



2012 Annual Report

Australian Wetlands, Rivers and Landscapes Centre

School of Biological, Earth and Environmental
Sciences, Faculty of Science

Table of Contents

AUSTRALIAN WETLANDS, RIVERS AND LANDSCAPES CENTRE - 2012 ANNUAL REPORT.....	3
Director's Message	4
Summary	4
Centre Performance.....	7
Membership	7
Aims and Strategies	7
2012 Awards and Prizes	10
School Awards 2012	10
Media Coverage	10
Publications	10
BEES and AWRLC Interactions	10
Major Goals for 2013	11
Resources	11
Financial performance	11
In-kind contributions	11
Management.....	12
Details of significant managerial or personnel changes	12
Meetings of the Centre's management board and advisory committee	12
Teaching and research supervision	12
Graduate programs	13
APPENDIX A: Members of the Australian Wetlands, Rivers and Landscapes Centre in 2012 and their home Schools	14
APPENDIX B: Postgraduate Students.....	16
PhD	16
MPhil	17
APPENDIX C: Grants active in 2012	18
APPENDIX D: Publications in 2012	20
APPENDIX E: Media Coverage	26
APPENDIX F – Financial Reports	29

AUSTRALIAN WETLANDS, RIVERS AND LANDSCAPES CENTRE - 2012 ANNUAL REPORT

The Australian Wetlands, Rivers and Landscapes Centre (AWRLC) was formally established in July 2009, and this Annual Report covers the operation of the Centre for 2012.

Centre Executive

Centre Director – Professor Richard Kingsford

Deputy Director – A/Professor Paul Adam

Deputy Director – A/Prof Jes Sammut

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Centre Vision and Goals

Vision

The Australian Wetlands, Rivers and Landscapes Centre is a leader in research and its communication of environmental change in rivers, wetland and landscapes, attracting top quality students and forming strategic partnerships with government, industry and the community

Goals

The goals for the Australian Wetlands, Rivers and Landscapes Centre for 2012-2015 are to:

1. grow research, teaching and expertise capability by attracting academic research staff and other researchers;
2. increase the number of postgraduate students and improve their postgraduate experience;
3. increase number and size of research grants;
4. increase the number and impact of research publications;
5. increase collaboration with other UNSW research centres, government agencies and other research partners;

6. increase effectiveness of research in influencing decision-making and;
7. continue to communicate results of research widely to the community.

Director's Message

AWRLC has continued to grow in its range of projects, expertise and collaborations over 2012. This marked three years since the Centre was established, triggering our first internal review which was supportive of our direction and achievements. We continue to be well supported within the School of Biological, Earth and Environmental Sciences and by the Faculty of Science and UNSW more broadly. Our links to government through our external advisory committee have provided excellent advice on our projects and our direction. In 2012, we extended our collaboration with the appointment of Professor David Keith, through a joint position established with the NSW Office of Environment and Heritage. Dr Mirela Tulbure took up a position in remote sensing of wetlands and Dr Mike Letnic joined as an ARC Future Fellow. We have experienced good growth in our funding, postgraduate students and publications. We also continue to contribute to government advisory bodies and projects, furthering the relevance and applicability of our research.

Summary

In 2012, there were 54 members of the Centre, including 24 academic and postdoctoral research staff, and 7 research assistants. We have increased the number of Adjunct and Visiting Fellows from 11 to 23, mostly expertise within the NSW government.

Results of the AWRLC strategic planning day set performance targets to continuously improve metrics for both Centre and staff. Initiatives from the 2011 planning session as major goals for 2012 were to continue to build capacity and excellence in research application and communication, grow research revenue by \$0.2 million, appoint additional academic staff; increase higher degree enrolments, improve the graduate research program and contribute to the undergraduate curriculum in BEES.

Successful initiatives included:

- External research revenue exceeded targeted growth of additional \$0.2 million.
- Appointment of Dr David Keith as a Professor of Botany with funding shared for his position between the NSW Office of Environment and Heritage and the University of NSW.

- Dr Mike Letnic joined the Centre as an ARC Future Fellow.
- Appointment of Dr Mirela Tulbure as Research Fellow in Remote Sensing and GIS.
- Peer reviewed publications increased to 83, with an additional 8 reports published by the Centre.
- Three day scientific writing workshop held for higher degree research students and postdoctoral research fellows.
- Workshop on the value and use of the media run in conjunction with the BEES post graduate forum.
- The Centre had 18 postgraduate students, 2 MPhil and 5 Honours students. Growth in new postgraduate enrolments were limited due to high numbers enrolling in the previous two years. There were two PhD completions and two honours students completed in 2012.
- Excellent media contributions from both staff and students in print, web based media, radio and television coverage.
- Professor Richard Kingsford was awarded the Birdlife Australia D.L.Serventy Medal for outstanding contribution in the science of ornithology in the Australasian region.

Results of the first review of the AWRLC activities produced a positive and promising result. All UNSW Research Centres are reviewed every three years.

Recommendations by the review panel included:

- The review Panel unconditionally recommends the continued operation of the Centre.
- Centre had essentially achieved its original objectives.
- The Centre should develop comprehensive strategic and operational/business plans to guide the transition from start-up into a period of growth, consolidation and intensive research.
- The Panel was particularly impressed by the development of a very positive “culture”, especially amongst the research students. That makes the Centre a magnet for attracting further HDR students.

Table 1. Centre Performance Data for 2011-2012

Revenue/Budget Source	2011 \$	2012 \$
External Grants		
ARC Linkage	269,082	^a (25,105)
State and Commonwealth	788,997	1,019,048
Other Research Revenue	360,175	276,899
Fees, Other revenue	112,246	243,064
Donations	3,000	14,934
Total External Grants	1,533,500	1,528,840
AIM	1,200,000	1,400,000
Additional revenue		
Operating	^b 165,000	^c 147,690
Strategic Priorities Funding ^d	153,096	433,964
RTS/IGS ^e	3,872	95,294
RIBG ^f	5,343	85,845
TOTAL ALL INCOME	1,860,811	2,291,633
POSTGRADUATE NUMBERS	2011	2012
PhD enrolments	18	18
Masters enrolments	2	2
AIM	12	20(mid 2012)
PhD completions	3	2
PUBLICATIONS	2011	2012
	31	83
AIM increase to	12	25(mid 2012)

^a Deficit resulted from ARC linkage grant being moved to University of Technology, Sydney but returned in 2013

^b Operating contribution from Science Faculty as Centre establishment funding (SPF)

^c Operating contribution from BEES

^d Faculty investment through Strategic Investment in Research, strategic hires of academic staff

^e Research Training Scheme (RTS), Institutional Grants Scheme (IGS)

^f Research Infrastructure Block Grants (RIBG)

Centre Performance

A Summary of the Centre's performance for the year in relation to its identified aims and strategies, and an indication of major goals for the coming year

Membership

In 2012, there were 54 members of the Centre, including 24 academic and postdoctoral research staff, and 7 research assistants. We have increased the number of Adjunct and Visiting Fellows from 11 to 23, mostly from the NSW government. Members came from Schools of Biological, Earth and Environmental Sciences, Mathematics and Statistics and Civil and Environmental Engineering. A full membership list is given in Appendix A.

Aims and Strategies

The goals for the first three years after the establishment of the Centre in mid-2009 were effectively met:

1. Establish the centre and its advisory committees
2. Increase research higher degree enrolments by providing a key focus for students interested in pursuing research in the field and providing supervisor capacity
3. Increase the external funding base from its present level with postdoctoral researchers and research students
4. Increase the number and impact of research publications in the area

Additional goals were established in the AWLRC Strategic Plan 2010-2012 and the AWLRC Operational Plan 2010-2012.

Funding Goals

1. *Grow ARC funding by \$1 million over five years by establishing two academic positions, attracting and retaining the best postdoctoral fellows, supporting research fellows in the establishment and consolidation of their research, teaching and supervision programs. Build up understanding and relationships with government and other scientists that allow for contributions to linkage grants*

Grant administration of the ARC Linkage established in 2010 was transferred to University of Technology Sydney when Dr Dan Ramp moved to UTS. Funding from one linkage partner will be returned to the Centre as well as the APAI associated with the ARC Linkage remaining with the AWRLC.

2. *Non-ARC Funding. We aim to capitalise on our strength in this area and maintain current funding of about \$0.2 million p.a. over the next five years, working with government and industry funding success.*

Centre grants from State, Local and Commonwealth far exceeded aims. Grants are spread across staff including staff appointed in 2012. Professor David Keith established grants in his first year worth \$983,730 over the next three years.

- 3. Attract new fellowships and two Academic Staff to fit the Strategic Plan of the School of Biological, Earth and Environmental Sciences.*

In 2012 the AWRLC added 3 outstanding academics including Professor David Keith, Dr Mike Letnic (Future Fellow) and Dr Mirela Tulbure.

- 4. Develop relevant database of potential funding bodies*

The AWRLC established a database of funding opportunities specific to AWRLC strategic research priorities in Wetland and River Ecology, Conservation and Remote Sensing

Publication goals

- 5. Grow the number of DEST equivalent publications from 10 to 25 by mid-2012*

Publication goals were exceeded with 83 journal publications by staff including a significant contribution from Visiting and Adjunct Centre members.

- 6. Establish a workshop on publication processes and opportunities to develop different mechanisms for production of high quality publications*

The AWRLC sponsored a three day writing workshop for HDR and post-doctoral staff. The workshop will be held annually for AWRLC staff and will invite other BEES staff depending on availability.

Workloads and Support

- 7. Consistent with the BEES Strategic Plan, centrally funded FTE academic staff from BEES within the Centre will deliver, on average, 2 courses per year, undertake one significant administrative role and aim to generate \$220,000 of unrestricted income.*

Centre staff contributed to administrative and service work including:

- Fields of Research Review Panel – Richard Kingsford
- School Executive – Richard Kingsford
- Selection committees for research and technical staff
- Assistance with postgraduate forum

The goal to generate \$220,000 of unrestricted income was exceeded, detailed in *RTS/IGS/RIBG* and in *Fees, Other revenue* (Table 1).

Visiting, Professional and technical staff

- 8. A senior technical staff member within BEES will be identified and integrated into the Centre to provide general technical support and maintenance of research facilities, and the areas of teaching that are developed.*

Due to turnover in BEES technical staff, this goal has not been entirely realized

- 9. The Centre will continue to attract quality Visiting Fellows in collaborative research.*

Visiting and Adjunct appointments increased from 11 to 23. Visiting staff are actively publishing, collaborating in joint grants and directly contributing to research in the AWRLC.

Higher Degree Research (HDR) students

- 10. We propose to grow postgraduate numbers within the centre to more than double current levels by mid-2012, improve the research training experience by building a stimulating and supportive graduate program.*

Though HDRs have not been increased to desired levels, Centre activities and postgraduate opportunities have been a focus for improvement in 2012. Student involvement in strategic planning, grant submissions and Centre sponsored training has been effective in raising student satisfaction. Initiatives included:

- direct sponsorship and significant financial support of student research
- media and communications workshop– Richard Kingsford
- grant writing and funding workshop – Jes Sammut
- three day scientific writing workshop - Visiting Fellow Marina Hurley
- Sammut students established within AWRLC
- Friday discussion groups on scholarly works, current issues in research areas
- New students to be allocated a 'mentor' of more established students to assist with their development, particularly soon after enrolment

Other measures of performance

2012 Awards and Prizes

- Professor Richard Kingsford was awarded the Birdlife Australia D.L.Serventy Medal for outstanding contribution in the science of ornithology in the Australasian region.

School Awards 2012

- *Rachel Blakey - Taronga Conservation Society - Species Conservation Prize*

Media Coverage

Media monitoring shows that the AWRLC members successfully engaged with the media in 2012 (summarized Appendix E).

Publications

See Appendix D.

BEES and AWRLC Interactions

The School of Biological Earth & Environmental Sciences (BEES) provided significant support to the Centre in both in-kind and direct contributions. BEES provides the operating budget to support the Centre Manager position. They also provide general support with infrastructure including accommodation, storage, laboratories, communication needs, and O&HS structures. The School also provides a desk and standard computer to each PhD student. The AWRLC in turn provided BEES with administrative support. In particular, the Centre Manager responsibilities reduced workloads of the School Manager on financial and HR obligations. The Centre Manager also coordinates activities with the BEES Technical Services Manager to reduce the BEES workload in Health & Safety and facilities and laboratory management.

Major Goals for 2013

The three long-term goals of the AWRLC are:

1. To aim to be recognised as the top institution in Australia in Rivers and Wetlands Ecology
2. To increase the number and impact of research publications in research focus areas and
3. To engage with natural resource agencies to maximise applied science

In 2013, the AWRLC proposes to continue to run its core activities in order to achieve the Centre goals. The Centre proposes to grow the number of students in the graduate program in line with growing academic staff growth in postgraduate numbers into completions. The Centre also proposes to grow Category 1 funding by \$0.2 million per year through 2015.

Resources

Financial performance

The Centre is no longer funded by a Strategic Priorities Fund award (SPF01). The Centre is allocated an amount by the faculty via the School of BEES (PS27136) to cover the salary of the Centre Manager. There are two DVC Research SPF projects supporting Professor David Keith, Dr Kim Jenkins and Dr Mirela Tulbure.

Financial performance is summarized in a full report is appended as Appendix F.

In-kind contributions

- Three day scientific writing workshop held for HDR students and postdoctoral staff
- Workshop on the value and use of the media run in conjunction with the BEES post graduate forum.
- Forum and workshop on Policy in/and Science

Management

Details of significant managerial or personnel changes

There were three significant new appointments in 2012.

- Appointment of Professor David Keith to a 50/50 shared position with the NSW Office of Environment and Heritage.
- Appointment of Dr Mirela Tulbure as Research Fellow in Remote Sensing
- Dr Mike Letnic joined the Centre as an ARC Future Fellow

Meetings of the Centre's management board and advisory committee

The Centre Management Board met in February, August and December in 2012

Membership of the Management Board:

Professor Merlin Crossley – Chair

A/Prof David Cohen – Head of School of BEES

Professor Andy Baker – Director Connected Waters Initiative Research Centre

Professor Emma Johnston – Evolution and Ecology Research Centre

Professor Andy Pitman – Director Climate Change Research Centre

In 2012 the External Advisory Committee met twice.

The external advisory committee continues to provide guidance on the needs of government and how AWRLC scientific output can contribute to knowledge based decision making in conservation planning and natural resource management. The committee is made up of senior officers from major government agencies involved in resources management in eastern Australia. The external advisory committee meets twice each year for a day at UNSW.

Membership of the Committee:

Dr Kate Wilson (Chair) (NSW Office of Environment and Heritage (OEH))

Jody Swirepik (MDBA)

Derek Rutherford (OEH)

Ian Robinson (SEWPAC)

Simon Banks (SEWPAC)

Dr Bruce Cooper (NSW Office of Water)

Bob Creese (Fisheries)

Julia Reed (VIC)

Peter Macdonald (Qld)

Brenton Grear (SA)

Teaching and research supervision

In keeping with UNSW Centres Policy, the research Centre does not have responsible authority for undergraduate teaching activities. Members of the Centre coordinate and develop course material for Level 1 course, Ecology, Sustainability and Environmental Science (BIOS 1301) and specifically the development of the

Level 2 course, Ground and Surface Water course GEOS, run by the School of BEES and supervise projects related to Masters Courses.

Graduate programs

Recommendations from the August 2011 Strategic Planning meeting prompted several programs to be implemented in 2012 and others planned for future years.

The AWRLC sponsored a three day course in Writing Clear Science in 2012 as part of our program of improving the post graduate experience. Students outside the Centre were offered places at no cost as well.

Professor Kingsford facilitated a workshop on media in conjunction with the Post Graduate Forum. The UNSW Media Unit participated and taped the sessions, making them available for future use.

A half day grant writing workshop was held by Associate Professor Jes Sammut.

APPENDIX A: Members of the Australian Wetlands, Rivers and Landscapes Centre in 2012 and their home Schools

	NAME/% commitment if partial	SCHOOL
Prof	Richard Kingsford (Director)	BEES
A/Prof	Paul Adam (Deputy Director)	BEES
A/Prof	Jes Sammut (Deputy. Director)	BEES
Prof	David Keith/50	BEES
Prof	Iain Suthers/20	BEES
A/Prof	Scott Sisson/10	MATHS
A/Prof	David Eldridge/20	BEES
A/Prof	Bryce Kelly/5	BEES
A/Prof	Shawn Laffan/20	BEES
Prof	Tony Milne/10	BEES
Prof	Ashish Sharma/5	CVEN
Future Fellow	Dr Mike Letnic	BEES
Sen Lecturer	Dr Kim Jenkins	BEES
Res Fellow	Dr Mirela Tulbure	BEES
Res Fellow	Dr Shiquan Ren	BEES
Res Fellow	Anthea Mitchell/50	BEES
Res Fellow	Dr Kate Brandis	BEES
Res Fellow	Dr Gilad Bino	BEES
Res Fellow	Dr Tanya Mason	BEES
Res Fellow	Dr Alistair Becker	BEES
Res Assistant	Renee Woodward	BEES
Res Assistant	Claire Sives	BEES
Res Assistant	Chris Simpson	BEES
Visiting Fellow	Dr Bruce Chessman	BEES
Visiting Fellow	Dr Philip Gibbs	BEES
Visiting Fellow	Dr Lee Bowling	BEES
Visiting Fellow	Dr Brian Timms	BEES
Visiting Fellow	Rachael Thomas	BEES
Visiting Fellow	Dr Erin Rogers	BEES
Visiting Fellow	Dr Jennifer Spencer	BEES
Visiting Fellow	Dr Adrian Fisher	BEES
Visiting Fellow	Dr Tom Grant	BEES
Visiting Fellow	Dr Patrick Driver	BEES
Visiting Fellow	Dr Marina Hurley	BEES
Visiting Fellow	Dr Brett Stevenson	BEES
Visiting Fellow	Dr Dale Gawlik	BEES
Visiting Fellow	Dr Debashish Mazumder	BEES
Visiting Fellow	Dr Belinda Pellow	BEES
Visiting Fellow	Dr Emma Gorrod	BEES
Visiting Fellow	Derrick Cruz	BEES
Visiting Fellow	Dr John Porter	BEES
Visiting Fellow	Dr Richard Lucas	BEES
Visiting Fellow	Ben Feit	BEES
Visiting Fellow	Dr Adam Roff	BEES
Visiting Fellow	Chris Gordon	BEES
Visiting Fellow	Nicolas Colman	BEES

Centre Manager	Sharon Ryall	BEES
Research	Evan Webster	BEES
Research	Katy Wilkins	BEES
Research	Bobby Chen	BEES
Research	Camila Ridoutt	BEES
Research	Daniela Binder	BEES

APPENDIX B: Postgraduate Students

PhD

1. Blakey, R. (2011-) Responses of bat populations to river and wetland inundation in the Murray-Darling Basin. PhD Supervisors Richard Kingsford and Brad Law
2. Cross, Rebecca (2010-). Change and Control: The socio-cultural context in the alignment of farmers' philosophies, attitudes and behaviours in Natural Resource Management PhD. Supervisors Dr Daniel Robinson and A/Prof Jesmond Sammut
3. Cruz, D (2009-). The role of ephemeral floodplain habitats in the recruitment and survival of juvenile and small bodied arid zone fish. PhD Supervisors Richard Kingsford, Tom Rayner, Angela Arthington and Iain Suthers
4. Letten, A. (2011-) Integrating fine-scale climate, niche theory and phylogeny to understand grassland community dynamics under global change. PhD Supervisors David Keith, Dan Ramp, John Gollan and Mick Ashcroft.
5. Hay, S. (2011-) Aquatic invertebrate biodiversity and refugia in a regulated dryland river. PhD Supervisors Kim Jenkins, Richard Kingsford and Patrick Driver
6. Melrose, R. (2011-) Integrating radar and optical remote sensing to investigate flood dynamics in arid Australia. PhD Supervisors Richard Kingsford and Tony Milne
7. Ocock, J. (2009-) Flows and rainfall: what's driving frog ecology in the semi-arid Macquarie Marshes floodplain? PhD Supervisors Richard Kingsford, Trent Penman, Jody Rowley and Tom Rayner
8. Portelli, D. (2008-) Social behavioural ecology of Hall's babbler. PhD Supervisor Richard Kingsford
9. Slavich, E. (2011-). Modelling flora and fauna distribution in relation to climate change. PhD Supervisors David Warton, Dan Ramp.
10. Simbiak, Irja. I(2011-) Indigenous participation in the EIA process in Papua, Indonesia. Australian Development Scholarship – AusAID PhD. Supervisors A/Prof Jesmond Sammut and A/Prof Paul Adam
11. Steinfeld, C. (2009-) Socio-ecological interactions towards sustainable management of Australian river systems. PhD Supervisors Richard Kingsford and Shawn Laffan
12. Tarunamulia (2011-) Improving the Utility of Spatial Analyses for Land Capability Assessment for Sustainable Extensive Brackishwater Aquaculture in Indonesia John Allwright Fellowship - ACIAR PhD. Supervisors A/Prof Jesmond Sammut, Dr Jenny Beer, Dr Shawn Laffan
13. Thomas, R.F. (2009-) Remote sensing of flooding patterns of large wetlands in the Murray-Darling Basin. Part-time PhD Supervisors Richard Kingsford, Shawn Laffan and Neil Sims
14. Undu, Chaidir Muhammed (2010-). The distribution of effluents originating from intensive shrimp farming in Hurun Bay, Lampung province, Indonesia. John Allwright Fellowship – ACIAR. MSc Supervisors, A/Prof Jesmond Sammut, A/Prof Alistair Poore and Dr Jenny Beer
15. Watson, H. (2009-) Migratory shorebirds in Botany Bay. PhD Supervisors Richard Kingsford and Paul Adam

16. Webster, E. (2010-) Defining the spatio-temporal dynamics of vegetation, disturbance and yield in water catchment areas. PhD Supervisors Richard Kingsford, Dan Ramp, Ashish Sharma, David Keith and Chris Chafer
17. Widyatmanti, Wirastuti (2009-). Hydrogeomorphic controls on the development and distribution of acid sulfate soils, Central Java, Indonesia PhD John Allwright Fellowship – Supervisors A/Prof Jesmond Sammut, Dr Jenny Beer and Dr Shawn Laffan
18. Wijaya, Laila (2010-). Political, economic and cultural influences on aquaculture development: drivers of change in management in Aceh Province. PhD, Indonesia Australian Leadership Award – AusAID Supervisors A/Prof Jesmond Sammut and Dr Jenny Beer

MPhil

1. Schadler, S. (2011-) Long term flooding patterns in Thirlmere Lakes. MPhil. Supervisors Richard Kingsford and Scott Mooney

APPENDIX C: Grants active in 2012

ARC Linkage Project, Industry Partner Contribution, NSW Department of Primary Industries- Fisheries, NSW Department of Environment and Climate Change

Investigators: Richard Kingsford, Thomas Rayner

Project Title: Fine-scale responses of freshwater fish to environmental flows in arid-zone rivers and wetlands

ARC Linkage Project, Industry Partner Contribution, Sydney Catchment Authority

Project Title: An innovative approach to maximising catchment water yield in a changing climate

Investigators: Richard Kingsford, A. Sharma, D.A. Keith

National Climate Change Adaptation Research Facility (NCCARF) Department of Climate Change and Energy Efficiency/Griffith University Climate Change Adaptation Research Grants

Investigators: Prof Richard Kingsford, Dr Kim Jenkins, Dr Gilad Bino, Evan Webster, Claire Sives

Project Title: Adaptive management of Ramsar wetlands (Project FW1104)

Griffith University/CSIRO Flagship Clusters Shared Grant

Investigators: Richard Kingsford

Project Title: Ecological Responses to Altered Flow Regimes

Australian Centre for International Agricultural Research, Agricultural Systems Economics & Management Program

Project Title: Increasing Production from Inland aquaculture in Papua New Guinea for food and income security

Investigator: Dr Jes Sammut

Australian Centre for International Agricultural Research, Australian University of Sydney/ACIAR Subcontract FIS/2007/124

Project Title: Diversification of smallholder coastal aquaculture in Indonesia

Investigator: Dr Jes Sammut

Australian Centre for International Agricultural Research, NSW Department of Industry & Investment / ACIAR Shared Grant / Subcontract

Project Title: Refinement and application of Cage Aquaculture Decision Support Tool (CADS Tool) for freshwater systems in the Philippines

Murray Darling Basin Authority

Investigators: Richard Kingsford

Project Title: Aerial Survey of the Murray-Darling Basin Hydrological Indicator Sites 2011-2012

NSW Office of Environment and Heritage

Investigators: Richard Kingsford

Project Title: Aerial Survey of Eastern Australia

Queensland DERM/Victoria DSE

Investigators: Richard Kingsford

Project Title: Aerial Survey of Eastern Australia

NSW Department of Water and Energy – Peter Cullen Postgraduate Scholarship

Investigators: Richard Kingsford, Celine Steinfeld

Project Title: Social and ecological interactions towards sustainable management of dryland river systems

Western Catchment Management Authority

Investigators: Rachel Melrose, Richard Kingsford

Project Title: Flow, inundation patterns and vegetation responses in the Paroo and Warrego

Sydney Aquarium Conservation Fund/Research Grant

Investigators: Prof Richard Kingsford, Derrick Cruz

Project Title: Stolen sanctuaries: Putting native fish back on the floodplain.

Pittwater Shire Council

Investigators: Dr Kate Brandis

Project Title: Pittwater Waterbird Habitat Survey and Mapping

Murray Darling Basin Authority

Investigators: Professor Brett Neilan

Project Title: Identifying cyanobacteria using absorbance spectra

Australian Research Council ARC Linkage Project

Investigator: Dr Kim Jenkins

Project Title: Innovative approaches to identifying regional responses of biodiversity to climate change

ARC Linkage Project Industry Partner Contribution, NSW Office of Water

Investigator: Dr Kim Jenkins

Project Title: Innovative approaches to identifying regional responses of biodiversity to climate change

Collaborative Agreement with The Australian National University

Investigator: David Keith

Project Title: Long Term Ecological Research Network (LTERN)

Collaborative Agreement with The Australian National University

Investigators: David Keith, Tanya Mason

Project Title: Vegetation, biogeography and conservation status of temperate highland swamps

Department of Sustainability, Environment, Water, Population and Communities

Investigators: Prof Richard Kingsford

Project Title: Lake Eyre Basin Rivers Assessment Support - Trends in Waterbirds Abundance

The Murray-Darling Freshwater Research Centre,

Investigators: Prof Richard Kingsford, Dr Kim Jenkins

Project Title: Monitoring the ecological response of Commonwealth environmental water delivered in the Murrumbidgee Catchment 2011-12.

APPENDIX D: Publications in 2012

Journal - Refereed & Scholarly Article

Adam, P. (2012). Climate change - not an excuse for failing to address other threats. *Wildlife and climate change: towards robust conservation strategies for Australian fauna*. D. Lunney and P. Hutchings. Mosman, NSW, Royal Zoological Society of NSW.

Adam, P. (2012). Introduction. *Estuary plants and what's happening to them in South-East Australia* G. Sainty, J. Hosking, G. Carr and P. Adam. Potts Point, NSW, Sainty Books: 4-35.

Adam, P. (2012). Our own worst enemies? *Science under siege: zoology under threat*. P. Banks, D. Lunney and C. Dickman. Mosman, NSW, Royal Zoological Society of New South Wales: 69-78.

Adam, P. (2012). Royal National Park - lessons for the future from the past. *Proceedings of the Linnean Society of New South Wales* **134**: B7-B24.

Adam, P. (2012). Wetlands. *Berkshire encyclopedia of sustainability*. R. K. Craig, B. Pardy, J. C. Nagle, O. Schmitz and W. Smith. Great Barrington, Massachusetts, Berkshire Publishing Group: 490-495.

Akçakaya, H. R., S. Ferson, M. A. Burgman, D. A. Keith, G. M. Mace and C. R. Todd (2012). Commentary: IUCN classifications under uncertainty. *Environmental Modelling & Software* **38**(0): 119-121.

Al-Tebrineh, J., C. Merrick, D. Ryan, A. Humpage, L. Bowling and B. A. Neilan (2012). Community composition, toxigenicity, and environmental conditions during a cyanobacterial bloom occurring along 1,100 kilometers of the Murray River. *Applied and Environmental Microbiology* **78**(1): 263-272.

Arthur, A. D., J. R. W. Reid, R. T. Kingsford, H. M. McGinness, K. A. Ward and M. J. Harper (2012). Breeding flow thresholds of colonial breeding waterbirds in the Murray-Darling Basin, Australia. *Wetlands* **32**(2): 257-265.

Baker, J. and J. Porter (2012). D. L. Serventy Medal 2012: Richard Tennant Kingsford. *Emu* **112**(3): 267-267.

Binder, D., D. Priddel, N. Carlile and R. T. Kingsford (2013). Emergence, growth, ageing and provisioning of Providence Petrel (*Pterodroma solandri*) chicks: implications for translocation. *Emu* **113**(1): 33-44.

Bino, G. (2012). Using atlas data for large scale conservation strategies: a case study of NSW's mammals. Australian Wetlands, Rivers and Landscapes Centre, School of Biological, Earth and Environmental Sciences, University of New South Wales.

Bino, G., D. Ramp and R. Kingsford (2013). Niche evolution in Australian terrestrial mammals? Clarifying scale-dependencies in phylogenetic and functional drivers of co-occurrence. *Evolutionary Ecology*: 1-15.

Bino, G., D. Ramp and R. T. Kingsford (2013). Improving bioregional frameworks for conservation by including mammal distributions. *Austral Ecology* **38**(4): 393-404.

- Boon, P., D. A. Keith and E. Rawlings (in press). Vegetation of coastal floodplains and wetlands in south-eastern Australia. *Vegetation of Australia's Riverine Landscapes: Biology, Ecology & Management*. S. Capon. Melbourne, CSIRO.
- Bowling, L., D. Ryan, J. Holliday and G. Honeyman (2012). Evaluation of in situ fluorometry to determine cyanobacterial abundance in the Murray and Lower Darling Rivers, Australia. *River Research and Applications*.
- Brandis, K., H. Watson and S. Ryall (2012). Pittwater waterbird habitat survey and mapping. Report to Pittwater Council, Australian Wetlands and Rivers Centre, University of New South Wales.
- Bridgman, H. A. and B. Timms (2012). Australia, Climate and Lakes. *Encyclopedia of Lakes and Reservoirs*. L. Bengtsson, R. W. Herschy and R. W. Fairbridge, Springer Netherlands: 73-80.
- Campbell, M. L., P. J. Clarke and D. A. Keith (2012). Seed traits and seed bank longevity of wet sclerophyll forest shrubs. *Australian Journal of Botany* **60**(2): 96-103.
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Centre Publications

Kingsford, R.T. and H. Biggs (2012) Strategic Adaptive Management (SAM) guidelines for effective conservation of freshwater ecosystems

APPENDIX E: Media Coverage

Winners and losers from the floods

Richard Kingsford
"ABC Radio, PM" 5th March 2012
<http://www.abc.net.au/pm/content/2012/s3446193.htm>

Winners and losers from the floods

Richard Kingsford
"ABC Radio, PM" 5th March 2012
<http://www.abc.net.au/pm/content/2012/s3446315.htm>

LNP acts on fears of threat to Banjo Country

Richard Kingsford
The Australian 5th March 2013
<http://www.theaustralian.com.au/national-affairs/state-politics/lnp-acts-on-fears-of-threat-to-banjo-country/story-e6frgczx-1226590293646#>

Ibis eggs

"Richard Kingsford, Camila Ridoutt"
Catalyst ABC 22nd March 2012
<http://www.abc.net.au/catalyst/stories/3461541.htm>

Waterbirds abound as rains feed thirst for life

Richard Kingsford
The Australian 22nd March 2012
<http://www.theaustralian.com.au/news/health-science/waterbirds-abound-as-rains-feed-thirst-for-life/story-e6frg8y6-1226306653309>

Scientists slam Murray-Darling plan

Richard Kingsford
The Australian 13th April 2012
<http://www.theaustralian.com.au/archive/in-depth/scientists-slam-murray-darling-plan/story-e6frg6px-1226325337360#>

Scientists reject Murray-Darling Basin plan

Richard Kingsford
"ABC Radio, AM" 13th April 2012
<http://www.abc.net.au/am/content/2012/s3476281.htm>

Dingoes hunted Tasmanian Tigers to extinction

Mike Letnic
"ABC Radio, PM" 3rd May 2012
<http://www.abc.net.au/pm/content/2012/s3494948.htm>

Dingoes led to mainland thylacine's demise

Mike Letnic
ABC Science 3rd May 2012
<http://www.abc.net.au/science/articles/2012/05/03/3494069.htm>

Bigger and brainier: did dingoes kill thylacines?

Mike Letnic
Phys.org 3rd May 2012
<http://phys.org/news/2012-05-bigger-brainier-dingoes-thylacines.html>

Dingoes may have wiped out Tasmanian tiger on mainland

Mike Letnic

The Conversation 3rd May 2012

<http://theconversation.com/dingoes-may-have-wiped-out-tasmanian-tiger-on-mainland-6811>

Dingoes may have caused Tasmanian tiger extinction

Mike Letnic

ABC News 3rd May 2012

<http://www.abc.net.au/news/2012-05-03/dingoes-may-have-caused-tasmanian-tiger-%20http://www.abc.net.au/news/2012-05-03/dingoes-may-have-caused-tasmanian-tiger-extinction/3989906>

Did dingo attacks drive the Tassie tiger extinct?

Mike Letnic

Australian Geographic 4th May 2012

<http://www.australiangeographic.com.au/news/2012/05/did-dingo-attacks-drive-the-tassie-tiger-extinct/>

Claims dingoes 'wiped out' Tasmanian tigers

Mike Letnic

ABC Central Victoria 4th May 2012

<http://www.abc.net.au/news/2012-05-03/dingo-bloodlust-behind-tassie-tiger-extinction/3989932/?site=centralvic>

2012 Eric Rolls Lecture

Richard Kingsford

National Library Publications & Events 19th July 2012

<http://www.nla.gov.au/podcasts/events.html>

Dingos May Have Outfoxed Tigers

Mike Letnic

Australian Science July-August 2012

<http://www.australasianscience.com.au/article/issue-julyaugust-2012/dingos-may-have-outfoxed-tigers.html>

Self Improvement Wednesday: Aquatic Food Webs

Richard Kingsford

"702 ABC Sydney, radio" 15th August 2012

<http://www.abc.net.au/local/audio/2012/08/15/3568661.htm>

Feathered Aussies breeze in to settle this side of Ditch

Richard Kingsford

The New Zealand Herald 23rd August 2012

http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10828790

Reverse brain drain - Aussie pelicans move to NZ

Richard Kingsford

3 News NZ 24th August 2012

<http://www.3news.co.nz/Reverse-brain-drain---Aussie-pelicans-move-to-NZ/tabid/817/articleID/266746/Default.aspx>

Stranger Than Nature: Croc Disaster

Mike Letnic

"National Geographic, Wild, video" 24th October 2012

<http://channel.nationalgeographic.com/wild/stranger-than-nature/videos/croc-disaster/>

Murray-Darling basin damage minimal: study

Richard Kingsford

"The Australian, The Daily Telegraph" 24th October 2012

<http://www.theaustralian.com.au/news/latest-news/murray-darling-basin-damage-minimal-study/story-fn3dxiwe-1226502268525>

Scientists welcome more Murray water

Richard Kingsford

"The Australian, The Daily Telegraph" 26th October 2012

<http://www.theaustralian.com.au/news/latest-news/scientists-welcome-more-murray-water/story-fn3dxiwe-1226503868036>

Fight to unite states on Murray River water return

Richard Kingsford

The Australian 27th October 2012

<http://www.theaustralian.com.au/news/landmark-agreement-is-a-win-for-south-australia-and-the-river-murray/story-e6frg6n6-1226503487695%20http://www.theaustralian.com.au/news/landmark-agreement-is-a-win-for-south-australia-and-the-river-murray/story-e6frg6n6-1226503487695>

APPENDIX F – Financial Reports

Australian Wetlands, Rivers & Landscapes Centre - AWRLC

Statement of Financial Performance for the Year Ended 31 December 2012

		2012	2011
		\$	\$
Funds			
Research	Research Revenue	1,382,377.00	1,058,079.00
	Donations	1	14,934.00
	Fees	0.00	13,519.00
UNSW	School Funds	2	151,454.00
UNSW	UNSW Operating Funds	3	433,965.00
Other Revenue	Surplus Research funds	155,831.00	272,942.00
Other Revenue	Recoveries	43,067.00	
Other Revenue	Sundry Other Revenue	12,722.00	360,175.00
Total Funds		2,194,350.00	1,707,715.00
Costs			
	People Costs	1,560,626	1,085,835.00
	Scholarship Stipends	95,348	77,792.00
	Contract & Consulting Services	19,867	2,098.00
	Repairs and Maintenance	8,095	3,284.00
	Consumables	94,661	77,542.00
	Travel	159,697	164,135.00
	Equipment	4	43,897
	Other Expenses	78,055	63,109.00
	Grants	27,550	176,074.00
	Contract Research Ahead	95,244	0.00
	Internal Expense	40,739	35,243.00
Total Costs		2,223,778.35	1,697,908.00
Operating result		-29,428.35	9,807.00
Opening Balance		499,938.00	490,131.00
Closing Balance	5	470,509.65	499,938.00
Debtors Closing as at 31.12.2012		287,725.00	
Debtors Closing as at 31.12.2011		40,217.00	
Movement in Outstanding invoices		247,508.00	

Notes to the Statement of Financial Performance

1 - currently held in Foundation project PS21066 (Aus Wetlands & River Ctr NCSRF)

2 - includes BEES contribution of salary for Centre Manager (\$123,490) and SPF02 allocation in BEES to research staff Kingsford, Keth, Jenkins, Ren, Sammut, Porter, Rayner (\$24

3 - includes Strategic Hire Keith, Jenkins, Tubure in AWRLC

4 - includes expenditure for AWRLC staff SPF02 in BEES projects

5 - Financial Performance reviewed by Science Faculty Finance Manager