

OLLSCOIL NA hÉIREANN  
NATIONAL UNIVERSITY OF IRELAND, GALWAY

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SUMMER EXAMINATIONS, 1999

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**B.Sc. DEGREE (HONOURS: DENOMINATED DEGREE IN  
ENVIRONMENTAL SCIENCE)**

**APPLIED ECOLOGY AND PALAEOECOLOGY**

Professor P. Gahan  
and the internal examiners.

Time allowed: **Three** hours.

Answer **three** questions, **at least one** from each section.

**SECTION A**

1. "In order to devise a conservation strategy for sand-dune systems one requires a knowledge of species biogeography, basic geomorphology and restoration ecology." Discuss this statement, referring to examples from around the Irish coast.
2. Give a critical account of the use of designations for the conservation of ecosystems of scientific interest in Ireland. In your answer, suggest alternative methods for their conservation which you consider of importance.
3. Describe a system for assessing the rarity of plant species in Ireland. Discuss the rôle of this system in relation to the Wildlife Act 1976. In what ways might the system be expanded?

**SECTION B**

4. "Ice-core and ocean-core records provide essential information towards the reconstruction and understanding of long-term climate change during the Quaternary." Discuss.
5. Debate the Younger Dryas and early Holocene in Ireland as periods of substantial environmental change mediated by changing climate and edaphic conditions.
6. Discuss the impact of long-term human activity on the composition and distribution of woodlands in Ireland from the mid-Holocene onwards.