BIOL875

Contemporary Conservation in Australia

S1 External 2019

Dept of Biological Sciences

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General Information

Unit convenor and teaching staff
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Lecturer
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Credit points
4

Prerequisites
Admission to MBiotech or MBioBus or GradDipBiotech or MConsBiol or GradDipConsBiol or GradCertConsBiol or MEnv or MEnvPlan or GradDipEnv or MMarScMgt or MSusDev or GradDipSusDev or MPlan or MSc or MScInnovation

Corequisites

Co-badged status

Unit description
This unit provides a current perspective of the values, threats to existence and conservation of Australian wildlife. The special characteristics of the Australian biota (plants, animals and other organisms) and the key threatening processes are discussed as well as its global and historical context. The role of biological research in informing conservation management is explored, and how conservation-based research is communicated and interpreted. An emphasis is placed on case studies in conservation biology with critical analysis of conservation successes and failures.

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:

Describe theoretical concepts in conservation biology and current conservation issues in

Australia and abroad

Communicate scientific research and issues in conservation to various target audiences in verbal and written form

Evaluate literature on conservation issues within peer-reviewed scientific literature and present them in the popular media

Identify how research in conservation biology influences environmental management practices and assess how effectively this is undertaken

Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesising the current state-of-knowledge

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly Online Quizzes	24%	No	weekly
Research Presentation	26%	No	05/04/2019
Research Abstract	10%	No	05/04/2019
Popular science article	40%	No	17/05/2019

Weekly Online Quizzes

Due: **weekly**
Weighting: **24%**

This Assessment Task relates to the following Learning Outcomes:

- *Describe theoretical concepts in conservation biology and current conservation issues in Australia and abroad*
- *Communicate scientific research and issues in conservation to different target audiences in verbal and written form*
- *Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesizing the current state-of-knowledge*

On the day following each lecture (excluding final lecture), a quiz will become available on iLearn (worth ~2%) that you will have 7 days to complete (see timetable). The 12 online exercises will consist of short answers and multiple-choice questions that **revise the topic of each lecture (including tutorial discussions)**, encourage thinking and research skills, in alignment with the *Austral Ark* textbook chapters. The exercises may involve consulting the peer-reviewed literature, external websites, and chapters within *Austral Ark*.

The schedule for the availability and due dates of each online quiz on iLearn is as follows. *Note:*

*quizzes become available before 5pm the day after each lecture (Wednesday) - and are closed **7 DAYS LATER on the following Wednesday at 5pm.** The due dates and availability of quizzes are as follows:*

Quiz number

Date quiz available

% weighting

Due date:

quiz closed

Q1

27 February

2

6 March

Q2

6 March

2

13 March

Q3

13 March

2

20 March

Q4

20 March

2

27 March

Q5

27 March

2

3 April

Q6

3 April

2

10 April

Q7

10 April

2

17 April

Q8

1 May

2

8 May

Q9

8 May

2

15 May

Q10

15 May

2

22 May

Q11

22 May

2

29 June

Q12

29 May

2

5 June

TOTAL

24%

On successful completion you will be able to:

- Describe theoretical concepts in conservation biology and current conservation issues in Australia and abroad

Research Presentation

Due: **05/04/2019**
Weighting: **26%**

This Assessment Task relates to the following Learning Outcomes:

- *Communicate scientific research and issues in conservation to various target audiences in verbal and written form*
- *Identify how research in conservation biology influences environmental management practices and assess how effectively this is undertaken*
- *Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesising the current state-of-knowledge*

Many conservation strategies lack up-to-date insights from recent research findings due to poor communication of science outside of academia. It is just as important that scientific research to be understood by practitioners as it is to published it.

For this assessment, you are required to choose a specific topic of conservation interest recent (in the past five years) in Australia (or New Zealand/ Oceania). The topic you choose may, e.g., be in relation to a threatened/invasive species, a threatened habitat, or threatening processes such as fire, disease spread or human disturbance.

Your task is to give a 10-minute pre-recorded presentation (*using powerpoint slides with audio only*) to pitch an update on a conservation issue of interest, integrating scientific literature published in the last FIVE years around your topic.

Focus on the aspects of the scientific literature that relate to research insights related to conservation management of the topic you have chosen.**The aim of your presentation is to provide a RESEARCH UPDATE AND SYNTHESIS of a specific conservation topic, supported by the peer-reviewed scientific data.**

To be tractable and informative, your topic should be specific to a region, community or species. *Forexample*, a suitable research topic meeting these criteria might be “Recent advances in industrial technology to minimize environmental impacts caused by pollution in Australia”

Specifically, you will:

- Pitch your presentation to conservation decision-makers (e.g. land managers) who are *scientifically literate*, and have an interest in your chosen conservation topic. Keep it scientific, but relevant for management.
- Do a recent scientific literature search on the topic, provide brief background to your

topic, collate and synthesise findings and conclusions.
- Communicate the contribution of recent research towards the understanding and management of your chosen conservation issue.
- See the marking rubric for more information on suggested structure and content

Create slides for a PowerPoint presentation and **record your oral presentation** during the slide show using the 'record presentation' function (e.g. for instructions: see here for Mac; and see here for PC). Provide a separate citation list in .pdf format listing all literature consulted for your presentation. Please save file as "**surname_student#_presentation_references.pdf**" and upload separately along with your presentation.

On successful completion you will be able to:
- Describe theoretical concepts in conservation biology and current conservation issues in Australia and abroad
- Communicate scientific research and issues in conservation to various target audiences in verbal and written form
- Identify how research in conservation biology influences environmental management practices and assess how effectively this is undertaken
- Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesising the current state-of-knowledge

Research Abstract

Due: **05/04/2019**
Weighting: **10%**

This Assessment Task relates to the following Learning Outcomes:

- *Communicate scientific research and issues in conservation to different target audiences in verbal and written form*
- *Identify how research in conservation biology influences environmental management practices and assess how effectively this is undertaken*
- *Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesising the current state-of-knowledge*

Together with your Conservation Research Update Presentation (assessment task 2), submit a 400 word abstract that summarises your presentation, as if you were presenting it at a conference. Abstracts are a common way to explain your presentation in a short and interesting way and highlight the key points of your presentation and take-home messages. Abstracts should be written as a 'mini' article, i.e. they should generally provide a brief background statement, information of what research was done and what the main findings were, followed by a concluding statement.

On successful completion you will be able to:

- Describe theoretical concepts in conservation biology and current conservation issues in Australia and abroad
- Communicate scientific research and issues in conservation to various target audiences in verbal and written form
- Identify how research in conservation biology influences environmental management practices and assess how effectively this is undertaken
- Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesising the current state-of-knowledge

Popular science article

Due: **17/05/2019**
Weighting: **40%**

This Assessment Task relates to the following Learning Outcomes:

- *Describe theoretical concepts in conservation biology and current conservation issues in Australia and abroad*
- *Evaluate literature on conservation issues within peer-reviewed scientific literature and present them in the popular media*
- *Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesising the current state-of-knowledge*

Popular science articles remain an effective way to target the general public and to inform them of pertinent issues and/or exciting new discoveries. It is often difficult to translate scientific literature, that is full of specialist jargon, into material that is easily understood and captivating to read, and more importantly, accurately reflects they intended outcomes and message(s) of the research. As conservation biologists we must learn to better communicate our work to the public, the media, managers and policy makers. This task is designed to raise your awareness of these issues and ability to recognise and evaluate them by writing a popular science article on a relevant topic of your choice.

In a report *in your own words* (up to 2000 word),you will write a popular science article to *The Conversation* (see https://theconversation.com/au).

To do this, you will choose a recently (< 1 years old) published scientific paper from a journal within conservation biology. The chosen journal article may focus on conservation issues occurring **in any part of the world**(i.e. not restricted to Australia or New Zealand).

Assessment of your popular article is worth 40% and can be up to 2000 words.

Key requirements and guidelines:

- Write a popular science article (up to 2000 words) for *The Conversation*based on a

recent research publication on a topic of your choosing related to conservation biology.

- Write your popular article in the style of *The Conversation*. See tips and guidelines at: https://prezi.com/ie6qdpipaamx/science-how-to-write-for-the-conversation-and-pitch-your-piece/and the "Author Guide The Conversation" on iLearn.
- Scientific articles should preferably be sourced from a multidisciplinary or conservation-related and high-impact journals (e.g. Conservation Biology, Current Biology, Biology Letters, Nature, Science).
- Consult the wider literature and provide additional citations to give background, support, and add to the information content of your popular article.
- Here is a great example of a popular article with a strong conservation focus: https://theconversation.com/tigers-confirmed-as-six-subspecies-and-that-is-a-big-deal-for-conservation-105592
- Provide up to three relevant images.
- Hyperlinks that allow further reading can be used (no paywall material; *The Conversation*articles encouraged; links to scientific papers discouraged; no Wikipedia)
- Reports must contain formatted citations and a reference list.
- Your report must appeal to the right audience (intelligent, educated, curios – i.e. not dumbing things down).
- The citation for the original research upon which your article is based must be provided at the end of your article.
- Reports must be submitted with a TurnItIn report.

Specific details that should be addressed in your report are:

- What is the conservation issue that researchers are addressing in the scientific paper that you are reporting on? Why is it significant and attracting media attention, i.e. 'so what'? Give a brief background using a broader literature search.
- Your popular article must accurately reflect the research article it is based on.
- Obviously scientific methods cannot be described in detail within a popular article, but is excluding the methods creating a false image of what was performed, or is it adequately represented in your article?
- Does your popular article reflect a sound conclusion, i.e. overall synthesis?

When writing your article **avoid personal opinion and vague, general statements.** Back up all statements with references as you will be **largely assessed on scientific content and research capabilities**.

On successful completion you will be able to:

- Describe theoretical concepts in conservation biology and current conservation issues in Australia and abroad
- Communicate scientific research and issues in conservation to various target audiences in verbal and written form
- Evaluate literature on conservation issues within peer-reviewed scientific literature and present them in the popular media
- Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesising the current state-of-knowledge

Delivery and Resources

Attendance at weekly lectures and tutorials is highly encouragedto enable face-to-face discussions with the invited speakers, interact with other students and enhance your learning experience. The lectures in this unit are entirely comprised of invited expert researchers who are active and renown in their fields,offering an excellent opportunity to connect with a diversity of researchers and expand knowledge.

Students will need access to a computer and basic office software (e.g. Microsoft Office or OpenOffice) to complete assessment tasks. An Internet browser will also be required to search for background information, for assignments and to complete online exercises and enable online course participation. Some tutorials may require a computer, which may be provided if needed. Course content and discussion boards etc. will be available through iLearn

The set, **compulsory** text required for this unit is:

Austral Ark: The State of Wildlife in Australia and New Zealand (2015) Eds. A Stow, N Maclean, G. Holwell. Cambridge University Press.

The text book is available for purchase on campus at the Co-op bookstore.

Other useful references:

Attiwill, P. & B. Wilson, Ecology: an Australian perspective. Oxford University Press, New York. 648 pp.

Burgman, M. and Lindenmayer, D. (1998): Conservation Biology for the Australian

Environment. Surrey Beatty & Sons, Sydney

Krebs, C.J. 1994. Ecology: the experimental analysis of distribution and abundance. 4th ed., Harper, New York. 800 pp

Unit Schedule

Week	Date	Topic	Lecturer

1	26/2/19	Introduction to conservation in Australia and Unit summary	Jaco Le Roux/Dave Nipperess
2	5/3/19	Groundwater life and its conservation	Grant Hose
3	12/3/19	Fire and Australian biodiversity	Adam Stow
4	19/3/19	Plant invasions and conservation	Rachael Gallagher
5	26/3/19	Animal invasions and Australian biodiversity	Rick Shine
6	2/4/19	Applying evolution and genetics to Australian conservation	Rachael Dudaniec
7	9/4/19	Amphibian conservation in Australia	Simon Clulow
MQ BREAK			
8	30/4/19	Impacts of climate change on flora and fauna	Linda Beaumont
9	7/5/19	Environmental monitoring and biodiversity assessment	Anthony Chariton
10	14/5/19	Australian reptile conservation and management	Adam Stow
11	21/5/19	Marine protected areas in Australia	Jane Williamson
12	28/5/19	Bush Heritage Australia – a collaborative approach to Nature Conservation	Rebecca Spindler
13	4/6/19	Unit summary and feedback	Jaco Le Roux

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy *(**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

Undergraduate students seeking more policy resources can visit the Student Policy Gateway (https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/p

olicy-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/study/getting-started/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) 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 or if you are a Global MBA student contact globalmba.support@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) 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

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources 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 outcomes

- Communicate scientific research and issues in conservation to various target audiences in verbal and written form
- Evaluate literature on conservation issues within peer-reviewed scientific literature and present them in the popular media

Assessment task

- Popular science article

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

- Describe theoretical concepts in conservation biology and current conservation issues in Australia and abroad
- Communicate scientific research and issues in conservation to various target audiences in verbal and written form
- Evaluate literature on conservation issues within peer-reviewed scientific literature and present them in the popular media
- Identify how research in conservation biology influences environmental management practices and assess how effectively this is undertaken
- Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesising the current state-of-knowledge

Assessment tasks

- Weekly Online Quizzes
- Research Presentation
- Research Abstract
- Popular science article

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

- Describe theoretical concepts in conservation biology and current conservation issues in Australia and abroad
- Communicate scientific research and issues in conservation to various target audiences in verbal and written form
- Evaluate literature on conservation issues within peer-reviewed scientific literature and present them in the popular media
- Identify how research in conservation biology influences environmental management practices and assess how effectively this is undertaken
- Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesising the current state-of-knowledge

Assessment tasks

- Weekly Online Quizzes
- Research Presentation
- Research Abstract
- Popular science article

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

- Describe theoretical concepts in conservation biology and current conservation issues in Australia and abroad
- Communicate scientific research and issues in conservation to various target audiences in verbal and written form

- Evaluate literature on conservation issues within peer-reviewed scientific literature and present them in the popular media
- Identify how research in conservation biology influences environmental management practices and assess how effectively this is undertaken
- Demonstrate a capacity for undertaking literature-based research into key topics in conservation biology and synthesising the current state-of-knowledge

Assessment tasks

- Research Abstract
- Popular science article

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 outcomes

- Communicate scientific research and issues in conservation to various target audiences in verbal and written form
- Evaluate literature on conservation issues within peer-reviewed scientific literature and present them in the popular media

Assessment tasks

- Research Presentation
- Research Abstract
- Popular science article

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

- Communicate scientific research and issues in conservation to various target audiences

in verbal and written form

- Evaluate literature on conservation issues within peer-reviewed scientific literature and present them in the popular media

Assessment tasks

- Research Presentation
- Popular science article

Changes since First Published

Date	Description
07/02/2019	Unit schedule updated.