

Disturbance and patch dynamics: introducing undergraduate Geography and Ecology students to map and field-based research

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Background

The Department has a long and effective history of using local environments as a basis for field studies to inform undergraduate teaching. Elements of this have been underpinned by staff research, consultancy, and scholarly activity. The Department is committed to developing this work and integrating the use of field studies as research experience within the teaching of other key concepts and skills in Geography and Ecology. Current emphasis includes geographic information systems (GIS) as a key graduate/subject skills area in both disciplines.

The project focused on field-based research into natural and human-induced disturbance in two ecological/landscape systems within the East Kent area. It introduced students to contemporary issues in conservation geoecology and biogeography (eg patch dynamics) with relevance to landscape history, habitat conservation, and land use planning, as well as skills relevant to future careers in the geographical and environmental sciences.

The project focused on disturbance ecology in ancient holloways and on wooded slopes. Both environments are subject to constant disturbance from natural factors (wind damage from storms, bioturbation, etc) and anthropogenic factors (eg erosion caused by vehicles, recreationists). These are important and potentially threatened landscape features of the environment of East Kent. In this sense the project also connected with CCCU's mission to support and enhance the local community and its environment.

The project involved students and staff in creating baseline survey data, providing a basis for long term developments in field investigation and research as part of the Department's validated programmes.

Approach/methodology

The project involved:

- identifying and mapping key field sites in East Kent
- developing materials, including a website, to support students
- field visits to enable students to develop their research skills and, through evaluation, to form the basis for long term sustainable use of the project outcomes as a RIT teaching tool
- creation of baseline data as a basis for long term student involvement in research based field study, underpinned by key graduate and subject specific skills
- potential for publication and dissemination of findings within the higher education network of geographical and environmental sciences.

Outcomes

As well as the basis for standard modules, two independent undergraduate theses have resulted from the project and there is potential for staff publication of research findings.

The project has provided baseline data for further research by staff and students.

The project exposed students to research techniques, both field based and laboratory based, eg use of GIS, and gave them the opportunity to engage in building a unique longitudinal data set for future student research and education.

There is potential for further teaching and learning activities, and research publications.

Enhancing RIT

The project has provided the basis for continuing fieldwork as part of the Biogeography module and further student project work.

Advice for others

Disturbance ecology offers a wide range of opportunities for student research. Disturbance, both natural and human induced, is ubiquitous – affecting a wide range of habitats. This allows for a range of innovative student research projects, from the micro-scale (impact of burrowing animals such as ants and worms) to large scale impacts (eg wind damage).

Field studies, as always, are contingent on a variety of issues eg access, weather.

Reflections and any future plans

The project remains active as part of a key module and a staff research project. The limitation remains the time to undertake detailed field studies.

The main work to date has focused on wind thrown trees and the associated disturbance ecology. Many trees survive being thrown and, now prone, are fascinating living sculptures which grab the imagination of students and staff who had previously imagined that windthrow would result in tree mortality.

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