

B. READING

THE CHANGING FORTUNES OF ANTARCTIC PENGUINS

Robert Gates explains how climate change has started to affect the natural habitat of the Adélie penguin

A The effects of climate change are complex, with scientists constantly trying to understand how ecosystems are affected. Nowhere is this more so than in the Antarctic – a place where no humans live permanently, but which nevertheless is undergoing change due to human interference.

B Over the last five years, scientists have been examining the populations of different types of penguin that inhabit the Antarctic continent. In particular, they have been looking at penguins living on Ross Island – a huge island connected to the Antarctic mainland by a permanent sheet of ice, and formed from four large volcanoes, one of which is still active. On the western side of Ross Island is Cape Royds, home to a colony of Adélie penguins. In 2000, there were estimated to be about 4,000 Adélie nests, but a survey carried out in the last few months found that the number had fallen to 2,100.

C Scientists say there are two main reasons for the population decline in this part of Ross Island. Firstly, Adélies cannot lay their eggs directly onto ice or snow. However, the average winter air temperature of the area has risen in the past half century. This causes more snow to fall, which buries the rocks on which Adélie penguins would typically construct their nests. Secondly, after a female Adélie lays her egg, she walks to the sea in search of food, while the male remains behind to hatch the egg. As soon as the female reaches an area of open sea, she will dive into the water and start feeding. When the female returns with fish for the penguin chick to eat, the hungry male also hurries off to reach the sea. In previous centuries, the walk would have been relatively short, between 15 and 20 kilometres. But in 2000, a large iceberg blocked the mouth of McMurdo Sound, where many Adélie penguins went to find food. At the same time, the ice in the bay at Cape Royds failed to break up as it had done in the past. This meant the Adélies then had to walk much further over the ice – often up to 75 kilometres – before they could reach the ocean. The result was often that the parent waiting on the nest became too hungry to wait any longer, and the eggs were abandoned.

D Elsewhere on Ross Island, in contrast to McMurdo Sound, the situation is more encouraging. At Cape Crozier, Adélie penguins are thriving. The colony is now thought to have an estimated 230,000 breeding pairs, an upturn of 20% over the last three decades. Penguins nesting on this part of Ross Island may actually be benefitting from human activity, scientists suspect. In 1996, a fishing company opened near the area, and started fishing for vast quantities of Chilean sea bass – otherwise known as the Patagonian toothfish. As both the Adélies and the sea bass eat silverfish, competition for this food

source has now been dramatically reduced, and this may partly explain why penguin numbers have risen at Cape Crozier.

E However, it isn't fish, but krill – tiny, shrimp-like creatures that live just below the pieces of ice that float on the sea – that form the largest part of an Adélie's diet. Unfortunately, krill numbers are also declining rapidly. Dr So Kawaguchi, a biologist working for the Australian government's Antarctic Division, suspects he knows the main reason behind this. He accepts that commercial fishing is partly responsible for huge amounts of krill being removed from the sea, but he points to rising levels of carbon dioxide as the chief cause. It is this which is making the waters of the Antarctic more acidic, in turn preventing the krill eggs from hatching. Diminishing levels of krill not only means less food for penguins. Digesting up to 40 million of these tiny animals per day, most whales depend on them for survival, too. Also, thanks to their more diverse diet, Gentoo penguins, a species which eats squid and small crab-like creatures as well as krill, have hardly been affected by this situation. In fact, their numbers appear to be on the rise. Other species, such as the Chinstrap and Emperor penguins, however, have the same narrow diet as Adélies.

F Scientists are now concerned that Adélie penguins will be forced to move further south in search of more suitable breeding and feeding locations. A team made up of researchers from Stanford University, USA, and the British Antarctic Survey have recently used geolocation sensors attached to a number of penguins to track them in order to better understand their patterns of migration. They know that Adélie penguins leave their nesting areas in February to begin the slow march north to avoid the darkest time of the year. Around 480 kilometres from completely open water, they stop on the floating sea ice to spend time feeding and increase their body weight. They then turn around, and march back to the nesting areas – a journey of about 13,000 kilometres in total. Scientists also know that Adélies have never lived further south of Cape Royd, and suspect that this is because they need light in order to navigate and search for food. It also allows them to spot such predators as the skua – a large bird that can easily kill young penguins. So, will the Adélies be able to adapt, move further south, and live in a darker environment? Scientists doubt that this kind of evolutionary change can happen in a short time.

Exercise 1:

Read the information. Then match the general descriptions of the Reading passages with the passage headings.

In the IELTS Reading test, you will read three Reading passages. They will usually have a heading and a 'subheading' (a sentence under the heading, which gives you more information on the topic of the article).

Quickly looking at the heading and subheading will give you a good understanding of what the passage is about.

a description of another culture

a description of how something is getting better or worse

a discussion of the effect that something has on something else

an explanation of how one section of society is helping to bring about positive change

an explanation of what someone needs to do

an explanation of when something began and how it has developed

1. The changing fortunes of Antarctic penguins

2. The history of chocolate

3. What does it take to become an astronaut?

4. Matariki celebration

5. How young volunteers are making a difference

6. How birth order might affect a child's personality

Exercise 2:

Read the heading and the subheading from a Reading passage.

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Think about the kinds of information that may be included in the passage. Then read the statements below and decide whether they are likely or unlikely to appear in the Reading passage.

1. An explanation of how the Adélie penguin population in the Antarctic has increased or decreased.

2. An explanation of the best places to see penguins around the world.

3. A discussion of why one species of penguin is doing better or worse than others.

4. An explanation of when people first discovered penguins and how these animals caught the imagination of people around the world.

5. A discussion of how global warming has affected the environment in which one species of penguin lives.

Exercise 3:

Read the information. Then read the first sentence of each paragraph (1–4) from the Reading passage. What is each paragraph about? Choose the correct answers.

In the IELTS Reading test, it's important to first skim the text to try and get a general idea of what it is about.

As well as reading the heading and subheading, it's very useful to look at the first sentence of each paragraph. These often 'introduce' the paragraph and may explain what it's going to be about.

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1. The effects of climate change are complex, with scientists constantly trying to understand how ecosystems are affected. ...
2. Over the last five years, scientists have been examining the populations of different types of penguin that inhabit the Antarctic continent. ...
3. Scientists say there are two main reasons for the population decline in this part of Ross Island. ...
4. Elsewhere on Ross Island, in contrast to McMurdo Sound, the situation is more encouraging.

...

1. The first paragraph is an introduction to the whole Reading passage, which is about ...
 - a. what experts have learnt about changes to the environment and wildlife.
 - b. whether or not climate change exists.
2. The second paragraph is about ...
 - a. what scientists want to know about penguins in the Antarctic.
 - b. what scientists have already learnt about penguins in the Antarctic.
3. The third paragraph discusses ...
 - a. two explanations for fewer penguins.
 - b. two things which should be done to prevent the decline of penguins.
4. The fourth paragraph describes ...
 - a. a place where penguin numbers are less worrying.
 - b. why we shouldn't be worried about penguins.

Exercise 4:

Read the information. Spend two to three minutes getting a general idea of each paragraph in the passage. Then choose the correct answers.

In the IELTS Reading test, you won't have time to read the whole passage in detail. Spend up to 30 seconds looking at each paragraph, skimming for the main idea of each one.

1. In paragraph ___, you can find information about where Adélie penguins lay their eggs.
2. Paragraph ___, gives information about why there is less food for Adélie penguins to eat.
3. In paragraph ___, you can find information about how many penguin nests are on Ross Island.
4. You can find some opinions about what Adélie penguins might need to do to survive in the future in paragraph ___.
5. Paragraph ___ explains why one population of Adélie penguins has increased.
6. The introduction to the Reading passage is in paragraph ___.

Exercise 5:

Read the information. Then do the IELTS Reading test below.

Answer the questions below. Choose NO MORE THAN TWO WORDS AND/OR A NUMBER from the passage for each answer. Write your answers.

Now that you have an idea of the content of the different paragraphs, you can spend time reading the passage in detail to find the answers to the questions. The questions in this task type will follow the order of the text.

At the end, check your answers carefully:

Have you written the correct number of words for each answer? Here, it can be one word or two words. It can also be a number, or one word and a number. It cannot be three words or more.

Are all the words you have written actually in the passage? You mustn't change the words in any way. Did you spell all the words correctly?

1. What geographical features have created the land of Ross Island? _____
2. How many Adélie penguin nests were counted at Cape Royds? _____
3. On what type of surface do Adélie penguins usually choose to build their nests? _____
4. What has, in the past, prevented penguins from reaching the open sea in the McMurdo Sound? _____
5. Approximately, what distance did Adélie penguins then have to travel to get to the sea? _____

Exercise 6:

You are going to answer some more questions related to the same Reading passage.

You will need to decide what information you want to find.

Read the information and then read questions 6–13. Match the types of information you will need to look for in the Reading passage with the questions.

In an IELTS Reading sentence completion task, it is important to recognise what type of information is missing. Then it is easier to find the answer in the Reading passage.

a month or season
a specific location on Ross Island
a type of penguin
another animal living in Antarctica
something eaten by Adélie penguins and the Chilean sea bass
something that has been increasing
something that penguins do
something that penguins need to survive

Questions 6–13

6. The Adélie penguin population has increased in the part of Ross Island known as _____.

7. Both Adélie penguins and the Chilean sea bass feed on _____.

8. Dr Kawaguchi believes that an increase in _____ is the main reason for declining numbers of krill.

9. Not only penguins, but also _____ will be affected by smaller krill populations.

10. The _____ species of penguins have more variety in their diet than other penguins.

11. British and American scientists have used special equipment to find out more about penguin _____.

12. The British-American team know that it is in _____ that the penguins begin to walk in a northerly direction.

13. It is now thought by the British-American team that penguins require _____ to help them avoid threats and to find food.

Exercise 7:

Complete the sentences below. Choose NO MORE THAN TWO WORDS from the passage for each answer.

6. The Adélie penguin population has increased in the part of Ross Island known as _____.

7. Both Adélie penguins and the Chilean sea bass feed on _____.

8. Dr Kawaguchi believes that an increase in _____ is the main reason for declining numbers of krill.

9. Not only penguins, but also _____ will be affected by smaller krill populations.

10. The _____ species of penguins have more variety in their diet than other penguins.

11. British and American scientists have used special equipment to find out more about penguin _____
12. The British-American team know that it is in _____ that the penguins begin to walk in a northerly direction.
13. It is now thought by the British-American team that penguins require _____ to help them avoid threats and to find food.

Exercise 8:

Read the information. Then match the words in the box from the Reading passage with the phrases in bold in the questions which have a similar meaning.

Very often, the information in the questions will be expressed differently in the Reading passage. An important part of the IELTS Reading test is recognising how different words or phrases can have a similar meaning.

Adélie penguins are thriving
diminishing
diverse
eat
geolocation sensors
need
rising levels of
slow march north

1. The Adélie penguin population has **increased** in the part of Ross Island known as Cape Crozier.
2. Both Adélie penguins and the Chilean sea bass **feed on** silverfish.
3. Dr Kawaguchi believes that **an increase in** carbon dioxide is the main reason for declining numbers of krill.
4. Not only penguins, but also whales will be affected by **smaller** krill populations.
5. The Gentoo species of penguins have more **variety** in their diet than other penguins
6. British and American scientists have used **special equipment** to find out more about penguin migration.
7. The British-American team know that it is in February that the penguins begin to **walk in a northerly direction**.
8. It is now thought by the British-American team that penguins **require** light to help them avoid threats and to find food.