Ecology at Part II – Inter-departmental courses

Conservation Science (Michaelmas Term)

Module Organiser - Prof Andrew Balmford (Department of Zoology)

This interdepartmental course, taught by the Departments of Zoology and Plant Sciences, aims to provide an understanding of why wild nature is currently in decline, why this matters, and how biology coupled with other disciplines, can be harnessed to identify potential solutions.

The course begins by explaining the distribution and importance of biodiversity, and the evidence that it is currently being lost. It then examines in detail the immediate threats to wild populations and their habitats, and the underlying drivers of those threats. The final section of lectures explores potential solutions, combining socioeconomic as well as biological insights to take a constructively critical look at approaches ranging from sustainable harvesting and ecosystem restoration to agrienvironment schemes and the marketing of ecosystem services.

Core lectures are supplemented by case studies given by outside experts on policy, economics, and conservation practice. There is also a field trip, a careers session, and a visit to a local conservation organisation.

Responses to Global Change (Lent Term)

Module Organiser - Dr Ed Tanner (Plant Sciences)

The world is changing rapidly because of the growth of the world population and the increased us of resources by each individual, a result is changing climate and changing environments. Understanding what is happening and why it is happening will allow us to do something to mitigate the effects or acclimate to the changes.

Overall the course starts with detailed data-rich studies of various aspects of changes and moves on to using data to model what will happen in future. James Peace-Higgins starts with 4 lectures on the effects of climate change on bird populations; phenology and phenological mismatch; scaling up from population to distributions; finishing with managing climate change. Next is Pete Carey who will discuss plant distribution in a changing environment and how to assess plant populations and model their responses to climate. Then Howard Griffiths will address water limitation to plant growth, using examples from various parts of the world where water is limiting. Ed Tanner will then discuss changes in nitrogen, phosphorus and salt (salinization). Then Louise Sime discusses global climate models. Lisa Wingate goes into detail of one aspect of climate modelling based in tree growth rings (touching on the ‘climategate’ controversy). Finally, Drew Purves will describe modelling forest growth and how it can be used to model the effects of climate change.