

Endemic or Alien?

The introduction of invasive species into an area can have devastating effects. An example of this is the introduction of Japanese Knot Weed in the UK, which has become widespread. This plant is extremely invasive and grows rapidly, out competing plants nearby. It also damages building as its roots and stem are very strong.

Alien species are so effective due to the fact:

- they have enhanced survival as they are more efficient competitors
- lack native predators
- a not susceptible to native diseases

CASE STUDY: The Galapagos Islands

The Galapagos Islands are home to some of the highest levels of endemism in the world with 80% of land birds, 97% of reptiles and more than 30% of plants being endemic to the Galapagos. Further to this more than 20% of marine species are found nowhere else on earth other than the Galapagos.



However the increasing number of visitors to the Galapagos islands has meant that alien species have moved onto these fragile islands. There are three examples of of alien species that have been brought there they are rats, rock pigeons and tree frogs.

1. **Rats** - These were most likely introduced from pirate boats that went to the Galapagos at the end of the 17th Century. These rodents carry many human and animal diseases such as viruses, bacteria, protozoans and ecto-parasites. These diseases can be transmitted via rodent faeces, urine, blood and saliva. This means that endemic species are at risk of contracting any of these diseases, and because they have never seen disease before it could have a devastating effect. In order prevent this rodent control has been set up in the Galapagos to help protect the endemic flora and fauna.
2. **Rock Pigeons** - These were introduced to the Galapagos islands in 1972-1973 and have become established on the three main islands. These, like rats, are also carriers of at least 40 diseases however an eradication programme led by the Galapagos National Park with support from the Charles Darwin Foundation was carried out for 18 months in 2001 and 2002. The situation is now being closely monitored to confirm the eradication.
3. **Tree Frogs** - These were accidentally introduced to the Galapagos island in imported foods and materials and become established in the wetlands on Isabela Island in 1998. It was very worrying as there were no native amphibians on the island and they could therefore drastically change the number of insects, out competing other insect eaters. The tadpoles of the tree frog have poor resistance to saline water and therefore meant that the salinity of lakes on the island could be increased cautiously, helping to eliminate the tree frogs.

CASE STUDY: Chinese Mitten Crab

The Chinese mitten crab was introduced to the UK accidentally by travelling in the ballast water of a ship travelling to the UK. It lives mainly in rivers and burrows into the banks, destabilising them and affecting native UK species. They can migrate across land and have few predators, meaning their numbers have rapidly increased in the Thames, Humber and Tyne rivers.

