**Ecological Culture and Scientific Research**

Ecological Sciences (ES) is a multi-disciplinary group of over 80 researchers with a unique breadth of scientific expertise, skills and knowledge in the ecology, physiology and systematics of microbes, lichens, fungi, plants, invertebrates and mammals. Our dynamic group maintains a large post-graduate cohort of >100 PhD students who are affiliated with Universities around the world.

Nowadays, mankind is facing with the increasing of ecological disasters, the deeper study of the relationship between human and nature which discusses, gives scientific literature review and develops the core development philosophy - ecological culture to ensure the sustainable development of humanity is really urgent. Ecological culture education is one of the basic solutions in order to develop ecological culture become a motive force for the sustainable development of nations as well as for the future of humanity.

Our science tackles spatial scales from soil microbial gene expression to biodiversity and landscape ecology. Our research aims to improve the management, conservation and restoration of organisms, biodiversity and ecosystems in managed and native habitats around the world. Our outreach engages with farmers, advisors and Governments in Scotland, across Europe, Africa, South America and Asia as well as international bodies including UNEP and IPCC.

One of our big challenges is the integration of ecological and biological knowledge into decision-making around the sustainable use of natural capital to balance societal demands for food, water and energy with a secure environment for future generations. As such, we work closely with social scientists, economists and other natural scientists within the Hutton and beyond on sustainable management of ecosystems, biodiversity and ecosystem services and the value of biodiversity and ecosystems to society.