

Which habitat types do Peregrine Falcons select for hunting during the breeding season?

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Introduction

In Eastern Canada, the province of Quebec is currently promoting the development of its potential for wind energy generation, which should reach 4000 MW by 2015. Peregrine Falcons (*Falco peregrinus*) are particularly sensitive to the presence of wind turbines, because the species is susceptible of flying at an altitude propitious for blade-strike mortality. In order to evaluate the potential risk of the expansion of wind power facilities on this bird of prey species in Quebec, it is essential to define its habitat use during the breeding season.

Objective

The main objective of our study is to determine which habitat types are used by female Peregrine Falcons (*F. p. anatum*) during the breeding season across different distances from the nest.

Scientific hypothesis

Peregrine habitat selection within a home range depends on the period (incubation, rearing, first month after fledging of young falcons), the distance from the nest and the type of habitat.

Methods



Plate 1. Study area.



Telemetry study

- From 2008 to 2010;
- 12 adult females;
- One location per hour with MTI 30g PTT-100.



Home range estimation

- 3 periods : incubation, rearing, first month after fledging of young falcons;
- 95 % fixed kernel density estimates.



Habitat selection

- 5 habitat types : urban areas, wetlands, corn and soy fields, other farmlands, other habitats (all habitat types not in other categories);
- Mixed models and logistic regressions for separate samples of used and unused units;
- 7 models tested with model-selection approach (AICc).

Results

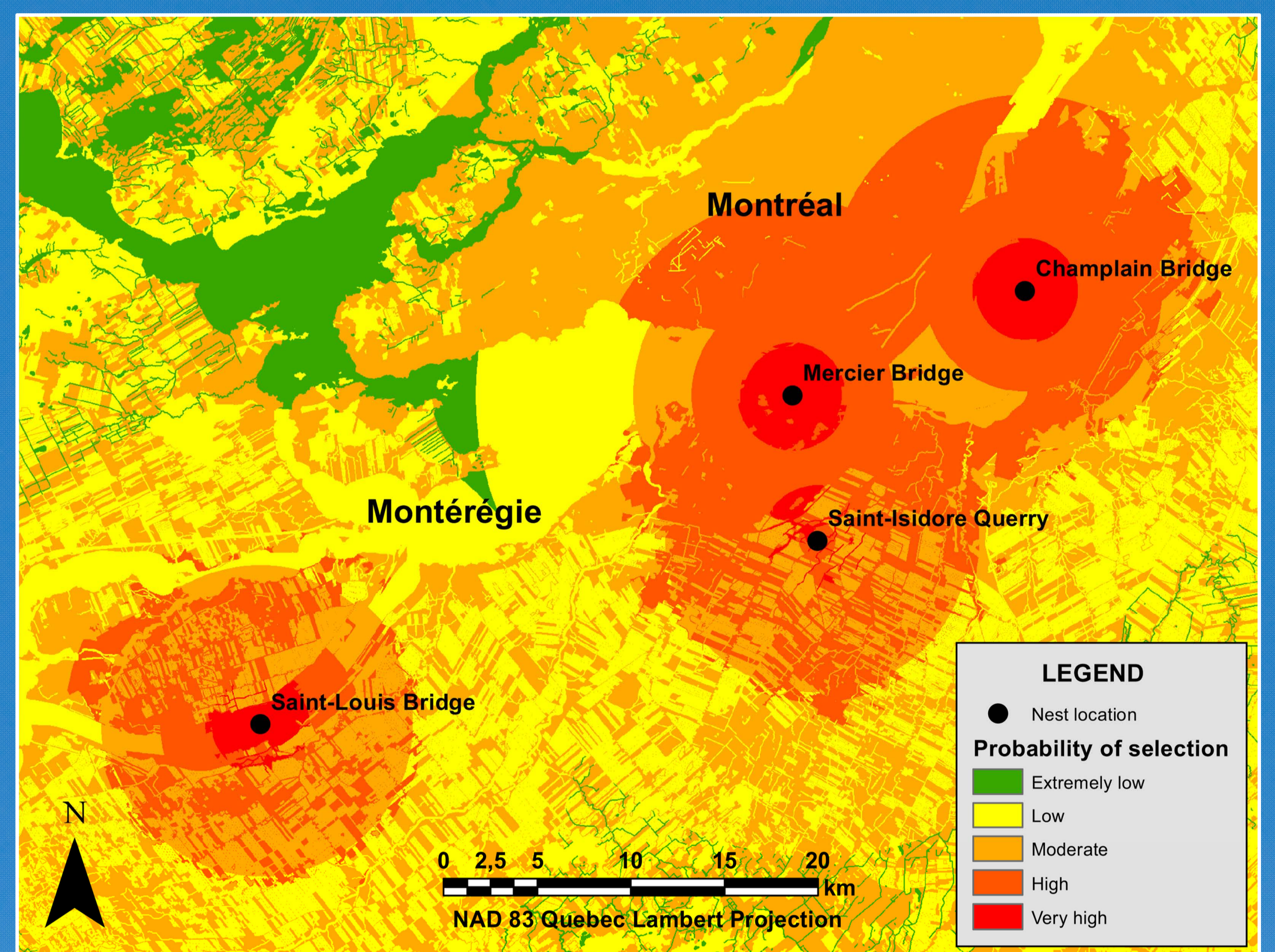
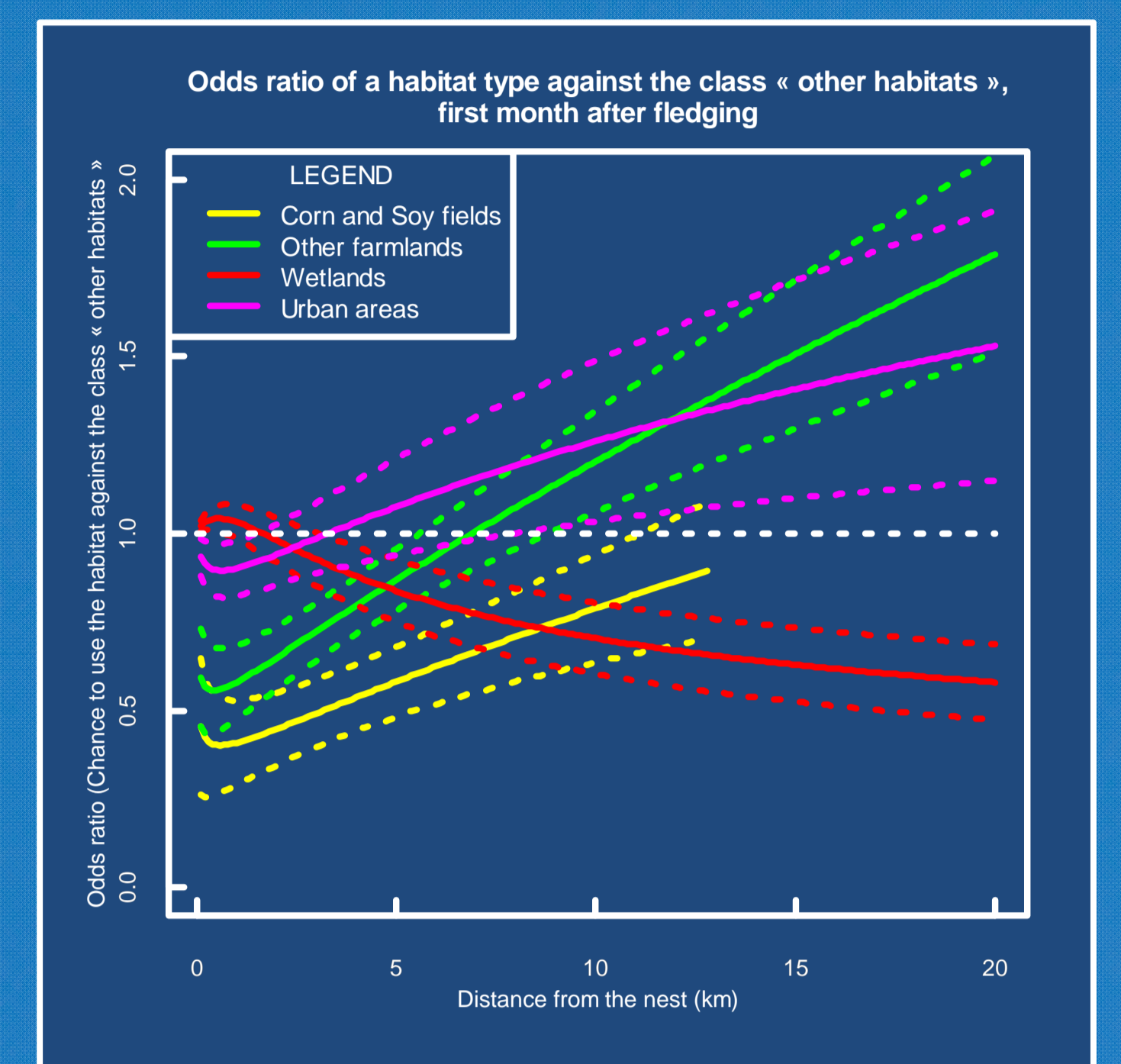
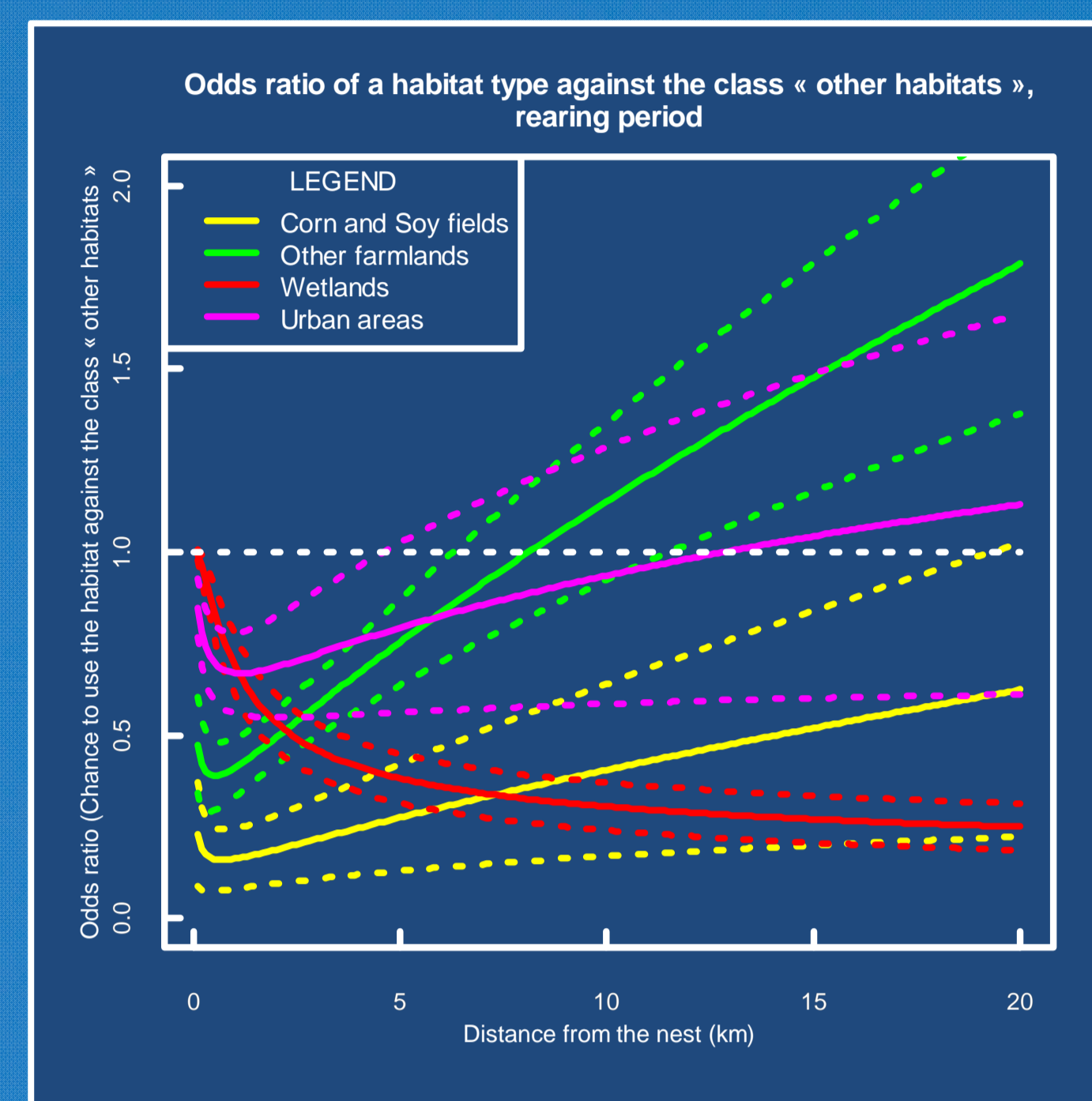


Plate 2. Probability of selection map for nesting adult females, first month after fledging of young falcons.

Conclusion

Within a home range, habitat selection depends on the period, the distance from the nest and the habitat type.

- Female Peregrines go hunting farther, from the incubation period to the first month after fledging of youngs;
- Corn and soy fields are used less than « other farmlands » and « other habitats » types after incubation;
- Wetlands are generally used less than the « other habitats » type after incubation;
- > 11 km from the nest location, « other farmlands » type is used more than other habitats after incubation.

Management implications

For management purposes, the distance from the nest and the habitat type are the most important variables to consider.

- For a female Peregrine, the probability to select a patch of habitat can be considered very high to high up to 5 km from the nest, no matter what the habitat type;
- The probability to select a patch of habitat may be high, even farther than 5 km from the nest, if a high quality patch of habitat is available.