Why harmonization of large carnivores’ monitoring in the Carpathian region is needed?

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Organisation/ Institution:
WWF DCP/Romania
Why monitoring?

Wildlife populations are dynamic and change over time in terms of:

- Geographical range/distribution
- Dynamics
- Density
- Behavior
- Etc.
Why monitoring?

Monitoring:

- Helps and lays the foundations for decision-making
- Helps evaluate the effectiveness of management actions
- Helps the improvement/adaptation of management measures
- Provides feedback loop for learning about the system
Types of monitoring

- **Targeted monitoring** keeps track of the condition and response to management of species and habitats that are identified as being of concern or interest.

- **Cause-and-effect monitoring** investigates the mechanisms that underlie habitat and species response to management and other forms of disturbance. This type of monitoring is conducted using a rigorous statistical sampling framework, testing a priori hypotheses.

- **Context monitoring**, which is broader in scope, addresses a wide array of ecosystem components at multiple scales without specific reference to influences of ongoing management.

(Holthausen et al. (2005))
Case study: *Canis aureus* (Linnaeus, 1758), Golden jackal

Golden Jackals (*Canis aureus*) are advancing across Europe. From its traditional range in the southeast of the continent, the species is undergoing a remarkable northward and westward range expansion, the drivers of which are not yet fully understood. Increasingly, jackals are turning up in places without historic records of the species. It is surprising, therefore, that the golden jackal remains something of a neglected species from the perspectives of conservation research, policy and law—certainly when compared with the larger carnivores. Considerable confusion has arisen among experts and decision makers across Europe, and the species has become the subject of several misconceptions.

This complex and intriguing state of affairs is the focus of a new study, conducted at the crossroads of biology and law.

Published in the journal *Biodiversity and Conservation*.

**Remarkable range expansion**

Besides addressing various legal issues, the new study reviews the development of the golden jackal's range expansion. It provides an up-to-date overview of the species' current European range, based on prior studies and incorporating many recent records (see distribution map). Jackals have already been spotted as far as Switzerland, Germany, Poland, northern Ukraine, Belarus and even the Baltic states.

The golden jackal is not an (invasive) alien species.
Golden Jackal population size in Romania
2006 - 2018

Year | No. of golden jackals
--- | ---
2006 | 1871
2007 | 2360
2008 | 1989
2009 | 2835
2010 | 3628
2011 | 4083
2012 | 5392
2013 | 6431
2014 | 7587
2015 | 8510
2016 | 10368
2017 | 12506
2018 | 14273
Golden Jackal Population Size
Romania

Official statistics, Ministry of Waters and Forests, 2018

Legend
Jackal densities counties [42]
- 0 - 0 [3]
- 1 - 50 [8]
- 51 - 100 [8]
- 101 - 200 [3]
- 201 - 500 [10]
- 501 - 1000 [7]
- 1001 - 2000 [2]
- 2001 - 3000 [1]
National level monitoring - Issues

- Huge discrepancies between the estimates regarding jackals from neighboring counties.

- Annual growing rate: the highest difference is between 2008 (with a growth rate of -16%) and 2009 (with a growth rate of 42.5%) of 58.5%.

- The average annual growth of the jackal population in Romania between 2006-2018 is 19.3%.
Local example of standardised monitoring

- Monitoring of golden jackals in the lower Danube Delta Biosphere Reserve, in Crisan-Caraorman area
- 2012 – 2015 – 2018
- BAM
- Camera trapping
- Interviews with locals, authorities
Dynamics of the golden jackal groups in Crisan-Caraorman area, DDBR

- 2012: 11 groups
- 2015: 5 groups
- 2018: 10 groups
Results

Every 3 years monitoring in Crisan-Caraorman area:

- 2012: 11 jackal groups → 2.2 territorial groups/10 km²
- 2015: 5 jackal groups → 1 territorial group/ 10 km²
- 2018: 10 jackal groups → 1.6 groups/ 10 km²
Results (2018)

- Response rate: 76% (13 out of 17 stations)
- Crisan village – Old Danube area (2018): 22-23 groups → 2.7-2.8 territorial groups/10 km².
- The highest local density: 7 territorial groups/10 km² (aprox. 2.1 individuals/km²)
Standardized monitoring – some principles

- **What to monitor?** – setting conservation targets for monitoring (species or ecosystems, qualitative vs. quantitative)

- **How to monitor?** – designing monitoring programmes (same methods applied in a harmonized way, protocols)

- **When to monitor?** – selecting the same (adequate) periods

- **Data management and analysis** – storing and managing field data

- **Practical considerations** – sufficient and adequate trained staff, feasible time frame, workplan, adequate budget

- **Communication and dissemination** of results
What Harmonised LC monitoring should mean?

TBD…:

- We need to agree on principles, minimum vs. optimum standards

- We need collective action, from local → national → Carpathian level

- We need to share efforts, knowledge, resources, etc.

We basically need:

- Agreements at all levels
- Harmonised Carpathian Action Plan/ Strategy, including a Monitoring Plan
- Funding

→ LC Population level management
Thank you very much!

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