

Wolves and livestock: a difficult coexistence

Lessons from Poland

Katarzyna Bojarska

Kalmar, 7 October 2025



Photo: Elżbieta Wyczechowska

Wolves as opportunistic predators

Food habits shaped by prey availability



Ease to find:

- Numbers
- Antipredator behaviours

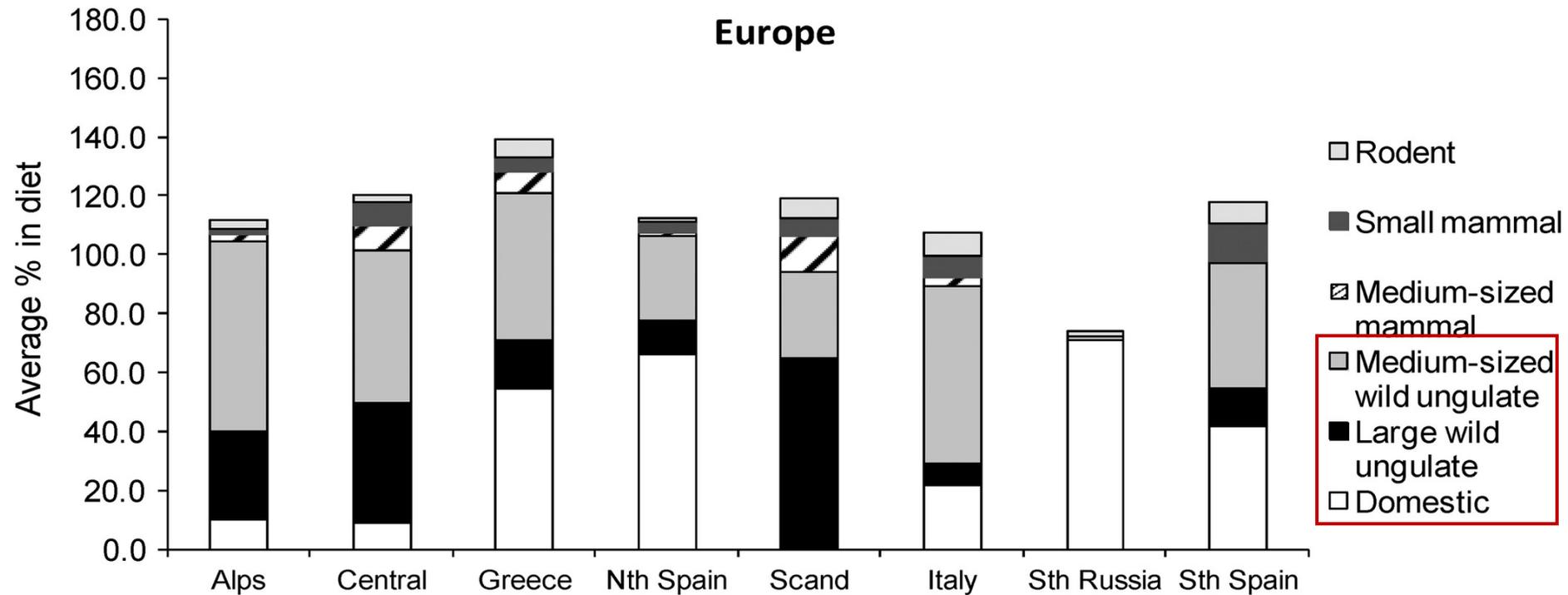
Ease to kill:

- Antipredator
- Protection



Wolves as opportunistic predators

Flexible, diverse diet

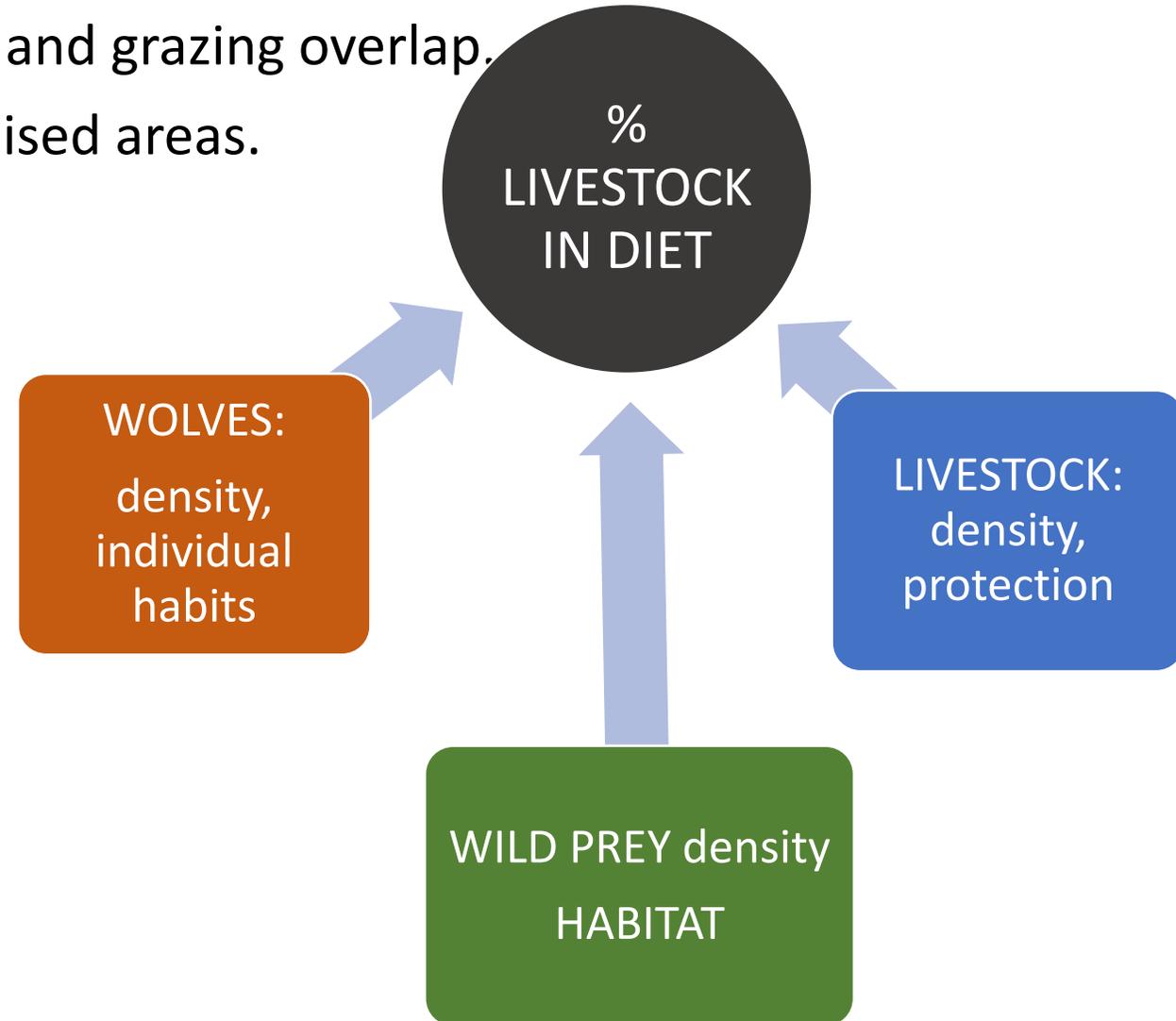
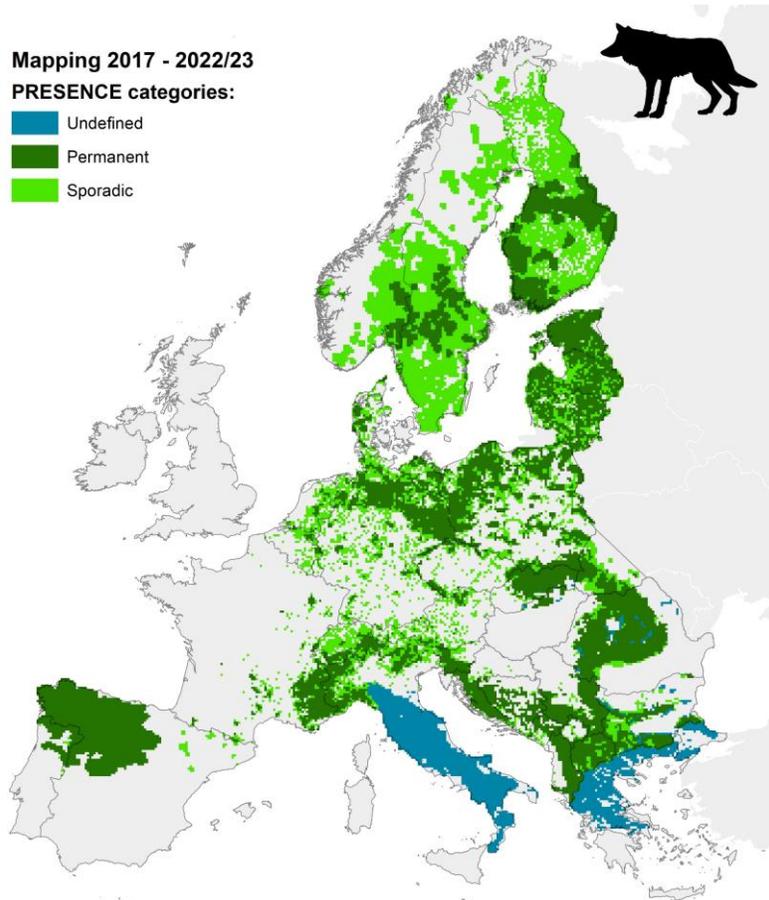


Newsome, T. M., Boitani, L., Chapron, G., Ciucci, P., Dickman, C. R., Dellinger, J. A., ... & Ripple, W. J. (2016). Food habits of the world's grey wolves. Mammal Review, 46(4), 255-269.

Wolves attacks on livestock

Wolves take livestock wherever their presence and grazing overlap.

Wolf expansion -> depredations in newly colonised areas.



The wild Poland?



Wild Poland - Europe's Nature Reserve - Full Nature Documentary

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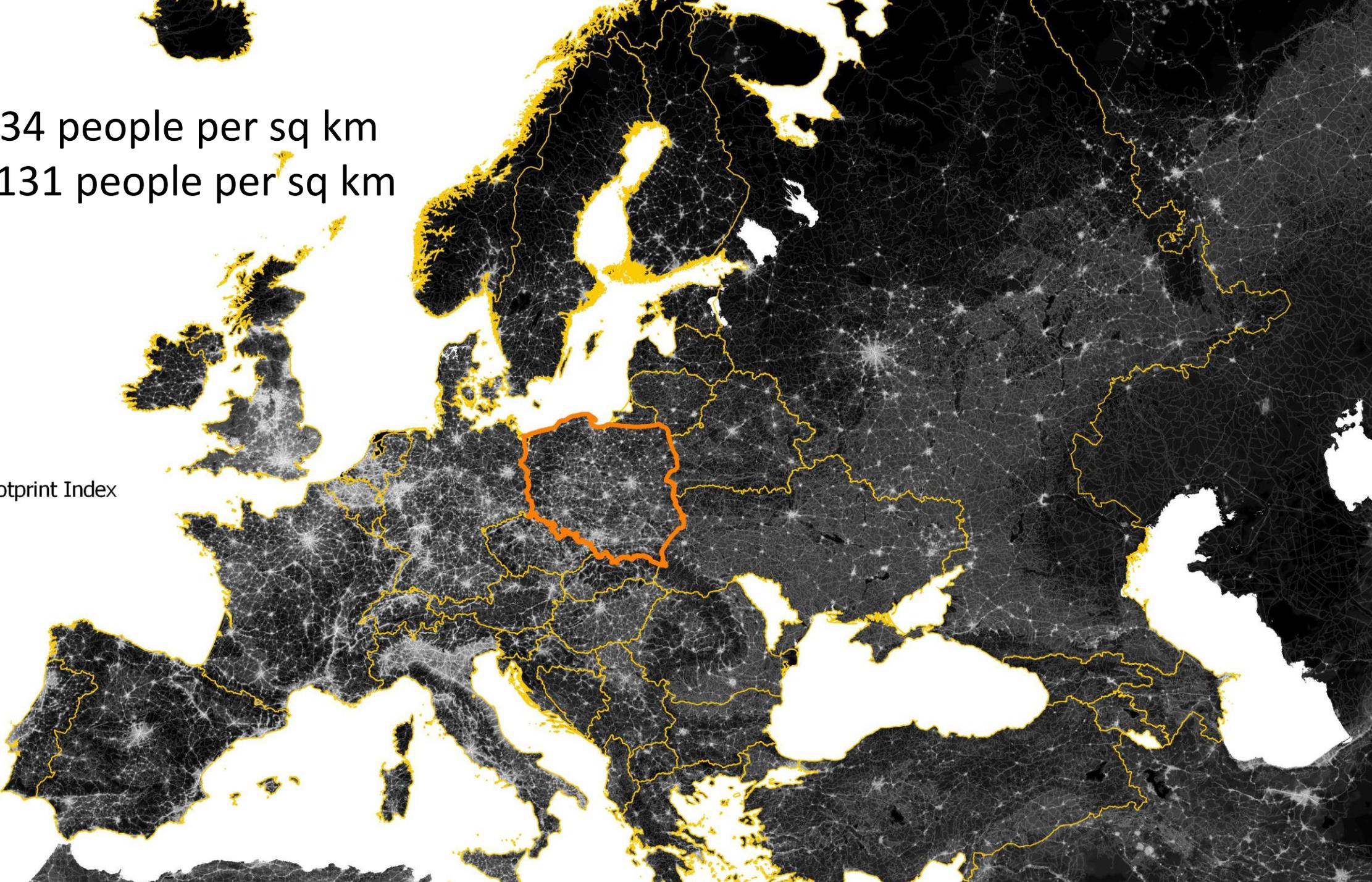
 7.6K |  |  Share |  Download |  Clip | 

Europe: 34 people per sq km
Poland: 131 people per sq km

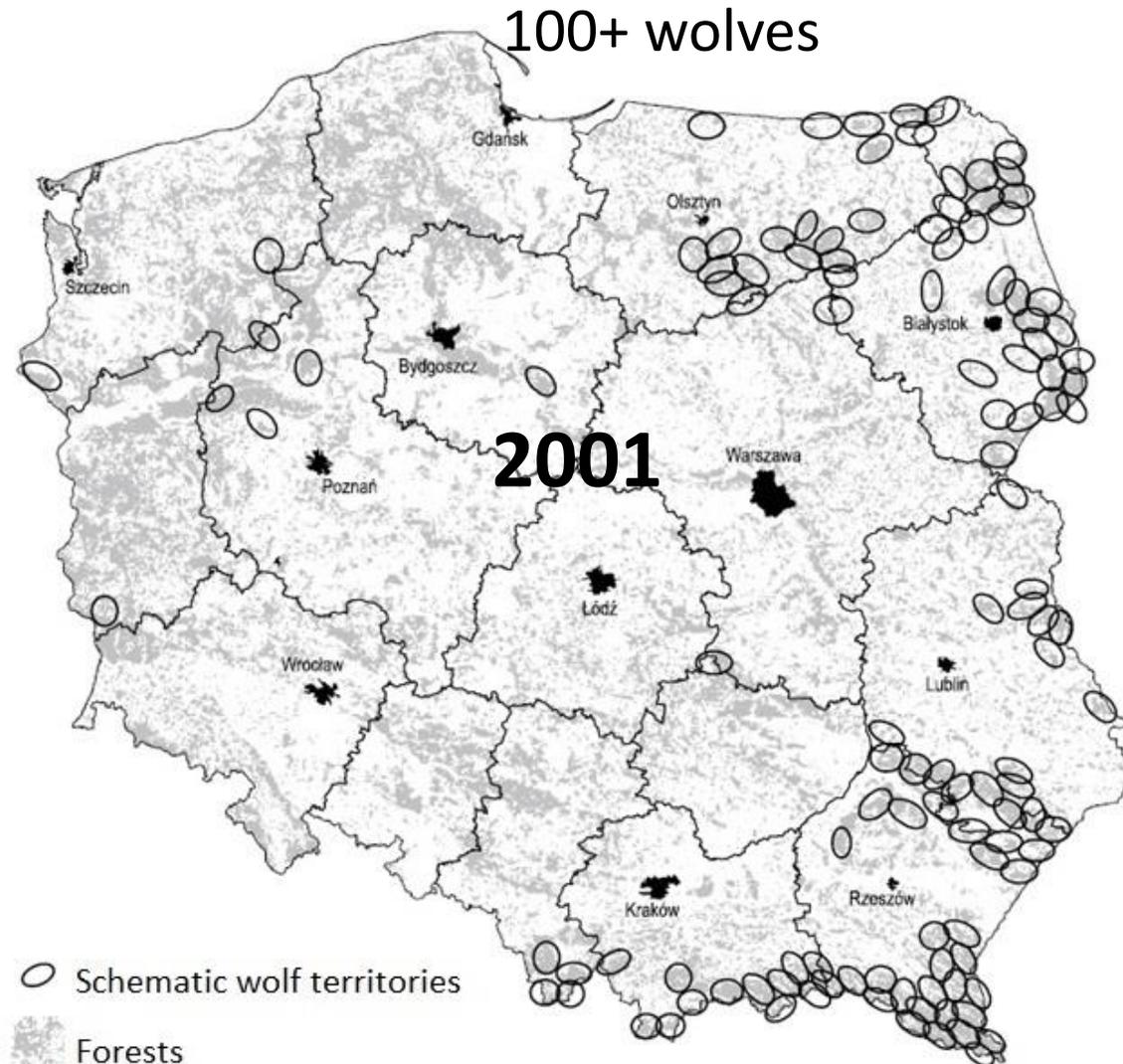
Human Footprint Index

0

50



Wolf expansion in Poland



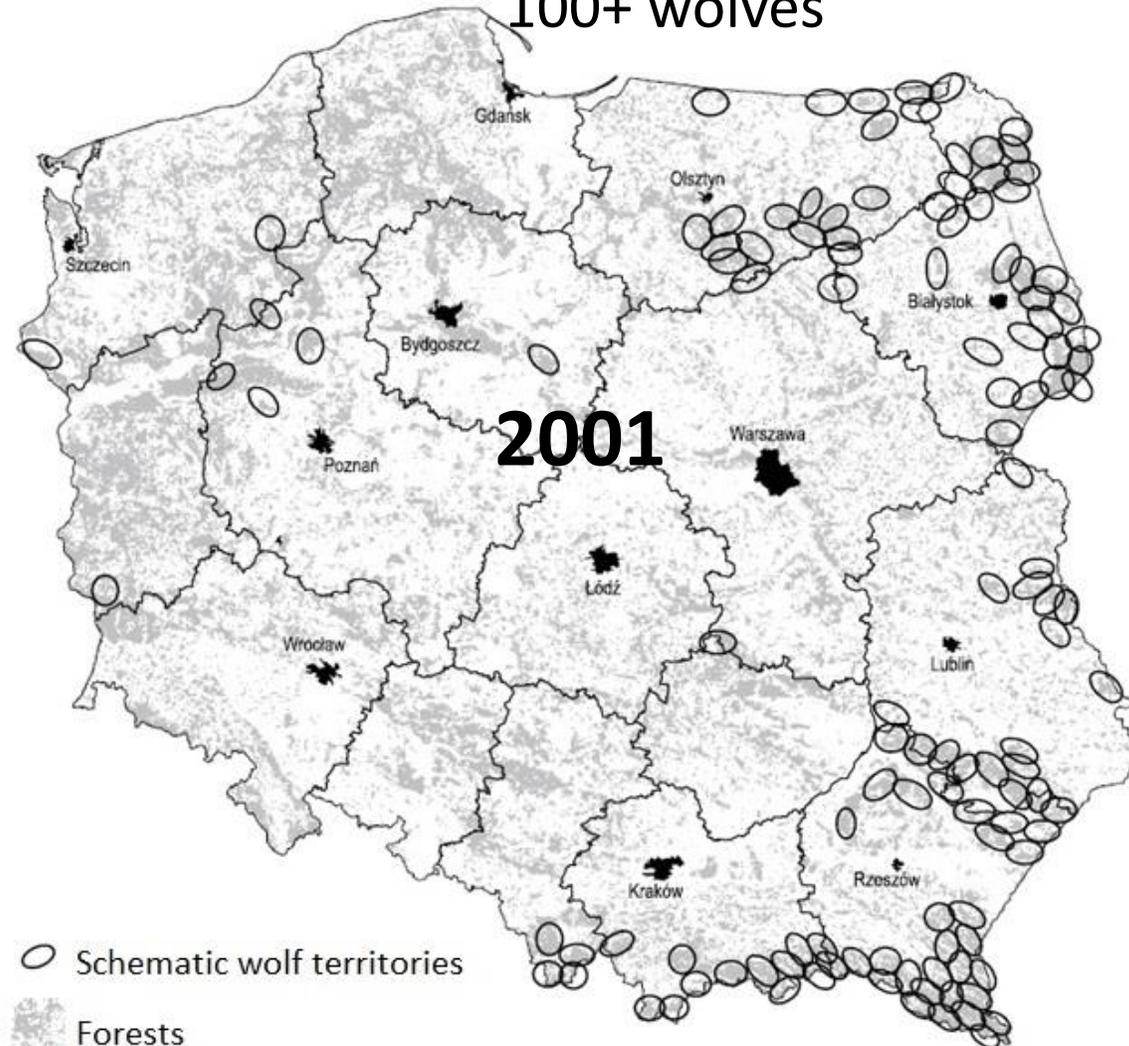
Jędrzejewski et al. 2002



Persecuted (1955),
Game (1975),
Protected (1998)

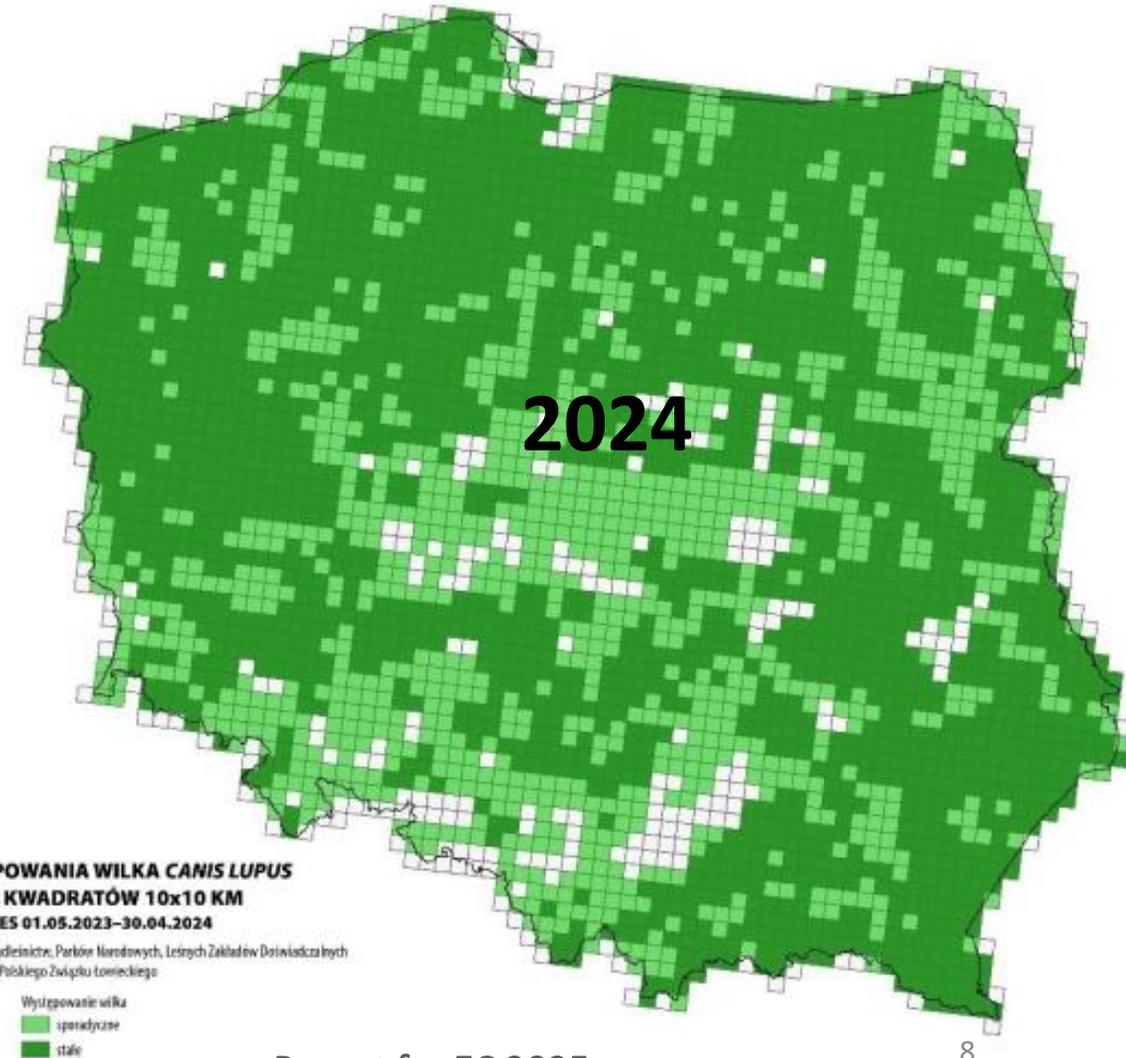
Wolf expansion in Poland

100+ wolves



Jędrzejewski et al. 2002

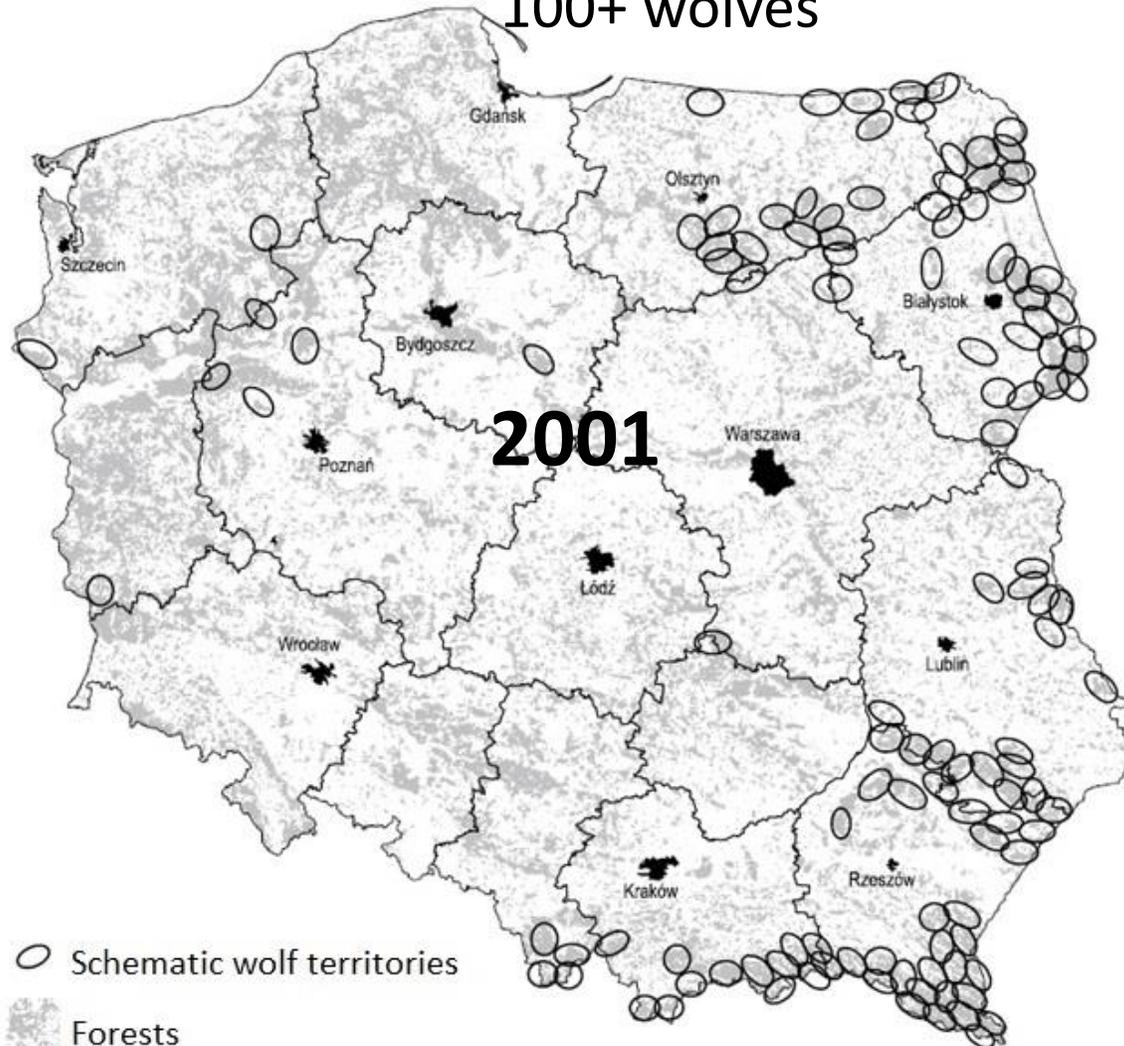
Ca. 3000 wolves



Report for EC 2025

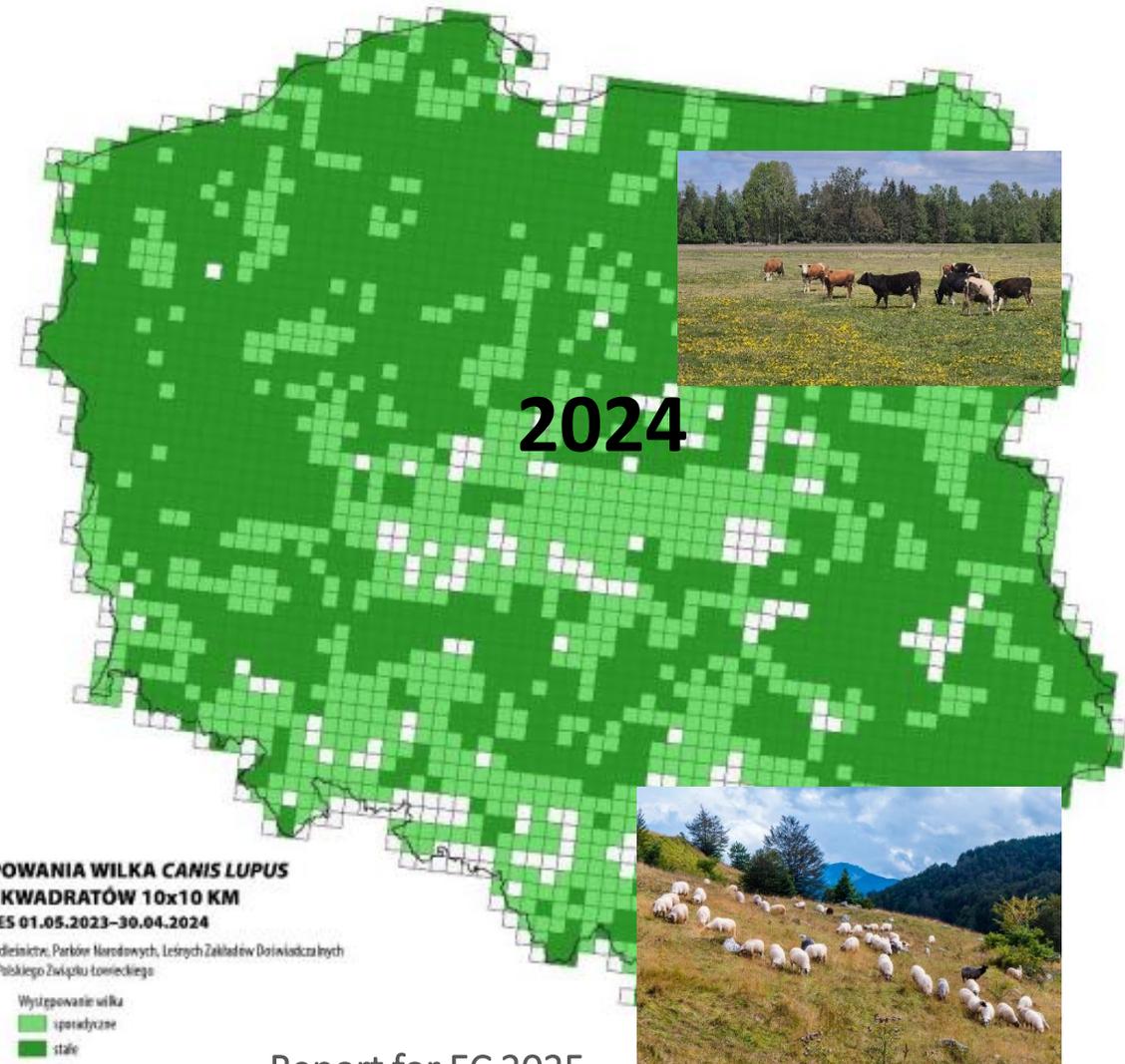
Wolf expansion in Poland

100+ wolves



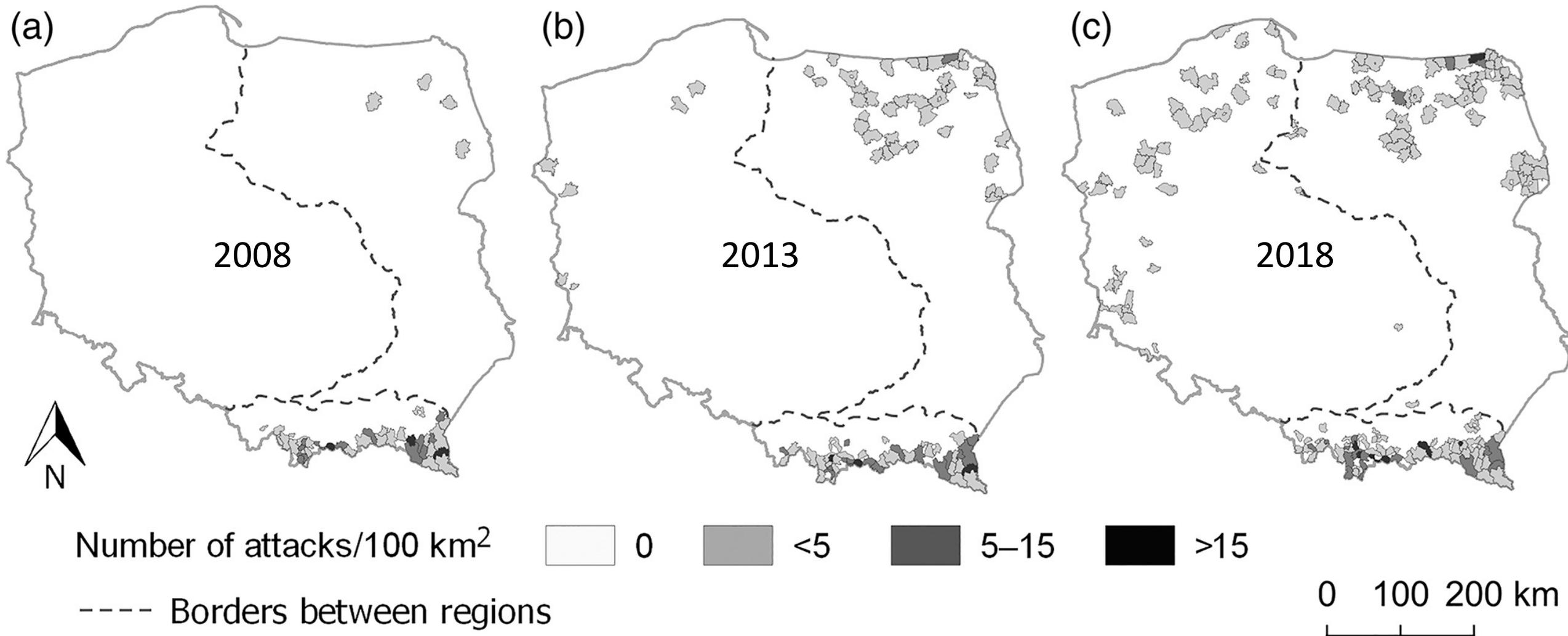
Jędrzejewski et al. 2002

Ca. 3000 wolves



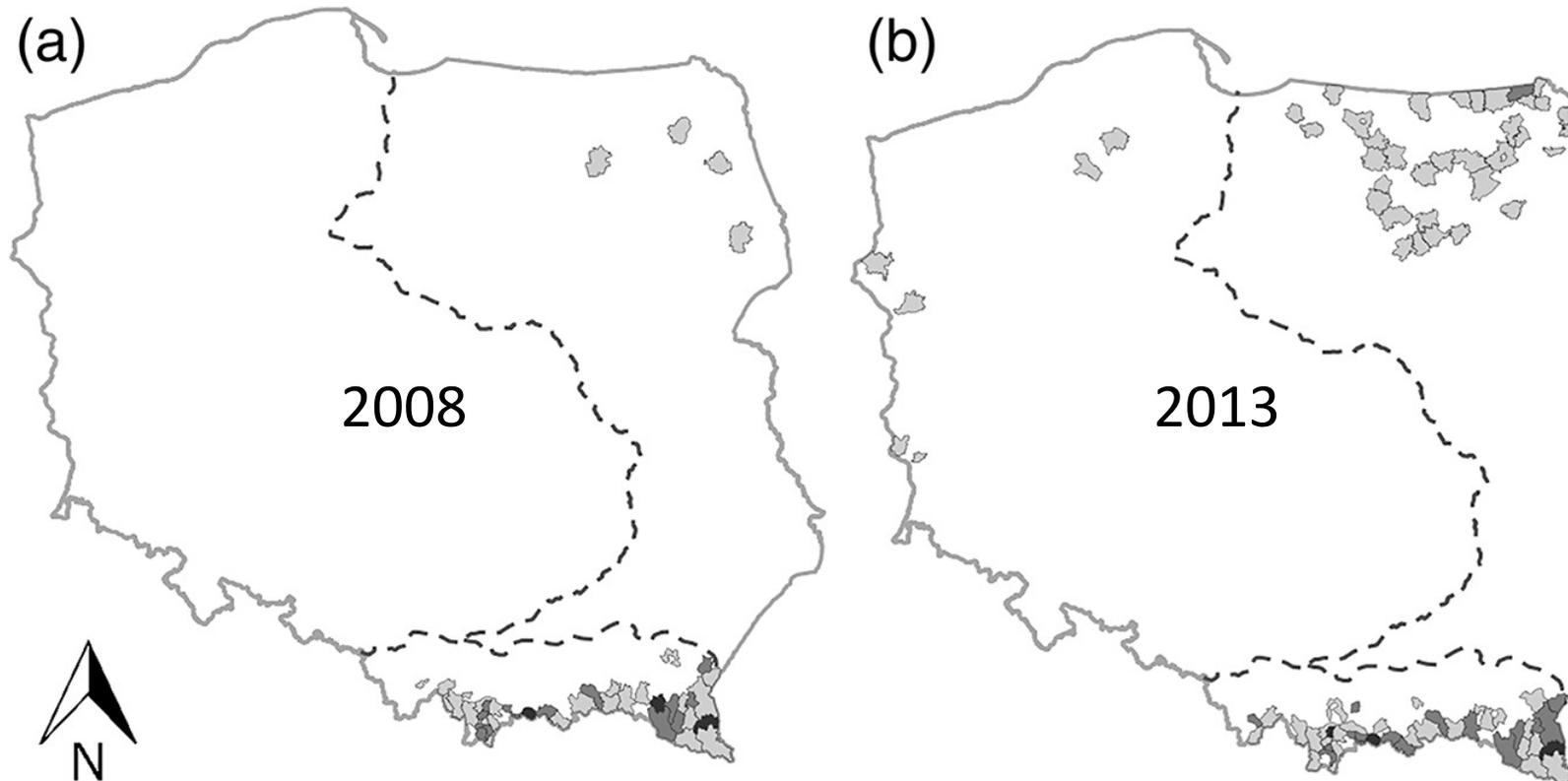
Report for EC 2025

Livestock depredations



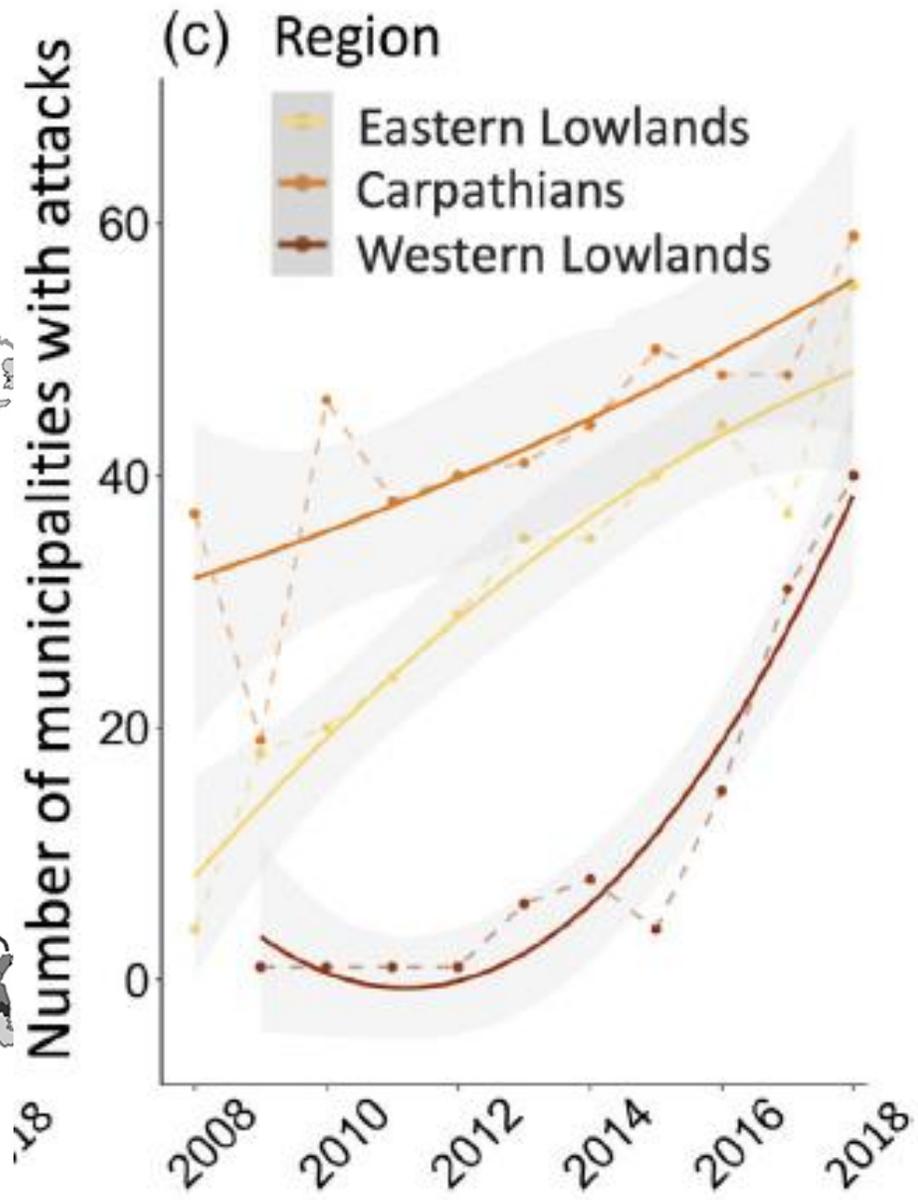
Fedyń, I., Bojarska, K., Gerber, N., & Okarma, H. (2022). Blood trail of expansion? Long-term patterns of livestock depredation by wolves in Poland. *Ecological Research*, 37(3), 370-380.

Livestock depredations



Number of attacks/100 km² 0 <5 ≥8

----- Borders between regions



Fedyń, I., Bojarska, K., Gerber, N., & Okarma, H. (2022). Blood trail of expansion? Long-term patterns of livestock depredation by wolves in Poland. *Ecological Research*, 37(3), 370-380.

Compensations for livestock depredations

The State compensates damage caused by wolves (as a protected species) to livestock.

Compensation for wolf damages:

| | |
|-----------|----------------------|
| - 2013 r. | 522 100 PLN |
| - 2014 r. | 861 500 PLN |
| - 2015 r. | 739 400 PLN |
| - 2017 r. | 758 400 PLN |
| - 2021 r. | 1 676 900 PLN |
| - 2022 r. | 2 176 860 PLN |
| - 2023 r. | 2 976 900 PLN |
| - 2024 r. | ? |



No of livestock killed:

| | |
|-----------|-------|
| - 2013 r. | 404 |
| - 2014 r. | 630 |
| - 2015 r. | 546 |
| - 2017 r. | 621 |
| - 2021 r. | 998 |
| - 2022 r. | 979 |
| - 2023 r. | 1 242 |
| - 2024 r. | ? |



Compensation for livestock depredations

The State compensates damage caused by wolves (as a protected species) to livestock.

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| | |
|-----------|---------------|
| - 2013 r. | 522 100 PLN |
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| - 2021 r. | 1 676 900 PLN |
| - 2022 r. | 2 176 860 PLN |
| - 2023 r. | 2 976 900 PLN |
| - 2024 r. | ? |



Compensation for beaver damages:



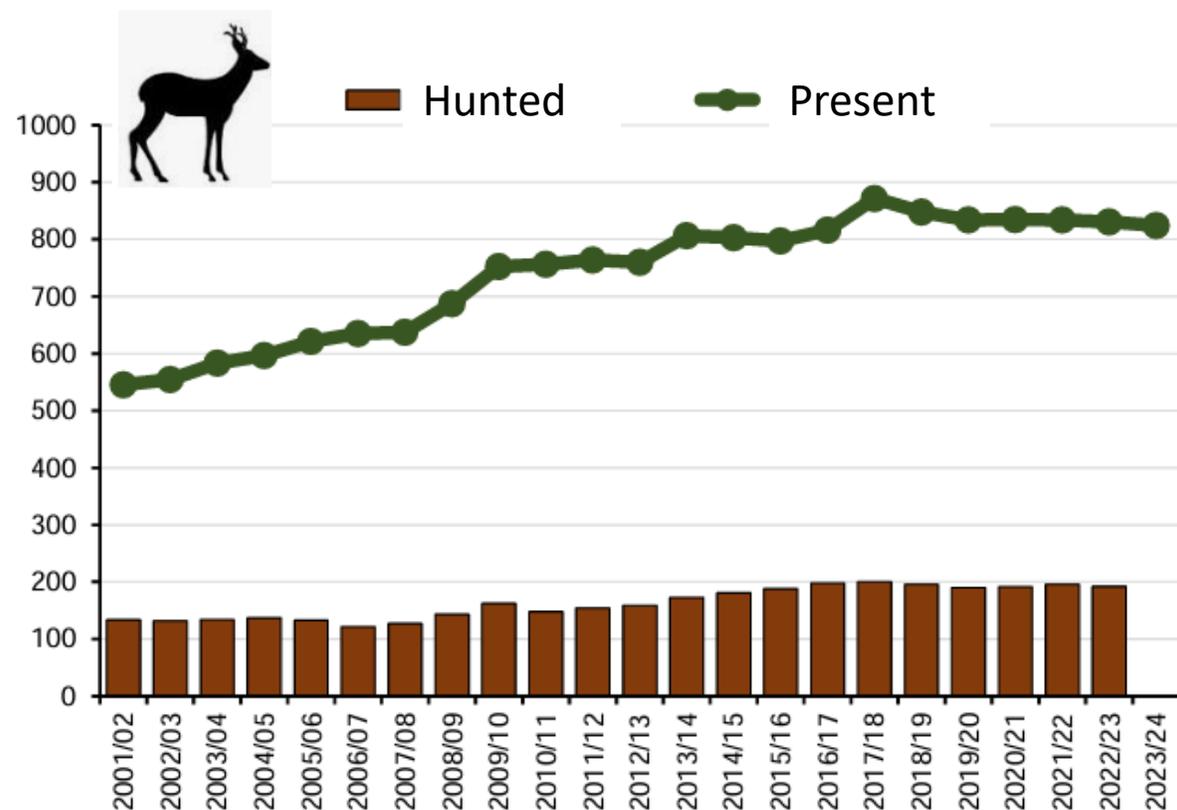
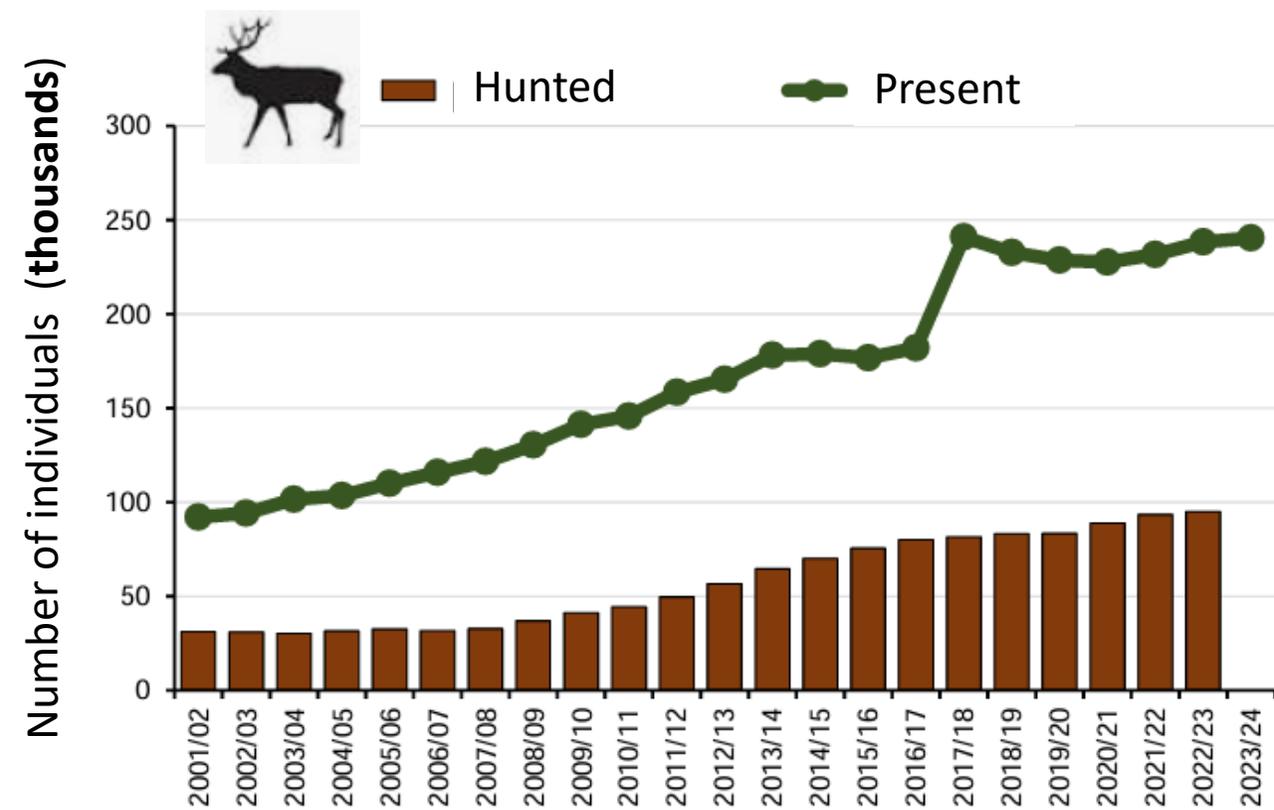
- 2023 r. **63 690 000 PLN**

Why do Polish wolves behave (most of the time)?

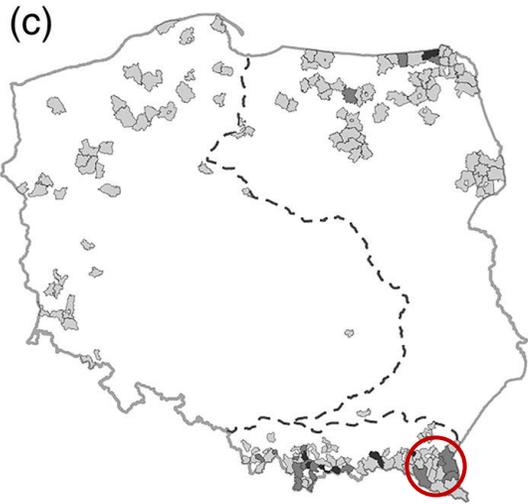


Photo: Elżbieta Wyczechowska

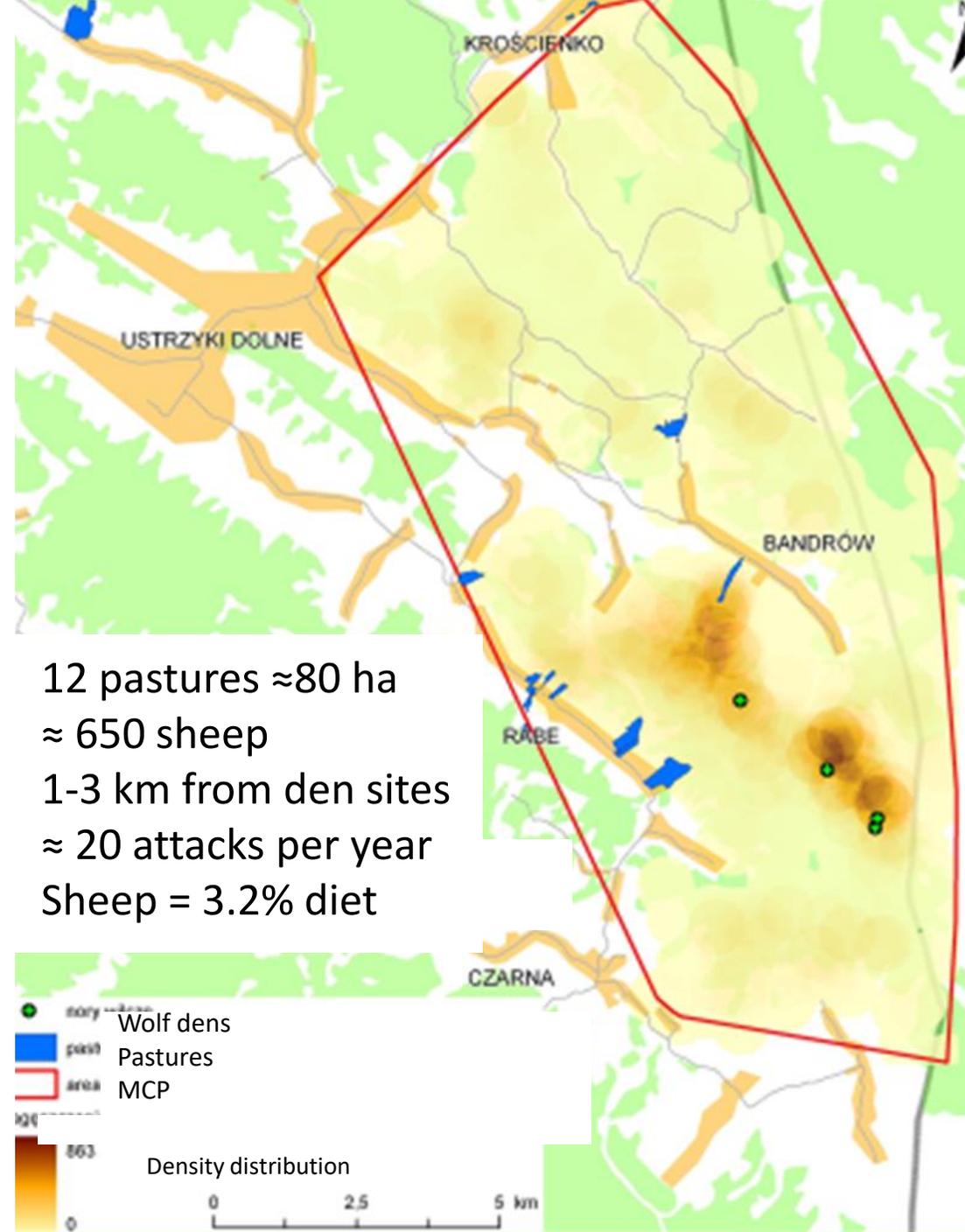
Wild ungulates in Poland



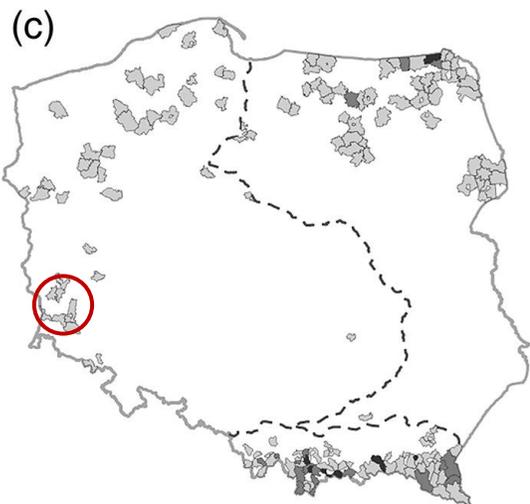
The Carpathians



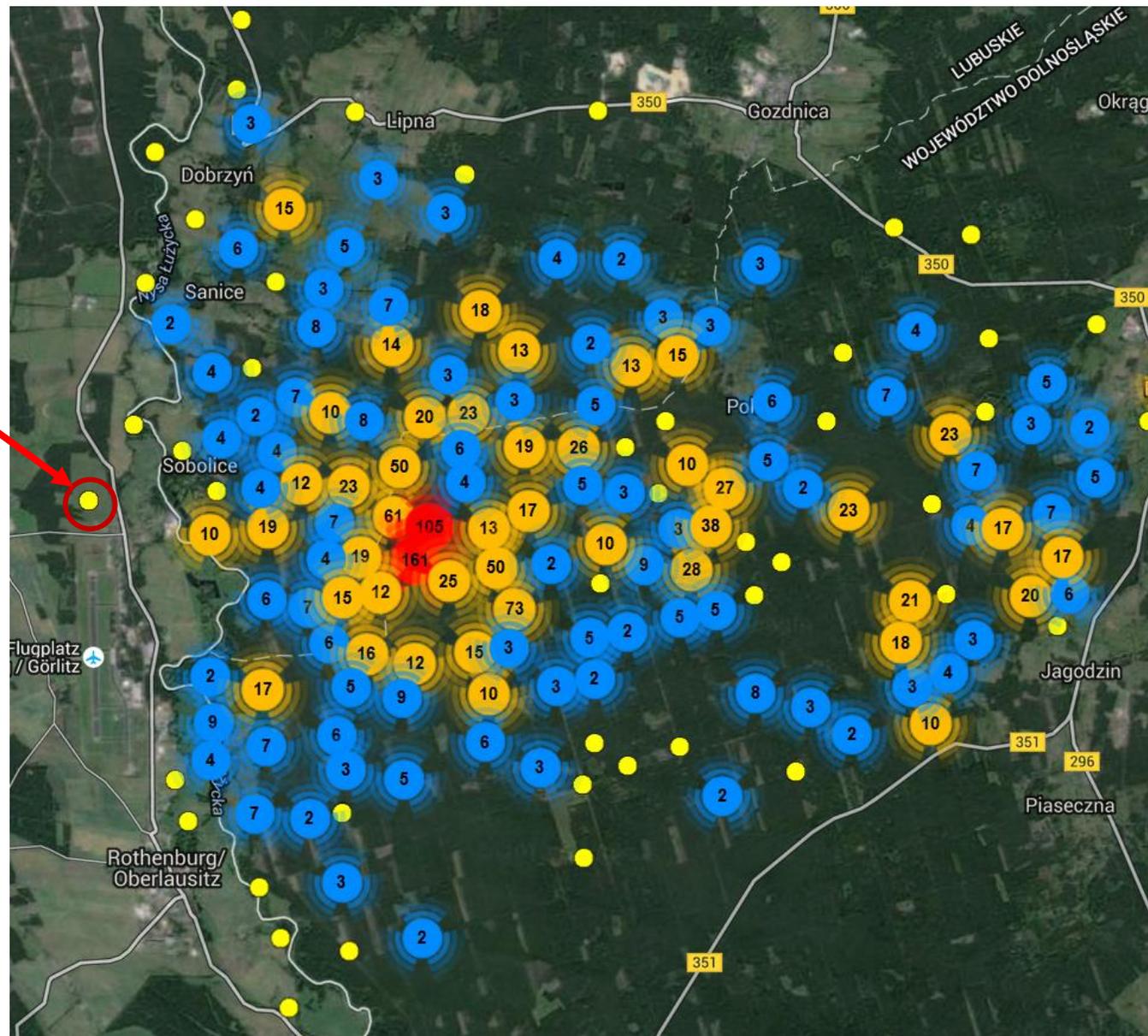
Even the wolves that have abundant grazing livestock within their territories prey mostly on wild ungulates and only occasionally attack livestock.



The western lowlands



Wolves that do not have grazing livestock within their territories may occasionally go out to hunt livestock.



Data source: Katarzyna Bojarska, Institute of Nature Conservation PAS

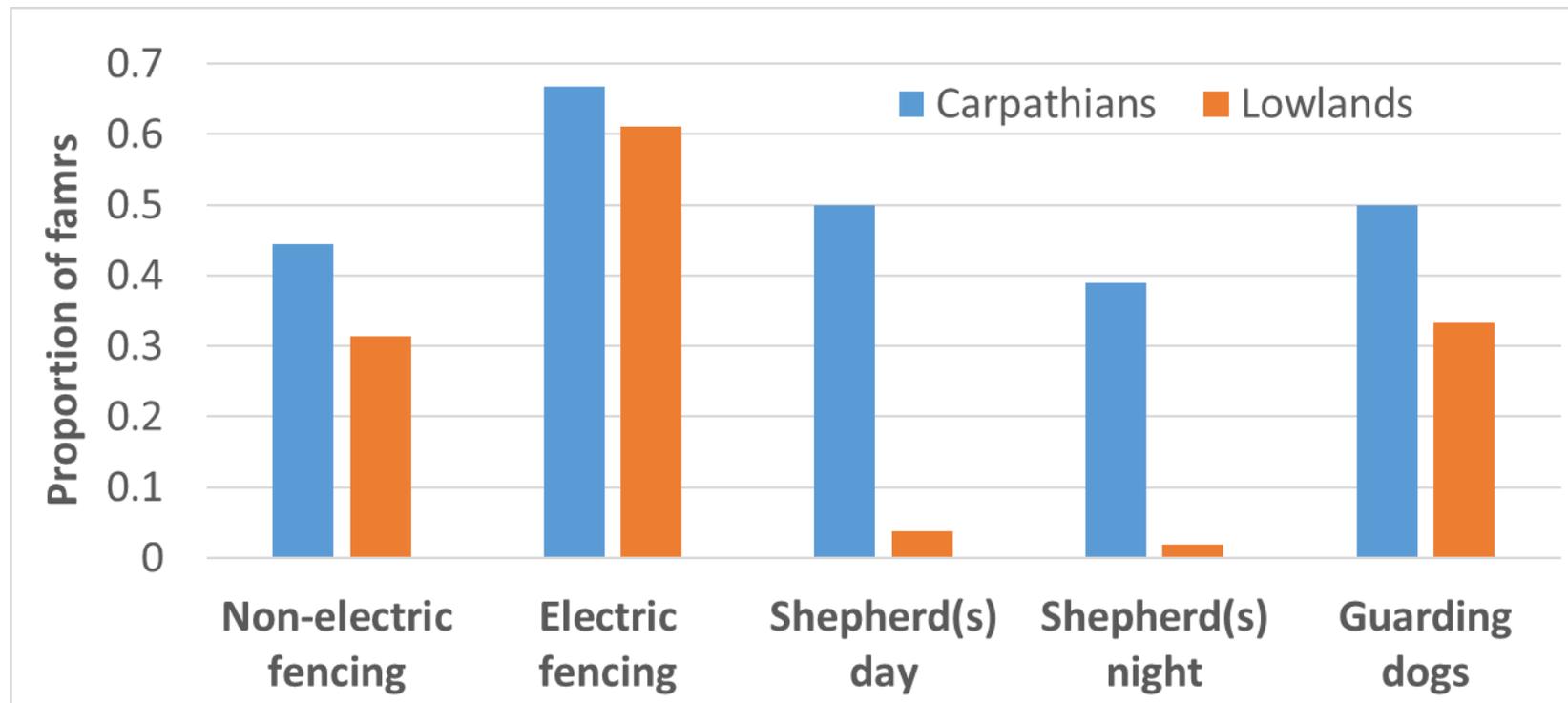
Prevention measures

- Farmers have to protect their livestock to get compensation.
- Only limiting, not eliminating damages!



Prevention measures

- Farmers have to protect their livestock to get compensation
- Only limiting, not eliminating damages



Data source: Agnieszka Olszańska & Agata Pietrzyk, CoCo Project

What works in the Carpathians?

- Combinations of the methods are the best



Some livestock does not need protection...



The other side of the coin...



Photos: Hubert Fedyń

Surplus killing



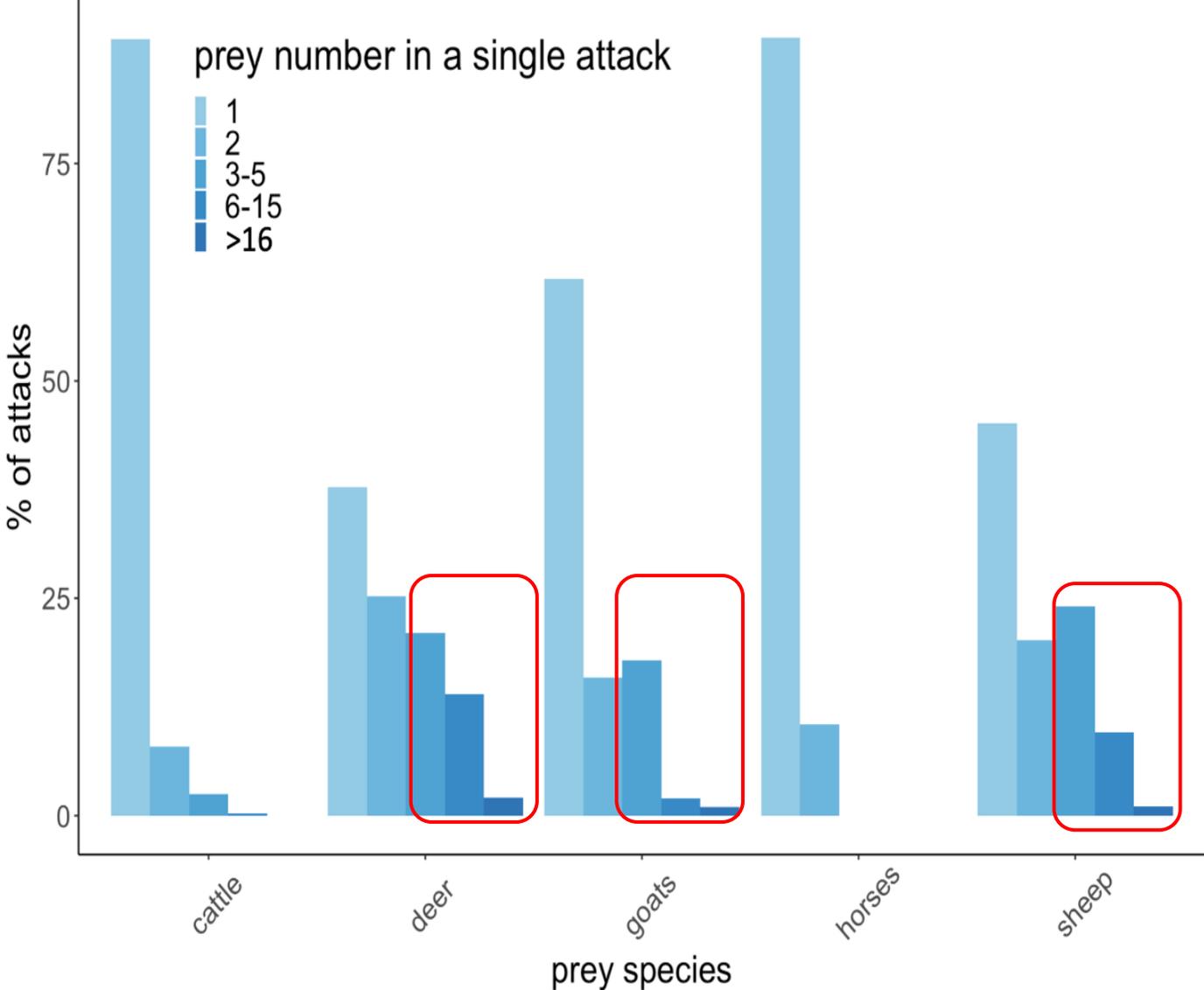
Surplus killing



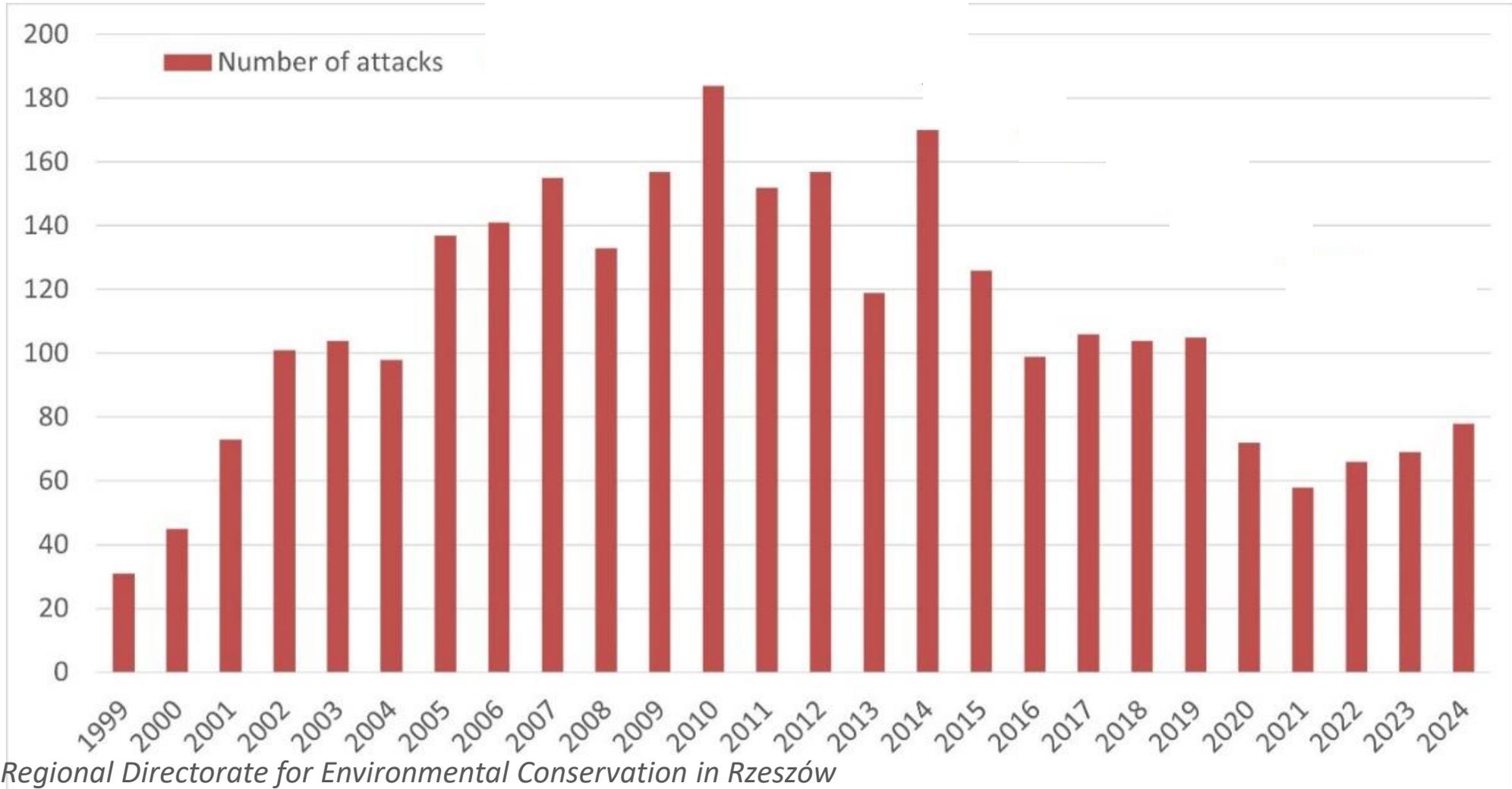
Surplus killing



Surplus killing

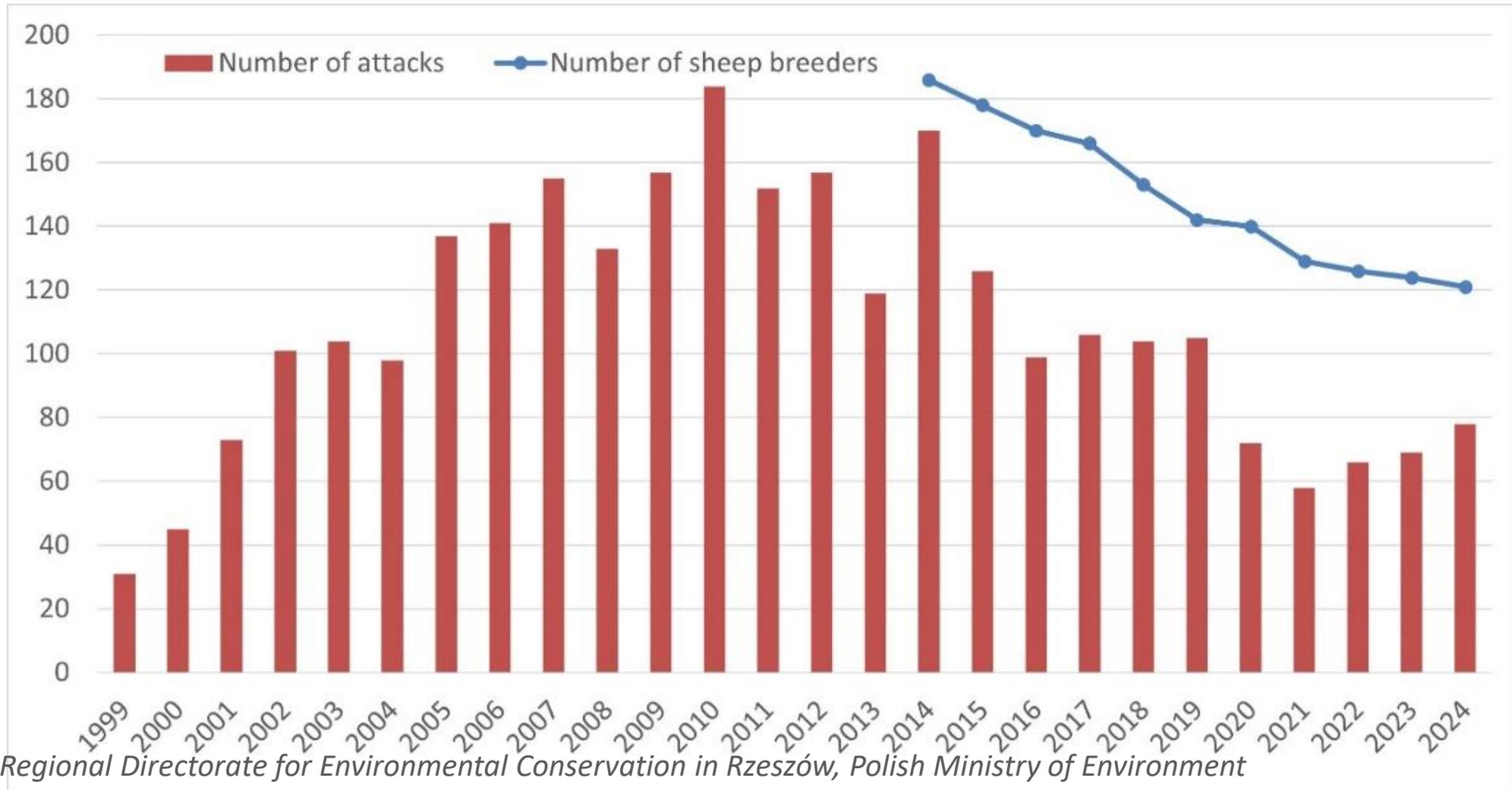


Decreasing depredation levels in the Carpathians?



Data source: Regional Directorate for Environmental Conservation in Rzeszów

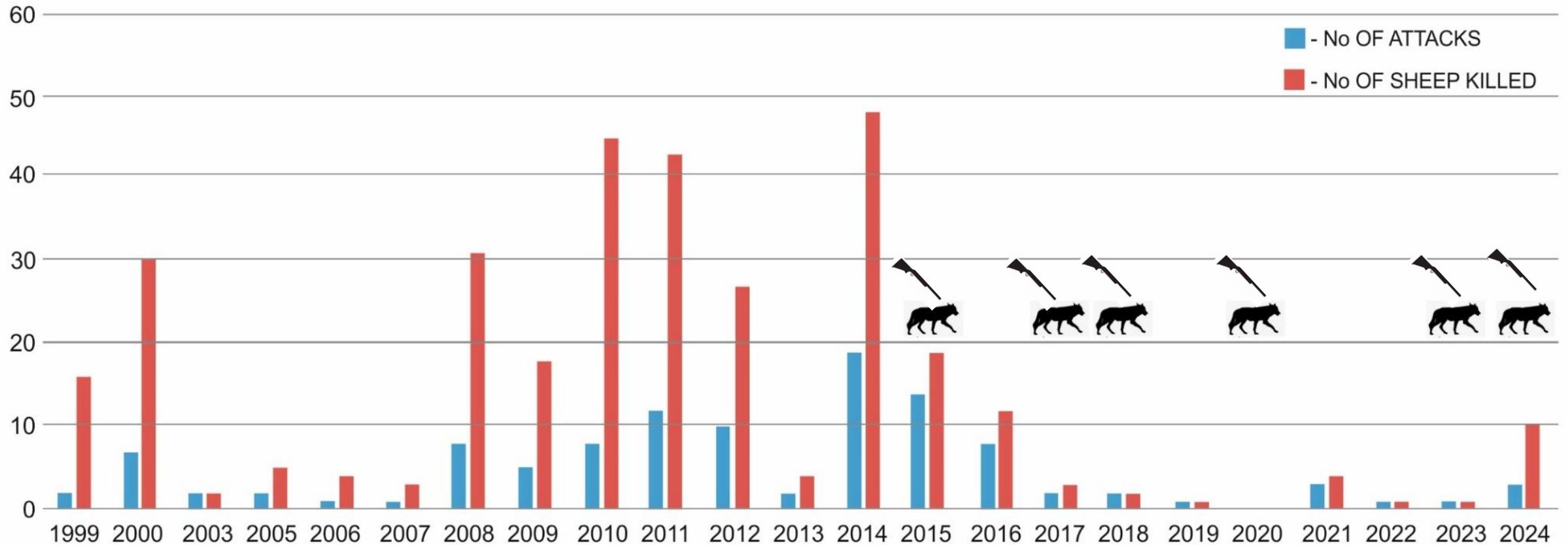
Switching from sheep to aggressive cattle



Data source: Regional Directorate for Environmental Conservation in Rzeszów, Polish Ministry of Environment

Wolf culling

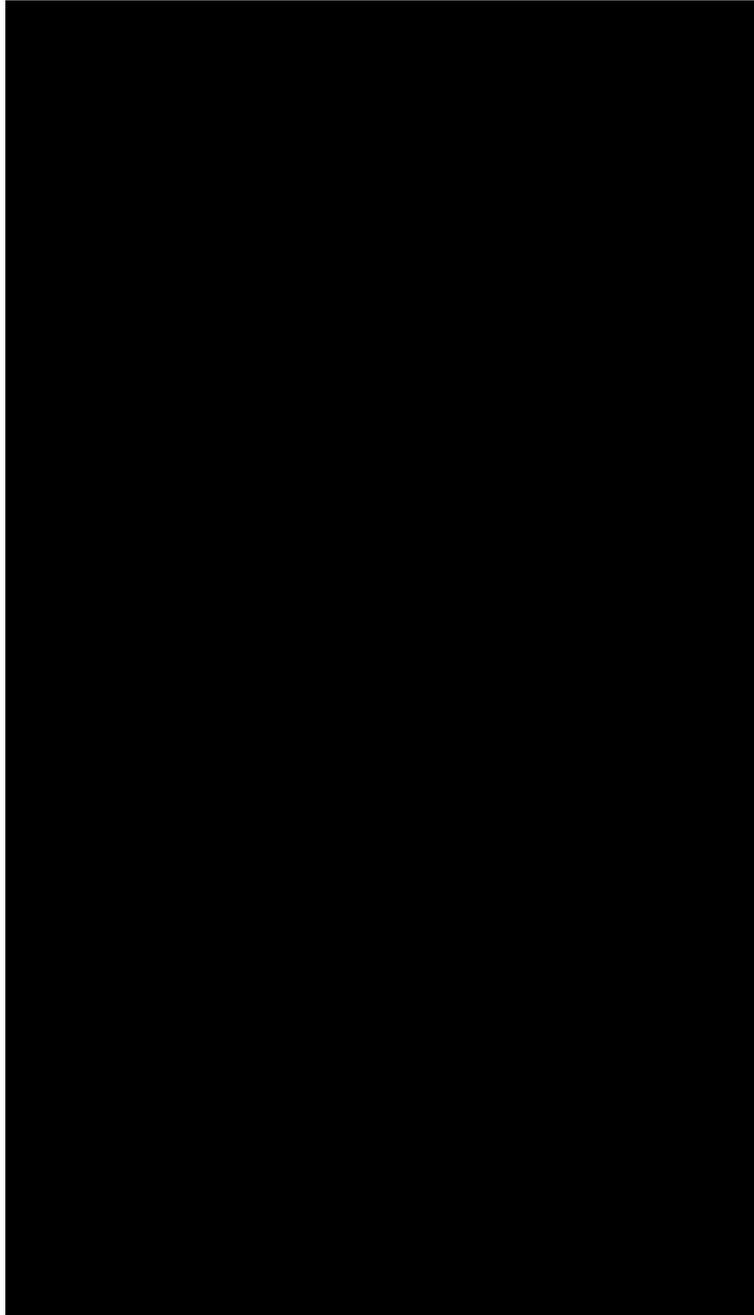
Not intense but seems helpful in some cases



Data source: Regional Directorate for Environmental Conservation in Rzeszów

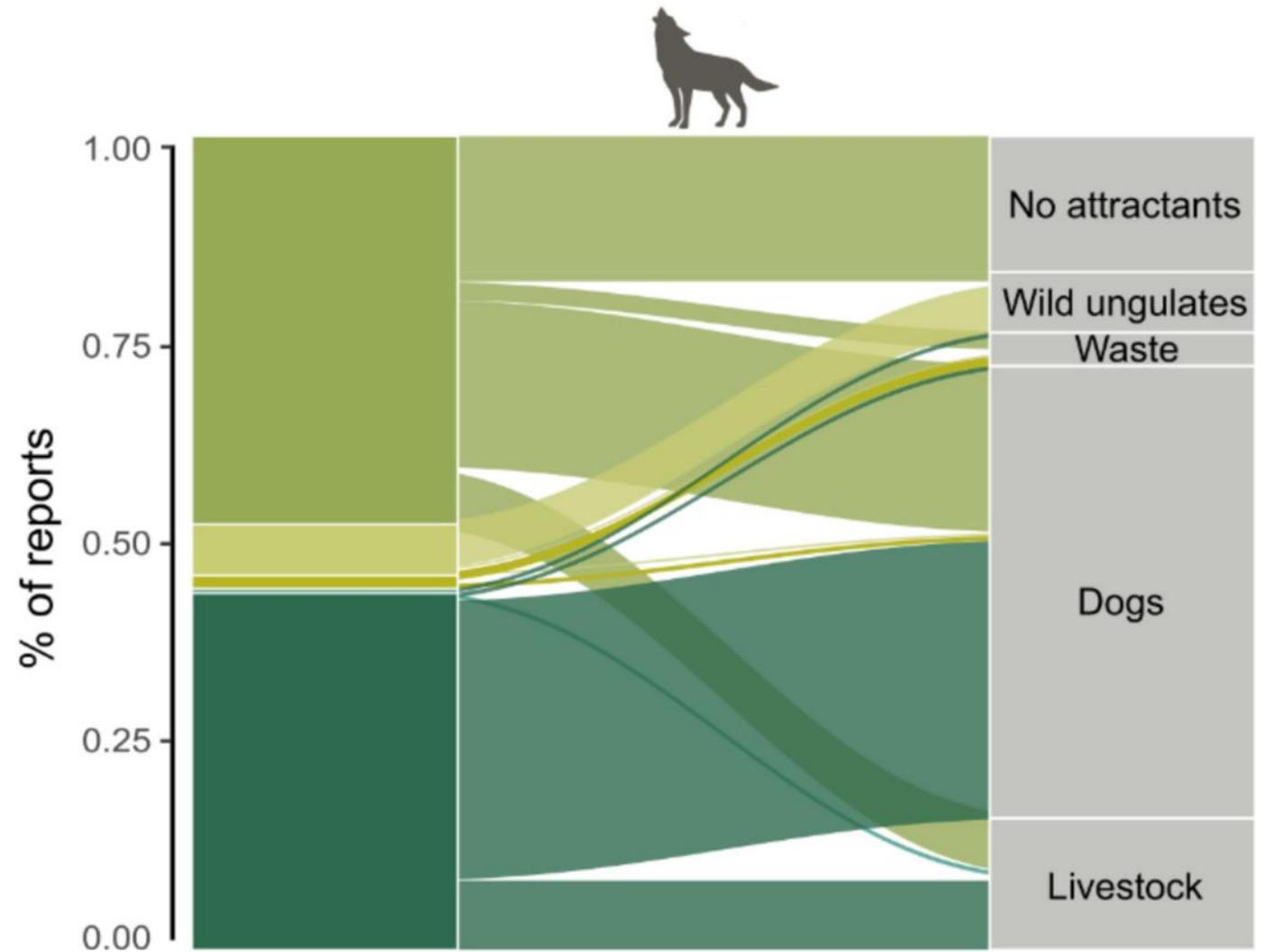
Other wolf problems

Wolves approaching humans and settlements



Other wolf problems

Killing dogs



Public attitudes towards wolves

- Strict protection >20 years
- 32% for, 47 % against protection
- 55% for wolf hunting



Gosling, E., Bojarska, K., Gula, R., & Kuehn, R. (2019). Recent arrivals or established tenants? History of wolf presence influences attitudes toward the carnivore. Wildlife Society Bulletin, 43(4), 639-650.

Illegal killing of wolves

Conflict with hunters

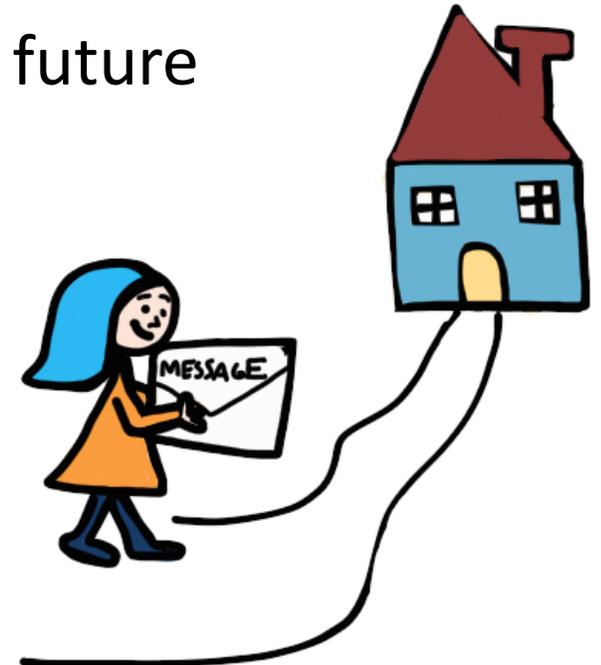
147 – 1134 wolves per year
shot illegally!



Photo: Katarzyna Bojarska

Nowak, S., Żmihorski, M., Figura, M., Stachyra, P., & Mysłajek, R. W. (2021). The illegal shooting and snaring of legally protected wolves in Poland. Biological Conservation, 264, 109367.

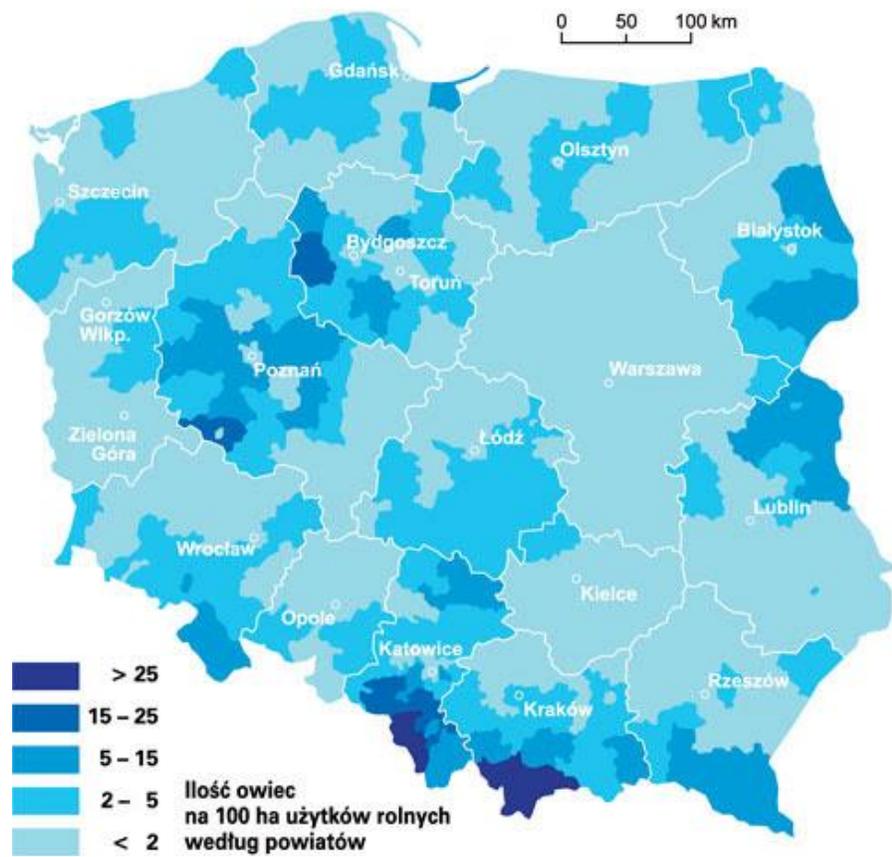
- Wolves in Poland cause relatively little trouble to livestock breeders
- Abundant wild prey is the main key to success
- Preventive measures and the compensation system are working
- Ongoing wolf recovery may change the situation in the future



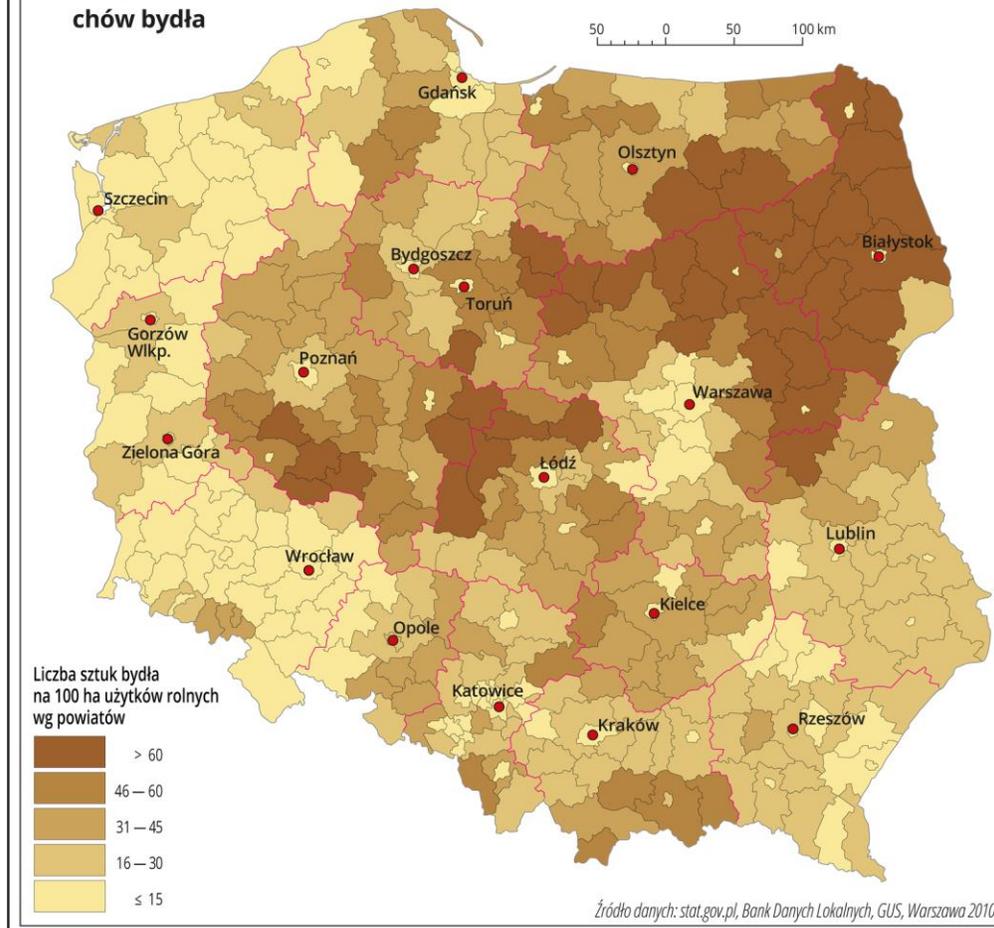
Thank you!



HODOWLA OWIEC w Polsce



POLSKA chów bydła



Źródło danych: stat.gov.pl, Bank Danych Lokalnych, GUS, Warszawa 2010