Studying the Red Kite mortality by collision with wind turbines in Belgium.

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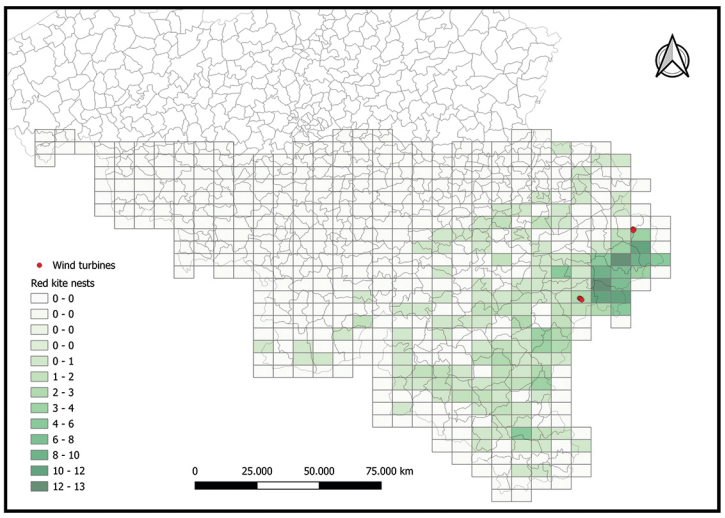
INTRODUCTION

The Red Kite (*Milvus milvus*) is the largest bird of prey regularly breeding in Belgium. The Belgian population represents a source for neighboring countries populations and the species expansion to the North. One of the concerns regarding the Red Kite is the controversial wind farms environment, as this bird is known for being sensitive to collisions.

The MILANEOL project (a collaboration between University of Liège, the consultancy CSD Ingénieurs and the NGO Natagora) wants to approach the topic broadly through three different parts:

1. Measure mortality via a systematic search for carcasses on the sites of two wind farms in Wallonia (Belgium).
2. Infer the viability of the population based on mortality data and various growth scenarios in a statistical framework.
3. From an ethics standpoint, study what an acceptable mortality is to justify a good conservation status.



Red Kite nest density in Wallonia (Belgium) - *De Broyer et al.* 2019

Search transect and 100m radius search zone around a wind turbine

Red kite lure for searcher efficiency tests

METHODS

Search for carcasses (since March 2023)
- 2 wind farms prospected 1x per week
- Prospection on foot or with drone if necessary
- Search zone of 100m radius
- Searcher efficiency tests on a regularly basis
- Carcass persistency tests

Forecasting statistical model
- Data collection (mortality, population density, nest productivity, ...)
- Various population and wind farms growth scenarios

Ethical investigation
- Interviews with actors in the field
- Compilation of the main ideas

PRELIMINARY RESULTS

Our preliminary results suggest that collisions with wind turbines have little impact on the Belgian population of Red Kite. Regarding the carcass search, the only entire carcasses found were a common buzzard (*Buteo buteo*) and a carrion crow (*Corvus corone*). A red kite (*Milvus milvus*) wing and a common buzzard wing were also found.

Buteo buteo

Milvus milvus

Corvus corone

Buteo buteo

METHODOLOGY CHALLENGES

- The red kite wing was found 250m from the wind turbine - **search radius efficiency?**
- For the statistical model, there is a need to assess the population carrying capacity - **reasonable assessment method?**
- The drone search method has several drawbacks and the on feet method gives better results - **improvements?**