



## Section A

Answer **all** questions in this section.

- 1 (a) Fig. 1.1 shows three different types of aquifers.

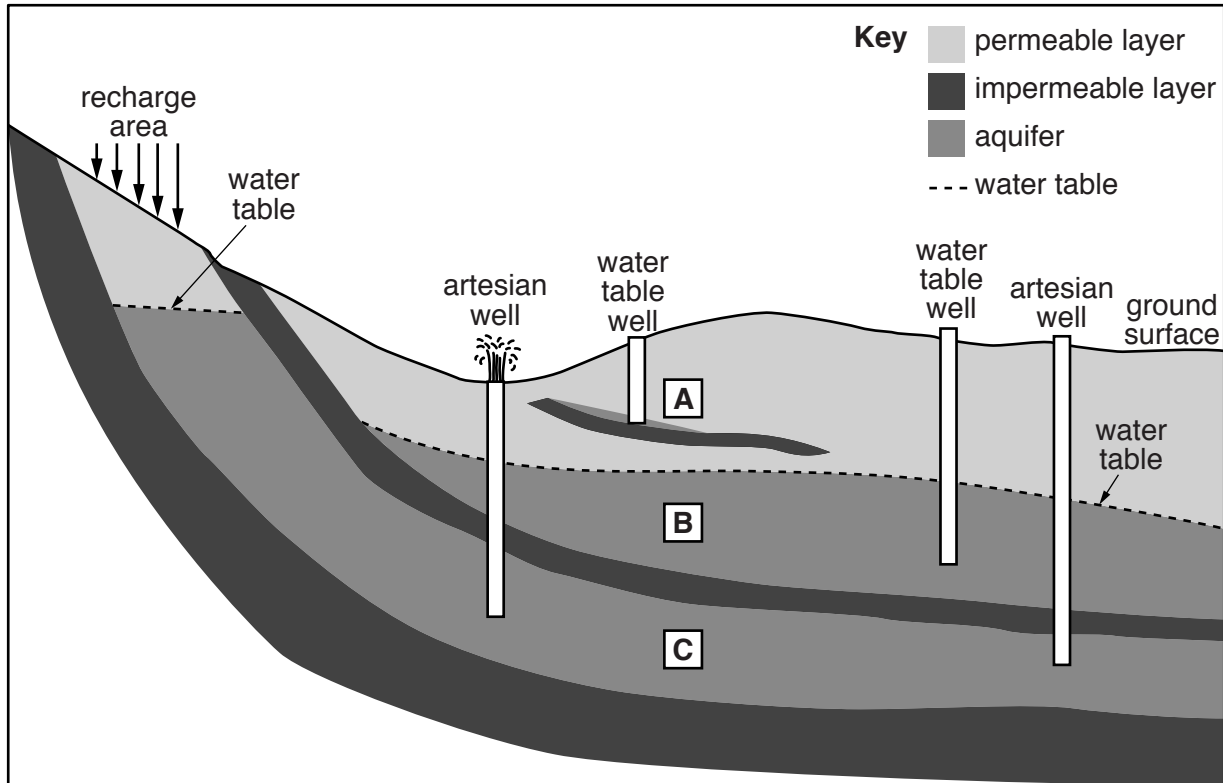


Fig. 1.1

- (i) Identify the type of aquifer at positions **A**, **B** and **C** in Fig. 1.1.  
Choose from the list below.

**unconfined**

**confined**

**perched**

**A** .....

**B** .....

**C** .....

[2]

- (ii) With reference to Fig. 1.1, describe the characteristic features of each of the different types of aquifers.

perched .....

.....

.....

.....

confined .....

.....

.....

.....

unconfined .....

.....

.....

.....

[6]

- (iii) Outline the benefits of extracting water from the aquifers located at **A** and **C** in Fig. 1.1.

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.....

[2]

- (b) Fig. 1.2 is adapted from a water cycle report for the Great Artesian Basin in Australia. It shows the losses, gains, stores and flows of water in the area.

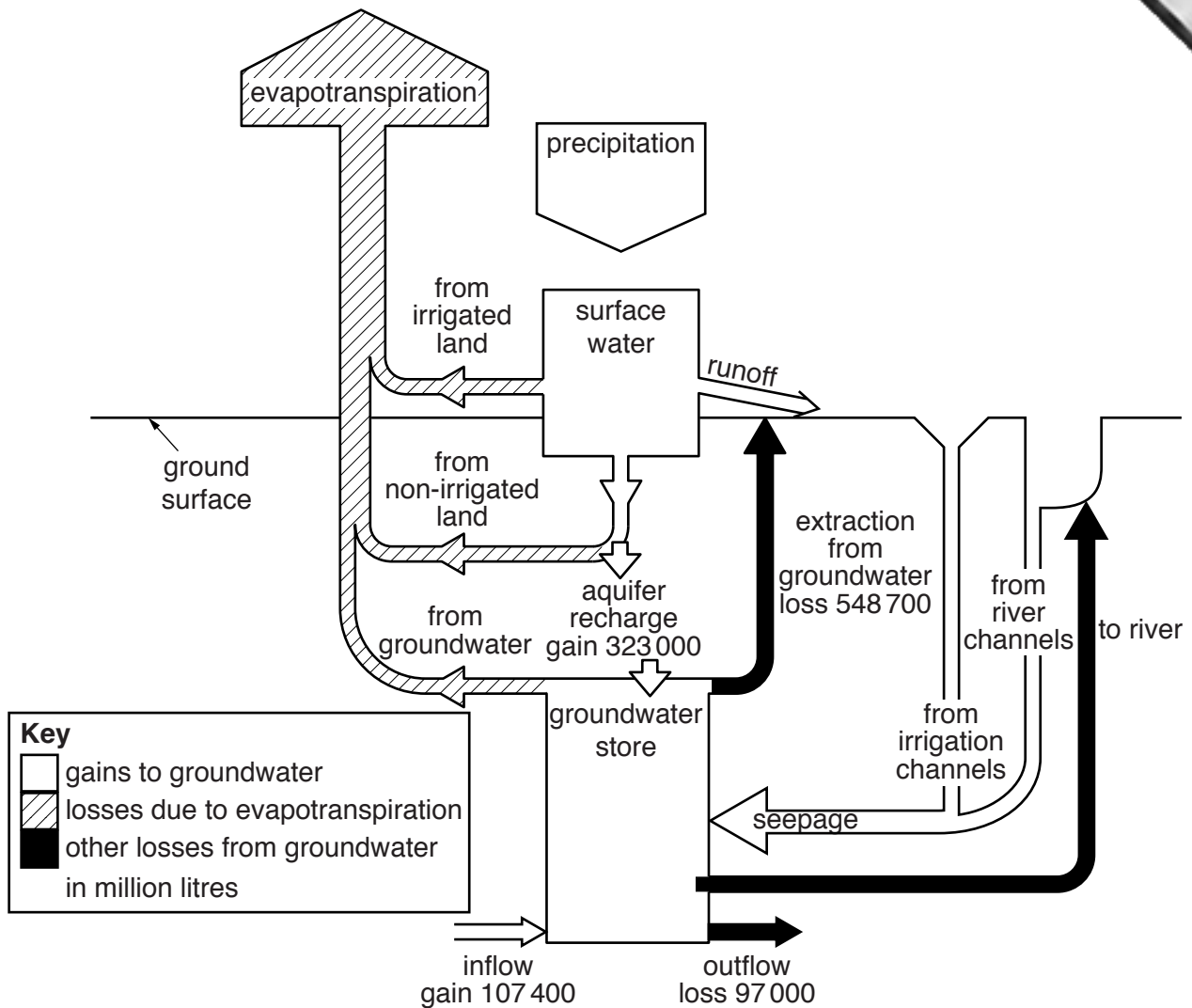


Fig. 1.2

- (i) With reference to Fig. 1.2, explain what is meant by the term *aquifer recharge*.

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.....[2]

- How natural processes can be used to clean up contamination from the groundwater is a large.
- .....
- .....
- .....

[8]

**[Turn over**

- 2 (a) Fig. 2.1 shows a food web for some of the organisms living on part of the Galapagos Islands. Fig. 2.2 shows the locations of some native species on the islands.

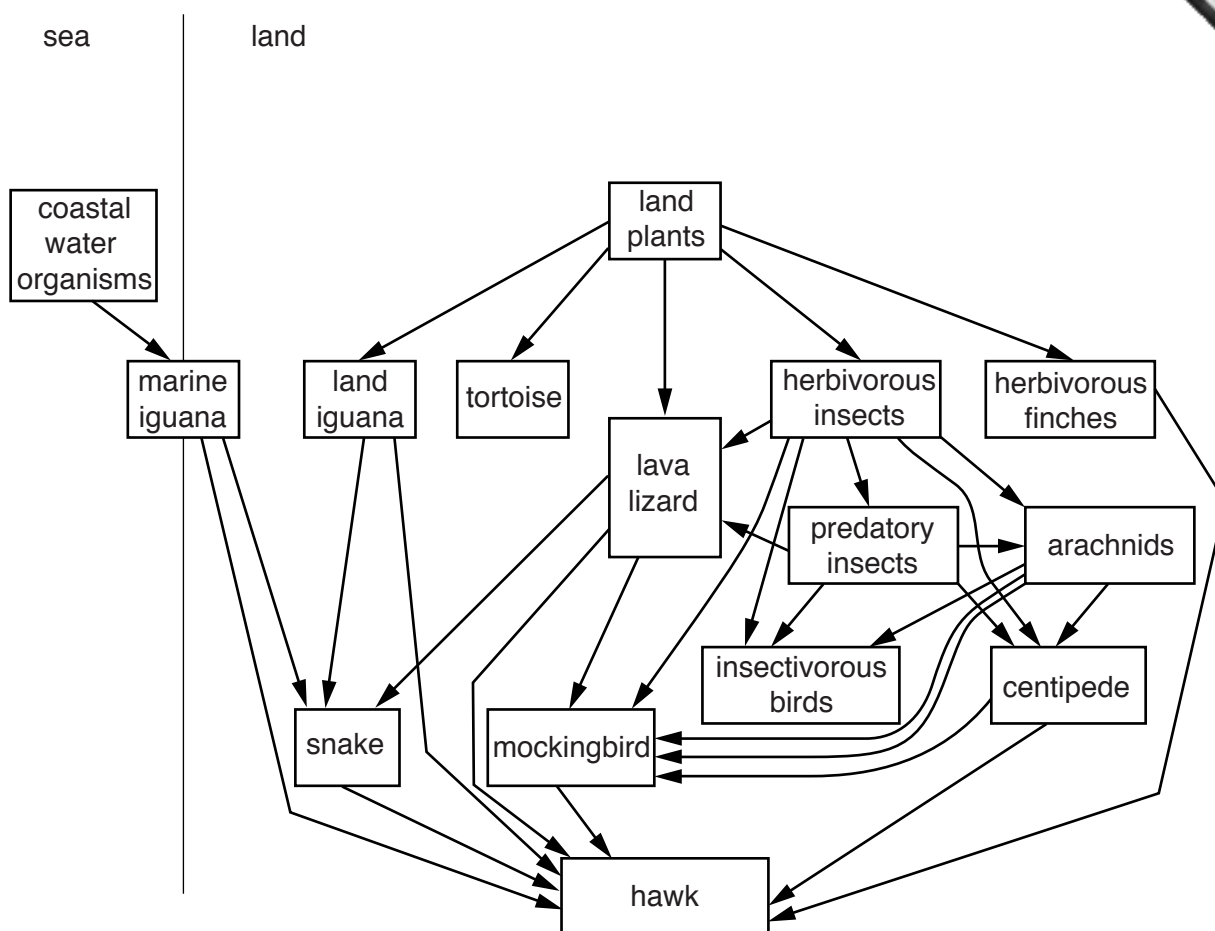


Fig. 2.1

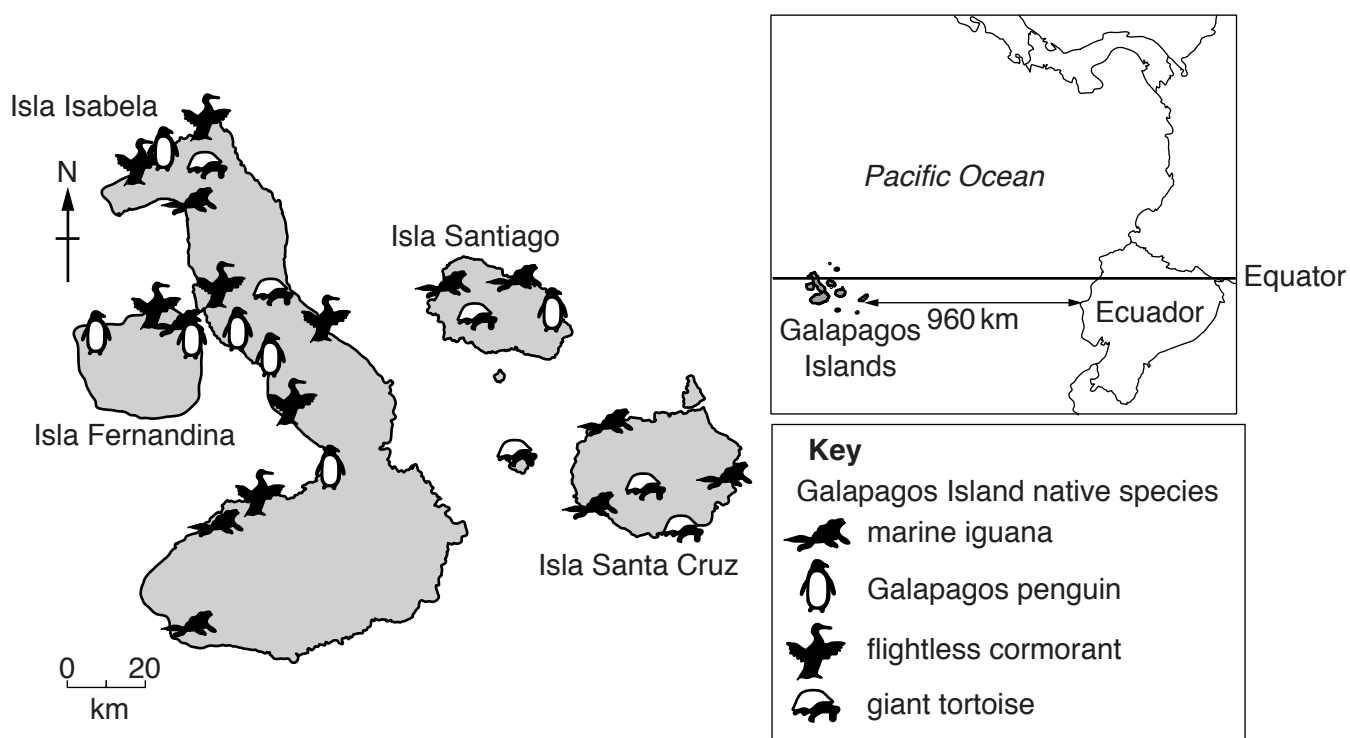
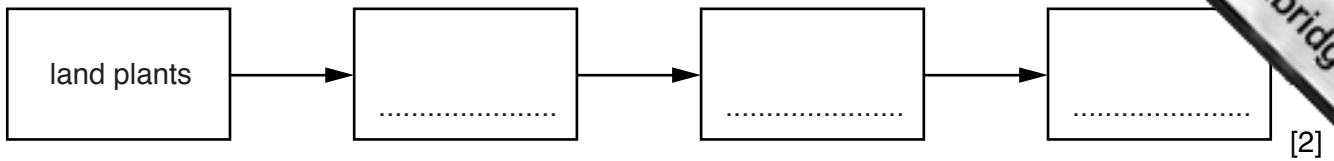


Fig. 2.2

- (i) With reference to Fig. 2.1, complete the four-stage food chain.



- (ii) With reference to Fig. 2.1 and Fig. 2.2, explain how the terms *habitat* and *niche* can be applied to the location of species in the Galapagos Islands.

habitat .....

.....

niche .....

.....

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.....

..... [4]

- (iii) A marine reserve has been established with a 64 km radius around the islands. With reference to Fig. 2.1 and Fig. 2.2, explain the need to conserve the Galapagos Islands' habitats **and** protect their coastal waters.

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..... [4]

- (b) (i) Suggest **one** way in which tourism can pose a threat to the species in the Galapagos Islands.

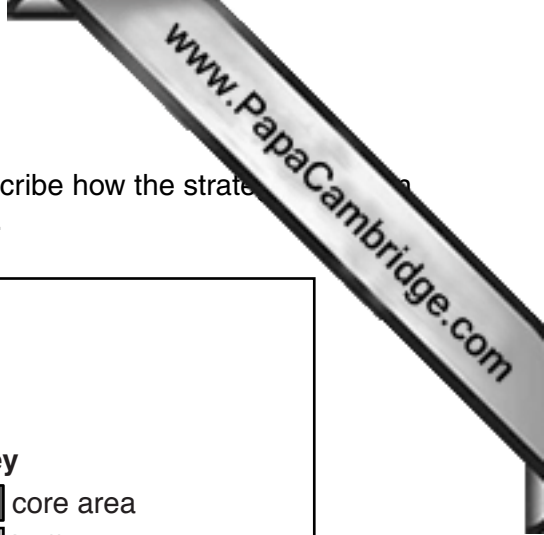
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..... [2]

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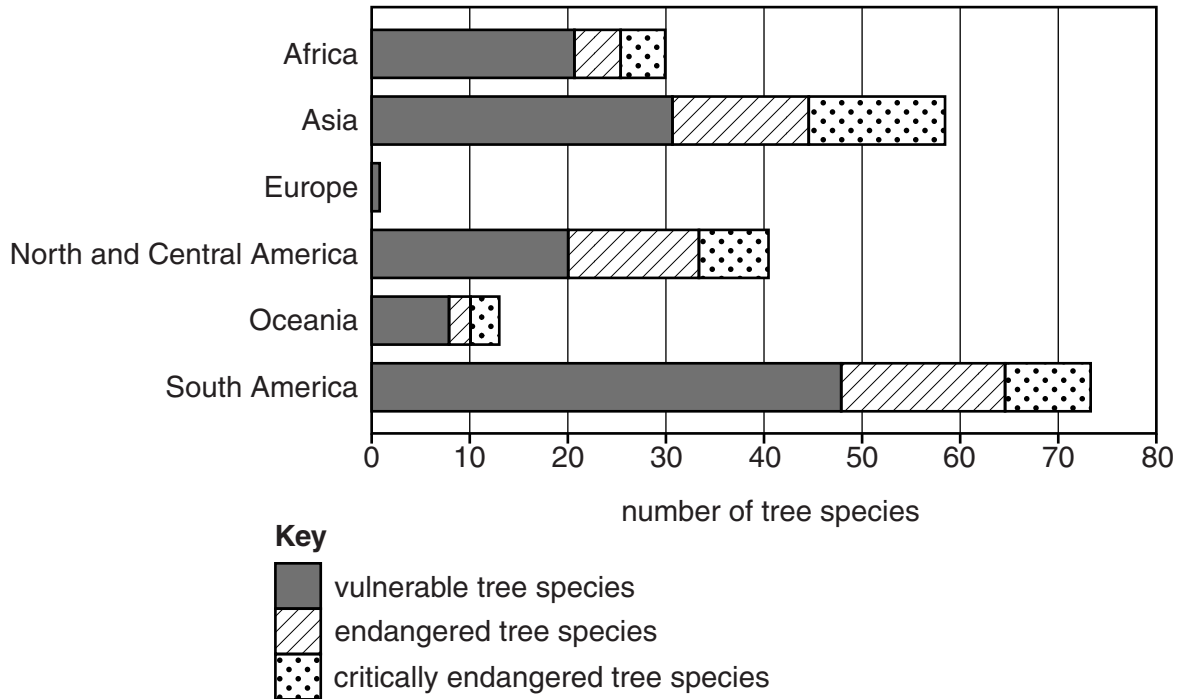
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## Section B

Answer **one** question from this section.

- 3 (a) Fig. 3.1 shows the number of threatened tree species in three categories for different regions.



**Fig. 3.1**

Briefly describe the regional differences in the data shown in Fig. 3.1.

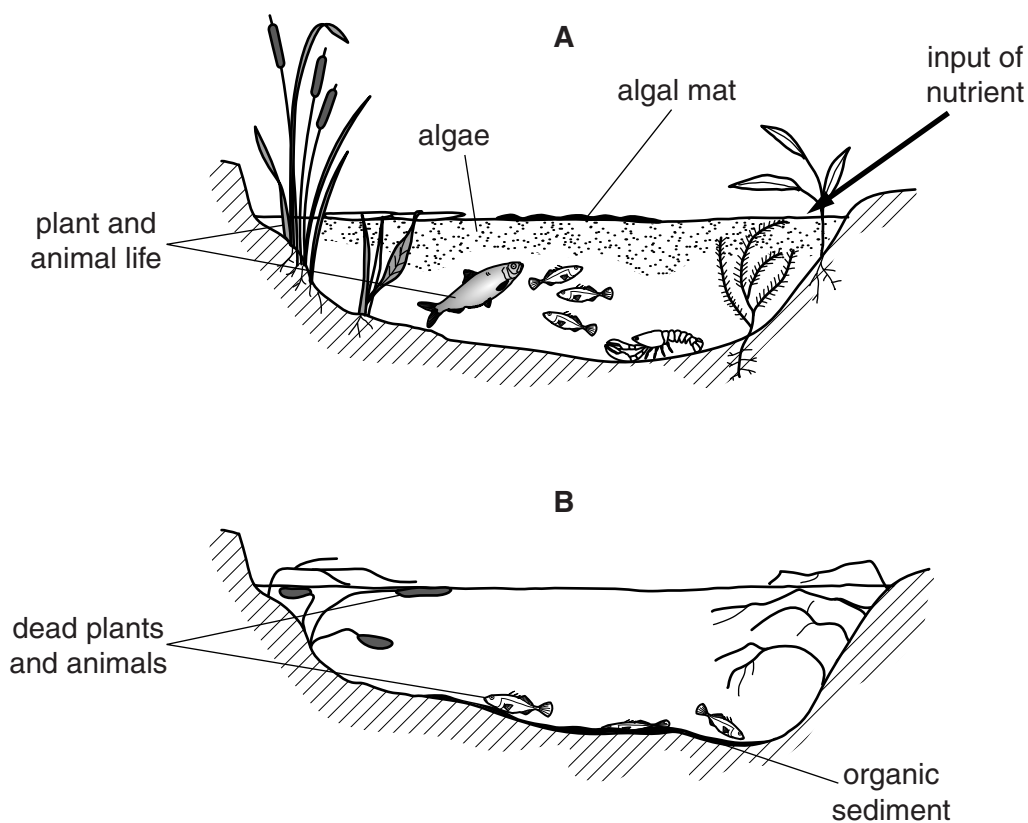
[10]

- (b) Using an example of a biome you have studied, describe the threat to both the extent and ecological quality of its forest ecosystems. Evaluate the measures that can be used to sustain the biodiversity of these forest ecosystems.

[30]

[Total: 40]

- 4 (a) Fig. 4.1 shows a lake which is enriched with nutrients in **A** and has subsequently suffered from the effects of eutrophication in **B**.



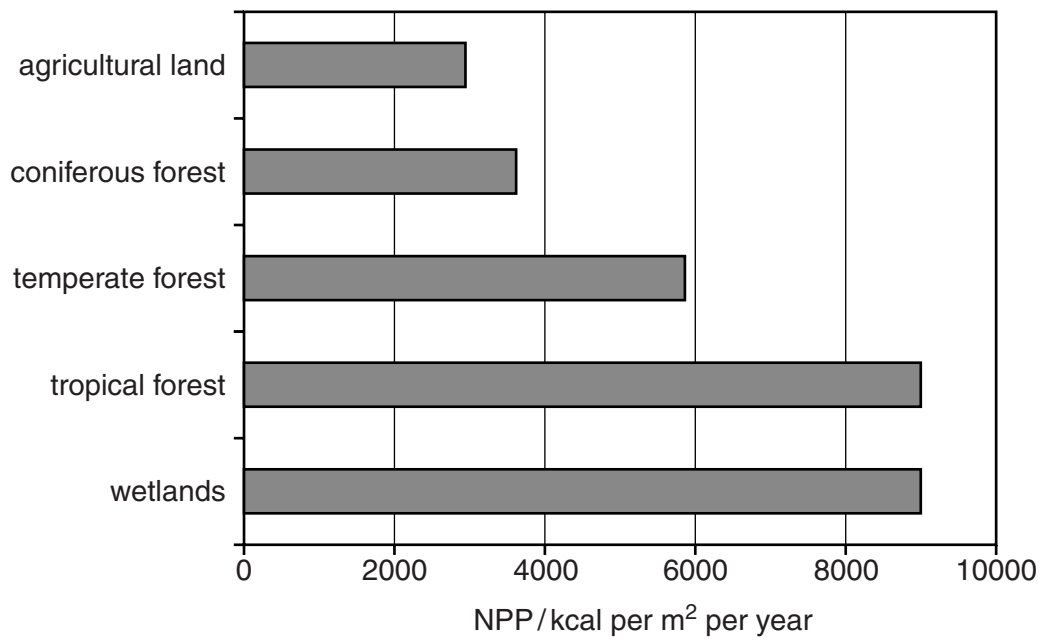
**Fig. 4.1**

With reference to Fig. 4.1, describe the process of eutrophication and its effects. [10]

- (b) Describe the sources of nutrient enrichment of rivers and lakes. For a river with which you are familiar, evaluate the measures that have been used to prevent or reduce pollution. [30]

[Total: 40]

- 5 (a) Fig. 5.1 shows the net primary productivity (NPP) of ecosystems and agricultural land.



**Fig. 5.1**

With reference to the data in Fig. 5.1, outline **three** factors that affect the variations in primary productivity of ecosystems and agricultural land. [10]

- (b) Fig. 5.2 shows the hectares of productive land and sea needed to resource the lifestyle of one person.

country	productive land and sea/ha
United States of America	9.6
Brazil	2.1
China	1.6
India	0.8

**Fig. 5.2**

Using examples of countries at different levels of economic development, assess the extent to which the sustainable use of resources can help to resolve issues arising from the increasing demands of populations. [30]

[Total: 40]

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