**DEFRA Beaver Consultation Response**

**Part 3 – Consultation**

**About you**

**Q1.** Would you like your response to be confidential?

* Yes (if yes, please give your reason).
* No

**Q2.** What is your name? *Izzie Tween*

**Q3.** What is your email address? *Izzie.Tween@hiwwt.org.uk*

**Q4.** What is your organisation? If you are responding as an individual, please state ‘individual’. *Hampshire & Isle of Wight Wildlife Trust*

**Q5.** Please briefly describe your interest in the consultation**.**

*Hampshire & Isle of Wight Wildlife Trust has the intention of applying for a licence from Natural England for a wild release of beavers on the Isle of Wight. My role, as Beaver Recovery Project Officer, is to facilitate this process, carry out stakeholder engagement to inform and engage the public, and manage the beavers should our licence application be successful.*

*I have some expertise in this field, having spent three seasons translocating nuisance beavers with the Methow Beaver Project in Washington State in the US. My Masters thesis evaluated the variables influencing the success of these nuisance beaver translocations, while my undergraduate dissertation assessed the ecological impact of beaver impoundments in Perthshire, Scotland.*

**National approach to reintroductions**

57. Evidence shows that the reintroduction of beavers can have a positive benefit for nature and society. However, there are, in some instances, risks of negative impacts if reintroductions are not carried out appropriately or where there is insufficient management.

58. It remains unlawful to release a beaver into the wild without a licence, in line with the Wildlife and Countryside Act 1981. Our national approach will be to permit further wild reintroduction projects where the licence applications demonstrate clear benefits and where risks of negative outcomes are avoided, mitigated for, or managed.

59. This approach will allow the benefits of beaver reintroduction to be realised with limited risks and will provide an opportunity to generate more evidence to help address the evidence gaps identified. It will also provide opportunities to learn from different projects in different circumstances and to adapt or develop management approaches and maximise biodiversity and societal benefits as appropriate.

60. To ensure that only high-quality projects are permitted to take place, proposals for reintroductions will have to apply for appropriate licences, follow the Code and meet strict criteria:

• A project proposal must provide evidence that the project has funding to cover all aspects of the reintroduction, including provision of advice and management of impacts. This funding must be in place for at least five to ten years. The specific time period will vary by project but this range reflects how long it might take for beavers to colonise a catchment and therefore how long support is needed by the public and different stakeholders to become accustomed to living alongside beavers.

• A project proposal must provide evidence of substantial stakeholder engagement at all stages of project development, including landowners, land managers and those working in or using the water environment along with clear working relationships between the project and these relevant organisations and authorities.

* 1. • A project proposal must demonstrate significant benefits and that the risk of conflict is low, including consideration, and mitigation as appropriate, of:
	2. o Area of and proximity to low-lying agricultural land
	3. o Flood risks to people, infrastructure and environment
	4. o Risk to protected areas, heritage sites and protected species
	5. o Costs and benefits to the local economy
	6. o Level of support locally
	7. o Opportunities to fill evidence gaps.
	8. • A project proposal must include a Project Plan including funding streams, roles, responsibilities and planning and feasibility study for all aspects of the reintroduction. These Plans will run for a minimum of 5-10 years.
	9. • A project proposal must include details of a Project Steering Group to support the project and must consist of a range of stakeholders with strong local ownership.
	10. • The proposed project must appoint a Local Beaver Officer to act as a local contact point, and support to stakeholders, including risk management authorities and others operating in the water environment.

61. Once the Project Plan concludes (after 5 to 10 years), the partnership will no longer be required to be financially responsible for managing impacts of beavers as landowners, those operating in the water environment and river users become more accustomed to living alongside beavers and understanding how to manage impacts appropriately. This is an important step towards beavers being accepted like other native species in the wild.

**Q6**. **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.**

* Agree
* Disagree

***Permitting further licenced beaver releases into the wild is a sound management strategy*** *to allow ecosystems and communities to benefit from the services that beavers and their establishments provide, while ensuring that releases are well thought through, with the necessary buy-in from local stakeholders and ongoing management put in place.*

*Despite beaver releases having been carried out at least 25 known sites in England since 2000(Heydon et al., 2021), significant knowledge gaps remain about the impact of beavers on English landscapes(Howe, 2020). Since beavers have been absent from Britain since the 16th century, much of the existing scientific literature on the European beaver (Castor fiber) has been conducted in environments in continental Europe very different from those found in the UK, or in North America on the American beaver (Castor canadensis), an entirely separate species. As a result, conclusions on whether beavers merit a place in the wild in England are based only on the results of British beaver trials conducted largely within the last twenty years. Many of these releases have been into highly-controlled enclosure environments, where the benefits of beaver establishments are restricted to small-scale nature reserves and interaction with people is minimised, which are not representative of the country as a whole. To gain further insight into the likely long-term impacts of beaver reintroduction in England, especially when established outside of enclosures,* ***further licensed releases, both wild and enclosed, that meet appropriate criteria are warranted.***

*By complying with the criteria required through the licensing process, beaver reintroduction projects must necessarily comply with international guidelines for conservation reintroductions set out by the IUCN(IUCN, 2013). By taking these requirements into account when planning a release, animal welfare considerations, as well as the needs of local people and the wider environment can be met, therefore increasing the odds of success of the project.*

*By going through a licensing process, the beavers to be released can be tested for disease and ensured to be free of pathogens that are not currently present in the UK. In 2011, a beaver sourced from Bavaria and released in Devon tested positive for the tapeworm, Echinococcus multilocularis, (Heydon et al., 2021). In 2018 a beaver again sourced from Bavaria tested positive for E. multilocularis (Heydon et al., 2021). By controlling the release of beavers through licensing, source populations where such pathogens are endemic can be avoided, and thorough testing of animals before release can be carried out. By being able to assure landowners that all beavers to be released are disease free, this can avoid future issues of biosecurity and contamination of livestock and can allay stakeholders’ concerns about disease transmission right from the outset.*

*It is acknowledged that funding will be required to support the beaver reintroduction and ensuing mitigation throughout the period of the licence. This should be expected to cover a period* ***of no more than 5 years****. There is an imbalance where small local charities such as Wildlife Trusts reintroduce beavers to the benefit of downstream communities, but are responsible for covering all of the associated costs for the initial duration of the reintroduction. Such small local charities are reliant on fundraising efforts, grants and membership for operational costs which fluctuate over time. A provision of funding for a period greater than 5 years is therefore unrealistic and places undue financial pressure on small charitable licensees, and goes beyond the scope of funding allocations for similar restoration projects*

 *By ensuring that sufficient funding is available for 5 years, release projects can be supported through the hiring of technical expertise who can advise landowners on how to mitigate beaver impacts, maintain fencing for enclosed projects, carry out ongoing monitoring to ensure the health and wellbeing of released beavers, research impacts of beavers on biodiversity and ecosystem services, and support the genetic diversity of the beaver population by supplementing release animals from source locations as necessary.*

***The provision of funding from DEFRA,*** *in addition to other funding sources, allowed the wild population of beavers free living on the River Otter to become established as the official River Otter Beaver Trial (ROBT), complete with a Beaver Management Strategy Framework(Devon Wildlife Trust, 2019). As a result of DEFRA financial support, the ROBT has been able to maintain constructive working relationships between stakeholders, and prevent discussions about beaver management from becoming polarised (Devon Wildlife Trust, 2019). Funding of the River Otter Beaver Management Group throughout the ROBT enabled pragmatic solutions to be provided to stakeholders to enable the community at large to benefit from the natural capital enhancements derived from the reintroduction of beavers, whilst mitigating negative impacts (Devon Wildlife Trust, 2019).*

*The importance of stakeholder engagement to successful project outcomes can be clearly seen through its absence in the case study of the Tayside beaver reintroduction. Beavers either accidentally escaped from private collections or were illegally reintroduced on the River Tay and its tributary the River Earn in Perthshire in 2006(Tayside Beaver Study Group, 2015). Thus, no consultation with the wider community was carried out before the beavers established. However, the eastern lowlands of Perthshire have some of the best quality fertile land in Scotland and as a result harbour economically important intensive horticulture and arable farming. The River Tay also supports renowned Atlantic salmon and sea trout runs that attract anglers both locally and internationally. Concerns from the farming and angling communities about beavers’ impact through flooding agricultural land and inhibiting fish passage through dam building thus became a point of conflict(Coz & Young, 2020).*

*In order to give landowners agency in managing conflicts on their own property, NatureScot has permitted individuals to apply for lethal control licenses. This led to 87 beavers being culled under licence in Perthshire in 2019, and 115 in 2020, totalling 202 beavers dispatched at the time of writing since receiving European Protected Species status in Scotland on 1st May 2019(Williams, 2021). To put this into context, the entire population of wild beavers living in Tayside was estimated at approximately 954 individuals when surveyed from October 2020 through to March 2021(Campbell-Palmer et al., 2021). The cull has thus reduced this population by approximately a fifth, which is deemed unsustainable by the Scottish Wildlife Trust (Scottish Wildlife Trust, 2020). This has resulted in concerns regarding animal welfare and the genetic viability of the remaining population, which already shows a close level of relatedness due to the small size of the founder population and subsequent inbreeding(Campbell-Palmer at al., 2020).*

*This case study demonstrates the importance of consulting stakeholders before the release of beavers, through which landowner concerns can be addressed and appropriate mitigation measures put in place. A well thought through management strategy can be more proactive at solving landowner issues and less reactive to problems, and so help to avoid lethal control measures that should only be enacted as a last resort. Officially licensed releases may also have broader access to a range of genetically diverse source populations that can reduce the risk of high levels of relatedness and inbreeding to maintain a sustainable viable population into the future.*

*A detailed project proposal that considers both the benefits and costs of a beaver reintroduction that ranges in scope from flood risk to eco-tourism, from biodiversity enhancement to academic research opportunities, is imperative to ensure project success. Beavers in their ability to dramatically alter the landscape through their capacity as ecosystem engineers have the potential to generate human-wildlife conflict, or human-human conflict about wildlife management (Auster et al., 2020). Research on the social dimensions of beaver reintroduction has shown that significant differences in opinion can arise between sub-groups depending on their employment sector, their geographical location within Britain, and the proximity of their property to a watercourse (Auster et al., 2020). As such, the cost-benefit ratio of a beaver release and the local community’s opinion on the matter will vary widely across the country. Such discrepancies in public opinion can be mitigated by creating a bespoke management plan that specifically addresses the local dynamics of the ecosystem and the economy. By targeting these likely points of controversy early on in the timeline in a project proposal, appropriate measures can be put in place to allay landowners’ concerns and manage beavers’ impact in a proactive rather than a reactive way. The formation of a project working group and the appointment of a beaver project officer early on in the planning phases of a beaver reintroduction can go a long way to allowing dissenters’ voices to be heard and addressed before potential conflicts may arise. The working group should strive to incorporate all interested parties, both proponents and opponents, and their diverging viewpoints should be equally considered.*

*Once the reintroduction project has concluded and beavers have become established in the wider environment, over a period of 5 years,* ***financial responsibility for managing beavers as landowners should shift away from the project partnership.*** *This is in line with how other native protected species in the UK are currently managed, and reflects the process of beaver colonisation of a catchment progressing from initial establishment and building phases through to the maintenance phase (Devon Wildlife Trust, 2019).*

*It is acknowledged that there is an imbalance between the majority in society that benefit from beavers in the landscape but bear few or no costs, and the minority of farming, land management and landowning interests who incur costs but on balance experience lower levels of benefit(Devon Wildlife Trust, 2019). In order to redress this balance, after the culmination of the five-year ROBT, a comprehensive Management Strategy Framework (MSF) was developed which highlights the importance of ongoing financial mechanisms to guide the future management of beavers, to minimise the potential for beaver-human conflict and support acceptance of their activities and associated natural capital benefits on the landscape (Devon Wildlife Trust, 2019). The MSF advocates that wherever possible and practicable,* ***financial support must be available for land and property owners who provide space for beaver generated wetlands which provide multiple ecosystem services*** *(Devon Wildlife Trust, 2019). Equally, flexible and pragmatic mechanisms should be available whereby appropriate funding is made available to help impacted or at-risk property owners and land-managers to mitigate beaver impacts(Devon Wildlife Trust, 2019).*

*The MSF suggests that such funding could be provided through existing Payments for Ecosystem Services (PES) schemes, an example of which was the Environmental Stewardship scheme which paid about £400 million a year to farmers and land managers in return for more environmentally-sensitive farming (Natural England, 2009). Such schemes could be further supported by grants and investments at a local level from both the public and private sector, and could easily be integrated into Local Nature Recovery Strategies. The MSF concludes that* ***financial support for land and property owners is essential*** *to enable more space for water and natural riverine processes, and to support the implementation of impact avoidance and mitigation measures, while bespoke PES scheme funding would facilitate the restoration of this species, and the plethora of ecosystem services provided, and help avoid polarisation of the debate regarding beaver impacts (Devon Wildlife Trust, 2019).*

**Q7. 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.**

*Consideration must be given to the ongoing welfare of beavers, either in an enclosed or a wild release, by ensuring that* ***there is sufficient genetic diversity within the population to limit inbreeding****. Due to Britain’s position as an island, beavers have not been able to colonise naturally into the landscape, as has happened elsewhere on the continent. This has meant that, where beavers are present both wild and in enclosures, a relatively few founding individuals are responsible for all progeny in Britain, resulting in high levels of inbreeding. For example, 80% of a subsample of the Tayside population were found to be related at least at first cousin level, with both the Devon and Tayside wild populations having less genetic diversity than the wild Bavarian population, from which they both derived(Campbell-Palmer at al., 2020). Inbreeding becomes even more likely in these already related source populations when numbers are reduced by nuisance animals being translocated to other projects (which would then also suffer from inbred founding stock), or are lethally controlled.*

*Inbreeding was a concern for the official Scottish Beaver Trial in Knapdale, where only nine of the original 16 highly-related founder members remained, leading to vacant territories and a very real possibility that beavers might die out without supplementation (Dowse et al., 2020). Luckily the source population of the official Scottish Beaver Trial was from Norway, meaning that their numbers could easily be supplemented with 21 nuisance animals from Tayside over the course of the reinforcement (Dowse et al., 2020), which originated mostly from Bavarian stock. This easy Tayside-sourced supplementation option is not ideal for the majority of beaver projects in the UK, since most of their beavers already stem from the Tayside population, and so would not provide the genetic diversity required.* ***It is therefore important to streamline the process through which members of genetically distinct populations can be translocated between catchments to boost diversity.***

*The moratorium on importing beavers into the UK due to the risk of introducing the fox tapeworm, Echinococcus multilocularis, will make diversification of genetics exceedingly difficult. While managing the risk of importation into the UK is important to avoid pathogenesis in humans, DEFRA’s Qualitative Risk Assessment (Kosmider at al., 2012) asserts that the probability of a beaver being infected with E. multilocularis is low if sourced from an endemic area (e.g. Bavaria), and negligible if sourced from a free area (e.g. Norway), and that overall, the risk of importing E. multilocularis infected beavers from free areas and infection being established in indigenous UK wildlife is considered negligible.*

*Licences from both the source country and Natural England are required for the importation of beavers from the continent, which stipulate screening for parasites and diseases commonly found in rodents, such as leptospirosis, tularaemia and the tapeworm, E. multilocularis. Rabies has not been reported in any Eurasian beavers, but since it can affect any mammal, beavers are required to either be sourced from rabies-free areas, or quarantined according to current Rabies Importation Order directions (currently four months). While it is important to ensure that all regulations are followed to minimise the risk of disease importation, it is also necessary to support and streamline where possible the translocation of genetically distinct beavers at government level, so as to prevent those beavers living in Britain suffering from inbreeding.*

*Maintaining a national accurate record of beaver source locations and genetics will also be key to facilitate the swapping of individuals between catchments and enclosures to maintain healthy populations in the long-term. A centralised system would take the onus off an ever-growing pool of local projects to research appropriate animals to trade for, but would foster connections between this network, much as the Zoological Society of London facilitates individual zoos in England to locate appropriate animals for their collections, both within the country and abroad. Such a management role would be beneficial until populations became sustainable and exhibit healthy levels of genetic diversity, at which point the population could be left to disperse naturally without the need for intervention.*

*Such a model would be appropriate to help manage a variety of reintroduction projects that are establishing in England for rewilding purposes. Projects translocating animals unable to naturally disperse and breed with wild populations on the continent, or kept in enclosures, will face similar issues of inbreeding down the line without support. Examples of these may include pine martens reintroduced in the Forest of Dean, natterjack toads in sites across southern England, and the proposed reintroduction of European bison into Kent.* ***A national rewilding strategy*** *to help manage these disparate and locally-led reintroduction projects would help facilitate their success in the long-term, not only due to management of genetics, but also through access to centralised funding sources. Beavers may be at the forefront of rewilding presently, but with public appetite strong for nature-based strategies to deal with decreasing biodiversity and the climate crisis, there may well be other reintroductions in the future that could benefit from the development of a successful centralised beaver management strategy now.*

**Existing wild-living beaver populations**

62. As well as the wild-living beaver population on the River Otter in Devon, which has been permitted to remain and expand naturally, there are records of wild-living beavers elsewhere in England. These beavers have either been unlawfully released or have escaped from fenced enclosures (or are descendants of such beavers).

63. The data we have suggests that it is likely that there are populations of beavers confirmed to be breeding on sections of the following river catchments:

• River Tamar in Devon

• River Stour in Kent

• River Avon and River Brue in Somerset and Wiltshire

• Little Dart in Devon.

64. There is also a potential emerging population in the River Wye catchment in Herefordshire.

65. Further details on the status of beaver populations in England, both wild-living and in enclosures, can be found in Natural England’s report: Beaver reintroductions in England, 2000-2021.

66. Under our proposed approach, these existing beaver populations in England will be permitted to remain and will be subject to management in the same way as other beaver populations when not covered by a Project Plan (see Management section below).

67. We are aware that for some existing wild populations, local stakeholders have started to set up management groups to support the public and provide advice. We encourage such partnerships to form around these populations to enable stakeholders and the public to become used to living alongside beavers.

**Q8.** 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.

* Agree
* Disagree

***Existing wild beaver populations should be allowed to remain,*** *subject to appropriate management. After reviewing the evidence from the River Otter Beaver Trial, and deeming the project a success due to the benefits brought to the local area and ecology(Brazier et al., 2020), Devon’s free living population of beavers were given leave to remain by the government in August 2020(DEFRA, 2020). Consequently, the government has announced plans to give legal protection to beavers through native species status(DEFRA, 2021), which would afford all beavers, both free living and enclosed, protection through making it an offence to deliberately capture, kill, disturb or injure them, or damage their breeding sites or resting places, except under licence.*

*The benefits of beavers to enhancing ecosystem services such as flood mitigation and water quality improvements (Puttock et al., 2017), and supporting increased biodiversity (Stringer & Gaywood, 2016; Law et al., 2016 & 2019) have led to 25 beaver releases in England since 2000 (Heydon et al., 2021). However, the fact that escapes of beavers from fenced enclosures have been reported at 11 of these release sites, representing 44% of sites, and that there are currently populations of wild beavers living in at least six distinct geographic localitiesattests to the difficulty in preventing escapes (Heydon et al., 2021). Clearly, if we as a society want to profit from the natural capital benefits that beavers provide, then we should move forward under the assumption that beavers merit a place in the wider environment outside of enclosures, as will inevitable be the case with this fossorial animal, and so protect their wild populations accordingly as befits their soon-to-be native species status.*

*The existence of the River Otter Local Management Group (LMG) has helped to facilitate the local population to co-exist with a wild population of beavers. As outlined in the River Otter Beaver Management Strategy Framework, the LMG has used a stepwise approach to dealing with landowner concerns, beginning with outreach and education, moving through mitigation in the form of tree protection or flow management devices, through to translocation and eventually, should all other methods fail, lethal control(Devon Wildlife Trust, 2019). The importance of providing information to the local Devon community in building tolerance to beavers has been shown by a questionnaire showing a correlation between the stakeholders’ level of knowledge and their level of support for beavers. 88% of respondents with a strong level of knowledge on beaver ecology supported beaver reintroduction, while only 76% of those with little to no knowledge on beaver ecology supported beaver reintroduction (n=2,224) (Devon Wildlife Trust, 2019). By dispelling commonly held myths through webpages, printed factsheets, face-to-face advisory services and events, the LMG has managed to grow acceptance of beavers amongst the local community, thus reducing conflict and minimising the need for mitigation by building tolerance to beaver activities(Devon Wildlife Trust, 2019).*

**Current and future beaver enclosures**

68. Current government policy allows beavers to be released under licence into secure enclosures. At the time of publication there are beavers present in enclosures at 20 sites in England.

69. We propose to continue permitting releases of beavers into enclosures; however, conditions of licences will be tightened to focus on the clear benefits of a project.

70. A project should contribute to the knowledge base for beavers. This could include research on a specific impact or a particular management technique. An enclosure might be used to pilot a reintroduction in a particular area, allowing the project to gather relevant information and build support and engage with the local community.

71. It is important to note that the licensing of an enclosure project **does not** provide any guarantee that a licence will be granted subsequently for a wild release. If a current or future enclosure project wishes to move towards a wild release, they will be expected to demonstrate how they meet the criteria for wild release, including demonstrating that a wild release at the location would bring substantial benefits with a low risk of conflict.

72. Once the process for licensed release to the wild has been developed, we anticipate the demand for licences to release to enclosures will reduce.

**Q9.** 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
* Disagree

**Q10.** What criteria do you think should be taken into consideration when determining whether or not to issue an enclosure licence?

*A cost-benefit analysis should be conducted that takes into account all advantages conferred from improved ecosystem services and benefits to biodiversity, as well as any negative impacts that may arise from conflict over localised flooding and damage to trees.*

*Recent research from the Devon Beaver Trial has established that there are* ***significant ecosystem services derived from beaver establishments*** *that can be conferred to communities downstream. Specifically,* ***beaver dams have been shown to minimise flash flood risk*** *through the slowing down and attenuation of water as it flows through beaver establishments. Peak discharge was found to be 30% lower (±19%) below a beaver establishment of 13 dams compared to above the establishment in a headwater stream of the Tamar catchment(Puttock et al., 2017). The lag time between peak rainfall and peak flow was also found to have increased by an average of 71 minutes below the beaver establishment when compared to a site above the establishment (Puttock et al., 2017). Preliminary evidence from the Cornwall Beaver Trial, established in 2017, also shows a reduction in peak flow over more than 100 rainfall events post beaver establishment, and this despite the occurrence of larger mean rainfall events since beavers were released(Puttock, 2020). In flashy systems, beavers should therefore definitely be considered as a cost-effective method to slow down water and minimise flash flood risk where there are at-risk communities downstream.*

***Significant improvements to water quality*** *have also been documented by the Devon Beaver Trial. Suspended sediment loads were found to be on average 65% lower below the beaver establishment in the Tamar catchment than above it(Puttock et al., 2017). Oxidised Nitrogen levels were found to be on average 35% lower, and Phosphate levels 80% lower (Puttock et al., 2017). Beavers can therefore be a real asset in rural areas with high levels of intensive agriculture with associated issues of run-off and non-point source pollution.*

***Beavers can also be used to benefit biodiversity****, with their foraging habits mimicking intensive management practices already in use in nature reserves across the English countryside. The reintroduction of beavers can provide cost-effective coppicing of willow scrub without the need for mechanised tools or manpower, in wetland landscapes that can be difficult or even hazardous to access. There are several examples of successful beaver reintroductions for reserve management purposes across Britain. One of Britain’s first beaver reintroductions was at Ham Fen SSSI in Kent back in 2003, to explore using beavers as a “tool” to restore Kent’s last remaining fen habitat. By raising the water level through dam building, beavers were able to restore the area from dry secondary woodland to a mosaic of wetland meadows and carr, facilitating the reappearance of species not seen on the reserve for decades, including southern marsh orchid, otters and water voles (The Wildlife Trusts, 2018).*

*Similarly, Cors Dyfi Nature Reserve in Wales became host to a beaver reintroduction in March 2021, where beavers were reintroduced to control tree and scrub growth that is detrimental to the restoration of the site as a lowland peat bog (Montgomeryshire Wildlife Trust, 2019). The willow and birch woody scrub growth has been able to dominate the site due to the legacy of ridges, furrows and old stumps left behind following the reserves former use as a conifer plantation. This disturbed land profile together with the boggy ground and areas of deep water has made the site difficult to access with machinery and treacherous for volunteers, and as such traditional scrub management methods have not been feasible. Beavers will reduce the cover of willow and birch and enhance the network of channels and open water, which will bring about benefits to the wider ecosystem and increase the biodiversity of the area. (Montgomeryshire Wildlife Trust, 2019).*

*In addition to the benefits to biodiversity and ecosystem services outlined above,* ***beavers also have the capacity to be a significant driver in local rural economies*** *through their status as engaging charismatic wildlife popular amongst the general public and much featured in the media. The River Otter Beaver Trial reported that over the course of the trial the beaver establishments drew an increase in curious members of the public to walk the footpaths along the river to observe beaver activity, with up to 50 visitors at a time observed congregating to view a lodge. Multiple businesses in the area reported increased custom from these visitors and more selling of beaver-themed merchandise (Brazier et al., 2020).*

*These benefits must of course be weighed against the costs incurred through mitigation of localised flooding due to dam-building, and tree protection to minimise unwanted foraging. Depending on the location of beaver activity, land impacted through localised flooding can be valuable if used for agriculture as in Tayside, or for urban development. However, the benefits that beavers can bring to downstream communities warrant a discussion on the use of floodplains for such purposes, and where feasible* ***Government support through ELMS payments*** *to compensate landowners for land lost could go a long way to offsetting these conflicts. Beaver impacts can also be mitigated reasonably cost-effectively through the installation of inexpensive flow management devices, also known as “beaver deceivers”, or through the fencing off or painting of trees to deter gnawing. Mitigation requirements might be minimal within an enclosure setting, but given the propensity for beavers to escape enclosures it is wise to consider more widespread impacts at an early stage, especially if the intention is to remove fencing later on. This is in keeping with beavers’ status as a soon-to be native protective species that warrants a place on our landscapes outside the confines of a costly and difficult to maintain enclosure, so that their benefits can be spread more widely across the landscape.*

**Management**

**Legal protection**

73. We intend to make beavers a European Protected Species by listing them in Schedule 2 of the Conservation of Habitats and Species Regulations 2017. This change is to implement legal obligations under the Bern Convention and does not form part of the proposed approach that is being consulted upon.

74. While we intend to give beavers legal protection please note we are beginning a review of species legislation with a view to enhancing and modernising it. We intend to publish a Green Paper and seek views later this year.

75. Giving beavers this protection means that it will be an offence to deliberately capture, kill, disturb or injure beavers. It will also be an offence to damage or destroy breeding sites or resting places.

76. Therefore, if an individual wants to undertake management activities which would otherwise be prohibited, they will be required to apply for a licence from Natural England. We will develop guidance to help stakeholders to understand when a licence is required and how to apply for a licence.

**Management principles**

77. We believe that effective and proportionate management of beavers will play a key role in any successful future reintroductions.

78. Natural England will publish a Management Framework, which will outline solutions that can be employed to manage different impacts from beavers, where such actions might require a licence and where stakeholders can go to seek support and advice with beaver management. Management needs of different populations of beavers are likely to vary over time and the management framework will reflect this.

79. The Management Framework and licensing regime will work together to provide clear processes, providing solutions to situations encountered where action is required.

80. It is recognised that there are a number of organisations and authorities that carry out necessary operational activities in the water environment and riparian zone. Guidance will be provided to ensure that these roles can be carried out within the proposed national approach and framework.

* 1. 81. In line with government principles on wildlife management, landowners are free to manage wildlife on their land, within the law. Defra supports the following stepwise approach to address wildlife impacts:
	2. • avoidance and tolerance
	3. • using legal methods
	4. • licensed action

82. This process should proceed stepwise from avoidance or tolerance of impacts, to least to most harmful actions, with interventions such as moving beavers to other areas (translocation) or lethal control considered only as a last resort. This is called a management or mitigation ‘hierarchy’.

**Management hierarchy**

83. A management hierarchy for beaver could include the following steps:

* Avoid or tolerate negative impacts, such as: o allowing space for potential impacts, for example by creating buffer zones along the side of watercourses where valuable crops or trees are not planted.
* Exploring financial incentives available for landowners to make space for environmental benefits provided by beavers.
* Use legal management or mitigation methods if negative impacts cannot be avoided, including:
* protecting trees of value from felling with tree guards or anti-beaver paint.
* fencing to exclude beavers from undesirable areas.
* protecting banks from burrowing impacts.
* If unavoidable and other solutions are not satisfactory, apply for a licence to undertake actions including:
	+ destruction or modification of dams, lodges and burrows,
	+ translocation or
	+ lethal control

84. Some mitigation and management may require permitting from the relevant authority and all must be undertaken in compliance with existing legislation.

85. Translocation of beavers or lethal control must only be considered as a last resort, however in circumstances where this is unavoidable, licences may be obtainable.

**Q11:** 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.

*While it is important that a management hierarchy such as the one proposed is put in place, it is even more important to* ***ensure the provision of funding to allow it to function in the hierarchal manner in which it has been designed****. The value of education and outreach, preventative actions and mitigation responses is undeniable in facilitating community acceptance of beavers, as has been seen amongst the locals on the River Otter. But without adequate centralised funding and support of local charitable organisations such as Wildlife Trusts that can typically be the provider of such resources through paying the salaries of Beaver Officers and covering the costs of mitigation, then landowners may not receive the support they need and turn to lethal control options more readily. This may especially be the case after the licence period has expired, at which point responsibility of management actions will transfer from the licensee to the impacted landowner.*

*The readiness at which frustrated landowners will turn to lethal control to manage their beaver conflicts can be seen in communities in Tayside, where due to the unlicensed nature of the release, very few outreach, education and preventative actions could be taken before beavers caused problems. The speed at which beavers bred and dispersed on this large productive catchment has meant that mitigation resources are stretched, with a few overworked providers of live-trapping services all that stand between beavers and lethal control.*

*The provision of thorough education and outreach activities through an extensive consultation process as part of a licence application can go a long way to adjusting landowners’ expectations regarding conflict, while pre-planning through the identification of key infrastructure that needs protecting in advance can minimise issues before they arise.* ***But the ongoing provision of centralised funding through ELMS payments to allow mitigation, both during and after the licence period, is paramount*** *to ensure that landowners continue to receive the support they need to tolerate beavers on their land without resorting to lethal control.*

*In order to maintain the integrity of the management hierarchy, it will be necessary that landowners submitting licences to carry out lethal control of beavers demonstrate their progression down the hierarchy by* ***submitting evidence of failed mitigation actions already taken****.*

**Government policy and support**

86. Government policy is that it is the responsibility of landowners to cover the costs of managing impacts of wild animals on their land. In line with this, Defra will not provide direct payments for management of negative impacts of beaver activity or pay compensation. However, we recognise that beaver reintroductions are unique circumstances. Therefore, Defra will consider facilitating the creation of management groups around existing beaver populations to help manage impacts and provide management advice to landowners and stakeholders for beaver populations outside of a Project Plan.

87. Consistent and accessible advice and guidance is essential to successful reintroductions. Natural England and Defra will host advice through gov.uk which will cover applications for reintroduction projects as well as management. Natural England

will provide further advice and engagement to guide stakeholders and liaise with local projects and management groups.

88. Any project applying for a wild-release licence will be required to have a Local Beaver Officer for the duration of the Project Plan. Local Beaver Officers will act as a focal point, providing advice and undertaking management as required, to support local landowners and river users.

89. We are working with stakeholders and end users to determine the specific land management actions that will be paid for through the Sustainable Farming Incentive, the Local Nature Recovery scheme and the Landscape Recovery scheme. ‘The Path to Sustainable Farming: An Agricultural Transition Plan 2021 to 2024’ sets out examples of the types of actions that we envisage paying for under the schemes, including creating, managing and restoring habitats such as wetlands and freshwater habitats. In March, we published more details on the first phase of piloting the Sustainable Farming Incentive, including the actions we will pay farmers to take to manage their land in an environmentally sustainable way. On 30 June, we also published an update to the Agricultural Transition Plan, which included information on the elements that we will include in the Sustainable Farming Incentive itself, from 2022.

**Q12:** Excluding direct payment for management activities, what other support do you think should be available and to whom?

*As outlined in the River Otter Beaver Management Strategy Framework (Devon Wildlife Trust, 2019),* ***a pragmatic, enabling and non-bureaucratic grant scheme*** *would help to ensure beavers are considered less of a risk to farming and landowning interests especially within agriculturally productive river catchments, whilst maximising considerable natural capital outcomes.*

*Such a scheme would have two core strands****:***

***1) An annual revenue payment*** *could be made to landowners who allow space for natural riverine processes; encourage beavers to establish through the provision of suitable habitat; and provide space for localised flooding behind beaver dams, which can slow down water and improve water quality. This would function through the provision of an annual payment made in arrears based on the area of impounded water or waterlogged land.*

***2) Mitigation support*** *could be provided to any landowner impacted by beaver activity through the provision of a centralised capital fund. Such a fund could be applied to for protection of key infrastructure, such as installing devices to protect culverts from blockages; resolving access issues e.g. for machinery or livestock; or for localised flooding regulation through the installation of flow management devices.*

**Q13.** Are there any specific areas where guidance is required? Please provide details.

***Clearer guidance needs to be provided on the native species protected status of beavers.*** *At the time of writing, the government has announced the intention of giving beavers native species protected status in England at some point in the future, but currently this is not yet in force, meaning that their status is effectively in limbo. When conserving wildlife that can be deemed to be a nuisance, protected status needs to be applied unambiguously so that all stakeholders know where they stand. Declaring an intention to protect beavers in the future may incentivise landowners currently suffering from wildlife conflict to resort to lethal control more readily now before more restrictive measures come into force. Similarly, applying protected species status unambiguously allows a clearer stance for those responsible for enforcing protection of the species.*

*There will also need to be* ***clear guidance on what beaver structures will be protected*** *under Schedule 2 of the Conservation of Habitats and Species Regulations. For example a clear differentiation will need to be made between the protection of natal lodges (and bank burrows), and beaver dams. Beavers construct lodges in which they reside and raise kits, and these have a very different purpose from dams, which are built to raise the water level. Lodges, although often large and obtrusive structures, do not often cause direct conflict, whereas dams, through their impoundment of water, do****. It is important to protect natal lodges and bank burrows*** *to avoid unnecessary disturbance of beavers. However it is* ***also important to give Beaver Officers and landowners agency to manipulate dams to manage localised flooding****, since inundation is one of the main sources of conflict. Installation of flow management devices through dams, dam notching, and use of electric fencing to deter building are activities that need to be readily accessible for ongoing management of beaver establishments where constraints exist on localised flooding extent and ought not be prohibited through bureaucracy, as this may incentivise landowners to turn more readily to lethal control. However, some level of knowledge, skill and experience will still be required to carry out such activities.* ***An easy-to access class licence for wildlife management*** *issued to impacted landowners and stakeholders within the Beaver Management Group such as Beaver Officers and agency officials, issued alongside a release licence and* ***accompanied by appropriate training in these management techniques****, could ensure that these activities can be carried out* ***promptly*** *as and when required with an appropriate level of skill. It is important to stress that such a class licence needs to be accessible to impacted landowners, especially once management transfers outside of a 5 year licence period to the wider community. At present, many such licences fall within the remit of private consultancies to carry out work with protected species, which charge a premium for their services. Landowners with beavers resident on their land should be able to resolve conflict through dam manipulation directly without needing to operate through a private consultant, as overly expensive restricted access to management activities may incline landowners to more readily turn to lethal control.*

*Finally, there needs to be a* ***centralised source of good quality, unbiased objective guidance on beaver benefits, potential areas of conflict, and mitigation strategies available to the general public****. Currently, many of the specialists with direct knowledge and experience of managing beavers work in the conservation sector, and while extremely proficient, their perspectives may on occasion be viewed to further the cause of beavers over that of landowners. It is important to distil the expertise of those working on the ground to mitigate beaver conflict into an unbranded, reputable, trustworthy source accessible to all stakeholders, so that sensible decisions can be taken on beaver management without the politics of vested organisations with motives which may include conservation bodies, beaver advocacy groups, farmers unions, anglers trusts or landowner associations. DEFRA is ideally placed to become an independent source of good quality information that may guide all interested parties in how to benefit from beavers while managing any conflict that may arise.*

**Q14:** How would you prefer to access advice and guidance (e.g. information on website, via email, focal point for enquiries etc)?

***A centralised website*** *will be the first port of call for those looking for advice and guidance from DEFRA, which should outline the benefits of beaver establishments, with links to evidence from the successful beaver trials as well as academic papers. The website should also have a section on how to identify beaver sign, and preventative actions such as tree and key infrastructure protection that should be taken promptly after observing evidence of beaver activity. Mitigation options, as well as information and links on how to apply for class licences and grants through ELMS should be clearly displayed. Links to local sources of help and support such as Beaver Management Groups and contact details for Beaver Officers should also be made available.*

*But* ***practical on the ground training*** *should also be made available to those looking to apply for class licences for ongoing beaver management. These could be facilitated through local Beaver Management Groups, but ought to be financially supported through DEFRA, to facilitate local communities and landowners transitioning into a more proactive management role after the expiry of a five year licencing period.*

**Additional questions**

90. We want to understand more about the appetite for undertaking a beaver release project, and locations that may be being considered. This will help us to understand the likely scale of interest in such projects.

**Q15.** 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.

*Yes.*

*Hampshire & Isle of Wight Wildlife Trust (HIWWT) aspire to conduct an open release of beavers on the Isle of Wight. The Island is uniquely placed to host a wild release of beavers, separated as it is from the English mainland by the Solent. The Island’s geographical isolation and reduced carrying capacity can allow for a small-scale wild release of beavers that can be managed by HIWWT and partners, providing ideal conditions to further research the benefits of beavers outside of an enclosure on local communities, but with a viable exit strategy should this be necessary.*

*HIWWT commissioned a feasibility study in 2020 that finds ample suitable habitat availability on the Island, especially on the Eastern Yar catchment. HIWWT own 300 acres of land in an interconnected network of nature reserves along 4.5km of the Eastern Yar, where beavers would have ample space to colonise with minimal landowner conflict. The benefits to biodiversity at a catchment-wide scale have great potential, with knock-on benefits brought to other UK protected species such as otters and water voles. The Island is already a destination for eco-tourism, but the economic stimulus into the local community from wildlife viewing is only expected to increase upon beavers’ release. Beavers can also offer ecosystem services to downstream communities that currently suffer from flash flooding during high rainfall events, and reduced water quality from agricultural runoff within the Eastern Yar catchment.*

*HIWWT have recruited a Beaver Recovery Project Officer who* *is currently leading a public consultation on a prospective beaver release. Education and outreach events have begun within the local community, with guided walks, public events and landowner consultations facilitating the opportunity for the public to gain information on beavers’ benefits and the Trust’s aspirations. A licence application to Natural England will follow in due course.*

**References**

*Auster R.E., Puttock A., Brazier R. (2020). Unravelling perceptions of Eurasian beaver reintroduction in Great Britain. Area.* ***52*** *:364–375.*

*Brazier, R.E., Elliott, M., Andison, E., Auster, R.E., Bridgewater, S., Burgess, P., Chant, J., Graham, H., Knott, E., Puttock, A.K., Sansum, P., Vowles, A., (2020) River Otter Beaver Trial: Science and Evidence Report*

*Campbell-Palmer, R., Senn, H., Girling, S., Pizzi, R., Elliott, M., Gaywood, M. & Rosell, F. (2020). Beaver genetic surveillance in Britain. Global Ecology and Conservation* ***24****.*

*Campbell-Palmer, R., Puttock, A., Needham, R.N., Wilson, K., Graham, H. & Brazier, R.E. (2021). Survey of the Tayside Area Beaver Population 2020-2021. NatureScot Research Report 1274.*

*Coz D.M., Young J.C. (2020). Conflicts over wildlife conservation: Learning from the reintroduction of beavers in Scotland. People and Nature* ***2****: 406-419*

*Department for Environment, Food & Rural Affairs, Natural England, and Rebecca Pow MP (2020, August 6th). “Five-year beaver reintroduction trial successfully completed” [Press Release] Available at:* [*https://www.gov.uk/government/news/five-year-beaver-reintroduction-trial-successfully-completed*](https://www.gov.uk/government/news/five-year-beaver-reintroduction-trial-successfully-completed) *[Accessed 13/09/2021]*

*Department for Environment, Food & Rural Affairs and Natural England (2021, August 25th). “Landmark consultation launched on the reintroduction of beavers in England” [Press Release} Available at:* [*https://www.gov.uk/government/news/landmark-consultation-launched-on-the-reintroduction-of-beavers-in-england*](https://www.gov.uk/government/news/landmark-consultation-launched-on-the-reintroduction-of-beavers-in-england) *[Accessed 13/09/2021]*

*Devon Wildlife Trust. (2019). River Otter Beaver Management Strategy Framework*

*Dowse G., Taylor H.R., Girling S., Costanzi J.-M., Robinson S., and Senn H. (2020). Beavers in Knapdale: Final report from the Scottish Beavers Reinforcement Project Published by Scottish Beavers, Edinburgh, UK*

*Heydon M.J., Pouget, D., Gray, S., Wagstaff, G., Ashton, M.E.M. & Andison, E. (2021). Beaver reintroductions in England 2000 – 2021. JP036. Natural England, York.*

*Howe, C.V. (2020). A review of the evidence on the interactions of beavers with the natural and human environment in relation to England. Natural England Evidence Review NEER017. Peterborough: Natural England.*

*IUCN. (2013). Guidelines for Reintroductions and Other Conservation Translocations. Version 1.0. IUCN Species Survival Commission, Gland, Switzerland. pp 57. Available from: https://portals.iucn.org/library/efiles/documents/2013-009.pdf.*

*Kosmider R.,Gale P., Paterson A., Voas A., Mount L., Roberts H. (2012). What is the risk of introducing Echinococcus multilocularis to the UK wildlife population by importing European beavers which subsequently escape or are released? Qualitative Risk Assessment. Available at:* [*https://www.gov.uk/government/collections/animal-diseases-international-monitoring*](https://www.gov.uk/government/collections/animal-diseases-international-monitoring) *[Accessed 20/10/2021]*

*Law A., McLean F., Willby N.J., (2016) Habitat engineering by beaver benefits aquatic biodiversity and ecosystem processes in agricultural streams. Freshwater Biology* ***61*** *(4): 486-499*

*Law A., Levanoni O., Foster G., Ecke F., Willby N.J., (2019) Are beavers a solution to the freshwater biodiversity crisis? Diversity and Distributions* ***25****: 1763:1772*

*Montgomeryshire Wildlife Trust. (2019). Dyfi Wildlife Centre Beaver Project Communications Plan. Available at:* [*https://www.northwaleswildlifetrust.org.uk/sites/default/files/2020-09/4.%20Beaver%20Comms%20Plan.pdf*](https://www.northwaleswildlifetrust.org.uk/sites/default/files/2020-09/4.%20Beaver%20Comms%20Plan.pdf)

*[Accessed 29/9/2021]*

*Natural England (2009). Agri-environment schemes in England 2009: A review of results and effectiveness [online] available at:* [*http://www.naturalengland.org.uk/Images/AE-schemes09\_tcm6-14969.pdf*](http://www.naturalengland.org.uk/Images/AE-schemes09_tcm6-14969.pdf)

*Puttock A., Graham H.A., Cunliffe A.M., Elliott M., Brazier R.E., (2017) Eurasian beaver activity increases water storage, attenuates flow and mitigates diffuse pollution from intensively-managed grasslands, Science of the Total Environment* ***576****: 430–443*

*Puttock A. (2020) Quantifying the Hydrological Impacts of Eurasian Beaver Reintroduction across Great Britain. [PowerPoint Presentation]. BeaverCON 3rd-5th March 2020, Baltimore Maryland, USA.*

*Scottish Wildlife Trust (2020, May 28th) “Trust responds to alarming beaver cull numbers”[Press Release] Available at:* [*https://scottishwildlifetrust.org.uk/news/trust-responds-to-alarming-beaver-cull-numbers/*](https://scottishwildlifetrust.org.uk/news/trust-responds-to-alarming-beaver-cull-numbers/) *[Accessed 09/09/2021]*

*Stringer A.P, Gaywood, M.J., (2016). The impacts of beavers Castor spp. on biodiversity and the ecological basis for their reintroduction to Scotland, UK. Mammal Review* ***46*** *(4): 270-283*

*Tayside Beaver Study Group. (2015). Final Report.*

*The Wildlife Trusts. (2018). The Wildlife Trusts’ Beaver Reintroductions. Available at:* [*https://www.wildlifetrusts.org/sites/default/files/2018-11/181023%20Beaver%20Brochure\_WEB.pdf*](https://www.wildlifetrusts.org/sites/default/files/2018-11/181023%20Beaver%20Brochure_WEB.pdf)

*[Accessed 29/9/2021]*

*Williams M. (2021, August 10th). “More than 200 beavers officially killed in Scotland since they became protected species.” The Herald. Available at:* [*https://www.heraldscotland.com/news/19503593.200-beavers-officially-killed-scotland-since-became-protected-species/*](https://www.heraldscotland.com/news/19503593.200-beavers-officially-killed-scotland-since-became-protected-species/) *[Accessed 09/09/2021]*