

Movements, habitat choice and breeding success of Marsh Harrier, *Circus aeruginosus* in fragmented landscapes: a new research project

Anny Anselin¹, Henk Castelijns² & Luc De Bruyn³



¹ & ³ Research Institute for Nature and Forest (INBO)
Kliniekstraat 25 B-1070 Brussel Belgium

Werkroep Roofvogels Zeeland

² c/o Marolleenoord 10 4553 CP Philippipe,
The Netherlands



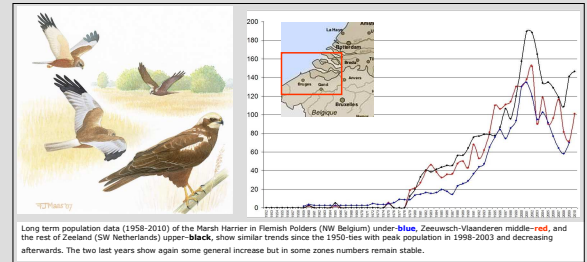
anny.anselin@inbo.be

Why this study?

- In the polder region of **SW Netherlands, Belgium** and **NW France**, Marsh Harriers breed in a variety of rather small and often fragmented marshland habitats. Locally the species started to shift to intensive farmland as a nesting habitat.
- During the last decade breeding numbers or/and breeding succes have declined in some areas.
- Yearly an important number of "young birds" winter in the area. Their origin is unknown.

What do we want to know?

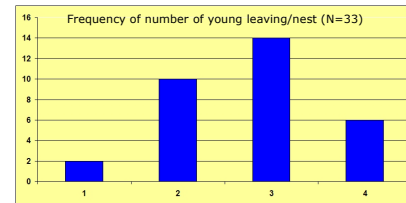
- Are there differences in breeding success between marshland and farmland?
- Does breeding succes depend on habitatsize, type or fragmentation level, or other factors?
- Is there interchange between the "populations"?
- Does adults/offspring show fidelity to the habitat type?
- Are local birds wintering in the area?



2011 is a pilot year for this long-term project that aims to combine research by professional ornithologists and additional monitoring by volunteer birdwatchers and ringers. We produced various manuals, trained ringers in tagging and enlarged the observer network. We work together with NGO's as Natuarpunt, Natuurwerkgroep De Kerkuil, SOVON, Groupe Ornithologique du Nord, the Belgian and Dutch Ringing Services and the Centre d'Etudes Biologiques de Chizé /CNRS (France). The main aim of this poster is to present the project. At this stage, we only show some preliminary results.

Breeding succes/number of young

We tried to obtain data on **at least** the number of **young leaving/nest** for as many possible Marsh Harrier territories in the region.
For a number of nests we were able to collect data on **clutch size** and/or number of **pulli**.
Preliminary results for 53 nests show that 33 were successful and 20 failed.
Mean number of young leaving the nest for successful nests= **2,6**, on the total of nests= **1,6**.



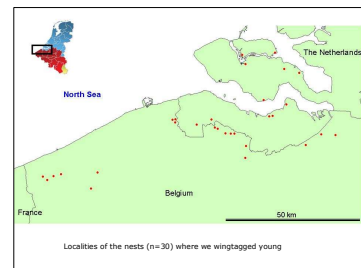
Nesting habitat, site habitat and landscape

We took detailed measurements at the **nest level** (see picture):
Surrounding vegetation in 50cm : **hight, density, old/new reed, herbs, or crops in classes**
Hight of the nest+ hight above water (in reed)
Depth of water under the nest (in reed)
General features of vegetation at the **breeding locality** are collected by combining detailed areal maps and fieldwork, following a standard method used by SOVON for a nationwide Marsh Harrier habitat inventory.
General **landscape features and fragmentation** level are analysed using areal maps and various other digital layers (crops, linear features, roadnet)

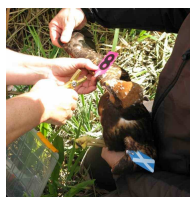


Interchange, site and habitat fidelity and wintering dispersal

Between 20.06 and 05.08.2011 we ringed and marked 89 young birds with **wingtags** in 32 different sites (see map and table)
Each bird received two wingtags with a unique combination of colours, codes and wingside
Wingtag combinations were provided by the Centre d'Etude Biologiques/CNRS at Chizé, France, where international Harrier wingtag projects are coordinated.
For each bird we collected biometrical data on winglength, claw lengt and weight.
Winglength allows us to determine the moment from which tagging is possible: >240 mm
Claw length (from day 19 on) allows sexing of the young



Henk Castelijns training ringers in Zeeland



Tagging a young



Ready to disperse: three almost full grown young

Nesthabitat	N nests	N tagged young
Reedbed	22	59
Crop/grassland	9	26
Saltmarsh	1	4
Total	32	89 (50 M/39 F)