



## External Assessment Report 2013

Subject(s)	Managing Environmental Resources
Level(s)	Intermediate 2

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

Feedback indicated that the paper covered the National Course Specification in an appropriate and up-to-date manner. It included the use of natural resources, new developments in electricity production using renewable and non-renewable sources, and meeting national recycling targets. Ecological studies were set in a marine ecosystem and looked at how wildlife can be encouraged into an area. The local investigation area featured Glasgow, with questions on its new transport links and developments for the Commonwealth Games. The local industry question featured a porridge oats mill.

All questions were accessed by at least some candidates, and were deemed to be of a similar standard to previous years. Discriminating questions functioned well.

There was strong evidence of bi-level teaching, suggesting that the Higher Managing Environmental Resources is being taught, and those not achieving success in the Higher Unit assessments are subsequently being presented at Intermediate 2 level. These candidates displayed knowledge gaps.

There were many new centres (27%) with low numbers of candidates being presented from each.

Very few candidates did not attempt all of the questions. Candidates displayed an enthusiasm for the subject, but, again, careless and inaccurate use of language was widespread. Marks cannot be awarded for vague answers at Intermediate 2 level.

In Section 2 of the paper, Option A (on energy production) was attempted by over half the candidates, and a wide range of marks was recorded. Option B (on pollution) was the least popular and least well attempted. Option C, based in the candidate's local area, resulted in the highest marks.

## Areas in which candidates performed well

- ◆ In Q1, candidates demonstrated that they could read from a graph, give a trend, and knew about composting and how to encourage recycling.
- ◆ In Q2a)ii) and iv) on acid rain and b), on renewable energy were answered well.
- ◆ In Q3, most of part a) was well attempted, with candidates being able to give appropriate examples of ecological terms.
- ◆ In Q4b) it was pleasing to see how well the candidates understood the biological process of respiration, and in d) most named nitrogen as another nutrient.
- ◆ For Q5, centres must be congratulated on their teaching of bar graphs and paired statement keys. Candidates also scored highly in drawing a conclusion — a) ii).
- ◆ In Q6, almost all candidates understood the term 'habitat', and most the term 'abiotic'. Most appreciated that Highland cattle were domesticated.

- ◆ In Q7, candidates could extract information from the diagrams a) iii), b) i), ii) and iii). Candidates also displayed an understanding of the terms 'man-made resources' and 'renewable energy'.
- ◆ In the map question 8, grid references were well understood, and more of the candidates included map references as part of their evidence. The ratio in part d) was also well answered. Ways in which car use f), personal water use and energy use k) can be reduced were very well answered.

## **Areas which candidates found demanding**

- ◆ In general, the areas which candidates found most demanding were the more difficult problem-solving questions or where there was an application of knowledge in an unfamiliar context.
- ◆ Candidates had difficulty calculating the percentage decrease in Q3b). They also found it difficult to find a reason to explain the presence of plant plankton near the surface of the sea.
- ◆ The carbon cycle, Q4 posed difficulties, as usual. The arrow in part a)ii) was missed out by some candidates and wrongly drawn by more. The importance of cycling nutrients was not well answered by some of the candidates, and was a discriminating question.
- ◆ In Q5a)iv), candidates were asked how the results of the investigation were made reliable. Many candidates gave the response 'do it again' or a variation of this. When asked for a difference between two leaves, d)ii), some answers did not include a comparative or did not refer to both species.
- ◆ From the passage, Q6d), candidates gave an environmental advantage of planting a beetle bank, but could not explain it. Very few candidates could name a plan to conserve numbers of an endangered species.
- ◆ Very few candidates could suggest a correct way for Scottish farmers to contribute to sustainability Q7c). This was one of the discriminating questions and it performed as expected.
- ◆ Candidates still find it difficult to explain why certain features influence the site of a town Q8b)i). Part ii also proved difficult, where candidates had to state two benefits of a named user group to the local economy.
- ◆ Section 2 with its extended writing proved, once again, to be discriminating. In particular, for option B, candidates seemed to be unaware of international pollution examples. Very few candidates related their answer to BP and oil pollution in the Gulf of Mexico or any other current examples.

## **Advice to centres for preparation of future candidates**

The most recent SQA specifications document for Managing Environmental Resources details areas of knowledge, and names examples, which the candidate should know for the external exam. However, the nature of the subject allows for many correct alternative examples. Correct alternatives are always awarded marks.

Everything in the middle notes column of the arrangements document can be included in the external exam.

It is obvious that most centres prepare their candidates very well in graph or chart completion. Please remember that graphs or charts should be completed in pencil. Bars in a bar chart must be of the same width, and daylight must not be seen between where the candidate has drawn the line and where it should be drawn. Pie chart sectors must always meet in the centre.

All the appropriate information, including units, from the headings of the table of information, should be presented on the axes of the graph. Bars need not be shaded as long as the key can be interpreted correctly. Candidates are strongly advised not to carelessly shade in bars at the end of their answer, as this can result in the loss of a mark if the shading goes above the appropriate line. Please follow this advice — these criteria are applied when assessing the evidence produced for appeals.

Candidates should be given the opportunity to practise problem-solving. Opportunities to practise the calculation of ratios, percentages (including percentage increase and decrease) should also be provided.

The space given after a question indicates the type of answer expected. A short line indicates a one-word answer. A longer line indicates that a longer answer is required. An explanation is usually given two lines for an answer. An extended answer for two marks usually has three lines.

Candidates should be advised to read the question carefully. If the question states 'from the diagram...' the answer is expected to come from that diagram in the Question Paper — not from the candidate's course work.

'Predict with a reason', for only one mark, indicates that the reason must back up the prediction; otherwise no mark will be awarded.

An excellent way to improve a candidate's performance in the exam is to provide opportunities to practise questions from past papers. There are past papers with corresponding marks schemes on SQA's website. These are extremely useful in providing correct definitions and exemplification. The questions using a map indicate the depth of study required in the local area.

Extended writing practice is also advisable. It is essential to answer every part of the question. Remember all parts of the extended writing question in Section B must be answered.

Candidates should be encouraged to read over their answer paper after finishing. This is especially important in section 2, where they must answer the question and not simply write everything they know. Reading over answers also allows them to check that all questions have been answered.

## Statistical information: update on Courses

### Intermediate 2 Managing Environmental Resources

Number of resulted entries in 2012	107
------------------------------------	-----

Number of resulted entries in 2013	148
------------------------------------	-----

## Statistical information: Performance of candidates

### Distribution of Course awards including grade boundaries

Distribution of Course awards	%	Cum. %	Number of candidates	Lowest mark
Maximum Mark 100				
A	17.6%	17.6%	26	70
B	24.3%	41.9%	36	60
C	25.7%	67.6%	38	50
D	10.8%	78.4%	16	45
No award	21.6%	100.0%	32	-

## **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.