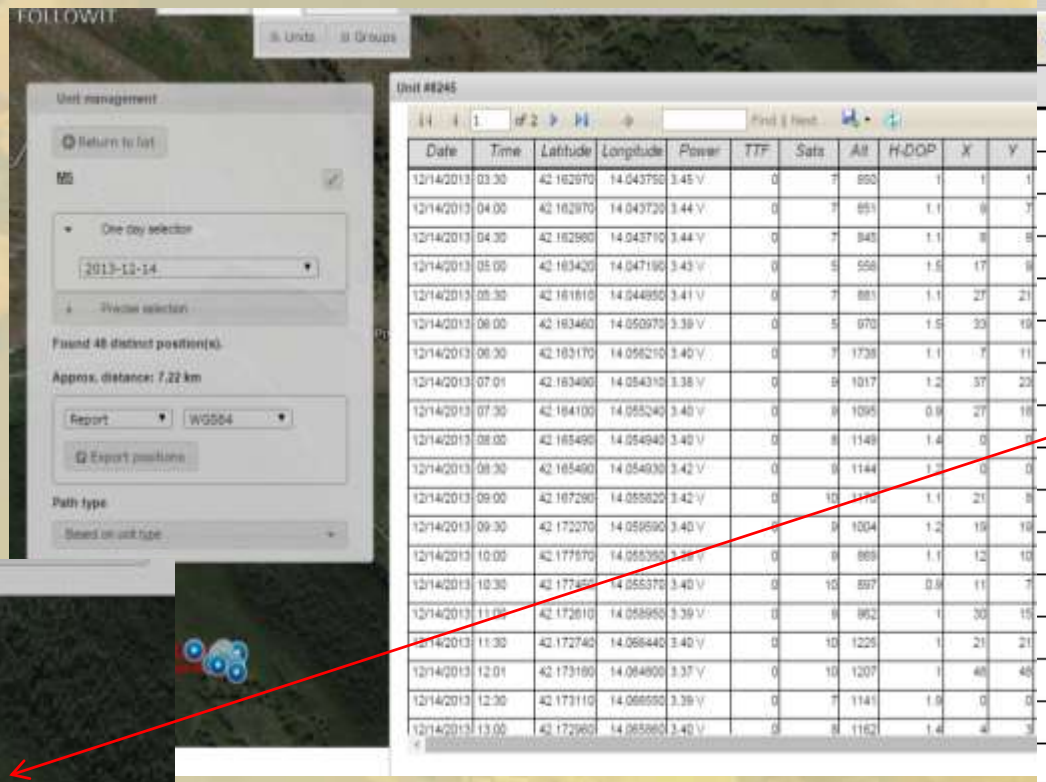
MORRONE PACK
ANNUAL HOME RANGE - MCP 95%
2010-2011-2012





STUDY OF PREDATORY BEHAVIOUR THROUGH SURVEY ON GPS POSITION CLUSTERS

Methodology



Date	Time	Latitude	Longitude	Power	TTF	Sats	Alt	H-DOP	X	Y
12/14/2013	03:30	42.162970	14.043750	3.45 V	0	7	860	1	1	1
12/14/2013	04:00	42.162970	14.043720	3.44 V	0	7	851	1.1	9	7
12/14/2013	04:30	42.162960	14.043710	3.44 V	0	7	843	1.1	8	9
12/14/2013	05:00	42.163420	14.047190	3.43 V	0	5	556	1.5	17	9
12/14/2013	05:30	42.161810	14.044950	3.41 V	0	7	881	1.1	27	21
12/14/2013	06:00	42.163460	14.050970	3.39 V	0	5	970	1.5	33	19
12/14/2013	06:30	42.163170	14.056210	3.40 V	0	7	1738	1.1	7	11
12/14/2013	07:01	42.163490	14.054310	3.38 V	0	9	1017	1.2	37	23
12/14/2013	07:30	42.164100	14.055240	3.40 V	0	9	1095	0.9	27	18
12/14/2013	08:00	42.165490	14.054940	3.40 V	0	8	1149	1.4	0	0
12/14/2013	08:30	42.165490	14.054930	3.42 V	0	9	1144	1.2	0	0
12/14/2013	09:00	42.167290	14.055620	3.42 V	0	10	1179	1.1	21	8
12/14/2013	09:30	42.172270	14.059590	3.40 V	0	9	1004	1.2	19	19
12/14/2013	10:00	42.177570	14.063390	3.39 V	0	9	869	1.1	12	10
12/14/2013	10:30	42.174570	14.055370	3.40 V	0	10	897	0.9	11	7
12/14/2013	11:00	42.172610	14.058950	3.39 V	0	9	962	1	30	15
12/14/2013	11:30	42.172740	14.066440	3.40 V	0	10	1225	1	21	21
12/14/2013	12:01	42.173160	14.064600	3.37 V	0	10	1207	1	48	48
12/14/2013	12:30	42.173110	14.066550	3.39 V	0	7	1141	1.9	0	0
12/14/2013	13:00	42.172960	14.065860	3.40 V	0	8	1162	1.4	4	3

H-DOP	X	Y	In
1	1	1	
1.1	9	7	
1.1	8	9	
1.5	17	9	
1.1	27	21	
1.5	33	19	
1.1	7	11	
1.2	37	23	
0.9	27	18	
1.4	0	0	
1.2	0	0	
1.1	21	8	
1.2	19	19	
1.1	12	10	
0.9	11	7	
1	30	15	
1	21	21	
1	48	48	
1.9	0	0	

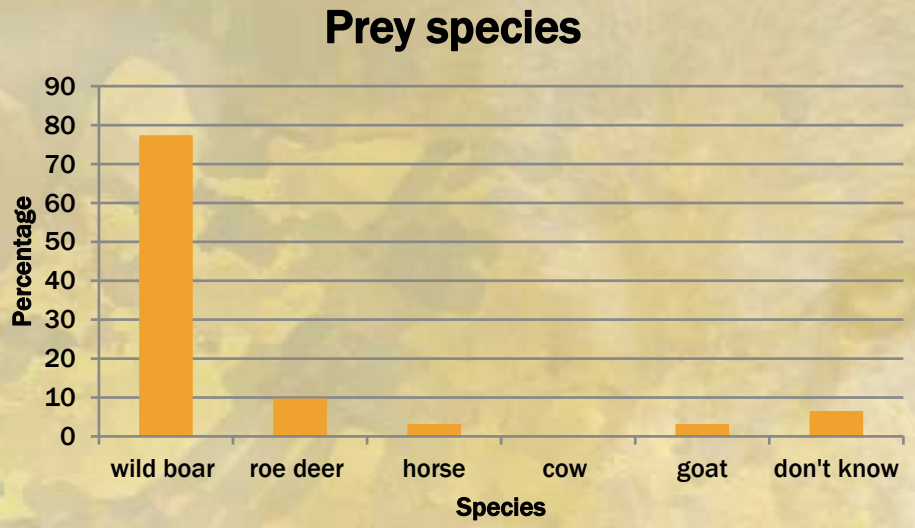
STUDY OF PREDATORY BEHAVIOUR THROUGH SURVEY ON GPS POSITION CLUSTERS

Study objectives and results

- Predation rate (in relation to pack size)

Wolf	Monitoring period	N locations GPS	N kill sites	N kill intervals	Kill rate (hr)
M3	13 months	5577	85	35	32,6 ± 20,7

- Prey species - *wild vs. domestic*

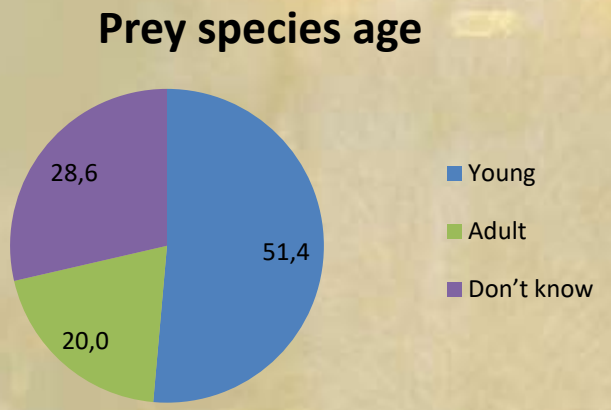


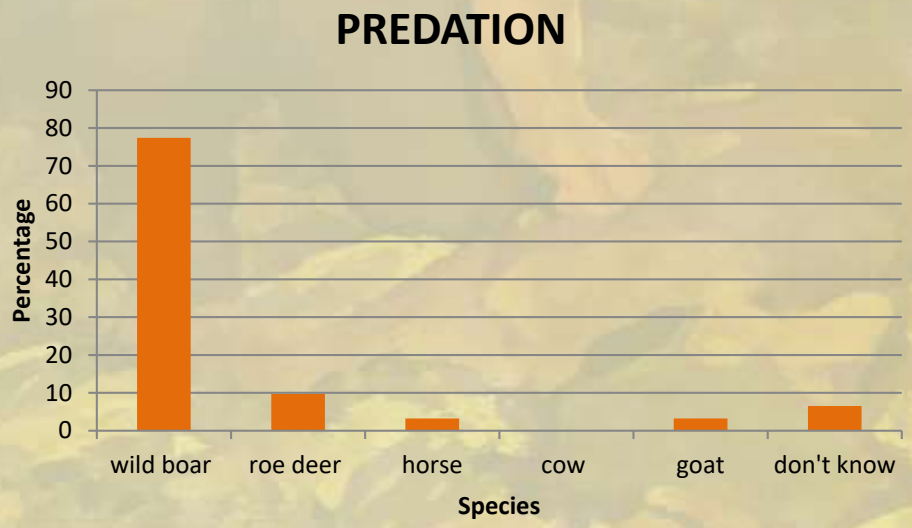
STUDY OF PREDATORY BEHAVIOUR THROUGH SURVEY ON GPS POSITION CLUSTERS

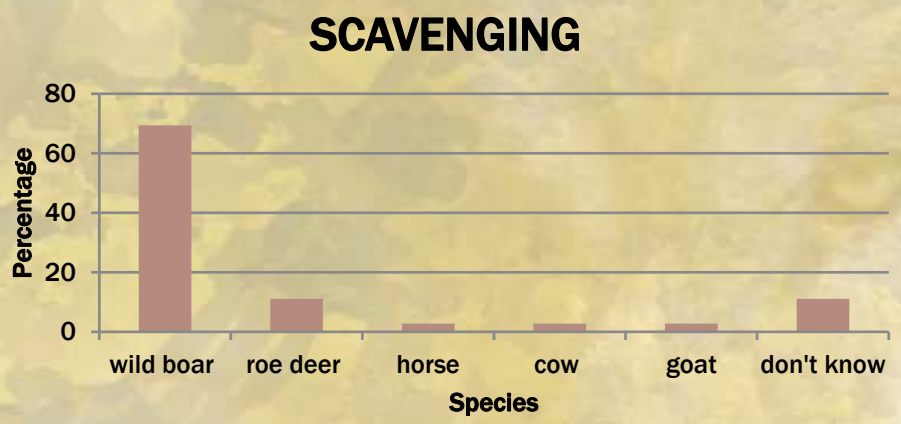
Study objectives and results

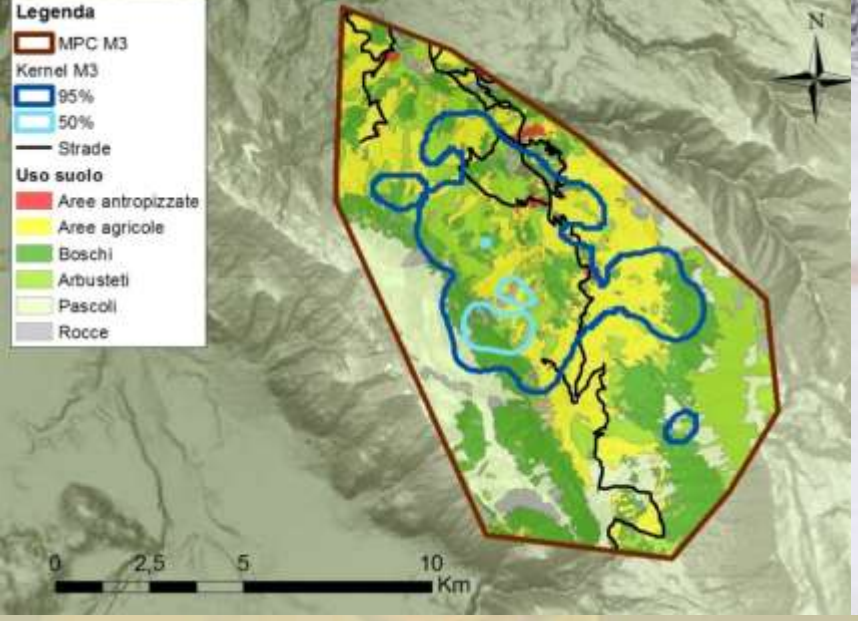
- Age and sex ratio

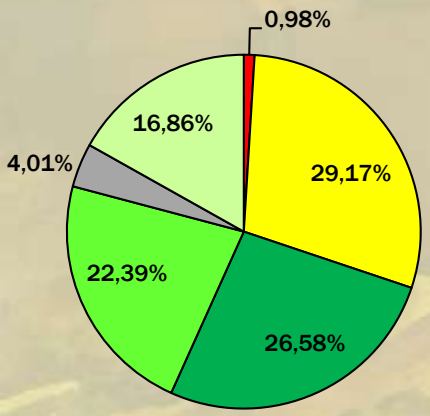
- Predation vs scavenging

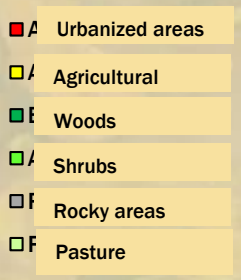


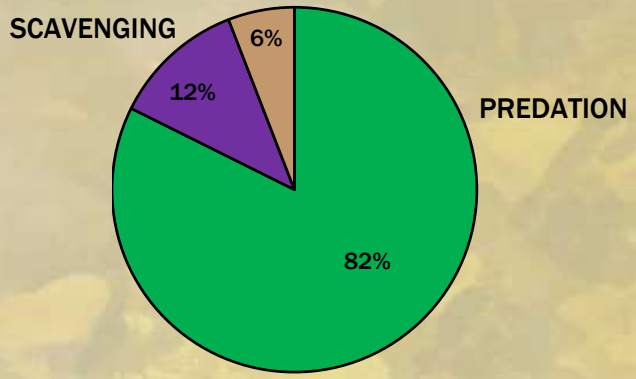


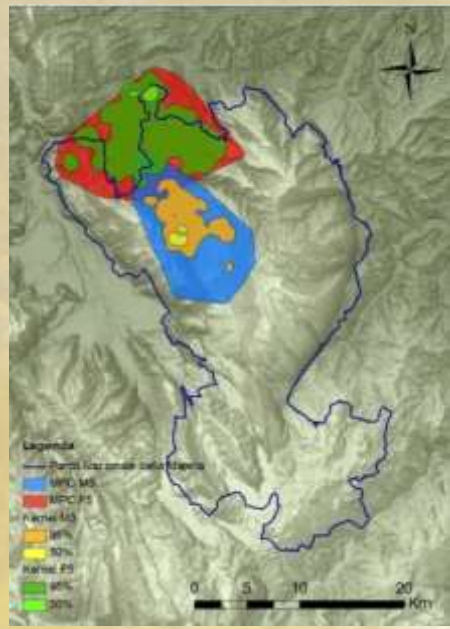




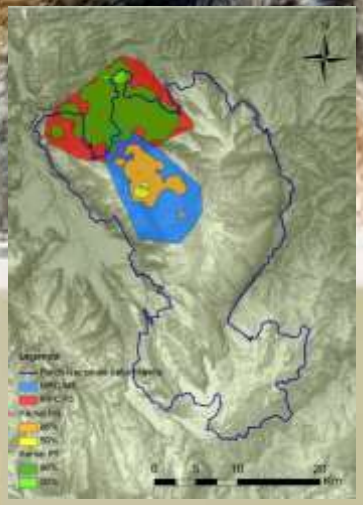


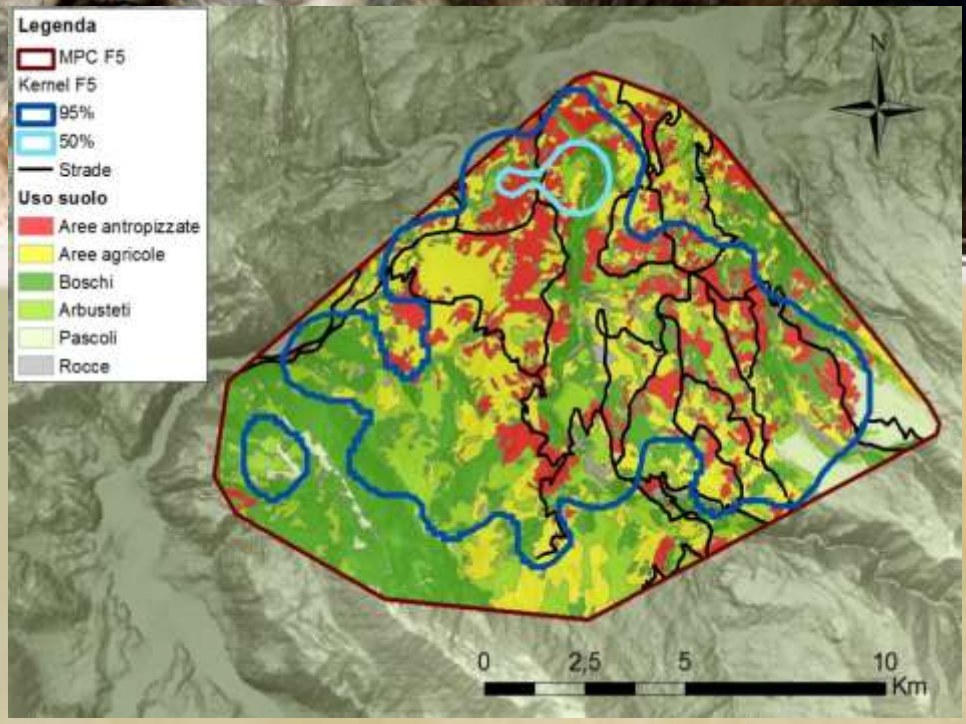


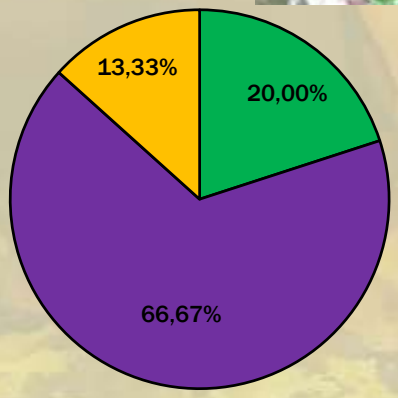




ORTA VALLEY PACK



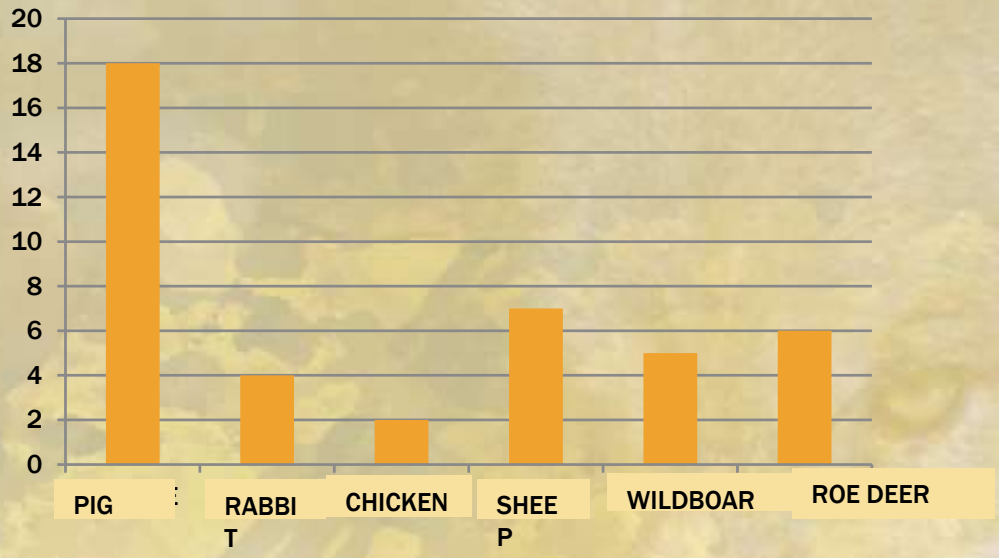




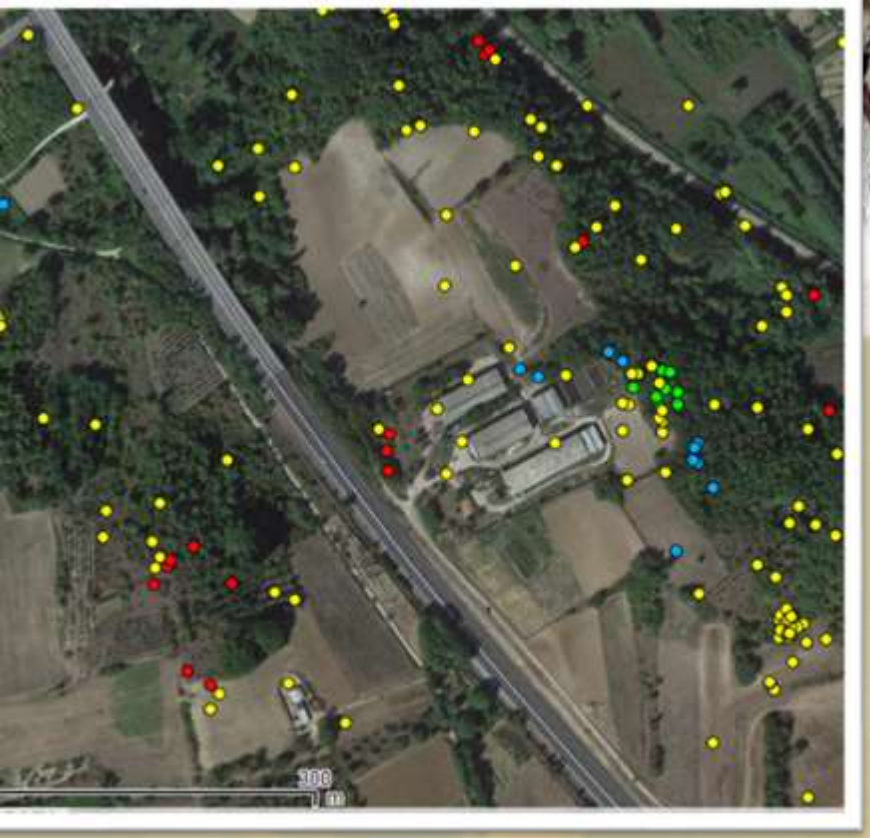
Predation

Scavenging

Unknown

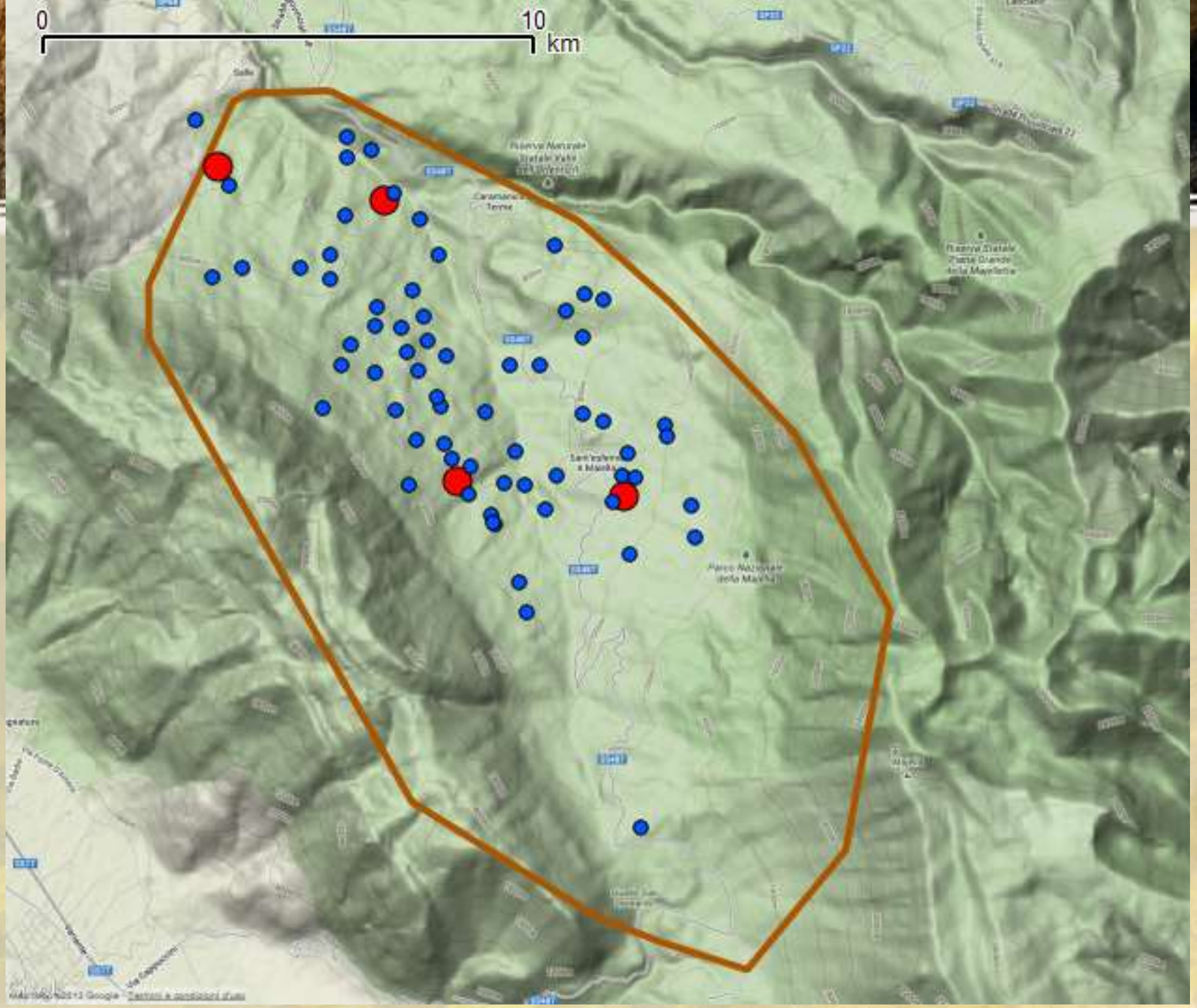


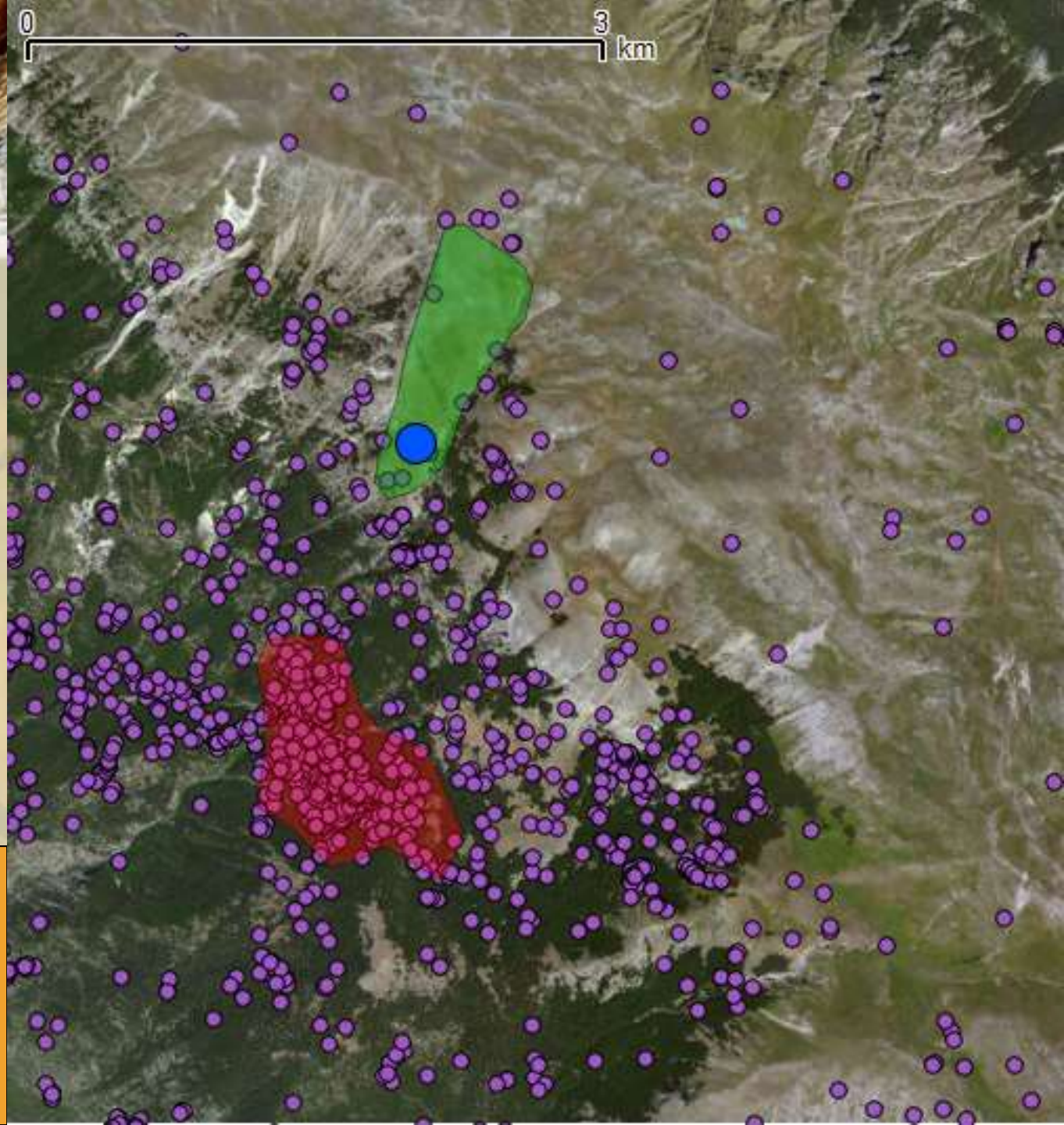
PROBLEM WOLVES…



PROBLEM WOLVES…

PROBLEM WOLVES…


0
10
km



Morrone Pack

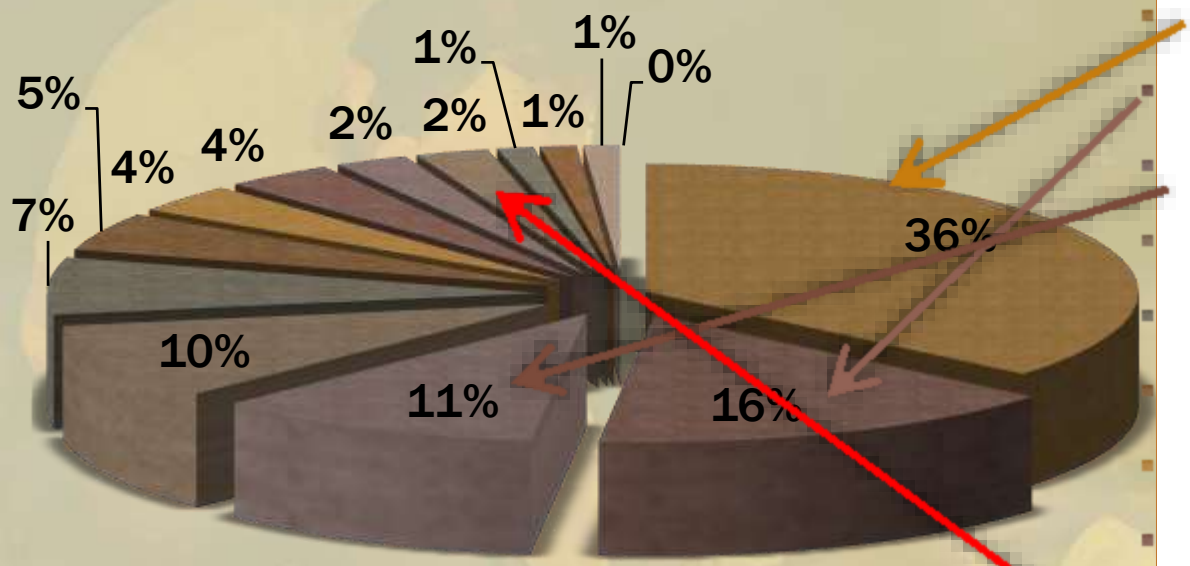
Sheep Fold

Grazing areas

Den and rendez vous area

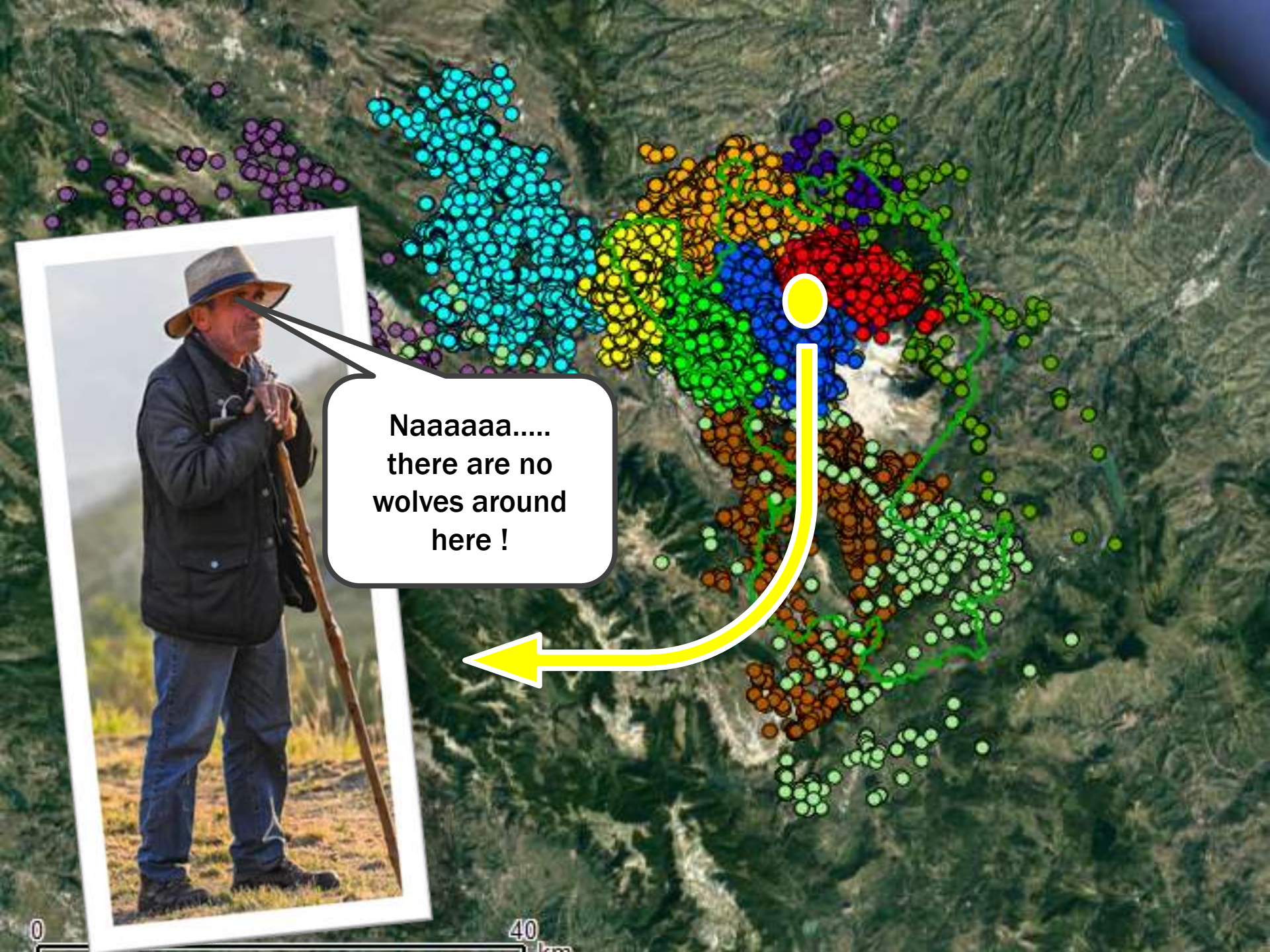

0
3
km
Grazing area
Den and rendez vous area

Most important management problems for a farming activity on mountain terrain (Majella National Park, n. 22 farmers, 2012)



- Low product value and loss of competitiveness
- Lack of skilled labor
- Lack of of livestock housing facilities
- High production costs
- Control of grazing livestock
- Constraints and bureaucracy for liv. Structures
- Extreme climate conditions
- Poor protection provided by the institutions
- Fragmentation of agricultural land
- Wildlife damages
- Inconvenience given by the territory
- Social isolation
- Prizes and loans of low value
- Too demanding and tiring job

A new wolf/human interface


Naaaaaa.....
there are no
wolves around
here !
0
40
km