

NFI

Introduction

National Forest Inventory Conference
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Foreword

The National Forest Inventory (NFI) is the first statistical sample survey of all forests in the state.

Objective

To assess the current extent, state and composition of Ireland's forest resource in a timely, accurate & reproducible manner.

Primary Output

Provide results at a national level, with reliability estimates based on the 95% confidence interval.



1. NFI v's Stand Level Inventory

Satisfy different needs:

NFI is used to provide information about the national forest estate.

- International reporting

Stand level inventory provides information at a more local (e.g. sub-compartment).

- Management prescriptions/planning



NFI v's Stand Level Inventory



2. Historical Inventory Detail

1939 General survey of woodlands

1942-1944 Timber stock (not published)

1945-1948 Continuous survey of state forests – 38,000ha

1958-1959 Census of woodlands – 55,225 ha, 12 staff, 1.5 years

1968 Inventory of state woodlands – 99,762 ha, 25 staff, 2.75 years

1973 Census of private woodlands – 81,963 ha, 15 staff, 3.5 years

1976-1978 Forest and Wildlife Service forest inventory

1986 FWS forest inventory update

1989 Coillte maintain GIS based inventory

2001 Forest estate had grown to **650,000 ha**



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3. Why undertake the NFI?

- Growing for the Future 1996
- International information needs e.g. FRA.

Objectives

- National forest estate area;
- Volume (including deadwood);
- Carbon reporting;
- Species composition;
- Forest biodiversity;
- Health and vitality.



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4. NFI Timeline

| | |
|-----------|--|
| 2001/2002 | Research into sampling design. |
| 2003 | Cost E43 and ENFIN. Pilot project in Co. Wexford. Hardware and software purchase. Change from DCMNR to DAF. |
| 2004 | NFI methodology and schedule. Recruitment, training, consolidation. Field data collection start in Dec 2004. |
| 2005/2006 | Field data collection finish in Nov 2006. |
| 2007 | Data processing and analysis. Interpretation and reporting of results. |



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5. NFI sampling design

Considerations

- Budget
- Timeline
- Sampling intensity (volume $\pm 5\%$)
- Total forest area

Cost E43 and ENFIN.

IFER



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6. IFER

Hardware

Software

Field-Map Tool designed for computer aided field data collection

- NFI database preparation
- Background maps
- Plot generation
- Field data collection
- Data analysis
- Results generation



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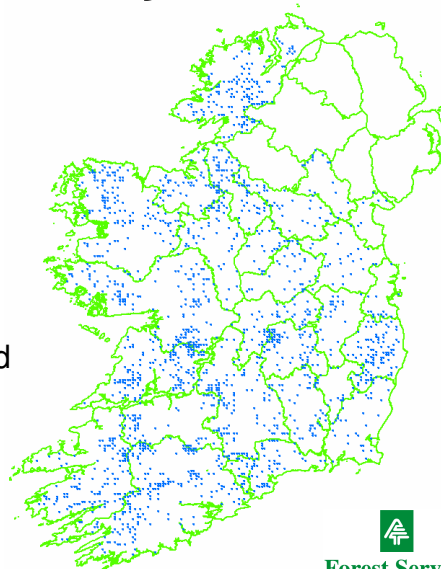
7. Pilot study

Objectives

- Sampling intensity
- Scheduling/costing
- Access

Result

2 km x 2km randomised systematic grid.



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8. Personnel

Field teams

- Oct 2004
- Professional foresters
- Training
- Staff turnover

Project co-ordinator

Project leader



9. Field data collection

Three teams of two

County basis

Methodology

Calibration

Field visits by project management staff



10. Data analysis

Forest Service (IFER)

Preliminary results template

Public consultation

Final reporting tasks established

Interpretation



11. Reporting of results

General

- **Final Reports** (Nov 2007)
NFI methodology
NFI results
Proceedings of the NFI conference
- **Website** (www.agriculture.gov.ie/nfi)

Specialised

- **Specific queries**
International reporting
Research



12. Data Request Procedure

- Dec 2007
- Paul Dunne, Johnstown Castle.
paul.dunne@agriculture.gov.ie
- Data release agreement



13. Outstanding Information Needs

CAI

- Forecasting
- Allowable cut

Irish single tree volume equations

- Comparison with FC



14. Comment

First statistical inventory of the entire forest estate

Accomplished all that was intended

Completed on time

Facilitate reporting needs



Acknowledgements

- Land owners
- IFER
- NFI personnel
- NFI advisory committee
- Document production and editorial groups
- Forest Service district inspectors
- Forest Service administrative support
- NFI management board

