



World Environment Day

2021

“Ecosystem restoration”

Wominjeka

Acknowledgment of country



Before we begin, I would like to acknowledge and pay respect to the traditional custodians of the land on which we meet; the Wurundjeri people of the Kulin nation.

Who am I?



Major

Ecology and Evolutionary Biology

☆ Save

COVID-19 notice: Learn more about our COVID-safe return to campus



MAJOR OVERVIEW WHAT WILL I STUDY? WHERE WILL THIS TAKE ME?

My STC Journey!

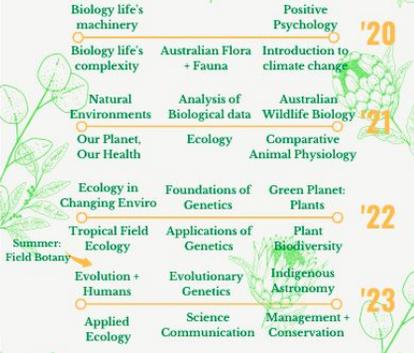


VCE subjects

English	Chemistry	Biology	Methods	Specialist Math	Texts and Traditions 3/4
English	Chemistry	Biology	Methods	Specialist Math	



BACHELOR OF SCIENCE



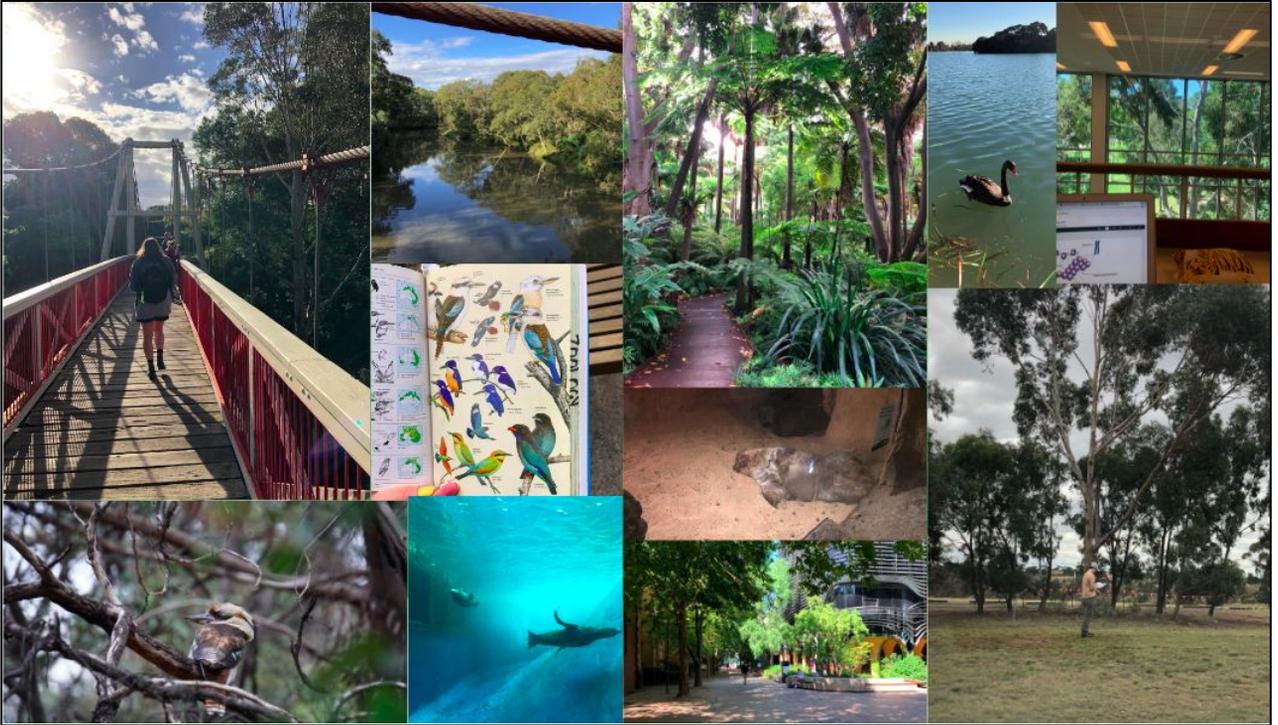
Ecology + Evolutionary Biology:
Conservation + Genetics Specialisation
Clare Wilson

Example class timeline

Week 8				
26-Apr	1pm	Lec20	Introduction to mammals	Dr Kath Handasyde
27-Apr	11am	Lec21	Possums	Dr Kath Handasyde
28-Apr	12pm	Lec22	Kangaroos and wallabies	A/Prof. Graeme Coulson
28-Apr	2:30pm	Tute1	Tutorial for RGB and SP	Raoul and Ilana
Week 9				
3-May	1pm	Lec23	Monotremes: Introduction	Dr Jane Fenelon
4-May	11am	Lec24	Bats: Diversity	Dr Lisa Godhio
5-May	12pm	Lec25	Marine mammals ocean sentinels	Dr Rebecca McIntosh
Week 10				
10-May	1pm	Lec26	Human impacts on wildlife: Light	Ashton Dickerson and Marty Lockett
11-May	11am	Lec27	Human impacts on wildlife: Pollutants	A/Prof. Mark Green
12-May	12pm	Lec28	Invasive species: Cane toads	A/Prof. Ben Phillips
12-May	2:30pm	Exc5	Excursion: Abert Park	Raoul and Ilana
Week 11				
17-May	1pm	Lec29	Animal welfare	Raoul and Ilana
18-May	11am	Lec30	Animal diseases	Dr Jasmin Hufschmid
19-May	12pm	Lec31	Citizen involvement in protection	Raoul and Ilana
19-May	2:30pm	Tute2	Tutorial for swan report	Raoul and Ilana
Week 12				
24-May	1pm	Lec32	Conservation and reintroduction	Chris Harthett
25-May	11am	Lec33	Thylacine, bringing back spp from extit	Prof. Andrew Pask
26-May	12pm	Lec34	Summary lecture	Raoul and Ilana



What is uni like?



ZOOS VICTORIA

Fighting Extinction



Looking forward ...



The Master of Conservation Biology and Master of Conservation Science programs at UQ are ideal to expand your career prospects into a wide range of government, conservation and resource management agencies.

Questions?

what is

Ecosystem Restoration?



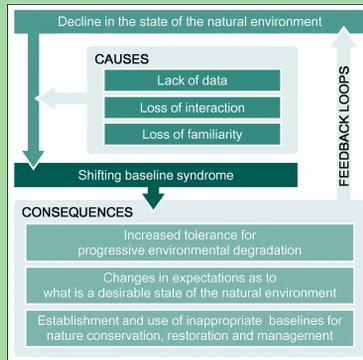
What is Ecosystem Restoration?



“assisting in the **recovery of ecosystems** that have been **degraded or destroyed**, as well as **conserving** the ecosystems that are still intact. Healthier ecosystems, with richer biodiversity, yield greater benefits such as more fertile soils, bigger yields of timber and fish, and larger stores of greenhouse gases.”

What are we restoring to?

- Pre European arrival?
- Pre Indigenous arrival?
- 50 years ago?
- What are we happy with??
- How do we know what our goal should be??



Shifting baseline!



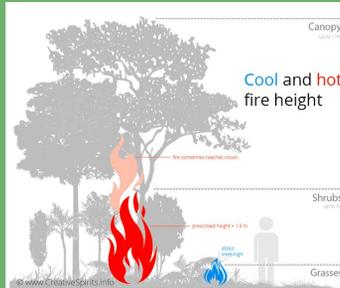
What needs
to be
restored?



Thinking outside the box!

- Restoring Traditional fire regimes (to promote biodiversity)
- Restoring habitat structure
- Restoring Genetic diversity

Restoring traditional management



- Here over 60,000 years - biota has evolved and adapted to their use of cultural burning + fire
- Cultural burning = cool mosaic burns early in the season that reduces leaf litter preventing intense canopy burning bushfires later in the season
- Cultural burning = cool, mosaic pattern which enables organisms to flee, doesn't burn the canopy and provides that smoke stimulation and heat that many need to germinate
- Need to restore all aspects of the landscape, including traditional management as it has been present for thousands of years

Restoring habitat structure



Example of Plains wanderer; critically endangered and it lives in the Victorian grasslands. Which is a problem in itself because we have less than 1% of our native grasslands remaining.

Previously their main threat was habitat loss, but now it is loss of habitat structure.

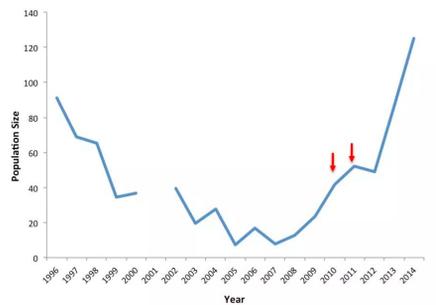
Top left = perfect habitat structure

Due to overgrazing during drought, and insufficient grazing in wet years

So organisations such as Zoos Victoria are working with farmers to ensure they move their stock around creating ideal habitat for the Plains wanderers to be released to.

We can think outside the box of how we resolve the problem; using an introduced species to solve the problem.

Restoring Genetic diversity



Mountain pygmy possum numbers at Mt Buller since 1996. The red arrows indicate the years when six males were moved from Mt Hotham to increase the genetic variation in the local Mt Buller population.



- Genetic diversity = lets species bounce back, by adapting and evolving to new circumstances
- When they lose this genetic diversity it places them at risk of extinction
- Mt pygmy possum is one example of an endagenred species with low genetic diversity, can additionally think outside the box when responding
- 2 metapopulations: Mt hotham (going ok), Mt buller (no ok!)
- Mt Hotham: connected pops by building tunnel of love under ski resort
- Mt buller: introduced members of the mt hotham pop to increase diversity

Complex problems require creative solutions ...

You can fuse just about anything with conservation to create an awesome, creative career!

The only limit is your imagination.

Think
outside
the box!

- Read widely – it will help you work out where your interests lie
- Don't be afraid to be yourself and talk to people – even 'VIPs'
We're all on a mission to fight extinction together
- Stay positive and when the going gets tough...keep smiling
- Act on your passion for wildlife conservation and things will fall into place

**TOGETHER WE CAN
FIGHT EXTINCTION**



A green rectangular background with a thin black border. Four white, stylized cloud shapes are positioned at the corners: top-left, top-right, bottom-left, and bottom-right. The text "Any Questions?" is written in a dark green, handwritten-style font in the upper right quadrant.

Any
Questions?

Brimbank park

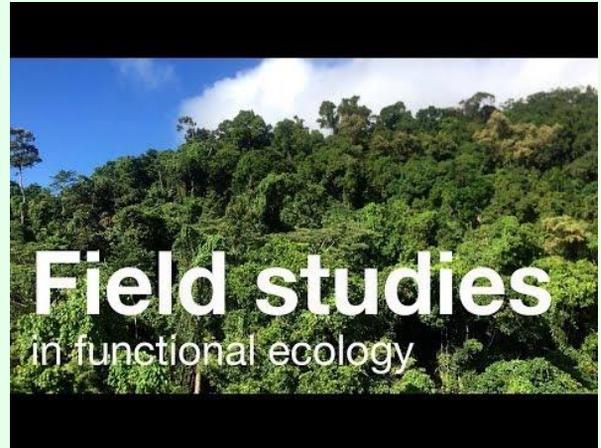
We talked about brimbank park briefly and I wanted to reiterate how awesome it is and it's a great local place to visit during lockdown. For more info you can visit the parks victoria site! Parks vic made a short video about it too :)



<https://www.youtube.com/watch?v=0TlakCfp0aM>

cool subjects!

I also wanted to add there are some really cool subjects that you can do at uni! One that I'm planning on doing is the melbourne uni equivalent of this one that's at ACU. It's called tropical field ecology and we go to the daintree rainforest!



<https://youtu.be/mkxdYQLyhfl>

Thanks

Every small action counts.
Let's protect the environment
together!

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