ANIMAL RESEARCH REVIEW PANEL

ANIMAL RESEARCH APPLICATION FORM (MODEL)

Guideline 12: Updated February 2023

GENERAL INFORMATION

It is the personal responsibility of investigators and teachers to meet the requirements of the Australian Code for the Care and Use of Animals for Scientific Purposes (The Code) for all matters that relate to the wellbeing of the animals that they use, including their housing, husbandry and care.

The governing principles of the Code direct that respect for animals must underpin all decisions and actions involving the care and use of animals for scientific purposes. This respect is demonstrated by:

(i) using animals only when it is justified
(ii) supporting the wellbeing of the animals involved
(iii) avoiding or minimising harm, including pain and distress, to those animals
(iv) applying high standards of scientific integrity
(v) applying Replacement, Reduction and Refinement (the 3Rs) at all stages of animal care and use
    (a) the Replacement of animals with other methods
    (b) the Reduction in the number of animals used
    (c) the Refinement of techniques used to minimise the adverse impact on animals
(vi) knowing and accepting one's responsibilities.

Animal Ethics Committees (AECs) are responsible for ensuring, on behalf of the institution for which they act, that all activities relating to the care and use of animals are conducted in compliance with the Code. The AEC must review applications for projects and approve only those projects that are ethically acceptable and conform to the requirements of the Code. This also applies to review of applications for activities associated with the care and management of animals in facilities, including procedures applicable to breeding programs integral to the maintenance of an animal line (refer also to Animal Research Review Panel Guideline 16: Animal Ethics Committee supervision of obtaining, breeding, keeping and supplying animals for use in research).

The application form used by an AEC should therefore assist the investigator in providing the AEC with all the relevant information to make a judgement as to whether a proposed use of animals is ethically acceptable, demonstrating the governing principles, and balancing whether the potential effects on the wellbeing of the animals involved is justified by the potential benefits.

The application must be written in plain English, in a way that *explains research, education or care activities so that a layperson will be able to understand*. As such it is important that the information is presented in a way that shows clearly what is happening to individual animals from the beginning to the completion of a project, and the potential impact of all procedures on animal wellbeing needs to be clearly detailed.

This may include the provision of an explanation of all treatments (substances, dose rates, routes, volumes, anaesthetics, surgical procedures etc) and their expected effects, and flow charts or sequence of events tables. In addition, non-experimental factors that will impact on animals such as housing (type, duration, species specific environmental enrichment etc) must also be explained.

The application must also explain clearly why the use of animals is justified. Where possible, the maximum number of animals proposed to be used must be accompanied by justification that validates the numbers proposed. The application must also detail that the qualifications of personnel are suitable for the procedures to be performed, that they are competent for the procedure they perform, or be under the direct supervision of a person who is competent to perform the procedure.

Under the Code, institutions that establish an AEC must develop an application form for applications for AEC approval to commence a project or activity. The Code specifies that the application form must allow the applicant to provide all the information outlined in clause 2.7.4, as appropriate to the circumstances.

Additionally, in NSW there are legislated requirements that must be met when applying for an animal research authority under the Animal Research Act 1985 (see sections 25A and 25B, and clause 8 of the Animal Research Regulation 2021).

The following template is therefore provided for institutions to address the requirements of NSW legislation and the Code. The form can be expanded on to address any specific needs of the institution or its AEC with examples as appendices to the application for Agricultural/ Industry/ Veterinary applications, Wildlife and Breeding applications.

ANIMAL RESEARCH APPLICATION FORM (MODEL)

ADMINISTRATION

Project Overview

Title of Project

Purpose(s) of the Application

- Research
- Education
- Breeding
- Production
- Diagnostic Testing
- Product Testing

Purpose code

Select the most appropriate Purpose Number (A1-A10) to describe the primary purpose of the project (only one purpose may be entered for each project)

Reason for Application

- New Project
- Continuation of Expired, or soon to expire, Animal Research Authority (ARA)
- Notification of Approved project by External AEC

Procedure

Enter the highest appropriate Procedure Code (P1-P9) to describe the type of procedures carried out on the animals in the project. Include additional codes for each procedure category where different animals within the same project are subjected to different procedure categories.

Proposed start date

Projects can only commence after they have been approved by the AEC and a valid Animal Research Authority (ARA) has been issued and must correlate with a date occurring after the next scheduled AEC Meeting.

Proposed end date:

For projects expected to be over 12 months in duration, note that an ARA can only be issued for a maximum period of 12 months in accordance with the Animal Research Act 1985. Investigators must ensure they re-apply for an ARA every 12 months to comply with the legislation and annual reporting requirements in the Code.

Investigators

Details and Training

Chief Investigator

Full name:	
Position:	
Email:	
Phone numbers:	

(NB: must be contactable for animal emergencies)	
Qualifications/relevant experience:	
Date of last completion of Animal Welfare and Ethics training course	

Internal investigators:

Full name:	
Role:	Drop down list: Co-investigator Facility supervisor Honours student Masters student PhD student Other Project coordinator/administrator Research Assistant Supervisor
Position:	
Email:	
Phone numbers: *(NB: must be contactable for animal emergencies*)	
Qualifications/relevant experience:	
Date of last completion of Animal Welfare and Ethics training course	

Specific Duties, Experience and Technical Competency

List the specific duties that each person will perform on the protocol, their current level of experience and confirmation of technical competency in each duty.
For personnel who will perform multiple procedures, list each procedure in a separate row.

Name of personnel	**Species specific duties/tasks**	**Level of recent experience**				**Date procedure was last performed and name of experienced person(s) who confirms technical competency or who will supervise if required**
		Nil	Low (<20)	Med (>20)	High (>50)	
EXAMPLE *Anna Smith*	*EXAMPLE* *Rat anaesthesia*	x				*EXAMPLE* *Not undertaken prior. To be supervised by Dr Tim Jones*
EXAMPLE Assoc Prof. Peta Roberts	EXAMPLE Bird banding				X	EXAMPLE Last undertaken 12/12/2022. Competency confirmed by Prof Alice Simpson

Offences

Have any personnel participating in the proposed project been convicted in the last 3 years of an offence under:

a) Animal Research Act 1985 or Regulations? YES/NO
b) Prevention of Cruelty to Animals Act 1979 or Regulations? YES/NO
c) National Parks and Wildlife Act 1974 or Regulations? YES/NO
d) Exhibited Animals Protection Act 1986 or Regulations? YES/NO
e) Biosecurity Act 2015 or Regulations? YES/NO
f) Any equivalent Commonwealth, other State or Territory Statute or Regulations? YES/NO

If you answered YES to any of the above, please provide details of the offence and any penalty imposed.

Prior Authorities

Have any of the people participating in the project had any animal research authority or animal supplier's licence cancelled?

If YES please provide details including the name of the person, the date on which the authority or licence was cancelled, who cancelled the authority or licence and the reason for the cancellation.

Prior submission to this or another AEC

Has any substantial component of the described protocol been submitted to this AEC or another AEC (previously or currently)?

If YES, provide the name of the AEC it was submitted to (and reference number if applicable), the date of previous submission, a brief description of the previous submission and why this is being submitted again. If the application was not approved, please provide the date this occurred and a summary of the reason for its rejection.

Collaborations

Does this project involve collaboration with other institution?
You will be required to provide a copy of the Institutions Approved ARA and application form.

Select the type of collaboration:

- Projects that will be carried out at more than one institution
- Collaborating investigator external to the Institution
- Animal being housed or moved to and from another institution during project
- Similar projects being conducted simultaneously at more than one institution
- Staff/Student performing research at another institution
- Other collaboration not listed above (please detail collaboration)

List all institutions involved, the contact person (CI at other institution), and the AEC who is responsible for overseeing the project at the external institutions (if applicable)

Please provide copies of any collaborative agreements between the Institutions (if no agreements are available, justify)

External investigators:
Select 1 of the following for each person you list below:

- Co-investigator
- Facility supervisor
- Honours student
- Masters student

- PhD student
- Other
- Project coordinator/administrator
- Research Assistant
- Supervisor
- Research Assistant
- Trial co-ordinator
- Undergraduate student

Please list all specific duties / tasks the person will undertake in this project and indicate their level of experience / expertise in these procedures relating to the species relevant to this project.

Location

Identify locations

List all locations (at the institution and where applicable external) where research / teaching involving animals will be conducted (including where experimental procedures will be performed, and where animals will be collected).

For multiple locations, outline clearly which procedures/activities will occur at which locations.

For sites external to this institution, identify all locations (in NSW, interstate or overseas) where research / teaching involving animals will be conducted including where experimental procedures will be performed, and where animals will be collected) including full street address, state and country and confirmation that all sites are approved to hold/use all species relevant to this project.

Where the location might be a geographical area (such as a National Park or Marine Park), please provide the name of the area, the state (and country if outside Australia) in which it is located and indicate the number of sites in each geographical area that will be used.

Emergencies

Who will be responsible for the management of emergencies at each location and how will it be ensured that the person/s can be contacted in the event of an emergency?

License requirements

Does the project involve native, imported or protected species?
{If yes, relevant licences will be required}

Financial Support

Grant Funding

Is the proposed work related to a grant application?
Please provide details of the grant application
Has the grant been awarded/funded?

Other funding

Is there any other source of funding?
If yes, provide details:

Restrictions

Are there any restrictions on publication and/or release of data or results imposed by any of the funding bodies? If yes, provide details:

PROJECT DESCRIPTION

Project overview

Describe the aims of the project in lay terms.

Briefly describe the aims of the protocol in scientific terms

Repetition

Does the project repeat previous experiments?

If yes, please explain the requirement for replication?

Continuation

Is the project a continuation of prior work conducted by any of the listed investigators?

If yes, list up to five(5) of the most relevant publications/ presentations, remembering to:

- Provide the full reference
- Add a brief statement (max 3-4 sentences) summarising the outcomes and impact or significance

If no relevant publications exist, briefly summarise progress to date

Animal usage details

Species

What animal species are being used in this research or teaching project?
Hyperlink to relevant list

Strains

What is the strain/s of the animals that will be used during this?
For uncommon strains, please include a brief description of the genotype/phenotype and any special features.

What sex of animals will be used during this project?

- ☐ Male
- ☐ Female
- ☐ Mixed/unknown

Justify the choice of the species/or strains and sex specified above

The validity and relevance of a proposed animal model must be detailed and evidence provided to the support the validity of an animal model being used [1]

What is the target age or age range of the animals or target size (length or weight) or size range of the animals that will be used during this project?

Are there any inherent conditions that could negatively impact the health and wellbeing of this strain of animal?
E.g., dermatitis, prolapse, fighting wounds, tumours, known disease phenotype etc.
If yes, please provide details of the condition, expected frequency of occurrence and how this will be managed

Genetically Modified Animals

Does this research involve the use or breeding of a genetically modified strain?
If yes, provide details of the phenotype and any inherent conditions, expected impact on the animal's welfare and how this will be managed. Note Biosafety approval is required for the use of GMO animals.

Number of animals

What is the total number of animals required for this project (separated out into species and strain)?

The use of too few animals may lead to invalid or low-quality results and wastage of animals, and the unnecessary use of animals in future studies that build on invalid results. The use of too many animals is a potential unnecessary ethical cost to animals and waste of resources. Repetition of experiments to provide assurance about the validity of the observed effect must be essential for the study's statistical design (Code, Clause 1.23). [1]

Study Design

Explain how the number of animals was determined with an explanation of the study design. This should include sample size, the groups being compared, including control groups and the experimental unit (e.g., a single animal, litter, or cage of animals). Provide details of any a priori sample size calculation, and for hypothesis-testing studies, specify the primary outcome measure, i.e., the outcome measure that was used to determine the sample size [2]. Account for any expected mortality, failure to induce the model, humane endpoints etc. Include any training animals required for this protocol.

Source

From where will the animals be sourced/supplied?
Under NSW legislation, non-exempt animals must be obtained from a licensed animal supplier. Issues such as capture of wild animals or obtaining animals from remote sources that will necessitate prolonged transport will also need to be considered by the committee and the answer should be as complete as possible.

Permits

Do you require an import permit to bring animals from interstate or overseas?
If yes, please provide details of the species and from where it is being imported

Re-use

If animals have been or will be re-used in other experiments, summarise procedures that have been (or will be) carried out on the animals, and steps that will be taken to minimise impacts (e.g., rest period before reuse).

Sequence of Events

It is important to present this section so that it is clear what is happening to animals from the beginning to the end of the project and over what time sequence. Please provide a step-by-step overview of the experimental plan or timeline to indicate what will happen to each animal or group of animals.

It is important to include potential or expected impacts on animal wellbeing, for the duration of the project (from the time you obtain/encounter/are allocated the animals until the time the project is completed). This is distinct from an **unexpected adverse event** that may have a negative impact on the wellbeing of animals and was not foreshadowed in the project. For example: death of an animal, or group of animals, after a procedure or treatment, adverse effects in a larger number of animals than predicted during the planning of the project, a greater level of pain or distress than was predicted during the planning of the project or factors external to the project that have a negative impact on the welfare of the animals {Council, 2013 #5541}.

Include both experimental and non-experimental activities such as transport/arrival to facility, acclimation/training, experimental procedures (e.g., injections, anaesthesia, surgery, sample collection), euthanasia well as details of treatment substances, dose rates, routes of administration, anaesthetic and analgesic regimes etc.

Where possible, attach a flow chart or diagram to describe what will happen to the animals/groups of animals, indicating which procedures will be performed and in what sequence to the same animal(s).

Reference to SOPs may be acceptable if they have been approved by the AEC in accordance with the Code or are attached to this application.

The 3 Rs

Outline what consideration has been given to each of the 3Rs (Replacement, Reduction and Refinement) in developing this project

Replacement

Describe the alternatives to animal use you have considered and/or adopted to replace or partially replace the use of animals (the Code s.1.18-1.20)[3]. Techniques to replace the use of animals include the use of epidemiological data; physical and chemical analysis; computer, mathematical and inanimate synthetic models; simulations; in vitro systems; non-sentient organisms; cadavers; and clinical cases (Code, Clause 1.19). What feasible methods of testing the study's hypotheses including viable non-animal models and the use of less sentient were considered and has a systematic review of animal-based studies been considered where appropriate [1]

Reduction

Describe how you have minimised the number of animals used in this project. (the Code s1.21 – 1.27)[3]. Application of the principle of *reduction* enables the proposed aim(s) of the study to be achieved from fewer animals, whilst ensuring that sufficient animals are used to satisfy good statistical design (Code, Clauses 1.21–1.27). Application of the principle of *reduction* also enables more information to be obtained from a given number of animals so that fewer animals are used overall. However, *reduction* should not result in greater harm, including pain and distress, to the animals used (Code, Clause 1.24). [1]

Refinement

Summarise how you have refined methods in the research plan to minimise animals suffering and distress and improve animal welfare. Application of the principle of *refinement* involves the use of methods that avoid or minimise potential harm, including pain and distress, to the animals and enhance animal wellbeing (Code, Clauses 1.8–1.14 and 1.28–1.30) [3]. Animals with compromised wellbeing have disturbed behaviour, physiology and immunology that can lead to unreliable conclusions and/or unwanted variation in scientific output, affecting the reliability and reproducibility of studies. Refinement applies to all aspects of the care and use of animals, including their care and management as well as methods employed during their use [1].

HOUSING, HUSBANDRY AND ROUTINE CARE

Standards of animal housing and management can have a significant impact on animal well-being and thus on experimental results. It is therefore important that a full description of housing is provided. Reference to standard operating procedures (SOPs) may be acceptable if they have been approved by the AEC in accordance with the Code or are attached to this application.

Housing

How will the animals be housed? Include the type of cage/container, dimensions, bedding/substrate, and number of animals per cage. If housing will change during the study (e.g., reduction of group size, housing in divided cages post-operatively) ensure this is clearly explained. If housing is not in accord with current best practice, this must be specifically justified. Laboratory animals should not be housed singly unless it is essential, and this must be justified and approved by the AEC.

Diet

What diet will the animals be fed?
If this is a non-standard diet, explain why and any welfare implications.

Environmental enrichment

Describe the environment enrichment to be provided and if environmental enrichment is not to be provided in accord with current best practice, this must be specifically justified.

Transport

Does the project involve the transport of animals?

If yes, outline why animals must be transported, when and how frequently this will occur, and methods of transport. Reference to SOPs may be acceptable if they have been approved by the AEC in accordance with the Code or are attached to this application.

Is veterinary care and advice available?

Please provide details

Non-experimental morbidity and mortality

If applicable, please outline any expected non-experimental morbidity and mortality that may occur during this project (e.g., fighting wounds in mice). Please include, where applicable, descriptions of each condition, expected maximum rates (%) of animals that may be affected and the anticipated impacts on animal wellbeing and how these will be addressed/minimised.
Note: This does not include the planned euthanasia of an animal at the end of an experiment, or deaths of animals for any experimental causes.

MONITORING

The level of monitoring required will vary according to the type of research and animals used. Some of this information may have already been provided in answer to the question on impact but it should be repeated for the assistance of the committee. Details should include methods used and frequency of monitoring. Monitoring must be considered for all phases of a project and for all the following periods:

- during weekdays
- at night (if applicable)
- during weekends and holidays.
- in an emergency

Routine monitoring

Detail routine monitoring throughout the project (when not part of a procedure). Include who will be responsible for routine monitoring, its frequency and what will be checked including for example food, water and behaviour.

Procedures

Detail how animals will be monitored at the start, during and immediately after any procedures and/or experiments (until recovery).
For each stage of monitoring, outline who will be responsible, the frequency of the checks, and what will be monitored. Include any intervention/action points (including endpoints). Reference to SOPs may be acceptable if they have been approved by the AEC in accordance with the Code or are attached to this application. If your procedure/s will cause unrelieved pain and distress, including where the planned endpoints will allow severe adverse effects to occur, this must be specifically and strongly justified including why refinements to relieve pain and distress cannot be made. Attach monitoring sheets (e.g., anaesthetic monitoring sheet) if applicable.

Post-procedure

Detail and justify the ongoing monitoring of the animal's post-procedure/s
Outline who will be responsible, the frequency of the checks, and what will be monitored. Include any intervention/action points (including endpoints). Reference to SOPs may be acceptable if they have been approved by the AEC in accordance with the Code or are attached to this application. If your procedure/s will cause unrelieved pain and distress, including where the planned endpoints will allow severe adverse effects to occur, this must be specifically and strongly justified including why refinements to relieve pain and distress cannot be made. Attach monitoring sheets (e.g., post-operative monitoring sheet) if applicable.

Emergencies

Who will be responsible for managing emergencies, and how will you ensure they can be contacted?

ADMINISTRATION OF SUBSTANCES

If the project involves the administration of substances or compounds (including medications, anaesthetic agents and experimental compounds) specify the details of the research compounds/substances to be administered.
Include name, concentration, dose rate, preparation of substance (sterility, vehicle, any testing for purity/contamination etc), route of administration, needle size (if applicable), frequency and timing of administration

Generic name and concentration (on packaging)	
Reason for use	
Dose rate to be used (mg/kg)	
Concentration to be used (mg/ml)	
Total dose to be given (mg or ml)	
Frequency/timing to be administered	
Route of administration	
Needle size (if applicable) to be used	

END OF STUDY

Endpoints

Scientific endpoints

Specify the scientific endpoints of this project and state the reason for selecting these.

Humane endpoints

Other than scientific endpoints, what factors affecting the well-being of animals will lead to early intervention and pre-mature termination of the experiment (i.e. what are the humane endpoints?)*The Code requires investigators to determine criteria for early intervention and humane end-points.* [3].

Fate

What is expected to happen to the animals at the completion of the protocol?

- Euthanised
- Rehomed
- Released/left in the wild
- Returned to/left with owner
- Reused
- Sold
- Breeding protocol
- Sent to abattoir

Euthanasia:

Detail and justify the method/s of euthanasia that will be used and if a substance is administered that it provided in full detail in that section as required. Please also specify whether a secondary method of euthanasia will be available and how will death be confirmed. *Reference to SOPs may be acceptable if they have been approved by the AEC in accordance with the Code or are attached to this application.*

Rehoming?

If animals can be rehomed, please describe when and how this is expected to occur. If animals are unable to be rehomed, please justify.

Tissue Sharing

Which tissues or biological materials will be available to be shared and how will this be facilitated?
If you will not be sharing tissues, please explain why this is not practicable.

Other Fates

If animals are not euthanised at the end of the protocol provide details on the animals fate (e.g., released/ returned etc)

ETHICAL JUSTIFICATION

It is very important that you provide all the relevant information and answer these questions as fully as possible. An obligation to respect animals underpins the Code bringing with it a responsibility to ensure that the care and use of animals for scientific purposes is ethically acceptable, balancing whether the potential effects on the wellbeing of the animals involved is justified by the potential benefits to humans, animals or the environment.

Scientific merit

Explain the merit of this project in relation to the relevant field and the expected benefits. This includes consideration of the experimental design, scientific validity and how the project advances scientific knowledge.

Animal usage

Explain why it is necessary to use animals in the proposed project (rather than non-animal models) and why are the chosen species (and strain, age, sex and weight if applicable) the most appropriate for this project. If animals have been or will be re-used in other experiments, justify why this is appropriate for these animals.

Social value

Explain how the project may bring to society a constructive and beneficial contribution.

Ethical considerations

Identify factors likely to cause pain, suffering or lasting harm. Provide justification for their usage and measures taken to minimize harm and ensure the animals welfare. Detailed and specific justification must be provided for projects involving severe compromise to animal wellbeing (including unrelieved pain and distress), death as an endpoint, prolonged restraint or conferment, and/or the use of non-human primates.

DECLARATION OF RESPONSIBILITIES

As the Chief Investigator I confirm that:

☐ All information in this application is true and accurate, to the best of my knowledge.

☐ The use of animals in this project will comply with the NSW Animal Research Act 1985, Animal Research Regulation 2021, the Australian Code for the Care and Use of Animals for Scientific Purposes, NHMRC 8th ed. 2013 (The Code, updated 2021), and any other legislation, guidelines and conditions imposed by other jurisdictions where applicable.

☐ All personnel listed in this application have been provided with a copy of the application, have agreed to being listed, and are familiar and will comply with the requirements of the Code.

☐ I understand that only procedures documented in this application and approved by the AEC are permitted, and that an amendment application must be submitted prior to any changes to this project.

☐ I understand my reporting obligations to the AEC, including for unexpected adverse events, and annual and final reports.

☐ I accept ultimate responsibility for the conduct of all procedures detailed in this application, and for the supervision of all personnel delegated to perform any such procedures.

☐ I accept ultimate responsibility for all matters relating to the welfare of all animals used during this project.

☐ I understand that I have an obligation to treat the animals with respect.

☐ I agree to comply with any conditions imposed by the AEC and communicate with the AEC as required.

☐ Adequate resources, including funding and personnel, will be available for the conduct of the project.

_____ _____

Full name and position Signature

REFERENCES

1. NHMRC, Best practice methodology in the use of animals for scientific purposes. 2017.
2. Percie du Sert, N., et al., The ARRIVE guidelines 2.0: Updated guidelines for reporting animal research. PLoS Biol, 2020. **18**(7): p. e3000410.
3. NHRMC, Australian code for the care and use of animals for scientific purposes. 2013.

ADDITIONAL – AGRICULTURAL/ INDUSTRY/ VETERINARY QUESTIONS

ANIMAL USAGE

Species/ Strain

What are the breed/s of animals that will be used during this project and why have these breed/s been chosen?
For uncommon breeds, please include a brief description of the phenotype and any special features. Are there any modifications to routine husbandry/management requirements to address known welfare impacts associated with known phenotype?

Ownership

Who has responsibility for the animals during the project? Name of the company/commercial entity, individual farmer/trainer, welfare organisation, or group of individuals (e.g., clients of X veterinary clinic).

Privately Owned Animals (experimental, teaching or workshop)

Where will the animals be obtained from?

- Saleyard
- Clients at a Veterinary clinic
- Commercial farm
- Other

Is there a completed Information Statement form or a completed Consent form ?

Purchased

If animals are to be purchased/obtained by the investigator, from where will they be sourced?

Housing

What is the usual housing and husbandry of the animals? Include the location and type of enclosure/housing, approximate number of animals in the group/flock, diet, monitoring and routine husbandry procedures (e.g., milking, shearing, exercise/training) and regular supplements/medications/ anthelmintic usage and external parasite control, as relevant.
Will any aspects of the routine husbandry of the animals be modified during or for the purposes of this research project? If yes, briefly describe all modifications to routine husbandry, the reason for them, and how any welfare impacts will be managed (if relevant). e.g., special diet, administration of substances, held indoors, transport between locations, brought in for sampling. Any management of animals that does not accord with current best practice must be specifically justified.

Monitoring

Who will be responsible for the care and monitoring of animals while they are involved in the project?

ADDITIONAL WILDLIFE QUESTIONS

The following questions provide examples of additional information specific to applications for wildlife research. Committees may use answers to questions to help assess the relative welfare risk of procedures. For example, remote camera or audio work has less risk of welfare impacts impact vs. trapping and collaring, sample collection and release.

ADMINISTRATION

Study Type

Which of the following best describes your project?

☐ General wildlife survey

While exact species and number of animals cannot be known target species should be identified and full information should be reported retrospectively to the AEC

☐ Population estimate targeting

While final number of animals cannot be known it is possible to set a maximum number required using established formulas to produce valid population estimates (e.g., applying mark/recapture methodology). Estimates of maximum numbers should be provided where possible and full information should be reported retrospectively to the AEC.

☐ Experiment requiring following/capturing/using known species

Maximum number of animals to be used known

☐ Project that will use animals for teaching or educational purposes

Species and number of animals may or may not be known depending on the type of work proposed but full information should be reported retrospectively to the AEC

☐ Other – please provide further details:

Animal Usage Details

Species/Strain

What are the target animals (species/strain) that you are hoping to use/encounter?
If known, provide details of the ideal age/weight/life stage/sex (where determinable) of the animal that will be used in this project.
What non-target animals do you most likely expect to encounter noting non-target animals must be reported?

Number of animals

What is the expected total or maximum number of target animals of each species/type to be used (if known)
Provide justification for the maximum number of animals used.

Use of animals without capture or handling

Outline the process to be used including efforts per day *(duration (time), frequency (how often), number)* number days/nights per session, area or distance to be covered, maximum number of sessions proposed per year

Capture of animals

Traps and nets

Provide a detailed description (including dimensions) of any traps, nets or other capture methods and how they will be used. *Attach diagrams or photographs as relevant.*
Include details on times will traps or nets be checked and/or cleared, how traps or nets will be identified, and their locations recorded, how traps or nets will be inactivated when not in use, and deactivated when no longer required?
How will distress, death or predation of trapped animals be minimised? *e.g., hot/cold/wet weather, ants, crows, predatory fish etc.*

Are periods of time or conditions where it would be considered unsafe to capture and release study animals? Consider the reproductive biology of the species, safety, and any special considerations given to nocturnal or aquatic animals and provide details of critical limits and pre-determined action/intervention to mobilise when set limits are reached (e.g., if daily temperature reaches 38 degrees, traps will be closed for 24h).
If bait is used or food/water provided in traps, provide details
What will be done if more animals are captured than expected?
How will the potential impact on dependent young be minimised (if applicable)?
What will happen to non-target species/animals captured (if applicable)?
What will happen to any non-native/feral/pest animals captured (if applicable)?

Sampling of animals

What samples (including blood, tissue, hair, feather, fin, swab, urine, faeces etc) will be collected and how will these be taken, how frequently and how many times in total will each individual animal be sampled?
What size/volume/amount of sample will be collected from each individual animal? *For blood, express this as an estimated percentage of the animal's circulating blood volume.*
How will pain and/or stress during the procedure be minimised?
How will animals be restrained during handling and/or sampling? *Outline anaesthetic procedures if applicable. Include any restraint required before an anaesthetic takes effect.*

Museum Voucher Specimens

What species and numbers of animals will be retained as museum voucher specimens
Provide justification for their collection and the number collected?
Will other samples (e.g., tissue, hair) be collected as an alternative to whole animals?
How will the animals be euthanised (if applicable)?
How will the animals or samples be preserved?
Where will the voucher specimens be lodged?

Marking, tagging or banding animals

How will animals be individually (or group) identified? *e.g., temporary or permanent mark, identifying features recorded for identification etc.*
How will you identify and monitor the number of times an individual animal is trapped/caught?
If animals are to be marked permanently, explain how the potentially negative consequences of any marking technique are outweighed by the benefits gained using this technique in your research. Animals should only be marked permanently when efforts can be made to recapture/relocate the marked animal/population in future. Explain how this is assured including continuity of funding.

Tracking devices

Transmitters/loggers should only be attached when there is a guaranteed ability to monitor a tagged animal for the lifespan of the device, or until the animal is recaptured for device removal, or the device is shed. Explain how this is assured including continuity of funding.
If you have not used the proposed equipment and/or methods previously, give details of any experienced researchers you have consulted for advice. If the attachment method has not previously been used in the field under similar circumstances, the attachment methods should be tested on captive animals before using them in the field. Has this been done?
What are the potential negative impacts on the animal of having the device attached or implanted?
What is the total weight and dimensions of the transmitter/logger plus the attachment device? Express this as a percentage of the weight of the animals (specific to the sex and age of animals requested).
Explain how the transmitter/logger will be attached or implanted.
How long will the transmitter/logger remain on/in the animal?
How will the transmitter/logger be retrieved? If it will not be retrieved, explain why.
If a collar or harness is used, is there a break-away or rot-away section? If not, why not?

Transportation of animals

Is transport of live animals necessary and if so what method and precautions will be used?
Are the animals to be transported a solitary or group species? Will being separated from conspecifics increase stress in otherwise socially grouped animals.
What is the type of container or cage to be used?
What shelter/bedding/tank water/aeration will be provided?
How many animals per container?
Will food and/or water be provided? Give details.
What precautions will be taken to protect animals from temperature extremes during transport?
What is the maximum length of time that animals will be held in this way for transport?

Animals held in captivity

Will animals be housed or held (short-term or long-term) after capture?
Justify why animals need to be housed and not released immediately?
Where will the animals be housed? Describe the container/enclosure and include the dimensions of any cages/pens/aquariums
What shelter/bedding/aeration will be provided?
Are the animals to be housed a solitary or group species? Will being separated from conspecifics increase stress in otherwise socially grouped animals.
How many animals per container/enclosure?
What will be the duration of housing? Prolonged confinement of animals must be specifically justified.
What will animals be fed, and how often will they be fed?
Who will be responsible for the care of animals while in captivity? Include emergency contact details.

Monitoring

Outline the monitoring of animals while they are in captivity. Include frequency of monitoring, how wellbeing will be assessed, and any action/intervention points (including endpoints).

Morbidity and mortality

What are the potential causes of morbidity and mortality?
List any reasonably likely condition or complication that would result in injury, impaired health, death or euthanasia of animals during the project (prior to the defined experimental study endpoints) as a direct or indirect result of the research. If you expect a high level of natural mortality (e.g., juvenile fish, short-lived species), please also note this.
What steps will be taken to avoid or manage these event/s or condition/s and minimise the impact on the animals including identification of early endpoints?
For potential causes of morbidity or mortality directly related to the research (e.g., a planned procedure, administration of a substance etc) what is the estimated morbidity rate or mortality rate for each of these potential causes (expressed as a percentage)?

Fate of the animals

Are animals to be euthanised at the end of the experiment?
If yes provide details of the method of euthanasia chosen for this project (including drug names, dose rate, total dose, flow rate as relevant). Please also specify whether a secondary method of euthanasia will be used.
How will death be confirmed?
How will animal carcasses be disposed?

Permits

Do any of the permits, licences or approvals associated with this project contain specific instruction regarding the re-release and/or euthanasia of the animals ? Especially regarding non-native/invasive species
If yes, provide details of the instruction

If no what will happen to the animals at the end of the project? e.g., released in same area, released in different area, housed long term in a wildlife facility?

ADDITIONAL BREEDING QUESTIONS

A breeding protocol is defined as the breeding of a colony of genetically consistent and reproducible established line of animals for scientific purposes (e.g., BALB/c or C57/B6 mice, Agouti or Wistar rats, NZ White rabbits, Large White pigs, etc). It does not include experimental breeding of hybrid animals (experimental breeding protocols to establish new genotypes/phenotypes should be classified as Laboratory Animal Research).

Animal Usage Details

Species and Strain

What species and strain are being bred in this colony?
Are the animal's wildtype/inbred or genetically modified and detail specific genotype and phenotypic features.
Provide a brief description of the intended scientific or teaching purpose of the breeding colony.
Provide AEC approval numbers for any associated projects (where relevant).
Are there any welfare impacts involved *in the breeding* of this animal/species? (e.g., congenital conditions, diseases) and what steps will be taken to lower the impacts on the welfare of these animals including modifications to routine husbandry/management requirements

Number of animals

How many breeders are required to set up and subsequently maintain the breeding colony (strain, sex, number of animals including a justification of the number of breeding animals to be maintained.

What is the original source of breeding animals? e.g., in house, external laboratory source

How many animals will be produced from this colony per year?

What strategies will be undertaken to ensure breeding matches experimental requirements?

What will happen to animals that are surplus to requirements?

What is the estimated number of animals to be culled from this colony per year?

Colony management

What breeding system will be used and how will the colony be managed? Include a step-by-step overview from the start to the end of the breeding protocol – e.g., transport, acclimation, breeding set up (e.g., harem, paired mating, etc.), monitoring, number of litters, age at which offspring are transferred to other protocols, and fate at end.
How will genetic drift be identified and how will this be avoided or managed?

Housing

What type of housing will be used for breeding animals and offspring?
Include details of food and water.
What environmental enrichment will be provided for these animals (both breeders and offspring)?

Monitoring

How will the colony be monitored including frequency of monitoring and criteria for action/intervention ?

Morbidity and mortality

List any likely condition or complication that would have an adverse impact on the animal's wellbeing, or would result in impaired health, death or euthanasia of animals. State maximum morbidity and mortality rates (%) of each possible cause.
How will these potential causes of morbidity and/or mortality be minimised or managed including identification of clear early end points?
What is the average fertility rate (e.g., pups per litter, reproductive rate) and/or neonatal mortality rate for this strain (if known)?

Fate of the animals

What will be the fate of the breeding animals on disbanding of the colony and provide justification for that outcome.

- Released to natural habitat
- Adopted or re-homed
- Sold
- Returned to commercial farm
- Continuing activity
- Transferred immediately to another project
- Kept at institution for later use or sale
- Euthanasia
- Cryopreservation
- Other

For other fates, please provide details E.g., locations, purchasers/adopters, AEC approval numbers for transfers to other projects, etc.