2012 Annual Report
Australian Wetlands, Rivers and Landscapes Centre

School of Biological, Earth and Environmental Sciences, Faculty of Science
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AUSTRALIAN WETLANDS, RIVERS AND LANDSCAPES CENTRE - 2012

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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

<table>
<thead>
<tr>
<th>Revenue/Budget Source</th>
<th>2011 $</th>
<th>2012 $</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External Grants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARC Linkage</td>
<td>269,082</td>
<td>a (25,105)</td>
</tr>
<tr>
<td>State and Commonwealth</td>
<td>788,997</td>
<td>1,019,048</td>
</tr>
<tr>
<td>Other Research Revenue</td>
<td>360,175</td>
<td>276,899</td>
</tr>
<tr>
<td>Fees, Other revenue</td>
<td>112,246</td>
<td>243,064</td>
</tr>
<tr>
<td>Donations</td>
<td>3,000</td>
<td>14,934</td>
</tr>
<tr>
<td><strong>Total External Grants</strong></td>
<td>1,533,500</td>
<td>1,528,840</td>
</tr>
<tr>
<td>AIM</td>
<td>1,200,000</td>
<td>1,400,000</td>
</tr>
<tr>
<td><strong>Additional revenue</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>b 165,000</td>
<td>c 147,690</td>
</tr>
<tr>
<td>Strategic Priorities Funding</td>
<td>153,096</td>
<td>433,964</td>
</tr>
<tr>
<td>RTS/IGS</td>
<td>3,872</td>
<td>95,294</td>
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<tr>
<td>RIBG</td>
<td>5,343</td>
<td>85,845</td>
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<tr>
<td><strong>TOTAL ALL INCOME</strong></td>
<td>1,860,811</td>
<td>2,291,633</td>
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**POSTGRADUATE NUMBERS**

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD enrolments</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Masters enrolments</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>AIM</td>
<td>12</td>
<td>20(mid 2012)</td>
</tr>
<tr>
<td>PhD completions</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td><strong>PUBLICATIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>2012</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>83</td>
</tr>
<tr>
<td>AIM increase to</td>
<td>12</td>
<td>25(mid 2012)</td>
</tr>
</tbody>
</table>

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*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

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

PhD

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
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
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

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

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


Letnic, M. and M. S. Crowther (2013). Patterns in the abundance of kangaroo populations in arid Australia are consistent with the exploitation ecosystems hypothesis. *Oikos* 122(5): 761-769.


Portelli, D. J. (2012). Habitat use and life-history of Hall's babble (Pomatostomus halli) – a group-living passerine of the Australian arid zone. Australian Wetlands, Rivers and Landscapes Centre, School of Biological, Earth and Environmental Sciences, University of New South Wales.


**Centre Publications**

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

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

Scientists slam Murray-Darling plan
Richard Kingsford
The Australian 13th April 2012

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

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-%e2%80%93extinction/3989906

Did dingo attacks drive the Tassie tiger extinct?
Mike Letnic
Australian Geographic 4th May 2012

Claims dingoes 'wiped out' Tasmanian tigers
Mike Letnic
ABC Central Victoria 4th May 2012

2012 Eric Rolls Lecture
Richard Kingsford
National Library Publications & Events 19th July 2012

Dingos May Have Outfoxed Tigers
Mike Letnic
Australian Science July-August 2012

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

Reverse brain drain - Aussie pelicans move to NZ
Richard Kingsford
3 News NZ 24th August 2012

 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
Scientists welcome more Murray water
Richard Kingsford
"The Australian, The Daily Telegraph" 26th October 2012

Fight to unite states on Murray River water return
Richard Kingsford
The Australian 27th October 2012
# APPENDIX F – Financial Reports

## Australian Wetlands, Rivers & Landscapes Centre - AWRLC

### Statement of Financial Performance
for the Year Ended 31 December 2012

<table>
<thead>
<tr>
<th>Funds</th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Research</td>
<td>1,382,377.00</td>
<td>1,068,079.00</td>
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<tr>
<td>Research Revenue</td>
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<tr>
<td>Donations</td>
<td>14,934.00</td>
<td>3,000.00</td>
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<tr>
<td>Fees</td>
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<td>13,519.00</td>
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<tr>
<td>UNSW</td>
<td>151,454.00</td>
<td>0.00</td>
</tr>
<tr>
<td>School Funds</td>
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<tr>
<td>UNSW</td>
<td>433,965.00</td>
<td>272,942.00</td>
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<tr>
<td>UNSW Operating Funds</td>
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<tr>
<td>Other Revenue</td>
<td>156,931.00</td>
<td></td>
</tr>
<tr>
<td>Surplus Research funds</td>
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<td></td>
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<tr>
<td>Other Revenue</td>
<td>45,067.00</td>
<td></td>
</tr>
<tr>
<td>Recoveries</td>
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</tr>
<tr>
<td>Other Revenue</td>
<td>12,722.00</td>
<td>380,175.00</td>
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<tr>
<td>Sundry Other Revenue</td>
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<td></td>
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<tr>
<td><strong>Total Funds</strong></td>
<td>2,104,350.00</td>
<td>1,707,715.00</td>
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<tr>
<td>Costs</td>
<td></td>
<td></td>
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<tr>
<td>People Costs</td>
<td>1,500,020.00</td>
<td>1,065,355.00</td>
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<tr>
<td>Scholarship Stipends</td>
<td>95,946.00</td>
<td>77,792.00</td>
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<tr>
<td>Contract &amp; Consulting Services</td>
<td>19,857.00</td>
<td>2,098.00</td>
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<tr>
<td>Repairs and Maintenance</td>
<td>8,095.00</td>
<td>3,284.00</td>
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<tr>
<td>Consumables</td>
<td>94,081.00</td>
<td>77,542.00</td>
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<tr>
<td>Travel</td>
<td>159,697.00</td>
<td>164,135.00</td>
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<tr>
<td>Equipment</td>
<td>43,027.00</td>
<td>63,109.00</td>
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<tr>
<td>Other Expenses</td>
<td>78,055.00</td>
<td>176,074.00</td>
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<tr>
<td>Grants</td>
<td>27,550.00</td>
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<tr>
<td>Contract Research Ahead</td>
<td>95,244.00</td>
<td>35,243.00</td>
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<tr>
<td>Internal Expense</td>
<td>40,733.00</td>
<td>12,734.00</td>
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<tr>
<td><strong>Total Costs</strong></td>
<td>2,223,778.35</td>
<td>1,697,908.00</td>
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<tr>
<td>Operating result</td>
<td>-26,428.35</td>
<td>9,307.00</td>
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<tr>
<td>Opening Balance</td>
<td>496,938.00</td>
<td>490,131.00</td>
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<tr>
<td>Closing Balance</td>
<td>470,509.55</td>
<td>480,824.00</td>
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</tbody>
</table>

### Notes to the Statement of Financial Performance
1. Currently held in Foundation project PS2016 (Aust Wetlands & River Ctr NRRF)
2. Includes BEES contribution of salary for Centre Manager ($123,450) and SPF02 allocation in BEES to research staff Kingsford, Keith, Jenkins, Ren, Sammut, Porter, Rayner ($24,567)
3. Includes Strategic Hire Keith, Jenkins, Tulloch in AWRLC
4. Includes expenditure for AWRLC staff SPF02 in BEES projects
5. Financial Performance reviewed by Science Faculty Finance Manager