This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

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This document consists of **20** printed pages.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Question	Answer	Marks
1(a)	**Study Fig. 1.1 which shows average monthly maximum and minimum temperatures for St Athan and Cardiff. St Athan is a small settlement 20 miles south west of the city of Cardiff in South Wales.** **Giving evidence from Fig. 1.1, which month shows the largest difference in maximum temperatures between St Athan and Cardiff?** • July • 20 °C to 21.7/21.9 °C or 1.7/1.9 °C	**2**
1(b)	**Using Fig. 1.1, compare and contrast the minimum temperatures throughout the year for St Athan and Cardiff.** Accept any three valid comparisons/contrasts reserving 1 mark for data support. There must be at least one comparison and one contrast for full marks. Valid points might include: • from March to July very similar/the same • from July to February St Athan slightly warmer (from 0.25 to 1°C warmer) • difference greatest in September, October, November (1 °C)	**4**
1(c)	**Study Fig. 1.2 which shows average monthly rainfall totals for the two settlements.** **Using both Figs 1.1 and 1.2, assess whether St Athan and Cardiff have different microclimates.** Accept any reasonable points which could be valid, but there must be clear reference to/support from Figs. 1 and 2. For full marks the issues of differences and similarity must be addressed. Expect candidates to look for differences, for example: • rainfall differences, most marked from November through to March • annual total greater in Cardiff • max temps greater in Cardiff throughout the year • min temps greater in St Athans from August to February and conclude that they are different, but the best responses might also point out some similarities **L3** **(5–6 marks)** Clearly addresses the assessment aspect of the question, including similarities Points out that only temperature and rainfall are addressed, other aspects of microclimate are missing. Accurate data support from the resources **L2** **(3–4 marks)** Some attempt at describing the differences No assessment, or superficial assessment of whether the microclimates are different There may be some data support at the top end of this level **L1** **(0–2 marks)** Little attempt to address the question; simple description Data support inaccurate or lacking	**6**

Question	Answer	Marks
1(d)	**Study Fig. 1.3 which shows average wind direction percentages in October for Cardiff from 2001 to 2018.** **Evaluate the usefulness of Figs 1.1, 1.2 and 1.3 to those studying the microclimates of settlements near each other.** An opportunity for candidates to explore the strengths and limitations of the three resources provided. Strengths of Figs. 1 and 2 might include a good visual impression, easy to construct and easy to read. Fig. 3 gives a good visual impression of wind direction but not magnitude and is only for Cardiff. The word 'evaluate' allows candidates to address not only what is there but also what is not – e.g. Figs. 1.1 and 1.2 have no date, Fig. 1.3 is only for October and doesn't include wind speed. Additionally, altitude, aspect, proximity to the sea are not shown. Also, there are other elements of microclimates not shown – relative humidity, fog, frost. The command word 'evaluate' requires an assessment to be made and the best answers will address this by considering the advantages and limitations of the resources and then producing an assessment of their usefulness. **L3** **(6–8 marks)** A clear understanding of the strengths and limitations of the resources with evaluation to the fore. Knowledge of other resources/information which would be of use. Mature assessment. **L2** **(3–5 marks)** Discussion of the pros and cons of the resources but assessment weakly developed. Very limited knowledge of other resources which may be of use. Provides support for some observations. **L1** **(0–2 marks)** Little understanding of the question, perhaps simple description of the data. Support is inaccurate or lacking.	8

Question	Answer	Marks
2(a)	**Study Fig. 2.1, which shows the impact of a one metre high hedgerow on air temperature, relative humidity and wind speed.** **Using Fig. 2.1, assess the impact of the hedgerow on air temperature, relative humidity and wind speed.** Points made might include: • Wind speed affected the most (decrease by 60% at 4m) • Impact on wind speed continues until 28m from the hedge • Relative humidity & air temperatures both increase, but the impact is negligible beyond 12m **L3** **(4–5 marks)** Clear and detailed assessment. Fig. 2.1 is well used to support the points, contrasting the different scale of the impacts and discuss distance from the hedgerow. All three aspects will be discussed. **L2** **(2–3 marks)** A valid attempt to address the question. Evidence is used to support the points made. Lacks the detail or clarity needed for L3 **L1** **(0–1 marks)** Little attempt to address the question; faulty use of data.	5
2(b)	**From your wider study of microclimates, explain why microclimates vary between different cities.** Quality of argument will be the main discriminator rather than breadth of knowledge. An opportunity here for candidates to use the knowledge they have gained from their individual research. Credit well those who are able to support their explanation with useful exemplar support. The best candidates will focus on the 'vary' aspect of the question – this will indicate L3. Candidates will need to consider some of the factors affecting microclimates in urban areas– topography, latitude, time of year, proximity to the sea, building design, land use, pollution, industry and the prevailing synoptic situation are some of the factors that could be addressed. **L3** **(8–10 marks)** A clear focus on the question with appropriate exemplar support. There is a sophisticated understanding of the role of a range of factors. The answer is well supported. **L2** **(5–7 marks)** Provides explanation, but mostly focused on those cities with better developed microclimates. Provides some support. Sound knowledge and understanding, but overall lacking depth. May be limited in range, in explanation or in exemplification. **L1** **(0–4 marks)** The approach is largely descriptive and superficial with little or no attempt to address the question. Little exemplar support.	10

Question	Answer	Marks
3	**With reference to your own study of microclimates, explain how you ensured the accuracy and reliability of the primary data you collected.** **Begin by stating the question or hypothesis that you investigated.** Answers should be based firmly on their own investigations, quoting examples drawn from this. Clearly, much depends on the investigation. This is an opportunity for candidates to explain how they tried to maximise the accuracy and reliability of their findings. References to representativeness are acceptable. Discussion of a pilot study and how the data collection methods were improved as a result of the pilot would provide candidates with an appropriate structure for their answer. **Accuracy** means how close a measurement is to the true value; **Reliability** is the extent to which repeated measurements give consistent results. Both should be present but balance between the two is not required. The question asks candidates to explain how they 'ensured' (note the past tense). Discussion of what they might do in the future is not relevant. Acknowledgement of the limitations of their accuracy and reliability will be an indicator of quality. **L4** **(13–15 marks)** The candidate displays a high order understanding. Addresses the evaluative aspect of the question in a mature and cogent fashion. Both scale and location are addressed. The points made are well supported with examples drawn from the candidate's own investigation. **L3** **(10–12 marks)** Good understanding of the question. The answer makes appropriate reference to the candidate's own investigation. Focused on the question but the evaluation is limited or superficial. Treatment of either scale or location may be superficial. **L2** **(7–9 marks)** Answer is focused on the candidate's own investigation. Describes some of the issues, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level. **L1** **(0–6 marks)** Discussion lacks detail. Perhaps descriptive, with only piecemeal comments. Little reference to candidate's own investigation.	15

Question	Answer	Marks
4	**With reference to your own study of microclimates, justify the methods you used to present and analyse your findings.** **Begin by stating the question or hypothesis that you investigated.** Answers should be based firmly on their own investigations, quoting examples drawn from this. Clearly, much depends on the investigation. Candidates should be aware of the advantages and limitations of the methods chosen to present and analyse the data (primary and secondary). Good answers will go beyond description of the strengths and limitations of each method and justify their choice, perhaps in terms of appropriateness, convenience, visual clarity and academic rigour (e.g. statistics). The key point is that the justification must be supported by the evidence presented. Methods chosen should include a range of graphical, cartographical, ICT and statistical methods. **L4** **(13–15 marks)** The candidate displays a high order understanding of the strengths and limitations of the methods. There is good support drawn from the investigation. Justification is to the fore. **L3** **(10–12 marks)** Good understanding of the methods chosen. The answer makes appropriate reference to the candidate's own investigation. Focused on the question but the justification is limited or superficial. **L2** **(7–9 marks)** Answer is focused on the candidate's own investigation. Describes some of the methods chosen, but in only a superficial fashion and with little, if any, attempt at justification. Largely descriptive with little relevance to the question as set might just reach this level. **L1** **(0–6 marks)** Discussion lacks detail. Perhaps weak description only, with occasional piecemeal comments about the findings. Little reference to candidate's own investigation.	15

Question	Answer	Marks
5(a)	**Study Fig. 5.1 which shows changes in percentage cover of selected vegetation types over time after a controlled burn on a heather moorland ecosystem in the North York Moors National Park. A controlled burn is one method of managing moorland ecosystems.** **Giving evidence from Fig. 5.1, state the overall change in the percentage of mosses and lichens from year 2 to year 25 after the controlled burn.** • Year 2 = 55%, year 25 = 10% • Overall change = 45%	**2**
5(b)	**Using Fig. 5.1, compare the change in percentage cover of heathers with that of grasses and herbs from years 10 to 25 after the controlled burn.** Accept any three valid comparisons, reserving 1 mark for data support. Valid points might include: • Years 10 to 15 – heathers high (90% or greater) while grasses and herbs are very low (<5%) • Years 15 to 20 – heathers rapid decrease (90% down to 10%) while grasses and herbs show a rapid increase (0% to 50%) • Years 20 to 25 – heathers recover (10% to 45%) while grasses and herbs decline (50% to 40%)	**4**

Question	Answer	Marks
5(c)	**Study Fig. 5.2, which shows phosphorous content and pH of soils on heather moorland over time after a controlled burn.** **Using Fig. 5.2, compare and contrast phosphorous content with the pH of soils over the period shown.** The contrasts are fairly clear to see e.g. • rapid growth in phosphorous content from years 18 to 25 but a decline in pH • Largest contrast – pH rises years 2 to13 but only a slight increase in phosphorous content • Years 2 to 20 – phosphorous content fluctuates, pH rapid rise to year 13 then decline years 13 to 20 • Years 20 to 25 – phosphorous content almost triples, whereas pH only a slight increase The similarities are not so easy to spot e.g. gentle growth in both from years 2 to 7, so this will probably be a discriminator. **L3** **(5–6 marks)** Clear and detailed description well focussed on the question, covering both contrasts and similarities The discussion will be well supported with clear reference to the Fig. **L2** **(3–4 marks)** Some useful descriptive points with some reference/support from the Fig. May only focus on contrasts **L1** **(0–2 marks)** Little attempt to address the question; simple description with no reference to the question Data support poorly chosen or inaccurate or lacking.	**6**

Question	Answer	Marks
5(d)	**Assess the value of Figs. 5.1 and 5.2 to those responsible for managing heather moorland ecosystems.** Fig. 5.1 shows a good visual impression of the changes in vegetation cover over the 25 year period. However, the information is not dated so gives no idea of recent trends. Also, the location and area of burn is not clear. The spacing of readings on the *x*-axis is uneven. Fig. 5.2 gives a good visual impression of the two variables over time but again is not dated or clearly located. Crucially, there is no control experiment – so we can't be sure that the changes shown on the Figs are due to burning alone. For successful management, both biotic and abiotic aspects of an ecosystem need to be considered. The impact on fauna is missing, as are abiotic components such as altitude and climate. Additionally, there is no information about planning, budgets available or land use (e.g. agriculture, tourism, recreation) which would all be relevant. An indicator of quality will be a judgement of the value of the Figs, that is supported by the comments made in the discussion. **L3** **(6–8 marks)** A clear understanding of the strengths and limitations of the resources with evaluation to the fore. Knowledge of other resources/information which would be of use. Mature assessment. **L2** **(3–5 marks)** Discussion of the pros and cons of the resources but assessment weakly developed. Very limited knowledge of other resources which may be of use. Provides support for some observations. **L1** **(0–2 marks)** Little understanding of the question, perhaps simple description of the data. Support is inaccurate or lacking.	8

Question	Answer	Marks
6(a)	**Study Fig. 6.1, which shows the negative impacts of selected human activities on fresh water ecosystems in the state of Maine, USA.** **Using Fig. 6.1, to what extent are agriculture and deforestation the main threats to freshwater ecosystems in Maine?** Simply in terms of the number of negative impacts, agriculture has eight and deforestation has six, making them 2nd and 3rd respectively. Residential/ commercial development has the most at nine impacts. In terms of numbers alone agriculture and deforestation are 2 of the 3 main threats. 'Deforestation and agriculture are main threats, but not **the** main threat' would be a valid approach. Also valid are comments about the lack of weighting of the threats and therefore the difficulty of making a valid judgement. The balance between physical impacts and impacts on water chemistry would also be relevant. **L3** **(4–5 marks)** Clear and detailed discussion with assessment to the fore. Fig. 6.1 is well used to support the points made **L2** **(2–3 marks)** A valid attempt to address the question. Evidence is used to support the points made. Lacks the detail or clarity needed for L3. Description alone might just reach this level **L1** **(0–1 marks)** Little attempt to answer the question or describe the information shown on Fig. 6.1.	5

Question	Answer	Marks
6(b)	**'Successful management of small-scale ecosystems involves maintaining the often delicate balance between the biotic and abiotic components'.**	10
	From your wider study of small scale ecosystems, how far do you agree with this statement?	
	Quality of argument will be the main discriminator rather than breadth of knowledge.	
	An opportunity here for candidates to use the knowledge they've gained from their individual research. Good answers will consider both biotic and abiotic components and the relationship between them. There will be acknowledgement of the delicate nature of the relationship between the two. There will be appropriate exemplar support.	
	L3 **(8–10 marks)** A clear focus on the question with appropriate exemplar support. There is a sophisticated understanding, addressing the 'delicate balance' part of the question. Evaluation to the fore.	
	L2 **(5–7 marks)** Expresses a view and provides some support. Sound knowledge and understanding, perhaps overall lacking depth. May be limited in explanation or in exemplification.	
	L1 **(0–4 marks)** The approach is largely descriptive and superficial with little or no attempt to address the question. Little exemplar support.	

Question	Answer	Marks
7	**With reference to your own study of small-scale ecosystems, explain how you ensured the accuracy and reliability of the primary data you collected.** **Begin by stating the question or hypothesis that you investigated.** Answers should be based firmly on their own investigations, quoting examples drawn from this. Clearly, much depends on the investigation. This is an opportunity for candidates to explain how they tried to maximise the accuracy and reliability of their findings. References to representativeness are acceptable. Discussion of a pilot study and how the data collection methods were improved as a result of the pilot would provide candidates with an appropriate structure for their answer. **Accuracy** means how close a measurement is to the true value; **Reliability** is the extent to which repeated measurements give consistent results. Both should be present but balance between the two is not required. The question asks candidates to explain how they 'ensured' (note the past tense). Discussion of what they might do in the future is not relevant. Acknowledgement of the limitations of their accuracy and reliability will be an indicator of quality. **L4** **(13–15 marks)** The candidate displays a high order understanding. Addresses the evaluative aspect of the question in a mature and cogent fashion. Both scale and location are addressed. The points made are well supported with examples drawn from the candidate's own investigation. **L3** **(10–12 marks)** Good understanding of the question. The answer makes appropriate reference to the candidate's own investigation. Focused on the question but the evaluation is limited or superficial. Treatment of either scale or location may be superficial. **L2** **(7–9 marks)** Answer is focused on the candidate's own investigation. Describes some of the issues, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level. **L1** **(0–6 marks)** Discussion lacks detail. Perhaps descriptive, with only piecemeal comments. Little reference to candidate's own investigation.	15

Question	Answer	Marks
8	**With reference to your own study of small-scale ecosystems, justify the methods you used to present and analyse your findings.** **Begin by stating the question or hypothesis that you investigated.** Answers should be based firmly on their own investigations, quoting examples drawn from this. Clearly, much depends on the investigation. Candidates should be aware of the advantages and limitations of the methods chosen to present and analyse the data (primary and secondary). Good answers will go beyond description of the strengths and limitations of each method and justify their choice, perhaps in terms of appropriateness, convenience, visual clarity and academic rigour (e.g. statistics). The key point is that the justification must be supported by the evidence presented. Methods chosen should include a range of graphical, cartographical, ICT and statistical methods. **L4** **(13–15 marks)** The candidate displays a high order understanding of the strengths and limitations of the methods. There is good support drawn from the investigation. Justification is to the fore. **L3** **(10–12 marks)** Good understanding of the methods chosen. The answer makes appropriate reference to the candidate's own investigation. Focused on the question but the justification is limited or superficial. **L2** **(7–9 marks)** Answer is focused on the candidate's own investigation. Describes some of the methods chosen, but in only a superficial fashion and with little, if any, attempt at justification. Largely descriptive with little relevance to the question as set might just reach this level. **L1** **(0–6 marks)** Discussion lacks detail. Perhaps weak description only, with occasional piecemeal comments about the findings. Little reference to candidate's own investigation.	15

Question	Answer	Marks
9(a)	**Study Figs. 9.1 and 9.2 which show information about a footpath in an upland part of the UK. Fig. 9.1 is a map to show the location of the footpath. Fig. 9.2 shows cross sections of part of the footpath at site X shown on Fig. 9.1 for 2007, 20012 and 2017.** **Giving evidence from Fig. 9.2, at what distance across the footpath did most vertical erosion take place between 2007 and 2017?** • At 300 m • From 10 to 95 cm of erosion or 85 cm of erosion	**2**
9(b)	**Using Fig. 9.2, describe how the cross section of the footpath changed between 2012 and 2017.** Accept any three valid changes, reserving 1 mark for data support. Valid points might include: • Overall increase in width (from 300 cm to 400 cm) • Increase in depth (from 50 cm to 95 cm maximum) • 2012 – only one deep point, 2017 two deep points • much steeper edges (from 0 to 150cm and from 300cm) in 2017 • raised central section in 2017	**4**
9(c)	**Study Fig. 9.3 which shows a kite diagram of vegetation across the footpath at site X in 2017.** **With reference to Figs 9.2 and 9.3, to what extent is there a link between vegetation and footpath erosion in 2017?** Accept any reasonable valid points linking vegetation to erosion, but there must be clear reference to/support from Figs. 9.2 and 9.3. An indicator of quality will be a focus on the evaluative aspect of the question. Some points that could be made include: • ferns and heather missing from deepest parts of path • more grasses on where less erosion e.g. centre of path • pattern for moss not clear, slightly more at 350 cm • mostly bare ground (no vegetation) between 150cm and 300 cm where erosion at maximum L3 (5–6 marks) Clear assessment with a focus on the evaluative part of the question Accurate data support from the resources is well used to inform the judgement L2 (3–4 marks) Some attempt at making an assessment Provides data support at the top end of this level L1 (0–2 marks) Little attempt to address the question; simple description Data support inaccurate or lacking	**6**

Question	Answer	Marks
9(d)	**Assess the usefulness of Figs 9.1, 9.2 and 9.3 to those responsible for managing footpaths in upland areas.** Candidates need to consider the limitations of Figs 9.1, 9.2 and 9.3 before arriving at an assessment. Fig. 9.1 gives the location and shows that the footpath links the car park and the viewpoint. However, it fails to show the location of the footpath in the UK. Fig. 9.2 gives a good visual impression of erosion of the footpath and how it has changed through time. However, no time of year is given and there is no indication of exact location within the UK. Fig. 9.3 – also a good visual impression. Again, there is no time of year or location. Other information which would be relevant might include a map to show the location within the UK, more recent data, information about visitor numbers and seasonal patterns of numbers, soil/rock types, rainfall amounts. Accept any reasonable suggestions. An indicator of quality will be a justification for the other information suggested. **L3** **(6–8 marks)** A clear assessment of the limitations of the resources. A structured format. Knowledge of other resources/information which would be of use along with justification. **L2** **(3–5 marks)** Discussion of the limitations of the resources but limited knowledge of other resources which may be of use (or vice versa). **L1** **(0–2 marks)** Little understanding of the question, perhaps simple description of the data. Support is inaccurate or lacking.	8

Question	Answer	Marks
10(a)	**Study Fig. 10.1, which shows rural service centres and conservation areas in the Lake District National Park, England. Conservation areas are those in which cultural heritage and the built environment are protected.** **To what extent is there an east–west division to the pattern of service centres and conservation areas shown on Fig. 10.1?** In terms of conservation areas there are clearly more in the east than the West (only four in the west, including Keswick). The picture for rural service centres is not so clear with a much more even split (numbers depend upon whether Coniston and Keswick are deemed to be in the east or the west). **L3** **(4–5 marks)** A clear assessment, with focus on the evaluative nature of the question. There is good use of information from the map. **L2** **(2–3 marks)** A valid attempt to address the question. A limited use of evidence to support the points made. A limited evaluation. **L1** **(0–1 marks)** Little attempt to answer the question or describe the information shown on Fig. 10.1.	**5**

Question	Answer	Marks
10(b)	**'Commercial interests will always triumph over conservation.'** **From your wider study of conservation, how far do you agree with this statement?** Quality of argument will be the main discriminator rather than breadth of knowledge. An opportunity here for candidates to use the knowledge they've gained from their individual research. Any point of view on the spectrum is acceptable, but credit well those who are able to support their view with useful exemplar support. The best answers will address the word 'always' in the question. A wide range of contexts is acceptable, but given the resources in this section National Parks may be quite common. The best candidates will address the evaluative aspect of the question – this will indicate L3. Candidates must use the evidence/case studies presented to arrive at a robust and balanced judgement. **L3** **(8–10 marks)** A clear focus on the question with appropriate exemplar support. There is a sophisticated understanding. The evaluation is well supported by exemplar material. **L2** **(5–7 marks)** Expresses a view and provides some support. Sound knowledge and understanding, perhaps overall lacking depth. May be limited in range or in explanation or in exemplification. **L1** **(0–4 marks)** The approach is largely descriptive and superficial with little or no attempt to address the question. Little exemplar support.	10

Question	Answer	Marks
11	**With reference to your own study of conservation, explain how you ensured the accuracy and reliability of the primary data you collected.** **Begin by stating the question or hypothesis that you investigated.** Answers should be based firmly on their own investigations, quoting examples drawn from this. Clearly, much depends on the investigation. This is an opportunity for candidates to explain how they tried to maximise the accuracy and reliability of their findings. References to representativeness are acceptable. Discussion of a pilot study and how the data collection methods were improved as a result of the pilot would provide candidates with an appropriate structure for their answer. **Accuracy** means how close a measurement is to the true value; **Reliability** is the extent to which repeated measurements give consistent results. Both should be present but balance between the two is not required. The question asks candidates to explain how they 'ensured' (note the past tense). Discussion of what they might do in the future is not relevant. Acknowledgement of the limitations of their accuracy and reliability will be an indicator of quality. **L4** **(13–15 marks)** The candidate displays a high order understanding. Addresses the evaluative aspect of the question in a mature and cogent fashion. Both scale and location are addressed. The points made are well supported with examples drawn from the candidate's own investigation. **L3** **(10–12 marks)** Good understanding of the question. The answer makes appropriate reference to the candidate's own investigation. Focused on the question but the evaluation is limited or superficial. Treatment of either scale or location may be superficial. **L2** **(7–9 marks)** Answer is focused on the candidate's own investigation. Describes some of the issues, but in only a superficial fashion. Largely descriptive with little relevance to the question as set might just reach this level. **L1** **(0–6 marks)** Discussion lacks detail. Perhaps descriptive, with only piecemeal comments. Little reference to candidate's own investigation.	15

Question	Answer	Marks
12	**With reference to your own study of conservation, justify the methods you used to present and analyse your findings.** **Begin by stating the question or hypothesis that you investigated.** Answers should be based firmly on their own investigations, quoting examples drawn from this. Clearly, much depends on the investigation. Candidates should be aware of the advantages and limitations of the methods chosen to present and analyse the data (primary and secondary). Good answers will go beyond description of the strengths and limitations of each method and justify their choice, perhaps in terms of appropriateness, convenience, visual clarity and academic rigour (e.g. statistics). The key point is that the justification must be supported by the evidence presented. Methods chosen should include a range of graphical, cartographical, ICT and statistical methods. **L4** **(13–15 marks)** The candidate displays a high order understanding of the strengths and limitations of the methods. There is good support drawn from the investigation. Justification is to the fore. **L3** **(10–12 marks)** Good understanding of the methods chosen. The answer makes appropriate reference to the candidate's own investigation. Focused on the question but the justification is limited or superficial. **L2** **(7–9 marks)** Answer is focused on the candidate's own investigation. Describes some of the methods chosen, but in only a superficial fashion and with little, if any, attempt at justification. Largely descriptive with little relevance to the question as set might just reach this level. **L1** **(0–6 marks)** Discussion lacks detail. Perhaps weak description only, with occasional piecemeal comments about the findings. Little reference to candidate's own investigation.	15