



# BIOL761

## Conservation of Australasian Wildlife

S2 Day 2015

*Dept of Biological Sciences*

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## General Information

Unit convenor and teaching staff

Unit Convenor

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E8B105

Unit Convenor

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E8A272

Credit points

4

Prerequisites

Admission to MRes

Corequisites

Co-badged status

Co-taught with BIOL861

Unit description

This unit deals with the theory and practice of the conservation of wild populations, with an emphasis on Australasian vertebrates. Lectures discuss the origins, diversity and evolutionary adaptations of the Australasian vertebrate fauna; current and emerging threats; and the theoretical aspects of wildlife conservation. Practical skills, including computer modelling, population monitoring, animal handling and experimental design, are taught in the laboratory and in the field.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

Identify characteristic Australasian vertebrate species and the environmental processes

that have influenced their evolution.

Gather, critically evaluate and synthesise diverse information sources to make an assessment of the conservation status (extinction risk, management options and knowledge gaps) of an Australasian vertebrate species.

Describe methods used to monitor wild populations in surveys at sea and on the land, including the particular population-level parameters being measured, the potential sampling biases of these methods, ethical considerations, and their application to conservation.

Develop a scientifically sound research proposal that implements population monitoring protocols and critically assesses a management option, or addresses a critical knowledge gap, for a threatened Australasian vertebrate species.

## Assessment Tasks

Name	Weighting	Due
<a href="#">Species Assessment</a>	10%	Week 3
<a href="#">Project Outline</a>	20%	Week 7
<a href="#">Ethics Application</a>	30%	Week 8
<a href="#">Project Proposal</a>	40%	Week 12

### Species Assessment

Due: **Week 3**

Weighting: **10%**

Give a 10 minute presentation (during the 1st on-campus session) on a threatened species of Australasian vertebrate. The species must be listed on a national list of threatened species (such as the [EPBC List of Threatened Fauna](#)) or on the [IUCN Red List](#). This presentation must address three points:

- **Risk Assessment:** What is the current conservation status of the species? What criteria and evidence were used to make this assessment? What are the most important threats or other problems for this species?
- **Conservation Action:** Propose one (1) potential conservation action that could lessen the extinction risk of the species. What problem or threat does this action address?
- **Knowledge Gap:** Propose one (1) critical knowledge gap that must be addressed to better manage or assess this species. Why do we need to address this knowledge gap?

On successful completion you will be able to:

- Identify characteristic Australasian vertebrate species and the environmental processes that have influenced their evolution.
- Gather, critically evaluate and synthesise diverse information sources to make an assessment of the conservation status (extinction risk, management options and knowledge gaps) of an Australasian vertebrate species.

## Project Outline

Due: **Week 7**

Weighting: **20%**

Prepare a concise outline for a project that involves monitoring and/or experimental manipulation of your chosen Australasian species (the same as for your Species Assessment) that assesses a conservation action or addresses a critical knowledge gap. This proposal will include a clear research question(s), a description of the data to be collected and a brief description of the experimental or sampling design. This project will be the same as you use for your Ethics Application and Project Proposal. The outline should be no more than two pages, including figures and references.

On successful completion you will be able to:

- Gather, critically evaluate and synthesise diverse information sources to make an assessment of the conservation status (extinction risk, management options and knowledge gaps) of an Australasian vertebrate species.
- Describe methods used to monitor wild populations in surveys at sea and on the land, including the particular population-level parameters being measured, the potential sampling biases of these methods, ethical considerations, and their application to conservation.
- Develop a scientifically sound research proposal that implements population monitoring protocols and critically assesses a management option, or addresses a critical knowledge gap, for a threatened Australasian vertebrate species.

## Ethics Application

Due: **Week 8**

Weighting: **30%**

Prepare an Ethics Application for a wildlife project (same as your Project Outline) by filling in a Wildlife Protocol Application form. The form will be supplied and will be in the same format as that used by the Macquarie University Animal Ethics Committee. You will need to fully describe the protocols you intend to implement in your Project Proposal, make a complete assessment of ethics implications, and justify your choice of protocols over alternatives.

On successful completion you will be able to:

- Describe methods used to monitor wild populations in surveys at sea and on the land, including the particular population-level parameters being measured, the potential sampling biases of these methods, ethical considerations, and their application to conservation.
- Develop a scientifically sound research proposal that implements population monitoring protocols and critically assesses a management option, or addresses a critical knowledge gap, for a threatened Australasian vertebrate species.

## Project Proposal

Due: **Week 12**

Weighting: **40%**

You will make a Project Proposal, including essential background, research question, study design, ethical concerns, appropriate timelines, realistic budget and expected outcomes, that expands upon your Project Outline assignment. This proposal will be in the form of an application for a grant for funding over a 3-year period.

On successful completion you will be able to:

- Identify characteristic Australasian vertebrate species and the environmental processes that have influenced their evolution.
- Gather, critically evaluate and synthesise diverse information sources to make an assessment of the conservation status (extinction risk, management options and knowledge gaps) of an Australasian vertebrate species.
- Describe methods used to monitor wild populations in surveys at sea and on the land, including the particular population-level parameters being measured, the potential sampling biases of these methods, ethical considerations, and their application to conservation.
- Develop a scientifically sound research proposal that implements population monitoring protocols and critically assesses a management option, or addresses a critical knowledge gap, for a threatened Australasian vertebrate species.

## Delivery and Resources

### Delivery

Lectures and tutorials are weekly (see timetable and unit schedule). Lectures are recorded and will be available from the ilearn website. Some material is delivered by weekend block session (see timetable and unit schedule) - attendance at these sessions is compulsory.

## Textbook

There is no assigned textbook for this unit. Recommended readings will be listed on the unit ilearn page.

## Computing requirements

Access to a computer with basic office software and an internet connection is required for assignments. Some tutorials require software that runs on Windows. A computer lab with PCs running Windows 8 will be used during tutorials and is also available at other times to postgraduate coursework students.

## Unit Schedule

**Provisional - details may change**

***Block sessions are compulsory***

Week	Lecture	Tutorial	Weekend block session
1	Introduction	Documentary	
2	Origins, diversity and evolution	Threatened species	
3	Conservation issues	Habitat loss and fragmentation	
			Session 1: Terrestrial (15-16 Aug)
4	Population monitoring	Estimating population size	
5	Population dynamics	Life Table analysis	
6	Risk assessment	Wildlife research ethics	
7	Conservation of populations	Population Viability Analysis	
8	Species concepts	Species Distribution Modelling	
			Session 2: Marine (3-4 Oct)
9	Conservation genetics	<i>No tutorial</i>	
10	Listing threatened species	<i>No tutorial</i>	
11	<i>No lecture</i>	<i>No tutorial</i>	
12	<i>No lecture</i>	<i>No tutorial</i>	
13	<i>No lecture</i>	<i>No tutorial</i>	

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy [http://mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://mq.edu.au/policy/docs/academic_honesty/policy.html)

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy [http://mq.edu.au/policy/docs/grievance\\_management/policy.html](http://mq.edu.au/policy/docs/grievance_management/policy.html)

Disruption to Studies Policy [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html) *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of Policy Central.

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: [https://students.mq.edu.au/support/student\\_conduct/](https://students.mq.edu.au/support/student_conduct/)

## Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](http://ask.mq.edu.au).

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

## IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/help/>.

When using the University's IT, you must adhere to the [Acceptable Use Policy](#). The policy applies to all who connect to the MQ network including students.

## Graduate Capabilities

### PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

#### Learning outcome

- Develop a scientifically sound research proposal that implements population monitoring protocols and critically assesses a management option, or addresses a critical knowledge gap, for a threatened Australasian vertebrate species.

#### Assessment tasks

- Project Outline
- Ethics Application
- Project Proposal

### PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

#### Learning outcomes

- Identify characteristic Australasian vertebrate species and the environmental processes that have influenced their evolution.
- Gather, critically evaluate and synthesise diverse information sources to make an assessment of the conservation status (extinction risk, management options and knowledge gaps) of an Australasian vertebrate species.
- Describe methods used to monitor wild populations in surveys at sea and on the land, including the particular population-level parameters being measured, the potential



sampling biases of these methods, ethical considerations, and their application to conservation.

- Develop a scientifically sound research proposal that implements population monitoring protocols and critically assesses a management option, or addresses a critical knowledge gap, for a threatened Australasian vertebrate species.

## **Assessment tasks**

- Species Assessment
- Project Outline
- Ethics Application
- Project Proposal

## **PG - Critical, Analytical and Integrative Thinking**

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

## **Learning outcomes**

- Gather, critically evaluate and synthesise diverse information sources to make an assessment of the conservation status (extinction risk, management options and knowledge gaps) of an Australasian vertebrate species.
- Describe methods used to monitor wild populations in surveys at sea and on the land, including the particular population-level parameters being measured, the potential sampling biases of these methods, ethical considerations, and their application to conservation.
- Develop a scientifically sound research proposal that implements population monitoring protocols and critically assesses a management option, or addresses a critical knowledge gap, for a threatened Australasian vertebrate species.

## **Assessment tasks**

- Species Assessment
- Project Outline
- Ethics Application
- Project Proposal

## PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

### Learning outcomes

- Gather, critically evaluate and synthesise diverse information sources to make an assessment of the conservation status (extinction risk, management options and knowledge gaps) of an Australasian vertebrate species.
- Describe methods used to monitor wild populations in surveys at sea and on the land, including the particular population-level parameters being measured, the potential sampling biases of these methods, ethical considerations, and their application to conservation.
- Develop a scientifically sound research proposal that implements population monitoring protocols and critically assesses a management option, or addresses a critical knowledge gap, for a threatened Australasian vertebrate species.

### Assessment tasks

- Species Assessment
- Project Outline
- Ethics Application
- Project Proposal

## PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

### Learning outcome

- Develop a scientifically sound research proposal that implements population monitoring protocols and critically assesses a management option, or addresses a critical knowledge gap, for a threatened Australasian vertebrate species.

## Assessment tasks

- Project Outline
- Ethics Application
- Project Proposal

## PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

## Learning outcomes

- Describe methods used to monitor wild populations in surveys at sea and on the land, including the particular population-level parameters being measured, the potential sampling biases of these methods, ethical considerations, and their application to conservation.
- Develop a scientifically sound research proposal that implements population monitoring protocols and critically assesses a management option, or addresses a critical knowledge gap, for a threatened Australasian vertebrate species.

## Assessment tasks

- Project Outline
- Ethics Application
- Project Proposal