Interventions, such as reintroductions, and other conservation translocations, undertaken under Natural England’s Species Recovery Programme (SRP) adhere to the IUCN Guidelines for Reintroductions (IUCN 2013). The IUCN Guidelines advocate disease monitoring at all stages of a translocation. A series of publications on best practice in planning and implementing translocations advise that a disease risk analysis (DRA) should be built into a translocation programme (Davidson & Nettles 1992; Leighton 2002; Miller 2007; Sainsbury & Vaughan-Higgins 2012) and, indeed, IUCN have produced a guideline for this purpose (OIE and IUCN 2014; Jakob-Hoff et al 2014). A DRA provides a logical, reasoned assessment of the risk that disease presents to the translocated and recipient populations in the translocation programme and sets out measures to mitigate these risks. The Zoological Society of London (ZSL) carries out disease risk analyses for translocation programmes, and other interventions, including those undertaken for the SRP and has published a DRA method for conservation translocations based on this work (Sainsbury and Vaughan-Higgins 2012) which contributed to the IUCN Guidelines (OIE and IUCN 2014).

The degree of work involved in completing a DRA is dependent on (i) information available on previous DRAs carried out for the same, or a taxonomically similar, species, (ii) the level of understanding of the diseases of the species concerned, (iii) whether quarantine barriers are in place, and, most importantly, (iii) whether the translocation crosses geographical or ecological barriers. The risk of disease to translocated animals or recipient populations is probably greater if a translocation crosses ecological or geographical barriers (for example, the translocation is from one continent to another, or involves captive animals bred in a zoological collection) because recipient populations are more likely to be exposed to novel parasites (Bobadilla Suarez et al 2017).

As a general guide, approximately two years should be allowed for DRAHS to carry out a DRA on a species translocation proposed for England which (i) crosses geographic or ecological barriers, (ii) has not been considered before and (iii) where there is relatively little understanding of the diseases in the species. The DRA process is time consuming because it involves a detailed literature review, making contact with other veterinary and human health specialists, detailed analysis of each of the hazards, and we must ensure that the recommendations are practical for the species concerned. At the other extreme, DRA for wild to wild translocations, which do not cross geographic or ecological barriers, will be relatively easier to carry out. If early analysis suggests there is a need to screen animals in the source or destination populations for the detection of parasites to inform the DRA, this testing is likely to considerably increase the length of time needed. Given the other demands on the DRAHS team that carries out DRA for the SRP, discussions on DRA will best start well in advance of the planned date of translocation.

At an early stage it is important that the objectives of the DRA are agreed at a meeting between the principal stakeholders or steering committee for the translocation and the team conducting the DRA, and a plan with deadlines agreed. In order to make a start on the DRA, the translocation plan or pathway needs to be clear so that the presence of barriers can be elucidated at an early stage. The translocation pathway will probably include information on, for example, the source and destination of the animals, where they will be held in captivity (if at all), their age, the number to be translocated, transportation plans, and whether captive rearing will be involved. Since this information is also likely required to meet IUCN guidelines little additional work is usually required.

Once a DRA has been completed it can be used by the steering committee and the regulatory authorities as one component of their cost-benefit analysis of the translocation. We can help with further advice at any stage in the process.

If the steering committee decides translocation remains a good option for conservation, and the regulatory authorities approve it, DRAHS will produce a disease risk management and post-release health surveillance protocol (DRM and PRHS protocol). This is likely to include hygiene, quarantine, preventive medicine and therapeutics and health monitoring: all important considerations before commencement of the translocation.
The risk from zoonotic disease is also considered. DRM and PRHS enable information to be gathered on the success of a translocation from a health perspective and to improve subsequent translocations of the same species. A visit to the potential capture, rearing (if appropriate) and release sites will probably be required in order for the planning of quarantine and hygiene requirements and to assess the risks presented by other animals present at these sites. As an approximate guide, six months should be allowed for the DRM and PRHS protocol to be produced and discussed with stakeholders.

For further details of these processes, a recently undertaken DRA, and a DRM and PRHS protocol can be provided by ZSL. We are also happy to discuss the process at any stage. Please contact DRAHS@zsl.org for further information.

References


Q & A

Should a Disease Risk Analysis (DRA) be completed for all translocations?
Yes, but the work involved will vary widely between projects.

How far in advance does the DRA need to be completed?
To avoid delay contact us two years before your intended translocation is due to commence. Most DRAs will not take this long to complete. If a translocation of the same species has been conducted before and a DRA is available, or the translocation does not cross geographical or ecological boundaries, the DRA can be completed more quickly.

What DRA technique is used?
Our DRA method has been published by Sainsbury and Vaughan-Higgins (2012), Bobadilla Suarez et al (2016) and Rideout et al (2017). The version of simplified DRA used when a translocation does not cross ecological or geographical boundaries has been described by Masters and Sainsbury (2011).

Will animals need to be screened for parasites and pathogens?
The need for screening depends on the results of the DRA. Where we have a poor understanding of a species parasites and diseases, and the translocation crosses ecological or geographical boundaries, screening is more likely to be required.

What does the DRA process involve?
It varies in each case but we are likely to need to visit the key locations for the translocation: the source and destination populations and, if relevant, the site of captive breeding. Thereafter, the work involves literature review and desk-based analysis for most projects. A report will be submitted to the translocation’s steering committee.

Who acts on the results of the DRA?
It is for the steering committee of the translocation to judge whether the benefits of the translocation outweigh the risks of disease occurring as a consequence. We will keep the relevant steering committee regularly updated and are available to discuss progress.¹

What happens after the DRA has been delivered?
In all translocations some mitigation measures are advisable to reduce the risk of disease. A Disease Risk Management and Post-Release Health Surveillance (DRM and PRHS) protocol will be developed before the translocation commences.