

Introduction

Until approximately 6000 years ago, native oak (*Quercus* spp) elm (*Ulmus* spp) and alder (*Alnus glutinosa*) forests covered much of the Irish landscape. Following systematic exploitation from the Neolithic to the present, forest cover has declined dramatically. Forests now account for 10% of Ireland's land cover, of which almost 75% is coniferous forest plantation.

The PLANFORBIO research programme, a collaboration between three Irish Universities, seeks to address several gaps in our knowledge concerning forest biodiversity in Ireland.

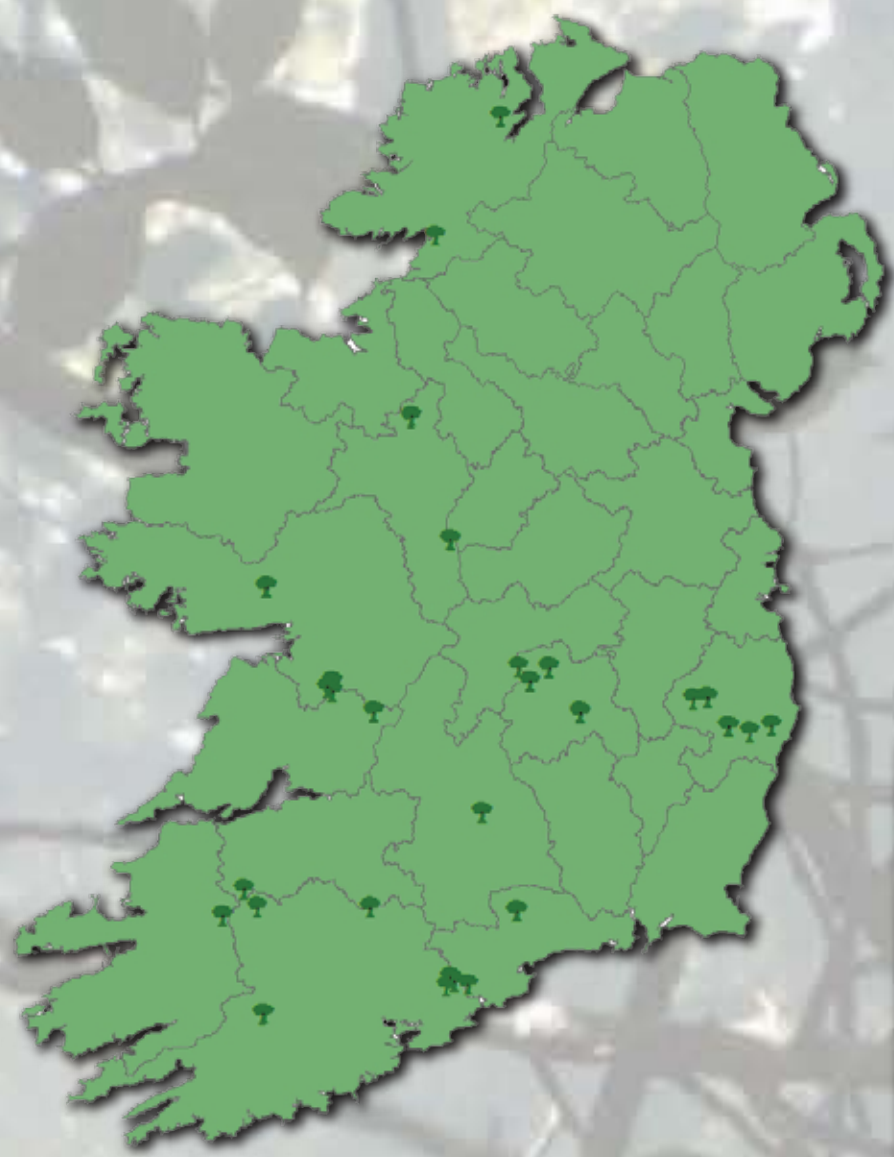
Such gaps include the contribution of the various growth stages of plantation forests to bird diversity and abundance and the habitat characteristics that are driving the differences.

Furthermore, It has been demonstrated that various landscape features such as isolation, spatial arrangement of forest patches, tree cover, matrix quality and level of human occupation can influence bird populations on larger scales.

Ireland is interesting due to the lack of a specialist bird fauna on the island, and we hope that studies of this nature could help shed some light on why the observed patterns exist and, importantly, to assess the potential of successful re-introductions of lost species.

The PLANFORBIO programme also aims to inform future management of Ireland's woodlands to maximise their contribution to biodiversity.

Objectives



2007 Study Sites



- To compare avian diversity and abundance of plantation woodlands with that of native woodlands.
- To compare the bird communities of first and second rotation plantation forest.
- To identify indicator species that are associated with a particular forest growth phase or with areas of particularly high species richness.
- To investigate the effect of seasons on the bird diversity and abundance in Irish forests.
- To investigate landscape scale influences on avian diversity and abundance.
- To investigate the effect of tree species mixes on bird diversity and abundance.

Methods

A range of different aged plantation forests - pre-thicket, thicket, mid rotation and mature - and two native forest types - *Quercus-Fraxinus-Ilex* and *Quercus-Betula-Ilex* - were identified according to geographic location and species composition.

30 forests were surveyed in 2007 in summer and winter, and 30 more will be surveyed in 2008.

Bird communities are surveyed using standard fixed radius point counts of 100m, lasting for 10 minutes.

Data concerning vegetation characteristics at each point are collected prior to beginning the count.

These data will be analysed using multivariate techniques to elucidate differences in bird communities.



Expected Outcomes

An estimate of population density of bird species (including indicator species) utilising the different growth stages of plantation forests.

A landscape scale study investigating the influence of landscape characteristics on bird abundance and diversity.

A measure of the importance of vegetation structure to birds using woodlands.

Management recommendations for future planting regimes to benefit bird diversity.



This project is funded by COFORD under the National Development Plan 2007-2013