Beavers on the River Otter, East Devon. [7 March 2014]

The Defra Protected and Non Native Species team, Natural England, Defra Imports / EU Trade and AHVLA have discussed the issue of three beavers reported to be filmed living wild in Devon. Beavers are a formerly native species which may only be released under licence in GB. They have been known to escape occasionally. The BBC has filmed a group of 3 on the River Otter in Devon. These are new reports to the NE team, and there is no evidence of where these may have come from. Comment from a beaver expert on February 27th suggested these animals may be an adult pair and a yearling.

Possible sources of these new sightings are: illegal release; new illegal release; breeding escapees which have been undetected before.

Captive beavers are generally sourced from Bavaria or Norway. We do not know the provenance of the animals currently at large.

Beavers can be acting as intermediate hosts for *Echinococcus multilocularis* (EM) (a fox tapeworm for which the UK has pet tapeworm treatment controls in place to retain official disease freedom). The Bavarian beaver population has a significant prevalence of EM (according to some reports, as high as 5%) and if these animals have been sourced from Bavaria, there is a potential public health risk. Defra's risk assessment on the introduction of EM through imports of beavers concluded there is a low (rare but does occur) risk. Should a beaver carcase be infected with EM and be scavenged by a fox (definitive host) it could lead to spread of EM and eventual establishment in the UK with consequent public health impacts. EM was detected in a captive beaver carcase from a site in Devon within a few kilometres of these new sightings 18 months ago.

Given the unknowns, we are therefore concerned that there is a risk that these animals could be infected with EM; we have worked hard to maintain our disease freedom and retention of tapeworm rules and we would risk losing it if these animals were EM-positive.

There is also a biodiversity and non native species angle to this issue. Section 14 of the Wildlife Countryside Act (1981) prohibits deliberate release of animals to the wild which are not considered ordinarily resident in Great Britain. Defra takes the view that the beaver is such an animal. Inaction in this case also sets a worrying precedent that Government will not intervene where illegal releases occur. This in turn may lead to further releases where individuals are keen to see the species re-introduced and wish to avoid having to apply for a licence to release.

Options:

Trapping and testing the beavers to ascertain whether infected

- Requires anaesthesia; test is poor unless post mortem; if positive, there are no powers to destroy the animals.
- *Not an option. Cannot test live beavers to determine health status; cannot kill beavers without positive test result.*

Trapping and destroying the beavers

- No legal powers to do this. No immediate risk to human health.
- *Not an option.*

Leaving the family group where they are.

- Could the animals be monitored regularly to check whether still alive? However there is no guarantee of being able to recover a carcase before it is scavenged. Sends out the wrong message about illegal release of imported beavers without a licence.
- *Not a preferred option when there is an uncertainty around disease risk*

Trapping and releasing the beavers in a more secure environment.

- No need to test for EM; the beavers pose no risk to health of other beavers or to humans unless they die and the carcases are scavenged by foxes.
- *Preferred option from a disease risk point of view; there may be challenge over clear lack of power to kill animals which are only suspected of being infected. May require additional legal order under the WCA to return to captivity.*

Licensed keepers:

There was one licensed keeper of European beavers in the Otter Valley area:

[redacted], Escot Ltd (Escot Country Park), Ottery St Mary, Devon.

[redacted]

Beavers at Escot are kept in a fenced enclosure of ~1.2ha which is about 100m from the River Tale, a tributary of the R Otter.

It is understood that they originally obtained a male and female in 2006/7, both wild-caught in Bavaria and quarantined for 6 months under the rabies import order.

The requirement for a 'possession' licence came into force in 2007 and Escot subsequently obtained a licence to possess up to 2 live beavers. They reported that two kits were born in their enclosure in 2009 (captive bred therefore no need to be covered by the licence).

In May 2010 the adult female died and was found to be carrying EM. A new female was introduced in August 2010 (another wild-caught Bavarian beaver from 'Wildwood' in Kent) but shortly afterwards this animal was electrocuted by the electric fence. It is understood that this was replaced again. One of the kits is known to have been killed by a fallen tree, the fate of the other kit is unknown.

As far as is known, Escot still only have two beavers in their enclosure.

Animals at liberty:

March 2010 report of evidence of beaver (felled trees) on the R Otter at Fenny Bridges (~SY114987). At the time, [redacted] maintained that he still had 'both' his beavers and that the animal on the Otter had been an 'open secret' for about 2 years.

July 2011 beaver reportedly filmed on the river between Otterton & Clamour Bridge (~SY077847), approximately 15km downstream from the previous evidence.

April 2012 adult male (18.5kg) found in extremis – location not known – possibly R Tale. Died shortly after recapture and was PM'd – possibly drowned.

September 2013 evidence of activity (felled trees) reported at location south of Ottery St Mary (~SY095940), between the two previous locations.

January 2014 single animal filmed on a remote camera – shown on BBC. Precise location unknown, but description in February TV report suggests between Ottery St Mary & Tipton St John (central point SY094941).

February 2014 (reported to NE 25 Feb) three beavers filmed – shown on BBC News 27 Feb. Location same as January film.

[redacted] (beaver expert/importer/keeper) has suggested that the single animal that has been on the Otter for several years is an adult female. The animal post mortemed in 2012 was described by [redacted] (AHVLA) as a 'young male'. [redacted] says that this was introduced to the Escot enclosure when it was mistakenly thought that the resident male had died, but it was actually the female, and he thinks this new male was driven out by the resident male.
In a conversation on 27 Feb [redacted] said that he thought the three animals in the BBC video appeared to be an adult pair and a yearling.

Public Health Issue

Defra has in place a requirement for treatment of all canids (including commercial trade, pet dogs and zoo canids) entering the country from EU and Third Countries to have tapeworm treatment. This is to prevent the incursion of a tapeworm parasite, *Echinococcus multilocularis* (EM) which is a human pathogen invariably fatal if left untreated. The UK is free of this parasite and we have to provide annual surveillance data to the Commission to support our continued free status. Foxes and dogs are the definitive hosts (in which the adult parasite lives) while humans are accidentally infected through ingestion of eggs found in faeces. The eggs develop into larval forms which become lodged in different tissues and cysts form around them, with fatal consequences. However if a rodent ingests the same eggs, they become intermediate hosts (where the larval forms live) and can live with no clinical signs until they are ingested by the definitive host to carry on the life cycle, by which disease becomes established.

In 2012, following the detection of EM in the beaver as mentioned above, we conducted a risk assessment on the likely introduction and establishment of EM as a result of infected beavers being imported into GB (http://www.defra.gov.uk/animal-diseases/files/qra-non-native-species-echinoccocus-120627.pdf). The conclusion was that the risk of an EM-infected beaver being imported, escaping and leading to the establishment of EM was low, but with considerable uncertainty. The result was a voluntary code of practice for sourcing beavers from EM free areas, such as Norway, rather than areas with high EM levels, such as Bavaria. However, this is only an option going forward and does not address those beavers already present in the UK which could harbour the pathogen.

There is no simple, effective diagnostic test for the larval stage of the parasites in the intermediate hosts. There have been suggestions of using ultrasound to detect larval masses or a non-specific blood test but both would involve capturing the animals and taking samples under anaesthetic at the very least.

Only a wild imported beaver is a possible disease risk. A beaver which has been born to captive beavers in the UK and has lived all its life in the UK is a negligible disease risk – the pathogen cannot be transmitted from mother to offspring.

Legal Issues and Policy Implications for Non Native Species

- We do not currently consider the species to be ordinarily resident in GB. It is, therefore, unlawful under Section 14 of the Wildlife and Countryside Act 1981 for this species to be released, or allowed to escape to the wild.
- It is possible that these animals have been illegally released. We are concerned that by failing to take action in this case it may set a precedent, which will encourage further illegal releases of beavers or other animals.

- The Habitats Directive requires a public consultation to be carried out before a species that was previously native to a country is reintroduced, and any release programme should be carried out in line with IUCN guidelines 2013.
- We (NNS) do not have legal powers to access private land to monitor or recover the beavers. We would have to rely on the permission of the landowner. [redacted]
- Allowing a population to establish as a result of escapees or illegal releases, rather than through a pilot scheme and/or consideration of where would be most suitable, may have negative ecological, social and economic impacts.
- Richard Benyon was opposed to the release of this species into the wild in England. We do not know the views of Lord de Mauley. *[**Note added 29 August 2014**: Defra's policy* Licensing under Section 16 of the Wildlife and Countryside Act 1981 (release of species prohibited by section 14) *published at* http://webarchive.nationalarchives.gov.uk/20130123162956/http:/www.defra.gov.uk/wildlife-pets/wildlife-management/licensing-policy/*in December 2012 is:*

  > *Where an application for the release of the European Beaver (Castor fiber) into the wild in England is received, ongoing studies into a trial release in Scotland (2010-2015) and uncertainties about the impacts of upstream flooding caused by the species, make it premature to issue a licence, pending the results of the aforementioned trial.]*
- Conservationists are proposing a pilot beaver release in Cornwall but a licence has not been applied for yet.
- Our current commitment is to await the results of the Scottish Trial, due to report in 2015.
- Whatever approach is applied to these beavers should be applied consistently to other beavers in the wild in England.

Legal Issues and Policy Implications for Animal Health

- The Animal Health Act (1981) allows a Veterinary Investigator to enter any land and apply tests or take samples. It does not allow trapping and removing the animal.
- Listing the beaver under the Destructive Imported Animals Act, 1932 gives powers to destroy the animal, but would need an affirmative resolution Order and may have an impact on ability to licence the release into the wild.
- Minister could include them in the Agriculture Act 1947: Section 98 (Prevention of damage by pests); this would not cover the public health issue but would allow destruction of the pest.
- For Public Health, under the Zoonosis (Monitoring) (England) Regs, Statutory Instrument 2007/2399 would allow the Department (under consultation with Natural England) to enter a premises and carry out tests and sampling of wild animals; this includes trapping.
- To conclude: we therefore do have the power to access private land to monitor or recover the beavers under both this SI (2007/2399) and also under Article 7 SI 2002/2809 (with the caveat that EM must be described as a disease). [redacted] The beavers only present a risk to human health if the carcase is scavenged by a fox and there is contact between the human and fox faeces. Beavers are asymptomatically infected and therefore there is no welfare issue.
- Loss of our EM disease free status has public health implications. Regaining disease freedom is exceedingly problematic when there are two wildlife hosts (foxes and rodents).
- Impact assessment on the establishment of EM was carried out in 2011 to provide robust support for retaining our tapeworm treatment of travelling pet and commercial dogs.

Publicity and PR Issues

- The reporting on the BBC has been positive about the sightings. The Guardian and the Devon Express & Echo have also reported on the sightings.
- Some stakeholders have expressed concern in the past about rumours of a reintroduction of beavers and are likely to do so again.
- In Europe beavers have both alleviated and exacerbated flooding issues depending on where they are. At the moment publicity seems to favour the introduction of beavers to reduce flooding.
- There may be negative press coverage and reputational issues which ever option is chosen.

[Map redacted.]