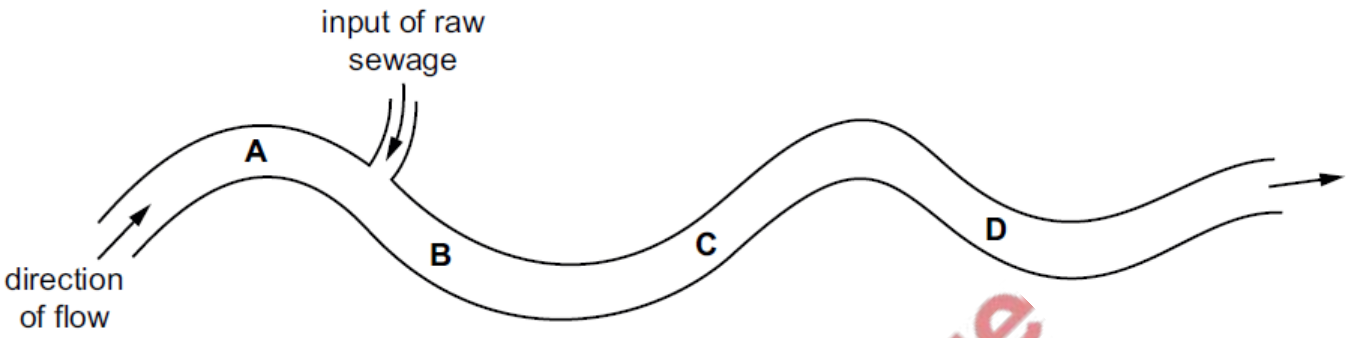
Human influences on ecosystems – 2023 June IGCSE Biology 0610

1. June/2023/Paper_0610/11,21/No.39, 38

The bloodworm is an organism that is found in heavily polluted water.

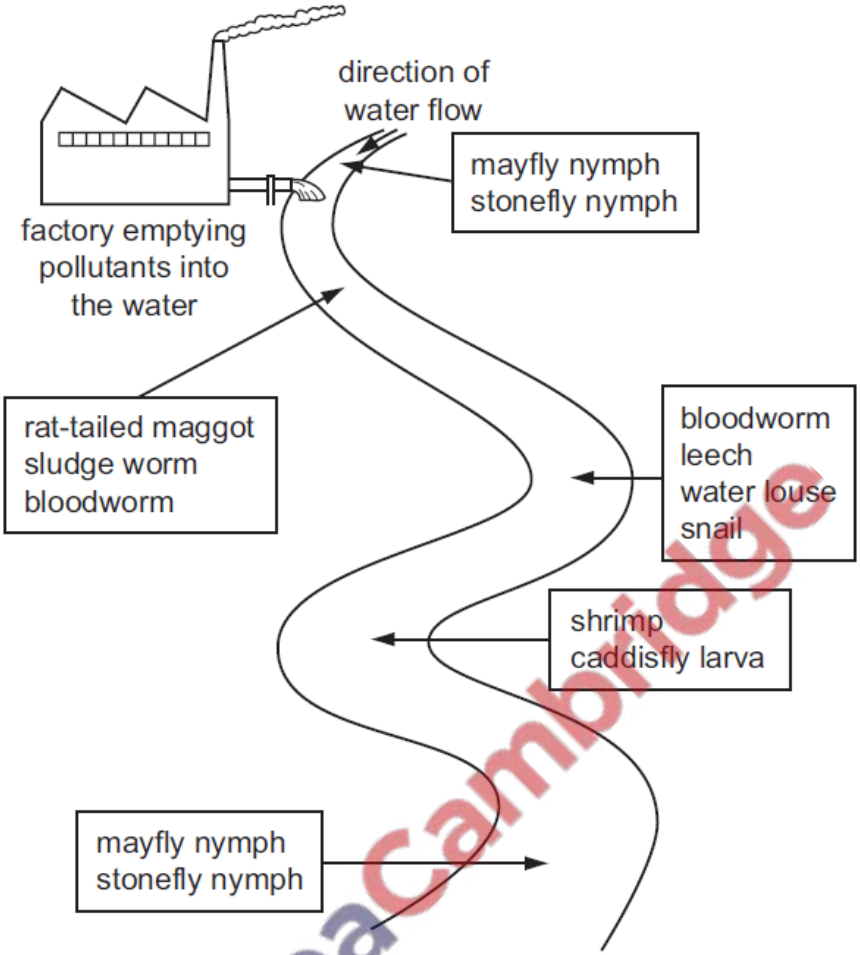
The diagram shows where raw sewage flows into a river.

Where would there be fewest bloodworms?



2. June/2023/Paper_0610/12/No.39

The diagram shows the results of a survey on the types of animals found along a stretch of river near to a factory.



Which animal lives in the least polluted water?

A bloodworm

B caddisfly larva

C leech

D stonefly nymph

3. June/2023/Paper_0610/13/No.39

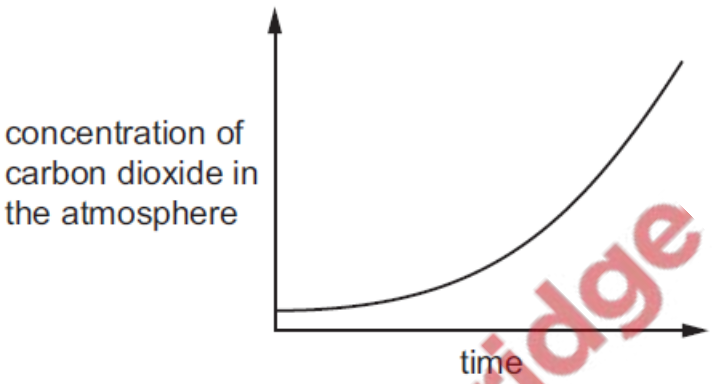
Three human activities are listed.

1 burning fossil fuels

2 deforestation

3 replanting forests

Which activities can cause the change shown in the graph?



A 1, 2 and 3 **B** 1 and 2 only **C** 1 only **D** 2 and 3 only

4. June/2023/Paper_0610/21/No.37

The number of Atlantic bluefin tuna fish found in the Atlantic Ocean has significantly decreased in the last 50 years.

Which method would make the biggest improvement in the conservation of tuna fish stocks?

A decreasing the size of holes in fishing nets

B genetic modification of tuna

C introducing fishing quotas

D selective breeding of tuna

5. June/2023/Paper_0610/22/No.37

What is a negative impact on the environment caused by deforestation?

A decrease in land for livestock production

B decreased levels of carbon dioxide in the air

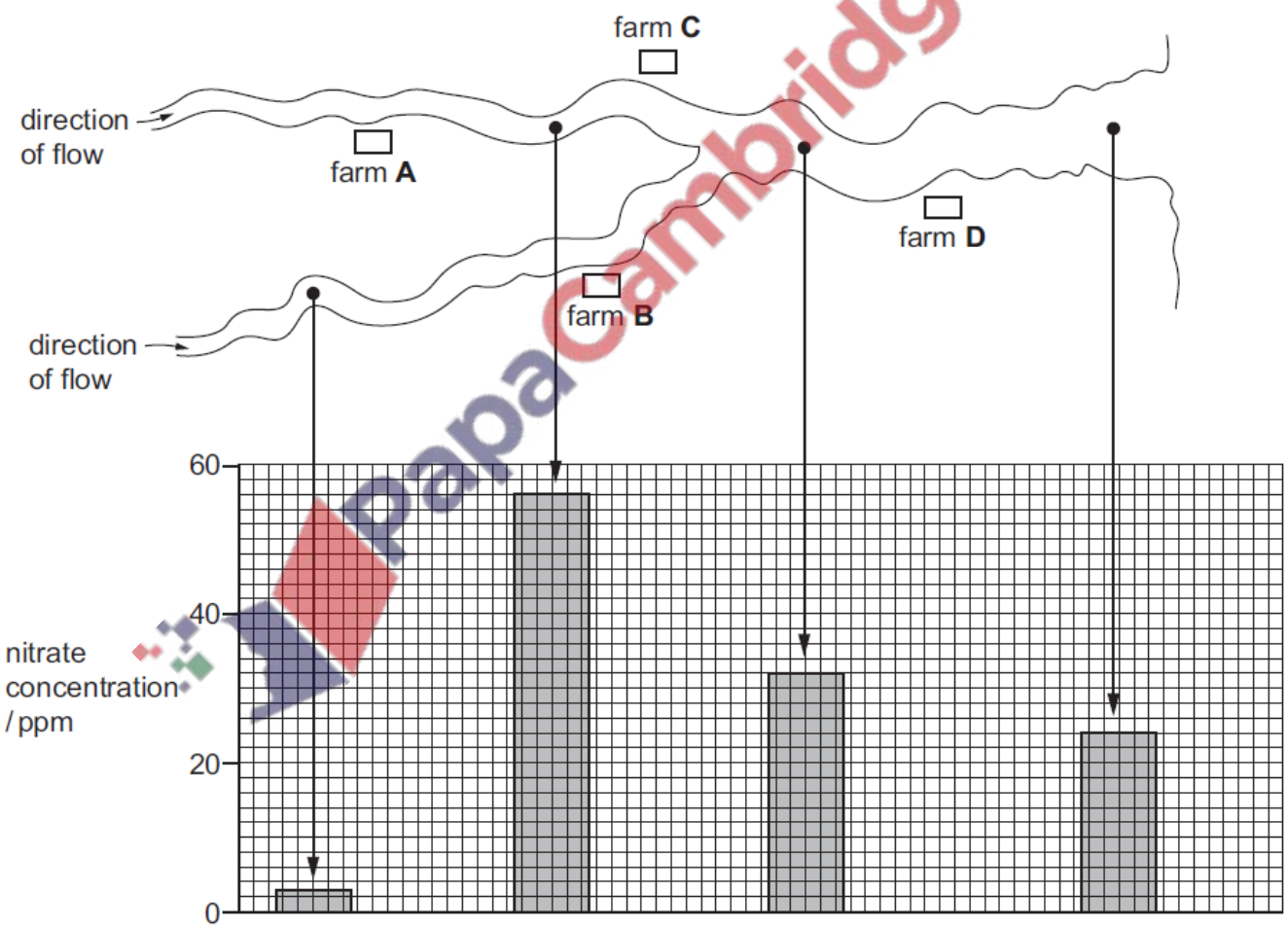
C increase in flooding

D increased levels of soil

6. June/2023/Paper_0610/22/No.38

The diagram shows the positions of four farms and the concentrations of nitrate at different points in a river.

Which farm is likely to have been using too much fertiliser on its land?



7. June/2023/Paper_0610/23/No.37

Which substance is an enzyme used in fruit juice production?

A lactase

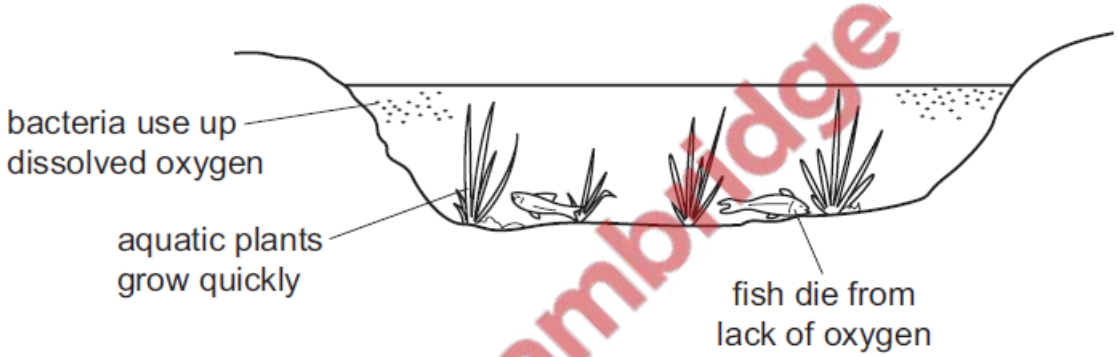
B maltose

C pectinase

D pepsin

8. June/2023/Paper_0610/23/No.38

The diagram shows some of the effects of human activity on a river.



What could have caused these effects?

A air pollution

B deforestation

C over-use of fertilisers

D presence of herbicides

(a) Fig. 6.1 is a graph that shows the concentration of dissolved oxygen in the water at increasing distances along a river.

Untreated sewage is released into the river. This is marked on the graph in Fig. 6.1.

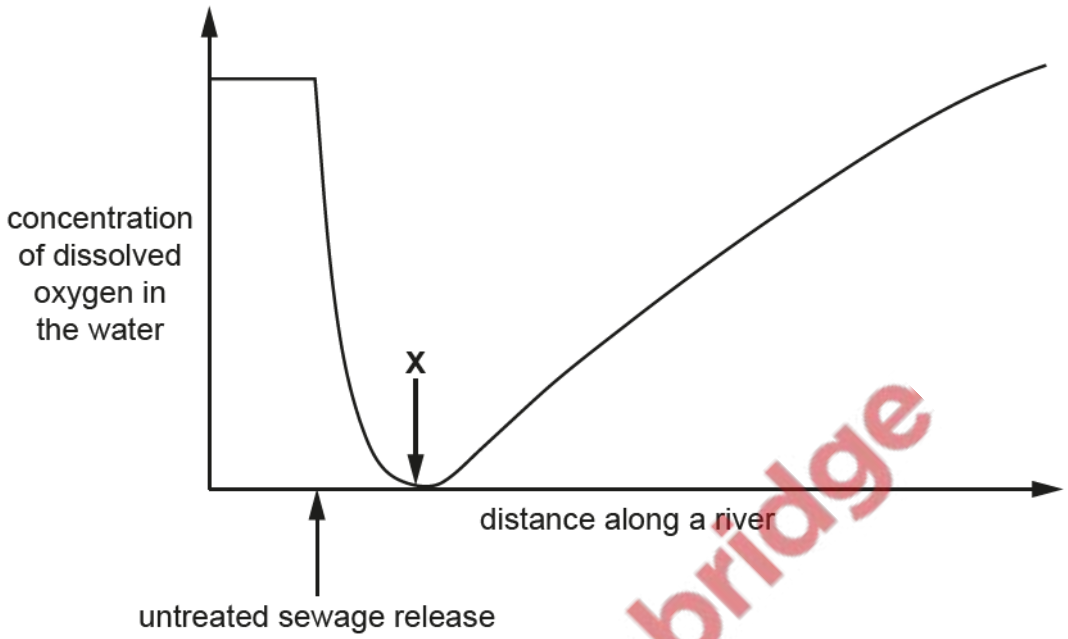


Fig. 6.1

(i) Describe the results shown in Fig. 6.1.

.....

.....

.....

.....

.....

.....

..... [3]

(ii) Predict **and** explain the effect on the organisms in the river of the dissolved oxygen concentration at **X** in Fig. 6.1.

.....

.....

.....

.....

..... [2]

(b) Describe why it is important for humans that sewage is treated before entering rivers.

.....

.....

..... [1]

(c) Pollution can cause organisms to become extinct.

State **three** other factors that can cause extinction.

1 .....

2 .....

3 .....

[3]

[Total: 9]

10. June/2023/Paper_0610/43/No.6

(a) Fig. 6.1 shows the percentage of land covered by forest in a country from 1660 until 2000.

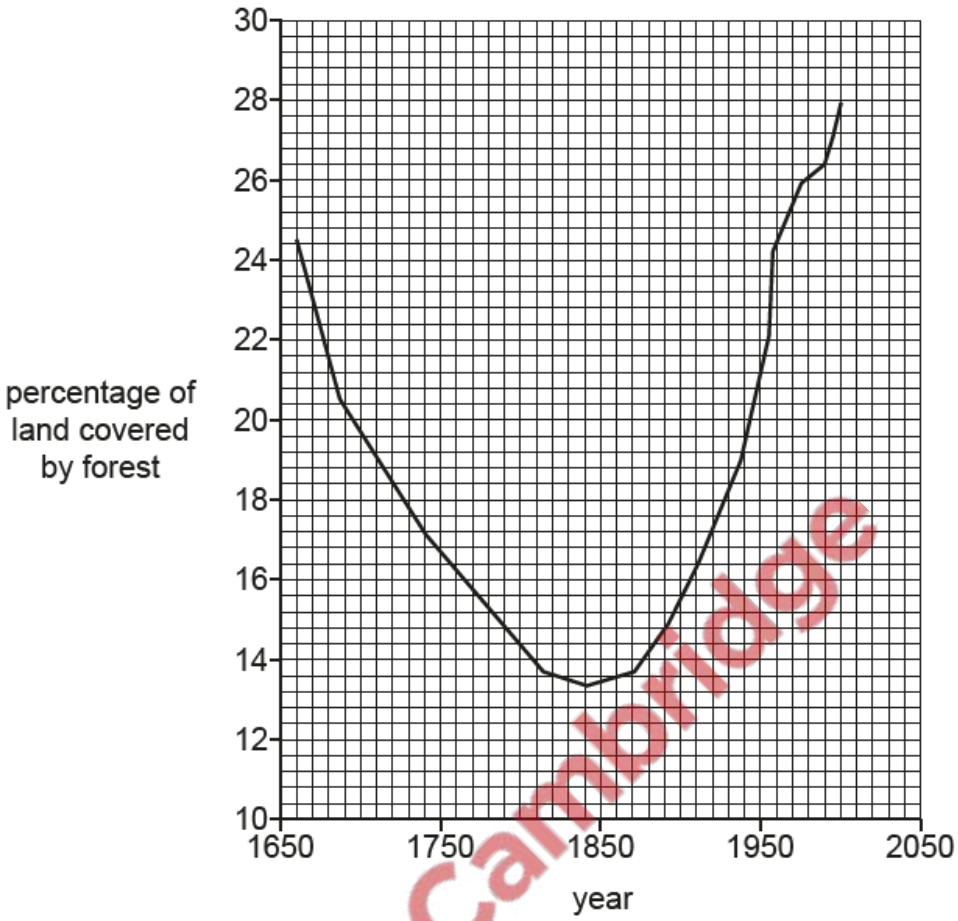


Fig. 6.1

(i) Using the information in Fig. 6.1, state which 10-year period had the highest increase in the percentage of land covered by forest.

..... [1]

(ii) Outline how human activities could cause the change in the percentage of land covered by forest from 1660 to 1800 shown in Fig. 6.1.

.....

.....

.....

.....

.....

.....

..... [3]

(b) It is estimated that 40% of plant species are at risk of extinction.

Seed banks can store seeds from many species for a long time.

Table 6.1 shows some information about one plant species that is stored in a seed bank.

Table 6.1

mass of one seed / g	percentage oil content	percentage protein content
1.96	71	11

(i) Using the data shown in Table 6.1, calculate the mass of protein in one seed.

..... g [1]

(ii) Suggest why many plants can easily be conserved using seed banks.

.....

.....

.....

.....

..... [2]

11. March/2023/Paper_ 0610/22/No.37

Untreated sewage is accidently released into a river for several weeks.

How will this affect the number of bacteria, the oxygen concentration of the water and the number of fish?

	number of bacteria	oxygen concentration	number of fish
A	decrease	decrease	increase
B	increase	decrease	decrease
C	decrease	increase	decrease
D	no change	no change	no change

12. March/2023/Paper_ 0610/22/No.38

Fish stocks can be conserved in various ways.

Which method of conservation ensures that mainly large fish are caught?

A having closed seasons

B having protected areas

C having a minimum mesh size for nets

D setting legal fishing quotas