

Correspondence beavers for EIR ref RFI6739

DW0E000353575

From: [REDACTED]
Sent: 20 July 2014 20:05
To: DE MAULEY, Rupert
Subject: Potential removal of beaver population on R. Otter

Dear Lord DeMauley,

I would like to urge you, in the strongest possible terms, to welcome as a positive asset to the future natural biodiversity of the UK, the small, naturalising population of beavers in the R. Otter. We hunted them to extinction and should now seek to encourage their reintroduction for the benefit of diversifying landscapes, wildlife habitats, flood management and eco-tourism.

I would ask you to oppose all proposals to remove the beavers from the R. Otter.

Thank you,
[REDACTED]

Standard reply.

DW0E000352323

Dear [REDACTED],

Thank you for your response.

I do appreciate that there are no plans to cull them, but the richness and biodiversity that they are bringing back to the land would be such a shame to lose. And the reasons given for moving them away just do not make sense I am afraid. I want to address some of the points you mentioned below.

Beavers have not been an established part of our wildlife for the last 500 years. Our landscape and habitats have changed since then and we need to assess the impact their presence would have now.

Beavers are a native mammal to this island, if you want to assess the impact they would have, you only need to look at our neighbouring countries in Europe with similar wildlife to see that the impact has only been positive. And surely the best way to assess their impact is to observe them where they currently are I don't see how you could do it otherwise.

Beavers can act as intermediate hosts for *Echinococcus multilocularis* (EM), the dog and fox tapeworm. This parasite can be transmitted to humans where it can cause multiple cysts to occur throughout internal organs, including the brain.

It sounds like a terrible parasite, no doubt about that. But other animals can also carry it, so I don't see the point of the argument here

the disease status of the animals living in the wild in Devon is unknown.

This can be solved easily, by taking a sample of their faeces and testing it.

So, please could you advise the real reason for why these creatures are being moved out of their natural habitat? The government has a responsibility to listen to the public (the majority) and not organisations such as the Angling Trust, who are lobbying them, with their own selfish and incomprehensible agenda.

Kind regards,

██████████

[Sent in response to previous standard reply.]

To : ██████████

CC :

Subject : Beavers

Dear ██████████,

Thank you for your further email of 9 July about beavers. I have been asked to reply.

Whilst it is true that beavers have been judged to have a positive impact on some locations outside of the UK, it would not be safe to assume that they will do so likewise here in the UK. In addition to no two circumstances being identical the British landscape has changed immeasurably since they were last present here in the 16th century. During this period they have continued to be present elsewhere in Europe. We take a precautionary approach to considering the release of species into the wild to ensure that they do not have any detrimental effect on the environment and that the location is suitable for the animals' long term survival and welfare.

Because the origins of the beavers on the River Otter are uncertain they may host parasite *Echinococcus multilocularis* (EM). It is necessary to undertake a medical examination of the animals to confirm the presence or absence of the parasites as it exists in cysts and the larval form in beavers and is not passed in their faeces. It is, therefore, necessary to capture the animals and transfer them to a suitable facility for testing. We intend to do this in a way which best addresses the welfare interests of the animals, for example ensure that any young are captured with their parents to ensure their survival whilst they remain reliant.

Once tested, and if proven to be free of the parasite, we intend to re-home the animals in a suitable location.

Yours sincerely,

██████████

Customer Contact Unit
Defra

DW0E000353593

From: ██████████

Sent: Monday, 21 July 2014 21:10

To: DE MAULEY, Rupert; ██████████

Subject: Free the Beavers of River Otter please

Free the Beavers of River Otter July 1 2014 Canada Day

Mr demauley

I respectfully request to add my voice to your constituents on this important wildlife issue...now a crisis. THE CANADIAN BEAVER REQUESTS SAME RESPECT FOR THEIR BRITISH COUSINSdon't bring shame on Your country. Thankyou

[REDACTED]

Standard reply.

DWOE000352339

Also PO00000352360 to Lord de Mauley and PO00000352343 to George Eustice

From: [REDACTED]
Sent: 07 July 2014 14:48
To: PATERSON, Owen
Subject: Beavers

Dear Mr Paterson

Defra is planning to remove the only Beavers breeding in the wild in England and I am asking your support to prevent it. There are times when I am ashamed to be British. We have – rightly – pressed African and Asian nations to safeguard their elephants, rhinos and tigers, and yet here in our own backyard we cannot even manage to safeguard our own native Beavers!

I have visited Beaver colonies in USA, Sweden, Argyll and Devon. I am not a bunny-hugger but a practical farmer and zoologist. We have a pair of disease-free captive-bred Beavers on our farm in Wales, in a large fenced natural enclosure. They are not fed or managed in any way. We watch them from hides and we monitor their effect on the habitat. They feed mainly on willow under 5 years old, less than the thickness of your wrist. The claim by the Anglers Trust that a family of Beavers cuts down '300 trees per year' is scare-mongering rubbish. First-hand experience is something sadly lacking in this debate. You are very welcome to visit our Beavers and see for yourself.

There are plenty of papers and studies published on Beavers, but below is a very brief guide on the current position. If the chance arises, I would be most grateful if you would speak up for this charming native mammal, which we have so abused over the years. George Owen, writing in 1603, described the Beavers in the waterways of west Wales. Let's help bring them back where they belong.

Thankyou

[REDACTED]

The Recovery of the British Beaver

The British Beaver (*Castor fiber*) was exterminated about 300 years ago for its fur and oil, but has been making a steady comeback over the past decade or so. There are well-established populations breeding in the Tay and Forth river catchments, and a small trial population in Argyll. There are plans for a re-introduction in Wales and small numbers breeding in Devon, with sightings in other counties. There are also several enclosed breeding colonies. It is

time now to regularise the position of the Beaver and to manage this recovery in an integrated planned way, rather than in a piecemeal fashion.

Why did the Beaver disappear?

Unlike many of our indigenous predators, such as the wolf, bear, lynx and many raptor species that were exterminated as pests, the Beaver faced the opposite problem: it was in high demand as a resource, for its fur and for its castoreum oil. The rarer it became, the higher the price, until finally it was exterminated in UK and much of Europe. Trappers switched their attentions to the North American Beaver instead.

What are our responsibilities to our indigenous species?

It is our collective responsibility to maintain the biodiversity of species in Britain and this is supported in law under the EU Habitats Directive. For some, such as the Wolf, the habitat demands are great and can no longer be achieved in modern Britain. But for others, such as the Beaver, there are still plenty of areas of former habitat suitable for re-colonisation. The Beaver is a keystone species within wetland habitats and, as an Appendix III species under the Bern Convention, the government has agreed to aid its recovery and well-being.

What is the time-scale for re-colonisation?

Re-colonisations in Europe show a gradual increase in numbers and range followed by a somewhat faster rate until capacity is reached. The Tay population of about 150 Beavers is now in its expansion phase. Beavers are reluctant to stray far from water and therefore they can be restricted by watersheds, as well of course by modern features such as roads and conurbations. Riverine populations track up and down the river systems, whereas isolated habitats, such as some lakes and wetlands, may not be reached for a long time. Unaided, it could take several decades for the species to recover its full former range. In reality, with managed translocations, given the demand for this keystone species in the management of wetlands, it is likely that at least 50% of available habitat will be re-colonised in the next 2-3 decades.

Could the Beaver be exterminated in UK?

Being sedentary and predictable, it would theoretically be possible to exterminate the Beaver for a second time. In reality, the Tayside population is very well established and the Scottish government, faced with strong public support for Beavers, has decided not to exterminate them. Non-lethal controls and translocations however are both feasible and advisable. It is important that the species is not so iconised that public opinion prevents sensible management procedures.

If re-colonisation is inevitable, what is the best way to manage it?

More 'trial releases' are not necessary. A Beaver colony in a Scottish loch does not reveal the issues that might occur on a lowland river. There have been plenty of re-colonisation studies throughout Europe and there is no need to re-invent the wheel. The Beaver is not an alien invasive species, it is an indigenous keystone species that interactively evolved with British wetland habitats and plants. The factors to bear in mind are:

- **The management of regional populations.** Beavers in isolated areas of habitat form essentially closed colonies which are relatively easy to manage. These areas should be prioritised over riverine systems to start with and provision made for gene flow.
- **The legal situation.** The Beaver is once more a British breeding species and should be listed on the appropriate legal appendices and enjoy the protection of the law. Licences should be made available to carry out management activities such as trapping and translocations.
- **Genetics.** Tests of the Tayside population show that they derive from Bavarian imports which in turn derive from several genetic source populations. Genetic diversity is not currently a limiting factor in the re-establishment of the Beaver.
- **Disease.** The only significant potential disease in British Beavers is *Echinococcus multilocularis*, a type of tapeworm of which the Beaver is a vector but not a primary host. There is no known EM in British Beavers at the moment and the only way it can arrive is through imports. British born Beavers do not carry EM.

What if the colonisation is not managed?

If it is not managed in a planned way, colonisation will continue in a haphazard way, both by natural increases in range, and no doubt through human translocations.

How easy is it to get rid of unwanted Beavers?

Beavers are easy to detect, and they are very sedentary. It is relatively easy to bait them to cage traps and move them. There is no need to kill them and risk public opposition.

Are there pressure groups against Beavers?

Some anglers are against Beavers, thinking that Beaver dams might prevent the free movement of fish and silt up spawning grounds. Other fishermen welcome Beavers because of their ability to stabilise river flows and ensure continuing river levels, especially in summer chalk streams. Dr Paul Kemp's University of Southampton study of Beavers and fisheries showed that overall the effects of Beavers are positive to fisheries and in reducing pollution. Some farmers are against Beavers because of concerns for crops. In reality Beavers do not stray far from wetland habitat and expose themselves in the open. They are not like rabbits. Other farmers are asking to be provided with Beavers, are proud to have them and are firmly resisting any Defra plans to trap them on their land.

Some foresters are against Beavers that might damage plantations. Actually Beavers prefer wetland species, such as willow, aspen and alder. Commercial forestry species are not planted in wetlands and can more easily be protected against Beavers that can only reach up a metre, than against deer that can reach two metres or more. In natural woodland, Beavers have an important role to play in opening up the canopy and making glades and fringes which are key habitat for many species.

Are there pressure groups supporting Beavers?

As can be seen from the Badger trials, there is huge potential public pressure in support of Beavers, led by the Wildlife Trusts. This publicity pressure is expanding and the Wildlife Trusts are likely to hold the government to its Bern Convention and EU Habitats Directive obligations, by legal challenge if necessary.

Beavers are welcomed by wetland managers because of their role in controlling 'succession' species such as willow which, if unchecked, turn species-rich wetland grass areas or 'culms' into shady woodland. Beavers can save the huge costs of mechanical controls. These specialised wetland habitats are the only homes for many of our rarest species of both flora and fauna.

Projects such as 'Upstream Thinking' by South West Water profile the benefits that Beavers can have in retaining water in higher catchments and releasing it slowly. This can increase water retention by 500-3000%, reducing damaging flash flooding in winter, and preventing rivers drying up in summer. The filtration ability of these upstream wetlands purifies water of bacteria, pollutants and colour staining, greatly reducing water treatment costs.

Beavers have great tourism potential. Already the public are paying to visit Beaver colonies. Beavers are predictable and are active during daylight, so make popular viewing.

On balance the economic and conservation benefits of Beavers are huge and the Natural England Feasibility Study on Beaver Re-introduction has recommended to go ahead.

What about budgets for more research?

There is no need to throw tax-payer's money at the Beaver re-colonisation. There is already a huge resource of published papers and reports on the subject, both in UK and in Europe, and both in the wild, and in captivity. The voluntary sector Beaver Groups in UK are already sufficiently co-ordinated, funded and capable of tackling management issues as they arise without relying on hand-outs of government funds. The Devon Wildlife Trust has made proposals on how best to manage the Devon Beaver colony and is experiencing major local support.

What is the legal status of the Beaver?

In 2015 Scottish Natural Heritage will produce its final report on the Scottish Beaver trials and free-living populations. They have already decided not to exterminate the Beaver for the second time, and consequently the Beaver will be officially declared a British breeding species and will enjoy the legal protection that the status affords. Legal advice is that actually right now, because the Beaver is proven to breed in UK in the wild, it does *de facto* already enjoy that status under the EU Habitats Directive throughout the contiguous land mass of Scotland, England and Wales, regardless of any official declarations. Defra will face a legal challenge if it attempts to exterminate Beavers.

Standard reply.

DW0E000352345

From: [REDACTED]

Sent: 07 July 2014 12:28

To: contact@danrogerson.org

CC: [REDACTED]

Subject: Beavers and flood control

Dear Dan,

I am sure you are aware of the developing public interest in the small colony of beavers down in the River Otter and the opposition to the DEFRA plan to capture the animals for disease testing followed by incarceration in captivity. You may also be aware of the recently failed initiative to setup a trial using beavers in the Mevagissey River where they could play a large part in the mitigation of future floods.

The reintroduction of beavers is a subject that generates an immediate polarisation of opinion between supporters and objectors and it must be hard for any party wishing to form a more subjective opinion to extract facts from fiction!

I thought you may find it interesting to know that the small charity that we run - Westland Countryside Stewards (www.westlandcs.co.uk) - is sponsoring a three year research programme in association with Devon Wildlife Trust and Exeter University. The programme is designed to measure the inflow and outflow of water from the DWT beaver enclosure near Halwill Junction (<http://www.devonwildlifetrust.org/devon-beaver-project/>) and this data will give an accurate measure of the flood mitigation benefits that beavers can bring to wet habitats.

Within the Environment Agency plans to introduce measures within river systems to slow down water rates and reduce silt pollution, the use of beavers should be given serious consideration. There is no doubt that in the right locations, beavers can do the job more efficiently and at much lower cost than us humans.

If you would like to visit the DWT beaver enclosure to see for yourself what has been achieved, I will be glad to make the necessary arrangements.

Best regards,

[REDACTED]

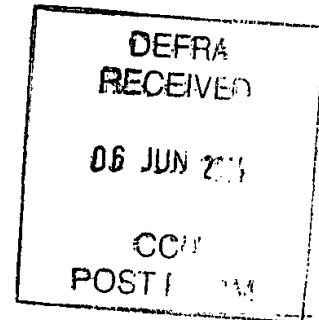
Standard reply.

THE RT HON HUGO SWIRE MP
(East Devon)



HOUSE OF COMMONS
LONDON SW1A 0AA

The Rt Hon Owen Paterson, MP
Secretary of State
Department for Environment, Food and Rural Affairs
Nobel House
17 Smith Square
London
SW1P 3JR



27 May 2014

Our Ref: HS66166

Hen amen

I enclose an email from my constituent, [REDACTED], regarding reports of

DEFRA's purported plans to carry out a cull of Devon's beavers.

I should be grateful if you could confirm whether there is any truth in these reports for the benefit of my constituent.

Yours
H

Westminster Tel: 020 7219 8173 Fax: 020 7219 1895 Email: hugo.swire.mp@parliament.uk
www.hugoswire.org.uk

From: [REDACTED]

Sent: 21 May 2014 09:25

To: SWIRE, Hugo

Cc: [REDACTED]

Subject: DOES DEFRA PLAN TO KILL THE BEAVERS LIVING ON THE RIVER OTTER?

<http://www.independent.co.uk/environment/after-the-badger-cull-is-defra-planning-to-kill-devons-beavers-9405767.html>

Dear Hugo

Please see the above story from today's Independent newspaper.

It is scandalous that DEFRA may be considering killing the beavers living on the Otter, for such a suspiciously spurious reason.

The beavers have been a source of delight to residents, many of whom have been concerned for the welfare of the animals, especially as news of them living here has reached the national media.

I have walked that stretch of the river many times and they have not made any noticeable negative impact on the environment. Devon Wildlife Trust intends to monitor them - and you will be aware that in other parts of the country that beavers are being deliberately introduced because they are, after all, a native species that were hunted to extinction hundreds of years ago for their fur. They are completely vegetarian, living on grasses and aquatic plants.

The landowner is happy that they are living on his land and does not want them harmed.

The story in the Independent, which I trust that you will look into - and hopefully confirm is a misunderstanding, states that the reason that DEFRA is considering a cull, is that there is a small risk that the animals may be carrying a parasite. I have noted the cynicism on this point from Mr Gow.

I have spoken to many people in and around Ottery about the beavers over the last few months and I can confirm that while them living on the Otter was unplanned, the animals are very affectionately regarded. News of a possible cull will shock local residents and will cause considerable anger and opposition.

I very much hope that you can seek immediate assurances from Mr Paterson that the story is incorrect and that the beavers will not be harmed.

If this is not the case and DEFRA confirms that it is pursuing this course of action, I would like to know who has influenced this decision - and I hope that the residents of Ottery can rely on your support to oppose any cull.

I look forward to hearing from you as soon as possible.
best wishes






**Department
for Environment
Food & Rural Affairs**

Nobel House
17 Smith Square
London SW1P 3JR

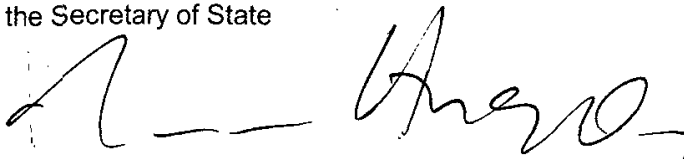
T 03459 335577
helpline@defra.gsi.gov.uk
www.gov.uk/defra

The Rt Hon Hugo Swire MP
House of Commons
London
SW1A 0AA

Your ref: HS66166
Our ref: MC349417/KW

 June 2014

The Rt Hon Owen Paterson MP
From the Secretary of State



Thank you for your letter of 27 May on behalf of your constituent, [REDACTED], about recent press articles concerning beavers.

[REDACTED] provided a link to an article about beavers in the River Otter in Devon. As the

article clearly reported, there are no plans to cull the beavers. We intend to recapture and rehome them. All decisions will be made with the welfare of the beavers in mind.

Releasing a non-native species without a licence, or allowing it to escape, is an offence.

[REDACTED] reports that deliberate releases are being made in other parts of the country. As

any such release is unlicensed, it should be reported to Natural England and the police.

Beavers can act as hosts for *Echinococcus multilocularis* (EM), the dog and fox tapeworm. This parasite can be transmitted to humans where it can cause cysts in internal organs, including the brain. Whilst Defra's risk assessment concluded there was a low risk of introduction of EM from beavers, the disease status of the animals living in the wild in Devon is unknown. It is therefore important that they are captured.

Additionally, the UK is officially EM disease-free and as a consequence is permitted to require tapeworm treatment of the thousands of dogs entering the UK annually. If this status was to be lost we would not be permitted to continue to require such treatment and, if EM became established in UK wildlife, eradication of the pathogen would be impossible.



THE RT HON OWEN PATERSON MP



INVESTORS
IN PEOPLE

DW0E000351729

From: [REDACTED]

Sent: 01 July 2014 15:25

To: EUSTICE, George

Subject: Advice on best method for wild beaver capture in Devon

Dont do it. These are thriving beavers that have introduced themselves and are saving the UK millions by sponsoring their own reintroduction. Removing them now may leave kits behind to starve and die, since its summer and young take a long while to make their presence known. Remember that the free beaver caught in Scotland and placed in a zoo subsequently died. These beavers are providing essential ecosystem services for all the wildlife you are charged with protecting, including fish, birds and game.

I would say you should test one to be sure they are even carrying the parasite youre worried about, but the others will be so frightened by the interference they might scatter and you might never see them again and young could be at risk.

Think about how much international press these free beavers got, and much their capture (and accidental death) would generate and do the right thing. There are answers for every beaver challenge that might arise, and there are hundreds of reasons to co-exist with them. Just ask my city where weve been living with downtown beavers for 8 years now: [REDACTED]

Standard reply.

DW0E000351731

From: [REDACTED]
Sent: 01 July 2014 19:19
To: EUSTICE, George
Subject: Beavers

Dear Mr Eustice

I am dismayed to hear that a decision has been made to remove the the Devon beavers. The same thing happened on Tayside but fortunately the Scottish Government saw sense and decided to study them instead. The Tay beavers have been a huge success. They have proved very popular and their population now stands at around 200 spread over hundreds of square miles. Very few negative impacts have been reported. The positive benefits of reintroducing this keystone species are well known and established.

We need to be speeding up progress in the direction of ecological biodiversity and the restoration of degraded habitats, not blundering on in the opposite direction which this is an example of.

Please rethink this decision. The Tay beavers have been tested for Echinococcus and returned to the wild. You could do the same. If you are coming under pressure from the NFU, could you not, just for once, take an independent stand. I know it might mean complying with the EU Habitats Directive which will upset the UKIP tendency but, honestly, what is the harm in that?

Yours sincerely

[REDACTED]

Standard reply.

DW0E000351589

Dear Sir / Madam,

Please tell me why you are intending to move the wild beavers that have built a home in Devon? With so many announcements I find it astounding that you are called the Department for the Environment, Food and Rural Affairs. What gives you: your government, representatives of the British people the right to wipe out again this animal that was previously wiped out by our ancestors? Surely you are aware that beavers coexist and form part of a natural, healthy habitat in other parts of the world?

As my representatives on matters to do with the protection of the environment, I would be most appreciative of a response to my questions.

Yours sincerely,

[REDACTED]

Standard reply.

DW0E000351594

Mr Paterson,

How much more damage are you going to do to the british wildlife? You constantly ignore all scientific advice and massive public opinion against the badger cull, you want to kill off cormorants, foxes, robins, starlings, buzzards and now you are targeting the beavers. Is nothing being allowed to live naturally in your uk - obviously not.

You are a disgrace to politics and to Britain. The sooner you are removed from office the better so that the wildlife can maybe breathe a sigh of relief.

You are alienating a huge number of the public so if Cameron does not get rid of you in the cabinet shakeup, you will go anyway when the Tories lose the next election. I have voted Tory all my life but will not do so while arrogant public school politicians like you are at the top and whose only interest seem to be pleasing the landed classes.

Yours

██████████

Standard reply.

DW0E000353468

From: ██████████
Date: 17 July 2014 10:21:06 BST
To: "'demauley@parliament.uk<mailto:demauley@parliament.uk>'"
<demauley@parliament.uk<mailto:demauley@parliament.uk>>
Subject: Beavers in Devon

Dear Sir,

I think that we should not indulge a kneejerk reaction to this event: the arrival of wild beavers in Devon, we should be patient and monitor how this situation develops. DEFRA needs some good press after the Badger debacle: proposed action in the absence of scientific evidence for same.

Intelligence is the ability to learn, for example from mistakes. I hope that DEFRA will collectively display some and in so doing garner widespread public support in the short term.

In the longer term, collecting data and monitoring the situation will provide the evidence for whatever decision should ultimately be taken. If the evidence supports removal then that is likely to be better supported by the public.

Sincerely,

██████████

DW0E000353470

From: ██████████

Date: 21 July 2014 10:20:05 BST

To: "demauley@parliament.uk<mailto:demauley@parliament.uk>"

<demauley@parliament.uk<mailto:demauley@parliament.uk>>

Subject: Devon Beavers.

I write with concern and disgust at Tory plans to remove and probably kill the beavers currently living wild on the River Otter. Why, on behalf of special interests groups, do the Tories want to kill everything. If it's not badgers, it's bee's, if it's not bee's it foxes, if it's not foxes, it's hares. Now it's beavers.

No matter what nonsense the Angling Trust, who I presume are party donors, spout, beavers are beneficial to Eco systems, help maintain and promote a flourishing environment, and DO NOT EAT FISH!

The countryside is for the benefit of all, not just a small coterie of self interested anglers.

If the beavers are killed it will be another pernicious act to add to the litany of crimes already committed by this government, upon the many for the benefit of the few.

I urge you to leave the beavers in peace and allow them to play their part in maintaining the Devon countryside for generations to come.

Regards.


Standard reply.

DW0E000352068

Dear Mr. Paterson

I am writing to convey my disappointment that DEFRA has decided to capture the family of beavers living on the River Otter in East Devon.

The beavers will do no harm, and are a source of great delight and interest to those who live in the area, and also to tourists upon whom the local economy largely depends.

Please act to reverse the decision to capture the beavers, and thus protect the latest member of Devons wonderful rural character.

We should celebrate the beavers return after many centuries of absence.

Yours,



Standard reply.

Friday 11 July, 2014

Dear Mr Eustice,

In response to the government's plans to recapture and rehome the Devon beavers, I attach an article by Derek Gow and Mark Elliot on the potential contribution of beavers to flood prevention.

The Devon beavers have already made a significant positive ecological impact on the pastureland and wildlife surrounding the River Otter. Your objection to their re-introduction is based on two refutable assumptions: them carrying disease and disturbing our landscape and habitat. The former is easily addressed with DNA testing and the second, a peculiar view, given that beavers are a native animal (only recently hunted to extinction). The equivalent beaver habitats in the rest of Europe demonstrate that they contribute to the stabilisation of river beds and banks, and create sympathetic conditions for the survival and revival of other wildlife.

A much better government strategy would be to introduce more beavers in Devon, so as to prevent inbreeding. That would help the rural community too—beavers are a major tourist attraction and thus they bring money into the countryside. So does angling, and beavers create many more fish. Moreover, while you might please a handful of misguided people in the Anglers' Trust by removing these beavers, the overwhelming majority of the British people are in favour of beaver introductions—surely that must matter?

With kind regards



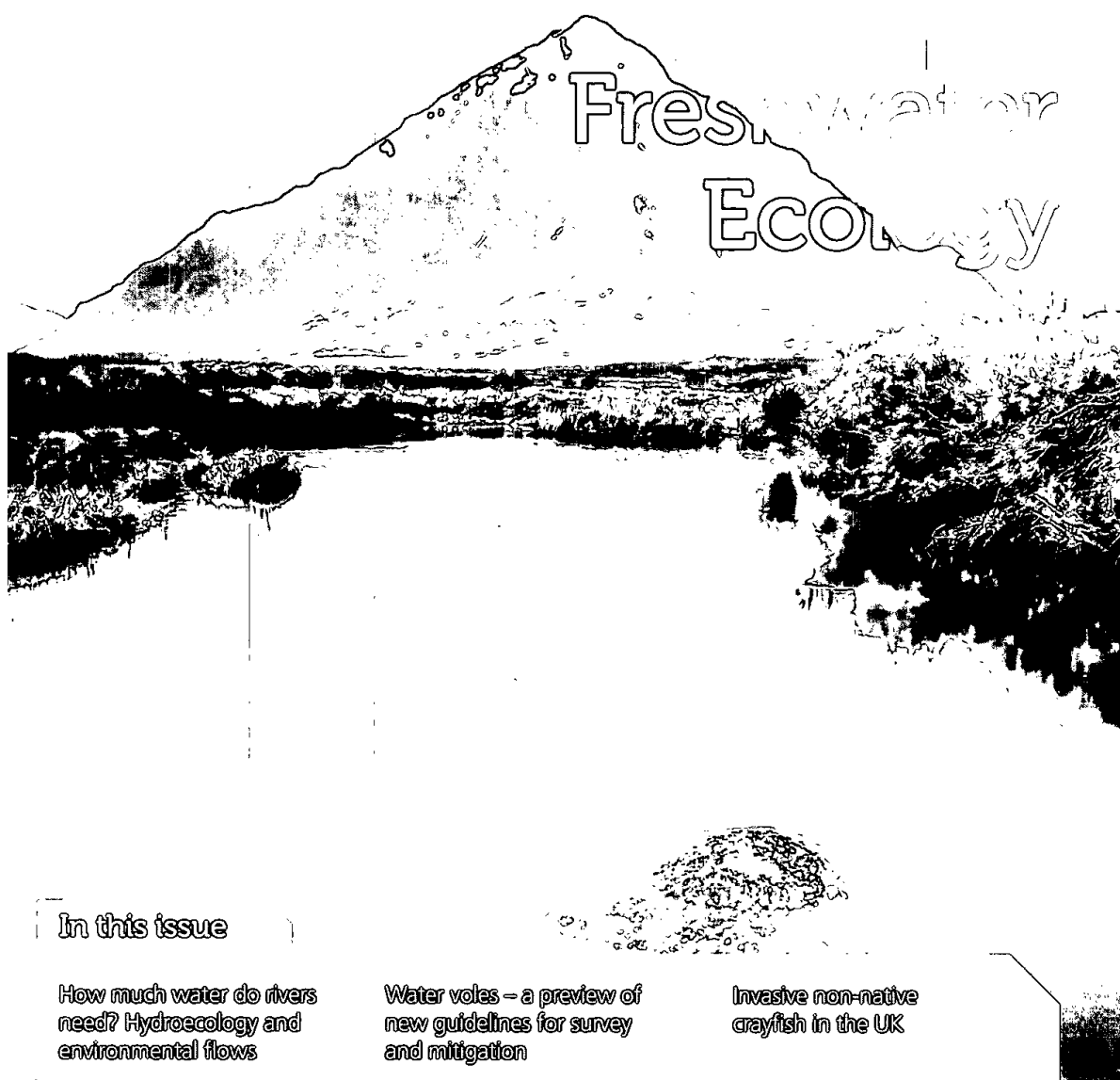
Bulletin of the Chartered
Institute of Ecology
and Environmental
Management



CIEEM

inpractice

Issue 84 June 2014



In this issue

How much water do rivers
need? Hydroecology and
environmental flows

Water voles – a preview of
new guidelines for survey
and mitigation

Invasive non-native
crayfish in the UK

The role of beaver-generated landscapes in flood prevention

Derek Gow MCIEEM
Derek Gow Consultancy Ltd

Mark Elliott CEnv MCIEEM
Devon Wildlife Trust



One of the Eurasian beavers at the Devon Beaver Project site, coppicing willow. (© David Plummer – <http://www.davidplummerimages.co.uk>)

The winter floods of 2013/14 focused attention on the role of land management in the exacerbation of flood events. Various commentators advised on the need to slow and retain water in the wooded, upper reaches of river catchments. Trial projects such as that developed by the Environment Agency at Belford in Northumberland demonstrate that the installation of Runoff Attenuation Features such as storage ponds and bunds, in

combination with the provision of significant quantities of woody debris in the riparian zone, can provide an effective system of flood mitigation. These artificial features mimic the structures and environments that are naturally created by both Canadian and Eurasian beavers. There is evidence from North America, Europe and Britain that beaver-generated landscapes in the upper reaches of watersheds can play a significant role in flood dissipation.

Historical context

The water management abilities of both the Eurasian beaver *Castor fiber* and its North American cousin, the Canadian beaver *Castor canadensis*, have been recognised by humans for millennia.

Evidence from archaeological sites, historic accounts and place names all indicate that beavers were once a widespread British species (Coles 2006). While the principal reason for their decline was over-hunting for their fur, meat and anal glands (Gurnell *et al.* 2008), the last surviving individuals may have been exterminated when conflicts arose over irrigation water for agriculture (B. Coles, pers. comm.). The last recorded payment of a bounty for a beaver's head in Britain was in 1789 (Coles 2006).

Feature Article: The role of beaver-generated landscapes in flood prevention (contd)

living space (Campbell-Palmer *et al.* 2014). They exist in multi-generational family units from which their offspring migrate in their second spring. Dispersing individuals must run the gauntlet of neighbouring families while trying to establish territories of their own. A re-establishing beaver population gradually expands its range through a catchment by initially selecting the best available habitats. On large river systems these are typically well-vegetated and wooded river banks that are friable enough to allow burrow construction. In these environments beavers do not construct dams. Once these habitats are fully occupied migrants are forced to colonise the less favourable environments of the headwaters and tributaries where they readily construct dam systems to afford protection against predators and expand their riparian foraging range. Depending on the character of the watershed that is re-colonised, it may take many years before a reintroduced population begins to develop these specific habitats. For example the beaver population reintroduced to Bavaria in 1965 is only now beginning to influence landscapes on a larger scale in the upper reaches of tributaries to the River Danube (G. Schwab, pers. comm.). This process can be accelerated by direct re-introduction into small, well-wooded catchments, which are spatially isolated from other riparian systems.

Both North American and Eurasian beavers are capable dam builders (Gurnell *et al.* 2008). The wetland landscapes created by their dam building activities afford highly complex environments with an abundance of standing, fallen and submerged dead wood providing living space for a wealth of associated wildlife. These habitats are typically established where narrow, stream systems with a channel depth of less than 60 cm triggers dam building activity (Coles 2006). Beavers generally utilise timber for dam construction but will in rocky landscapes combine stones bound together with mud. In other treeless locations they can exploit the roots of aquatic plants or rushes to create very broad dams (Gurnell *et al.* 2008).

The impact of beaver dams on hydrology can be dramatic. In one North American study, water took 3-4 hours to travel 2.6 km where there were no beaver dams.



The largest beaver pond at the Devon Trial site is now over 335 m² (© Mark Elliott, DWT)

When a single, leaky beaver dam, 1.5 m high, was established, it took 11 days to travel the same distance (Müller-Schwarze and Sun 2003). In the Belgian Ardennes where beavers were reintroduced in 2003 a series of six beaver dams on the River Chevral resulted in a significant lowering of discharge peaks on the downstream reaches of the river (Nyssen *et al.* 2011). These dams increased the recurrence interval of a 60 m³ reference flood from 3.4 to 5.6 years (Nyssen *et al.* 2011). The number of impoundments created by beavers in any given territory will vary according to the number and density of beavers in a colony, the availability of building materials and the topography of the surrounding landscape. In France, at Keriou in Brittany the channel capacity prior to the development of the beaver dams was calculated at 535 m³ over a distance of 120 metres. With six well-maintained dams *in situ* this rose to 3250 m³. Prior to its colonisation by beavers, the St Roman stream, a tributary of the River Roudoudour, was a very shallow, narrow watercourse with no natural ponds or associated wetlands. It was estimated to contain 9.7 m³ water over a 90 metre stretch with no beaver dams; with the dams in good repair a thirty-fold increase to 288 m³ was estimated (Coles 2006).

The Devon Beaver Project

Although there are free-living populations of beavers in Scotland in the Knapdale Forest in Kintyre and throughout the basin of the River Tay in eastern Scotland (R. Campbell-Palmer pers. comm.), they currently exist at low densities. No known colonies currently inhabit environments with multiple dam features. In March 2011 a pair of Eurasian beavers was released into a 3 ha enclosure as part of the Devon Beaver Project. This project, led by the Devon Wildlife Trust in collaboration with a private landowner, is designed to investigate the impact of beavers on the ecology and hydrology of a semi-natural area of "Culm grassland." Prior to the introduction of the beavers, a small release pond was constructed in the enclosure. Apart from this and a few temporary pools that had formed under the root plates of fallen trees, the only open water was a trickle, which flowed over the ground surface of the wet woodland from a small spring on its boundary. The pair of beavers (and the three kits they produced in 2013) have dramatically altered this environment. The trickle of water has been extensively dammed and canalised, and a series of approximately eight ponds, associated marshes and interconnecting beaver 'canals' have been constructed. Detailed

Feature Article: The role of beaver-generated landscapes in flood prevention (contd)

silt over time. As a consequence, during heavy rain, water flows up and over the main dam wall rather than pressing against it. When dams do breach, they usually do so at a specific point - rather than the whole structure collapsing - leaving the main wall in place. If the breach is not repaired by the beavers, the main structure can remain in situ for many years (D. Gow, pers. obs.). In addition to the ponds, canals and streams, water is also stored in the surrounding soil. Although the soils were already saturated throughout much of the Devon site, the network of beaver dams, canals and pools has raised ground water levels in places to creating quaking bogs with liquefied soil. A network of eight dip-wells sunk into the ground to measure these changes has identified a higher and

more stable water level (see Figure 2). These initial findings have resulted in the development of a more detailed research project in collaboration with the University of Exeter.

The early stages of the Devon Beaver Project clearly demonstrate the potential of beaver-generated wetlands to retain water. Studies elsewhere in Europe and Canada have shown that beaver dams play a significant role in the reduction of peak flow flood events (Beedle 1991). During dry periods the discharge of low flows is increased (Parker 1986) and this process may even convert temporary rivers into permanent ones (Yeager and Hill 1954, Rutherford 1955, Collen and Gibson 2000). Where beaver dams are removed, the subsequent change in channel structure can

increase the mean flow velocity by five-fold (Green and Westbrook 2009).

In the lower lying reaches of river systems in Western Europe there are occasional conflicts between beaver activity and the requirements of developed human infrastructure. However, while beavers sometimes burrow into flood defence structures or riverbanks, block drainage ditches or road culverts and flood areas of productive farmland, there are established management techniques which mitigate their impact (Gurnell *et al.* 2008). Since the beginning of the 20th Century a host of reintroduction projects followed by an accelerating process of natural re-colonisation has resulted in the widespread recovery of both species (Halley and Rosell 2002). It is clear that beavers can adapt to and exist quite successfully in highly engineered, riparian landscapes.

Next steps

Beavers have a low reproductive rate and are slow to cross catchment boundaries (Halley and Rosell 2002). These aspects of their ecology provide the opportunity to gradually assess their effectiveness as agents of water management without committing to a national process of reintroduction in the first instance. Over time, as the results of release trials are clarified, any process or restoration could be expanded or terminated with ease. Beaver-generated landscapes have the clear potential to provide natural, sustainable, expanding systems of effective water management. In their most basic form their pertinence would equally apply to both flood dissipation and water storage. Although there would be costs associated with the species' restoration, three independent feasibility studies commissioned respectively by Natural England, Scottish Natural Heritage and the Countryside Council for Wales (Macdonald *et al.* 2000, Gurnell *et al.* 2008, Jones *et al.* 2012) have all recommended that trial reintroductions of beavers should be explored in Britain.

As flood risks increase and the costs of conventional mitigation rise, the restoration of the Eurasian beaver could become a social and political priority.

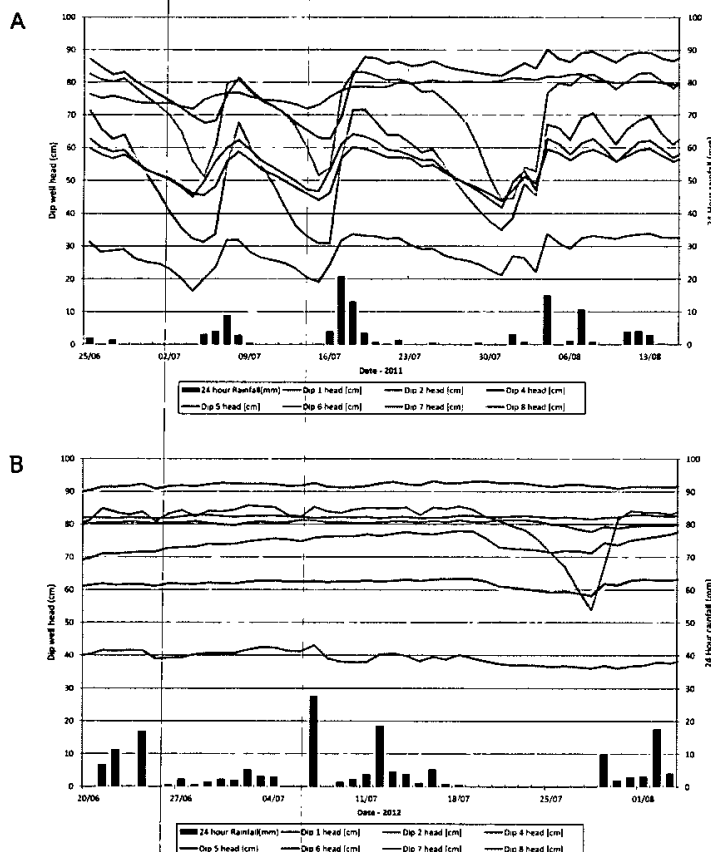


Figure 2 – Comparison of soil water levels at the Devon site in 2011 (Fig. 2a) and 2012 (Fig. 2b) showing much less fluctuation after beavers occupied the site in 2012.

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Beaver canals are used to explore and exploit the territory from the relative safety of water, and for transporting cut wood. (© Mark Elliott, DWT)

About the Authors



Derek Gow is the managing director of a specialist wildlife consultancy - The Derek Gow Consultancy Ltd - which is principally focused on effective techniques for water vole mitigation and restoration. Derek was a consultant for the captive breeding and development chapters of the Water Vole Conservation Handbook (2006) and is currently assisting with a revision of the 2011 edition. The consultancy quarantined the beavers imported from Norway for the Scottish Beaver Trial at Knapdale in 2009. Derek has travelled widely in Europe to see beaver-generated landscapes and management systems.

Contact Derek at:
derekjgow@aol.com



Mark Elliott is a wetland ecologist and has worked for the Devon Wildlife Trust since 2010. His interest in water management originated through his time with the Environment Agency and West Sussex County Council, and he is particularly interested in the role of wetlands in mitigating floods and droughts, and buffering communities against climate change.

Contact Mark at:
melliott@devonwildlifetrust.org



**Department
for Environment
Food & Rural Affairs**

Nobel House
17 Smith Square
London SW1P 3JR

T 03459 335577
helpline@defra.gsi.gov.uk
www.gov.uk/defra

Dr Lisbet Rausing
17 Aubrey Walk
London
W8 7JH

Our ref: PO353495/KW

// August 2014

From Lord de Mauley
Parliamentary Under Secretary of State for Natural Environment and Science

Thank you for your letter of 11 July to George Eustice about beavers on the River Otter. I am replying as the Minister responsible for wildlife management policy.

It is important to note that the beavers present on the River Otter did not get there of their own accord and that the landscape has changed considerably since they were last present on our shores around 500 years ago. Whilst Defra does not have a policy of opposing re-introductions of formerly native species, it is international practice to consider the impacts of any re-introductions on the environment and the environmental conditions and features on the animals before undertaking any release.

Depending on the origin of the animals, they could be a source of *Echinococcus multilocularis* (EM), a zoonotic disease that is not currently present in the wild. We have the opportunity to take precautionary action now and test the beavers to make sure they do not hold the disease. The UK is officially EM disease-free and the impact on public health of such a disease becoming established would be considerable; eradication of the disease could prove impossible.

To test the animals for the disease it is necessary to take blood samples and carry out a laparoscopy. It is not possible to test the animals from their DNA. Consideration of the welfare of the animals dictates that these tests should be undertaken under safe medical conditions, hence the need to capture them. Should the tests prove negative, we intend to rehome them in a suitable location.

If any captured beavers test clean of EM and an application for their release is submitted, the application would be considered by Natural England. Defra's current position is that it would be premature to issue a licence for such a release pending the results of the Scottish beaver trial, expected in 2015. However, it would be for Natural England to assess any such application, in accordance with International Union for Conservation of Nature guidelines for reintroductions of formerly native species, including proper local consultation, and if appropriate it could be referred to the Secretary of State for consideration.

I understand the sentiments of those who wish to see beavers in the wild, but we must consider the risks both to the environment and the animals themselves and take a precautionary approach. Just because their presence may be beneficial in one location does not mean this will be the case in all locations. Whatever occurs, please rest assured that we have the welfare of the beavers in mind at all times.

Yours sincerely

Rupert de la Pen

DWO0000352457

5th July 2014

Department for Environment, Food & Rural Affairs
Nobel House
Smith Square
London
SW1P 3JR

Dear Sir/Madame,

I'm writing to you in response to your recently stated plan to capture the wild beavers in Devon and place them in a zoo; can you not re-consider the reasons for doing this? Beavers are an ecological keystone species and greatly improve the habitat for many other species dwelling in rivers, some of them being key targets of wildlife conservation such as the water vole, the otter and the eel. Many fish are able to take shelter and breed in the dams they create and flourish as a result. They should be studied in their habitat, as they are in the reintroduction trial of beavers in Scotland, and its worth pointing out at this point that the chance to see wild beavers in our country once more has seen many people travelling and benefiting the economy release sites in a successful example of ecotourism. Where beavers have been reintroduced to other European countries, the results are overwhelmingly positive; please re-consider your plans and protect the beavers, don't remove them.

Yours sincerely,

Standard reply.

DW0E000353691

From: [REDACTED]

Sent:

23 July 2014 20:49

To:

CCU Correspondence (AHEG)

Subject:

Re: Response to your Query : - Ref:DW0E000352341 - Beavers

Dear [REDACTED]

Thank you for your reply to my request, but was surprised to note that your reply implied that you had not read what I had written!

Nowhere in my email did I mention that you were culling the beavers, it was the 'rehoming' to which I was objecting. I was proposing that you leave them where they are whilst you seem to have decided already that they need to be moved elsewhere. It would make little sense to move them from a wild area of Devon to a wild area somewhere else so where do you envisage such 'rehoming' taking place?

Might I suggest that you e-read my original email - particularly with reference to their reintroduction in mainland Europe and DNA testing for EM.

I look forward to hearing from you.

Yours sincerely,

[Sent in response to standard reply.]

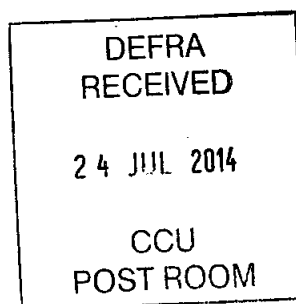
Geoffrey Clifton-Brown FRICS MP



HOUSE OF COMMONS

LONDON SW1A 0AA

George Eustice MP
Parliamentary Under-Secretary
Department for Environment, Food and Rural Affairs
Nobel House
17 Smith Square
London, SW1P 3JR



18th July 2014

Dear George

FISHING

I have been contacted by my constituent [REDACTED], expressing concern about the above.

I attach a copy of my constituent's communication for your consideration and I would be very grateful if you could look into this case to see what can be done to assist.

I look forward to hearing from you.

Yours sincerely

GEOFFREY CLIFTON-BROWN MP

From: [REDACTED]

Sent: 07 July 2014 16:28
To: CLIFTON-BROWN, Geoffrey
Subject: Would you help stop the trapping of free Beaver in Devon please?
Categories: Requires attention

I believe that Defra are exaggerating the threat to fishing for their own reasons and that someone needs to ask some hard questions. Would you please see what you can do? Stop the trapping and possible culling of free beavers living on the River Otter in Devon and instead ensure they are healthy, and cause no problems to other riverbank users. The beaver is the most important, formerly native, animal to Britain that could create landscapes that protect our native plants and animals. They also save taxpayers money in water treatment and flood management costs. The beaver was hunted to extinction and we have a duty to bring them back to our rivers. The effects of beavers will improve water quality, reduce flooding and help turn our river banks back into wildlife havens. This is resisted by some groups who want to exploit our river banks for private gain or fear change in the countryside.

Best wishes
[REDACTED]



Department
for Environment
Food & Rural Affairs

Nobel House
17 Smith Square
London SW1P 3JR

T 03459 335577
helpline@defra.gsi.gov.uk
www.gov.uk/defra

Geoffrey Clifton-Brown MP
House of Commons
London
SW1A 0AA

Our ref: MC353701/KW

August 2014

From Lord de Mauley
Parliamentary Under Secretary of State for Natural Environment and Science

Thank you for your letter of 18 July to George Eustice on behalf of your constituent, [REDACTED], about beavers in Devon. I am replying as the Minister responsible for wildlife management policy.

I believe [REDACTED] is referring to articles that have appeared in the media about beavers in the River Otter in Devon.

Beavers have not been an established part of our wildlife for the last 500 years. Our landscape and habitats have changed since then and we need to assess the impact they could have, whether on the River Otter or elsewhere.

In addition, depending on the origin of the animals they could be a source of a zoonotic disease, *Echinococcus multilocularis* (EM), which is not currently present in the wild. We have the opportunity to take precautionary action now and test the beavers to make sure they do not hold the disease. The UK is officially EM disease-free and as a consequence is permitted to require tapeworm treatment of the thousands of dogs entering the UK annually. If this status was to be lost we would not be permitted to continue to require such treatment and, if EM became established in UK wildlife eradication would prove impossible. The impact on public health of such a disease becoming established is considerable.

As the articles have reported, there are no plans to cull the beavers. Once captured and tested, we intend to rehome them in a suitable location, and all decisions will be made with the welfare of the beavers in mind.

STEVE McCABE MP



HOUSE OF COMMONS
LONDON SW1A 0AA



George Eustice MP
Animal Welfare Minister
Department for Environment, Food and Rural Affairs
Nobel House
17 Smith Square
London
SW1P 3JR

11 July 2014

Ref:SMcC/SE/beav-dev/Min/GE

Dear George,

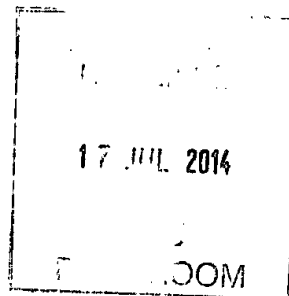
A constituent of mine has been in touch with their concerns over the treatment of beavers in Devon.

I include a copy of my constituent's email to me and I would be grateful if you could address their concerns.

Many thanks in advance for your assistance.

Yours sincerely

Steve McCabe M.P.
Birmingham, Selly Oak



Member of Parliament for Selly Oak, Birmingham
Tel: 020 7219 4842 or 020 7219 3509
Fax: 020 7219 0996 or 020 7219 0367

From: [REDACTED]
Date: 1 July 2014 08:40
Subject: Wild Beavers in Devon
To: mccabes@parliament.uk

Dear Mr McCabe

I'm sorry to trouble you about something not to do with Birmingham but I wondered if you might be able to suggest that Defra leave the family of beavers in Devon alone. Capturing them is unnecessary and drastic. They should be left and monitored until the scientific results of the beaver introduction in Scotland are published. On the basis of that they should be left or dealt with accordingly. I'd like the Ministers' take on this.

Thank you
[REDACTED]



**Department
for Environment
Food & Rural Affairs**

Nobel House
17 Smith Square
London SW1P 3JR

T 03459 335577
helpline@defra.gsi.gov.uk
www.gov.uk/defra

Stephen McCabe MP
House of Commons
London
SW1A 0AA

Your ref: SMcC/SE/beav-dev/Min/GE

Our ref: MC353091/KW

28 July 2014

From Lord de Mauley
Parliamentary Under Secretary of State for Natural Environment and Science

Thank you for your letter of 11 July to George Eustice on behalf of your constituent, Ms [REDACTED] about beavers. I am replying as the Minister responsible for wildlife management policy.

I believe [REDACTED] is referring to articles that have appeared in the media about beavers

in the River Otter in Devon.

Depending on the origin of the animals in question, there is a concern that they could be a source of a zoonotic disease, *Echinococcus multilocularis* (EM), which is not currently present in the wild. We have the opportunity to take precautionary action now and test the beavers to make sure they do not hold the disease. The UK is officially EM disease-free and as a consequence is permitted to require tapeworm treatment of the thousands of dogs entering the UK annually. If this status was to be lost we would not be permitted to continue to require such treatment, and, if EM became established in UK wildlife, eradication would prove impossible. The impact on public health of such a disease becoming established is considerable.

As most of the articles have reported, there are no plans to cull the beavers. Once captured and tested, we intend to rehome them in a suitable location, and all decisions will be made with the welfare of the beavers in mind.

Beavers have not been an established part of our wildlife for the last 500 years. Our landscape and habitats have changed since then and before they are released into any location we need to assess the impact they could have, whether on the River Otter or elsewhere. The International Union for Conservation of Nature has specific guidelines, which countries planning or undertaking re-introductions should follow, to address the needs of other wildlife and ecosystem services and also the needs of the animals in question. Any consideration of the animals' re-release will follow those guidelines.

Yrs sincerely

Rupert de Mauley



INVESTORS
IN PEOPLE

DWOE000351831

Dear sir or madam,

Can you please let me know why defra is thinking of moving beavers from the river to a zoo ? if it for saving other wild life ? surely they need to be left in their natural habitat ? Please let me know re this, or ring me on [REDACTED], to discuss it. If I do not answer the phone please leave a message and a phone number, and name for me to ring back on, bw, [REDACTED]

Standard reply.

MC00000354532

From: WILLIAMS, Roger <roger.williams.mp@parliament.uk>
Sent: 29 July 2014 11:30
To: CCU Correspondence Section (CCU)
Subject: Correspondence to Lord de Mauley regarding beavers in the wild

Dear Lord de Mauley,

I am writing to you regarding the wild beavers recently spotted in Devon. I have had a number of people write to me wishing to question the choice by Defra to attempt to remove them.

One person, [REDACTED], has stated that the UK have rightly pressed African and Asian nations to safeguard their elephants, rhinos and tigers, yet states that it is concerning that we are unwilling to safeguard our own native beavers.

He also states that [REDACTED], in a large fenced natural enclosure, and they are not fed or managed in any way. Having monitored their effect on the habitat, he states that they mainly feed on willow under 5 years old, less than the thickness of a wrist, and he questions the claims by the Angling Trust that a family of beavers cut down '300 trees per year', claiming it to be scaremongering and states that first-hand experience is lacking in the debate.

He has enclosed a brief guide to the issue, which I have added below.

I would appreciate if you would explain the Government's position on this matter, and respond to the concerns raised.

Yours sincerely,

Roger Williams MP

Brecon & Radnorshire Liberal Democrats
4 Watergate, Brecon, Powys, LD3 9AN
01874625739 | williamsr@parliament.uk



The Recovery of the British Beaver

The British Beaver (*Castor fiber*) was exterminated about 300 years ago for its fur and oil, but has been making a steady comeback over the past decade or so. There are well-established populations breeding in the Tay and Forth river catchments, and a small trial population in Argyll. There are plans for a re-introduction in Wales and small numbers breeding in Devon, with sightings in other counties. There are also several enclosed breeding colonies. It is time now to regularise the position of the Beaver and to manage this recovery in an integrated planned way, rather than in a piecemeal fashion.

Why did the Beaver disappear?

Unlike many of our indigenous predators, such as the wolf, bear, lynx and many raptor species that were exterminated as pests, the Beaver faced the opposite problem: it was in high demand as a resource, for its fur and for its castoreum oil. The rarer it became, the higher the price, until finally it was exterminated in UK and much of Europe. Trappers switched their attentions to the North American Beaver instead.

What are our responsibilities to our indigenous species?

It is our collective responsibility to maintain the biodiversity of species in Britain and this is supported in law under the EU Habitats Directive. For some, such as the Wolf, the habitat demands are great and can no longer be achieved in modern Britain. But for others, such as the Beaver, there are still plenty of areas of former habitat suitable for re-colonisation. The Beaver is a keystone species within wetland habitats and, as an Appendix III species under the Bern Convention, the government has agreed to aid its recovery and well-being.

What is the time-scale for re-colonisation?

Re-colonisations in Europe show a gradual increase in numbers and range followed by a somewhat faster rate until capacity is reached. The Tay population of about 150 Beavers is now in its expansion phase. Beavers are reluctant to stray far from water and therefore they can be restricted by watersheds, as well of course by modern features such as roads and conurbations. Riverine populations track up and down the river systems, whereas isolated habitats, such as some lakes and wetlands, may not be reached for a long time. Unaided, it could take several decades for the species to recover its full former range. In reality, with managed translocations, given the demand for this keystone species in the management of wetlands, it is likely that at least 50% of available habitat will be re-colonised in the next 2-3 decades.

Could the Beaver be exterminated in UK?

Being sedentary and predictable, it would theoretically be possible to exterminate the Beaver for a second time. In reality, the Tayside population is very well established and the Scottish government, faced with strong public support for Beavers, has decided not to exterminate them. Non-lethal controls and translocations however are both feasible and advisable. It is important that the species is not so iconised that public opinion prevents sensible management procedures.

If re-colonisation is inevitable, what is the best way to manage it?

More 'trial releases' are not necessary. A Beaver colony in a Scottish loch does not reveal the issues that might occur on a lowland river. There have been plenty of re-colonisation studies throughout Europe and there is no need to re-invent the wheel. The Beaver is not an alien invasive species, it is an indigenous keystone species that interactively evolved with British wetland habitats and plants. The factors to bear in mind are:

- **The management of regional populations.** Beavers in isolated areas of habitat form essentially closed colonies which are relatively easy to manage. These areas should be prioritised over riverine systems to start with and provision made for gene flow.
- **The legal situation.** The Beaver is once more a British breeding species and should be listed on the appropriate legal appendices and enjoy the protection of the law. Licences should be made available to carry out management activities such as trapping and translocations.
- **Genetics.** Tests of the Tayside population show that they derive from Bavarian imports which in turn derive from several genetic source populations. Genetic diversity is not currently a limiting factor in the re-establishment of the Beaver.
- **Disease.** The only significant potential disease in British Beavers is *Echinococcus multilocularis*, a type of tapeworm of which the Beaver is a vector but not a primary host. There is no known EM in British Beavers at the moment and the only way it can arrive is through imports. British born Beavers do not carry EM.

What if the colonisation is not managed?

If it is not managed in a planned way, colonisation will continue in a haphazard way, both by natural increases in range, and no doubt through human translocations.

How easy is it to get rid of unwanted Beavers?

Beavers are easy to detect, and they are very sedentary. It is relatively easy to bait them to cage traps and move them. There is no need to kill them and risk public opposition.

Are there pressure groups against Beavers?

Some anglers are against Beavers, thinking that Beaver dams might prevent the free movement of fish and silt up spawning grounds. Other fishermen welcome Beavers because of their ability to stabilise river flows and ensure continuing river levels, especially in summer chalk streams. Dr Paul Kemp's University of Southampton study of

Some farmers are against Beavers because of concerns for crops. In reality Beavers do not stray far from wetland habitat and expose themselves in the open. They are not like rabbits. Other farmers are asking to be provided with Beavers, are proud to have them and are firmly resisting any Defra plans to trap them on their land. Some foresters are against Beavers that might damage plantations. Actually Beavers prefer wetland species, such as willow, aspen and alder. Commercial forestry species are not planted in wetlands and can more easily be protected against Beavers that can only reach up a metre, than against deer that can reach two metres or more. In natural woodland, Beavers have an important role to play in opening up the canopy and making glades and fringes which are key habitat for many species.

Are there pressure groups supporting Beavers?

As can be seen from the Badger trials, there is huge potential public pressure in support of Beavers, led by the Wildlife Trusts. This publicity pressure is expanding and the Wildlife Trusts are likely to hold the government to its Bern Convention and EU Habitats Directive obligations, by legal challenge if necessary.

Beavers are welcomed by wetland managers because of their role in controlling 'succession' species such as willow which, if unchecked, turn species-rich wetland grass areas or 'culms' into shady woodland. Beavers can save the huge costs of mechanical controls. These specialised wetland habitats are the only homes for many of our rarest species of both flora and fauna.

Projects such as 'Upstream Thinking' by South West Water profile the benefits that Beavers can have in retaining water in higher catchments and releasing it slowly. This can increase water retention by 500-3000%, reducing damaging flash flooding in winter, and preventing rivers drying up in summer. The filtration ability of these upstream wetlands purifies water of bacteria, pollutants and colour staining, greatly reducing water treatment costs.

Beavers have great tourism potential. Already the public are paying to visit Beaver colonies. Beavers are predictable and are active during daylight, so make popular viewing.

On balance the economic and conservation benefits of Beavers are huge and the Natural England Feasibility Study on Beaver Re-introduction has recommended to go ahead.

What about budgets for more research?

There is no need to throw tax-payer's money at the Beaver re-colonisation. There is already a huge resource of published papers and reports on the subject, both in UK and in Europe, and both in the wild, and in captivity. The voluntary sector Beaver Groups in UK are already sufficiently co-ordinated, funded and capable of tackling management issues as they arise without relying on hand-outs of government funds. The Devon Wildlife Trust has made proposals on how best to manage the Devon Beaver colony and is experiencing major local support.

What is the legal status of the Beaver?

In 2015 Scottish Natural Heritage will produce its final report on the Scottish Beaver trials and free-living populations. They have already decided not to exterminate the Beaver for the second time, and consequently the Beaver will be officially declared a British breeding species and will enjoy the legal protection that the status affords. Legal advice is that actually right now, because the Beaver is proven to breed in UK in the wild, it does *de facto* already enjoy that status under the EU Habitats Directive throughout the contiguous land mass of Scotland, England and Wales, regardless of any official declarations. Defra will face a legal challenge if it attempts to exterminate Beavers.

CC :

Subject : Beavers

To: [REDACTED]

Dear [REDACTED]

Thank you for your email of 17 July to the Secretary of State about beavers in the River Otter. I have been asked to reply and apologise for the delay in doing so.

As you are aware, depending on the origin of the beavers they could be a source of Echinococcus multilocularis (EM), a zoonotic disease that is not currently present in the UK and is invariably fatal in humans if not treated. The UK is officially EM disease-free and the impact on public health of such a disease becoming established would be considerable while eradication of the disease would prove impossible.

In addition, our disease free status is the reason we are permitted to require tapeworm treatment of

the thousands of dogs entering the UK annually. If this status was to be lost we would not be permitted to continue to require such treatment.

For these reasons it is important that we take precautionary action now and test the beavers to make sure they do not carry the parasite.

The tests to which you refer relate to DNA testing of faecal samples from foxes that are infected with the adult form of the parasite in the intestine. It would not be suitable for beavers as they act as intermediate hosts, such that the parasite is present in cyst form attached to different organs (liver usually) and therefore do not pass the parasites in their faeces. The parasite completes the life cycle when the intermediate host (beaver) is eaten by a definitive host such as a fox. However, we are keen that this does not occur hence our desire to capture and test the animals to ensure that the beavers are disease free.

Since the beavers do not pass the parasites in their faeces and other DNA sampling approaches, for example hair samples, are not reliable enough to tell us the origin of these animals, to test the beavers for EM it is necessary to take blood samples and carry out a laparoscopy. Consideration of the welfare of the animals dictates that these tests should be undertaken under safe veterinary conditions, hence the need to capture them.

If the captured beavers (provided they test negative for EM), or any other animals were proposed to be released, and an application for their release is submitted, that application would be considered by Natural England. While Defra's current position is that it would be premature to issue a licence for such a release pending the results of the Scottish beaver trial (expected in 2015), it would be for Natural England to assess any such application in accordance with International Union for Conservation of Nature guidelines, including proper local consultation. If appropriate it could be referred to the Secretary of State for consideration.

As you note, the animals currently present in the River Otter were not released as part of an official reintroduction programme and no assessment of the suitability of the River Otter has been undertaken. We do not, therefore, know whether it is a suitable location for their long term presence.

We understand the sentiments of those who wish to see beavers in the wild, but we must consider the risks both to the environment and the animals themselves. The landscape has changed considerably since the species was last present here in the wild around 500 years ago and while their presence may be beneficial in some locations this does not mean this will be the case in all locations. Whatever occurs, please rest assured that we have the welfare of the beavers in mind at all times.

Yours sincerely



Defra – Customer Contact Unit
