

### Animal reintroductions: who is safeguarding animal welfare?

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#### Summary

Animal reintroductions sometimes form part of rewilding activities - the return of an ecosystem to a previous state through the dynamic or passive management of nature. Reintroduced species usually represent those that were historically present and are derived from external populations that may be genetically different to the lost species.

This paper asks whether animal welfare receives adequate consideration as part of the debate about animal reintroductions and who, if anyone, acts as the guardian of animal welfare during these activities?

#### What is the concern?

Animal reintroductions sometimes form part of rewilding where the primary focus is usually on biodiversity and ecosystem processes; sometimes there may be elements of species conservation. Human aesthetic values also play a part. Some people view rewilding as simply changing management, for example destocking the hills, habitat enhancement, and making boundaries more permeable to natural recolonization. Others promote active reintroductions as part of rewilding.

This process attracts attention particularly when the reintroduction of iconic, apex predators or large herbivores is proposed. It is not clear that the welfare of individual animals always features in debates about the desirability and practice of reintroductions. In some cases, the species concerned may have been absent from an area for such a long time that the action may really be an "introduction". Does anyone have a specific role to act as the guardian of animal welfare at these times? It must be borne in mind that there are few instances where the welfare of one wild animal species can be considered in isolation.

#### Primary species concerned

This topic paper is about both reintroduced and resident wildlife impacted by the proposed reintroduction. Examples of recent government-sanctioned reintroductions in the UK include white-tailed eagles in Scotland and the Isle of Wight, beavers in a growing number of locations in England and Scotland, and there are currently calls from interest groups to approve reintroductions of lynx in

Scotland and northern England. Unofficial introductions range from the importation of grey squirrels in the 19<sup>th</sup> century to escapes of American mink from fur farms in the 1950s, followed by unauthorised releases in the 1970s. There have been more recent releases / escapes of beavers.

### Welfare risks based on the five domains model

There are welfare risks to the **reintroduced species** including:

1. Nutrition: Adequacy of food sources. Adjustment to new prey if it is a carnivore.
2. Environment: Possible exposure to new conditions. Risk of human persecution.
3. Health: Injury during capture/translocation. Exposure to novel pathogens. Post-release survival (including risk of being targets for trophy hunters).
4. Behaviour: For social species, removal from familiar groupings and the need to re-establish social structure, often with only a small number of individuals. Competition for resources.
5. Affective experience: Possible hunger, possible pain due to capture, exhaustion if seeking food unsuccessfully. Devotion of excessive time budget to survival-critical activities. Loss of species-relevant cultural context. Fear due to close human handling.

There are welfare risks to the **resident wild animal species** including:

1. Nutrition: Alteration to food supply, including territorial availability.
2. Environment: Displacement as a result of reintroduced species.
3. Health: Introduction of new pathogens to an ecosystem. May become prey to introduced carnivores.
4. Behaviour: Introduction of animals into stable ecosystems will cause perturbations, possibly habitat loss. Competition for resources. Stress may lead to poor breeding performance.
5. Affective experience: Possible fear and pain for prey species. Possible hunger if food chains disrupted and habitats are no longer available.

There may also be negative impacts on donor populations which have a complex social structure: eg disrupted hierarchies or loss of social knowledge if key individuals are removed. Important genetic material may also be lost.

### Brief summary of evidence

Little evidence exists about welfare aspects for either re-introduced or possible prey species. It is not clear who would arbitrate on matters of animal welfare or ensure that animal welfare was adequately safeguarded. There is more likely to be information about survival and breeding success. Historically, post-release survival could be poor. Increased awareness of wild animal sentience requires this topic to be given greater consideration in future. Along with welfare concerns, there may be positive aspects, e.g. in the case of the survival of endangered species and ecosystem balance.

### Possible risk-mitigating actions

These would include: best practice in capture and translocation; site selection; habituation at release site; supplementary feeding; post-release monitoring; contingency planning; minimising human contact; introduction of sufficient numbers; exit strategy. The use of a widely accepted ethical framework to evaluate proposed actions would be important.

## Do mitigation actions alter the welfare risk?

In the case of reintroduced carnivores, the welfare risks for potential prey species remain. For other resident species food chains/food supply may still be disrupted. The welfare risk to reintroduced animals can be reduced by the above types of mitigating actions and other measures, and the incorporation of independent welfare advice from the outset – but see the next section. Who ensures that welfare risk is minimised or avoided entirely?

## Conclusions

It is not clear who has (or should have) responsibility for evaluating and arbitrating on the welfare impacts of animals during reintroductions, thereby acting as the individual animal's guardian. Welfare cost:benefit analysis shows benefits and costs are shared unequally. If the benefit is primarily (possibly solely) to those promoting the reintroduction (e.g. humans who desire ecosystem services) and the costs primarily (possibly solely) to the wildlife species, very stringent tests should be imposed to safeguard the welfare of the (re)introduced animals and those with whom they interact. Consideration of the likelihood of success is also crucial.

## Recommendations including stakeholder involvement

Ultimately, we should consider who is to be the guardian of the welfare of wild animals and how guardianship can be exercised during reintroductions. Part of this will involve developing a widely accepted ethical framework through which it is possible to pose questions such as: what is the benefit to the reintroduced individual? what is the cost to resident species? and does this help animals to have lives worth living or, better still, a good life? Unfortunately, there are not yet many fora in which consensus ethical decisions of this nature can be made.

## Some examples where a guardian of animal welfare may have a place

If considering reintroduction of beavers, for example, some of the main welfare concerns relating to the areas above are: the beavers' indirect impact on the habitat, thereby affecting the welfare of other animals in the locality; the risk of introducing disease; methods of beaver capture (from the donor site); health screening in quarantine; transportation; habituation (to the new site); population management (including the avoidance of indiscriminate killing), and an exit strategy, including methods of removal if the reintroduction is deemed unsuccessful or population growth exceeds the carrying capacity.

If considering proposed lynx reintroductions, concerns relate to: the method of capture; handling; translocation; health screening in quarantine; habituation to the new site, and removal (and their subsequent fate) if the reintroduction is not considered successful. Indirect effects include the welfare impact on resident prey species and resultant re-arrangement of the local ecosystem. Lynx will likely be seen as a trophy target and this risk might be reduced initiatives such as a local educational campaign.

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