



Australian Centre for Biodiversity

Overview

VISION

'To engage as a community of biologists that develops tools, understanding and capacity for making sound decisions that will maintain and restore ecosystems now and in the future'

WHAT WE DO

The Australian Centre for Biodiversity carries out world class research in biodiversity, landscape ecology and ecosystem dynamics. The centre actively engages with managers and policy makers to convert research into management and policy. Through cross collaboration across scientific disciplines we encourage development of genuinely innovative biodiversity research. This is further strengthened through our research relationship with industry and resource managers, as well as international researchers.

RESEARCH STRENGTHS

- Effects of climate change on patterns of diversity and ecosystem function
- Aquatic ecology, particularly the effects of drought and land use on aquatic biodiversity and ecosystem function
- Landscape ecology and futures
- Evolutionary ecology
- Invasion biology
- Soil health and agroecology
- Forest dynamics, including assembly processes, tree health and the effects of fire
- Landscape genetics, particularly the effects of habitat fragmentation on patterns of dispersal.
- Ecosystem dynamics, including fluxes and flows of nutrients and energy through terrestrial and aquatic ecosystems.

Australian Centre for Biodiversity

Executive Committee

Professor Ralph Mac Nally

ACB Director

Landscape ecologist

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- Landscape futures and reconstruction
- Effects of habitat loss and fragmentation
- Community ecology of birds

Dr Paul Sunnucks

Ecological geneticist

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- Animal dispersal
- Biotic responses to habitat fragmentation and climate change.
- Molecular population biology

Dr Tim Cavagnaro

Aquatic ecosystem ecologist

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- Soil ecology
- Plant mutants as model systems to study plant-microbe interactions
- Climate change

Dr Paul Reich

Stream ecologist

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- Stream restoration ecology
- Riparian ecology
- Dispersal and recruitment dynamics of stream biota

Associate Professor Jason Beringer

Climatology

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- Micrometeorology
- Climate change
- Land-atmosphere interactions

Dr Carla Sgro

Evolutionary ecologist

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- Life history evolution
- Evolutionary genetics
- Genetic basis of adaptation to changing environmental conditions

Dr Patrick Baker

Centre Chairperson

Forest ecologist

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- Forest ecology and dynamics
- Dendroecology
- Silviculture of mixed species forests

Dr Kirsten Shelly

Research Development Manager

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- Algal Physiology
- Climate Change
- Project Management

Amber Clarke

Postgraduate

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- Conservation of aquatic macroinvertebrate diversity in headwater streams

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People and projects



Dr Nick Bond

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- Restoration ecology
- Ecology of intermittent streams
- Effects of habitat patchiness



Dr Perran Cook

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- Nutrient cycling in stratified estuaries & permeable sediments
- Bioavailability and sources of dissolved organic matter and nutrients



Dr Shaun Cunningham

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- Tree ecophysiology with emphasis on physiological adaptations to climate
- Modelling ecological processes at regional scales



Professor Sam Lake

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- Community aquatic ecology
- Role of disturbance in structuring communities
- Drought ecology



Dr Mike Grace

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- Aquatic chemistry
- Biogeochemical Cycling of nutrients



Dr Kay Morris

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- Ecological management of wetlands
- Plant dispersal and community dynamics



Dr Melanie Norgate

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- Responses of ecologically important genes to climate change in insects



Dr Dennis O'Dowd

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- Ecology, evolution, and biogeography of plant-animal interactions.
- Ecology and control of environmental weeds.



Dr Sasha Pavlova

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- Relationship between landscape structures and functional connectivity in birds
- Population structures and demography



Dr Elisa Rawlings

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- Plant morphology
- Wetland ecology and restoration
- Vegetation management



Dr Danny Spring

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- Biodiversity management



Dr Andrea Taylor

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- Animal movement through landscapes
- Molecular population biology



Dr Ross Thompson

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- Stream and lake ecology
- Food web ecology and dynamics
- Climate change impacts on community and ecosystem processes



Dr Jim Thomson

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- Landscape and freshwater ecology
- Ecological modelling and spatial analysis

Australian Centre for Biodiversity

The Monash Sustainability Institute (MSI) is committed to delivering solutions to key sustainability challenges through research, education and practice. Promoting and facilitating collaborative, cross-disciplinary research. The Institute draws together teams that transcend traditional boundaries and provides a portal for knowledge sharing. The flexible nature of the Institute enables the most relevant teams to be formed from experts within and outside the University. The ACB plays a major role within the MSI, delivering on the biodiversity research aspects of sustainability.



MONASH University
Monash Sustainability Institute

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