# Influence of landscape configuration on wind facility frequentation by Golden eagles - A case study

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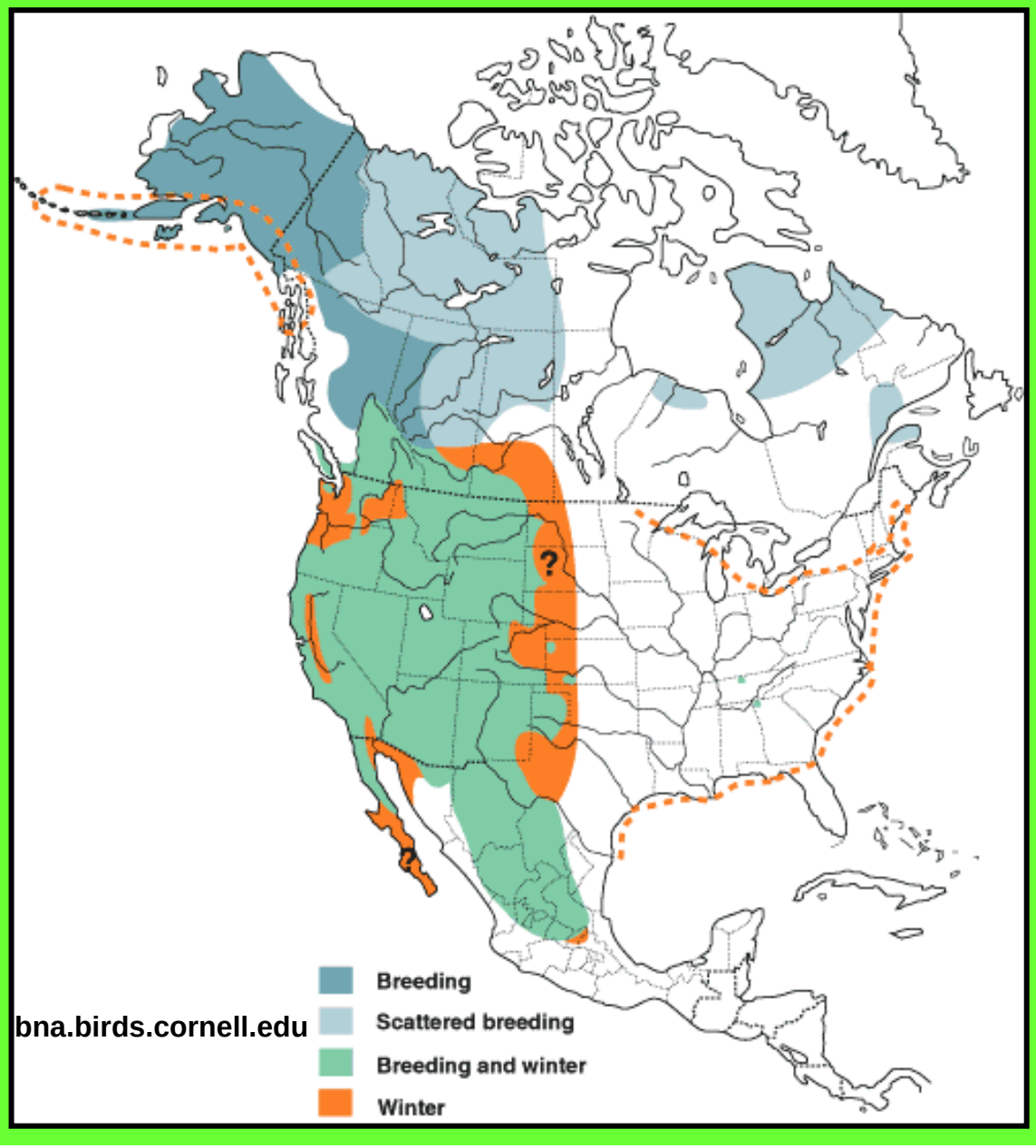
# GOLDEN EAGLE BREEDING DISTRIBUTION




**Relatively rare in the northeast**

**Mostly in Quebec**

# Vulnerable birds of prey
# Nesting site distribution in Quebec


**Blue**

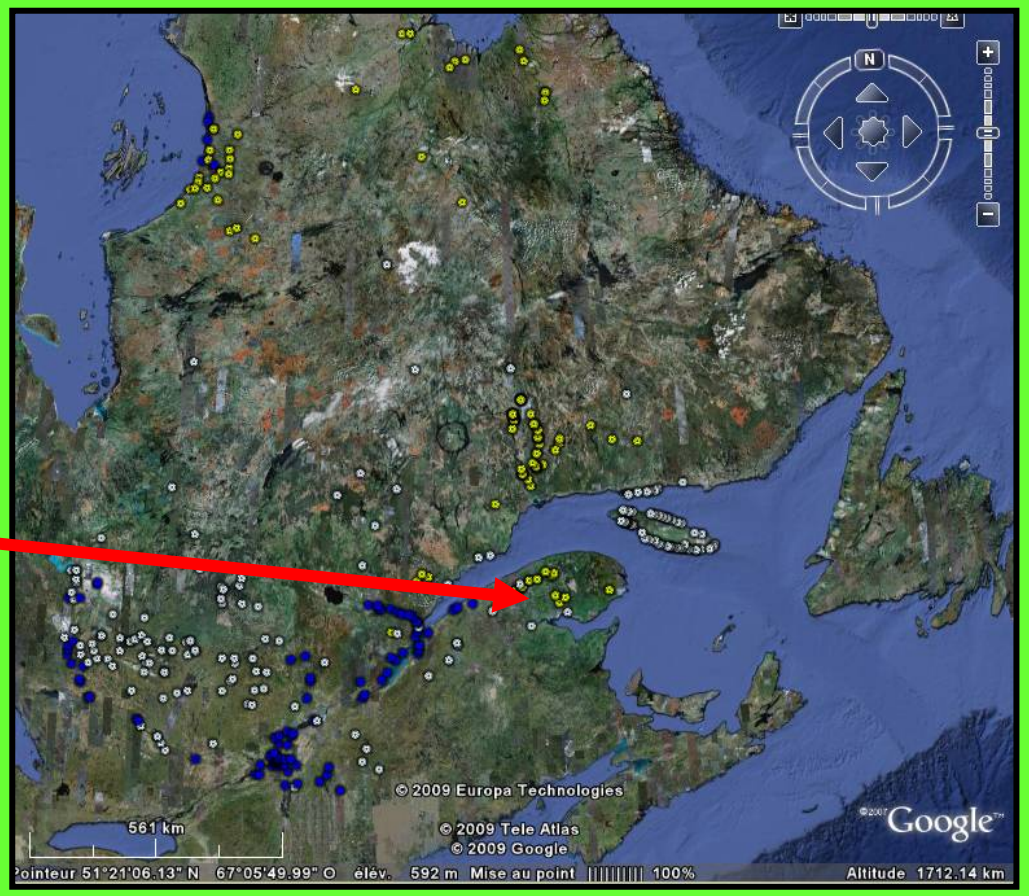
**White**

**Yellow**

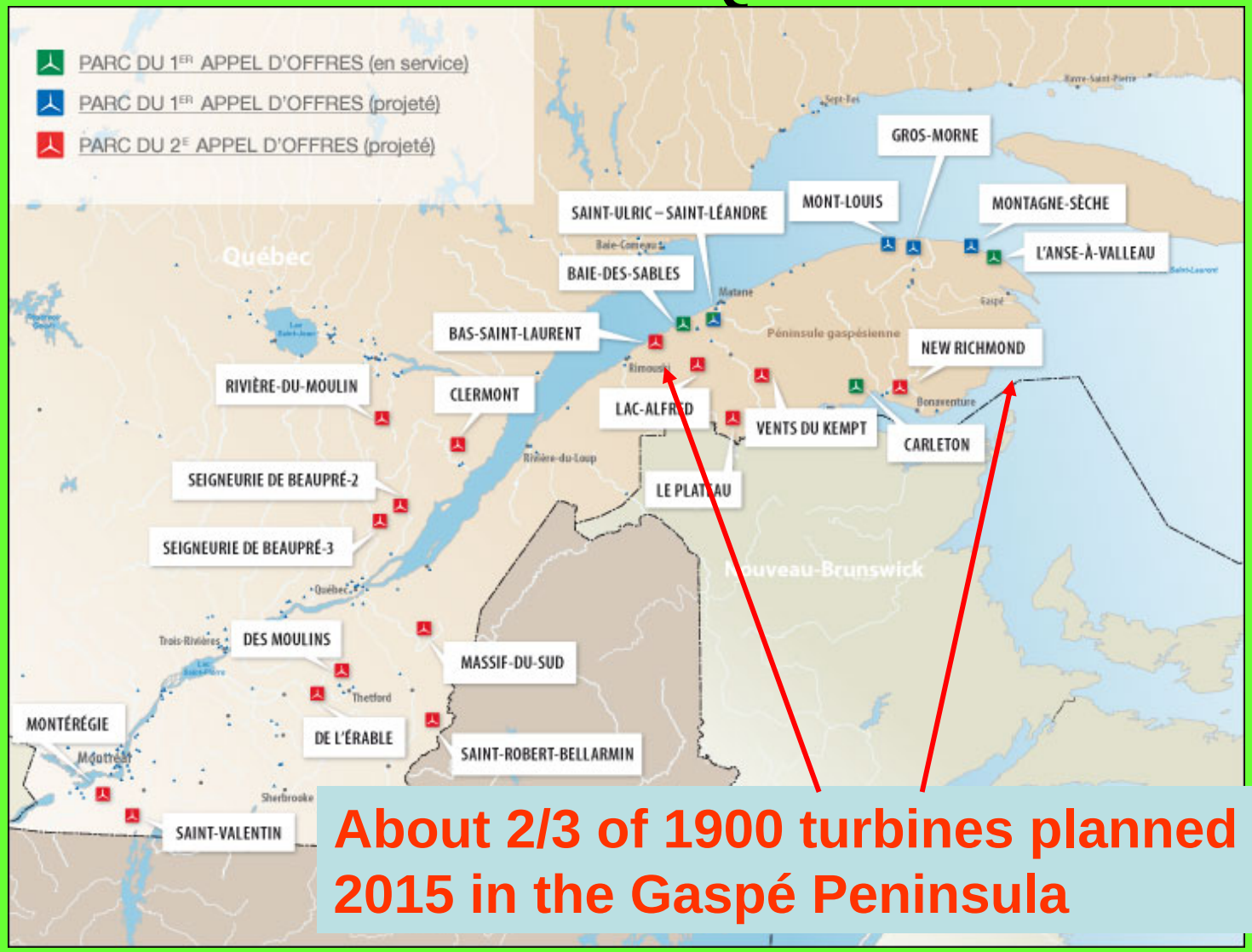
# Status of Golden eagle in Quebec

**82 known nesting sites in Quebec**

**10 in the Gaspe Peninsula**



# Existing and projected wind facilities in Quebec



# Objective: reduce collision risk near nesting sites

**Methods**

- **Satellite telemetry**
- **Home range delineation**
- **Determine possible overlap with wind facility**
- **Identification of mitigation measures**

**•Priority : nests < 20 km of wind facilities**

# Captured with bow nets

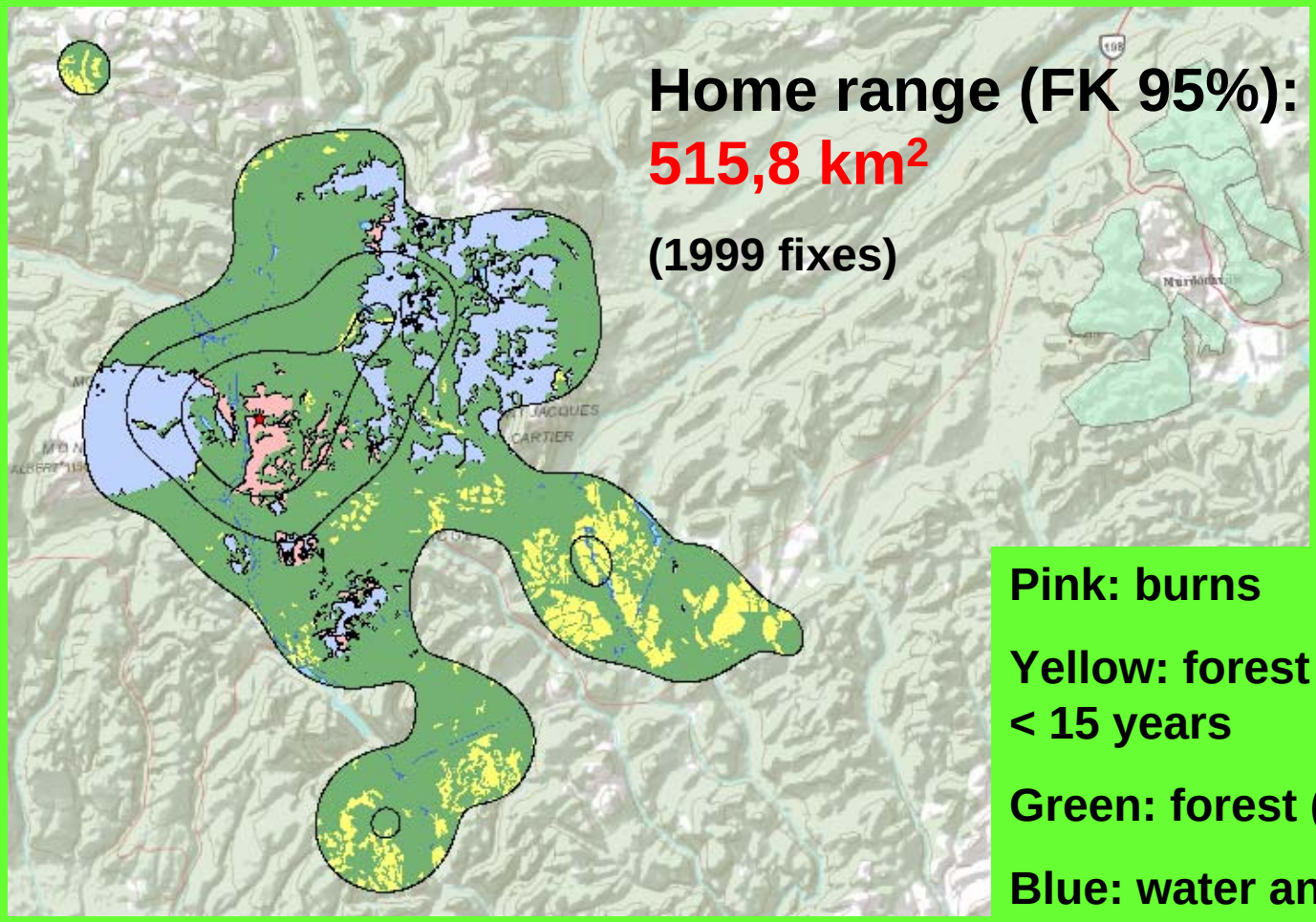
**Baited with**

**•live crows (nesting season)**

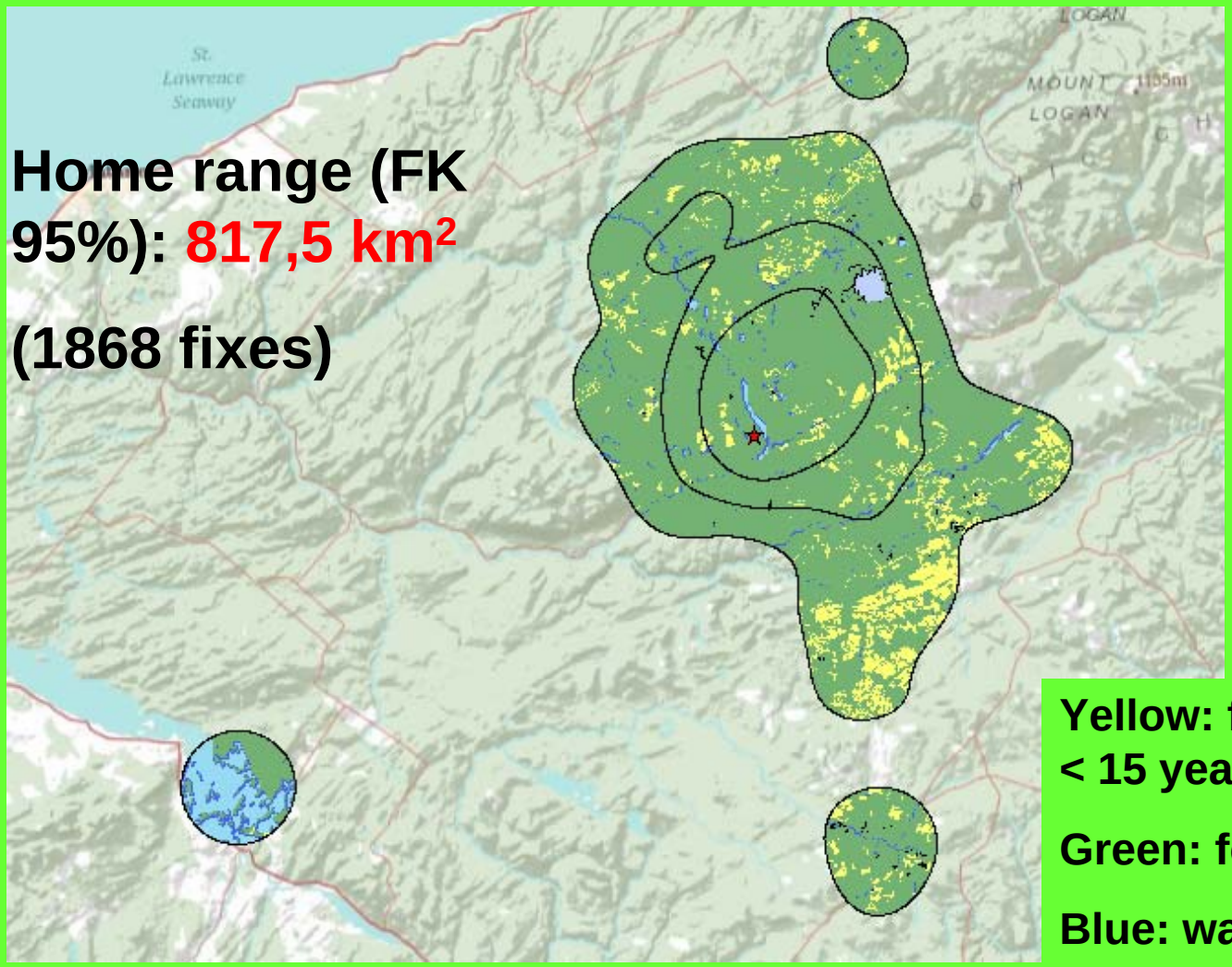
**•deer carcasses (fall)**

# Case studies in the Gaspe Peninsula

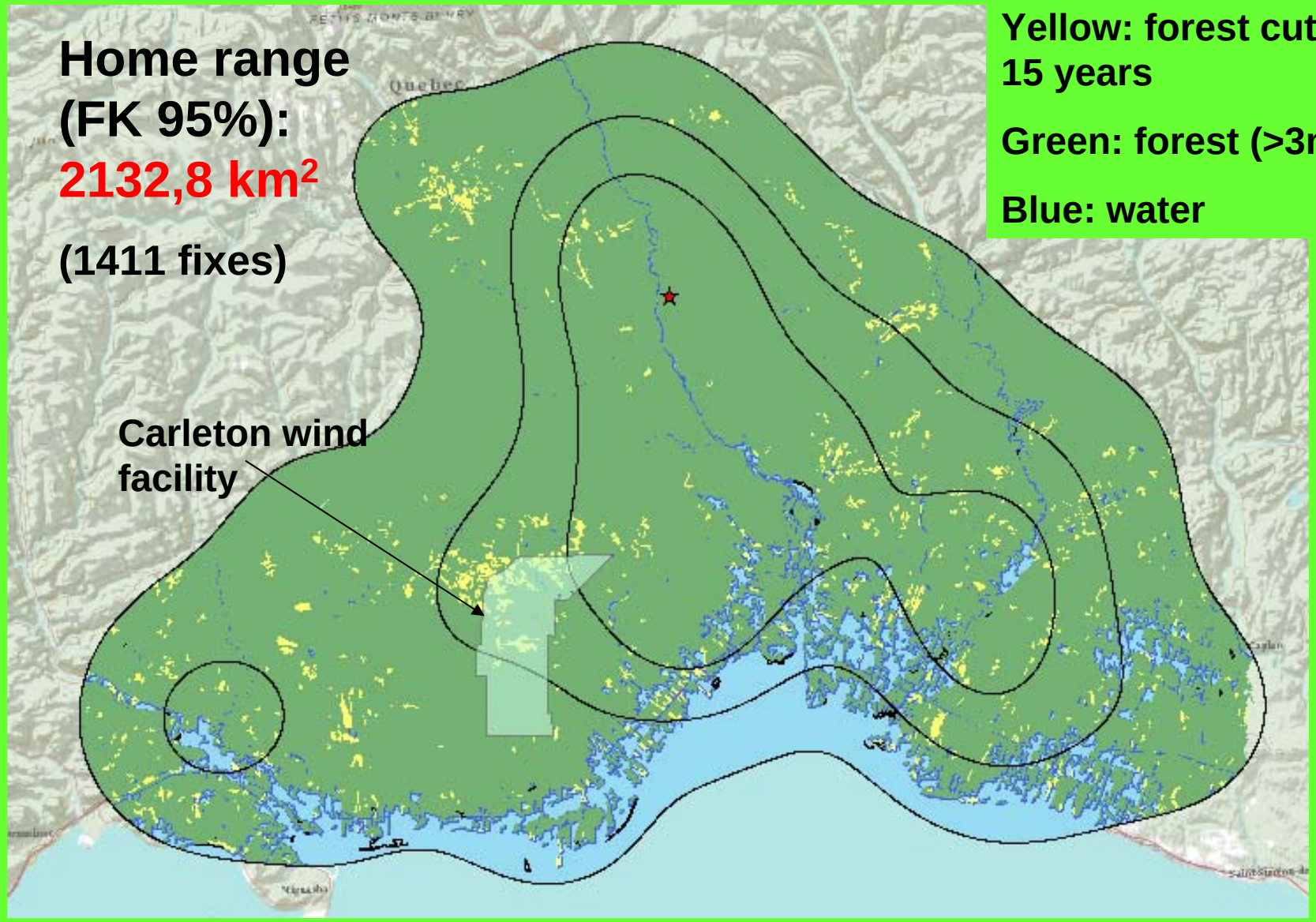
# GOEA mount Ernest Laforce



# GOEA Lac Matane



# GOEA Mount Pico



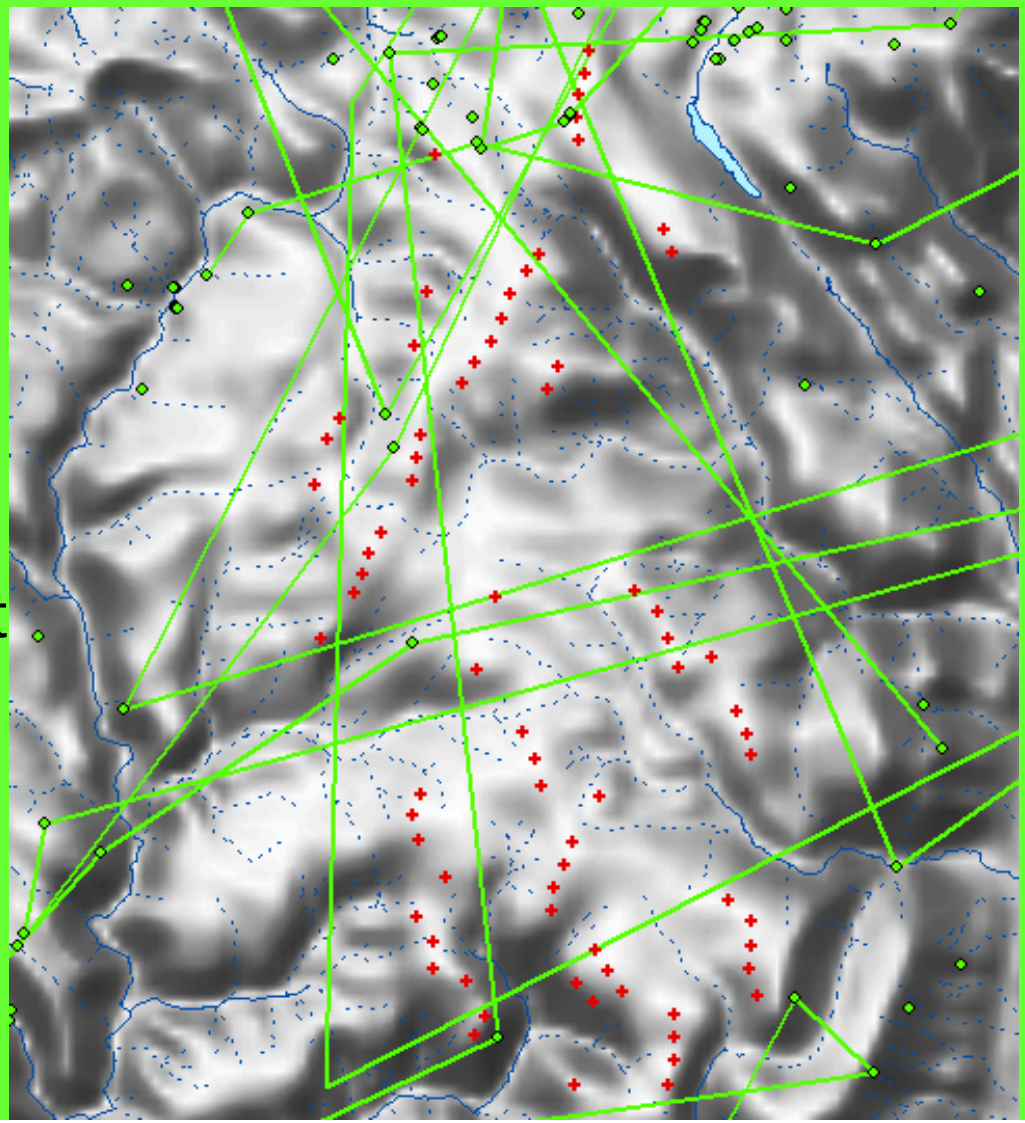
# Movements recorded within wind facility

One location/hour =

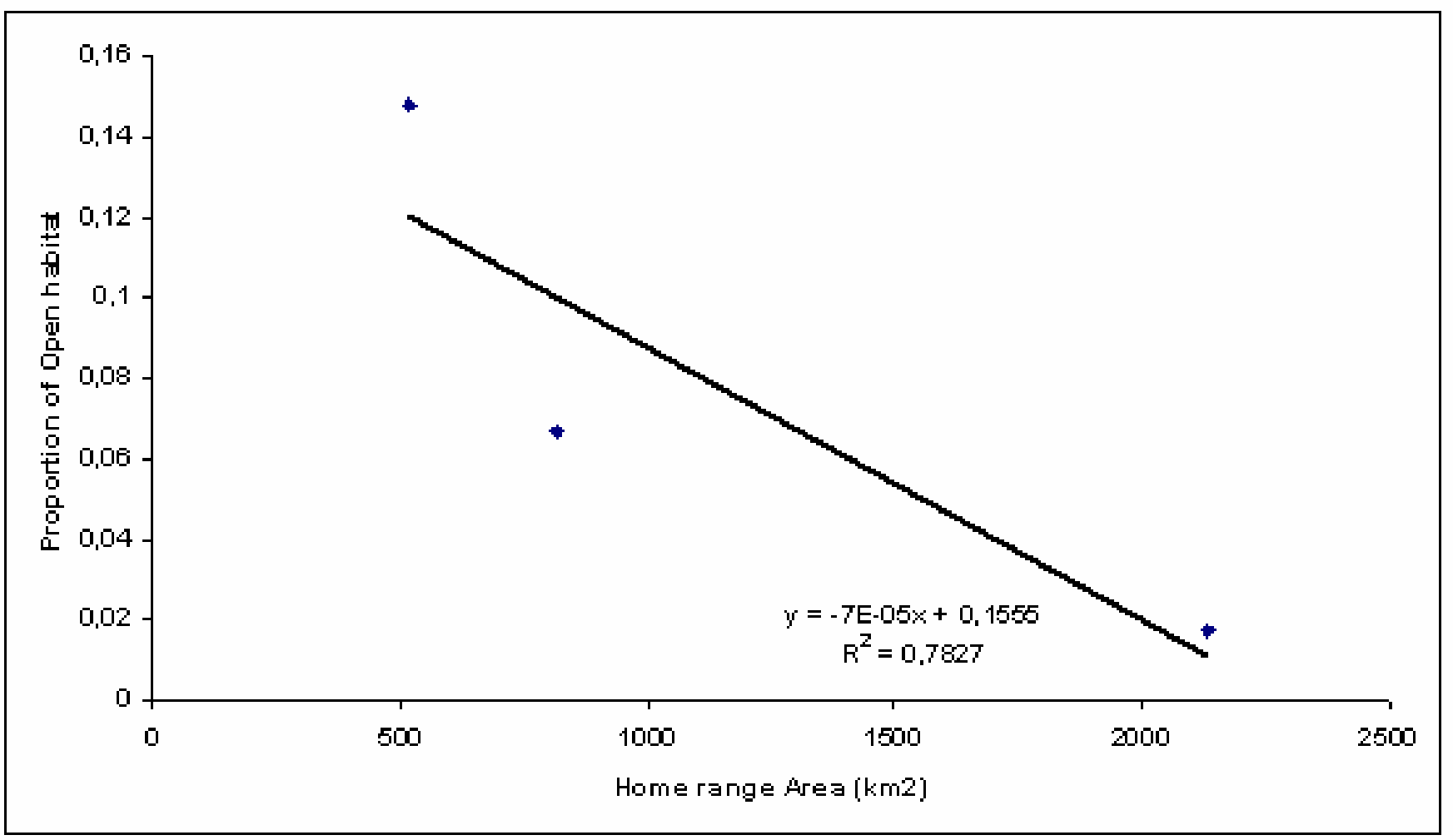
presumed movements

12 hours on the ground in same area

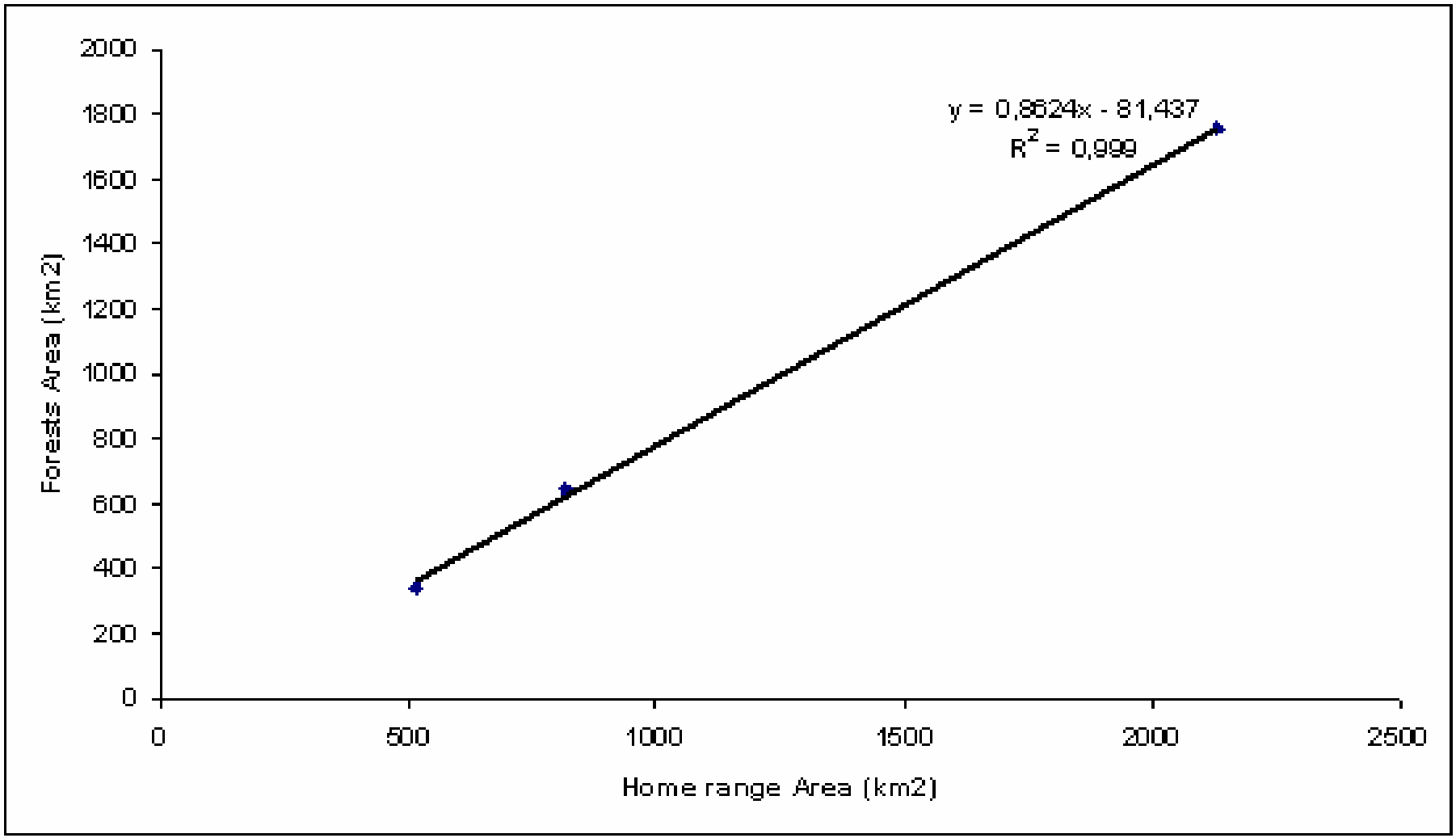
Corresponds to carcass persistence tests carried out within the facility limits



# Proportion of open habitat vs home range size



# Forest area vs home range size



# Preliminary conclusions

- Eagles nesting in areas with high availability of nearby open habitats
  - have smaller home ranges
  - are less prone to using open habitats surrounding wind farms

# Preliminary conclusions

- Eagles nesting in areas with low availability of nearby open habitats
  - Have greater home ranges
  - May be attracted to openings created near wind facilities which offer increased hunting areas
  - Have greater risk of collision with turbines

# Conclusion

- Efforts must be made to avoid location of wind facilities near GOEA nesting sites
- When it can not be avoided
  - Reduce creation of openings to a minimum
  - Be aware of possible effects of carcass persistence tests

Powdermill Nature Reserve

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*Education*
*Preservation*

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