



Preliminary study of wolf packs stability based on genetic data

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SloWolf Project



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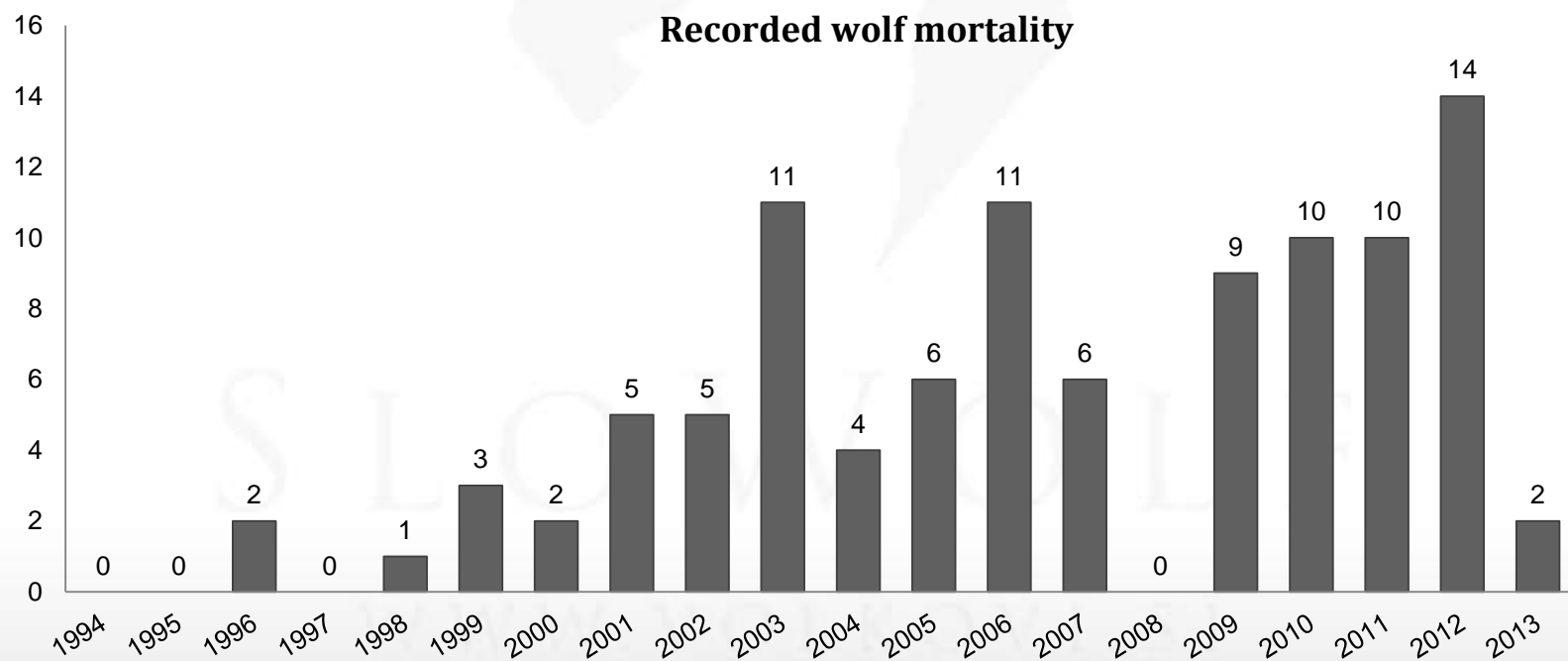
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Culling of wolves in Slovenia

In 1999 a sustainable management of wolf population started assuming census population size of around **100 specimens**

Culling of wolves is belived to

- reduce the number of attacks on livestock,
- to limit the spatial expansion of the wolves,
- to reduce illegal hunting due to competition with hunters for ungulates.



*2013 culling not finished yet

Genetic monitoring of wolves



wolf **mortality** samples
from 2003



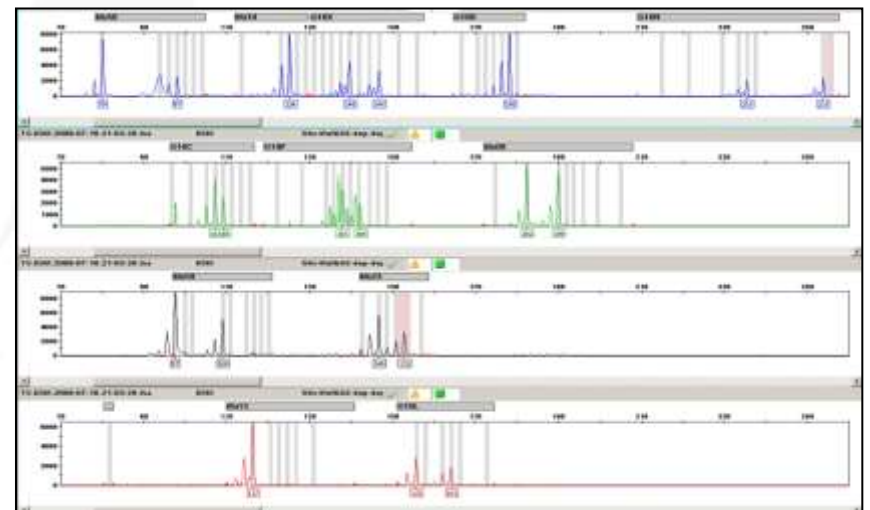
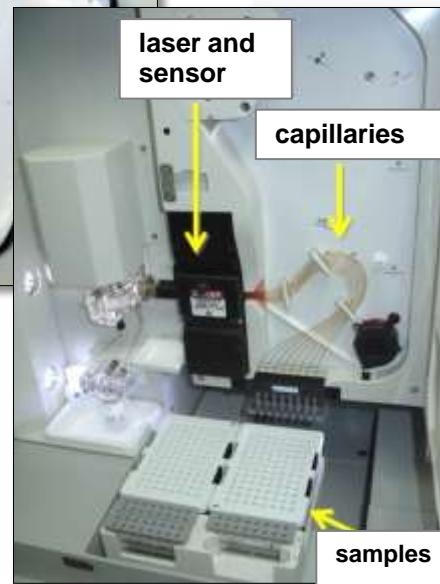
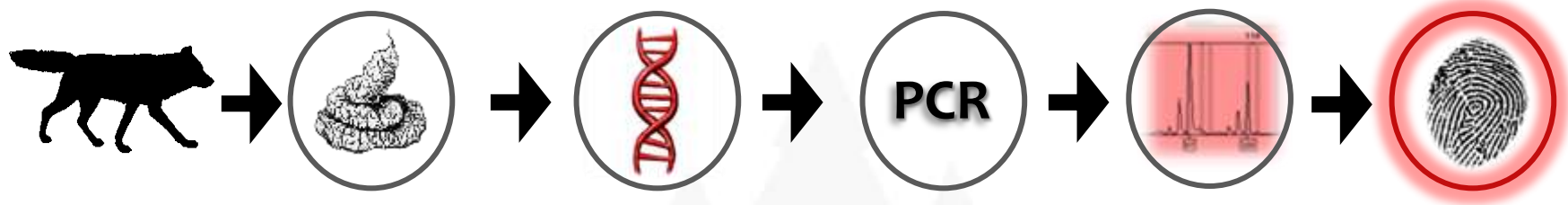
wolf **telemetry** samples
from 2007

non-invasive samples

- from 2007 sporadic samples
- from 2010 organized sampling - SloWolf



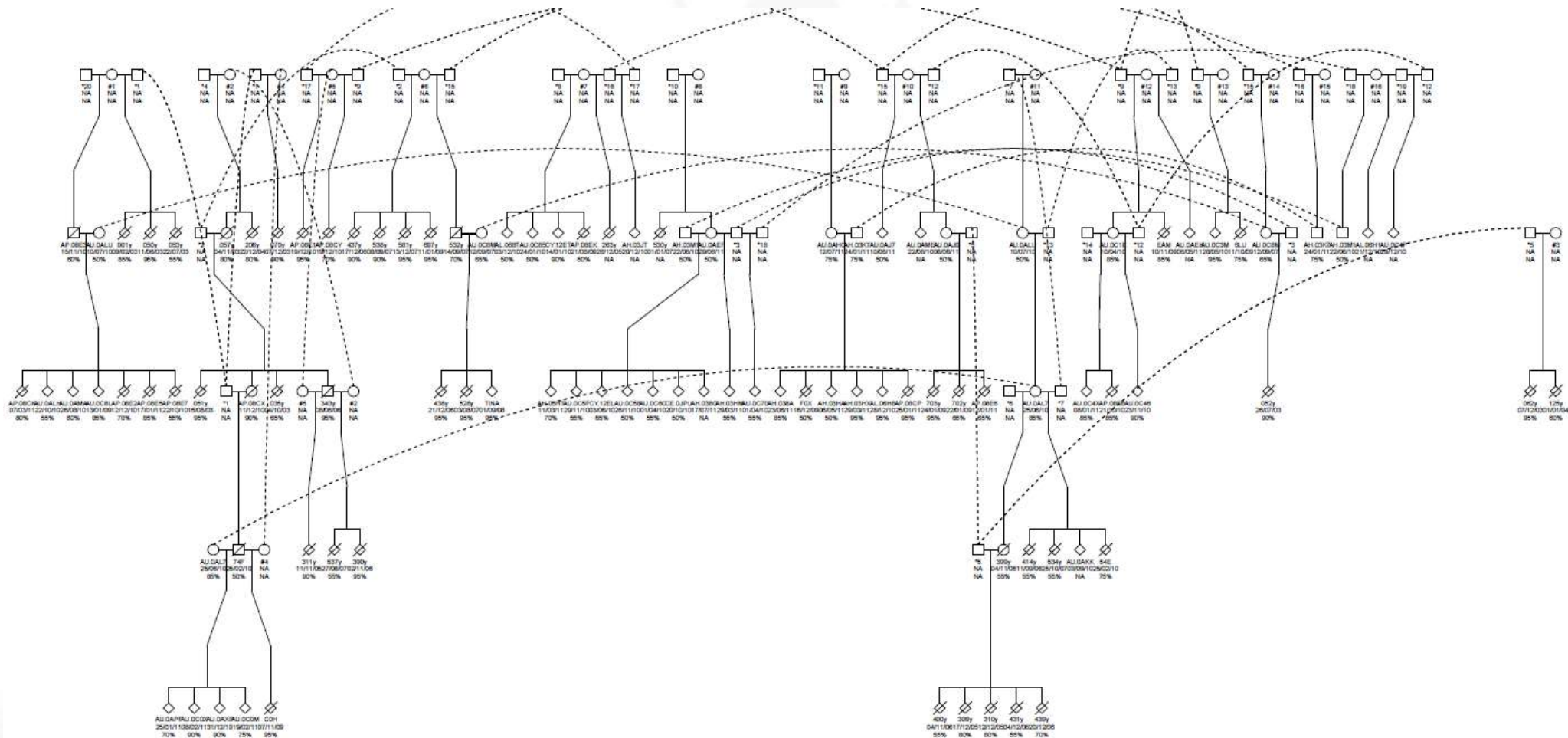
Recognizing individuals...



- 10 microsatellites + SRY for individual identification
- reference samples:
 - 10 additional microsatellites
 - a set of additional 15 markers + AMEL is being run at the moment (all together 35)

Parentage/relatedness analysis

Using program Colony, reasonably stable pedigree structure for 95 animals (July 2011)



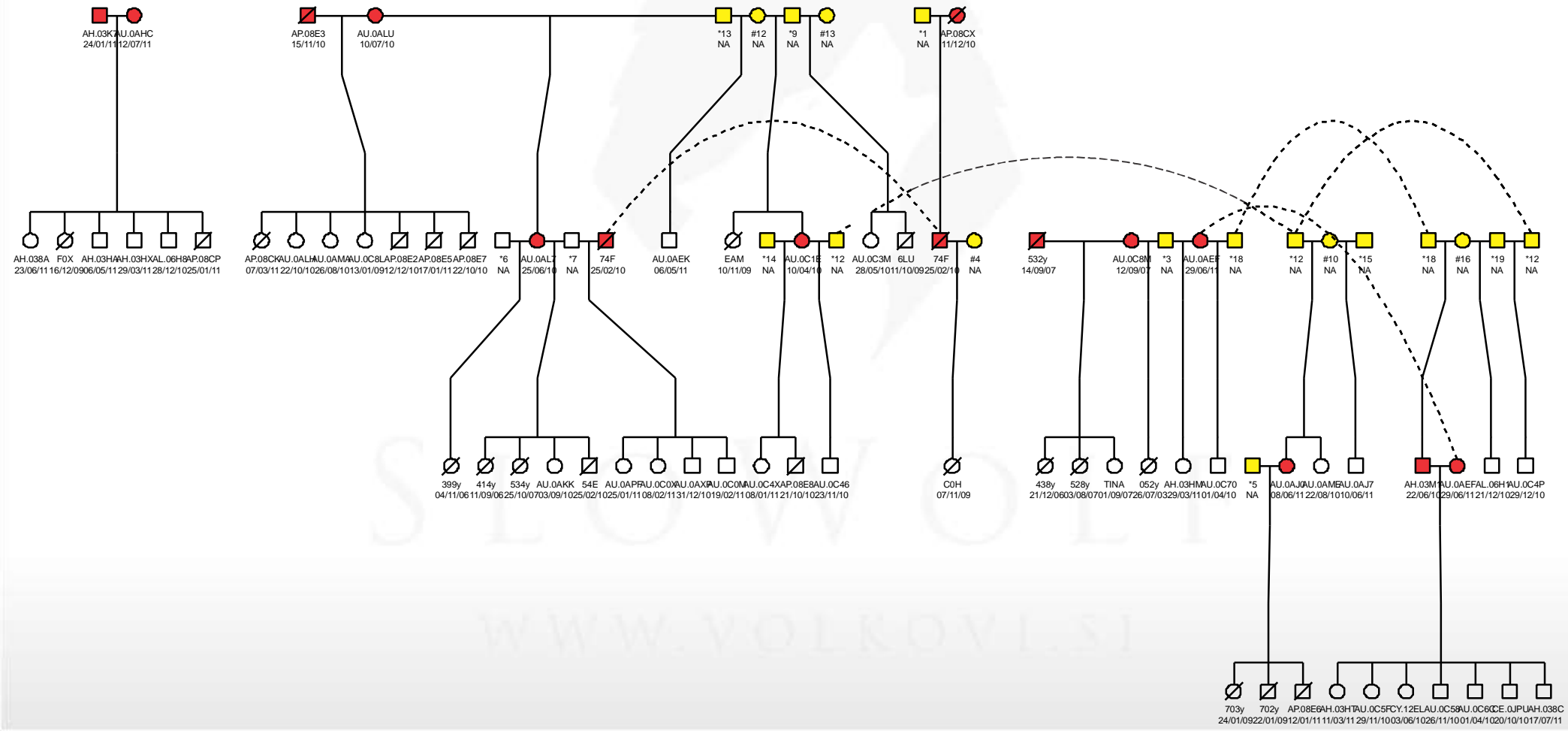
Still some errors possible – work in progress! Big potential!

Parentage/relatedness analysis

95 animals; **crossed** – dead animal; **square** – male; **circle** – female

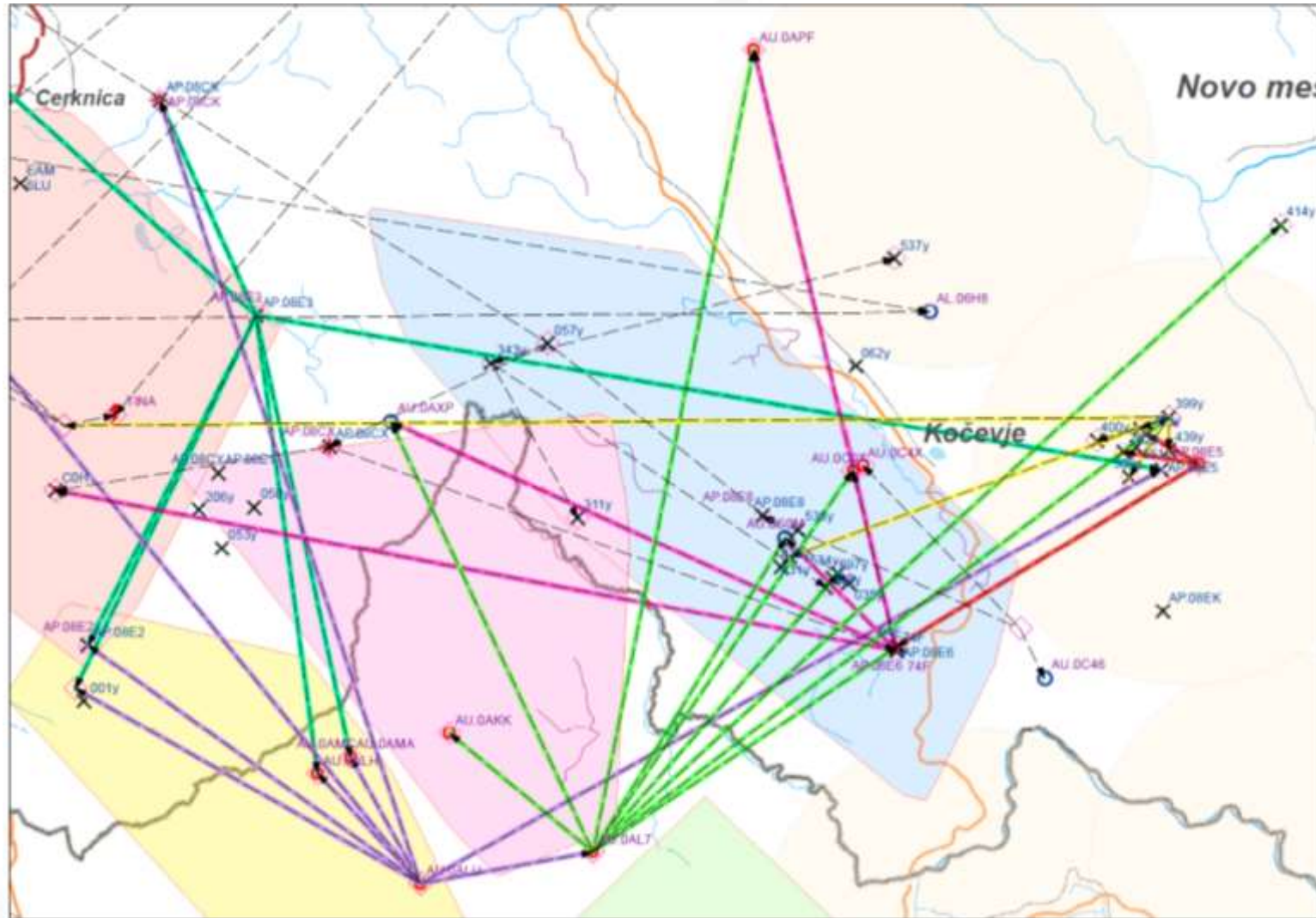
Red – “caught” reproductive animals;

Yellow – “unknown” reproductive animals (that can also be from Croatia or Bosnia and are parents of wolf sampled in Slovenia).



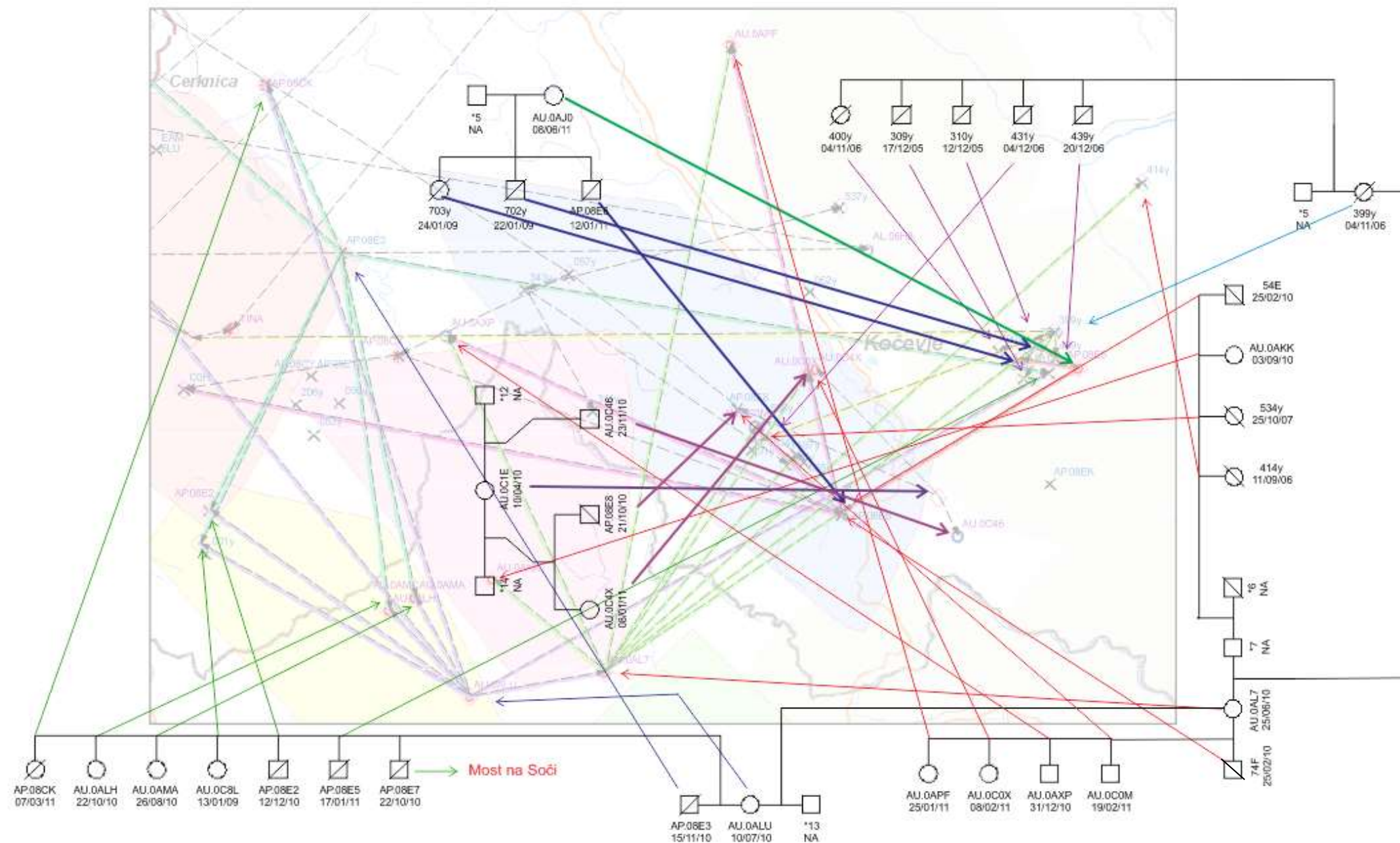
Parentage of wolves in Kočevska – Gorski Kotar area

mother AU.oALU and her daughter AU.oAL7

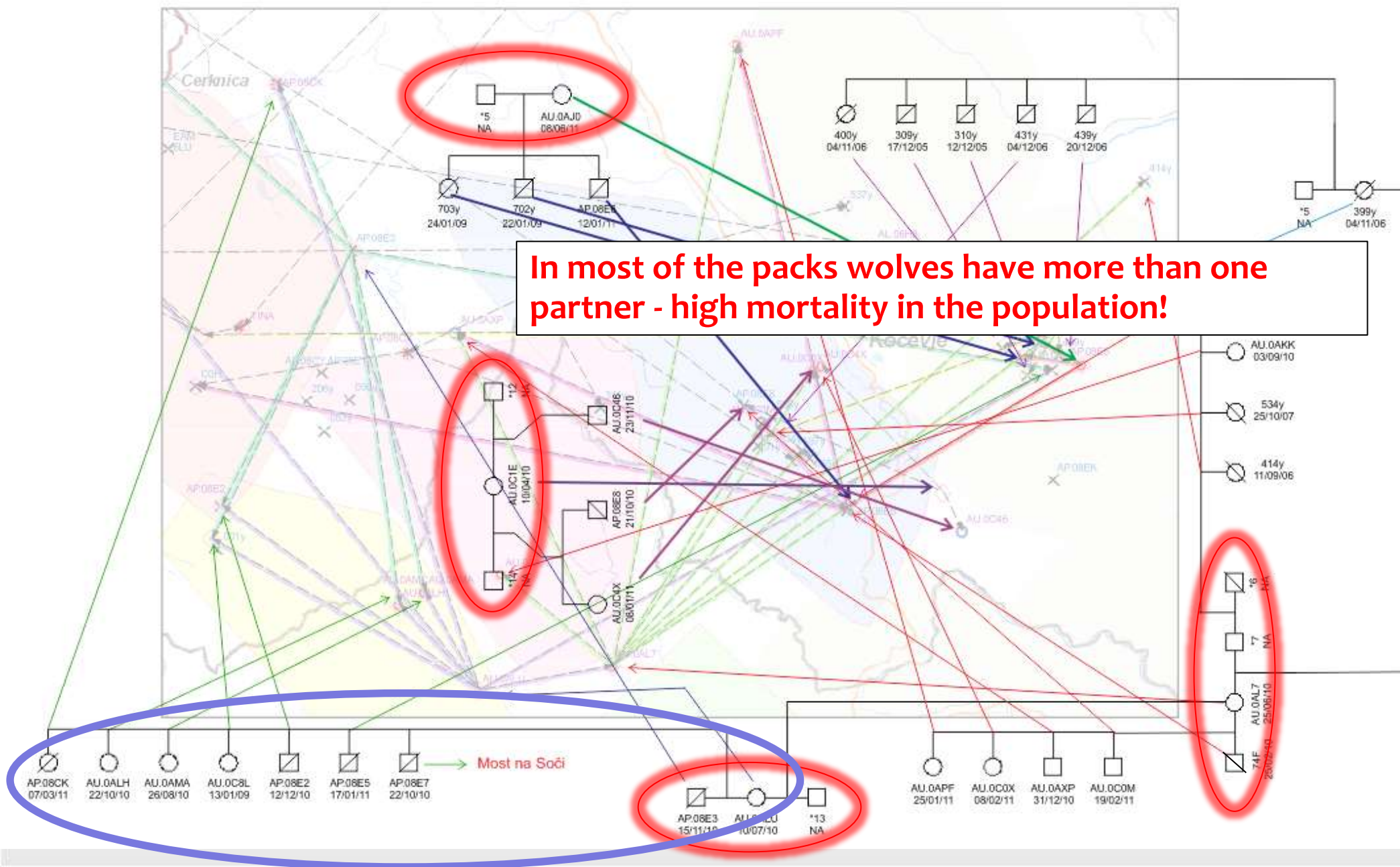


- Arrows go from parents to their off-springs

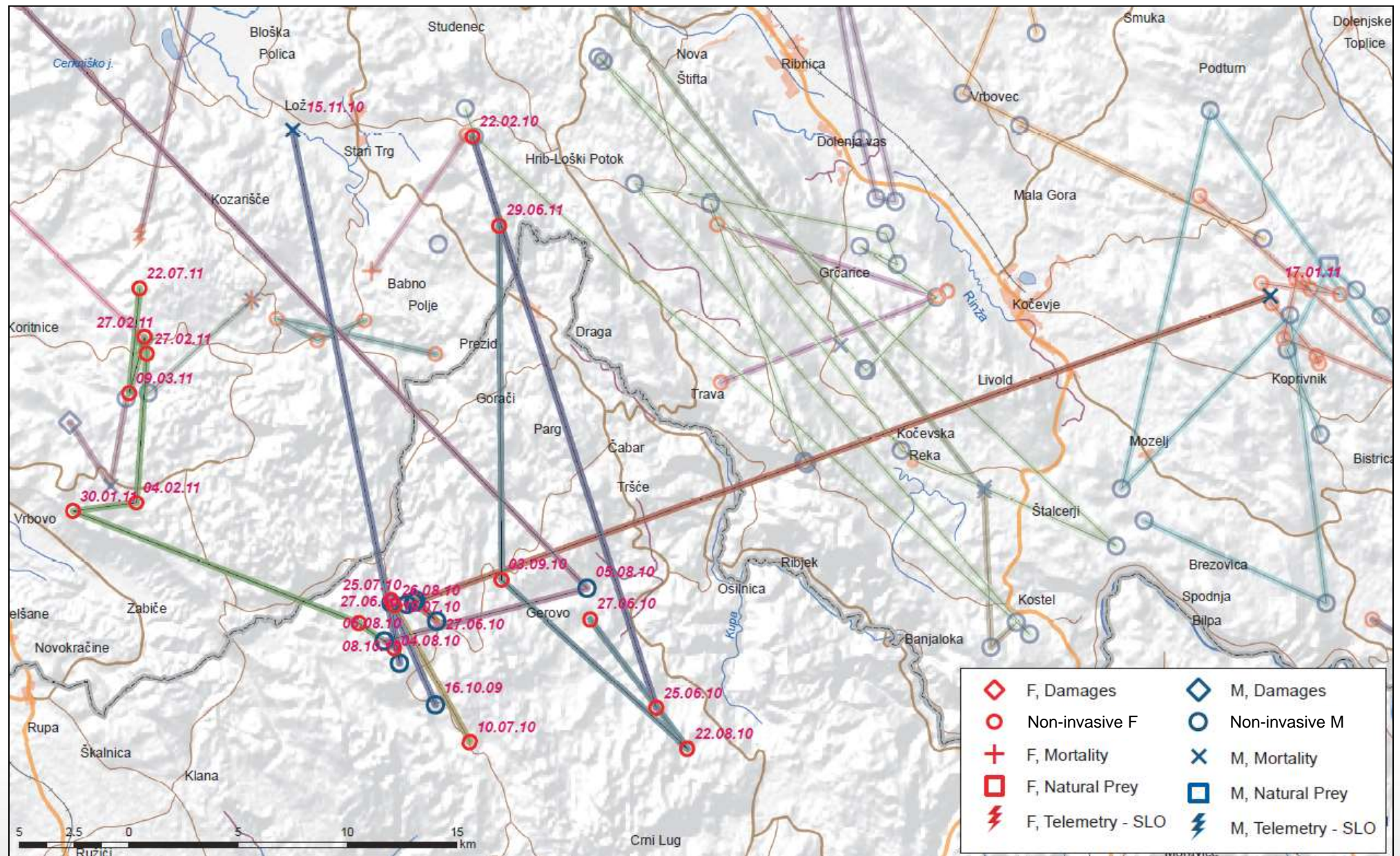
Parentage of wolves in Kočevska – Gorski Kotar area



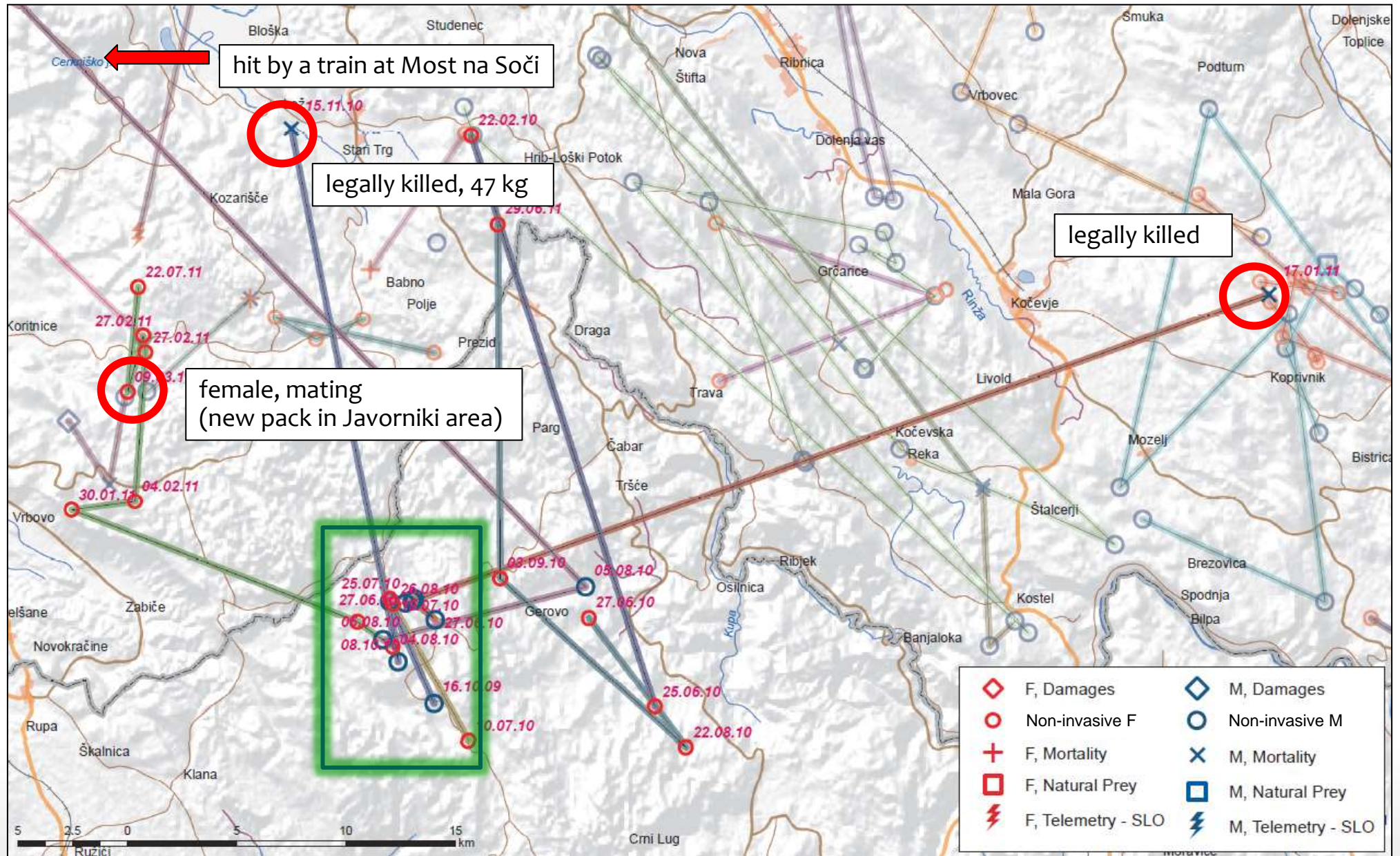
Parentage of wolves in Kočevska – Gorski Kotar area



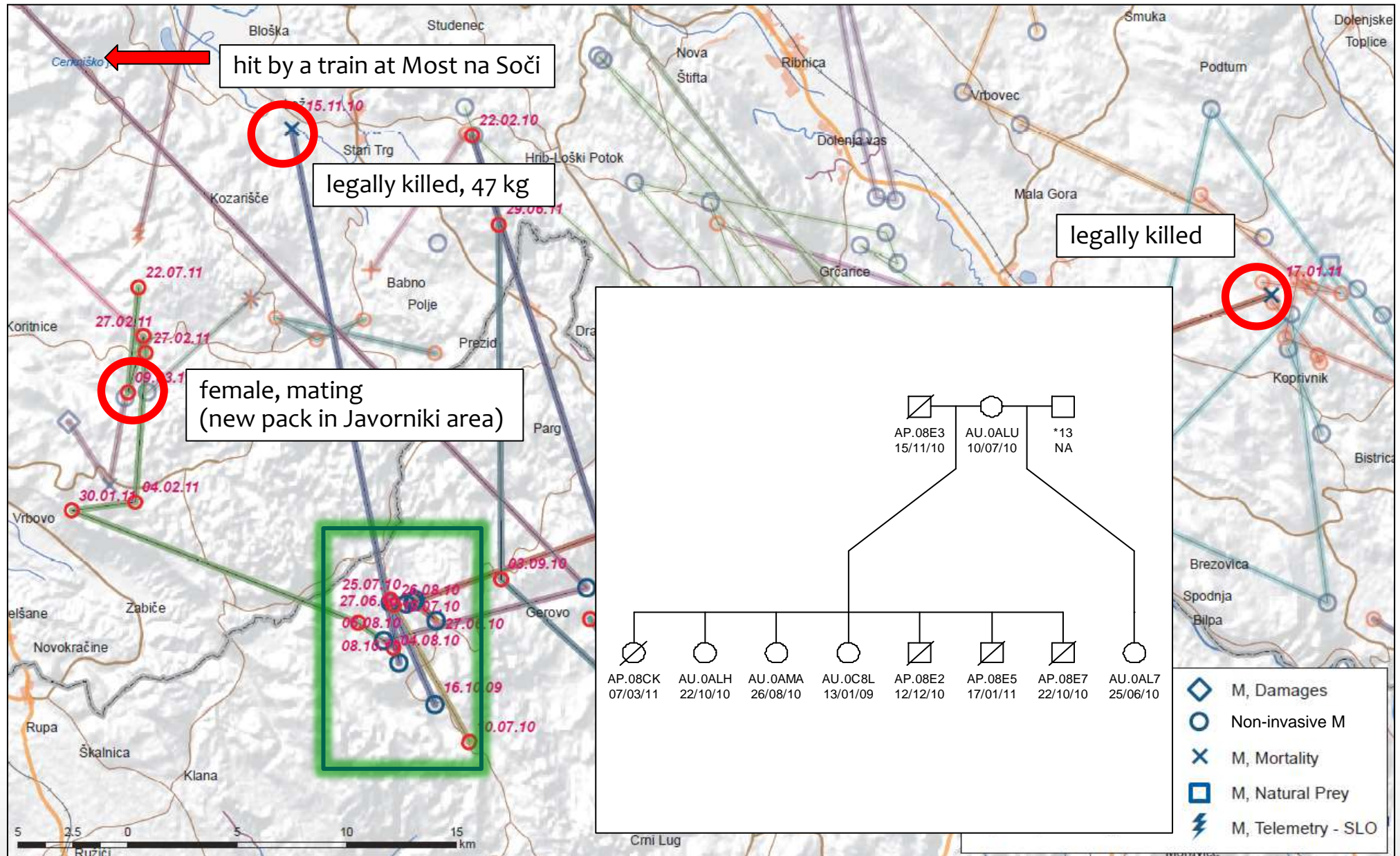
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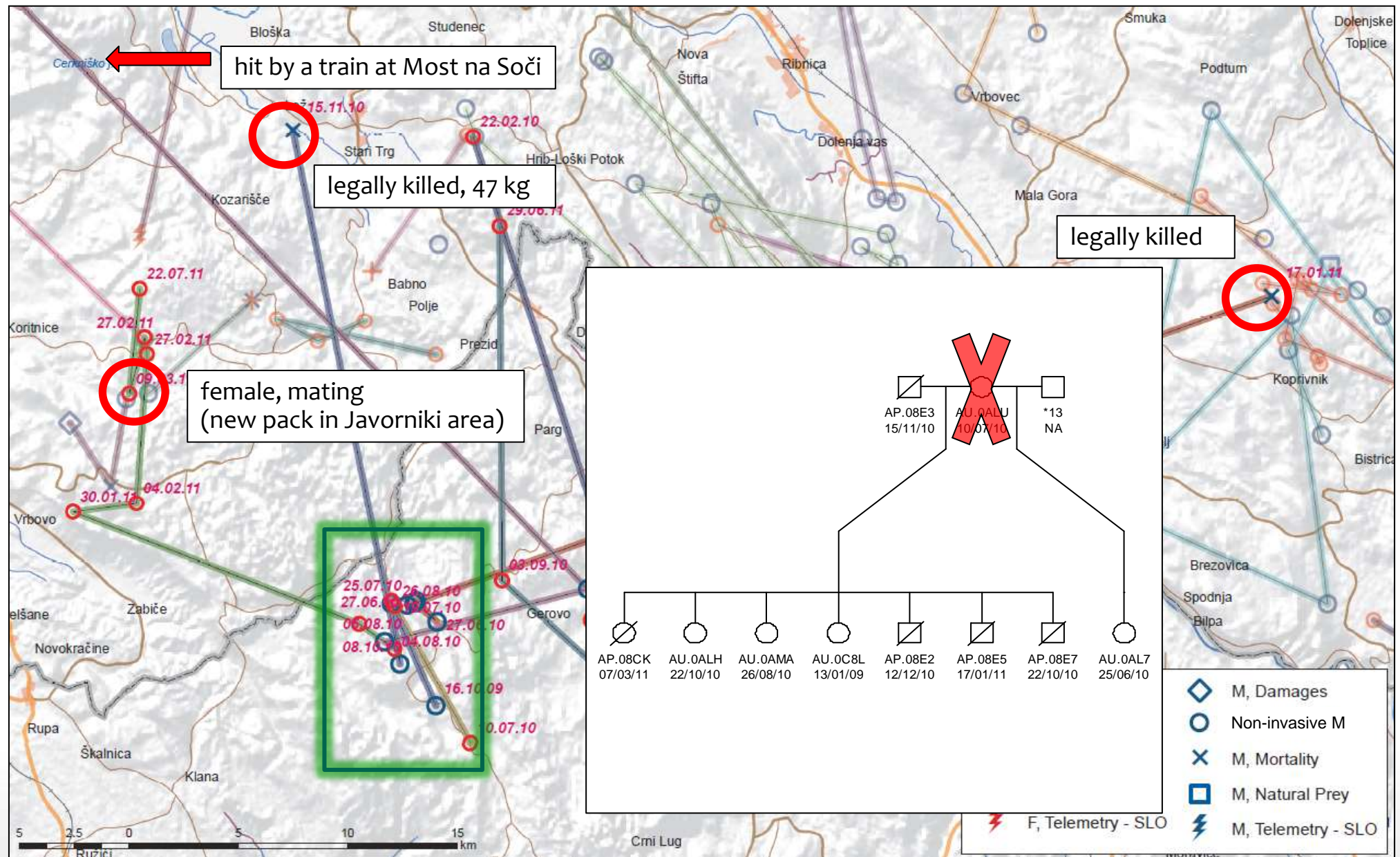
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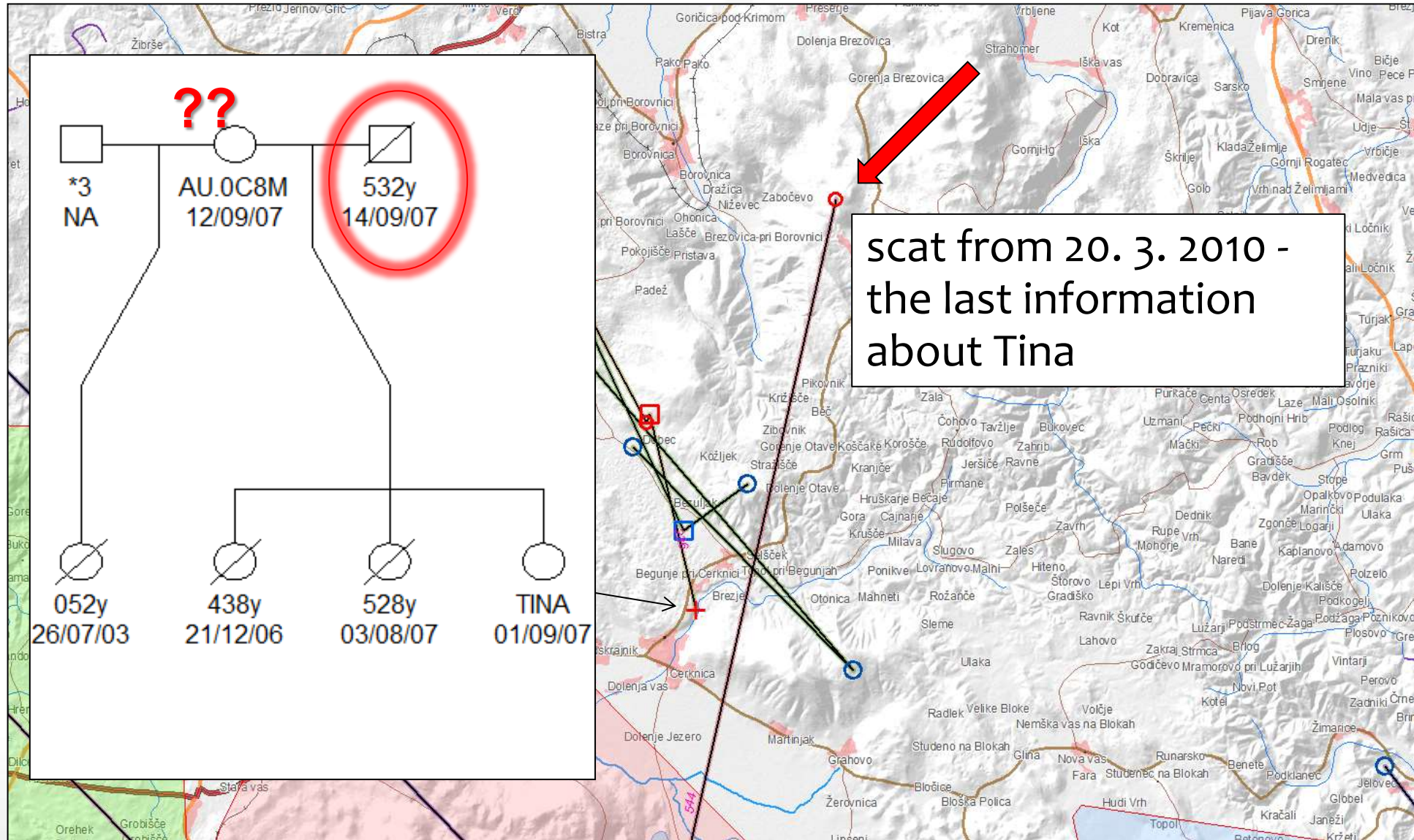


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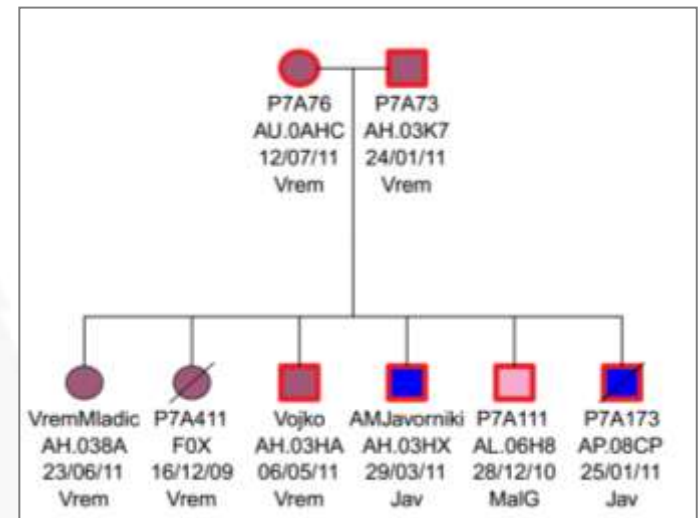
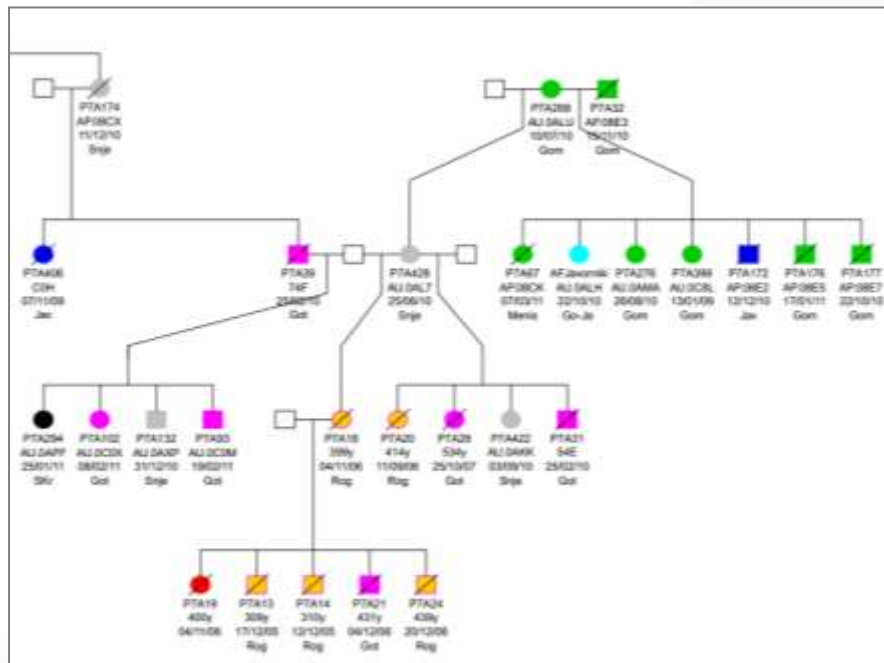
Menišija plateau – young female Tina (2007, again 2010)

Captured at Javorniki plateau (2007), dispersion to Lj. Barje and Menišija plateau (2008).



Conclusions

For known animals 28 reproduction/mating events were genetically recorded.



In 35,7 % mating events an individual had 2 or 3 partners.

Heavy persecution and loss of reproductive animals make a typical reproductive animal change several partners during its lifetime.

Conclusions



Although it seems that a wolf population can numerically compensate a considerable culling pressure, the impact on the social structure is high. This should be taken into account in populations where culling is used as a conservation and regulation measure.

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