



Road Map Resource Pack

FOCUS ON SEVERE SUFFERING

**PART 1: INTRODUCTION AND
PROSPECTIVE REVIEW**

2nd edition. March 2016



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Animal Technology

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PART 2: PROSPECTIVE REVIEW

2nd edition. March 2016



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PART 3: ONGOING REVIEW

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PART 4: RETROSPECTIVE REVIEW

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RSPCA Road Map sheet 1: Lifetime experiences – guidance notes

Below are examples of the kinds of questions you might like to consider with respect to the factors listed in sheet 1. For further information, see also RSPCA Lay Members' Handbook pages 32-33 (refinement).

Sourcing – where will the animal come from? If an external breeder, how do the standards of housing, husbandry and care compare with those at the user establishment? At what age are juvenile animals separated from the dam ('weaning')? How does 'weaning' age compare with good practice guidelines, other facilities, and/or the age at which they would separate in the wild (as appropriate)? If bred in-house, at what age does separation from the dam take place? What measures are in place to ensure that supply meets demand and wastage is minimised? (If there are any surplus animals, what happens to them and why?)

Transport – is this avoided wherever possible, or are journeys refined so as to minimise stress? Are recovery times following transport adequate from both animal welfare and scientific aspects?

Marking for identification – is this minimally invasive and fully refined?

Biopsy for genotyping – is the minimum amount of tissue taken, or could non-invasive techniques be used? Could biopsy be combined with identification (e.g. ear punching in rodents)?

Housing – is a good quality and quantity of space provided, with appropriate group housing (for social animals), environmental enrichment and adaptations for animals affected by procedures (if necessary)?

Husbandry and care – is this sympathetic to the animals' behavioural and sensory adaptations, e.g. are light regimes appropriate for the species, does cage cleaning try to accommodate scent markings and is sufficient recovery allowed before procedures?

Capture, handling and restraint – is it recognised that these can be stressful and are all suitably refined, including minimising episodes of restraint or using positive reinforcement training? The UK NC3Rs has a [resource](#) on this topic.

Humane killing – has the least distressing method been chosen, or has the 'default' at the establishment been selected? Could the technique be refined?

It is important to keep up with current good practice in relation to refining all of the above, acknowledging that ranges of experience and knowledge are required to identify, interpret, implement and evaluate refinements. A designated individual such as the Named Information Officer or the AWERB/AWB should be responsible for ensuring that new information on refinement, animal behaviour and biology, and relevant scientific developments is available for review within the facility.

RSPCA September 2015

RSPCA Road Map resource sheet 1 – to complete before the project has started

Predicted lifetime experiences (not including procedures)

Project licence number	
Protocol number	

Factor	Experience of the animal	Welfare issues	Ways of mitigating these
Sourcing			
Transport			
Marking for identification			
Biopsy for genotyping			
Housing, husbandry and care			

RSPCA Road Map resource sheet 1 – to complete before the project has started

Capture, handling and restraint			
Humane killing			

Note: This sheet should be edited and tailored to the species and different factors that may apply under different circumstances. Factors may need to be added, edited or deleted.

Predicted lifetime experiences (not including procedures)

Project licence number	7076/54
Protocol number	1

Factor	Experience of the animal	Welfare issues	Ways of mitigating these
Sourcing	<i>Mice are bred in-house. Supply and demand are carefully matched and animals provided with litter, nest boxes and nesting material. Cages are cleaned weekly.</i>	<i>Distress due to separation of dam and pups at weaning.</i>	<i>Ensure removal from dam is appropriately timed and keep litters together wherever possible. Review frequency of cage change (e.g. fortnightly?) to ensure cage is sufficiently clean but with minimal disturbance.</i>
Transport	<i>Once, between rooms within the same building before procedures begin.</i>	<i>Stress and anxiety due to movement.</i>	<i>Move in home cages, minimise distance, think about timing, ensure sufficient time to recover before any other interventions or procedures.</i>
Marking for identification	<i>Animals are identified using microchips, which involves capture and restraint for insertion.</i>	<i>Distress due to restraint, short term pain of chip insertion.</i>	<i>Trial less aversive capture techniques (see below). Research pros and cons of sedating or anaesthetising mice. Ensure adequate checks in case of longer term discomfort.</i>

RSPCA Road Map resource sheet 1 – to complete before the project has started

Biopsy for genotyping	<i>N/A</i>		
Housing, husbandry and care	<i>Mice are housed in groups of 3 in standard mouse cages with litter, refuges, nesting material and chew blocks. Cages are cleaned weekly.</i>	<i>Space restrictions in standard size caging. Some fighting observed, especially in males, after cage cleaning.</i>	<i>House mice in (empty!) rat cages to provide more space. Trial transferring some litter (not nesting material) from the soiled to the clean cage. Supply males with extra nesting material and remove refuges. Review cage cleaning intervals.</i>
Capture, handling and restraint	<i>Mice are caught and restrained by the tail.</i>	<i>Research indicates that this is distressing and causes anxiety.</i>	<i>Catch mice in cupped hands or tunnel – see NC3Rs resource.</i>
Humane killing	<i>Moved within home cage to chamber where they are exposed to a rising concentration of carbon dioxide.</i>	<i>Stress of being moved to chamber. Distress due to 'air hunger' as concentration increases.</i>	<i>Move to anaesthetising with minimally invasive gaseous agent before switching to CO₂. Research possibility of introducing CO₂ into home cages if housed in IVC.</i>

Note: This example is for guidance only and intended to give an indication of some of the points and factors that could be discussed when conducting this part of the review.