

Response ID ANON-W16X-P4YY-C

Submitted to Consultation on approach to beaver reintroduction and management in England
Submitted on 2021-11-16 14:24:02

Introduction

1 Would you like your response to be confidential?

No

If yes, please give your reason:

2 What is your name?

Name:
Ian Moodie

3 What is your email address?

Email:
ian.moodie@ada.org.uk

4 What is your organisation? If you are responding as an individual, please state 'individual'.

Organisation:
ADA (Association of Drainage Authorities)

5 Please briefly describe your interest in this consultation.

Please provide your comments in the text box below:

The Association of Drainage Authorities (ADA) is the membership organisation for drainage, water level and flood risk management authorities throughout the United Kingdom. Our aim in responding to this consultation is to ensure that the government develops for England an adequate long term framework of guidance, regulation, support, and funding for the management and mitigation of beaver impacts to flood and water level management.

ADA considers that in order to do this as well as possible, taking into account any protected status conferred on beaver, a Beaver Protocol similar to that within the Netherlands should be established with flood and water managers and conservation experts to describe how the participating water managers deal with beavers if activities of one or more beavers cause a conflict with the primary duties and responsibilities of water managers (https://www.waterschaprivierenland.nl/_flysystem/media/beverprotocol.pdf).

ADA does recognise that in the right places and with the right safeguards beavers do have the potential to play a part in natural flood management, helping to attenuate more frequent lower consequence rainfall events and improving water quality, hydromorphological diversity, and biodiversity. This is particularly applicable within the upper reaches of our catchments where there are minimal or no flood risk or water management structures and where negative consequences downstream from woody debris and beaver activity can be adequately mitigated.

This particular consultation response focuses on extensive lowland areas in England, such as the Fens, which contain a multitude of artificial and heavily modified watercourses and flood defence infrastructure and embankments. We believe such locations could have the greatest negative consequences from the introduction of beavers.

It has been prepared specifically to address the concerns of internal drainage boards who represent a significant part of ADA's membership. Other members of ADA may choose to respond individually to the consultation.

Each internal drainage board (IDB) is a public body that manage water levels in a lowland area, known as an internal drainage district, where there is a special need for drainage. Today, there are 112 IDBs in England whose districts cover 1.2 million hectares (9.7% England's landmass). These occur in areas such as: The Fens, Somerset Levels and Moors, Broads, and Humberhead Levels. Such lowland areas require careful water level management to prevent damaging flooding to people, property and the environment, with the routine management of watercourses and flood defence assets.

IDBs undertake works to reduce flood risk to people and property, and manage water levels for agricultural and environmental needs within their district. Their work plays a key role in reducing flood risk to over 600,000 people and nearly 900,000 properties. They operate and maintain over 500 pumping stations, 22,000 km of watercourse, 175 automatic weed screen cleaners and numerous sluices and weirs.

Our primary concerns focus on water level management. Many parts of the UK are reliant on careful management to prevent flooding or water logging of soils which can increase subsidence to properties and infrastructure. Lowland areas, such as the Fens and Somerset Levels; are dependent on thousands of kilometres of watercourses, from large embanked rivers, that may be perched several metres above the surround lowland, to smaller drainage ditches that are critical to conveying water to pumping stations and outfalls.

ADA considers that beaver populations in a number of England's lowlands risk significantly increasing the costs of those Risk Management Authorities and riparian owners managing flood and water level management infrastructure. Beavers are known to target earth structures close to water in creating their lodges/dens. Burrowing by reintroduced beavers in lowland areas in Europe and Scotland, has led to increased erosion and bank collapse, and dam building and felling activity can obstruct watercourses.

Damage to watercourses and flood embankments in lowland areas has the potential to cause extensive flooding in these areas without close monitoring, prevention, management and repair. Any threat to the integrity of lowland embankments and watercourses could have adverse consequences to people, communities, infrastructure and the local environment and economy if an embankment breach or pumping station failure were to occur.

As well as containing the majority of England's most versatile and productive agricultural land, internal drainage districts in England contain over 880,000 properties, 40 caravan/leisure parks, around 70 major industrial premises, 40 of England's major electricity generation sites, which equate to around 50%

of England's installed electricity generating capacity, 400 SSSIs, hundreds of water treatment and sewage works, 210km of motorway, and 1,450km of railway.

Any beaver reintroduction should look at the full impacts of the spread of the species out of reintroduction areas. ADA considers that this needs to be considered over a longer timeframe than the initial reintroductions (beyond twenty years), to ensure that sufficient guidance for preventing, mitigating and repairing beaver damage is available for water managers. Management and guidance must sit within a suitably enabling regulatory framework that enables quick, cost-effective response options to Risk Management Authorities and riparian owners where unacceptable levels of damage are occurring. Where the presence of beavers presents a new burden to public authorities, such as IDBs, the government needs to consider how beaver impacts can be properly funded in the long term. IDBs have no spare capacity within their existing budgets to be able to finance the repairs of damage caused by beavers to watercourses and flood and water level management infrastructure, especially if they are to meet the growing challenges being raised by our changing climate. IDBs could be ideally placed to manage any consequences of beaver damage in lowland areas if they were to be provided with a funding mechanism to support such work. This could be linked to longer term benefits of revenue funding and grant support for enhancing the environment. Currently IDBs are not centrally funded for environmental work, nor are they typically eligible as public bodies for grant funding for the agricultural or environmental sectors.

National approach to reintroductions

6 Do you agree or disagree with the proposed approach to beaver reintroductions? Please state your reasons and supporting evidence. If you disagree, please provide any suggested alterations or alternatives and supporting evidence.

Disagree

Please state your reasons and supporting evidence. If you disagree, please provide any suggested alterations or alternatives and supporting evidence.:

ADA is concerned that the proposed approach to beaver reintroductions does not fully consider the long term management of beavers within the landscape, especially within extensive lowland areas.

Once introduced it is likely that beavers will spread and naturalise throughout river catchments, including downstream lowlands. Natural England's recent study (A review of the evidence on the interactions of beavers with the natural and human environment in relation to England [NEER017]) highlighted that the economic cost from conflicts caused by beaver reintroduction is most likely to be higher on lowland arable agricultural land, and that such lowland regions in England will require the greatest management of beaver impacts. Specifically it highlights areas with high proportions of Agricultural Land Classification Grades 1 and 2 land, such as Cambridgeshire, East Riding of Yorkshire and Lincolnshire. Whilst not covered in the report, ADA proposes that lowland water level management and the impacts from beaver reintroduction requires detailed research before any further reintroductions should be considered. ADA would be happy to assist with that work and would request that a full range of Risk Management Authorities, including IDBs, contribute. In circumstances where beavers have escaped from existing enclosures in England (e.g. River Stour, Kent) we understand that there has been limited success in re-capturing or controlling these populations. Therefore, ADA is concerned that any further future reintroduced populations would also be difficult to control or capture if they spread into unfavourable lowland areas. ADA suggests that wider engagement with a geographically broader group of stakeholders is needed prior to any reintroductions, especially those further downstream involved in managing the water environment (e.g. all Risk Management Authorities within the wider catchment), to ensure that suitable mitigation and management plans are put in place.

Direct experience of the effect of beaver reintroduction has been felt by one of ADA's members, the Pow of Incaffray Drainage Commission in Strathearn, Perthshire. Evidence of the problems encountered there by the Commissioners can be read on page 20 of the Spring 2021 ADA Gazette (available from <https://www.ada.org.uk/communications/gazette/>).

Beavers are known to breed rapidly, populations in the Netherlands have spread across most of the country since being reintroduced in the Biesbosch nature reserve in 1988. Within a relatively short period of time, beaver populations in England could reach a point where their disruption to peoples' lives, the economy and the wider environment could be significant in some areas. There is emphasis upon short term engagement, consultation and management within the proposals over only five to ten years and ADA would propose a longer-term engagement horizon to mitigate longer term impacts as any new beaver populations spread.

ADA's support of the national approach to reintroductions proposed would be subject to the preparation of a detailed framework for the long term management of beavers (>20 years) and their impacts within England developed by Defra and/or its agencies. There are a number of examples from other countries within Europe where beavers have been reintroduced that could be drawn upon, most notably for lowlands, given the potential adverse consequences, in the Netherlands. ADA agrees that such a framework should adhere to a management hierarchy, such as that used in the Dutch Water Boards Beaver Protocol (https://www.waterschaprivierenland.nl/_flysystem/media/beverprotocol.pdf).

ADA would be pleased to provide the connection to public water and flood management authorities in other European countries through ADA's membership of the European Union of Water Management Associations (EUWMA) in providing examples, evidence and guidance used in those countries. ADA considers that the detailed framework for the long term management of beavers should be drafted with the close collaboration of all interested parties, notably Risk Management Authorities and agriculture, at the earliest opportunity and before any further legislation regarding beavers is prepared and enacted.

7 What criteria, in addition to those listed above, do you think projects should meet to be granted a licence for wild release? Please state your reasons and supporting evidence.

Please provide your comments in the text box below:

Further releases or legal protection for European beaver in England should be accompanied by assurances that those suffering unreasonable levels of damage caused by beavers be given financial support. ADA believes that this can only take place where there is a balanced and careful consideration of all the impacts and costs involved, specifically in relation to flood risk to land, people, infrastructure and the environment. Risk Management Authorities will need a practical low cost framework for regulating and delivering beaver management and mitigation. Long term financial assistance for all types of Risk Management Authorities will be needed to mitigate future damages to watercourses, flood defence structures, and water management systems, especially in lowland areas, caused by beavers.

ADA also has concerns about the conclusions reached from the modelling and analysis conducted in Natural England's 'Definition of Favourable Conservation Status for Eurasian beaver, *Castor fiber*'. Specifically, the suitability of Eurasian beaver within lowland areas in England identified as suitable

habitat within this study. ADA recommends that the analysis should be revisited to include a wider range of considerations to include flood risk, socio-economic and environmental sustainability within lowland areas.

Existing wild-living beaver populations

8 Do you agree or disagree with the proposed approach to existing wild-living beaver populations? Please state your reasons and supporting evidence. If you disagree, please provide any suggested alterations or alternatives and supporting evidence.

Disagree

Please state your reasons and supporting evidence. If you disagree, please provide any suggested alterations or alternatives and supporting evidence.:

ADA understands that in circumstances where beavers have escaped from existing enclosures in England or illegally released, there has been very limited success in re-capture or control of these populations. Despite these populations containing small numbers of animals, there have already been examples of damages to lowland flood risk management assets and systems. For example in the River Stour catchment in Kent, a relatively modest population of escaped beavers is already demonstrating costly damage to lowland water management undertaken by both the Environment Agency and the River Stour (Kent) IDB. Debris from a dam made by beavers broke loose and entered an Environment Agency flood defence pumping station damaging the main pump. This cost tens of thousands of pounds to repair and increased flood risk within the catchment whilst it remained out of service. Elsewhere in that lowland area beavers have damaged IDB water control stop boards in channels, felled trees that have had to be removed by the IDB from the channel, and caused burrowing from a high level watercourse into a low level watercourse within a SSSI. This latter example resulted in water draining from the higher system to the lower system potentially increasing flood risk, depleting water resources, and causing environmental damage.

In the Pow of Inchaffray in Perthshire, serious scouring to an embankment as a result of a beaver dam has also increased flood risk to adjacent property (see article on page 20 ADA Gazette Spring 2021, <https://www.ada.org.uk/communications/gazette/>). This evidence points to the need for a clear strategy for managing and mitigating the adverse impacts of these escaped populations.

ADA again proposes that a detailed policy and management strategy for beavers is required as soon as possible and in advance of any further legislative or regulatory powers. Such a policy and management framework will be of significant benefit to the beaver populations themselves and everyone living and working in close proximity to them.

ADA also proposes that stronger enforcement action is taken against illegal releases and that existing and future enclosures are better supported, monitored and regulated to reduce escapes.

ADA wishes to see as soon as possible the government develop with partners a long term management framework for beavers. Such an approach should look at the long term strategic risks and costs posed by beaver populations in England's lowlands. This should ensure that guidance for those managing beavers and their impacts upon flood and water management aligns with necessary regulation and protected species licencing as well as existing flood defence and land drainage regulations and consents. It should also demonstrate adequate funding for Risk Management Authorities to meet these new burdens and therefore requires a comprehensive cost analysis to both regulatory authorities, Risk Management Authorities, riparian owners and infrastructure providers (e.g. Network Rail).

In England, the River Stour population presents a potentially useful case study and trial site for management guidance and regulation, owing to the extensive area of lowland agricultural land and drainage channels within the catchment. The Pow of Inchaffray in Scotland provides a similar lowland case study scenario.

Current and future beaver enclosures

9 Do you agree or disagree with the proposed approach to licensing of future beaver enclosures? Please state your reasons and supporting evidence. If you disagree, please provide any suggested alterations or alternatives and supporting evidence.

Agree

Please state your reasons and supporting evidence. If you disagree, please provide any suggested alterations or alternatives and supporting evidence.:

Agree in part. ADA supports the release of beavers to secure enclosures where there is a clear rationale and research benefit.

Whilst ADA sees some value of research outcomes from existing enclosure sites in England, much more could be learnt from existing and expanding reintroduced populations elsewhere in the UK (Scotland) and across Europe (e.g. Netherlands, Bavaria, Austria and Switzerland). Specifically, English authorities need to learn more about the impacts on different sectors, landscape and watercourses and suitable approaches to regulating the management and control of beavers and their impacts.

ADA would welcome strengthening of the safeguards against escape from existing enclosures across England. Our IDB members have highlighted that in the experience of the River Stour catchment in Kent, the release of beavers into enclosures has not work as intended. Despite conditions on the licence issued by Natural England (that the site must be kept secure; that the licensee must capture and return any escaped beavers; that all beavers must be tagged prior to release, and; that any young must be captured and tagged) and despite the licensee's efforts, none of these conditions were met. Beavers have escaped and it has proved very difficult to recapture them. The beavers in the enclosure have produced young, which so far have evaded capture and it has not therefore been possible to tag them. Licensing of enclosures should therefore pay greater attention to the safeguards against escape with sanctions available to the regulator where those safeguards have not been maintained.

10 What criteria do you think should be taken into consideration when determining whether or not to issue an enclosure licence?

Please provide your comments in the text box below:

ADA considers that the awarding of an enclosure licence should have specific science-led reasons for the release in order to answer scientific or practical questions related to the presence of beavers. It must be made clear why such research is necessary and cannot be gathered from existing re-introduced populations elsewhere in Europe. Any licence issued should be the subject of local consultation with all interested parties, with due regard and balanced arguments for both support and concerns about any enclosure plans.

Any licences which may be issued should be strengthened to include an increased responsibility and liability on the managers of such enclosures in the case of damages caused by escaped beavers.

All beavers within a licensed enclosure, including any offspring, must be fully identifiable through some form of tagging.

Management

11 Does the management hierarchy cover management actions you would expect? Are there additional aspects that you think should be included in the management hierarchy? Please provide further details.

Yes

Please provide details of any additional aspects you think should be included in the management hierarchy:

ADA recommends that the management hierarchy is strengthened to include more detail about lowland environments. The impacts of beavers burrowing in embankments within lowlands may well result in flooding some distance away from the watercourse, and could require extensive mitigation areas.

Embanked rivers, where the river level is above surrounding land level, present a specific set of maintenance challenges posed by burrowing animals. Badgers, and other burrowing animals are known to cause damage to earth embankments and have led to substantial remediation and relocation costs to avoid the risk of embankment breaches.

Beavers could pose further risks given that their burrows typically open below the waterline and therefore are invisible to asset inspection. This would put further demand on the inspection and maintenance of England's linear flood defence assets and systems.

Many of our lowland areas sit below river and tidal water levels and so the embankments protecting those areas are fundamental to the social, economic and environmental wellbeing of large areas of the country. Any beaver management hierarchy should recognise the risks and threats to these areas.

ADA is concerned that the financial cost of some of the measures required, specifically by operational flood risk and water level managers, has not been considered or quantified, nor the potential environmental impact of those controls.

ADA proposes that further work is needed by government and its agencies to fully analyse the cost of the impact to IDBs (and other public authorities) related to the management of beavers within England's lowlands. Such a detailed cost analysis should involve detailed engagement with all relevant Risk Management Authorities.

Management

12 Excluding direct payment for management activities, what other support do you think should be available and to whom?

Please provide your comments in the text box below:

ADA is concerned about the activity of beaver to dig in the banks of watercourses, creating tunnels and large voids that could undermine embankments, resulting in piping and embankment collapse or slumping, especially during heavy rainfall/high flow events. This can result in blockages to watercourses, or more significantly the failure of flood embankments. In a lowland catchment this can put extensive areas of land at risk of flooding, impacting: people, businesses, agricultural production, environment and infrastructure. This is already a risk for existing burrowing mammals (e.g. badgers), but made more complicated with beavers owing to their size and their ability to dig tunnels from below the waterline, making their presence harder to detect.

ADA is also concerned about other risks posed by beavers in lowland catchments such as the risk of large woody debris becoming dislodged and floating downstream damaging flood defence and water control assets such as pumping stations, sluices, and blocking culverts, bridges, etc and also to other infrastructure such as damage to railway embankments and the six million trees along 16,000 miles of railway in England and Wales.

We need to develop a rapid and low cost regulatory approach that enables Risk Management Authorities to intervene and mitigate these impacts. This means guiding RMAs to undertake management measures broadly in line with the management hierarchy proposed, but ensuring that licensable activities can be undertaken swiftly where necessary and without excess bureaucracy and cost that has been seen with other protected species licences. There must be a recognition that the extensive landscape and hydrological impacts that beavers can present may require a different approach to be applied to existing protected species within the British Isles.

In the Netherlands, European beavers were released back into the wild in 1988. The animals are increasingly settling in urban areas and polders. Evidence there is showing that their presence also increasingly leads to damage or risks: dikes are undercut and dams in ditches cause flooding.

The Dutch Water Boards have the responsibility to limit these risks. In order to do this as well as possible, taking into account the protected status of the beaver within the Netherlands, a Beaver Protocol has been established by flood and water managers and conservation experts (https://www.waterschaprivierenland.nl/_flysystem/media/beaverprotocol.pdf). This beaver protocol describes how the participating water managers deal with beavers if activities of one or more beavers cause a conflict with the primary duties and responsibilities of water managers.

The Protocol describes the method and the measures; they start small and increase in impact. From the removal of vegetation, making an area unattractive for the beaver; to the excavation and sealing of tunnels in dikes or the removal of dams. Where damage is repaired, preventive measures are also taken, such as burying stone or mesh against new excavation by beavers. Although the killing of beavers is not excluded in the Protocol, it is stated that all alternative measures should be tried first.

Based on the Beaver Protocol, the water boards across the south of the Netherlands have sought an exemption under the Dutch Nature Conservation Act in order to be able to intervene in a responsible manner in the event of damage or risk caused by beaver activities. By agreeing to use the Protocol water boards across each province have been granted the necessary exemptions, removing a great deal of regulatory bureaucracy for water managers whilst maintaining safeguards for beavers.

ADA has shared a copy of this Beaver Protocol with the Environment Agency and Natural England and would strongly support such an approach being applied rather than a more bureaucratic and costly licencing regime.

ADA considers that a similar approach to that applied in the Netherlands should be considered, particularly for Risk Management Authorities, but also other sectors facing substantial adverse impacts from beavers such as Network Rail, Canal and Rivers Trust etc.

Regardless of the regulatory approach chosen to enable the management of beavers in England, it should be:

- of low cost to applicants,
- enabling to a range of public organisations, including smaller public authorities such as internal drainage boards, and

- facilitate swift proportionate interventions to mitigate the impact of beavers where this threatens damage to infrastructure, watercourse embankments, and increased flood risk to land and people.

13 Are there any specific areas where guidance is required? Please provide details.

Please provide your comments in the text box below:

Yes. ADA's engagement with Dutch Water Boards has shown that much more extensive and detailed guidance is needed to apply a hierarchy of interventions to prevent and mitigate damage to embankments and watercourse/drainage channel banks, especially in lowland areas. Guidance should be integrated with the regulatory approach taken and facilitate swift interventions by Risk Management Authorities and riparian owners. It should also be fully aligned with any existing legislation and regulations relevant to flood and water level management and the aquatic environment (e.g. flood defence consents, land drainage consents).

Furthermore, regarding riparian owners, there is increasing recognition that many private riparian owners in England are currently unaware, unwilling, or unable to ensure their watercourse is appropriately maintained in a manner that minimises flood risk and mitigates environmental damage. There is a lack of awareness of the necessary regulatory flood defence consents or land drainage consents they must adhere to when altering watercourses or land within floodplains. Beavers will add a further complexity, especially if Risk Management Authorities are not sufficiently funded to assist and advise in the management of beavers and their impacts. ADA does not believe that the impacts on a watercourse network or river system should be left to riparian owners alone to remediate, our catchments and flood risk are too important and fragile. ADA strongly believes that government should provide the necessary funding and compensation mechanisms to IDBs, other Risk Management Authorities, and riparian owners to support beaver management, mitigation, and repair of damages caused.

14 How would you prefer to access advice and guidance (e.g. information on website, via email, focal point for enquiries etc)?

Please provide your comments in the text box below:

All of the above means with long term secure government backing and funding. We see a critical role for regulators in particular to be able to actively provide advice and guidance to those impacted by the presence of beavers, enabling proportionate practical solutions.

We need a central hub for information involving the experts in beavers and those with expertise in those areas adversely impacted. We see strong value in the partnership approach being taken to manage the presence of beaver in the Netherlands through their Beaver Knowledge Centre (<https://www.kenniscentrumbever.nl/>).

This provides a central hub to disseminate guidance to practitioners impacted by the presence of beavers and provides alignment with regulatory systems in place. It focuses positively on a hierarchy of practical interventions by water level managers, something which could be built upon here in the UK.

With the information provided by the Dutch Beaver Knowledge Centre, organisations and individuals that come into contact with beavers can gain insight into their responsibilities and options for dealing with conflicts. The measures included in the Beaver Knowledge Centre have been applied in practice and can be used to repair and prevent damage caused by beavers. These measures can be used for management, renovation and maintenance, but also in the planning, design and construction phase. Particularly in the design phase of newly developed structures or redevelopment of existing structures, the application of preventive measures can prevent major damage in the future.

Critically, the Knowledge Centre is much more than just a website, running an annual beaver symposium for practitioners, and providing direct advice and assistance. The Knowledge Centre is funded and backed by the Dutch government (Rijkswaterstaat), Dutch Union of Water Boards (UvW), Dutch rail infrastructure provider (ProRail), STOWA (research institute for Dutch water managers), IPO (inter provincial organisation, equivalent of the LGA), and Dutch Mammal Society.

Additional questions

15 Would you (or an organisation you are involved with) consider preparing an application for wild release, if the approach proposed in this consultation became national policy? If yes, please provide the general location where you might consider applying for such a release.

No

If yes, please provide the general location where you might consider applying for such a release.: