

**Explanatory Memorandum to *The Wildlife and Countryside Act 1981*
(Variation of Schedule 9) (Wales) Order 2015**

This Explanatory Memorandum has been prepared by the Natural Resources Department and is laid before the National Assembly for Wales in conjunction with the above subordinate legislation and in accordance with Standing Order 27.1

Minister's Declaration

In my view, this Explanatory Memorandum gives a fair and reasonable view of the expected impact of *The Wildlife and Countryside Act 1981* (Variation of Schedule 9) (Wales) Order 2015. I am satisfied that the benefits outweigh any costs.

Carl Sargeant
Minister for Natural Resources
14 April 2015

1. Description

This Order, which applies in relation to Wales only, amends Schedule 9 to the Wildlife and Countryside Act 1981 (c.69), as amended by the Infrastructure Act 2015 (“the Act”), which lists animals which may not be released or allowed to escape into the wild and plants which may not be planted or otherwise allowed to grow in the wild.

The Order adds the Eurasian (also known as the ‘European’) beaver (*Castor fiber*) to Part 1B (animals no longer normally present) to Schedule 9 to the Act.

2. Matters of special interest to the Constitutional and Legislative Affairs Committee

This Order amends a composite piece of primary legislation but only in relation to Wales. This amendment does not raise any matter that would be of special interest to the Constitutional and Legislative Affairs Committee.

3. Legislative background

It is an offence, under section 14(1) of the Wildlife and Countryside Act 1981 (“the Act”), to release, or allow to escape in to the wild, any animal which:

- is not ordinarily resident in, or a regular visitor to, Great Britain in a wild state; or
- is listed on Part 1 to Schedule 9.

Section 22(5) of the Act provides the Secretary of State may by order, either generally or in respect to a particular area of Great Britain add any animals or plants to or remove any animals or plants from Schedule 9. By virtue of article 2 of, and Schedule 1 to, the National Assembly for Wales (Transfer of Functions) Order 1999, these powers were transferred to the National Assembly for Wales. By virtue of section 162 of, and paragraph 30 of Schedule 11, to the Government of Wales Act 2006, these powers now vest in the Welsh Ministers.

In England, the European beaver has been added to Schedule 9 of the Act via the Infrastructure Act 2015. This has implications for one of the options presented in the Regulatory Impact Assessment – under option 0 (do nothing) the lawful release of the European beaver into the wild in Wales is unregulated.

The Infrastructure Act makes a number of other changes to Schedule 9 including the division of Part 1 of Schedule 9 as follows:

- Part I non-native;
- Part IA native animals,
- Part IB animals no longer normally present.

The European beaver is listed under Part IB in relation to England.

In Scotland, the Act was amended by the Wildlife & Natural Environment (Scotland) Act 2011, such that beavers can only be lawfully released under licence issued by Scottish Natural Heritage.

The instrument is subject to the annulment (negative) procedure pursuant to section 26(2) of the Act.

4. Purpose & intended effect of the legislation

European beavers used to be native to the British Isles but were hunted to extinction around 500 years ago. There is currently a five-year managed re-introduction trial of European beaver in Knapdale, Scotland¹ (with final reporting expected in spring 2015). In addition, there have been unofficial releases of beaver into the wild on the river Tay in Scotland, and on the river Otter in England. A number of conservation organisations have investigated the possibility of re-introducing this formerly native species in to the wild elsewhere in Great Britain. A feasibility study on re-introduction by the Welsh Beaver Project in Wales² has been completed, and the issue of the possible re-introduction of beavers into Wales is currently under consideration by Natural Resources Wales, although no licence application for such a release has yet been received. In January 2015, Natural England issued a licence to the Devon Wildlife Trust for a managed release into the wild of beavers on the river Otter in Devon, on a 5-year trial basis.

The occurrence of European beavers in the wild in GB, either as a result of trial re-introduction programmes (such as the Scottish Beaver Trial), or unofficial releases, means that Welsh Ministers have agreed that the European beaver could now be considered to be ordinarily resident in GB. This would mean that it is no longer an offence to release a European beaver to the wild in Wales under section 14 (1) (a) of the Act.

In order to reduce, as far as possible, risks associated with unregulated release of beavers in to the wild Welsh Ministers have agreed that it is desirable to continue to regulate the release of European beaver into the wild in Wales (these risks are outlined in the paragraphs below and in the attached RIA). They have, therefore, agreed to add the European beaver to Schedule 9 of the Wildlife and Countryside Act. This means it will be an offence to release European beaver in to the wild in Wales, under section 14(1) (b) of the Act.

Section 16(4) of the Act provides that Section 14 does not apply to anything done under, and in accordance with, the terms of a licence issued by the appropriate authority³. This means any release of European beaver into the wild in Wales can only be lawful if the release is undertaken under, and in accordance with, a licence issued by Natural Resources Wales.

The purpose of this Order is to ensure that we continue to have the means to regulate release of the European beaver in to the wild in Wales.

The effect of this Order is to help ensure that any lawful release will be undertaken in an appropriately controlled and managed way, allowing Natural

¹ <http://www.scottishbeavers.org.uk/>

² <http://www.welshbeaverproject.org/>

³ Natural Resources Wales being the 'appropriate authority' in this context in relation to Wales

Resources Wales to take in to account benefits and risks posed to biodiversity, animal welfare, land/property owners and waterways in their licensing decision.

This Order will affect anyone wishing to release European beaver into the wild in Wales.

Not adding beaver to Schedule 9 of the Act in Wales would mean there would be no immediate legal means in Wales to regulate release of European beavers into the wild.

If the release of European beavers in Wales is not regulated, it is likely that impacts of beavers on third parties (i.e. those outside the process of acquiring and providing the initial habitat for the beaver) would not be fully taken into account in individual decisions to release the animals. Such impacts are termed negative externalities and are representative of a market failure, which is a standard rationale for government intervention.

Un-regulated releases could pose risks to public and animal health in Wales through the potential for released beavers to act as a host for a tapeworm (*Echinococcus multilocularis* (EM)) which can cause human health issues.

Adding European beaver to Schedule 9 of the Act in Wales would maintain a consistent legal framework across England and Wales concerning the release of the European beaver into the wild.

5. Consultation

Details of consultation undertaken are included in the Regulatory Impact Assessment below.

PART 2 – REGULATORY IMPACT ASSESSMENT

Options

Option 0

Do nothing. No further action taken in relation to the release of European beaver. Under this option, there will be no lawful means to regulate the release of European beaver into the wild in Wales.

Option 1

Non-regulatory control. Under this option, voluntary schemes (such as a Code of Practice for release) would be designed and introduced to manage release of European beaver into the wild in Wales.

Option 2

Regulatory Control - Add European beaver to schedule 9 of the Act in relation to Wales. This option will provide the means to regulate the release of the European beaver into the wild in Wales.

Costs and Benefits

General benefits and costs relating to releases of European beaver in to the wild

Beavers modify the local habitat around them through, for example, coppicing trees, feeding on vegetation and in some cases building dams. In many areas this can have positive impacts for biodiversity, the local economy through increased tourism revenue and in some circumstances can reduce flood risk by regulating flow and reducing flood peak levels downstream. However, if released to inappropriate locations these same behaviours can have a net negative effect, imposing economic costs on, for example, the forestry or agriculture sectors.

There is very little available information on the economic impacts of the European beaver and much of what has been published is focused primarily on the economic benefits of re-introduction programmes. As part of the Scottish Beaver Trial, Scottish Natural Heritage commissioned a socio-economic review of the trial⁴. Further economic analysis is expected when the final report is presented to Scottish Government in spring 2015.

The costs and benefits comparison in the Scottish Natural Heritage report in respect of the Scottish trial included analysis of the following benefits; regulating and supporting ecosystem services; business turnover; recreational visitors; educational value; volunteer time; and social impact. Analysis also considered costs to; woodland and timber; road and other civil engineering; fishery impacts; and administration costs. Over the five year trial period:

- indicative benefits for the Scottish project are estimated to be between £1,059,000 - £6,698,000; and
- indicative costs are estimated to be between £2,116,000 - £2,124,000.

To avoid unintended impacts of inappropriate releases by third parties we believe statutory intervention is necessary to maintain regulatory controls on release.

Option 0: Do nothing. No further action taken in relation to the regulated release of European beaver in to the wild.

Pursuing the 'do nothing' option means that there would be no legal means to regulate the release of European beaver in to the wild in Wales.

Benefits

No licence is required for the lawful release of European beaver in to the wild in Wales under this option. This reflects the current situation, which therefore remains unchanged.

⁴ Moran, D. & Lewis, A.R. 2014. The Scottish Beaver Trial: Socio-economic monitoring, final report. *Scottish Natural Heritage Commissioned Report No. 799*.
http://www.snh.org.uk/pdfs/publications/commissioned_reports/799.pdf.

Under this option, therefore, there are no financial benefits to private individuals/organisations in the form of cost savings that would arise from not having to apply to Natural Resources Wales for a licence. As no licence for release is currently required, this option merely maintains the status quo.

In reality, we believe the most likely route for release of beaver into the wild in Wales would be through Wildlife Trusts Wales, It is extremely likely that, even under this option, Wildlife Trust Wales would wish to provide the same amount of information to Natural Resources Wales as if a licence was required. And, likewise, that Natural Resources Wales would wish to undertake the same amount of scrutiny of this information; and that the Wildlife Trusts would not wish to proceed without NRW agreement, particularly if a release was to occur on land managed by Natural Resources Wales.

This has implications for the costs that are detailed under Option 2 (regulatory control). Because of the above, it is likely that the costs outlined in Option 2 may not be additional compared to what might, in reality, happen under Option 0.

Costs

Having no legal means to regulate release of European beaver in to the wild means that the risk of potential costs relating to issues of disease, flooding, repair, removal and enforcement is increased, compared to situations which can be controlled through legislation.

There are a number of potential costs associated with the inappropriate release of European Beaver into the wild:

- Potential costs of negative impacts to different sectors;
- Potential costs of reducing impact of inappropriately released beavers; Potential costs of trapping and removing inappropriately released beaver populations if desirable; and
- Disease risk.

Potential costs of negative impacts to different sectors

A study of the wider economic impacts of wild European beavers highlighted some of the potential costs to different sectors which are summarised in the Table 1 below (adapted from Campbell, Dutton & Hughes, 2007⁵).

Table 1

Sector	Impacts	Cost per beaver population per annum
Agriculture	Impacts due to foraging on crops and loss of agricultural land due to flooding	€1-100
Forestry	Impacts due to foraging or loss of forestry	€101-1000

⁵ Campbell, R., Dutton, A. & Hughes J. Economic impacts of the beaver (2007). url: http://www.scottishbeavers.org.uk/docs/003_143_pages_pdf_download_1322222558_cmstthumb.jpg

	land due to flooding	
General public – through impact on domestic gardens	Impacts due to felling of ornamental trees and occasional flooding events	€1-100
	Total	€102-€1200

The costs in Table 1 include the potential negative consequences of flooding, but this will depend on where any flooding actually occurs. These costs could be considerably lower (or negligible) if land flooded is of low value, or much higher if property or infrastructure (i.e. electricity power features) are in the locale.

It is reasonable to assume that the estimated economic impact of a population released into an inappropriate area will be at the upper end of the scale i.e. €1,200 per population per annum. Based on the current exchange rate (€1.35 = £1.00, 12/02/2015) this equates to £890 - taking into account inflation from 2007 to 2015⁶ -, the value will be **£990.00** per population per annum

Potential costs of reducing impact of inappropriately released beavers

In sites where there are negative impacts on landowners, a number of possible mitigation techniques may be used which could reduce / avoid the costs outlined in Table 1. Whilst this expenditure could reduce the potential negative impact of releasing beavers in inappropriate locations, it still represents a cost incurred by landowners.

Those landowners impacted by the consequences of beaver activity will probably face either the costs of any damage caused by beaver activity or the costs of preventing an impact, but not necessarily both at the same time. The combinations of these costs would range from situations where mitigation is used proactively, thus preventing the environmental and/or economic impacts, to those where the mitigation methods are only put in place after negative impacts have occurred.

Table 2 examines the types of possible mitigation measures which could be taken by land owners / residents to reduce any negative impacts from beavers on their property.

Table 2

General Assumptions	<ol style="list-style-type: none"> 1. Costs are based on the reasonable worst case scenario. 2. It is also assumed that all landowners within a beaver territory will employ these techniques. 3. Gurnell et al., 2008⁷ estimate that a 2km stretch of river with suitable habitat is sufficient
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⁶ which is 1.11 (based on HMT GDP deflator)

⁷ Gurnell, J., Gurnell, A.M., Demeritt, D., Lurz, P.W.W., Shirley, M.D.F, Rushton, S.P., Faulkes, C.G., Nobert, S. & Hare, E.J. The feasibility and acceptability of reintroducing the European beaver to England (A report prepared for the People’s Trust for Endangered Species and Natural England) (2008). http://www.ptes.org/files/528_ptes_ne_feasibility_report_2009.pdf Accessed 29/05/13

			to support a colony of beavers.
Method	Cost	Cost per population (based on 2km range)	Details/Assumptions
Fencing	Average £6 per metre	£24,000 [£6 x 2000m = £12,000 x 2 – both sides of bank] (one off cost for installation but does not include repair and maintenance)	Costs based on otter fencing. Costs obtained from commercial suppliers found via internet search. Assumption that fencing is required along both river banks within the beaver territory.
Deterrent – unpalatable paint	91p per tree	£910 [£0.91 x 1,000 trees] – £4,550 [£0.91 x 5,000 trees] (approx 3 years protection)	Unpalatable paints to protect lower trunks of trees from grazing. Information on the national forest (www.nationalforest.org) is used to estimate how many trees would occur within a beaver territory. Typically, new woodlands are planted at approximately 2000-2500 trees per hectare. As the woodland matures trees will be thinned. It is expected that approximately 250-500 trees per hectare will be standing when the woodland is 70 years of age. A beaver will generally never venture further than 20 metres from the water (Gurnell et al. 2008), therefore the average territory will be 40,000m ² or 4ha. It is estimated that one would find 2,000 - 10,000 trees within a beaver territory (assuming trees on both sides of the bank). However, data from the Scottish beaver trial indicates that 80% of beaver effects are found within 10 metres of the water's edge. Therefore, for cost effectiveness one might assume that landowners would focus their efforts on protecting those trees that are found 10 metres from the water bank. Assuming an even distribution of trees throughout a beaver territory the number of trees that would be protected would be between 1,000–5,000 trees.
Dam removal	£200 per day	£400 [£200 x 2 days] - £600 [200 x 3 days] (annual cost)	Assumption that a small excavator or similar vehicle plus driver would need to be hired for 1 day. Beavers will rebuild dam if destroyed therefore it is likely that this work will need to be repeated 2-3 times a year. This will be dependent on the breeding season and weather conditions.
Flow device	Estimates range from \$200 - \$1,200 = £130 - £780 (\$1=£0.65,	£130 – £780 (one off cost)	Also known as a beaver deceiver. A flow device used to drain water from a beaver pond without the beavers being able to work out where the water is escaping from and then blocking the flow. Information predominantly from the USA. It is assumed this will only be installed in one dam within a beaver territory.

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Some, but not all, of these mitigation methods may be used in combination with one another. For example a landowner may choose to use a flow device to reduce upstream flooding and unpalatable paint to reduce foraging, but they would not necessarily employ fencing and unpalatable paint to protect woodland. It is reasonable to assume that landowners would employ the most cost effective techniques. Therefore it can be estimated that mitigation of beaver induced flooding (flow device £130 - £780) and grazing (unpalatable paints £910 – £4,550) would be **£1,040 - £5,330** lasting a minimum of 3 years.

There is complex interaction between the potential costs in some cases. For example, mitigation techniques should reduce the cost of damage but this will depend on whether or not mitigation is carried out before or after the damage has occurred. Similarly trapping should eliminate the costs of mitigation and damage but again this will be dependent on when this is carried out. Due to the complexities of these interactions, Table 3 only looks at possible impacts and costs of mitigation methods over a two year period with relatively simple scenarios described. It is assumed that the beaver population remains constant during this period, likewise year 2 costs are the same as year 1 costs and are not discounted.

Table 3

Scenario	Costs: Year 1	Costs: Year 2	Total Costs per beaver population
a) Beaver population is trapped immediately avoiding damage and mitigation costs	£2,610 - £5,220	£0	£2,610 - £5,220
b) Damage is accepted and no mitigation or trapping is carried out	£990	£990	£1,980
c) Mitigation is carried out immediately (note mitigation techniques will likely last more than 1 year)	£1,040 - £5,330	£0	£1,040 - £5,330
d) Carry out mitigation, find it ineffective, and then decide to trap animals.	£1,040 - £5,330	£2,610 - £5,220	£3650 - £10,550
e) Suffer damage before deciding to carry out mitigation	£990	£1,040 - £5,330	£2,030 - £6,320
f) Suffer damage before deciding to carry out trapping	£990	£2,610 - £5,220	£3,600 - £6,210

Therefore, the potential cost associated with a single case of inappropriate beaver release over two years would be between **£1,040** (lower estimate of scenario c) and **£10,550** (upper estimate of scenario d). To note the above only looks at impacts from immediate damage and mitigation costs, and does not consider wider implication such as reducing costs by undertaking appropriate disease risk assessment measures etc– see below. The above costs mainly relate to costs of materials and costs for staff to undertake this work have not been included.

Potential costs of trapping and removing inappropriately released beaver populations if desirable.

Where a beaver population has been released into an unsuitable habitat it may be desirable to recapture the population to remove negative impacts and population expansion in that area. It is expected that any exercise involving the trapping of beavers that are causing a significant adverse impact would be undertaken by, or in conjunction with, Natural Resources Wales. The focus here will be on live trapping rather than the use of kill traps or shooting. There is a paucity of published information on the costs of trapping. However, an estimate can be made based on the costs associated with the eradication of the coypu (another aquatic rodent) from Britain in the 1980's (Baker, 2008⁸). This eradication campaign was based around live trapping and shooting; the costs of the latter will have been a minimal component of the overall cost of the exercise. In today's figures the cost of the eradication 6,000 animals was £4.7million (Williams, F., Eschen, R & Shaw 2009⁹) or £783 per animal. It will, therefore, be assumed that the cost of trapping a beaver will be £783 per animal, and taking inflation between 2009 and 2015 into account¹⁰ this will amount to £870 per animal. Beavers generally live in small family groups of 3 - 6 animals. Therefore, assuming the population to be removed is a single family group, the trapping of an inappropriately released population would be **£2,610 - £5,220**

Reducing disease risk

There are no means to require a disease risk assessment be done where release is not regulated. As such, there is a greater risk of diseases being introduced in Wales when the release of European Beaver is unregulated.

European beaver can act as an intermediate host for the parasite *Echinococcus multilocularis* (a type of tapeworm) and could act as a vector for introduction of the disease into the United Kingdom if sourced from areas where the parasite is endemic in Europe e.g. Bavaria or Switzerland. The beavers introduced into Scotland at Knapdale have been sourced from Norway, which, along with the UK, is free from *E. multilocularis*. This parasite is a low risk source of the human disease *Alveolar echinococcosis* in humans.

In 2012, Defra carried out an assessment of the potential risks posed by the importation of beavers. The risk assessment¹¹ concluded that:

⁸ Baker, S. (2006) The eradication of coypus (*Myocastor coypus*) from Britain: the elements required for a successful campaign. In *Assessment and Control of Biological Invasion Risks* (eds Koike, F., Clout, M.N., Kawamichi, M., De Poorter, M. & Iwatsuki, K.), pp.142–147. Shoukadoh Book Sellers, Kyoto, Japan, and IUCN, Gland, Switzerland.

⁹ Williams, F., Eschen, R & Shaw. The Economic cost of INNS to GB 2009 <https://secure.fera.defra.gov.uk/nonnativespecies/index.cfm?pageid=175> Accessed 29/05/2013

¹⁰ which is 1.11 (based on HMT GDP deflator)

¹¹ webarchive.nationalarchives.gov.uk/...defra.../qra-non-native-species-echinococcus-120627.pdf

- Likelihood - For beavers imported from endemic areas, the likelihood of being infected and resulting in the establishment of *E. multilocularis* in wildlife is considered low, but this is uncertain due to the factors involved (e.g. beaver escaping, a fox scavenging an infected dead beaver, infection established in intermediate host species).
- Impact - The consequences of *E. multilocularis* being introduced into the definitive species (a host in which parasites reproduce sexually, e.g. foxes) in the UK includes an increased risk of the human population being exposed to the parasite. This is a high impact disease in affected humans, but the number of humans that would be infected is likely to be low.
- To minimize the risk of *E. multilocularis* being introduced and establishing within UK wildlife, the only suitable risk mitigation measure would therefore be to source beavers from UK captive bred populations or from countries which are currently free of *E. multilocularis*.

The value of any health risks avoided by controlling European beaver release at present cannot be estimated but are likely to be low given the assessment above. The Defra Voluntary Code of Practice on the importation of European beaver from Europe¹² explains that once established it is very unlikely that we would be able to eliminate EM from the wildlife population. Very rarely, humans would become infected and at some stage humans would begin to present with AE and treatment and other costs would be incurred.

Option 1: Non-regulatory control. Under this option, voluntary schemes (such as a Code of Practice for release) would be designed and introduced to manage release of European beaver in to the wild in Wales.

Benefits

A Code of Practice would be expected to reduce the risk of the inappropriate release of European beaver into the wild. The costs associated with inappropriate releases - disease, flooding, repair, removal, enforcement - would therefore be expected to be lower than under Option 0. However, the extent to which the risk (and therefore cost) would be lower than Option 2 depends upon the levels of compliance with the Code of Practice.

Costs

Welsh Government would need to undertake further consultation with experts to produce and publish voluntary guidance under this option. In 2014 Defra produced a Voluntary Code of Practice on the importation of European beaver from Europe¹³, and this could be used as part of the voluntary approach. More broadly, it is very likely that such a code would be based on the International Union for Conservation of Nature (IUCN) 'Guidelines for Reintroductions¹⁴ and Other Conservation Translocations' and the Scottish

¹² http://www.defra.gov.uk/animal-trade/files/Code-of-Practice_Beavers1.pdf.

¹³ http://www.defra.gov.uk/animal-trade/files/Code-of-Practice_Beavers1.pdf.

¹⁴ http://iucn.org/news_homepage/all_news_by_region/news_from_asia/?13377/New-Guidelines-on-conservation-translocations-published-by-IUCN

Natural Heritage ‘Scottish Guide for Conservation Translocations’ and accompanying ‘Best Practise Guidelines for Conservation Translocations in Scotland’¹⁵.

Given the above sources of information, we estimate that the time taken to develop a Code of Practice, including discussions with stakeholders, would be 60 days of staff time, as follows:

Table 4

Activity	Time taken to complete (days: assume 7.24 working hours per day)	Wage of employee (£ per hour – rounded down)	Total cost (£)
Administration associated with coordination of work to develop Code of Conduct	10	£19	1,368 (72 x 19)
Background research / consultations with stakeholders, translation and typesetting, hosting on WG website	40	£24	6,960 (290 x 24)
Detailed proposal and Ministerial sign-off	10	£32	2,304 (725 x 32)
Total	60		£10,632 (round up to nearest pound).

It is standard practise to add on 30% to this value (reflecting employer’s NI and pension costs) to calculate the total cost to the WG of developing a Code of Practice. The total cost will therefore be **£13,820**.

Voluntary approaches are considered unlikely to be successful in this instance. Neither the Welsh Government, nor Natural Resources Wales, would have recourse to prevent release by those who do not wish to abide by voluntary code, therefore posing greater risks relating to potential negative impacts to the environmental and economic interests.

In their consultation response, Scottish Natural Heritage commented that simply relying on voluntary measures was unlikely to be an effective solution.

Option 2: Regulatory control - Add European beaver to schedule 9 of the Act in relation to Wales. This will mean that lawful releases of European beaver into the wild in Wales would require a licence from Natural Resources Wales.

Benefits

Regulated release, i.e. under licence, ensures that prior to any such release occurring potential negative impacts are considered, based on the evidence

¹⁵ <http://www.snh.gov.uk/protecting-scotlands-nature/reintroducing-native-species/scct/>

provided with the application. These considerations might include negative economic or environmental impacts or that the positive impacts sufficiently outweigh and / or provide a mechanism to avoid the risks of negative impacts.

Under this option, any release of European beaver into inappropriate areas would be unlawful and liable to prosecution. As a result, the risk of the inappropriate release should be significantly reduced and the potential costs identified under Option 0 are less likely to be incurred. This option is expected to have a greater impact on reducing inappropriate releases than a voluntary approach (i.e. Option 1).

The costs (of inappropriate release of the beaver into the wild in Wales) identified under Option 0 are the “mirror image” of the benefits identified under this option (as this option prevents those costs of inappropriate release under Option 0 from being realised). However, those option 0 costs do not consider wider implications such as reducing costs associated with disease risk and do not include (in the main) costs other than those of materials. Costs for staff to undertake mitigation techniques and trapping work have not been included as they would be difficult to assess in unforeseen circumstances. The benefits under this option are therefore expected to be significantly more than preventing the estimated mitigation and trapping costs of £3,650 - £10,550 (referred to under Option 0) from arising.

Costs

There are a number of potential costs associated with the regulated release of European Beaver into the wild:

- costs to the licensing authority; and
- costs to a licence applicant.

Estimated costs to the licensing authority (Natural Resources Wales)

A number of experts from Natural Resources Wales would be involved in assessing and determining any licence application to release European beaver into the wild in Wales. Such experts would be likely to include a mammal specialist, senior wildlife advisor operational staff and licensing staff.

Table 5 shows a breakdown of the estimated costs (staff time and wages) for NRW, to complete each task involved with reviewing an application to release a beaver(s). These calculations are based on best estimates to Welsh Government provided by Natural Resources Wales.

Table 5

Activity	Time taken to complete (days: assume 7.24 working hours per day)	Grade of employee and wage (£ per hour – rounded down)	Total cost (£)
Processing application in Permitting team	2	B3 (£19)	285 (15 x 19)
Dealing with initial enquiries/proposal/discussions	3	C2 (£24)	540 (22.5 x 24)

Site visits or meetings	4	C2 (£24)	720 (30 x24)
Background research / consultations	2	C2 (£24)	360 (15 x24)
Placing application notice (for comment) on website and collating/analysing comments	4	C2 (£24)	720 (30 x 24)
Providing briefing/docs etc for Minister and NRW Board	2	C2 (£24)	285 (15 x19)
Detailed proposal/application assessment	3	C2 (£24)	540 (22.5 x 24)
Authorising application	0.5	D1 (£32)	112 (3.5 X 112)
Drafting licence / rejection / notifying decision	1	B3 (£19)	143 (7.5 x 19)
Total	21.5		£3,705 (round up to nearest pound).

The total resource from NRW required to consider and determine a single application to release a beaver (or family of beavers) into the wild would be = **£3,705**. It is standard practise to add on 30% to this value (reflecting employer's NI and pension costs) to calculate the total cost to the licensing authority in delivering a service, so that actual total will be **£4,816**.

The only organisation in Wales that we are aware of that is considering the release of European beaver in to the wild in Wales is the Wildlife Trusts in Wales, which runs the Welsh Beaver Project as part of their Living Landscapes strategy. As of May 2014, and following public consultation and discussion, the Welsh Beaver Project announced that two reintroduction sites have been proposed for the pilot reintroduction of beavers to Wales:

- the Bwlch Nant yr Arian Visitor Centre near Aberystwyth and
- Nant Myherin in the upper reaches of the Afon Merin in Ceredigion.

Both sites are owned by Welsh Government and managed by Natural Resources Wales. It was proposed that a family of beavers would be released at the Bwlch Nant yr Arian Visitor Centre, which would then function as the 'public face' of the reintroduction, with Nant Myherin serving as the site more suited for research, biodiversity enhancement and water resource/flood management purposes.

As of February 2015 we understand the Welsh Beaver Project are working with Natural Resources Wales exploring the possibility of releases at Bwlch Nant yr Arian and, in the longer term, certain other sites in Wales.

Based on the above information, we estimate that there will be between zero and 5 applications made to NRW to release beaver in to the wild in Wales, over the next 10 years

We can, therefore, estimate a range of resource costs for Natural Resources Wales, on a yearly basis over the next 10 years:

- If no applications are submitted over the next 10 years there will be no resource implications.

- Calculations above show that for every application submitted the resource cost for NRW will be 21.5 staff days and a total cost of £4,816. Therefore, over the next 10 years we could expect a resource for the licensing authority of between zero (if no applications are received) and 107.5 staff days at a total cost of £24,080 over the 10 year period. The present value of this cost is approximately **£21,080** (assuming that costs are incurred in years 0, 2, 4, 6 and 8).

The above figures do not take account of any monitoring of licence conditions or enforcement action where licence conditions are not complied with. It would be difficult to make assumptions on unknown future individual events such as a breach of any number of possible licence conditions. However, the process involved in pre-licence discussions and planning should, to a great extent, reduce the likelihood of potential adverse impacts, and where there are any there should be procedures in place to mitigate these included in the detailed proposal submitted with an application.

Costs of any required mitigation and enforcement should be far less under a regulated release than unregulated.

Estimated costs to a licence applicant

Any potential applicant does and will need to provide substantial supporting information with any application and carry out public engagement and consultation exercises. A reintroduction application would likely take an organisation several weeks, or possibly months of work, potentially spread over a longer period, to produce, even if the applicant had a good technical knowledge of the issues. Assuming the application process is condensed into a single block of work, we estimate the process would take between 30 – 60 days staff time. Of course the applicant may wish to seek professional guidance / advice in order to complete the application. There are no additional familiarisation costs or burdens. There are no additional costs to Government. We would expect applicants to comply with the IUCN Guidelines for Reintroductions and Other Conservation Translocations' referred to previously in this document.

Table 6

Activity	Time taken to complete (days: assume 7.24 working hours per day)	Wage of employee (£ per hour – rounded down)	Total cost (£)
Administration associated with coordination of licence application	10	£19	1,368 (72 x 19)
Background research / consultations with stakeholders	10	£24	1,728 (72 x 24)
Detailed proposal/licence application and internal sign-off	10	£32	2,304 (72 x 32)
Total	30		£5,400 (round up)

			to nearest pound).
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It is standard practise to add on 30% to this value (reflecting employer's NI and pension costs) to calculate the total cost to the organisation in submitting a licence application. For 30 days of work, the total cost will be **£7,020**. For 60 days of work, the total cost will be **£14,040**.

There is currently no fee charged for such licence applications. We estimate above that the total cost to the organisation in submitting a licence application would be between **£7,020** (for 30 days work) and **£14,040** (for 60 days work).

We estimate that there will be between zero and 5 applications made to NRW to release beaver in to the wild in Wales, over the next 10 years

We can, therefore, estimate a range of costs) to organisations over the next 10 years:

- If no applications are submitted over the next 10 years there will be no costs to organisations;
- Over the next 10 years, if an organisation would submits an application in years 0, 2, 4, 6 and 8, the present value of the costs is between **£35,100** (30 days work) and **£71,200** (60 days work).

Risks and assumptions

The inherent assumption is that European beaver can now be considered as ordinarily resident in GB, and at this point legislative controls in Wales lapse unless the species is added to Schedule 9 of the Act.

The addition of European beaver to schedule 9 of the Act ensures a continuation of an appropriately regulated process for the consideration of releases of European beaver in to the wild. This amendment to the law will not provide complete control over the release of beavers as individuals that are inclined to release beavers unlawfully may not be deterred to not act lawfully by the addition of beaver to Schedule 9. However, the continuation of this legal safeguard will act as a deterrent to many and will provide the opportunity for prosecution if there is sufficient evidence of an illegal release.

Summary and preferred option with description of implementation plan

The preferred approach is to add the European beaver to Schedule 9 to the Wildlife and Countryside Act 1981, thereby maintaining the previous prohibition on releases to the wild save only under licence and where it is permitted it is done with checks and controls. This will help prevent inappropriate releases, promote compliance with IUCN guidelines and will help to maintain the UK's *E. Multilocularis* free status.

Consultation

A joint England and Wales targeted stakeholder consultation on the proposal to maintain the current restriction on the release of the European beaver into the

wild in England and Wales. The organisations targeted were those with an interest including conservation, animal welfare and disease, agriculture, fisheries, forestry, game, landscapes and water ways. The consultation was launched on 21 August 2013 and was open for views until 2 October 2013.

Consultees were asked for their views on the proposal to add the European beaver to Schedule 9 to the Act in order to provide for appropriate and adequately managed releases of European beaver in the future in line with (the then) current levels of control.

Consultees were also asked for comments on an Impact Assessment drafted by Defra which presented a more detailed analysis of the proposal based on the current available evidence. Views were also sought on a voluntary code of practice on importing European beavers from Europe which are destined to be kept in enclosures. This code of practice aims to reduce the risk of introducing the parasite *E. multilocularis* to the UK.

There was a common theme of support for the proposal to add European beaver to Schedule 9. A number of respondents stated further economic analysis was required for the Impact Assessment suggesting both costs of potential negative and positive impacts needed further investigation and assessment. There was general agreement that a Code of Practice to minimise the disease risk posed by introduced beavers destined to be kept in enclosures is required. Some respondents commented that consideration should be given to making amendments to other relevant legislation to provide full protection to European beaver.

In addition to the above consultation, Biodiversity officers in each of the 22 Welsh Local Authorities were contacted separately seeking their views on the proposal to add European Beaver to Schedule 9. One Authority responded and supported the proposal.

Related Impacts Assessments

Children's Rights Impact Assessment - No impacts were identified specifically for children and young people.

Rural Proofing - It is generally acknowledged that rural areas possess a range of attributes and constraints, which differ significantly from those in urban areas. They provide a unique landscape of high environmental quality, an historic settlement pattern and a wide range of social, economic and cultural facilities for the whole of Wales. At the same time there are issues of deprivation and market failure arising from factors such as:

- long term decline in the rural economy;
- on-going social and cultural change - including an ageing and more isolated population, and;
- relatively poor access to services - including affordable housing.

Regulated release, i.e. under licence, ensures that prior to any release occurring potential negative impacts are considered, based on the evidence provided with a licence application.

Under the Order, any release of European beaver into inappropriate areas would be unlawful and liable to prosecution. As a result, the risk of the inappropriate release would be reduced and the potential costs are less likely to be incurred. This proposal therefore protects the rural environment and its residents from the various environmental, economic and social risks associated with the unregulated release of the European beaver into the wild in rural Wales.

Welsh Language - It is not envisaged that the proposals will have an impact on the Welsh language. The Order will be made in both Welsh and English.

Statutory equality duties - It is not envisaged that the proposal will have any negative impact on equality in Wales (including equality issues concerning age, disability, faith, gender, race, sexual orientation or transgender), or a negative impact on diversity, social inclusion or human rights.

Rationale and evidence that justify the level of analysis used in the IA (proportionality approach);

The IA is proportional to the level of interest surrounding the policy. The consultation was targeted to 61 organisations - nature conservation interests, local government associations and organisations representing landowners and fisheries groups.

APPENDIX A

The Competition Assessment

The competition filter test	
Question	Answer yes or no
Q1: In the market(s) affected by the new regulation, does any firm have more than 10% market share?	No
Q2: In the market(s) affected by the new regulation, does any firm have more than 20% market share?	No
Q3: In the market(s) affected by the new regulation, do the largest three firms together have at least 50% market share?	No
Q4: Would the costs of the regulation affect some firms substantially more than others?	No
Q5: Is the regulation likely to affect the market structure, changing the number or size of businesses/organisation?	No
Q6: Would the regulation lead to higher set-up costs for new or potential suppliers that existing suppliers do not have to meet?	No
Q7: Would the regulation lead to higher ongoing costs for new or potential suppliers that existing suppliers do not have to meet?	No
Q8: Is the sector characterised by rapid technological change?	No
Q9: Would the regulation restrict the ability of suppliers to choose the price, quality, range or location of their products?	Yes – it may restrict the ability of organisations to release beavers into the wild in Wales