



National
Qualifications
2018

X733/77/11

Geography

TUESDAY, 1 MAY

9:00 AM – 11:30 AM

Total marks — 50

Attempt ALL questions

Credit will be given for appropriately labelled sketch maps and diagrams.

You must use the Supplementary Items and tracing overlays provided for annotation or as a base for diagrams. These resources should be placed inside the front cover of your answer booklet.

You should use the atlas provided.

Write your answers clearly in the answer booklet provided. In the answer booklet you must clearly identify the question number you are attempting.

Use blue or black ink. You may use pencil for the completion of Supplementary Item B — tracing overlay.

Before leaving the examination room you must give your answer booklet to the Invigilator; if you do not, you may lose all the marks for this paper.



* X 7 3 3 7 7 1 1 *

Total marks — 50
Attempt ALL questions

Question 1 — Map interpretation

To answer this question you will need to use:

- Supplementary Item A — Ordnance Survey (OS) Map Extract Penrith, Patterdale and Caldbeck.
- Supplementary Item B — tracing overlay
- Supplementary Item C — photographs
- The atlas provided.

You should make detailed use of the whole map extract as well as using your atlas appropriately. You should also carefully read the information in the text boxes.

Fell running is a popular sport in the Lake District. It involves running in mountains and high moorland on either designated footpaths and/or in remote areas without footpaths. Map and navigational skills are essential. In September 2019 the Lake District is hosting the National Fell Running competition. The competition will take place over four days. It will attract visitors from across the UK. It is anticipated that there will be up to 2000 competitors.

- (a) (i) On the tracing overlay (Supplementary Item B) draw accurately a proposed route for this event. Your route should be between 12 and 15 km long. The start and finish points should be clearly marked. 3
- (ii) Annotate your chosen route on the tracing overlay to highlight the reasons for your choice. 4
- (iii) Evaluate the impact(s) that the event may have on the local area. 4

In the Lake District water has been used historically to power traditional industries using water wheels.

More recently, and related to increasing energy costs, climate change concerns and awareness of sustainability, there has been interest from several communities in the Lake District and local landowners in the development of small hydropower schemes to generate electricity using fast moving water.

Supplementary Item C shows photographs of a proposed development at Hayeswater Gill (GR 423130)

- (b) Explain the suitability of a small hydropower scheme at this location. 5
- (c) Analyse the factors that have influenced the different land uses around Ullswater. 4

Question 2 — Gathering and processing techniques

To answer this question you will need to use:

- Supplementary Item A — Ordnance Survey (OS) Map Extract Penrith, Patterdale and Caldbeck.

Outdoor People Counters are increasingly common along footpaths that are popular with tourists. Targeted locations for the counters could include:

- hiking and nature trails
- mountain bike trails
- forestry and coastal tracks
- historical and geological sites
- outdoor visitor centres.

The electronic counters are laid underground and use radio-beam technology to continuously count the number of pedestrians who pass a designated point.

Public footpaths can be adversely affected by high usage.

The Lake District National Park Authority (LDNPA) wishes to investigate varying footpath usage and its impact on the environment, over a year.

- | | |
|--|---|
| (a) Using a 6 figure grid reference, identify a suitable location for the siting of an Outdoor People Counter. Justify your choice of location. | 2 |
| (b) Discuss the advantages and disadvantages of using electronic Outdoor People Counters compared to traditional fieldwork gathering techniques. | 4 |
| (c) Explain other data gathering techniques that could be used to provide additional data for the investigation. | 4 |

[Turn over

Question 3 — Geographical data handling

To answer this question you will need to use:

- Supplementary Item D — Map 1, Tables 1 and 2, Diagram 1
- The atlas provided

(a) Study Map 1

A choropleth map has been used to show forest cover across Europe (as a % of the land area) in 2015.

(i) Evaluate the effectiveness of using a choropleth map to show this information. 4

(ii) Explain possible reasons for the variation in forest cover across Europe. 4

(b) The Forestry Commission wants to investigate trends in the coverage of woodland in the UK from 2007 to 2017.

(i) Using the data in Table 1, discuss a graphical technique that could be used to show woodland cover across the UK (2007-17). 4

(ii) Using the data in Table 2, suggest a statistical technique that could be used to analyse possible relationships between data sets. Discuss the suitability of your chosen technique. 7

(c) With reference to the information shown in Supplementary Item D, discuss possible reasons for the change(s) in the % of woodland cover in the UK since 2007. 5

[END OF QUESTION PAPER]



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**Geography
Supplementary Items**

TUESDAY, 1 MAY

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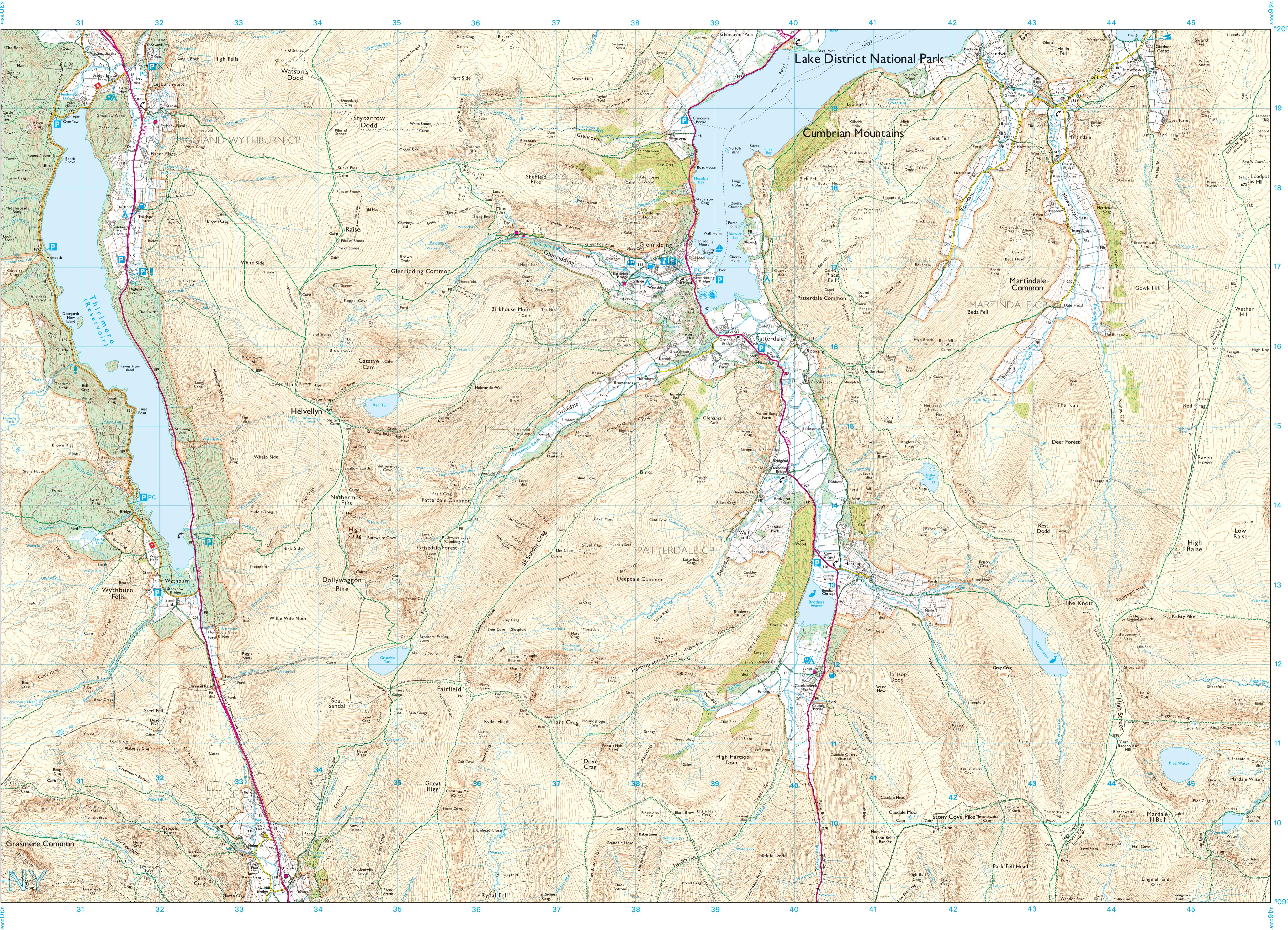
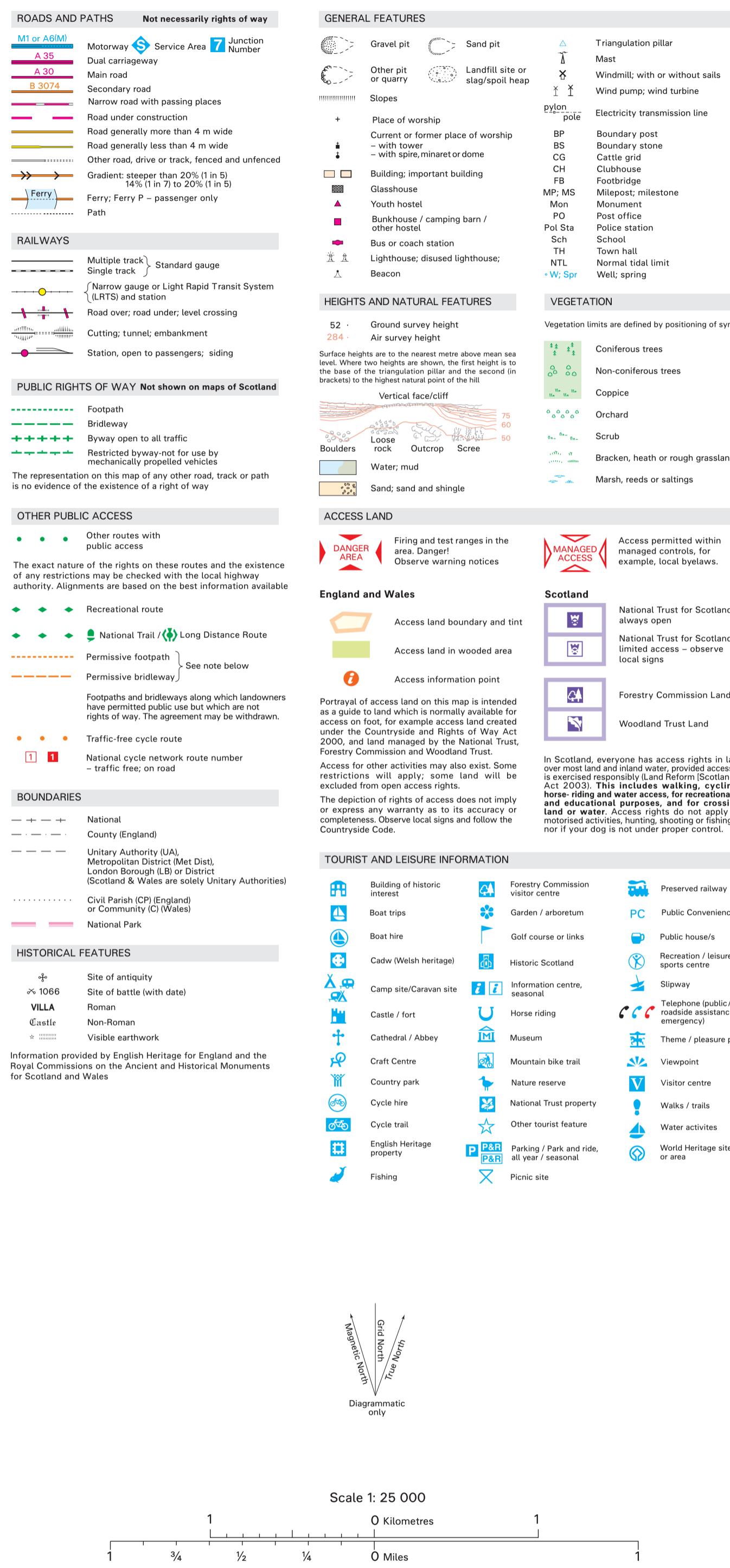
- | | |
|------------|--|
| X733/77/31 | Supplementary Item A — OS map |
| X733/77/41 | Supplementary Item B — tracing overlay |
| X733/77/51 | Supplementary Item C |
| | Supplementary Item D |
| | Spare tracing paper |



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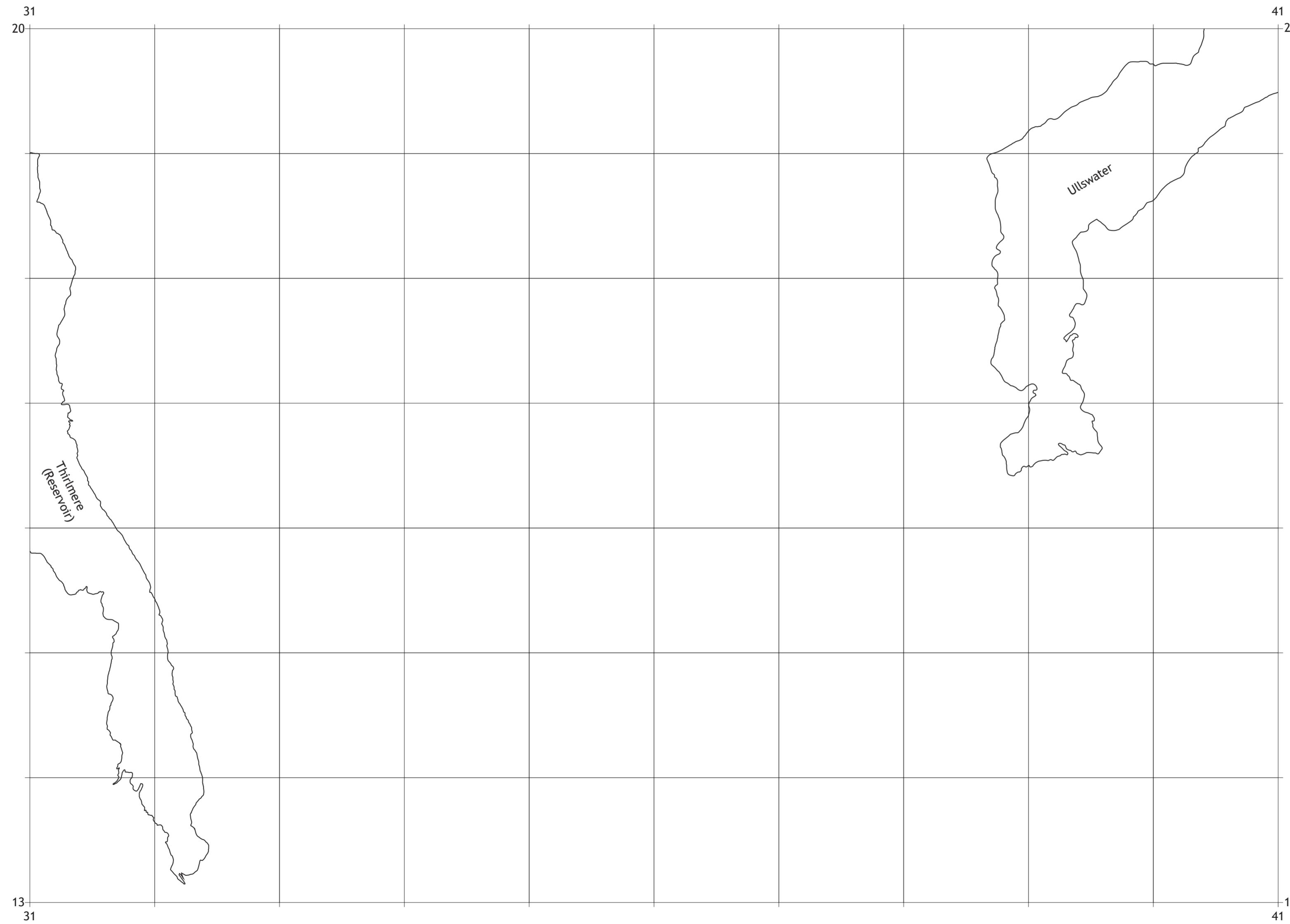


or above; if not then please return to the invigilator.



Full name of centre

Name of candidate Date of birth





National
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**Geography
Supplementary Item C
for Q1**

TUESDAY, 1 MAY

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SUPPLEMENTARY ITEM C

Photograph 1: View of Hayeswater Gill from GR425129 looking north-west



SUPPLEMENTARY ITEM C (continued)

Photograph 2: A small hydropower scheme suitable for Hayeswater Gill



[END OF SUPPLEMENTARY ITEM C]

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ACKNOWLEDGEMENTS

Supplementary Item C

Photograph 1 Photograph is adapted from Page 75 of “Pre-feasibility of Hydro Power Generation at Ten Sites Within the Lake District National Park,” 22 April 2010 by Inter Hydro Technology.

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Photograph 2 Image of ‘Ultra Low Head Micro Hydro Power STREAM’ is reproduced by kind permission of JAG Seabell Co. Ltd.



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**Geography
Supplementary Item D
for Q3**

TUESDAY, 1 MAY

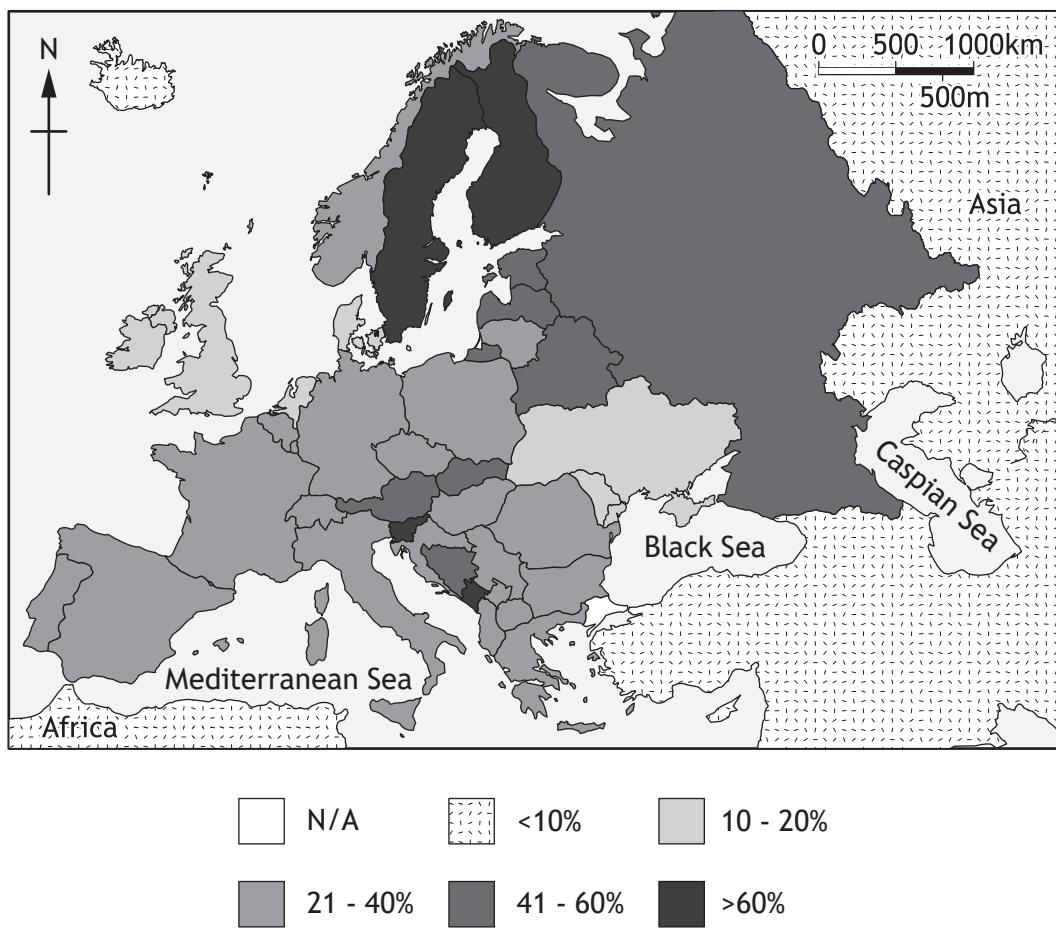
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SUPPLEMENTARY ITEM D

Map 1: European countries by forest cover (as a % of land area): 2015



SUPPLEMENTARY ITEM D (continued)

Table 1: Area of woodland cover in UK 2007-2017 (thousands of hectares)

Year	England	Wales	Scotland	Northern Ireland	Total woodland
2007	1127	285	1341	87	2840
2008	1127	285	1342	87	2841
2009	1128	284	1341	88	2841
2010	1130	284	1343	88	2845
2011	1294	304	1385	88	3071
2012	1295	304	1392	88	3079
2013	1300	305	1410	111	3126
2014	1302	306	1419	111	3138
2015	1304	306	1432	112	3154
2016	1306	306	1436	112	3160
2017	1306	307	1440	112	3166

Table 2: Woodland cover, total agricultural area & visits to woodland areas: UK (2007-17)

Year	UK woodland cover (000's hectares)	UK total agricultural area (000's hectares)	No. of visits to woodland areas*
2007	2840	178.97	580
2008	2841	177.03	640
2009	2841	173.25	500
2010	2845	172.34	570
2011	3071	171.72	740
2012	3079	171.90	750
2013	3126	172.59	750
2014	3138	172.40	760
2015	3154	171.47	790
2016	3160	173.60	800
2017	3166	172.35	840

* (survey based on 1000 respondents)

[Turn over for Diagram 1

SUPPLEMENTARY ITEM D (continued)

Diagram 1: Extract from a newspaper article

Forest levels booming as UK woodland returns to highest level in more than 250 years.

British woodland has returned to the levels of the 1750s, with tree cover having more than doubled since the end of the First World War, a United Nations report has shown.

The growth is attributed in part, to individuals branching out into forestry eg for investment purposes, which now accounts for almost half of all our tree cover.

But experts warned that Britain still had a long way to go before hitting the European average of 44 per cent. Finland boasts the highest level of tree cover in the EU with 72 per cent of land area covered in forest.

An increase in tree planting is hoped to help the fight against climate change, as well as create economic growth and protect jobs in rural areas.

The Woodland Trust has launched a campaign to plant 20 million trees in Britain over the next five decades in a bid to bring tree cover closer in line with the European average but the Trust warns that development at the rural-urban fringe is leading to large amounts of woodland being felled at a faster rate than it is being planted. Currently only 700 hectares a year are being planted, well below the target of around 5000 hectares.

[END OF SUPPLEMENTARY ITEM D]

ACKNOWLEDGEMENTS

Supplementary Item D

Diagram 1 Article is adapted from “Forest levels booming as UK woodland returns to highest level in more than 250 years,” taken from The Telegraph, 3rd October 2010. Reproduced by permission of The Telegraph. © Telegraph Media Group Limited 2010.