

Photo: Ken Thomes

Specified personnel

The specified personnel from Schedule 5 of the Commonwealth Agreement setting up the CRCFE have not changed during the year and are as follows:

University of Canberra	Director	100%
NSW Fisheries	Program Leader	80%
Monash University	Program Leader	75%
MDFRC	Program Leader	100%
Monash University	Program Leader	75%
University of Canberra	Program Leader	75%
MDFRC	Program Leader	100%
	NSW Fisheries Monash University MDFRC Monash University University of Canberra	NSW Fisheries Program Leader Monash University Program Leader MDFRC Program Leader Monash University Program Leader University of Canberra Program Leader

Staff commencing and departing

Name	Position	Location
Mat Allanson	Research Assistant	NSW Fisheries
Karen Astles	Scientific Officer	NSW Fisheries
Jason van Berkel	Research Scientist	Monash - Water Studies Centre
Fiona Betts	Research Assistant	MDFRC - Mildura
Patricia Bowen	Research Assistant	MDFRC
Justin Costelloe	Research Assistant	Adelaide Uni
Rob Cook	Research Assistant	MDFRC
Peter Cottingham	Knowledge Broker	Melbourne Water

Name	Position	Location
Jenny Davis	Research Scientist	Monash - Biological Sciences
Karyn Davis	Research Scientist	UC
John Gooderham	Research Assistant	Monash - Water Studies Centre
Peter Hancock	Research Assistant	MDFRC
Trish Hargreaves	Admin Officer	MDFRC
David McGill	Technician	NSW Fisheries
Chester Merrick	Research Scientist	MDFRC
Ralph Ogden	Research Scientist	UC
Michael Reid	Research Scientist	Monash - Biological Sciences
Michael Rodgers	Technician	NSW Fisheries
Stephen Perriss	Research Assistant	Vic EPA
Shane Perryman	Research Scientist	MDFRC
Jim Puckridge	Research Scientist	Adelaide Uni
Oliver Scholz	Research Scientist	MDFRC - Mildura
Keith Walker	Research Scientist	Adelaide Uni
Glenn Wilson	Research Scientist	MDFRC - Mildura
Roy Winstanley	Technician	NSW Fisheries

Name	Position	Location
Mat Allanson	Research Assistant	UC
Jacqui Brooks	Research Scientist	Monash - Biological Sciences
Shane Brooks	Research Scientist	Monash - Biological Sciences
Alan Chick	Technical Officer	MDFRC
Tom Harris	Research Assistant	Monash - Water Studies Centre
Patrick Hatton	Technical Officer	CSIRO Land & Water
Alison King	Research Assistant	MDFRC
Chris Knight	Technical Officer	MDFRC
Marijke Korting	Admin Officer	MDFRC
Shaun Meredith	Research Assistant	MDFRC - Mildura
Michael Reid	Research Scientist	Monash - Biological Sciences
Richard Shalders	Research Scientist	Monash - Water Studies Centre
Andrew Sharpe	Research Assistant	Monash - Water Studies Centre
Felicity Smith	Research Assistant	MDFRC
Jason Sonneman	Research Assistant	Monash - Water Studies Centre
Ken Thomas	Research Scientist	UC

Staff development

The CRCFE recognises the valuable contribution that its staff and students make towards achieving the organisation's goal of improving the condition of our inland waters. The CRCFE also recognises that it has an obligation to continue to contribute to the professional and personal development of these people. To this end, training is an important part of the Centre's Human Resource Strategy. The summary below outlines the training courses held throughout the year and the staff and student attendance.

Computer Training

Access

Albury: Helen King, Jane Growns

Word

Albury: Trish Hargreaves (intermediate and advanced).

Excel Training

Albury: Trish Hargreaves (intermediate and advanced), David Hedge (advanced and Macros)

Internet

Albury: Terry Hillman, David Rischbieth, Estelle Oliver, Rod Oliver, Rosie Busuttil, Garth Watson, John Whittington, Rhonda Sinclair, Helen King, David Hedge, Mike Copland, Gosia Przybylska, Felicity Smith,

Lotus Notes

Albury: Rod Oliver, Rhonda Sinclair, Terry Hillman, Rosie Busuttil, Darren Baldwin, Estelle Oliver, Daryl Nielsen, David Hedge, Mike Copland, Gavin Rees, David Rischbieth, John Whittington, Jane Growns, Trish Hargreaves, Paul Humphries.

Canberra: Ian Lawrence, Peter Cullen, Mark Lintermans, Ralph Ogden, Justen Simpson, David Williams, Johanna Berryman, Martin Thoms, Richard Norris, Karen Markwort.

Melbourne: Reshmi Sharma, Sam Lake, Pam Dickinson, Peter Breen, Leanne Matheson, Ben Gawne, Chris Walsh, David Tiller, Peter Cottingham, Janine Gibson

First Aid

Albury: Gavin Rees, Dianne Crowther, Judy Frankenberg, Jane Growns, Jackie Griggs, Paul Humphries, Chris Knight, Daryl Nielsen, John Pengelly, Gavin Rees, Mildura: Oliver Scholz, Cathy Francis, Fiona Betts, Ben Gawne, Shaun Meredith.

Narrandera Fisheries Centre: all staff
NSW Fisheries Research Institute, Cronulla:
Karen Astles, Garry Thorncroft, Simon
Hartley, Tim Marsden and Roy Winstanley.

4WD Training Course

Albury: Jane Growns, Alison King, Luciano Serafini, Jackie Griggs, Garth Watson, Helen King, Felicity Smith, Darren Baldwin Mildura: Shaun Meredith, Ben Gawne

Safety

Albury: Gavin Rees (radiation safety, unsealed sources), John Pengelly ANSTO OH&S course.

Narrandera Fisheries Centre: All CRCFE staff received training in chemical and dangerous materials handling. They also received fire safety training and prevention/emergency procedures.

Scientific Writing Course

NSW Fisheries Research Institute, Cronulla: Rosanna Silveira and Tim Marsden.

Other

CSIRO Leadership and R&D Course

Canberra: Martin Thoms.

Albury/Mildura: Darren Baldwin, Jane Growns, Rod Oliver, Ben Gawne.

Melbourne: Peter Breen.

CRCFE-AWWA Catchment Management Workshop

Three PhD students were supported to attend this course held at the University of Canberra during February: Ian Fraser (WSC, Monash), Damian Green (MDFRC), Dale McNeil (La Trobe) and Simon Treadwell (Monash, Clayton).

Monash Induction Day: 17 staff and students. Canberra Induction Day: 15 staff and students.

Albury: Gertrude Hotzel trained as a technical assessor for the National Association of Testing Authorities to accredit algal counting laboratories.

 Gavin Rees attended a two-day workshop, Microbial Indicators of River Health, at the Macquarie University, Sydney.

9 Awards

Lisa Evans (CRCFE University of Canberra) and Jim Thomson (CRCFE Monash University) were joint winners of the PhD Prize at ASL's 36th Congress, 27–29 September, in Albury.

Bill Maher, from the University of Canberra, was awarded best poster presentation entitles

Conversion of Arsenic Compounds in a Marine Food Chain at the Symposium Massenspectrometrische verfehren der Elementspureanalyse, Germany.

The CRCFE Chairman's Award was presented to Darren Baldwin, from the MDFRC, at the Centre's annual meeting during September, 1997.

The CRCFE Chairman's Award was presented to Sam Lake, Monash University, at the Centre's annual meeting brought forward to June, 1998 because of the impending 5th Year Review

CRCFE Honours candidate, Kerry Beggs, was awarded the Prize for Best Paper at the Society of Herpetologists' annual meeting for her presentation, Melding the physical and the physiological: Do thermal gradients cause developmental asynchrony in turtle nests?



With more than 200 AUSRIVAS sites to sample within the ACT, University of Canberra students and biological monitoring staff are known to go to extraordinary lengths to get an extra pair of field hands. *Photo: Phil Sloane*



Peter Newall, EPA Victoria, identifying macrophytes as part of a project that looks at the long-term changes in macrophytes in alpine bog communities. EPA is also looking at long-term changes in invertebrates in rivers. *Photo: Freshwater Sciences, EPA Vic*

Grants held by CRC researchers

Researcher	Organisation	Project	Funding source	Period	Total funding '000
Continuin		,			
Breen	Melbourne Water	RIVPACS for urban streams	UWRAA	Jun96 - Dec97	115
Croome		Development of phytoplankton bioassessment protocol for Australian rivers	LWRRDC	Feb95 - Jan98	148
Georges	Uni of Canberra	Temperature-dependent sex determination in reptiles - the effect of fluctuating temperatures in natural nests	ARC	1996 - 1998	216
Harris	NSW Fisheries	Electronic monitoring of fishways	NRMS	Jul95 - Jun98	80
Hillman	MDFRC	Effect of water level fluctuations on experimental billabongs	LWRRDC	Apr94 - Jul97	208
Hillman	MDFRC	Billabong-river interactions during high flow in the mid-Murray region	NRMS	Sep95 - Aug98	213
Hillman	MDFRC	Riverine and floodplain interactions during high flow	LWRRDC	Jul96 - Jun99	278
Kearney	Uni of Canberra	Issues affecting the sustainability of Australia's freshwater fisheries resources and identification of research strategies	FRDC	Jul97 - Feb99	228
Lake	Monash University	Impacts of hydrological disturbance on stream communities	LWRRDC	Jan94 - May98	288
Lake/ Humphries	Monash University/ MDFRC	Environmental flows on the Campaspe river	LWRRDC	Jul96 - Jun01	696
Lawrence	ACT Government	Physical and nutrient factors controlling algal succession and biomass in Burrinjuck Reservoir	LWRRDC	Mar97 - Jun99	100
Norris	Uni of Canberra	National River Health Program	DELP	Feb94 - Feb97	105
Norris	Uni of Canberra	In situ toxicity testing	LWRRDC	Aug95 - Jul98	87
Oliver	MDFRC	Variation in algal availibility of phosphorus from different			
		catchment sources	LWRRDC	Mar97 - Jun00	289
Osborne	Uni of Canberra	Factors influencing pool habitat selection and tadpole survival by declining and non-declining amphibians of SE Australian waters	NSW NPWS	Jul97 - Dec99	41
Schiller	NSW Fisheries	Downstream transport of larval and juvenile fish	NRMS	Jan97 - May00	377
Shiel	MDFRC	Taxonomy and biogeography of Australian Chydoridae	ABRS	Jan95 - Dec97	63
Suter	La Trobe	Illustrated key to the nymphs of the Australian Ephemeropteran Baetidae and Caenidae	LWRRDC	Dec94 - Dec97	35

continued over

Researcher	Organisation	Project	Funding source	Period	Total funding '000
Thoms	Uni of Canberra	In-stream processes and environmental flow requirements for the Barwon-Darling River	LWRRDC	Mar95 - May99	230
New Gro	ants				
Copland	MDFRC	Waterlines: Studies in irrigation in the Basin	NRMS	Sep97 - Aug00	245
Gawne	MDFRC-Mildura	Drying effects on the ecology of Menindee Lakes	NSW WMF	Jan98 - Dec98	203
Gawne	MDFRC-Mildura	Hydrolic manipulation as a potential carp control strategy	NSW WMF	Jan98 - Dec99	140
Gawne	MDFRC-Mildura	The impact of flow regulation on carbon and nutrient cycles of floodplain wetlands of the River Murray	NSW DLWC	Mar97 - Feb00	60
Georges	Uni of Canberra	Genetic differentiation among freshwater turtle populations and relationship to recent glacial events	ARC	Jan - Dec98	30
Harris	NSW Fisheries	Regulated rivers and fisheries restoration	NSW WMF	Jan98 - Dec99	415
Osborne/ Georges	Uni of Canberra	Potential impact of ultraviolet-B radiation on amphibians	ARC	Jan - Dec98	30
Puckridge	Adelaide Uni	Modelling ecological responses to water regimes in arid zone wetlands	Environment Australia	Jan98 - Dec98	99
Quinn	Monash Uni	Measuring the effectiveness of environmental water allocations	Vic DNRE	Feb97 - Mar98	81
Schiller	NSW Fisheries	Methods for carp control	NSW WMF	Jan98 - May00	388
Thoms	Uni of Canberra	Storage, production and transfer of nutrients and carbon in lowland flood-plain river systems: Condamine/Balonne	Environment Australia/ QDNR	Jul97 - Jun00	312

Chapter IO Performance Indicators as amended by Board and Secretariat following Third Year Review

Photo: John Hawking

Cooperative arrangements

1.1 Involvement of partners in formulating research programs and setting priorities

Board continues to select projects and set research directions and priorities. Agreements for each project specify the partner involved and resources committed.

1.2 Interaction with Australian and overseas industry and research groups

The CRCFE interacts with more than 70 external national research and industry bodies as well as more than 20 international universities and other international institutions. See Chapter 3.3 and 3.4.

1.3 Strength and number of links with land and water resource agencies

In addition to its partner organisations, the CRCFE maintains strong links with more than 26 land and water agencies. See Chapters 3.3 and 6.3.

1.4 Hold an annual meeting with research managers from relevant funding bodies to discuss priorities and other aspects of research management

Meetings have been conducted with Sydney Water, Melbourne Water, Goulburn-Murray Water, DLWC and the ACT Government. In addition, meetings were conducted for Chaffey Dam and Campaspe Environmental Flows projects.

Meetings have also been held with LWRRDC and the MDBC to discuss research priorities and management.

1.5 Proportion of research projects involving substantial input of staff from more than one partner

24 cross-site collaborative projects are being conducted.

Research and researchers

2.1 Papers in refereed journals

32 papers as shown in Publications 9.2.

2.2 Publication of books, book chapters, monographs, technical bulletins, etc

12 as shown in Publications 9.1.

2.3 Number of papers delivered at research conferences

221 as shown in Publications 9.3 and 9.4

2.4 Number of citations to published research results

Not available

2.5 Distinguished visitors, scientists and post graduate students from Australia and overseas attracted to the CRC

More than 20 overseas scientists and several delegations of government and industry representatives visited the CRCFE. See Chapter 3.4

2.6 Deliver high quality research relevant to partners needs through the development of formal Project Agreements and effective reporting to the Management Committee and the Board on progress.

Formal agreements have been signed for all major CRCFE projects. Project reports are presented to each Management and Board meeting.

3 Education and training

3.1 Number of postgraduate students enrolled and working with the CRC and degrees conferred

The CRCFE has 45 PhD students and 11 Masters students. See Chapter 5, Table 1.

3.2 Involvement of non-university staff in teaching postgraduate courses and research supervision

25 postgraduate projects are co-supervised by non-university staff. See Chapter 5, Table 1.

3.3 Short courses and workshops developed and presented, and participant numbers

The CRCFE has presented more than seven short courses and workshops throughout the year, involving more than 200 participants.

3.4 Teaching materials, curriculum and methods developed, software, manuals developed and distributed

The Catchment Management Curriculum has been developed for students at the University of Canberra.

The CRC-Rotary Easter School has been operating for high school students.

A program of field trips have been developed for school students.

CD-ROMs have been developed as school resource material.

The Living on Floodplains book is accessible as a teaching resource.

See Chapters 5 and 7.

3.5 Employment of graduates

Of the 14 PhD graduates since the inception of the CRC

- 6 awarded post-doctoral positions
- employed with government departments
- 1 employed as a consultant
- 1 working with a national consulting firm.
- 1 employed at La Trobe University.

Of the 13 Masters graduates

- 3 lecturing/ research at universities
- 1 employed in a CRC laboratory
- 3 are with government research laboratories
- 1 with a commercial water laboratory
- 1 employed with the Nepal Government
- 1 works for the Australian Quarantine and Inspection Service.

Applications of research

4.1 Advice and consultancies provided to industry partners and others

The CRCFE provided advice to partners on more than 58 occasions.

4.2 Number of manuals of best practice distributed

Two manuals of best practice produced, one on stormwater guidelines, another on guidelines for using phytoplankton for bioassessment.

4.3 Advice given to public inquiries and briefings of politicians

The CRCFE has been a major player in the NSW Government's Water Reforms.

The CRCFE researchers are represented on the Snowy River expert panel and have been involved in advising the Inquiry.

Through Barry Hart, the CRCFE has been advised Catchment Management Authorities in Victoria.

Peter Cullen is serving on the Prime Minister's Science, Engineering and Innovation Council and is chairing a Working Group on salinity.

Peter also appeared before the House of Representatives Inquiry into the impacts of the COAG reforms on research.

4.4 Applied research and investigation contracts and consulting with non-partner agencies

54 consultancy reports were issued during the year. See Chapter 9.5

4.5 Production of technical publications appropriate for end-users and use of other ways of reaching these groups (trade displays, electronic)

See Chapter 9 and 7.

4.6 Cost-benefit analysis of the application of materials developed by the CRC

Available for 5th Year Review

4.7 CRC staff involvement in government and other advisory bodies

46 staff are involved in government and other advisory bodies. See Chapter 6.3

4.8 Number of lectures given to professional workshops and conferences and numbers attending specific CRC training events

About 200 lectures have been given to professional workshops and conferences. See Chapters 9.3

About 500 people attended CRCFE training workshops and courses throughout the year. See Chapters 7, 5 and 9.

4.9 Involvement in mounting national conferences and workshops

The CRCFE sponsored six and co-sponsored five major conferences and workshops.

Management and budget

5.1 Reporting progress to the Board and to the Commonwealth

Direct reports to the Board quarterly.

Annual report to the Commonwealth.

5.2 Accurate monitoring of agreed performance indicators

Project management system in place and accurate tracking of performance indicators conducted.

5.3 Annual Report of research, technology transfer and staff development.

Annual report produced and distributed to more than 2000 stakeholders.

5.4 Accurate recording and reporting of financial transactions

Quarterly reporting to the Board and Commonwealth. Further development of Lotus Notes to assist CRC communication and project management.

5.5 Development of appropriate facilities for research and communication at all sites

Computer network further enhanced during the year with all CRCFE sites now connected.

Human resource management

6.1 Deliver regular induction program so that all new entrants to the CRC have an understanding of the organisation, its operations and resources

Induction programs undertaken at Monash University and the University of Canberra. Staff and students from other sites are supported to attend these programs.

6.2 Provide appropriate staff development opportunities

During the year staff and students undertook training in: various computer software programs, four-wheel-driving, First Aid, various safety courses, leadership skills, scientific writing, catchment management.

Staff and students have also been supported to attend scientific conferences and seminars.

Four a staff also attended the CSIRO-BHERT leadership in R&D program. See Chapter 9.

Communications

7.1 Ensure internal communication through fortnightly newsletter (Ripples), annual staff meeting and other means.

Ripples continues to be produced fortnightly and is available in both paper and electronic formats.

Two major staff meetings conducted during the year.

Lotus Notes implemented and training programs held.

Project meetings conducted.

Travel budget continued.

7.2 Media exposure by CRC

More than 180 media 'hits' were recorded during the year.