# External Assessment Report 2015

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| Subject(s) | Managing Environmental Resources |
| Level(s) | Higher |

The statistics used in this report are pre-appeal.

This report provides information on the performance of candidates which it is hoped will be useful to teachers/lecturers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding. It would be helpful to read this report in conjunction with the published question papers and marking instructions for the examination.

# Comments on candidate performance

## General comments

All questions in the paper were similar in standard to previous years and covered all three units of the topics outlined in the specification. Questions were accessible to all candidates and tested Knowledge and Understanding and Problem Solving / Practical Abilities.

As expected numbers declined this year, but it was pleasing to see a fair number of established supporters of the course present candidates. All presenting centres should be congratulated on the support given to candidates in preparing for this examination. The quality of answers throughout the paper was generally good, with candidates in their responses indicating a very positive attitude to, and understanding of, current environmental issues.

The paper covered all three units in an interesting and challenging way with supporting diagrams, images and data. Topics examined included environmental issues relating to renewable resources, non-renewable and manufactured resources, waste disposal, forestry practices and sustainability, greenhouse gases and impact on global temperatures, energy sources and legislation, impacts on Scottish biodiversity, food webs, feeding relationships and bioaccumulation, practical investigation based on data use and techniques, land use studies and associated issues including diversification, organisations and conflicts.

The essay-based topics covered biological processes relating to nutrient recycling, organisms involved in environmental monitoring, historical aspects of land use change and the impacts of the Scottish Access Code. The paper reflected local, national and international environmental issues.

The vast majority of candidates coped well with Section A of the paper, ie the structured questions and discriminating questions in this section of the paper functioned appropriately. Quite a number of errors arose from misreading questions, particularly in questions making reference to diagrams / maps / data.

There were a small number of high-scoring candidates who did well in both essays in Section B. A satisfactory standard was maintained in responses to problem-solving and data-handling questions, but some candidates do find such questions difficult to answer.

## Areas in which candidates performed well

Candidates performed well particularly in questions 1,2,3,6 and 7 in Section A of the paper. These questions ranged across the three topic areas of the MER specification. Most candidates showed good knowledge and/or gave sound explanations in the following questions:

- Question 1 was considered a good ‘starter’ question with the majority of candidates scoring above average marks.

- Questions 2 (b) and 2 (c) on global temperatures were accessible to the majority of candidates.
- Question 3 (a) (iii): many students used field experience and knowledge in their responses.
- Question 3 (b) (i) – (iv): the majority of candidates used information from the diagram to produce their answers.
- Question 6 (a): good responses to recreational activities and land use
- Question 7 (a): many candidates showed good reasoning on map based questions and social, economic, and ethnic issues

## Areas which candidates found demanding

### Section A

- Question 2 (a)(i): many candidates answered global warming rather than greenhouse effect.
- Question 3 (a) (i): legislation for the protection of wildlife.
- Question 3 (b) (i) and (ii) biological terminology even when support was provided in the diagram.
- Question 4 (a) (i): fully describing the role of producers.
- Question 4 (a) (iii): providing an example of intra-specific competition.
- Question 4 (c) (ii): poor knowledge of commensalism.
- Question 4 (d): poor knowledge of bioaccumulation.
- Question 5 (b): knowledge of the Tullgren funnel.
- Question 7 (a) (i): knowledge of the term ‘greenfield site’.
- Question 7 (c): roles of SNH.

### Section B - Essays

#### Question 8A

(a) Candidates showed good knowledge of enrichment and eutrophication. However the focus was mainly on nitrates rather than phosphates.

(b) Good basic knowledge of the nitrification process and some excellent accounts produced by high scoring candidates.

(c) Many candidates were knowledgeable about leguminous plants, less so crop rotation.

#### Question 8B

(a) Indicator species were well exemplified by candidates and their role was well explained.

(b) Population monitoring was described very basically by many candidates but good reasons for its use in conservation were declared. Many good examples were provided.

(c) Discriminating between detritivores, decomposers and their role in ecosystems was done poorly even when good examples were provided.

**Question 9A**

Responses to this question were disappointing and focused too heavily on historical, sometimes inappropriate, events and their impacts on land use. The emphasis needed to be on land use change. More recent land use changes were narrow and limited in their descriptions.

**Question 9B**

Many candidates gave poor responses to the basic principles of the Scottish Access Code and the roles and of users and stewards. A number of candidates inappropriately discussed conflict situations. However the majority of candidates gave good accounts of responsibilities of both users and stewards under the terms of the code.

## Statistical information: update on Courses

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| **Number of resulted entries in 2014** | 297 |

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|---|---|
| **Number of resulted entries in 2015** | 135 |

## Statistical information: Performance of candidates

### Distribution of Course awards including grade boundaries

| Distribution of Course awards | % | Cum. % | Number of candidates | Lowest mark |
|---|---|---|---|---|
| Maximum Mark - 110 | | | | |
| A | 18.5% | 18.5% | 25 | 77 |
| B | 33.3% | 51.9% | 45 | 66 |
| C | 23.0% | 74.8% | 31 | 55 |
| D | 7.4% | 82.2% | 10 | 49 |
| No award | 17.8% | - | 24 | - |

All assessments on standard, therefore no adjustments were made to the grade boundaries.

## General commentary on grade boundaries

- While SQA aims to set examinations and create marking instructions which will allow a competent candidate to score a minimum of 50% of the available marks (the notional C boundary) and a well prepared, very competent candidate to score at least 70% of the available marks (the notional A boundary), it is very challenging to get the standard on target every year, in every subject at every level.

- Each year, SQA therefore holds a grade boundary meeting for each subject at each level where it brings together all the information available (statistical and judgemental). The Principal Assessor and SQA Qualifications Manager meet with the relevant SQA Business Manager and Statistician to discuss the evidence and make decisions. The meetings are chaired by members of the management team at SQA.

- The grade boundaries can be adjusted downwards if there is evidence that the exam is more challenging than usual, allowing the pass rate to be unaffected by this circumstance.

- The grade boundaries can be adjusted upwards if there is evidence that the exam is less challenging than usual, allowing the pass rate to be unaffected by this circumstance.

- Where standards are comparable to previous years, similar grade boundaries are maintained.

- An exam paper at a particular level in a subject in one year tends to have a marginally different set of grade boundaries from exam papers in that subject at that level in other years. This is because the particular questions, and the mix of questions, are different. This is also the case for exams set in centres. If SQA has already altered a boundary in a particular year in, say, Higher Chemistry, this does not mean that centres should necessarily alter boundaries in their prelim exam in Higher Chemistry. The two are not that closely related, as they do not contain identical questions.

- SQA's main aim is to be fair to candidates across all subjects and all levels and maintain comparable standards across the years, even as arrangements evolve and change.