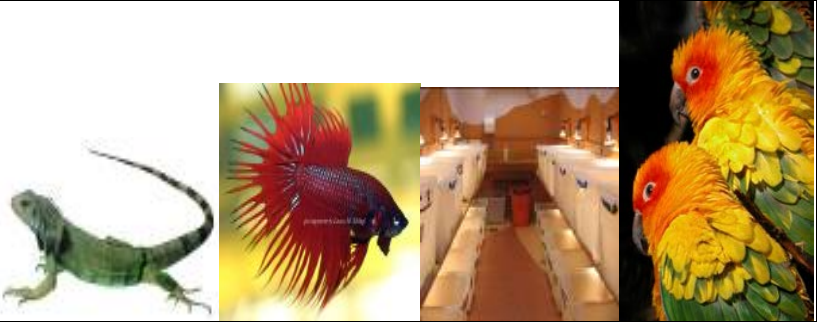
	Flinders University College of Science and Engineering Standard Operating Procedure For the Use of the College of Science and Engineering Animal Facility 18/06/19		
			Animal Facility
SOP Number	AWC Approval Date		
SOP-BIOL-1-A/HFacility	18/06/2019		
Contact Person	SOP prepared by		Review Date
Leslie Morrison	Leslie Morrison		June 2021

Contents

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Legislation

- *Australian Code for the Care and Use of Animals for Scientific Purposes 8th Ed.*
- *Animal Welfare Act 1985*
- *Animal Welfare Regulations 2012*
- [Gene Technology Act 2000](#) (the Act)
- [Gene Technology Regulations 2001](#)
- *Work Health and Safety Regulations 2012*
- *Fisheries Management Act 2007* (Section 115)
- *South Australian National Parks and Wildlife Act 1972*

University Policy

- Work Health and Safety Policy 2013
- Responsible Conduct of Research Policy 2016
- NHMRC Guidelines

Local Policy

Use of the College of Science and Engineering Animal Facilities by all staff and students of the College of Science and Engineering, Flinders University, is subject to awareness of, and adherence to the following:

Research Involving Animals:

- The University holds a licence for the use of animals for teaching and research purposes. To satisfy the requirements of the licence, anyone wishing to undertake teaching and research using animals must submit a proposal to the Animal Welfare Sub-Committee (AWS-C). No work with animals may commence until written approval has been received from the Animal Welfare Committee (AWC). Standardised application forms for Laboratory, Teaching and Wildlife work with animals can be found on the Flinders University Animal Welfare Committee website listed below. It is your responsibility to regularly check this site for updates to guidelines, forms etc.

http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics_home.cfm

- **All staff and students involved in animal research must complete Animal Ethics Online Training (AEOT) and must also regularly attend Animal Researcher Information Sessions (ARIS).**

Standard Operating Procedures

Refer to Risk assessments, Standard Operating Procedures and Safe Operating Procedures for chemicals, processes and plant equipment where appropriate. All projects must have an accompanying Risk Assessment signed by the Chief Investigator and submitted to the College of Science and Engineering OH&S Manager.

The following are a list of the main SOP's governing working with animals in the College of Science and Engineering. An extensive database of specific technique SOP's is also available from the Animal Facility Manager and on the AWC home page.

- **Standard Operating Procedure and Safe Work Procedure for the Use of the Animal Facility, Aquaculture and Marine Aquarium Facilities**
- **Standard Operating Procedure for Working With Fish**
- **Standard Operating Procedure for Working With Reptiles**
- **Standard Operating Procedure for Working With Birds**

Permits

- Any research to be undertaken in the field may require a permit from Department for Environment, Water and Natural resources(DEWNR) http://www.environment.sa.gov.au/licences-and-permits/Animals_in_captivity_permits
- Collection and live transport/holding of noxious species/declared pests will require a specific permit from The Department of Primary Industries and Resources of South Australia (PIRSA).

While your research may not involve animals as defined by the Australian Code, and therefore not require an application for the use of animals, it is necessary to provide details of organisms you propose to use to the AWC, so as to register their use and identify potential situations where an application will still be required. For example: marine or terrestrial invertebrate collecting which includes the 'by catch' of non-target animal species will require an application must be submitted to the AWC.

General

- Wash hands with disinfectant upon arrival at facility and before leaving.
- Refer to supporting Standard Operating Procedures and Safe Work Procedures.
- No Eating or drinking in areas housing animals.
- Wear shoes at all times (not thongs).

Emergency Evacuation

- ❖ **In the event of an emergency evacuation, staff must move to local assembly points to await further instruction. If there is sufficient prior notice, fish may be moved-in consultation with the project C.I. and as per *Working with Birds/Lizards/Fish SOP's* to a temporary new location that can maintain their husbandry requirements; until such time as they can be returned to the College of Science and Engineering Animal Facilities.**

Induction

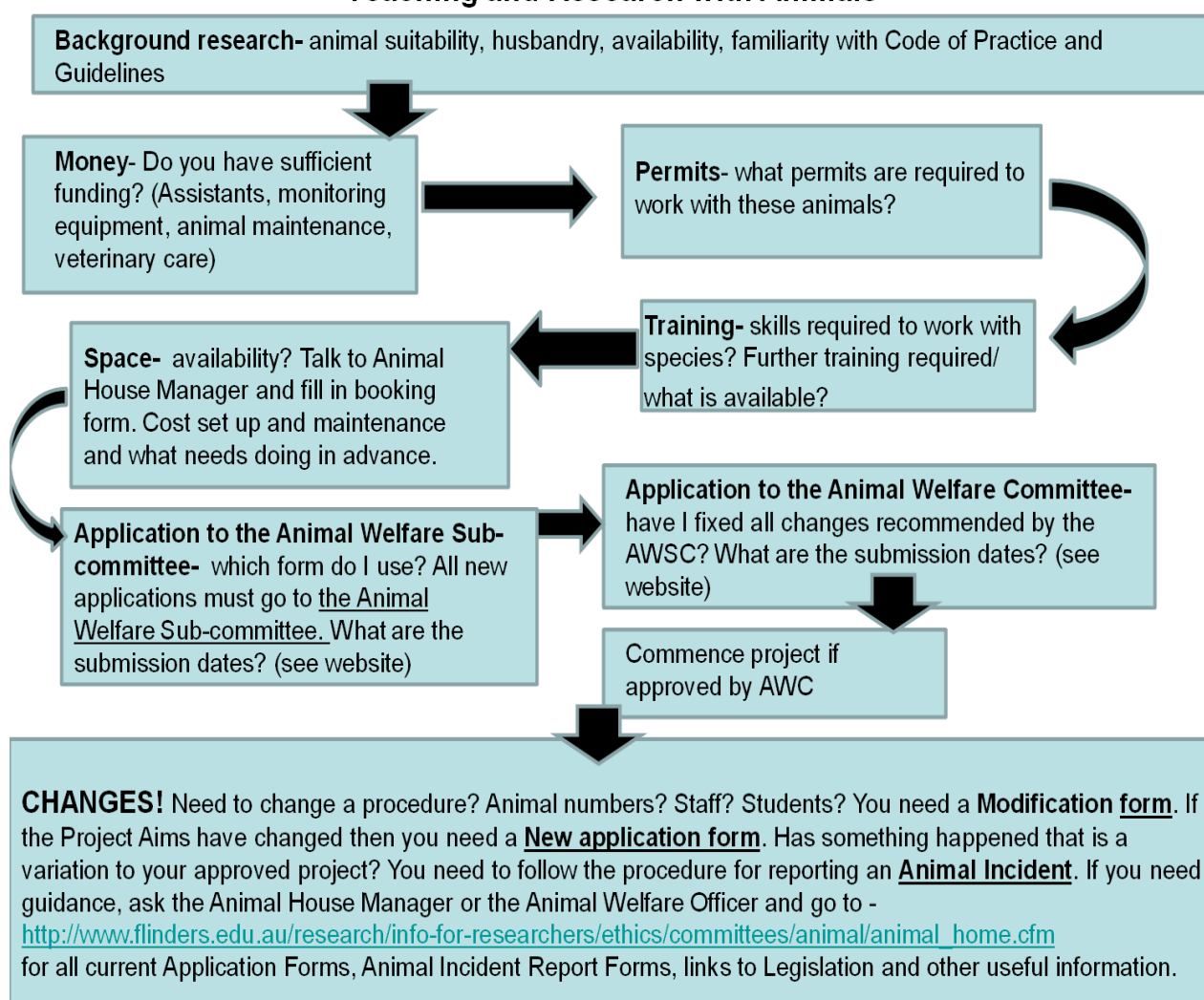
All users of facilities are required to undergo induction. Induction will familiarise you with the Safe and Standard Operating procedures for the facility and any training required. This induction will also provide an overview of operation of aquarium systems and the monitoring and recording of water quality parameters.

Project proposal approved	Yes/No	Date:
Any hazardous/toxic substances used RA supplied	Yes/No	Date:
Project Risk Assessment completed	Yes/No	Date:
Safe Work Practice supplied	Yes/No	Date:
Booking form completed and signed	Yes/No	Date:
Room/tank labels issued	Yes/No	Date:
Swipe Access/key issued	Yes/No	Date:
Attended Biology OH&S induction	Yes/No	Date:
Shown emergency exits/fire extinguishers in facility	Yes/No	Date:
Shown hand wash station and first aid kit	Yes/No	Date:
Location of phones and emergency numbers/signage	Yes/No	Date:
Inducted in SOP document	Yes/No	Date:
University Induction for new staff- booked in/undertaken	Yes/No	Date:
Familiarised with University website and relevant links	Yes/No	Date:
Identified any other health and safety training required- hazardous substances training, First Aid, OH&S online.	Yes/No	Date:
Immunizations current	Yes/No	Date:
Swipe Card and Payroll access submitted	Yes/No	Date:
Supplied with SOP's for Animal Facility	Yes/No	Date:
Complete initial training sessions under supervision	Yes/No	Date:
Complete required tasks without supervision	Yes/No	Date:
Discuss and initiate further training requirements as required	Yes/No	Date:

Modification to Projects/Facilities

- ❑ Any form of modification planned to existing facilities should be discussed with the Animal Facility Manager. Modifications to existing systems may require approval from the AWC, and cost must be budgeted for in the projects funding.
- ❑ Modifications to existing experiments need the approval of the AWC. The modification form can be found on the AWC homepage.
- ❑ Changes to diet, room or aquarium temperature, light cycle, etc, should be discussed at least a week before any changes are planned.

Teaching and Research with Animals



Communication Book

- ❑ General information to be written in the book located in the main hallway, Animal Facility. Please include your name and date, and check the book as regularly as possible.
- ❑ All animal movements within your booked space (inside/outside, tank to tank, etc) and changes to normal holding conditions are to be put in the book before animals are moved or conditions changed.
- ❑ All deaths, births, arrivals, departures, missing animals, and changes in behaviour/health concerns, must always be recorded in this book as they form part of the mandatory monthly reporting to the AWC.

Animal Arrivals/Departures/Quarantine/Housing

- ❑ Animal Facility staff should be notified at least one week before any approved animals are arriving or leaving. Animals without ethics approval, booked space, and linked to a submitted risk assessment, will not be admitted into the Animal Facility.
- ❑ Animals must be given a clean bill of health by staff, at the end of the Quarantine period before being released to a project.
- ❑ Newly arriving animals will not be allocated to a project until they have completed a minimum quarantine period of 2 weeks, and have been assessed as a healthy, stable population.
- ❑ Mortalities for newly arriving wildlife can be expected to be as high as 80%, taking into consideration the following factors:
 - Stress induced illness from wild capture/handling, transport, and change in environment.
 - Unknown age/health status (animals may appear visibly healthy but carrying microorganisms that only produce symptoms under stressful conditions).
- ❑ Euthanasia at the end of the project or release to the wild must comply with your relevant Department for Environment, Water and Natural Resources (DEWNR) and Primary Industries & Resources of South Australia (PIRSA) permits, as well as your approved application from the Animal Welfare Committee (AWC) and the Safe Work Procedure for administering medication.
- ❑ All applications in which new aquaculture systems are to be established must mention the pre-conditioning of water and biofilters. In addition, applications must mention that all tanks, water recirculation equipment, and facilities, should be tested prior to arrival of aquatic animals.

Birds

- ❑ Check food and water daily, and replace as required. Outdoor water containers should be cleaned out once per week, and more often in warmer months if there is any sign of algal growth.
- ❑ Indoor water and feed bowls are rinsed/refilled/replaced daily.
- ❑ While under experimental conditions, investigators are responsible for keeping their animal's enclosures clean, and maintaining food and water supply.
- ❑ Paper substrate is generally changed daily, but this frequency may be affected by number of birds in cage and whether they are laying eggs.

Birds and environment are monitored daily as follows:

1. Clean and ample water supply.
2. Appropriate temperature and air circulation.
3. Any signs of discharge from eyes or beak.
4. Any signs of abnormal body shape.
5. Swelling/fight injuries.
6. Abnormal movement/balance.
7. Significant change in appetite.
8. Abnormal level of activity/socialising.
9. Abnormal respiration.

Lizards

- ❑ Lizards housed indoors are fed a fruit and vegetable mix once or twice per week (and occasional live insects for environmental enrichment and diet variety). Lizards housed outside are fed only when the temperature is 25°C for at least 3 consecutive days. They are fed the fruit and veggie mix twice per week, weather permitting.
- ❑ Juveniles and species that are predominantly insectivores are fed crickets and mealworms as a stand alone diet, twice per week (+ 1 veggie feed), or once per week (with 2 veggie feeds).
- ❑ Lizard holding tanks with paper substrate receive a full clean once per week, and are also checked daily, and any minor soiling is cleaned up. Tanks with a sand substrate have faeces removed weekly; complete sand change is done after individual assessment of each tank.
- ❑ While under experimental conditions, investigators are responsible for keeping their animal's tanks clean, and maintaining food and water supply.
- ❑ Water bowls are collected and washed once per week with disinfectant (Bleach, F10 or Earths Choice for example); they are also checked daily and cleaned/replaced if required.

- ❑ Food bowls are collected and washed the day after feeding (generally on Tuesdays and Fridays) for reusable feed equipment (petri dishes are discarded).

Lizards and environment are monitored daily as follows:

1. Clean and ample water supply.
2. Appropriate room temperature and air circulation.
3. Any signs of discharge from eyes or nose.
4. Any signs of abnormal body shape.
5. Swelling/fight injuries.
6. Abnormal movement.
7. Significant change in appetite.
8. Abnormal level of activity.
9. Abnormal respiration.

Animal Identification/Information on Aquariums/Outside Pens

- ❑ Animal identification and handling must comply with the SOP for “*Working with Lizards*” or “*Working with Birds*”.
- ❑ Aquarium/enclosure cards should list the species, identification number, tank number, and (where applicable) on/off grid dates, medical treatments, and any special requirements.
- ❑ Standardised labels are available from Animal Facility staff.
- ❑ If it is possible to identify animals by physical appearance, this is preferable to identification by more invasive procedures.
- ❑ Charts on the doors of rooms must include contact details for researchers, animal numbers, and project approval number, and finish date.

Feeding/Cleaning/Monitoring

- ❑ All animals are checked daily to ensure they are healthy and have a clean water supply and shelter. Feeding routine is tailored to individual species.
- ❑ Investigators must feed, clean, and monitor their animals when under experimental conditions, and clean all tanks and equipment used at the end of the project.
- ❑ Animal Facility staff maintain electronic records of daily monitoring. Researchers must maintain their own records of monitoring and experimental procedures.

Day to Day Routine

- ❑ Please be aware that students are filming as part of their research. Keep noise to a minimum so as not to affect behaviour during filming.
- ❑ Sick animals will not be available for research work until they have fully recovered.
- ❑ Although the Animal Facility staff carry out daily care monitoring of all animals held in the facility, it is also the responsibility of the researcher to ensure adequate monitoring of their animals wellbeing (Chapter 2.4 - *Australian Code for the Care and Use of Animals for Scientific Research, 8th edn, 2013*).
- ❑ Do not prop open external doors as it compromises the security of the facility.
- ❑ Please notify us before undertaking any work with power tools, as there is a risk it will trigger smoke and heat sensor alarms.

Health

- ❑ A key factor when working with animals is to keep their environment as stress free as possible. Many health issues are triggered by stress and a weakened immune system. Healthy animals can carry various microorganisms in their system/on the body without becoming ill, but a stressful environment (poor water quality, lack of oxygen, incorrect temperatures, housing, poor handling techniques, etc) can all make them much more susceptible to disease. It is important before you start your work that you have appropriate housing arranged, and an understanding of how to maintain your animals in a healthy condition.
- ❖ **All unexpected deaths/ sick animals, equipment failures affecting animals etc require the following procedure:**
 - Report to Animal Facility Manager and Animal Welfare Officer as soon as possible, but within 24 hours;
 - Send an Unexpected Adverse Event Report to animal.welfare@flinders.edu.au within 3 working days; and
 - Arrange a necropsy with the Animal Facility Manager or AWO.

Animal Incident Reporting

Definition- ANY variation in your approved protocol

Examples- Any changes in behaviour or physiological condition not on monitoring chart or clinical record sheet, or in excess of agreed parameters approved in application.

- Changes to drugs being administered or dose being administered.
- Equipment failure.

What do I do ?

Stop. Assess. Stabilise.

DO-Notify Animal House Manager and seek assistance to stop any flooding, stabilise water quality, secure housing, bring injured birds in and set up in a cage in a warm, quiet room.

Contact C.I.(if not you)

Contact AWO for veterinary assistance if required, but also within 24 hours to advise of incident.

DO NOT- administer medications or try and continue with experimental protocol

The AWO will advise whether you need to cease any further work until the incident has been reviewed by the AWC or whether you may continue until the review. You will need to complete an Animal Incident Reporting Form and submit to the AWC within 3 working days.

Outcomes

AWC concludes incident is an unexpected adverse event. Project may continue as before

AWC concludes incident is an unexpected adverse event and requires modifications for project to continue

AWC concludes the incident is an adverse event and will decide if project may continue-potentially including modifications to minimise further incidents

- Animals may only be euthanased by trained staff and researchers, and must adhere to the method stated in the research application approved by the Animal Welfare Committee (AWC), and the guidelines in the *Australian Code for the Care and Use of Animals for Scientific Purposes, 8th edn, 2013*, and in accordance with the Safe Operating Procedures for administering medication.
- Sick animals may be transported to a vet clinic in consultation with the AWO and/or Animal Facility Manager.

Hygiene

- Anything requiring cleaning should be put in the wash room, not left in the animal rooms (with the exception of tanks).
- Rooms are to be kept clean, tidy, and free of clutter at all times.

- ❑ Wear gloves when in contact with animals/tanks when possible, and always wash hands thoroughly, using the antiseptic hand wash in preparation room and washroom and the waterless hand wash located at each exit. This assists in preventing the potential transmission of disease between animals, and also between people and animals.
- ❑ Each room has its own equipment to avoid cross contamination.
- ❑ Floors are swept and mopped weekly.
- ❑ Bins emptied weekly and as required.
- ❑ Lizard tanks cleaned weekly and ad lib with 70% ethanol and warm water.
- ❑ Sand tanks have waste removed as required and sand changed.
- ❑ Investigators must maintain animal enclosures when under experimental conditions, and should clean all tanks and equipment at the end of the project.
- ❑ Animal carcasses must be disposed of in the blue plastic bins in the walk-in freezer on Level 1.

Safety

- ❑ All new staff/students must undergo Occupational Health and Safety (OH&S) induction prior to commencing any work in the Animal Facility.
- ❑ All work undertaken must comply with Safe Work and Standard Operating Procedures.
- ❑ All electrical equipment must be electrically safety tested and tagged before use.
- ❑ All injuries and incidents must be reported to Animal Facility Staff and the Occupational Health and Safety representative.
- ❑ Shoes must be worn at all times in the facility (no flip flops).
- ❑ Do not recap syringes; place straight into the sharps bin.
- ❑ Do not grant access to anyone that is not directly involved in research on the animals held here, including family and friends. Please speak to the Animal Facility Manager about it first, as there are several Health and Safety issues to consider and it is essential that we are aware of all the people who come into the Animal Facility.
- ❑ Any chemicals and plant equipment brought into the Animal Facility must have been risk assessed and documentation available. Chemicals may not be stored here unless they are on our current chemical manifest.
- ❑ The First Aid kit is located in the Preparation Room in the Animal Facility.
- ❑ Floors are to be kept clear to avoid creating tripping hazards. Equipment must be stored on shelves.
- ❑ Smoking is not permitted in the Animal Facility or outdoor enclosures.

Care of Animals During Emergencies

- ❑ The Facility has a back-up generator for power outages, so there will rarely be a total facility power failure. If power is out for a specific room or piece of equipment, it is more likely a fuse/safety switch has tripped, which maintenance can rectify and identify the cause of. Generally, it will be a heat lamp or item of plug-in electrical equipment (pumps, power heads, etc). There are replacements items for most equipment in the facility storerooms.
- ❑ Emergency euthanasia should not be undertaken unless all reasonable steps to contact the Chief Investigator, Animal Welfare Officer, and Animal Facility Manager have been unsuccessful, and then only by experienced staff.
- ❑ If you can determine a cause to do with power or plumbing that requires Maintenance to urgently repair, contact them on **(08) 8201 2177 (call Security on (08) 8201 2880 if out of normal business hours).**
- ❑ Once situation is stabilised, commence Unexpected Adverse Event Reporting Procedure.

SOP Review

This SOP currently applies to the animals housed in the College of Science and Engineering Animal Facility and field sites. This SOP will be reviewed 3 yearly, but also updated more frequently as policies, techniques and animal care requirements change.

Any questions regarding the above guidelines and any technical advice/ assistance required can be directed to Animal Facility Manager.

Position	Name	Contact Details
Animal Facility Manager	Leslie Morrison	X 12196 Office in Animal Facility Leslie.morrison@flinders.edu.au
Animal Welfare Officer	Lewis Vaughan	0450 424 143 awo@flinders.edu.au

Useful References:

- <http://www.nhmrc.gov.au>
- <http://www.adelaide.edu.au/ANZCCART/>
- <http://www.environment.sa.gov.au>
- http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics_home.cfm (Link for Animal Incident Report forms, Teaching and Research Application Forms and all animal welfare related matters)