

HENHARRIER

Optimum scenarios for Hen Harrier conservation in Ireland

PROJECT TEAM

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BACKGROUND

Hen Harriers can be adequately provided for within Irish Special Protection Areas (SPAs) only when detailed data on their habitat requirements are available. A greater understanding of foraging behaviour and success of Hen Harriers will enable the investigation of the importance of within-habitat variation in determining the value of land to foraging Hen Harriers. This project specifically addresses the issue of land use designation and habitat preferences of the Hen Harrier. Although a species of great conservation concern, previous research in Ireland has focussed almost exclusively on population size. This project is the first large scale study of Hen Harrier breeding ecology and habitat requirements.

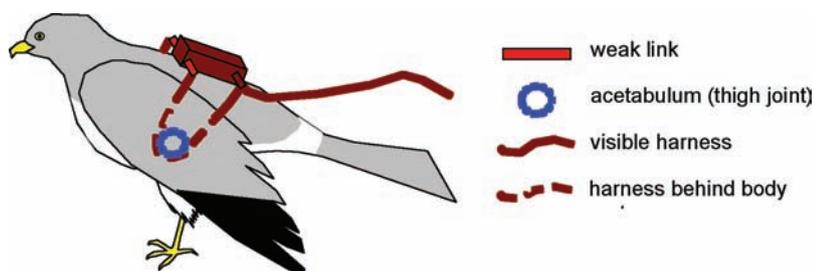
OBJECTIVES

- Increase knowledge of Hen Harrier ecology and foraging behaviour.
- Determine the value to Hen Harriers of the main habitats in the SPAs.
- Improve understanding of Hen Harrier habitat requirements at the landscape level, and revise recommendations accordingly, incorporating these into an Indicative Strategy for Hen Harrier management in the SPAs.
- Compile a GIS database of land use and habitat types within the SPAs, to function both as a tool for decision-making by SPA managers and stake-holders, and as a source of data for researchers.

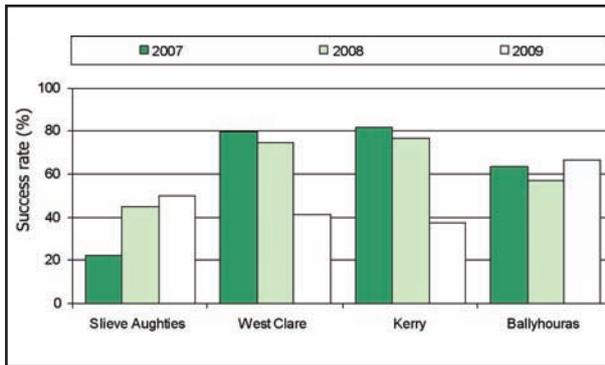
PROGRESS

The current reporting period included the third field season on breeding biology of Irish Hen Harriers. The four study areas selected at the outset of the project were the focus of fieldwork by researchers who gathered detailed information on the 49 nests found within these areas this year. Nest cameras were deployed at a number of nests to gather detailed data on breeding biology and information on parental behaviour during the nesting stage. Control nests, which were unvisited for the duration of the field season, were used for the first time this year in all study areas. Significant efforts were made to track adult Hen Harriers using GPS tags this year, but ultimately were unsuccessful as we were unable to capture adult birds during the current field season. Significant advances were, however, made in modifying existing technology and developing new ideas to enable the use of modern GPS tags with adult Hen Harriers in the Irish landscape, which will be used in future breeding seasons. A harness attachment system, tailor designed for hen harriers has

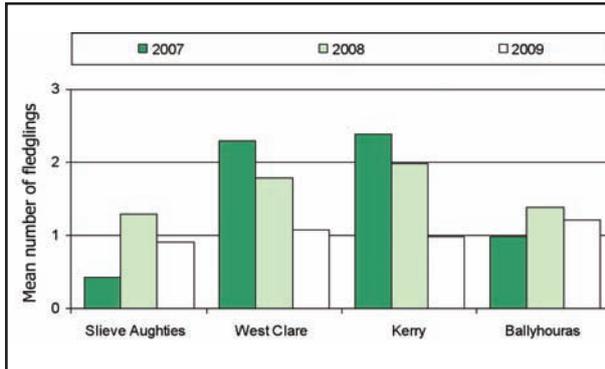
been developed. This system incorporates a weak link designed to break after the desired time has elapsed, allowing the harness to slide off the birds leg and drop to the ground with the tag attached, thus permitting efficient data retrieval from tags. Detailed analysis has been conducted on habitat preferences and breeding success of hen harriers collected to date. The most common nesting habitat was second rotation



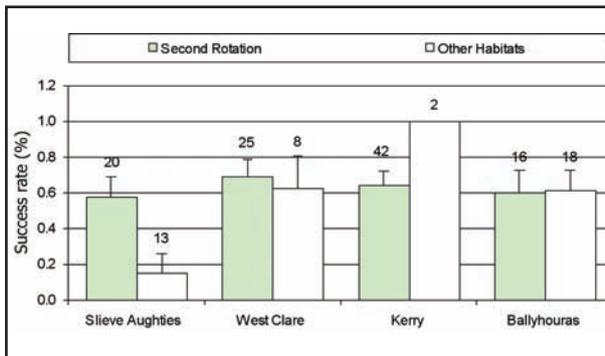
Leg-loop harness designed at UCC to attach GPS tag to Hen Harrier.



Percent of Hen Harrier nests that produced fully fledged in each of the study areas.



Mean number of fully fledged young from all nests in each of the study areas.



Success rates of nests (mean) located in second rotation pre-thicket forests and all other habitat types in each of the study areas. Values over each bar indicate the sample size.

pre-thicket forest, followed by heath and bog. The probability of nests fledging successfully was found to differ between nests located in second rotation forest, and those located in any other habitat. No effect of habitat composition in the landscape within 2 km of nests was seen on the numbers of chicks fledged from successful nests, but, interestingly, cover of second rotation forest was negatively related to nest success.

ACTIVITIES PLANNED

- Finalise trials of GPS tracking device and prepare for GPS tracking of adults during the 2010 breeding season.
- Data collected so far on harness attachment and subsequent recapture in the field using VHF technology will be prepared as a manuscript.

- Locate and track nests during the fourth breeding season of the project and continue juvenile wing-tagging programme.
- Trap and tag adult Hen Harriers using GPS tags.

OUTPUTS

Irwin, S. 2009. Technology supports ecological investigations of Hen Harrier habitat use. *Science Spin* 36: 17-18.

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In May 2009, *Living the Wildlife* featured a piece on Hen Harrier Research in Ireland. Filming for RTE's EcoEye series was undertaken during the 2009 breeding season and will be aired in April 2010. The programme focuses on the breeding ecology of Hen Harrier in afforested landscapes in Ireland.