



Environment
(including climate change)

Research Area:
Biodiversity



EcoFinders

Ecological Function and
Biodiversity Indicators
in European Soils

“This project will characterise European soil biodiversity; determine relations between soil biodiversity, soil functions and ecosystem services; and design policy-relevant indicators for monitoring soil biodiversity.”

Dr. Olaf Schmidt, University College Dublin

PROJECT DESCRIPTION

The strategic goal of EcoFINDERS is to provide the EC with tools to design and implement soil strategies aimed at ensuring sustainable use of soils, including: characterisation of European soil biodiversity; determination of relations between soil biodiversity, soil functions and ecosystem services; design of policy-relevant and cost-effective indicators for monitoring soil biodiversity.

The project will:

- Develop and standardise tools and procedures to measure microbial and faunal diversity;
- Describe the diversity of soil organisms (microbes and fauna), decipher their interactions through foodwebs and determine the role they play in soils functions and ecosystem services (nutrient cycling, carbon storage, water retention, soil structure regulation, resistance to pests and diseases, and regulation of above-ground diversity);
- Establish cost-effective bioindicators for measuring sustainability of the microbial and faunal diversity and their associated functions (using a combination of metrics and meta-analysis);
- Evaluate the economic value of ecosystem services, the added value of these bioindicators; and
- Develop and implement effective communication strategies to engage the European public around issues associated with the sustainability of soil biodiversity.

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IRISH CONTRIBUTION

University College Dublin (UCD) will lead a task titled "Biochemical aspects of soil functioning" and will also contribute to two other work packages developing tools for soil biodiversity assessment and indicators. The UCD team comprises Prof. Tom Bolger (School of Biology and Environmental Science) and Dr. Olaf Schmidt (School of Agriculture, Food Science and Veterinary Medicine), as well as two post-graduate research students.

Teagasc will lead the work package "Evaluating and Developing Indicators for Biodiversity" designed to develop policy-support cost-effective biological indicators aimed at aiding the implementation of the EU soil strategy. It will address four of the functions of soil defined by the EC (biomass production; storing, filtering and transforming nutrients and water; hosting the biodiversity pool; acting as a carbon pool). Teagasc will also provide access to: a long-term (ca. 50 years) replicated field trial of phosphorus addition to grazed grassland, as an Atlantic long-term observatory (The Cowlands LTO); the Irish soils database and GIS facilities that can be applied to biodiversity data.

PROJECT DETAILS

Research area: ENV.2010.2.1.4-4
Duration: 48 months
Proposed EC Grant: € 7 million
Coordinator: France

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PROJECT PARTNERS

- ✓ Institut National de la Recherche Agronomique (France)
- Natural Environment Research Council (United Kingdom)
- Aarhus Universitet (Denmark)
- ECT Oekotoxikologie GmbH (Germany)
- Universitaet zu Koeln (Germany)
- Inra Transfert S.A. (France)
- Commission of the European Communities - Directorate General Joint Research Centre – JRC (Belgium)
- Lunds Universitet (Sweden)
- Koninklijke Nederlandse Akademie van Wetenschappen - KNAW (Netherlands)
- Rijksinstituut voor Volksgezondheid en Milieu - part of the Dutch State (Netherlands)
- Sveriges Lantbruksuniversitet (Sweden)
- **Teagasc - Agriculture and Food Development Authority (Ireland)**
- Imar- Instituto do Mar (Portugal)
- Universita Degli Studi di Torino (Italy)
- **University College Dublin (Ireland)**
- The University Court of the University of Aberdeen (United Kingdom)
- The Chancellor, Masters and Scholars of the University of Cambridge (United Kingdom)
- Lancaster University (United Kingdom)
- Wageningen Universiteit (Netherlands)
- Stichting Dienst Landbouwkundig Onderzoek (Netherlands)
- Prognosticky ustav Slovenskej akademie vied (Slovakia)
- China Agricultural University (China)

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