

AS Level Biology A
H020/02 Depth in biology

Question Set 11

1. (a) Elephants are protected by the treaty known as the Convention on International Trade in Endangered Species (CITES).

(i) Give **one** aim of CITES.

Protection of species that, as a result of trading, are endangered.

[1]

(ii) Between 1913 and 2013 the approximate worldwide population of living elephants dropped from 10 000 000 to 500 000.

Calculate how many orders of magnitude smaller the elephant population is likely to be in 2213 compared to 1913.

Assume that the elephant population continues to decline at the same rate each 100 years.

Show your working.

$$\frac{10\,000\,000 - 500\,000}{10\,000\,000} \times 100 = 95\%$$

In 100 years, declines by 95%

1913 – 2013 : 10,000,000 to 500,000

2013 – 2113 : 500 000 \times 0.05 \therefore 500,000 to 25,000

2113 – 2213 : 25000 \times 0.05 \therefore 25,000 to 1250

1.25×10^3 is 4 orders of magnitude smaller than 1×10^7

Answer..... **4 orders of magnitude**

(b) Fig. 1 shows the approximate percentages of elephants that were killed illegally in three different regions of Africa. [2]

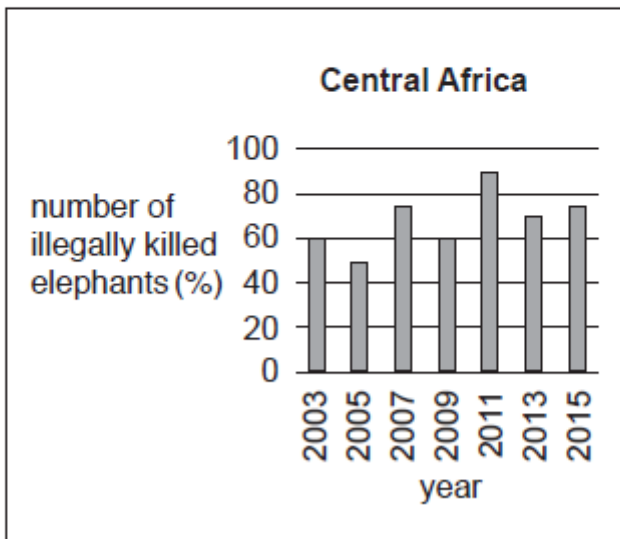
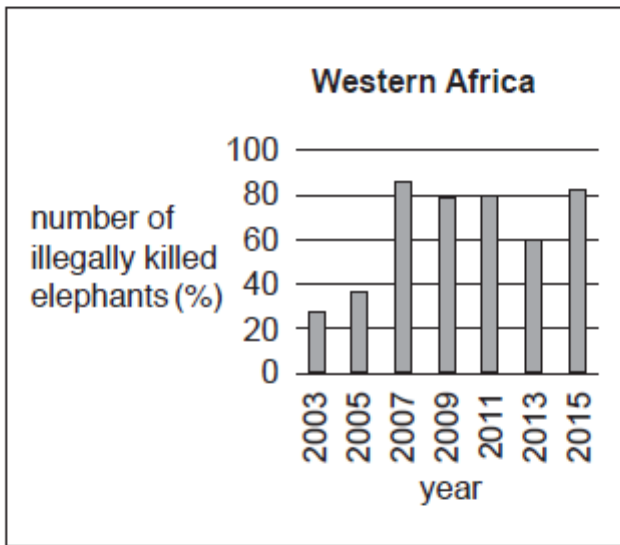
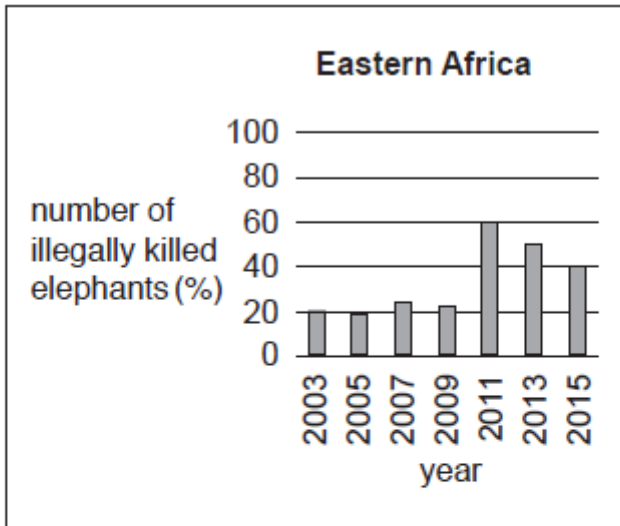


Fig. 1

John Scanlon, the Secretary-General of CITES in 2015, made the following statement:

"African elephant populations continue to face an immediate threat to their survival from unacceptably high-levels of poaching for their ivory, especially in Central and West Africa where high levels of poaching are still evident. There are some encouraging signs, including in certain parts of Eastern Africa... showing us all what is possible through a sustained and collective effort..."

Give two pieces of evidence to show how the data in Fig. 1 support the statement made by John Scanlon.

Evidence 1

In Eastern Africa, the number of illegally killed elephants decreases from 60% in 2011 to 40% in 2015.

Evidence 2

In Eastern Africa, the number of illegally killed elephants each year is consistently lower than in Central and Western Africa, with a maximum of 60%. The numbers in Central and Western Africa are generally greater than 60%.

[2]

Total Marks for Question Set 11: 5

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