Invasive species are one of the most serious threats to indigenous (native) species. One particularly damaging example is that of the Cane Toad (Bufo marinus).

The Cane Toad is a native animal of South and Central America. In the early 1900’s, cane toads were widely exported in an effort to use them as a biological control against beetles infesting sugarcane crops. In 1935, about 100 cane toads were shipped from Hawaii to Gordonvale, in northern Queensland. However, there had not been an adequate assessment of whether the toad would be able to do the job it had been imported for, and after the release it was found that the toad could not control the insects. Instead, it quickly established itself as another pest animal.

Today, ecologists are studying the impact of the toads on the natural environment of Australia. By understanding the way in which the toads interact with other forms of life, ecologists hope they can find a way to eradicate this terrible pest.

a) A niche is defined as the totality of an organism’s adaptations, its use of resources, and the lifestyle to which it is fitted. The niche describes how an organism uses its environment as well as how it interacts with other organisms. After watching the film, provide a detailed description of the niche of the cane toad in Australia.

b) Describe one natural factor (limiting factor) that might limit the cane toad population in Australia.

c) Describe TWO specific physical or behavioral adaptations that allow the cane toad to gain competitive advantage over populations of native Australian species.

d) If two species have overlapping niches and live in the same community, they typically experience some sort of competition. Use the concepts of niche overlap and competition to explain the invasive nature and success of the cane toad population in Australia.

e) Explain the consequences that exist for the Australian biodiversity as the cane toad thrives and overpopulates?

f) Was the introduction of the cane toad a smart environmental move? Explain.

g) Discuss ONE possible strategy to control the cane toad population. Include the consequence or limitations of this strategy.