The EFA calculator
A software tool to support farmers decisions on Ecological Focus Areas

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Background

Farming has a central role to play in the delivery of a number of desirable ecosystem services and the enhancement of biodiversity. However, despite the fact that that there has been significant emphasis placed on environment and biodiversity in policy over the years, it is generally accepted that there is still some way to go if the industry is to deliver what is expected of it in this regard. It is hoped that the introduction of **Ecological Focus Areas (EFAs)** on the farm will aid in delivering tangible environmental improvements, but this is to some extent dependent on the EFA elements a farmer selects, and their appropriateness to the local environment. Consequently, the **European Commission's Joint Research Centre (JRC)** funded and coordinated a project to develop a tool which will help farmers select EFA elements that can deliver the optimal environmental benefit. The project was carried out by the University of Hertfordshire in UK.

Ecological Focus Areas

EFAs are one of suite of measures that are being introduced as part of 'greening' of the European Common Agricultural Policy (CAP). Farmers will need to declare 5% of their farm area as an EFA as part of their Basic Payment Scheme application under the CAP. The exact choice of EFA elements (such as fallow land, hedges, trees, etc.) and their implementation rules will vary between European countries in order for each Member State to allow for specific regional priorities.

The Project

The aim of this project was to develop a software application for European farmers and advisory services. The software firstly helps farmers calculate the contribution of different EFA elements to their 5% target. Secondly, it takes into account the farms site specific characteristics and assesses the contribution of EFA elements to biodiversity and a range of ecosystem services. This will help ensure that the EFA elements selected by a farmer offer optimal benefits in terms of **ecosystem services and biodiversity** and are pragmatic in terms of **farm management**.

Impact matrix for fallow land

The EFA calculator is a standalone Windows application, with three core functions:

- To calculate the contribution of different farm features to meeting the 5% EFA target;
- To calculate the potential impact of different features on ecosystem services, biodiversity and management;
- To steer farmers towards features which offer the greatest potential benefits, with respect to minimising burdens and maximising benefits.
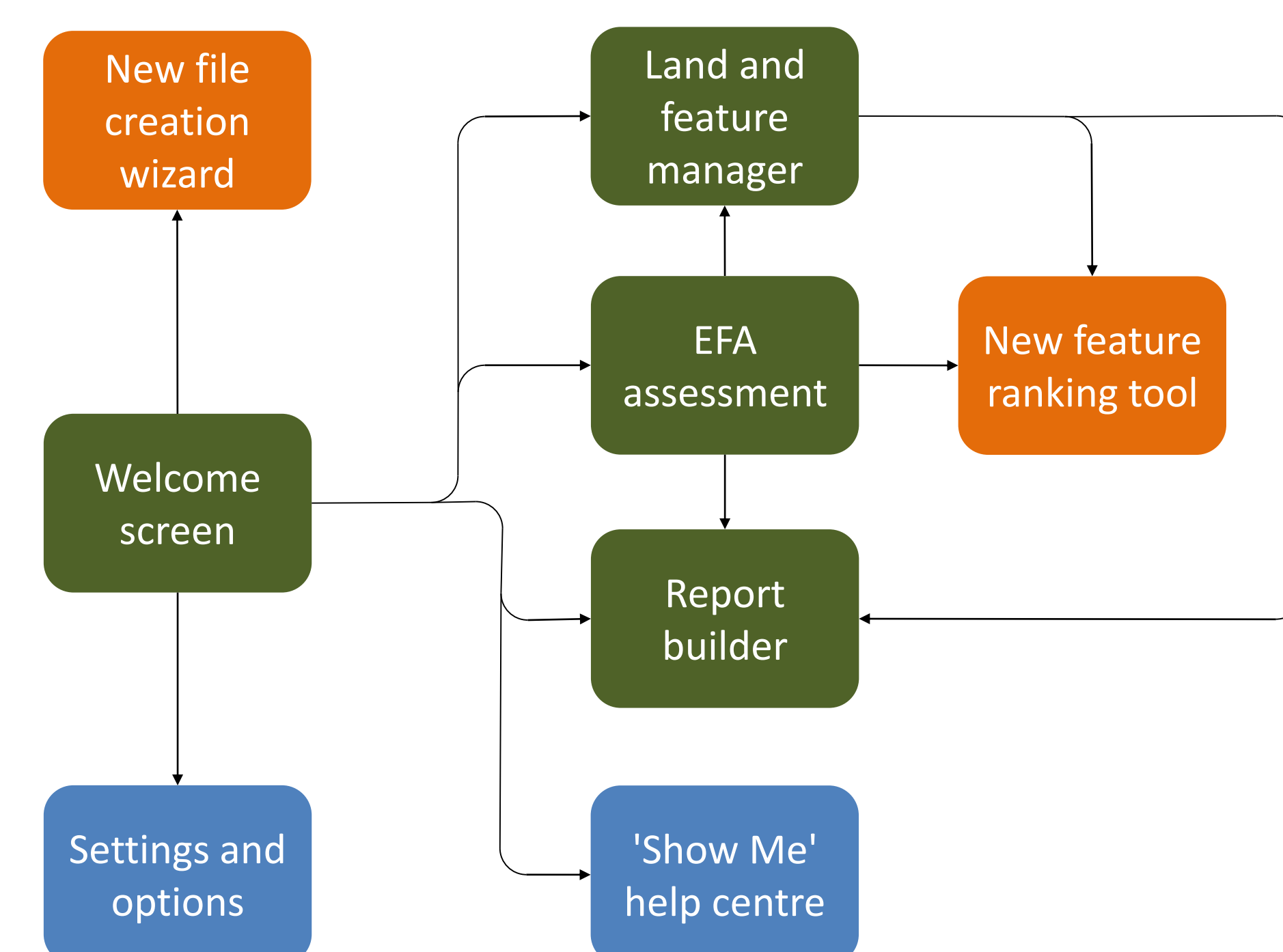
The structure of the EFA software interface

The impact assessment:

- Used a relatively simple scoring approach to capture a range of complex information;
- Examined the knowledge and identified the key parameters (and classes) that affect the potential impact of EFA features on ecosystem services, biodiversity & management (e.g. Soil texture: Coarse, Medium, Medium fine, Fine, Very fine; e.g. Hedgerow cutting season: Winter, Spring, Summer, Autumn);
- Impact scores have been derived for all combinations of parameter classes, for each feature, for each impact.
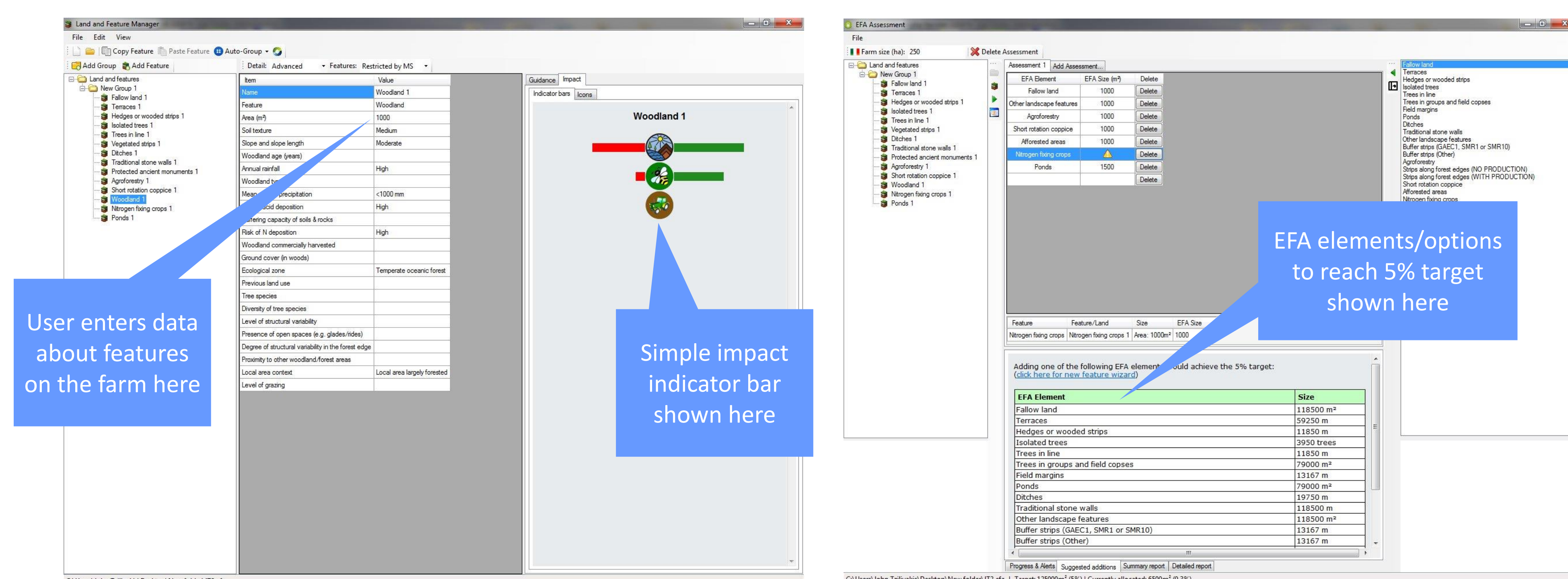
The user inserts features that are already present in the farm and can get an immediate indication of their impacts on ecosystem services, biodiversity and management workload. The tool proposes options to reach the 5% EFA and their relative impacts.

The project started January 2015 and finished in October 2015.
The software is freely available and can be download at: http://sitem.herts.ac.uk/aeru/efa/
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