Cambridge Assessment International Education

Cambridge Pre-U

GEOGRAPHY **9768/04**

Paper 4 Research Topic **October/November 2020**

INSERT **1 hour 30 minutes**

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INFORMATION

- This insert contains all the resources referred to in the questions.
- You may annotate this insert and use the blank spaces for planning. **Do not write your answers** on the insert.

This syllabus is regulated for use in England, Wales and Northern Ireland as a Cambridge International Level 3 Pre-U Certificate.

This document has **12** pages. Blank pages are indicated.

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Fig. 1.1 for Question 1

Average monthly maximum and minimum temperatures for St Athan and Cardiff

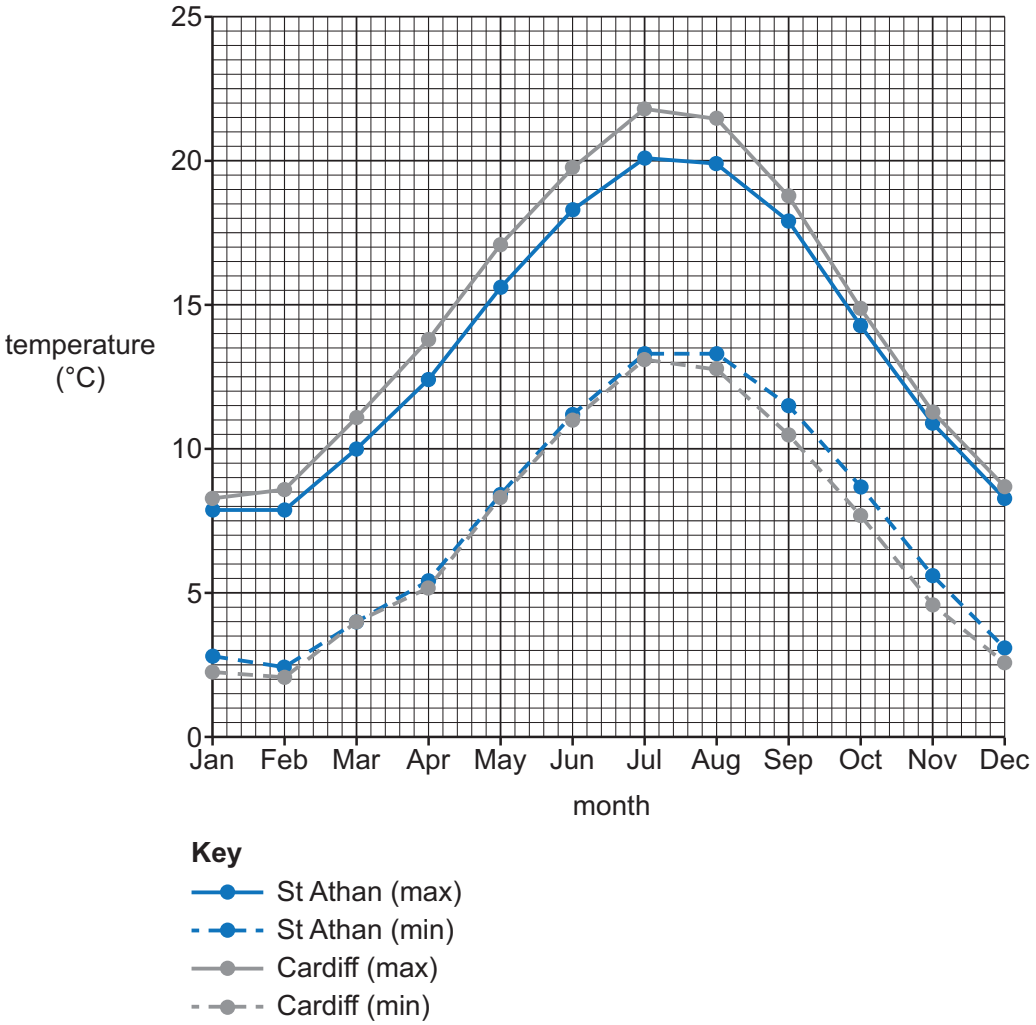


Fig. 1.2 for Question 1

Average monthly rainfall totals for St Athan and Cardiff

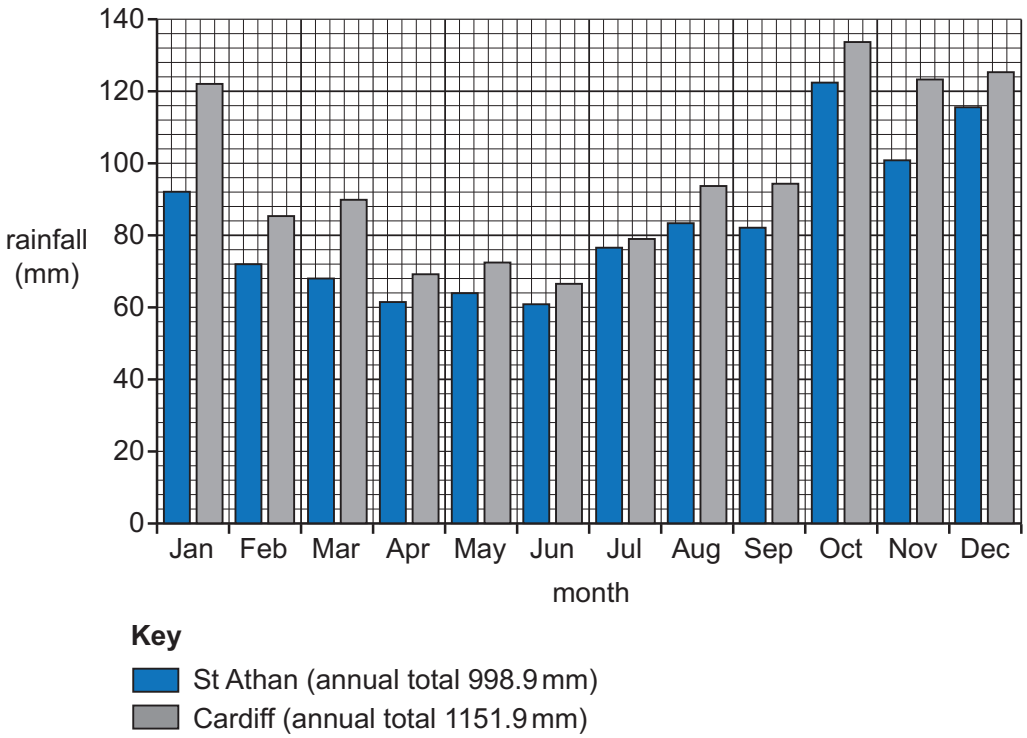


Fig. 1.3 for Question 1

Average wind direction percentages in October for Cardiff from 2001 to 2018

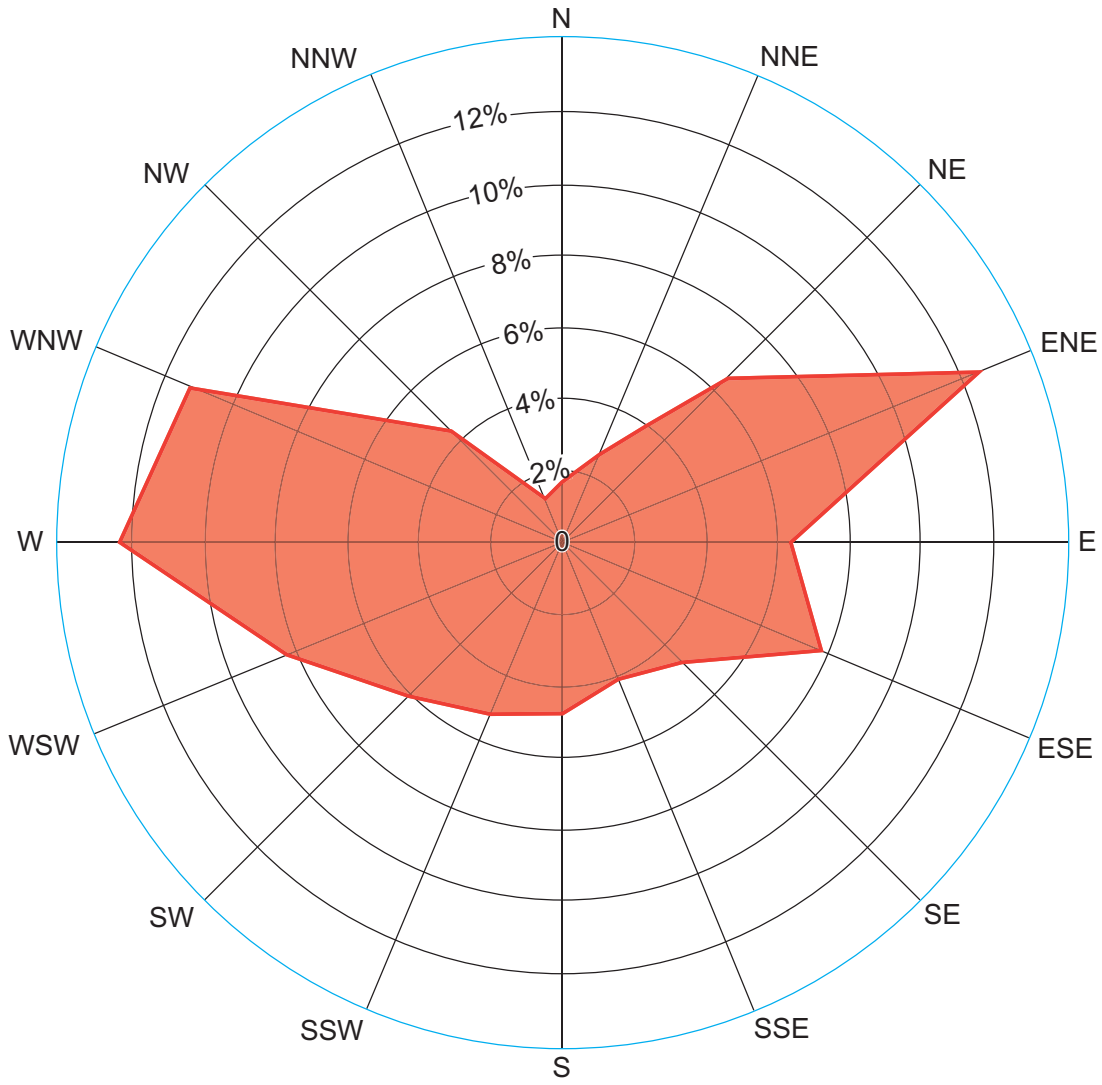


Fig. 2.1 for Question 2

The impact of a one-metre high hedgerow on air temperature, relative humidity and wind speed

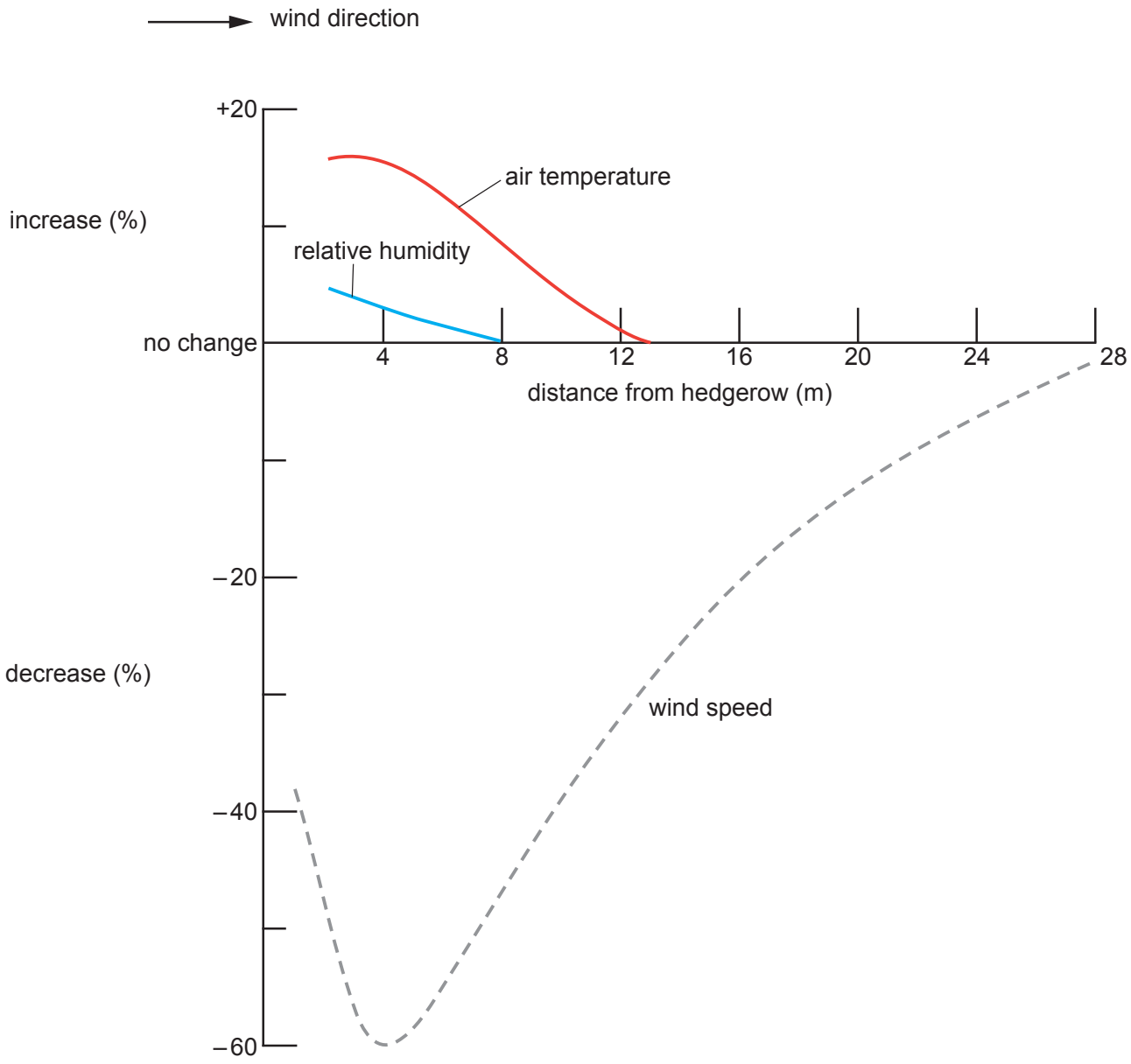


Fig. 5.1 for Question 5

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

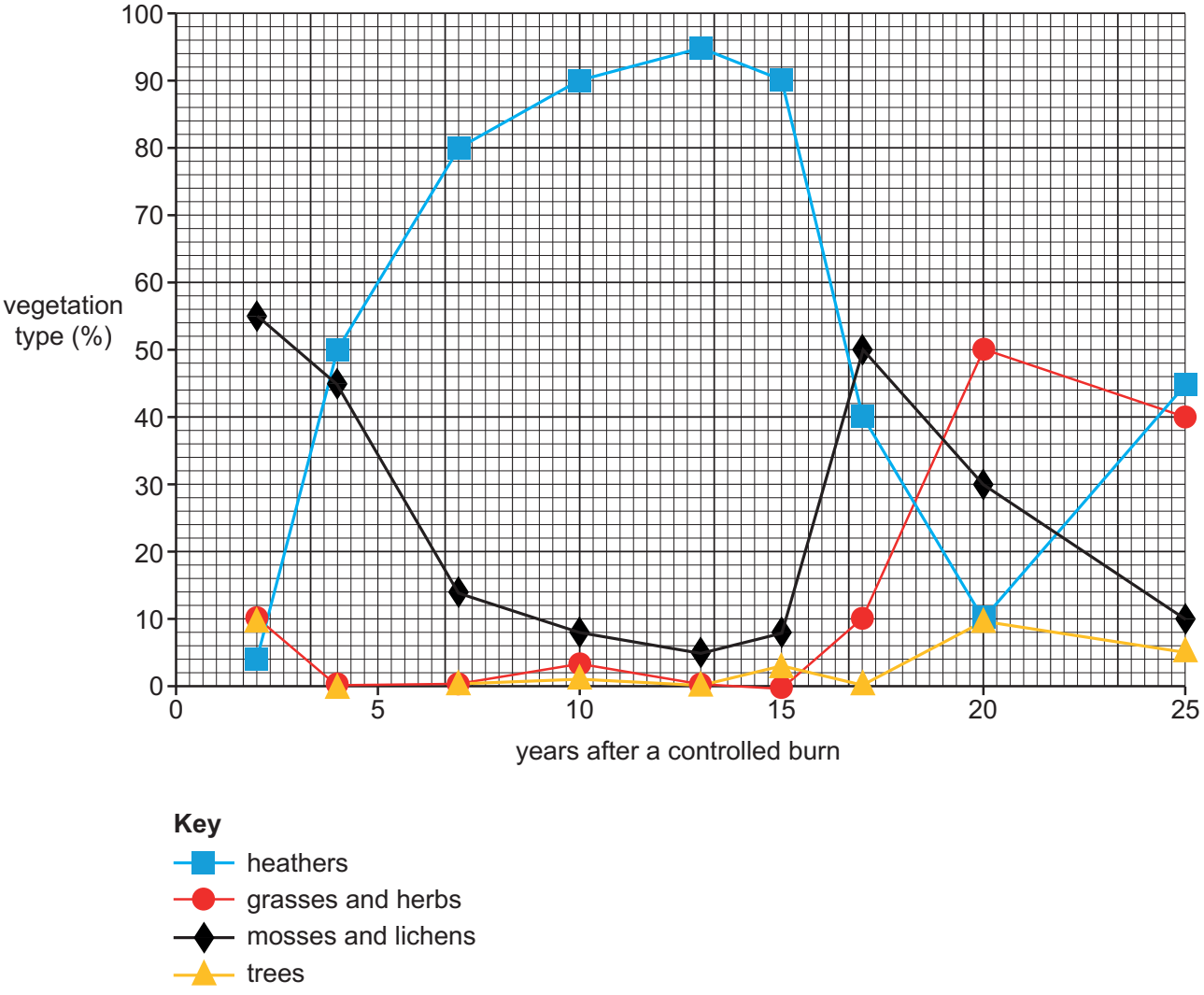
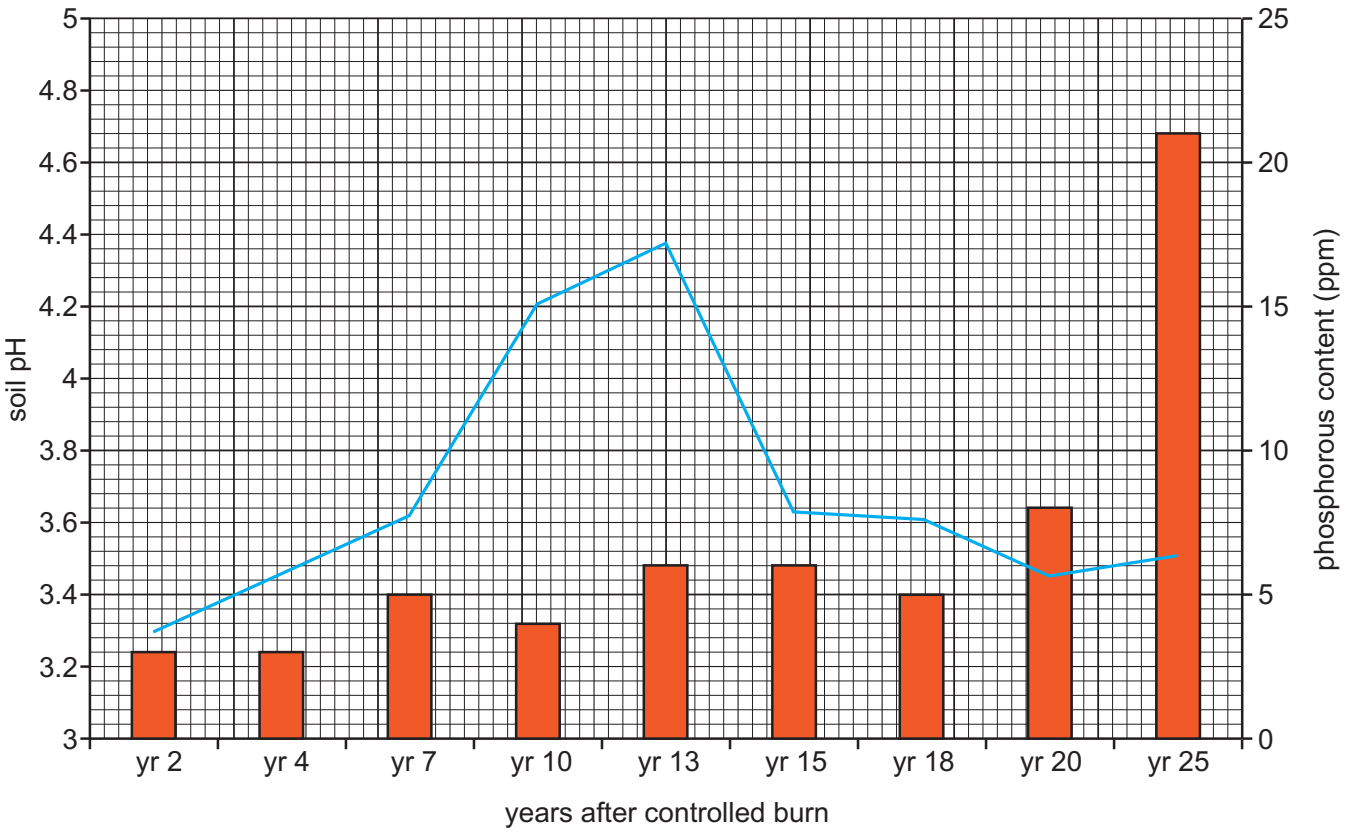


Fig. 5.2 for Question 5

Phosphorous content and pH of soils on heather moorland over time after a controlled burn



Key

phosphorus parts per million (ppm)

pH

Fig. 6.1 for Question 6

Negative impacts of selected human activities on freshwater ecosystems in the state of Maine, USA

HUMAN ACTIVITIES	PHYSICAL IMPACTS							IMPACTS ON WATER CHEMISTRY						
	Habitat loss/degradation	Channel morphology modification	Sediment quality and quantity	Coarse woody debris	Vegetation reduction	Temperature change	Impeded passage	Nutrient enrichment	pH and alkalinity	Aluminium	Mercury and trace metals	Salt	Pesticides
Dams and bridges	X	X	X			X	X						
Stream flow modification		X	X	X		X							
Water extraction	X					X							
Mining			X						X	X	X		
Deforestation		X	X	X	X	X		X					
Agriculture	X		X	X	X	X		X	X				X
Residential/commercial development	X	X	X	X	X	X		X				X	X
Roads			X									X	
Point source pollution						X		X			X		
Invasive species	X												
Aquaculture								X					
Climate change	X					X							

Key

X = negative impact

Fig. 9.1 for Question 9

Map to show the location of a footpath in a part of upland UK

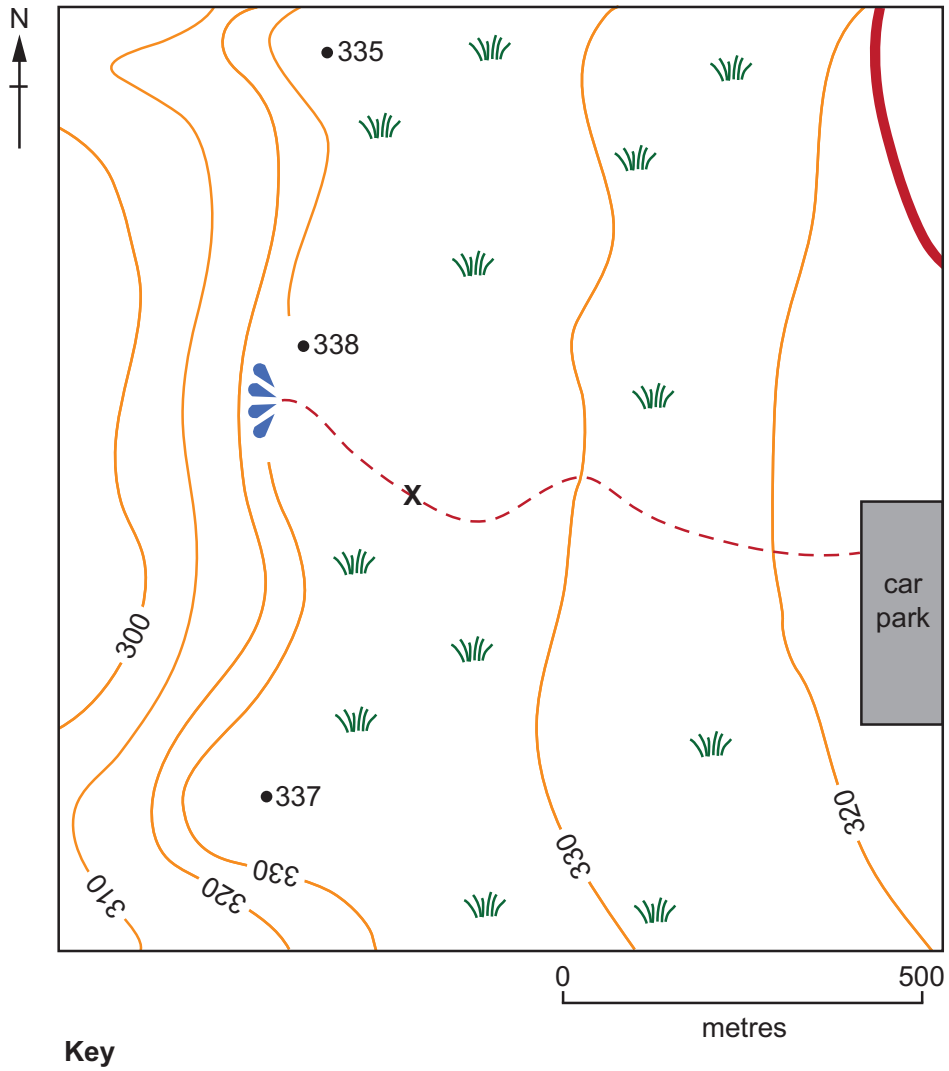


Fig. 9.2 for Question 9

Cross sections of part of the footpath at site X shown on Fig. 9.1 for 2007, 2012 and 2017

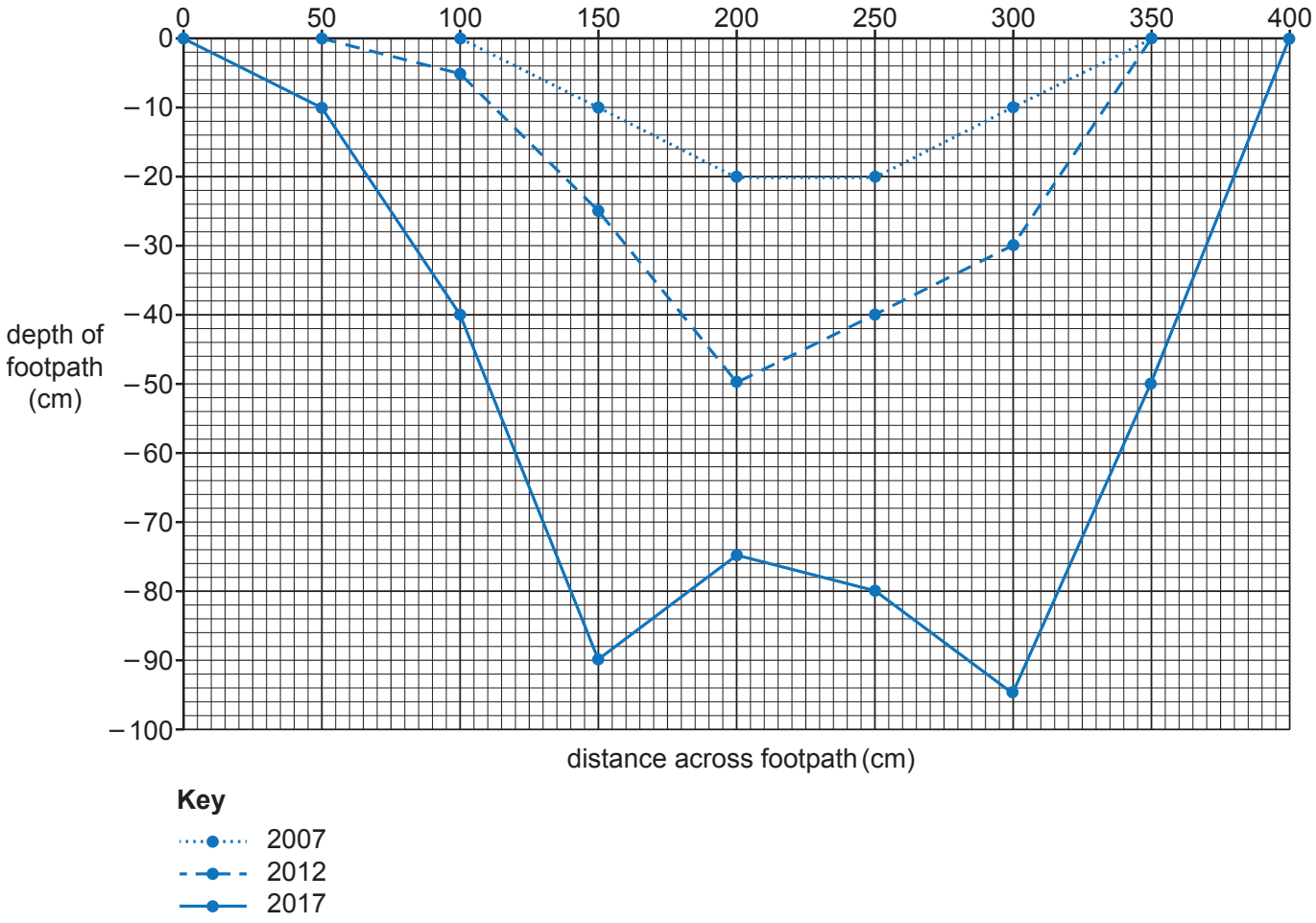


Fig. 9.3 for Question 9

Kite diagram of vegetation across the footpath at site X, 2017

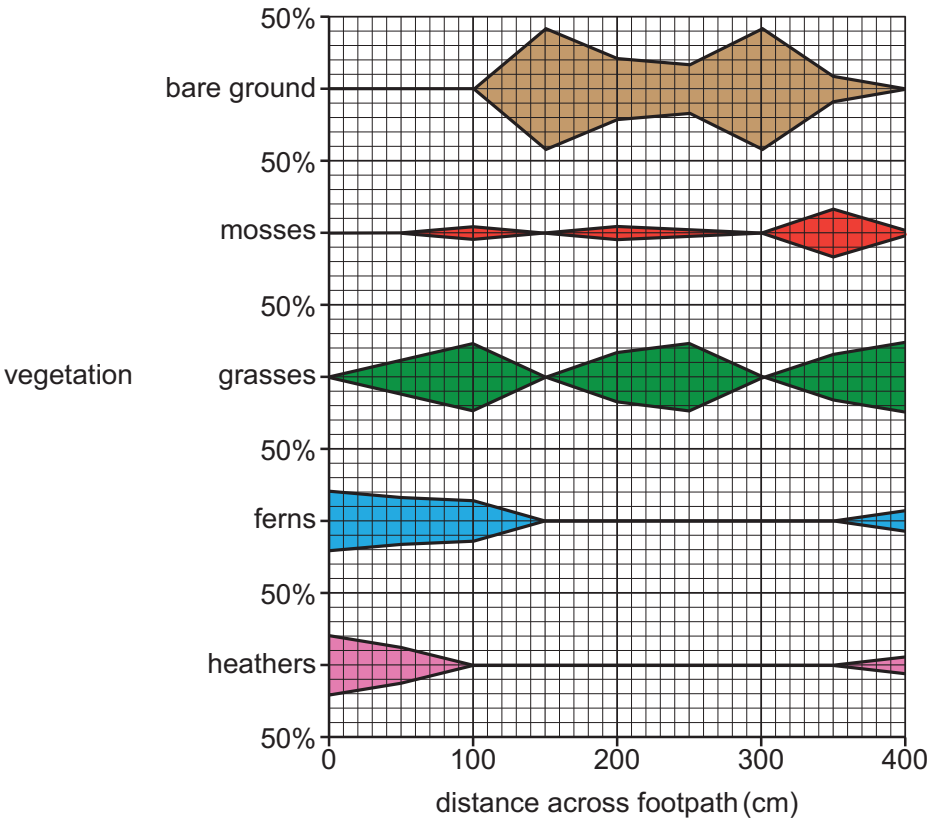
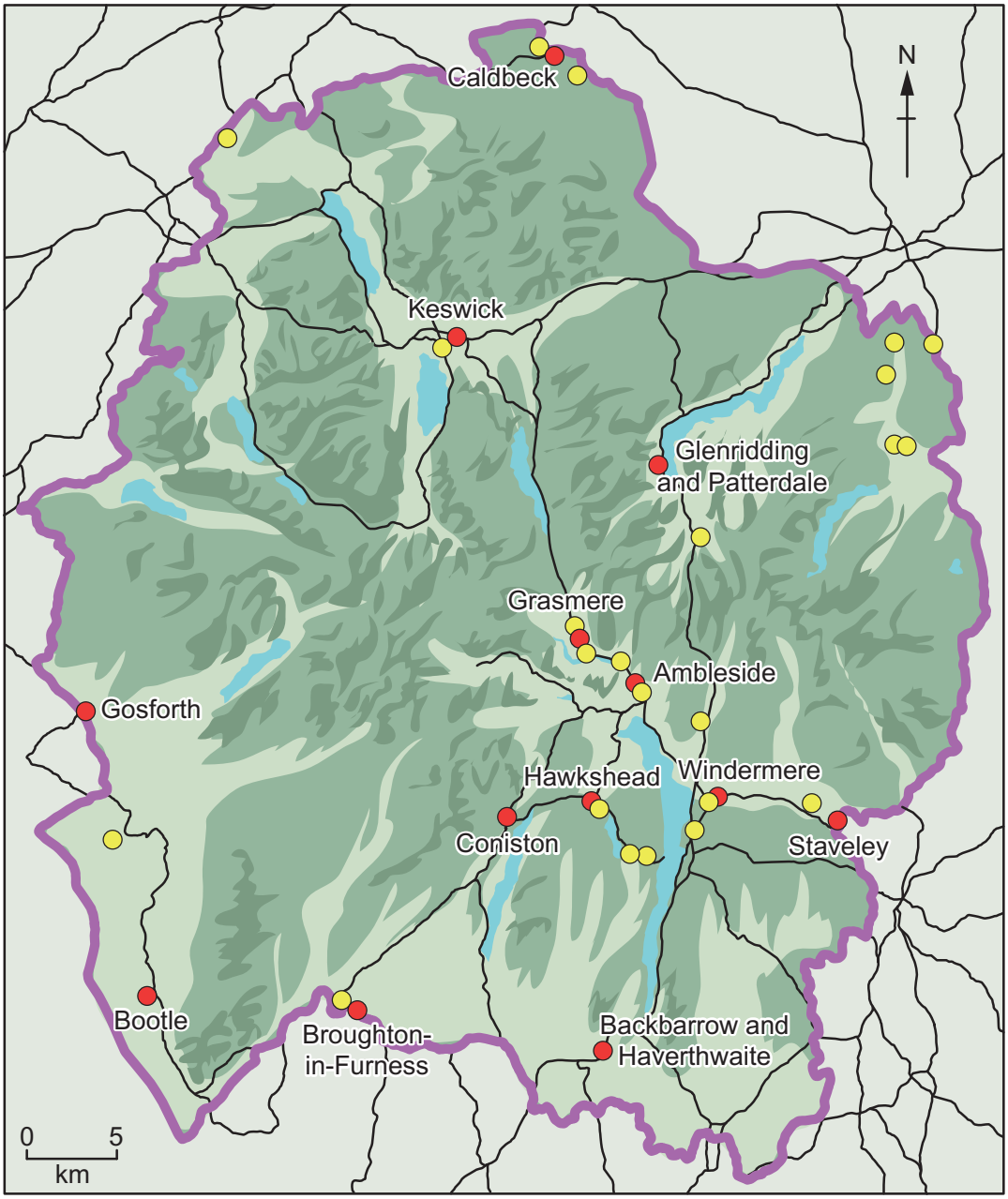


Fig. 10.1 for Question 10

Rural service centres and conservation areas in the Lake District National Park, England



Key

- rural service centre
- conservation area
- roads
- lakes
- Lake District National Park boundary