

Written evidence submitted by the Zoological Society of London (SR0033) – January 2023

Introduction to ZSL's work on Species Reintroductions:

Founded in 1826, ZSL (Zoological Society of London) is an international scientific, conservation and educational charity working to create a world where wildlife thrives through the conservation of animals and their habitats. Our mission is realised through our ground-breaking science, our active conservation projects in more than 50 countries and engaging millions of people through our two zoo's: ZSL London Zoo and ZSL Whipsnade Zoo.

ZSL has been involved in a number of species reintroduction programmes over many years not only through the provision of animals for release (via our two ZSL zoos) e.g. corncrakes in England and sand gazelles in the Kingdom of Saudi Arabia, but also through the provision of expertise to particular elements of reintroduction programmes, from [pre-release disease risk assessment](#) to post-release monitoring. We also have experience in a number of in-country breeding centres established using ZSL's expertise for species such as griffon vultures in India and Nepal and mountain chickens in Dominica.

In light of our many years of work in the realm of species reintroductions ZSL wanted to take the opportunity to submit to this call for evidence.

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 reintroductions?

Reintroductions can be an important tool in supporting species/population recovery as part of wider nature recovery efforts. Evidence shows that species reintroductions played a critical role in avoiding the extinction of 16 bird species and 10 mammal species over the period 1993-2020 (Bolam et al. 2021). However, it would not be advisable for reintroduction targets to be set in isolation from the context of broader recovery plans. Rather, there is a need for robust targets for wildlife recovery and population health within all nature/biodiversity recovery programmes. Within this, specific reintroduction targets could then be set. Overall, ZSL would advise that any targets set should only be done so following a careful, objectives-led and evidence informed, planning process for the species in question.

Any successful reintroductions that take place within a recovery programme will require clear and specified objectives. Effective objectives need to be actionable, science led and with clear benchmarks and centred on the use of stakeholder values (the things that matter to people with regards to the reintroduction). These will range from the core biodiversity and nature recovery goals of government through to the additional welfare and socioeconomic considerations that scale local scenarios (e.g. hedgehog conservation across London) to UK wide scenarios (e.g. beaver or pine marten management between Scotland and England). These values are at the heart of any conservation decision and should be made explicit. The best way to ensure the role of reintroductions is appropriate at any scale is through applying the English Code for Reintroduction and Other Conservation Translocations – from herein referred to as the English Code [DEFRA 2021] and, importantly, doing so within a structured decision-making framework as the code encourages. Structured decision making, or decision science, promotes a values-focused approach (i.e. objectives-led approach) to our management (Hemming et al., 2022, Ewan et al., 2023) that supports the use of the best available evidence. In short, if reintroductions, or for that matter any other form of conservation translocation, is predicted to best achieve our objectives then it should be encouraged.

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

Benefits can only be measured, contextualised, and understood when measured against a clear set of project objectives that span across biodiversity and nature goals alongside welfare and socioeconomic

considerations. To maximise achieving these objectives, there should be careful consideration of both reintroduction and non-reintroduction alternative strategies. Where appropriate this should also include comparisons across a range of candidate species for reintroduction and destination sites where they could be released. It is likely these decisions will occur at different scales that can help drive a broad prioritisation from government on a national level through to more regional efforts. On smaller scales the overarching priorities of government can be made available and more visible to help ensure that efforts made on a local level ideally scale to larger benefit whilst recognising that some project objectives may differ.

There are four key tools and approaches the government should embrace to aid in the maximising of potential benefits:

1. Embracing the need for multi-stakeholder strategic planning and delivery:

Approaching strategic planning as described here requires specialist support from decision facilitators and analysts, as well as representatives from across the interested and affected stakeholders of reintroduction projects. Reintroduction programmes can often involve highly emotive scenarios, divergent objectives across stakeholders and high levels of uncertainty and risk. This frequently results in disagreement. Investing well in the planning and decision-making process can help navigate this to an agreed best decision on any reintroduction. Agreement across stakeholders better ensures project benefits will be met and provides a clear path to achieving them.

Vitality, to maximise benefits from species reintroductions there is a need to first understand what benefits stakeholder groups (including the local community) would like to see from a reintroduction and how they would define success (i.e., their values with regard to the decision). For example, the local community may wish for increased nature tourism to boost their local economy, or farmers may want crop benefits such as pollination, whilst an NGO may be seeking to maximise benefits to other biodiversity in the area and so on. Without understanding the values and explicitly including these into the decision process as objectives, then it would be difficult to maximise benefits.

2. The necessity of long-term investment.

The majority of reintroduction projects will require ongoing commitments for the medium to long term. Reintroductions rarely end at the point of release and post-release management may well be key including continued engagement and decision-making with stakeholders. Government leadership and resourcing to ensure that reintroductions are supported through until populations have successfully established and other project objectives are achieved would be highly advised.

3. Understanding, reducing, and mitigating risk

To maximise these potential benefits, risks must be anticipated, investigated and mitigated. Although species reintroductions can play a role in the biodiversity and nature recovery goals there are risks in doing so (e.g. the possibility of ecological, genetic, economic or disease risks). For example, evidence from wildlife translocations in general show that major epidemics of disease can occur as a result of wildlife movements, and these have led to extinctions. For example, squirrelpox virus, carried by introduced grey squirrels, has been associated with extinctions of red squirrel populations in the UK (Sainsbury et al 2020).

In the case of risks from disease, a disease risk analysis (DRA) can be carried out as recommended by the IUCN/OIE guidelines. Post-release health surveillance is advisable to ensure that, if diseases occur, they can be mitigated, and future disease risk analysis amended. The use of post-release

monitoring should be incorporated into reintroduction plans, with careful consideration needed about what kind of strategic monitoring will be needed and its cost implications.

The risk of disease can be minimised through the use of the English Code and the IUCN guidelines. ZSL can provide assistance in the application of these guidelines including services such as structured decision making to conservation translocations and disease risk analysis. For example, ZSL has devised a method of DRA dedicated to species reintroductions which has been published, contributed to the IUCN/OIE guidelines and is available for any reintroduction manager to use (Sainsbury and Vaughan-Higgins 2012; Bobadilla Suarez et al 2017; Sainsbury and Carraro 2022). ZSL also offers a course on DRA for species reintroductions, and would encourage such trainings as a central part of reintroduction initiatives as a low-cost way of increasing the viability of such initiatives. Furthermore, [ZSL also leads a training course](#) on the practical application of the [IUCN reintroduction and other conservation translocation guidelines](#).

In addition, for government to maximise the potential benefits from species reintroduction, species reintroductions which do not follow best practice in disease risk analysis (and other aspects of the IUCN SSC Guidelines for Reintroductions and other Conservation Translocations) should be strongly discouraged through policy changes and communication methods. Species reintroductions have recently been carried out where the risks from disease have not been considered and best practice guidance has not been followed with the risks from disease either ignored or given little attention.

4. Integration into existing planning schemes and systems

Maximising benefits from species reintroductions could also be aided and streamlined via the integration of reintroduction planning into landscape planning schemes such as Local Nature Recovery Strategies (LNRS). If an LNRS has used a Systematic Conservation Planning approach, there will be a stakeholder group already in place along with their objectives for the landscape. LNRS would be a good starting point to consider species reintroductions, as it could encourage a more holistic consideration of our future landscapes. By considering species reintroductions both from a species restoration and a landscape restoration point of view, and while explicitly considering (possibly conflicting) stakeholder objectives, it reduces the likelihood of reintroducing species in the wrong locations alongside the reduction in a range of other risks associated with local societal, ecological, and economic needs.

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

Given that in 2021, 71% of UK land was managed by land managers and farmers, land management policies must provide an enabling environment for successful species recovery efforts. Otherwise, there is a strong risk that policies to promote land management practices might compete with or contradict those that promote species recovery, with the potential consequences of costly failures. ELMS has presented the opportunity to revolutionise land management with the move away from production subsidy to support for the provision of a broad range of services. This can include biodiversity recovery. As priority species are identified for recovery, there will be a series of broad land management requirements to provide sufficient suitable habitat for the restoration of long-term viable populations. This will include land management that provides necessary habitat during different parts of the year and the creation or maintenance of this habitat, or use of practices that minimise negative impacts, should form part of support mechanisms under landscape management programmes. As such, the integration of reintroduction initiatives into LR and LNRS could be an effective method maximising benefits and co-benefits from both ELMS and species reintroductions.

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?

At the time of writing, the new English Code for Reintroduction and Other Conservation Translocations (DEFRA 2021) has only recently been published with the associated English Reintroduction Task Force due to convene for its first meeting in early 2023. Both the Code for Reintroductions and the taskforce have developed as a national interpretation of the IUCN SSC Guidelines for Reintroductions and Other Conservation Translocations (alongside a similar combination of code and forum in Scotland which has been well received). Although it is too soon to judge the effectiveness of this guidance as it has been published so recently, ZSL is encouraged with this step up in leadership and guidance, especially as it compares with the less centralized guidance that has existed in the past. ZSL hopes to see continued progress as the code is more widely adopted and used and the task force establishes and defines its remit and is increasingly embedded in the processes and guidance of managing species reintroductions.

Government policy and the English Code has been effective in ensuring that species reintroductions under Natural England's (NE) oversight have been monitored for health and disease according to best practice, for example where a licence is required. Unfortunately, the legislative powers available to NE do not enable it to prevent unmonitored reintroductions from occurring. For effective reintroduction initiatives to be successfully implemented and monitored, ZSL suggests it would be advisable to scrutinise the legislative arena available to NE, introducing new legislation, if necessary, to ensure that all species reintroductions are encouraged to follow best practice.

What improvements can be made in how local communities, landowners and other land users are engaged and consulted on reintroduction proposals? What practical steps can be taken to reduce conflict with these groups?

Reintroduction projects should be encouraged both top-down from government and bottom-up from local communities, landowners and other land users. In all cases the values across all affected parties should be carefully considered. The best way to do this is within a multi-objective (i.e., values focused), planning process. This can be actioned through the use of structured decision making as clearly stated within the English Code. Structured decision making ensures that the values of all these stakeholders are recognised. Reintroduction and non-reintroduction alternatives are then directly built and assessed against these objectives using the best available knowledge and fully recognising our uncertainty, and hence risk, in these choices. This approach provides the platform for constructive discussion between stakeholders and goes a long way to reduce conflict between these groups. A highly practical step for government would be to encourage multi-stakeholder workshops or working groups on any reintroduction project, as well as providing support with specialist facilitation and decision analysis.

The inclusion and involvement of local groups can and should take place not just during the consultation phase, but through to implementation and long-term monitoring. For example, local groups can be engaged in assisting with post-release health surveillance (and indeed other monitoring activities) of some reintroduced species. This is a time consuming but vital activity for the monitoring of the health of species post-reintroduction and improving our understanding of threats from disease. The involvement of local groups encourages ownership and protection of the reintroduction, habitat, and long-term success of the project.

Additionally, to increase likelihood of long-term success from species reintroductions, a key practical step is identifying and engaging stakeholders who will be affected by the reintroductions (particularly for large or

carnivorous species) and doing this before the decision process begins rather than during or after the fact. A good example of robust stakeholder engagement was carried out recently in Scotland to assess social feasibility of reintroducing lynx ([The Lynx to Scotland Project: assessing the social feasibility of potential Eurasian lynx reintroduction to Scotland](#)). To maximise success of the planned reintroduction, the decision process would then seek to bring critical stakeholders into the process by explicitly recognising and integrating their values and objectives for the landscape, preferably using [Structured Decision Making](#) techniques (McMurdo Hamilton et al., 2021). Aside from stakeholder workshops as part of the decision making process, another practical and effective step to garner wider community support is to communicate clearly and frequently with the wider community in ‘town hall’ meetings, where anyone can attend, hear updates and ask questions (for example, [informative webinars](#) were carried out during the Water Resources East project, particularly for the steps of Systematic Conservation Planning). Preferably these would run through the reintroductions too.

How could the development of long-term management plans and regulatory regimes for reintroduced species control be improved?

In many reintroduction cases, ongoing management, including monitoring, will be required to ensure project objectives are met. This is certainly the case with wildlife management where there is commonly substantial uncertainty in how biological systems operate and how management will improve them. Management should be clear and strategic to ensure that interventions result in improved ability to achieve desired objectives in the long term. For example, adding supplementary feeding to improve survival and productivity in a reintroduced population such that the establishing population grows faster and has a higher establishment probability (a common biological objective). These management to outcome links are not always certain and we should apply adaptive management where appropriate to address this.

Adaptive management requires predictions to be made about management outcomes alongside the use of integrated monitoring to allow for the comparing of predictions to the reality of what takes place on the ground and adjusting actions as needed. Monitoring in this sense is targeted to the key aspects of the system that matter for improving management and ensuring the project objectives are being achieved. This approach is often encouraged but rarely strategically implemented. ZSL would encourage the government to develop strategic management plans that clearly link management action to programme objectives and specify strategic monitoring to best ensure they are achieved. This should be done in partnership with external experts who have successfully designed and run species reintroduction programmes such as ZSL. This is as opposed to broad scale monitoring with little strategic purpose or where monitoring cannot provide the information required to improve management as time goes on.

For example, long-term health and disease surveillance of reintroduced populations is particularly important given the risk from disease. Diseases which develop following translocations can take many decades to develop and therefore long-term monitoring is required for reintroduced populations and sympatric species. Reintroduction programmes therefore represent a major commitment in resources and planning must be very carefully conducted. Examples of long-term health monitoring of a reintroduction programme are provided by Sainsbury et al (2016).

What can the government do to help prevent unregulated species reintroductions?

There are two main options available to government in the task of preventing unregulated, poorly planned or inappropriate reintroductions.

Firstly, a non-regulatory approach could be taken, by encouraging all practitioners considering a reintroduction to draw on the English Code and to seek advice from the English Reintroduction Task Force.

This approach requires those leading unregulated species reintroductions to be willing to engage with these helpful government initiatives. The government actively promoting these resources to practitioners would aid in the take up of the Code and utilisation of the expertise of the task force. Unfortunately, this may not be possible in all cases, as those doing unregulated reintroductions will include both practitioners who are unaware of the support and guidance available and those practitioners who choose to work outside that guidance.

A second, regulatory focused, option should be strongly considered. That being the creation of new legislation regulating reintroduction activities and ensuring good and appropriate practice takes place. Such regulation is already in place across several countries worldwide. In the case of New Zealand, permits are required for all native species reintroductions, and it has proven to be an effective way of enabling government to stop inappropriate reintroductions.

For ZSL, we have experience of working in countries where government approval is needed from a relevant government agency for any reintroduction. In the case of New Zealand for example, ZSL works closely with the government Department of Conservation on a range of species reintroduction projects. In all cases a translocation permit is required and a clear process for how to obtain it that includes stakeholder consultations as well as working through the risks and benefits of the reintroduction and required post-release monitoring. In our experience this works exceptionally well and helps ensure good practice is followed and poorly thought through reintroductions are prevented or improved at an early stage.

Domestically, ZSL would advise the creation of legislation requiring reintroductions and translocation initiatives to receive a permit/permission from government as a way of ensuring the best possible practice. A regulatory approach would ensure that all risks and benefits are considered in the planning and implementation stage, alongside an opportunity to review success as time goes on with post release monitoring

In addition to these options, government can help to increase awareness of the risks (from disease, but also other issues), and mitigation measures available, through a range of options including:

- i. Communication campaigns for the public and improved information for Defra and NE staff. The promoting of public awareness of the risks and challenges associated with reintroductions is an action that could be taken by the government to reduce the frequency of members of the public making small-scale reintroductions (for example with hedgehogs) without awareness of the implications. Such public information campaigns could be a useful non regulatory tool and could draw on cases from other parts of the world in showcasing the impacts that reintroductions have had when they were not part of a considered reintroduction plan.
- ii. Developing research programmes on the detection and analysis of threats and mitigation methods. It is difficult to monitor the health of many wild species following reintroduction due to their size and behaviour, and disappearance following sickness or death. As such, a funded resource initiative could inspire and trigger novel methods of monitoring. Dissemination of these research findings would in turn encourage other reintroduction managers to use the best available methods and ensure best practice is evolved in line with new learnings.

What lessons could the UK government and Natural England learn from reintroductions in other jurisdictions, the UK and Europe?

It is a positive step that Natural England is already taking lessons learnt from the IUCN and Scotland by translating those global and national codes into an equivalent for England. In both the IUCN SSC Guidelines for Reintroductions and Other Conservation Translocations and the new English Code there is a clear

encouragement to drive decision and implementation of reintroductions within a structured decision-making framework.

For example, such structured decision making processes are encouraged in the USA with support often provided via the United States Geological Survey. In New Zealand there is increasing application of structured decision making via the Government's Department of Conservation (McMurdo Hamilton et al., 2021). In many cases this has resulted in conservation action after years of stalled action arising from stakeholder conflicts. Considering the progress made in these countries, key learnings and approaches could be taken and implemented at the UK level. In the case of rewilding initiatives - where re-wilding involves species reintroductions the same principles of best practice for planning, implementation and monitoring should also be used.

In addition, the UK government could consider the legislation around movement and release of native and non-native species. As the world continues to change, more novel conservation translocation options may become necessary including assisted colonization and ecological replacements. These may include non-native species. Across the entire spectrum of conservation translocations there may need to be careful reflection of the legislative controls in place, or currently lacking, which is leading to irresponsible action. As the government promotes globally recognised good practice and resources to implement best practice, it could also start to enforce those unwilling to follow it. ZSL would encourage legislation requiring practitioners use the best practices discussed in this submission for all reintroductions (or other conservation translocations). This focus on process, which is then evaluated by government, rather than naming particular species where different rules apply is preferred from our point of view. That way each case can be most clearly judged on its merits rather than some being blocked without consideration, allowed after licences are provided or completely slipping through any regulatory framework checks.

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