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Personal expertise

I write as a wildlife veterinarian and conservation scientist with practical and scientific expertise in wildlife reintroduction and other forms of 'conservation translocation'[1]. Consequently, my knowledge primarily relates to population health and biosecurity. I also have experience of what it typically takes for these projects to be 'successful'.

Species reintroductions: background

In the face of profound human-induced pressures on our natural environment, reintroduction has become a widely used tool in the conservation of wildlife populations, species and their wider ecosystems. Reintroduction projects have been critical in saving some endangered species and populations from extinction, and are increasingly being used as part of 'ecosystem restoration' projects, including 're-wilding' initiatives.

However, reintroductions should be planned carefully and used judiciously, because:

- Although there are now many examples of 'successful' reintroductions, historically, at least as many reintroduction projects appeared to end in failure as success
- This is because reintroduction is a complicated and risky process. There are lots of potential risks associated with it: to translocated animals/plants themselves, and risks that reintroduced animals/plants pose to other animals/plants, and potentially people and the wider release environment
- Even 'successful' projects commonly experience problems, particularly once animals or plants have been released, which negatively impact their survival and/or welfare[2]
- Reintroductions are typically expensive and resource-intensive projects to undertake
- Broad stakeholder engagement is critical to success in any reintroduction, not least those for charismatic species such predatory mammals or birds, or beavers, because of risks of human-wildlife conflict and the potential for persecution of released animals.

Risks including infectious disease transmission, whether from translocated animals/plants to other animals/plants in release areas, or from these native populations to translocated individuals themselves. For example, risks from highly pathogenic avian influenza virus, and appropriate management measures, should be carefully considered in bird reintroduction projects at the current time. Translocated animals also face a range of other risks to their health, from the point of capture/collection through to release, such as stress-related or husbandry-related conditions.

Hallmarks of successful projects I have been involved with have tended to be that they were carefully and conscientiously planned, well-funded and resourced, and involved experienced staff from across a range of disciplines, including species and habitat specialists, animal husbandry experts, conservation scientists, wildlife veterinarians and other specialists. When reintroductions are 'successful', from the outside, it can look as though they were an easy exercise, but it is

[1] Defined as any human-mediated movement of wildlife from one site 'for release in another' for conservation purposes (IUCN/SSC 2013. Guidelines for Reintroductions and Other Conservation Translocations. Version 1.0. Gland, Switzerland: IUCN Species Survival Commission. https://portals.iucn.org/library/sites/library/files/documents/2013-009.pdf).

[2] Beckmann, K., Cromie, R., Sainsbury, A., Hilton, G., Ewen, J., Soorae, P. & Kock, R. 2022. Wildlife health outcomes and opportunities in conservation translocations. *Ecological Solutions and Evidence,* 3**,** e12164. https://doi.org/10.1002/2688-8319.12164

important for conservation practitioners and wildlife enthusiasts to recognise the amount of time, planning and multi-sectoral expertise required for projects to be successful.

- **What role should species reintroductions play in the delivery of the government's biodiversity and nature recovery goals? Should specific objectives/targets be set for species reintroduction?**

For the reasons outlined above, reintroduction is best viewed as just one option in the wider conservation toolkit, to be used where necessary and appropriate, rather than as a default option for species or habitat conservation. In the first instance, it is important that well-considered targets and plans for habitat and species conservation are in place, such as Species Recovery Plans (England) or Species Action Plans (Scotland): reintroduction should be viewed as one of a range of tools that can potentially be used within these overarching frameworks. Therefore, it does not seem appropriate for a target to be set for reintroductions *per se.*

- **How can the government maximise the potential benefits from species reintroduction, and ensure the correct species are reintroduced in the correct places?**

Scotland's National Species Reintroduction Forum provides an excellent blueprint for national-level stakeholder engagement and discussion about proposed reintroductions projects, and provision of advice to government. The proposal for a Species Reintroduction Taskforce for England (I am uncertain of its current status) was welcome, and this could potentially play a similar role. As in Scotland, there would be value in having subcommittees to consider and advise on reintroduction proposals or frameworks for particular types of species or habitat.

The Codes and Guidance on reintroductions, published by NatureScot[3] and since Defra[4], compliment the IUCN Conservation Translocation Guidelines[5] and set out good frameworks for:

- Considering whether reintroduction is an appropriate conservation tool, and then
- Planning and delivering a reintroduction project.

Providing these guidelines are adhered to, projects should stand a better chance of being acceptable to stakeholders and 'successful' in the long term.

- **What role should the Landscape Recovery and Local Nature Recovery Schemes, under ELMS, have in supporting species reintroduction?**

As above, reintroduction should be seen as just one tool in the toolbox, that can potentially be used in the context of broader species and habitat recovery schemes, where justified.

The financial incentives potentially provided through ELMS should lead to habitat restoration, or management practices, that provide benefits to species of conservation concern, including, where relevant, reintroduced species; farmers/landowners could potentially be part of reintroduction partnerships and stakeholder groups.

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[3] National Species Reintroduction Forum 2014. Best Practice Guidelines for Conservation Translocations in Scotland Version 1.1. Inverness: Scottish Natural Heritage. https://digital.nls.uk/pubs/e-monographs/2020/216528031.23.pdf

[4] Anon 2021. Reintroductions and Other Conservation Translocations: Code and Guidance for England. May 2021. Version 1.1. Department for Environment, Food and Rural Affairs, UK. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1031279/Reintroductions_and_other_conservation_translocations_code_and_guidance_for_England_v1.1.pdf

[5] IUCN/SSC 2013. Guidelines for Reintroductions and Other Conservation Translocations. Version 1.0. Gland, Switzerland: IUCN Species Survival Commission. https://portals.iucn.org/library/sites/library/files/documents/2013-009.pdf

- **How effective is current government policy and 2021 guidance in leading and managing species reintroductions? Should any changes be made to its policies and guidance?**

The Codes and Guidance for Scotland and England provide valuable guidance for reintroduction practitioners. Some points which are variably and not consistently highlighted in current guidelines include the following:

- Any reintroduction project should be viewed as part of a broader, umbrella conservation initiative that:
    - Addresses the environmental or biological threats that caused the reintroduced species to go locally extinct in the first place, and ensures those threats will be adequately and appropriately managed to secure long-term persistence of a reintroduced population, and/or
    - Facilitates connectivity between small populations of the same species, to ensure that reintroduced populations do not, for example, become inbred or have low genetic diversity
- Reintroduction planning should include a scientific component, particularly (where there is sufficient data) mathematical modelling to determine the viability of a proposed reintroduction and how many individuals need to be released for a reintroduced population to establish, grow and persist in the longer term
- As the England Code and Guidelines mention, for particularly complex or risky projects, a process called 'structured decision-making' provides a useful platform for thorough, transparent management planning; this process necessitates a scientific (modelling) component
- As the Guidelines allude to, project teams should include wildlife veterinarians / wildlife health experts. A health risk analysis (disease risk analysis) should be conducted and used to guide health management and biosecurity practices[6]. In my experience, this health expertise is often brought on board at the last minute, but health experts should be involved in reintroduction planning from the beginning. Practitioners should recognise that projects can be planned in ways that reduce risks of disease transmission, for example, by:
    - Sourcing animals/plants from wild populations in the same geographical and ecological region that releases will occur in
    - For relevant species, translocating eggs, which present a more 'biosecure' package than individual animals
    - Conducting any captive breeding or rearing close to, or at, the release site.

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[6] See e.g. OIE & IUCN 2014. Guidelines for Wildlife Disease Risk Analysis. Paris: OIE. Published in association with the IUCN and the SSC. http://www.iucn-whsg.org/DRA