



UK animal health response for SAGE

11/11/2020

Mink are part of the family Mustelinae, which also includes weasels, stoats, polecats and ferrets. Ferrets are considered to be amongst the susceptible species for reverse zoonotic SARS-CoV-2 infections.

Current status of mink and other mustelinae in the UK

The UK banned the farming of animals for fur since 2002 and there are no UK mink farms. Mink are present in the UK as they were illegally released from mink farms in the past, and they survive well as an invasive non-native species; they are a threat to our native bird and small mammal (e.g. water vole) populations, nevertheless they are protected under the Animal Welfare Act 2006. To own mink as a pet or a captive animal, the owner needs to obtain a licence from Natural England for a non-native mammal.

Defra is working with Natural England and the Animal and Plant health Agency (APHA) to identify any registered mink owners. Currently just three establishments have been identified, all with single figures of mink.

There are estimated to be just under one million ferrets in the UK which come from the same mustelinae family and have been shown to be susceptible to SARS-CoV-2 via experimental and natural infection. Unless owning mink for breeding for commercial purposes or for hunting, it is not necessary to hold a licence to own ferrets as pets in the UK.

SUMMARY: In the UK there are no mink farms, three licenses for captive minks (for either one or two animals only), but there are wild mink (120,000 estimated); other wild Mustelinae include feral ferrets, wild stoats, weasels and polecats. VERY LOW risk due to limited contact with humans. Captive ferrets estimated at around 800,000 to 1 million. Many kept in small numbers as pets. Few larger premises for breeding, hunting and research are being considered for surveillance.

Restrictions on mustelinae movements from Denmark and elsewhere

Defra have been discussing with CVOs and policy teams regarding import controls, increased surveillance for ferret populations, highlighting our guidance to ferrets keepers, vets and people working with wild animals about the importance of biosecurity and the value of making SARS-CoV-2 in ferrets notifiable. As SARS-CoV-2 is not notifiable there are no trade rules for animals. However all importers of carnivores must apply for a rabies landing licence from APHA prior to import under national rules. We have now stopped the imports of all Mustelinae and any applications will be subject to a risk assessment by Defra, Scottish Government or Wales Government as appropriate.

In the past eighteen months, there have been 6 commercial imports of ferrets into the UK of just 8 animals. It is likely these are pet animals travelling with an agent, rather than their owners. Pet ferrets must be compliant with the pet travel rules which prevent the introduction of rabies into the

UK. As they are travelling with owners, if the owner is positive for COVID-19, there is a high likelihood the pet ferret would also have been exposed. Nevertheless, on entering the UK the owner should self isolate if they test positive or have symptoms, and we are asking they keep the ferret isolated for 3 weeks as well.

Three weeks is longer than the isolation period for humans, as experimental data suggest virus is cleared after 2-3 weeks.

Importers of mink, as a non-native invasive species, must also obtain a licence to hold such an animal. There have been no imports in the past 18 months.

Defra and the FSA have assessed the risk of livestock and food as a pathway for introduction of SARS-CoV-2 into the human population and concluded this is not significant.

SUMMARY: All commercial imports will be stopped pending individual risk assessments. Pet ferrets travelling with owners are no greater risk than owners and owners who have to self-isolate will be asked to do so with their pets. The ferrets should be isolated indoors for at least 2-3 weeks (based on experimental evidence of active infection). Comms to owners and vets regards isolation and effective PPE are urgently being drafted.

HAIRS risk assessment

HAIRS considered the risk of SARS-CoV-2 in captive Mustelinae to the human population.

On the likelihood of the animals being infected following close contact with an infected human – HIGH

On the likelihood of the infected animals being able to transmit infection to humans – HIGH for those in close contact with many infected animals over long periods of time and not wearing suitable PPE; VERY LOW for the general population.

The potential for the virus to mutate in the Mustelinae population was not specifically addressed, but was considered more likely in larger populations and breeding populations due to the level of virus circulation in an effective population size.

The impact of a human being infected from contact with an infected ferret – LOW as there are suitable prevention measures (physical barriers) and this is only concerning a small number of people who would have contact with a large enough population of Mustelinae.

The HAIRS algorithm does not consider human to human transmission but the group agreed it was important to point out that it is very likely the virus would spread and if there was a mutation which increased viral transmission, pathogenicity or decreased the immune response, this would be a high impact.

There is uncertainty around the likelihood of a mutation to occur in small populations of ferrets and the consequences of the mutation. The data on ferrets kept as pets is based on sample questionnaires and therefore may not be accurate. The location of pet ferrets is not known.

Wild populations were also considered but were considered a VERY LOW risk, due to low level of human contact and small discrete population sizes in the wild. There is no evidence of wild animals testing positive for SARS-CoV-2.

SUMMARY: HIGH LIKELIHOOD of infection for High Risk Groups in contact with infected ferrets; VERY LOW likelihood for general public. LOW impact for animal to human transmission due to low number

of contacts, low number of ferret establishments and non-therapeutic risk mitigation measures are effective. Human to human transmission of any animal derived viruses is not considered.

Mink farms in other countries

Countries with a significant mink farm industry

The countries with the largest recognised mink farm industries include China, Poland, Denmark, the Netherlands and the USA. Some countries have already banned mink farms, for example Germany, Austria, Switzerland, Croatia, and the UK. There are other countries who have very few mink farms – Italy only has nine; Sweden only 40 (20 fewer now); 4 in France; Spain has 30, Ireland just 3.

The EU has 34.7 mi mink, 2.7 mi foxes, 0.16 mi raccoon dogs (also susceptible to SARS-CoV-2 in experimental conditions) and 0.23 mi chinchillas in captivity for farming fur or breeding for fur farming.

As of 9 November, SARS-CoV-2 has been detected in mink in the Netherlands, Spain, Italy, Sweden, the USA and Denmark. No other countries have reported the same cluster 5 mutations seen in Denmark at the current time.

Information provided by other countries

Information is available from the public domain and further details have been requested via IHR and EWRS from the Netherlands, Italy, Sweden, Spain, Poland, China and the USA.

China

China has 20.7 million mink, 17.3 million foxes; 12.3 million raccoon dogs in fur farms. The main fur farming regions are Heilongjiang, Jilin, Shandong, Jiangsu, Henan, Hebei and Liaoning.

Czechia

Update provided via FCDO indicates that so far, no cases of SARS-CoV-2 in minks or other animals have been publicly reported in the Czech Republic. There are no fur farms.

Ireland

Three mink farms, all of which are currently under restriction under Zoonosis Legislation.

Netherlands

SARS-CoV-2 has been detected now in nearly 70 mink farms in the Netherlands (out of 120 farms). Affected farms are being culled. Several mink mutations were detected and 66 people have been infected as a result of contact with the farms or through local transmission.

Poland

The FCDO provided an update that Poland's Chief Veterinary Officer confirmed that there had been no confirmed COVID-19 cases among minks in Poland. They have been monitoring this issue for months now and are in regular contact with other countries to exchange information. What is more, there are no confirmed cases in Poland of diseases been transmitted from mink to humans or vice versa.

Spain

Spain has 30 mink farms with around 100,000 breeding animals. One farm had tested positive and was depopulated. Passive surveillance is taking place but the authorities will now start to conduct active surveillance in both animals and workers.

Sweden

According to Dr Karl Ståhl the Chief Epizootologist at the Swedish Veterinary Institute (<https://www.sva.se/en/>). Sweden has a significantly smaller population of mink than Denmark spread in about 40 farms across the country. The largest concentration of the population is in 20 farms in Blekinge Region with approx. 600,000 animals (80% of the total population). Next week is the beginning of the pelt harvesting season and so around 80% of the country's animals will be killed in any case. They have confirmed that 10 of the 20 farms so far have tested positive for SARS-CoV-2 in the animals. Genetic sequencing of the first herd has confirmed that it is not the same mutation as the Danish strain but tests are ongoing. Equally the sequencing of the farm workers who have tested positive doesn't indicate that there has been animal to human transmission (they will share their sequencing through the normal channels).

With regards to measures, they have determined that the planned killing exercise is adequate (moving earlier would have little impact) the authorities in the region have however applied the strictest of biosecurity measures to reduce the possibility of human to animal, animal to human or animal to animal transmissions, although Denmark have similar protocols which hasn't provided a full proof protection. They will also continue to test the remaining 20% of the mink population but it is possible the virus may have already passed through the herds by then, providing some semblance of antibodies.

USA

USA has a mink fur farming sector of around 3.1 mi mink. There have been 11 farms testing positive: 9 in Utah, 1 in Michigan and 1 in Wisconsin. Sequencing of virus from mink is underway.

SUMMARY: Countries with the highest level of mink farming are Denmark, China, Netherlands, Poland, USA, Canada. Netherlands has detected the same Cluster 5 mutation retrospectively in mink on one farm. No other information from other countries. USA has had eleven positive farms but sequencing is not known. Nothing reported from China or Poland. Raccoon dog farming should also be identified as a risk sector.

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