

Field Survey for a versatile land cover mapping methodology combining remotely sensed data sources

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Research Outline:

To develop a land cover mapping approach which characterises the parameters typically used in boundary delineation, providing the user with a widely applicable flexible and detailed vegetation database.

Study Area:



Field Survey Design:

Requirement:

An intensive set of detailed point measurements

→ Extensive research into field survey design

Factors considered include:

- Measurement techniques
- Point Sample Design
- Logistics
- Digital Field Data Capture

Measurement Parameters:

Top Cover

Soil pH

Management
Practices

Vegetation
Heights

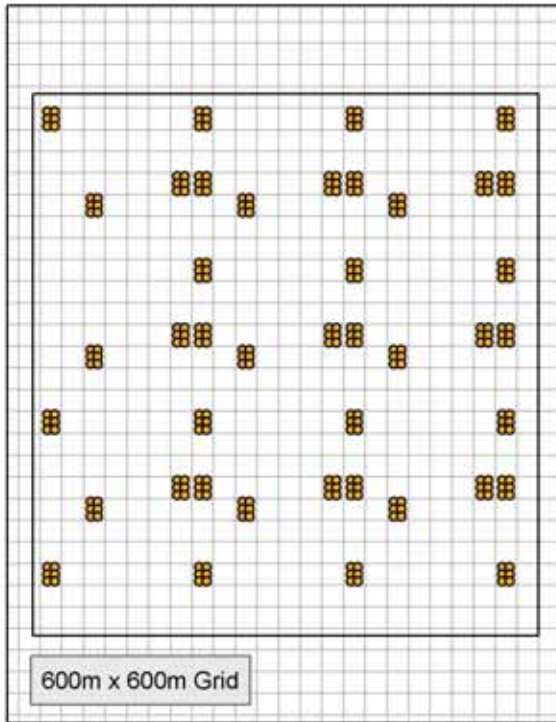
- Classification scheme definitions
- User Consultation

Density

Site
Description

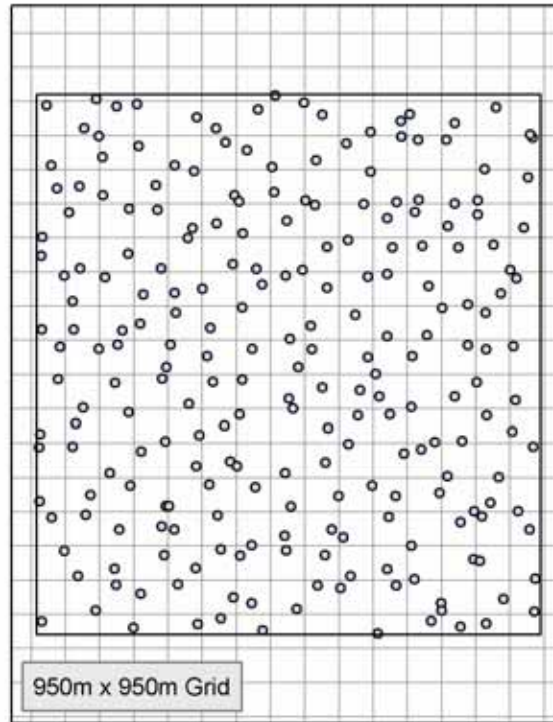
Species
Composition
(Target Species)

Sample Design:



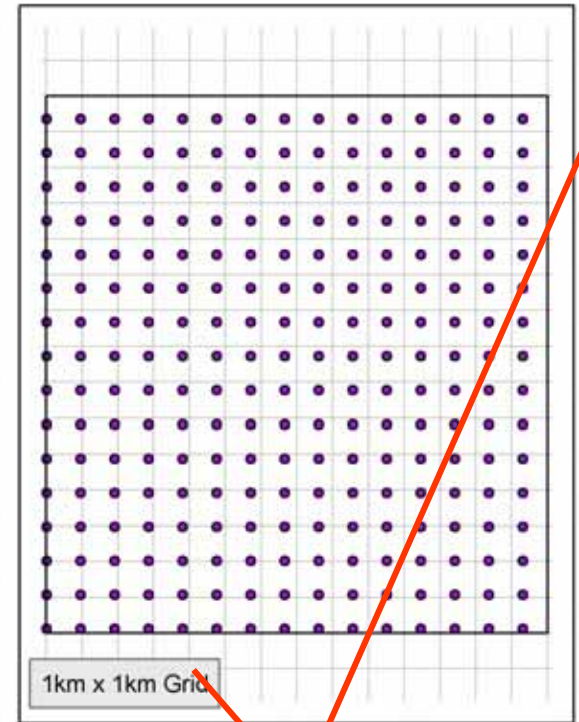
CLUSTERED DESIGN

SAMPLE POINTS: 252



SYSTEMATIC RANDOM DESIGN

SAMPLE POINTS: 234



SYSTEMATIC GRID

SAMPLE POINTS: 240

- Logistically viable
- Statistically valid
- Appropriate for later analysis

Logistics:

- Automatic organisation of fieldwork days
- Six sample points can be surveyed each day
- Fieldwork groupings are based on:

Access Permissions



Land Cover



Terrain



Access Routes

Development of a field data capture application

The screenshot shows a software interface for field data collection. It consists of three main windows:

- Field Data Collection Application**: The main window with a button labeled "FIELD DATA COLLECTION".
- Question**: A dialog box asking "Is the sample point developed?" with "YES" and "NO" buttons.
- Sample Point Information**: A dialog box for entering data, including:
 - Sample ID: A text box containing the number "7".
 - GPS Filename: An empty text box.
 - GPS Point ID: An empty text box.
 - pH: A dropdown menu.
 - Buttons for "Site Description", "Photo's", "Soil Moisture", and "Scattered Trees".

- Trimble GeoXT – Windows CE
- Steps through data collection
- Ensure consistent, complete records
- Eliminate paper based field notes
- Eliminate time consuming data entry



Project Status and Future Work:

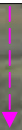
Pilot Ground Survey 2003



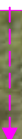
Methodology Review



Full Ground Survey - July/August 2004



Collation of Field Data



Field Data Analysis



Integration of Field Data and Remote Sensing Data