

ENVISIONING WOODLAND EXPANSION IN SCOTLAND

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RATIONALE

THE SCOTTISH GOVERNMENT HAS AN ASPIRATION TO PLANT 100,000 HA OF NEW WOODLAND BY 2022

MANY CHALLENGES STAND IN THE WAY OF ACHIEVING THIS ASPIRATION

FURTHER RESEARCH IS REQUIRED TO :

- IDENTIFY SYNERGIES & TRADE-OFFS BETWEEN ECOSYSTEM SERVICES (ES) GENERATED BY NEW WOODLAND
- BETTER UNDERSTAND THE IMPACT OF LAND OWNER DECISIONS ON ES GENERATED BY WOODLAND AND LIKELIHOOD OF ACHIEVING THE ASPIRATION
- ASSESS THE IMPACT OF GOVERNANCE ON ES DERIVED FROM WOODLAND

RESEARCH PLAN

AGENT-BASED MODELLING (ABM) IN CONJUNCTION WITH ECOSYSTEM SERVICE (ES) MODELLING

DEFINE AGENT TYPES AND LIKELY BEHAVIOURS USING SURVEY DATA
(e.g. Forestry Commission, Private Forestry, NGO, Estate, Farmer, Community)

DEFINE CURRENT ES PROVISION USING ES MODELS
(e.g. Carbon, Timber, Biodiversity, Water Quality, Flood control, Recreation)

DEFINE PLAUSIBLE VISIONS FOR WOODLAND EXPANSION

USE ABM TO MODEL POTENTIAL IMPACT OF CONTRASTING VISIONS FOR WOODLAND EXPANSION ON THE FUTURE PROVISION OF ES

COLLABORATION

LOOKING TO WORK WITH STAKEHOLDERS IN TWO REGIONS :

HIGHLAND

LOCH LOMOND & TROSSACHS

IN ORDER TO DETERMINE :

1. AGENT TYPES & BEHAVIOUR
2. VISIONS FOR THE FUTURE

AGENT-BASED MODELLING

TRADITIONAL SCENARIO MODELLING ASSUMES THAT BEHAVIOUR IS HOMOGENEOUS AND ECONOMICALLY RATIONAL ACROSS SPACE AND TIME

ABM TAKES ACCOUNT OF HETEROGENEOUS INDIVIDUAL BEHAVIOUR IN ORDER TO PRODUCE MORE REALISTIC SCENARIO RESULTS

POTENTIAL VISIONS

MULTIPLE BENEFITS

TIMBER SECURITY

WOODLAND CULTURE

REWILDING

DEFINING VISIONS

VISIONS = DESIRED FUTURES

CAN BE APPLIED TO DISCUSSIONS OF FUTURE LAND USE CHANGE

DEFINE PLAUSIBLE VISIONS BASED ON CURRENT POLICIES AND PLANS

HOLD STAKEHOLDER WORKSHOP TO ASSESS FEASIBILITY OF VISIONS

