

## Response to the Independent External Research Misconduct Inquiry: Oona Lönnstedt

### Background

In late 2019, James Cook University established an independent external research misconduct panel under the *James Cook University Code for the Responsible Conduct of Research* in relation to research conducted by former PhD student, Dr Oona Lönnstedt, at the University.

While the University's internal investigations were unable to identify potential research misconduct regarding Dr Lönnstedt's PhD, the University was aware of reports concerning findings of research misconduct overseas as well as concerns about an article published in *Biology Letters*. Therefore, the University determined that it was in the public interest that the work undertaken by Dr Lönnstedt while a PhD student at the University from 2010-2013 be reviewed by an independent panel external to the University.

It is worth noting that the editors of *Biology Letters* have separately published the findings of their own investigation into the research published in that journal, which found no evidence of research misconduct.

### Independent External Research Misconduct Review Inquiry Panel (Panel)

The Panel consisted of eminent academics with expertise in field work, marine science, and ethics, and a former Federal Court Judge and former President of the Fair Work Commission. The members of the Panel were:

- Emeritus Professor Alan Rix, Chair;
- Professor Bronwyn Gillanders;
- The Hon. Geoff Giudice AO;
- Emeritus Professor Tony Underwood.

After consideration of all the evidence, as reflected in their report of June 2020:

*"[84] The Panel therefore determines that there are no grounds for a finding of research misconduct against Dr Lönnstedt or any other person."*

Indeed, the Panel saw "... no need to pursue the breaches of the Code further, as there is no evidence in those breaches of "intent and deliberation, recklessness or gross and persistent negligence" on the part of Dr Lönnstedt, her supervisor(s) or co-authors."

### Breaches of the Code

The Panel found that problems of research practice had been identified, even if they did not constitute misconduct. They acknowledged that the University had also identified these potential issues in its preliminary investigation, around animal ethics, data reporting and data availability. Notably that, in summary:

- Animal ethics – not properly observing the timing and conditions of animal ethics approvals;
- Data reporting – the Panel identified inadequate reporting of data in a number of papers; and
- Data retention – Dr Lönnstedt and her supervisor did not ensure that her data was properly lodged and secured upon completion of the PhD. Separately, data for Dr Lönnstedt's papers published from her PhD were not uploaded onto the University's open access Tropical Data Hub until 2018.

The University accepted the Panel's report and findings and released the Panel's entire report in August 2020.

The Panel's comments regarding matters of research practice were in relation to practices that occurred almost 10 years ago and while they reflect learnings relevant to that period in time, they do not reflect current practice and expectation of the University. As outlined below, prior to the Panel's report, in the course of process improvements and in response to changes in legislation and national policy, the University had already addressed the particular matters of research practice the Panel refers to .

The Panel itself noted in its report that in 2015 the University strengthened its position in the management of animal ethics permits and approvals with the appointment of a Manager, Animal Welfare and Research Ethics. Improvements have also been made to processes and supporting researchers with animal ethics permit applications and compliance, as well as making changes to systems for the capture and publication of research data, making it easier for researchers to upload their data.

The Panel also noted that *"...there was otherwise no evidence before the Panel to support any claim of systemic issues of research practice that may affect the integrity of research."*

### Animal ethics and data reporting improvements

In July 2015, the University appointed a Manager, Animal Welfare and Research Ethics, Dr Craig Godfrey.

In his role, Dr Godfrey provides guidance and management of the ethics teams in JCU Connect (formerly Research Services). In close liaison with the JCU Animal Ethics Committee (**AEC**) he also provides leadership and is the principal source of professional expert veterinary advice in the maintenance of standards of wellbeing, care and use of animals for scientific purposes across the University. He provides expert professional and technical advice, training and support to animal users and develops and implements policy, maintains procedures and protocols in relation to animal wellbeing in compliance with the *Australian Code for the Care and Use of Animals for Scientific Purposes, 8<sup>th</sup> Edition, 2013*; the QLD Animal Care and Protection Act, 2001 (and subsequent Acts).

Dr Godfrey provides expert professional veterinary advice to investigators, students and animal care staff on animal wellbeing, care and management practices to ensure compliance, appropriate application of ethics permits and has written the university's policies and guidelines for researchers.

Dr Godfrey has made improvements in the following areas:

- Updating the AEC terms of reference to ensure compliance;
- Improving administration and approval processes with the AEC;

- Implementing a number of training sessions – the Code, compliance, permits and research applications etc;
- Improving best practice techniques in focus areas, e.g. teaching surgeons how to use sterile and other surgical techniques on animals;
- Improving and developing where necessary inspection checklists against the Australian Code to assist in compliance;
- Improving the [AEC Application process](#) and procedures;
- Implementing quality improvements and assurance – reviewing applications assisting researchers to write applications, choose appropriate techniques that improve animal welfare, providing veterinary advice in research planning, and improving what is provided to the AEC.

Dr Godfrey has also developed a number of comprehensive and current Standard Operating Procedures (**SOPs**) for researchers. The AEC now has over 200 approved SOPs available. The SOPs:

- can be referenced in ethics and permit applications (avoiding any errors in duplication or practice each application as part of quality assurance and ensures consistency of practice); and
- are held in Learn JCU (the University's learning management system) and are therefore freely accessible.

In addition to the above, a new Fieldwork Procedure was implemented in 2015 and all risk assessments for any field trip are entered in the field trip module of the University's WHS Safety Management System, Riskware. The Graduate Research School has a comprehensive suite of compulsory and elective workshops in relation to management of data and information in research and fieldwork respectively.

To alleviate issues identified at the time around aquatic animal sampling and permitting processes identified throughout the independent external research misconduct inquiry, the AEC procedures for field collection have been modified to support fieldwork where a specimen identified on a permit that may not be available for collection, may be substituted for like species. The University now has a formalised [procedure \(copy attached\)](#) acknowledging that investigators may, at times, need to make minor amendments to their AEC approval but may not be in a position to contact the AEC or to wait for formal approval to be granted. In these circumstances, it may be acceptable to proceed without receiving formal approval. The procedure outlines situations when it is acceptable to make such amendments and request retrospective AEC approval as soon as they are able to do so.

Institutions using animals for scientific purposes, research and teaching, have an obligation under the *Australian code for the care and use of animals for scientific purposes - Edition 8, 2013* (the **Animal Code**) to undertake a program of external review of their animal ethics systems. This assessment is required to ensure the continued suitability, adequacy and effectiveness of institutional procedures to meet the responsibilities of the Code. To satisfy this obligation, the University's Office for Research commissioned a review of its animal ethics system by the independent, external review service provider, Scientific Auditing Services Pty. Ltd. The independent external review was undertaken in late 2020/early 2021 in line with the provisions outlined in section 6 (s 6.1 - 6.7) of the Animal Code.

The independent external review collected information for assessment of the University's Animal Ethics Framework during the 2021 review period. This included:

- A desk-top assessment of the policies, procedures, forms and records selected from the years 2017 - 2021 to provide an overview of the institutional program governing the care and use of animals for scientific purposes.
- Discussions with the Manager, Animal Welfare and Research Ethics/Animal Welfare Officer, Animal Ethics Officer, Animal Facility staff and Investigators to provide detail in regard to the processes involved in the Animal Ethics Framework.
- Attendance at an AEC meeting to demonstrate the process of ethical review and monitoring of projects.
- An on-site inspection of the University's animal facilities at the Townsville and Cairns campuses.

The independent external review concluded that the University has achieved a very high level of conformance with the Code, in particular, the report provided to the University outlined:

*“The institution provides for an ongoing program to maintain this level of conformance with the Code and demonstrates commitment to the review and continual improvement of the systems governing the care and use of animals undertaken by its researchers, technicians and students for scientific purposes.*

- *The institutional program provides an ethical framework sufficient for the care and use of animals to be subject to ethical review, approval and monitoring by an AEC in accordance with Code requirements.*
- *The institutional program promotes the application of the governing principles including the 3Rs, (replacement, reduction and refinement), to all those involved in the care and use of animals for scientific purposes.*
- *The institutional program provides an ethical framework that includes resources and education for AEC members, sufficient to be aware of and meet their responsibilities under the Code.*
- *The institution provides resources and infrastructure sufficient to maintain adequate animal facilities to support the wellbeing of animals in accordance with the provisions of the Code.*
- *The AEC is operating effectively and provide ethical review of the institution’s animal use.*
- *Those caring for and using animals in research, on behalf of James Cook University, acknowledge the importance of, and contribute to maintaining a high standard of animal wellbeing.”*

The University was commended in particular for *“actively promoting the governing principles within the institution and ensuring they are integrated into the animal ethics framework”*. Highlighted in the findings were examples of the governing principles found to have been applied. An example included: *“The education and competency requirements for those using animals for research and teaching. The institution has a requirement outlined in the Training and Assessment of Competency Policy (Document 13) for all those involved in the use of animals for scientific purposes on the University’s behalf.”*

The Animal Welfare and Research Ethics Team were commended for: *“... developing ... a program to ensure those working with animals are competent in the procedures they undertake”, and “... the continual program of improvement of the animal ethics system with the development of policies, procedures and processes in line with the Code and the previous independent external review (JCU20052016)”*.

## Data retention and reporting

Dr Lönnstedt's PhD was submitted in December 2013 and conferred in July 2014. All data relating to Dr Lönnstedt's PhD is publicly available and can be accessed on the Tropical Data Hub. Where requested or required, that data has also been supplied to the editors of journals. It was provided to the editors of the *Biology Letters*.

In relation to the data availability, there was confusion about who retained the PhD data after it had been submitted, and where it was kept. The principal supervisor accepted that in hindsight he should have retained and secured a copy, as the University policy at the time required the School to do and as the supervisor and student had signed off that they had done.

The University's Tropical Data Hub was introduced as a central data repository at the University in June 2012. The service was operating as a bespoke service needing handcrafting of data entries by 2012. While the Tropical Data Hub was operating in 2013, it was not available for researchers to upload data themselves at that time. The 'self-service' of entries of data was introduced slowly across 2014, but this was not mandated. Dr Lönnstedt's PhD was conferred that year. Training was supplied to all postgraduate students on how to deposit metadata entries to research data by 2014, after Dr Lönnstedt had submitted her thesis. At this time postgraduate students and supervisors needed to sign off that data was stored securely at PhD submission and that a metadata record was generated in the Hub.

Changes to the usability of the Tropical Data Hub occurred in 2014 to make it easier for users to upload their data and the system is widely used by researchers to store their data, where it is publicly available and free to access.

Now known as [Research Data JCU](#), the Tropical Data Hub has been further developed into an integrated data management platform which supports the research life cycle — from planning research projects (known as RDMPs), to establishing Data Records, and creating Data Publications. The [Research Data Management Toolkit](#) provides online resources for all researchers and compulsory training modules for HDR candidates including on data retention and preservation.

In accordance with the [JCU Code for the Responsible Conduct of Research \(JCU Code\)](#) adapted from the Australian Code, the University has its own policy to promote research integrity and responsible conduct, and a number of related Procedures support this Code. The JCU Code has specific implications for Research Data Management. Under the Code, the institution undertakes to:

***[Responsibility 8:] Provide access to facilities for the safe and secure storage and management of research data, records and primary materials and, where possible and appropriate, allow access and reference.***

while researchers are required to:

***[Responsibility 22:] Retain clear, accurate, secure and complete records of all research including research data and primary materials. Where possible and appropriate, allow access and reference to these by interested parties.***

Research Data JCU ensures that data generated as part of the University's research activities is registered, stored, made accessible for use and reuse (if appropriate), and managed over time according to legal, ethical, funder requirements and good practice. Through Research Data JCU:

- A Research Data Management Plan is created for research projects, and is a non-public

record that describes what data will be created, what policies apply, who will own and have access to the data, what data management practices will be used, what facilities and equipment will be required and who will be responsible for each of these activities.

- Data records are created and is a non-public metadata record of the data and information associated with research project. It can apply to a large funded research project, a smaller or less formal project, a thesis, data chapters in a thesis or a dataset that will later be made available with a paper. Completing a Data Record ensures:
  - that it is easier to find data even after long periods of time have elapsed;
  - the integrity of research methods and findings; and
  - that researchers are compliant with the JCU Code.
- Create a Data Publication which is a public metadata record of the data and information generated as part of the research project. Data Publications include detailed descriptions of the data, establish the conditions for access and re-use (including the use of data licences) and may involve issuing a Digital Object Identifier - ensuring that data can be correctly cited, attributed, interpreted and re-used.

## Summary

The Panel found no research misconduct by Dr Oona Lönnstedt. Rather, the Panel found some inconsistency in research practice. The PhD and fieldwork occurred between 2010 - 2013 with conferral of the doctorate in July 2014. The Panel found no evidence to support any claim of “systemic issues of research practice that may affect the integrity of research” at the University at that time almost 10 years ago.

Unrelated to this, since 2014, the University has undertaken a number of process improvements in response to changes in legislation and national policy, including changes to animal ethics management and governance including additional resourcing, animal ethics permit applications and compliance, data management and compliance, and substantial efforts around the training of researchers, supervisors and candidates.

A recent external audit by Scientific Auditing Services Pty Ltd commended the University on the very high level of conformance with governing legislation and the University’s commitment to the review and continual improvement of the systems governing the care and use of animals undertaken by its researchers, technicians and students for scientific purposes.

# Opportunistic Sampling, Vouchering and Amendments to Projects in the Field Policy

## Intent

When working in the field, the AEC realises that investigators may, at times, need to make minor amendments to their AEC approval but may not be in a position to contact the AEC or to wait for formal approval to be granted. In these circumstances, it may be acceptable to go ahead without receiving formal approval. This policy outlines situations when it is acceptable to make such amendments and request retrospective AEC approval as soon as they are able to do so.

## Scope

**This policy applies to:**

- Researchers working in the field with wildlife or aquatic animals or on livestock field trials
- Situations that may occur when conducting field work, where it is not possible to contact the AEC, but where decisions made may be a breach of an AEC approval
- The AEC when assessing retrospective amendments to projects

## Definitions

<b>Voucher specimen</b>	means any specimen, usually but not always a dead animal, that serves as a basis of study and is retained as a reference.
<b>Type specimen</b>	means a particular voucher specimen that serves as a basis for taxonomic description of that subspecies.

## Policy

### **1. Situations where amendments to AEC approvals made in the field are considered justified to the AEC include:**

- 1.1. The animal is suspected of being a new species
- 1.2. The information may never be available again
- 1.3. The information may prove to be invaluable to the species survival
- 1.4. The activity complies with the investigator's Department of Environment and Heritage permits and relevant legislation
- 1.5. The amendment is reported as soon as possible after the activity to the AEC, and an amendment submitted for a retrospective approval, which outlines the reasons why approval was not requested before the activity
- 1.6. The animal is by-catch as long as by-catch is kept to a minimum and reported in the animal usage

### **2. Approved activities include:**

- 2.1. Change of species of animal to a related species with similar conservation status
- 2.2. Observational activities and photography
- 2.3. Collection of samples by approved methods
- 2.4. Taking measurements and minimally invasive physical examination

- 2.5. Non-destructive examination of an animal's environment
- 2.6. Temporary holding and short distance transportation
- 2.7. Call playback and recording
- 2.8. Identification – banding, PIT tagging, tagging, marking by acceptable methods for that species
- 2.9. Vouchering
- 3. Activities not approved:**
  - 3.1. Invasive procedures
  - 3.2. Inappropriate or unacceptable methods for that species
- 4. Taking a voucher specimen (vouchering):**
  - 4.1. It may be necessary when in the field for an investigator to come across a new, rare species that would justify them taking the animal as a voucher specimen without the activity being approved by the AEC. In these circumstances it may be considered, justified by the AEC to voucher the animal.
- 5. Situations where vouchering an animal would be considered justified by the AEC:**
  - 5.1. Verification of identification – because field identification is difficult, or a species cannot be identified in the field
  - 5.2. Confirmation of distribution
  - 5.3. Where significant range extensions are suspected
  - 5.4. Biodiversity surveys where a permanent record of fauna is desired
  - 5.5. For a revision of taxonomy
  - 5.6. A new species is suspected
  - 5.7. Collection of a type specimen
- 6. When a voucher specimen is taken, it must be done according to the following:**
  - 6.1. With consideration of the 3Rs
    - 6.1.1. Alternatives to collecting animals as voucher specimens (e.g. tissue samples, digital photography) must be considered, where appropriate
    - 6.1.2. The minimum number of animals are taken
    - 6.1.3. The most humane methods are used, and preferably the animal being killed as soon as is possible
  - 6.2. The animal is killed by an acceptable and humane method
  - 6.3. It will result in minimal effect on species conservation or survival
  - 6.4. All samples will be processed correctly and become part of a publicly available reference collection
  - 6.5. Details of the location must be kept

## Related policy instruments

None



## Schedules/Appendices

None

## Related documents and legislation

JCU Animal Ethics Committee Application to Amend a Project

NSW Animal Research Review Panel Guideline: Opportunistic research on free-living wildlife

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## Administration

### Approval Details

Policy Sponsor	Animal Welfare Officer
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### Revision History

Version	Approval date	Implementation date	Details	Author
1.0	02/06/2017	05/06/2017	Posted to AEC website	Craig Godfrey, Animal Welfare Officer

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