Reading Text 2: Invasive Species

Britain's rivers and estuaries are being invaded at an alarming rate by a small furry-clawed crab all the way from China. So how did a crab travel so far and why are naturalists so concerned? The mitten crab first arrived in Europe on ships sailing from Asia. It then spread rapidly from Portugal to Sweden and was first reported to be in the River Thames in 1935. From the Thames, it spread across the United Kingdom at a very rapid rate: by 1999 mitten crabs had spread across 448 km of the British coastline, sometimes walking miles overland to reach the next river. A team from the University of Newcastle found that UK rivers are being invaded three times faster today than in 1935. And there's little wonder – a single female crab can carry between 250,000 and 1,000,000 eggs so mitten crab colonies expand very rapidly. Furthermore, cleaning up pollution from Britain's rivers is simply helping the invaders.

The mitten crab is one example of many invasive species that have found their way from their original habitat into foreign lands. There are several ways invasive species move from country to country: they may expand their territory naturally as their colony grows; but far more frequently an invasion is associated with human activity. The main causes include shipping, deliberate introduction for hunting or work, and the escape of pets into the wild. The introduction of the mitten crab to Europe was probably accidental: ships taking on water to use as ballast to keep the vessel steady on its journey from Asia to Europe also took on the unwanted guests and carried them to new areas to colonise. Elsewhere, invasive species have been purposefully introduced by man. In 1859, 24 rabbits were introduced into Australia by Thomas Austin so that he could hunt them for recreation. Unfortunately, like the mitten crab, rabbits are prolific breeders: a single pair of rabbits are able to increase to 184 individual rabbits in just one and a half years and they spread at a rate of 130 km per year. Soon the population in Australia was out of control and had spread throughout the continent. Another domestic creature introduced from India into Australia in the 1800s was the dromedary camel. Camels were initially brought to work as pack animals to carry heavy loads across the hot desert interior of Australia. By 1920 it was estimated that around 20,000 camels were being used to transport goods. However, with the arrival of trains and cars, camels were released into the wild where their numbers had increased to around one million by 2008. Finally, the trade in animals as pets can enable a species to colonise areas far away from their native land.

Between 2000 and 2006 the U.S. Fish and Wildlife Service recorded 1.5 billion animal shipments made into America. 92% of these imported animals were then sold as pets, with the rest imported for research, education, and zoos. While most of these animals were fish, the imports also included reptiles and mammals. When these pets escape and begin to breed, it can create serious problems. An example of this is in Florida, where in the 1990s several pet Burmese pythons – a snake native to southeast Asia – escaped their outdoor enclosures when a major hurricane hit the state. Today, it is estimated that up 30,000 snakes inhabit the wetlands of the Florida Everglades. Burmese pythons, which can grow up to 20 feet long, are thriving on their new diet of native species, including endangered creatures, and are more than capable of competing with the American alligator for food.

The impact of invasive species is not to be underestimated. Katherine Smith, a conservation biologist at Brown University in Providence, Rhode Island states that 'A huge amount of money goes into the myriad effects that invasive species have.' Smith continues, 'They destroy infrastructure. They cause public health threats. They harm livestock and native animals. They disrupt ecosystems. The dollar values really do increase quickly.'

When a non-native species finds its way into a new and vulnerable environment the damage can be more or less serious as the invader out-competes the local wildlife, brings in new disease or destroys the environment. The Australian dromedary camel, forming the largest herd of wild camels in the world, competes for food with native species and may have aided the local extinction of preferred species such as the quandong tree. The Australian government estimate that the camel is responsible for AUS$10 million in damage to infrastructure and competition for livestock food every year. Even more damaging is the effect rabbits are having in Australia. Apart from the economic loss to the wool industry, estimated at AUS$95 million annually, rabbits compete with sheep for food. The animals have a devastating environmental impact. Close grazing of grass leads to soil erosion and has significantly altered the composition of extensive areas of land. While the real impact of the mitten crab in the UK is not known at present, scientists have noted that the crab is causing riverbank erosion as it burrows into the mud, forming a network of tunnels that make the riverbanks unstable.

Invasive species are very difficult to manage once they have become established. Various methods have been tried to keep the populations under control. In Australia, 85,000 were culled and various methods have been tried to keep rabbit populations under control including poison and destruction of their warrens or homes. The latest idea in the UK to control the mitten crab is even simpler: catch them and give them to restaurants to sell as a tasty meal.

Questions

Do the following statements agree with the information given in reading passage 1?
Write
- TRUE if the statement agrees with the information
- FALSE if the statement contradicts the information
- NOT GIVEN if there is no information on this

1. Mitten crabs originated in Vietnam
2. Crabs need water to spread
3. Making rivers less dirty has aided the invasion of the mitten crab

Look at the following items (Questions 4-7) and the list of reasons.
Match each item with the reason for the introduction.
Write the correct letter, A-G, next to questions 4-7.

NB There are three more reasons than you will need.
Reasons
- A. Was introduced as a predator species to protect plants from pests
- B. Escaped while being used as a pet
- C. Escaped from laboratories conducting experiments on animals
- D. Introduced by someone who enjoyed shooting
- E. Can with water used to balance ships at sea
- F. Were carried over by trains
- G. Used to carry large loads across inhospitable areas

4. Mitten crab
5. Rabbit
6. Dromedary camel
7. Burmese python

Complete the summary below.
Choose NO MORE THAN TWO WORDS from the passage for each answer.
Write your answers in spaces 8–11.
The effects of the introduction of non-native species can bring them into (8 _____) with native animals. Dromedary camels may have helped the (9 _____) a native plant. Rabbits have led to the degradation of (10_____) across large areas of Australia. At the moment, the impact of the mitten crab is (11_____)

12. Which of the following statements reflects the claims of the writer in the reading passage? Choose the correct letter, A, B, or C.
The writer of the article views invasive species as

A. a natural development

B. a hard problem to manage

C. a good business opportunity