



**WATER
CATCHMENT AREA
KEEP IT CLEAN**

The CRC actively communicates its research to a broad range of people and organisations, from politicians to school children. Keeping the Centre's purpose clearly in mind, CRC staff provide ecological expertise and advice while building links with politicians, the water industry, and the general public. As a result, the Centre is recognised as an important source of independent and reliable information.

The Communications Manager was appointed in October 1999.

8.1 Major achievements

- WaterShed newsletter redesigned and distributed more frequently – 6 times per year.
- Lower Basin Links redesigned to provide readers with easier access to relevant articles.
- Two major displays for National Science Week. A large, interactive multi-media display featuring live frogs, fish, turtles and invertebrates in the Amazing World of Science Hall. This exhibition was run jointly with five other CRCs and the Faculty of Applied Science at UC. Approximately 8,400 visitors. The other display, a mini-billabong with turtles and plants in a prominent shop window in the main shopping centre in Canberra was very popular. Approximately 1,800 visitors.
- Over 250 organisations have ordered CRC publications. The storage, stocktake and ordering systems have been updated and streamlined, allowing more efficient retrieval and purchasing.
- Introduced a weekly electronic internal newsletter.
- The Lower Basin Laboratory's work with the Artists in Industry project culminated in a highly successful exhibition of the artists work at the Mildura Arts Centre, communicating the Laboratory's research to a broad general audience and attracting media coverage.
- Coordinated the submission for Peter Cullen's nomination for Outstanding Individual Achievement for the Prime Minister's Environment Awards. From a distinguished field, Peter was one of three finalists, being Highly Commended.

The Centre's display at the Australian Science Festival.



Previous page:
Cotter River catchment.
Photo: P Sloane

The good ship PLANKTN, part of the exhibition at Mildura Art Gallery for the Artists in Industry Project.



CRC staff and the Communications Manager use a variety of approaches to reach their diverse target audiences:

- Seminars and presentations
- Industry workshops
- Conferences
- Consultancies
- Technical reports and guidelines
- Committee membership and committee meetings
- Watershed and Lower Basin Links newsletters
- Brochures and other publications
- Displays, field days, exhibitions
- The web
- Electronic media
- Media activities
- Events



8.2 Workshops supported by the CRC

To promote its research findings, the CRC offers workshops to organisations and people who can apply the information to sustainable water management.

Conference/Workshop	Title	Sponsors	CRCFE Staff
Carp Biology	Two New Zealand carp biologists	CRCFE	Glenn Wilson
CRCFE combined projects (IP1, IP2 and Yarra) workshop	CRCFE combined projects (IP1, IP2 and Yarra)	CRCFE	Peter Cottingham
International Constructed Wetland Design Workshop	Expert advice	WA Water and Rivers Commission	Peter Breen
NEMP Workshop	Nutrient limitation of microalgae in freshwaters: An industry assessment of new analytical techniques for incorporation into monitoring programs.	CRCFE	Rod Oliver
	Physical and nutrient factors controlling algal succession and biomass in reservoirs: An industry Workshop for Reservoir Managers	CRCFE & CSIRO	Ian Lawrence, Rod Oliver, Gail Ransom (CRCFE), Myriam Bormans, Brad Sherman & Phillip Ford (CSIRO)
Salinity workshop	Identify knowledge gaps and potential research responses to the Ecological Effects of Dryland Salinity on Aquatic Ecosystems.	MDFRC, CRCFE	Daryl Nielsen, Terry Hillman
Specialist Workshop on Nitrogen Dynamics	Sources, Transformations, Effects and Management of Nitrogen in Freshwater Ecosystems	CRCFE, Monash University, NSW EPA, LWRDC & CSIRO Land and Water	Barry Hart
Workshop	12th Taxonomic Workshop	CRCFE	Taxonomic working group
Workshop	Stream Habitat Assessment: Integrating Physical and Biological Approaches	Environment Australia	CRCFE University of Canberra staff and the Natural Heritage Trust

8.3 Presentations and lectures *In addition to Conference Proceedings listed in chapter 7, Publications.*

The Joint Annual Conference of New Zealand Limnological Society and Australian Society for Limnology. 18 University of Canberra CRCFE students and researchers presented papers at the Conference. Russ Shiel was the invited plenary speaker for the Hilary Jolly Memorial Lecture where he was awarded the inaugural ASL Medal for excellence in research, education and communication.

Arthington, A. H. 1999. The growing awareness and significance of environmental flows as a determining factor in river basin planning and management. Keynote Address, "Rivers in Crisis - Offering Real Management Solutions". Brisbane RiverFestival.

Baldwin, D. 1999. Paper at the "Monitoring Wetlands in Inland NSW" Workshop, held at the University of New England.

Barton, J. 1999. Sustainable Freshwater Ecosystems: the new millennium. NZSL/ASL joint conference, Lake Taupo, New Zealand.

Bunn, S.E., Davies, P.M., Winning, M. and Udy, J. (2000). The importance of benthic algae to aquatic food webs in Australian streams and rivers. 48th Annual Meeting, North American Benthological Society. Keystone Resort, Colorado, USA, May 2000.

Bunn, S.E. 1999. "Origin and fate of organic carbon in Australian streams and rivers." *Frontiers in Catchment Biogeochemistry*, CSIRO Canberra.

Bunn, S.E. 1999. "Dryland river ecosystems and forest river ecology." *Second International Riversymposium*, Brisbane.

Copland, M. 1999. Presentation at the "Project Wet" workshop at the 10th World Water Congress, Melbourne.

Cullen, P. 1999. The CRC for Freshwater Ecology. Talk to Staff of Environment Australia. Canberra.

Cullen, P. 1999. Moving to a Knowledge Based Future. Gippsland Environmental Futures Forum. Monash Gippsland.

Cullen, P. 1999. A Knowledge Strategy for the SCA. Talk to Staff of Sydney Catchment Authority. Warragamba Conference.

Cullen, P. 2000. Future Research: Engaging the University. Generating Knowledge in the New Universities. Talk to University of Canberra Research Summit.

Cullen, P. 2000. Knowledge and the Postgraduate Experience. Talk at Launch of Synergy Newspaper of Canberra University Postgraduates Association.

Cullen, P. 2000. Balancing Economic & Environmental Demands for Water. The Balancing Act - Futures for Water Reform Water 2000 Seminar. Wimmera Mallee Water.

Davies, N.M., Norris, R.H. and Thoms M.C. 1999. Prediction of local stream habitat features from large-scale characteristics. Annual meeting of the North American Benthological Society, Minnesota, USA.



- Davies, P.E. and Norris, R.H. 1999. Biological assessment of water quality: development of a national system in Australia. Annual meeting of the North American Benthological Society, Minnesota, USA.
- Duggan, I.C., J.D. Green & R.J. Shiel. 1999. "Rotifer distribution in North Island, New Zealand, and their potential use as bioindicators of lake trophic state." NZSL/ASL joint conference, Lake Taupo, New Zealand.
- Duggan, I.C., J.D. Green & R.J. Shiel. 2000. "Rotifer distribution in North Island, New Zealand, and their potential use as bioindicators of lake trophic state." IXth Int. Rotifer Symposium in Khon Kaen, Thailand.
- Gawne, B. 1999. The reasons for conserving aquatic biodiversity at the "Biodiversity Conference Outback and Upfront".
- Grace, M.R. 1999. Ecosystem Functions as Stream Health Indicators. Urban River Health Workshop, Monash University, Clayton.
- Green, J.D. R.J. Shiel, J.M. Langley & D.L. Nielsen. 1999. "The influence of sediment flood history on microinvertebrate colonization of temporary waters". NZSL/ASL joint conference, Lake Taupo, New Zealand.
- Green, D. 2000. PhD student at MDFRC/University of Canberra, delivered a seminar on his research at Chaffey Dam.
- Harris J. 1999. Ecological drivers for change. Keynote address to the Water and Wetlands Management Conference, 'Water: Wet or Dry?' Nature Conservation Council of NSW Inc.
- Hillman, T.J. 1999. Ecological linkages between wetlands and rivers. Wetland Care Australia, Canberra.
- Hillman, T.J. 2000. Riverine Floodplain Interactions during periods of high flow. Murrumbidgee River Management Committee, Environmental Contingency Allocation Sub-Committee, Wagga Wagga.
- Hillman, T. 1999. Presented a paper on "Stream Ecology (macroinvertebrates)" at the Wise Water Ways Workshop held at La Trobe University.
- Lake, S. 2000. Evaluation in stream restoration and rehabilitation. Water 2000-LWRRDC Stream Restoration Workshop.
- Lake, P.S, A. Glaister, J. Davis, B. Downes, B. Finlayson, R. Keller, A. Tucker, K. Swingler and B. David. 1999. Restoration ecology in streams inundated by sand slugs; the Granite Creeks project, Victoria, Australia. NZSL/ASL joint conference, Lake Taupo, New Zealand.
- Langley, J.M., Shiel, R.J., Nielsen D.L. & Green J.D. 2000. "Mesocosms - an asset to rotifer biodiversity assessment?" IXth Int. Rotifer Symposium in Khon Kaen, Thailand.



- Norris, R.H and. Davies P.E. 1999. Biological assessment of water quality: delivery of a national system in Australia. Annual meeting of the North American Benthological Society, Minnesota, USA.
- Oliver, R. 1999. Presented a talk “Maintaining water health” to a community conference “Achieving the Balance”. Upper Murray Catchment Network (NSW) and the Upper Murray Landcare Network (VIC).
- Oliver, R. and Cottingham, P. 1999. Presented papers at the MDBC Strategic Investigations and Education Forum (Irrigation, Dryland and Riverine Sub-Programs Forum). Peter Cottinghams’s paper received best presentation award (riverine program) and special commendation at Forum closing session.
- Pinder, A.M., J.M. McRae, S.A. Halse, M. Penniford & R.J. Shiel. 1999. “Aquatic invertebrate assemblages of the Wheatbelt region of Western Australia”.
- Pontin, R.M. & Shiel, R.J. 2000. “Further studies on rotifer communities of the aquatic macrophyte *Myriophyllum*” IXth Int. Rotifer Symposium in Khon Kaen, Thailand.
- Puckridge JT, JF Costelloe, KF Walker. 1999. Responses of arid zone rivers to changes in flow-the DRY/WET model. Rivers for the Future (Land and Water Resources R&D Corporation, Canberra).
- Shiel, R.J. 1999. “Microfauna”. Monitoring Wetlands Workshop, Univ. of New England.
- Shiel, R.J. 1999. Presented two papers at the Vth Int. Symposium on Cladocera, Max-Planck Inst., Ploen, Germany.
- Shiel, R.J. & S.A. Halse. 2000 “Rotifer communities in salinizing habitats: comparisons from western and eastern Australia” IXth Int. Rotifer Symposium in Khon Kaen, Thailand.
- Walsh, C. J. 1999. Melbourne’s Troubled Waters: Stormwater’s multiple insults to stream ecosystems in an urban landscape. Water Studies Centre, Monash University, Clayton.
- Walsh, C. J. 1999. Ecological assessment of the small streams of Melbourne, an overview. Urban River Health Workshop, Monash University, Clayton.
- Walker KF, Lambert MF. 1999. Reflections on ‘the environment’. Environmental Challenges for the New Millennium. Conference on Post-Graduate Research on the Environment. Department of Civil & Environmental Engineering, University of Adelaide.
- Whittington, J. 1999. Addressed the CSIRO Component 1 “National Water Reform” group on the research needs to implement water reforms in Australia.
- Wilson, G. Presented his work on carp to the Murray Darling Association Fish conference.



8.4 Community workshops, meetings, presentations

One of the ways the Centre influences and educates the wider community about water issues is through representation at community forums and meetings.

Workshop/committee	Title	Sponsors	CRCFE staff
Albury Rotary	Presentation	MDFRC	Martin Thoms, Mike Copland
Artists in Industry	Meetings and display - PLANKTN	MDFRC LBL	Ben Gawne
Australian College of Seniors Group	Ecology of the Murray	Lower Basin Laboratory	Ben Gawne
Australian Trust Conservation Volunteers	Meeting		Ben Gawne
Bellbridge Rotary Club	Presentation on Billabong Flooding	MDFRC	Mike Copland
Bookmark	Advice on design of a limnology wet lab		Ben Gawne
Committee meeting, 10 winegrape growers	Irrigation issues		Ben Gawne
Ecological report for Adelaide Advertiser	Provided information and tour	MDFRC	John Whittington, Mike Copland
Inaugural Ecology Discussion Group	Freshwater Ecology	MDFRC LBL	Ben Gawne
Landcare, TCM	Participation in "Wirraminna Learnscape" video		Mike Copland
Mildura Business Centre	Blue Green Seminar	CRCFE	The Lower Basin Laboratory
Ministerial Tour of the District by John Anderson.	Meeting and tour		Ben Gawne
NSW TAFE (Albury)	Guest speaker at the Graduation Ceremony		Terry Hillman

*Dam release at Captains Flat Reservoir. Flows require careful management to minimise possible damage to the freshwater environment downstream.
Photo: P Sloane*



8.4 Community workshops, meetings, presentations, continued

Workshop/committee	Title	Sponsors	CRCFE staff
Palimpsest - Art Meets Science Symposium	The meeting of Art and Science in Ecology	Mildura Arts Centre	Ben Gawne
The Albury/Wodonga Gateway Island project	Representation		Mike Copland
The "Lower Kiewa" project	Representation		Mike Copland
Presentation to 150 tourism stakeholders	'Why the environment needs flooding'	MDFRC	Mike Copland
Rutherglen Landcare Group Annual General Meeting	Floodplains and Billabongs: "how we affect their life and health"		Terry Hillman
Seminar for 10 Albury businessmen	River interpretation	MDFRC	Mike Copland
Submission to Albury City Council, Wadonga Wetlands Group	MDFRC		Mike Copland
Talk to Victorian Fly Fishers Association	The Health of our Rivers		Peter Cullen
Water Week	Spoke to groups of children and helped organise National Water Bug Survey Day	Lower Basin Laboratory, DLWC	Ben Gawne and Iain Ellis
Workshop 'The causes and control of blue-green algae'	Algal availability of phosphorus discharged from different catchment sources	LWRRDC & MDBC	Rod Oliver

*Blue-green algal bloom on Chaffey Dam, one of the many issues Centre staff inform and advise the public about.
Photo: B Sherman*



8.5 Newsletters, brochures etc.

The Centre's newsletters, WaterShed and Lower Basin Links, were redesigned, leading to an increase in readership. Watershed is published every two months and sent to over 3,000 readers, both in Australia and overseas. Lower Basin Links is published quarterly and sent to over 500 readers, mostly in the Mildura region. Other Centre publications, such as brochures, attract a broad readership. Most of the Centre's newsletters and technical reports are also available on its website.

Over the last year, over 250 organisations have ordered CRC publications. The storage, stocktake and ordering systems have been updated and streamlined, allowing more efficient and reliable retrieval and purchasing.

An electronic weekly internal newsletter was introduced and will be informally evaluated using a survey sample. The newsletter Ripples was published fourteen times.

The brochure - 'Effects of a drying phase on the ecology of Menindee' was produced by John Whittington and Ben Gawne.

8.6 Displays and exhibitions

The Amazing World of Science, Australian Science Festival

A large, interactive multi-media display with live frogs, fish, turtles and invertebrates in the Amazing World of Science Hall. This exhibition was run jointly with five other CRCs and the Faculty of Applied Science at UC. Approximately 8,400 visitors.

Science Comedy Show, National Science Week

Information display at the science comedy show by Adam Spencer and Dr Karl Kruszelnicki. 580 visitors.

Science in the City, Australian Science Festival

Featured live turtles in a mini-billabong - launched in a shop window in Canberra's main shopping centre in Canberra. Approximately 1,800 visitors.

Provided educational materials for Frog Week during National Biodiversity month at Healesville Sanctuary Education Section.

Presented a display at the University of Canberra's Open Day.

Lower Basin Lab provided fish tanks for display at the Murray Darling Associations Fish conference.

The MDFRC participated in a photographic display, Trading Places: The River 99 Exhibition.



8.7 Communicating through the media

In addition to media releases, journalists are regularly informed of the Centre's activities and research findings through the newsletters, Watershed and Lower Basin Links. Articles from these newsletters have subsequently been featured in regional and national newspapers, magazines and newsletters. After five years of building relationships with the media, the Centre now receives numerous requests from the media for information and interviews.

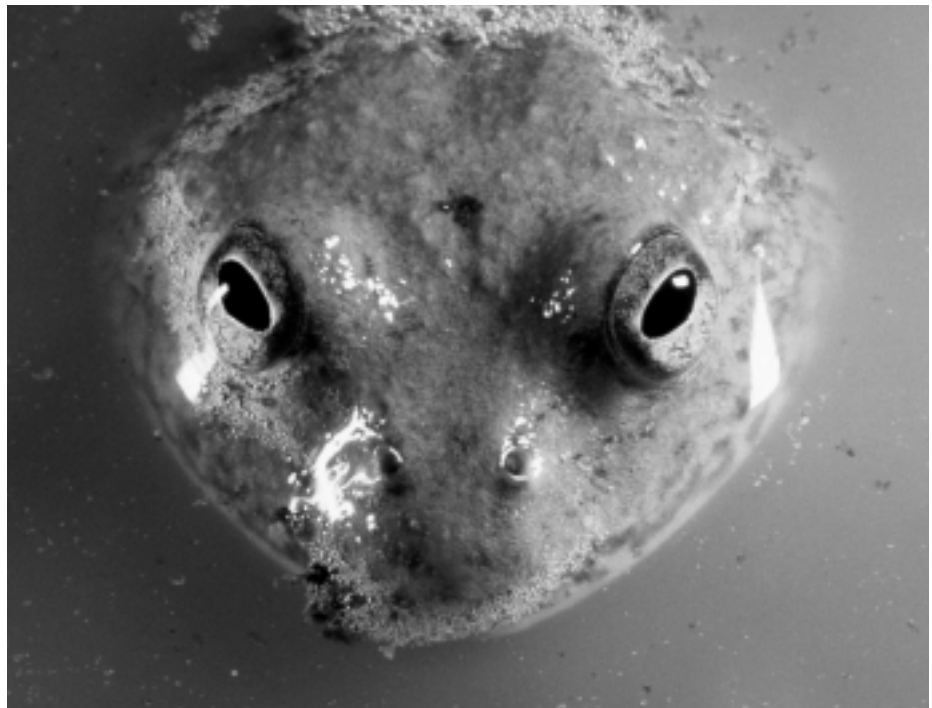
103 media hits were recorded during the year:

Radio	28
Television	15
Newspaper	43
The Web	8
Newsletters/magazine	9

Media releases issued

'Pond experiment succeeds at reducing carp breeding'	Glenn Wilson
'Irrigation Cap - vital for the Murray-Darling Basin'.(The Australian)	Whittington/ Cullen
'Prime Minister commends river health champion'.	Lynne Sealie

*Water-holding frog,
Cyclorana platycephala,
in Cooper Creek.
Photo: R Ashdown*



8.8 Public awareness and understanding

John Whittington and Rhonda Sinclair organised Science in the Pub in Albury to help celebrate National Water Week. Hosted by the Australian Science Communicators and the MDFRC, the evening attracted around 110 locals to Sodens Hotel to hear Drs Paul Humphries and Andrew Sanger discuss Scales of injustice: feral fish fallacy?, looking at the introduction of feral fish into Australian waters. Compered by Dr Paul Willis (ABC) and Bernie Hobbs (ABC and Triple J), the evening was a huge success.

Federation of Australian Science and Technological Societies (FASTS) presidency

Through his presidency of the Federation of Australian Science and Technological Societies (FASTS), Peter Cullen has made major contributions to the general and political awareness of scientific issues in Australia. The media coverage has generated flow-on benefits for the CRC.

8.9 The World Wide Web

The Centre continues to use its website for disseminating information about its research to industry users and the broader public. The Communications Manager has prepared a development plan for the website so that information is layered to provide the level of detail required by the user. Material will be written to target specific audiences. Careful web site design and construction using clear navigation will allow users to find knowledge they require as they need it.

