

GCSE Environmental Science - Specimen Material

Unit 2 Investigations in Environmental Science - ISA

Fieldwork Investigation – Teachers’ Notes **Valid for submission in xxxx**

This ISA relates to Section B: Environmental Management

Area of investigation

This work should be carried out during the teaching of the section relating to:

B1.2: How is wildlife conserved?

Candidates should be aware of the fact that wildlife conservationists identify species and determine their population size and use techniques of habitat creation. International agreements and protected areas help to conserve species and habitat.

The practical activity will enable candidates to show their ability to:

- identify organisms using a simple key
- estimate populations using random quadrats (plants)
- sample the environment using a transect

It will also give them an opportunity to become familiar with species and conditions of one named habitat.

Section 2 of the ISA will relate to Environmental Scientists working for Government Agencies, and will give them the opportunity to demonstrate their understanding of the need for such agencies to:

- identify species at risk by determining population size and distribution
- identifying threatened types of habitat by determining the size of the area remaining, degree of fragmentation
- survey species and habitat to identify needs
- create new habitats
- evaluate the success of conservation programmes

Risk assessment

It is the responsibility of the centre to ensure that a risk assessment is carried out.

The Practical Work

For this part of the investigation candidates may work individually or in groups.

A suggested outline is given, but centres may adapt this to suit their own needs.

The teacher should complete the ISA Explanation Sheet. This should be included with the sample of candidates’ work that is sent to the moderator.

Instructions of a general nature may be given to the candidates, but these must not be so prescriptive as to preclude candidates from making their own decisions.

Candidates should carry out a fieldwork investigation related to the distribution of a particular species.

It is recommended that this investigation is put into an applied context such as the work of wildlife conservationists. There may well be opportunities for candidates to work with a local conservation group.

They may investigate any factor that may possibly influence the distribution. For example, they might investigate the height of grasses at different distances from a footpath, or they might investigate the distribution of certain indicator plants and link this to the type or acidity of the soil.

Candidates need to produce a table for the results, and draw a graph or bar chart to show their results. They will need to have collected sufficient data to display in such a format.

The Data Processing

For this part of the investigation candidates must work individually under direct supervision.

Each candidate must draw up his or her own table of results and should process the data in an appropriate way, eg charts, graphs, diagrams, line of best fit.

The candidates' work should be collected by the teacher at the end of this session and only returned to the candidates when they undertake the subsequent ISA.

Candidates' work must **not** be annotated with additional information, either by the teacher or the candidate, which would give them an unfair advantage during the ISA, eg the use of the terms independent/dependent variable.