

Invasive Alien Species - 10 Horror Stories

1. Floating pennywort

Floating pennywort is native to the southern coastal United States, to Panama, Cuba and to South America. It was introduced in Europe as an ornamental plant for garden ponds and aquaria from which it spread to natural habitats. Floating pennywort can grow so densely that it prevents other aquatic plants growing. It can also disrupt navigation, damage waterworks by blocking pipes and pumps, or lead to flooding as well as disrupting commercial fishing and other commercial exploitation of water bodies. It has become established in Austria, Belgium, Denmark, Italy, the Netherlands and Portugal. In the Netherlands, some water boards have faced a doubling of costs each year during the 1990s, and, in 2000, the total annual control costs were around 1 Million Euro. In GB, the estimate for control of the total area infested by floating pennywort by herbicides is between £250,000 and £300,000 per year. It appeared in Germany in 2004 and is spreading.

2. Japanese knotweed

Japanese knotweed is a rapidly growing weed that inhabits both urban and rural areas. As it grows its shoots and roots can damage foundations, walls, pavements, and drainage works. Japanese knotweed is now present across the EU and is spreading into central and eastern Europe. Recent estimates from the UK Government suggest that it would cost £1.56 billion to control this plant across the UK alone.

3. Asian Tiger Mosquito

The Asian Tiger mosquito is native to the tropical and subtropical regions of Southeast Asia. They have invaded many countries through the transport of goods and increasing global travel. They are believed to have arrived in Europe and in the USA through used tires imported from Asia. Tiger mosquito is a potential vector for at least 22 different viruses, including dengue, West Nile virus, and Japanese Encephalitis. Global warming will likely increase the spread of this mosquito to areas where it previously may not have survived the winters.

4. Argentine Ant

Argentine ants were once native to South America, but have been unintentionally introduced by man to all continents except Antarctica. Argentine ants are renowned for forming large colonies, and for becoming a significant pest, attacking native animals and crops. In Europe, one vast colony of Argentine ants is thought to stretch for 6,000km (3,700 miles) along the Mediterranean coast, while another in the US, known as the "Californian large", extends over 900km (560 miles) along the coast of California. A third huge colony exists on the west coast of Japan.

5. Signal crayfish / Red swamp crayfish

Signal crayfish are native to North America, but have spread throughout Europe after being introduced to Sweden and Finland in 1960s. Signal crayfish carry crayfish plague and compete with native crayfish species for food and shelter. They have a ferocious appetite and a considerable impact on other freshwater animals as well as damaging our river banks through burrowing. Another crayfish causing problems is the Red swamp crayfish which arrived in Europe more recently but which is also spreading rapidly and is likely to have greater impacts on flood defences.

6. American Mink

American Mink were brought to Europe for the purposes of fur farming. Numerous escapes and releases have led to them spreading throughout Europe. They are active predators, feeding on anything they are big enough to catch. Studies in the UK have shown that they have had a devastating impact on local river wildlife, affecting birds such as moorhens, coots, widgeon and teal, fish and most markedly water voles, which have declined in the UK by more than 95% over the last 50 years.

7. Grey squirrel

The grey squirrel was originally imported as a pet in many countries, then accidentally escaped into the wild or intentionally released for ornamental purposes. Despite evidence that grey squirrel causes the extinction of the red squirrel (*Sciurus vulgaris*) through competitive exclusion, is a host to the poxvirus which is fatal to red squirrels but benign to grey squirrels, and causes damage to woodland through bark stripping activity, grey squirrel is still traded in Europe as a pet. Grey squirrel is present and constantly expanding in the British Isles and in Italy, where it is established in a large portion of Piedmont, along the Ticino valley and in an urban park of Genova. It is expected to colonize France and Switzerland in the next few decades unless action is taken, and can potentially expand to a large portion of Eurasia in the future.

8. Killer Shrimp – *Dikerogammarus villosus*

The killer shrimp is an omnivorous predator. It is thought to have arrived in Europe through shipping (ballast water and hull fouling of vessels). The colonisation of western European freshwater systems probably occurred via the Danube and Rhine Rivers. Killer shrimp can feed on a variety of freshwater invertebrates, including other native shrimp species, fish eggs and young fish, and can significantly alter ecosystems.

9. Comb Jelly

The comb jelly is a ctenophore, not a true jellyfish, that was introduced to the Black Sea, Caspian Sea and Mediterranean Sea in ships' ballast water. In the Black Sea it has had a disastrous impact on ecosystems, causing massive reductions in zooplankton, fish populations and the disappearance of dolphins in the Black sea and seals in the Caspian Sea. Other impacts have included algal blooms. The invasion of Comb jelly has caused significant economic losses for the Black Sea and Caspian Sea coastal countries due to drastic decline in fish catches (estimated in hundreds of millions of Euros in the case of the Black Sea). Comb jelly have recently been recorded in the Mediterranean coastal waters of Spain, Italy and Israel.

10. Rats on islands

Islands are extremely vulnerable to IAS, particularly where they have breeding seabirds. Historically, rodents (rats, mice) and feral cats have been most harmful, and there are few islands in Europe that remain predator-free. The National Trust for Scotland successfully eradicated rats from the island of Canna, where seabird populations had been plummeting as a result of rat predation. Canna is a Special Protection Area – part of the European Union NATURA 2000 network of important bird sites – on account of its internationally important concentrations of breeding seabirds, including Manx shearwaters, kittiwakes and large colonies of guillemots, razorbills, and puffins. The project to eradicate the island's entire rat population, estimated to have been up to 10,000, cost over €700,000, and Canna was declared rat-free in June 2008.

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