Cranedale Centre

SUSTAINABLE WOODLAND ECOSYSTEMS

Abstract

Dalby Forest is over 3,500 ha of the North York Moors National Park managed by the Forestry Commission as a multipurpose forest. The sustainability of woodland management with regard to economic and environmental issues is investigated by visiting contrasting woodland types. Measures of abundance of ground flora, invertebrates and microclimate differences are observed with students also calculating the average price of timber and carbon sequestration values for each woodland.

Aims

- To investigate the sustainability of woodland management with regard to economy and environment at Dalby Forest.

Learning Objectives:
(The Aims of the day are…)

- To explain how the management of an ecosystem can provide resources in a sustainable way, with reference to timber production in a temperate country
- To describe how the distribution and abundance of organism can be measured
- To distinguish the terms conservation and preservation
- To compare the economic and environmental benefits of two contrasting ways of managing Dalby Forest
- To identify a range of management strategies used in Dalby Forest and evaluate the success of these strategies in terms of economic and environmental benefits
- To experience the use of random sampling and to record percentage cover and percentage frequency of vegetation
- To measure the amount of carbon dioxide at different heights within a woodland understory
- To collect robust primary data for the carrying out of statistical tests

Learning Outcomes:
(Following a full day's fieldwork, students will be able…)

- To define the ecological terms used in a woodland study
- To recognise the hazards associated with woodland fieldwork and explain how to minimise their likelihood of occurrence
- To identify woodland plant and invertebrate species using their diagnostic features
- To evaluate the use of random sampling, percentage cover and percentage frequency to measure vegetation types
- To evaluate the use of random sampling
- To interpret the trends in primary data
- Where appropriate, to explain unpredicted trends in the data
- To evaluate the limitations in abiotic equipment and methods used in data collection
- To conclude the differences in broadleaved and coniferous woodland communities, explaining the differences using abiotic and biotic evidence gathered in the field.
- Explain the role that management strategies such as coppicing, clear felling and veteran trees can have on a woodland ecosystem