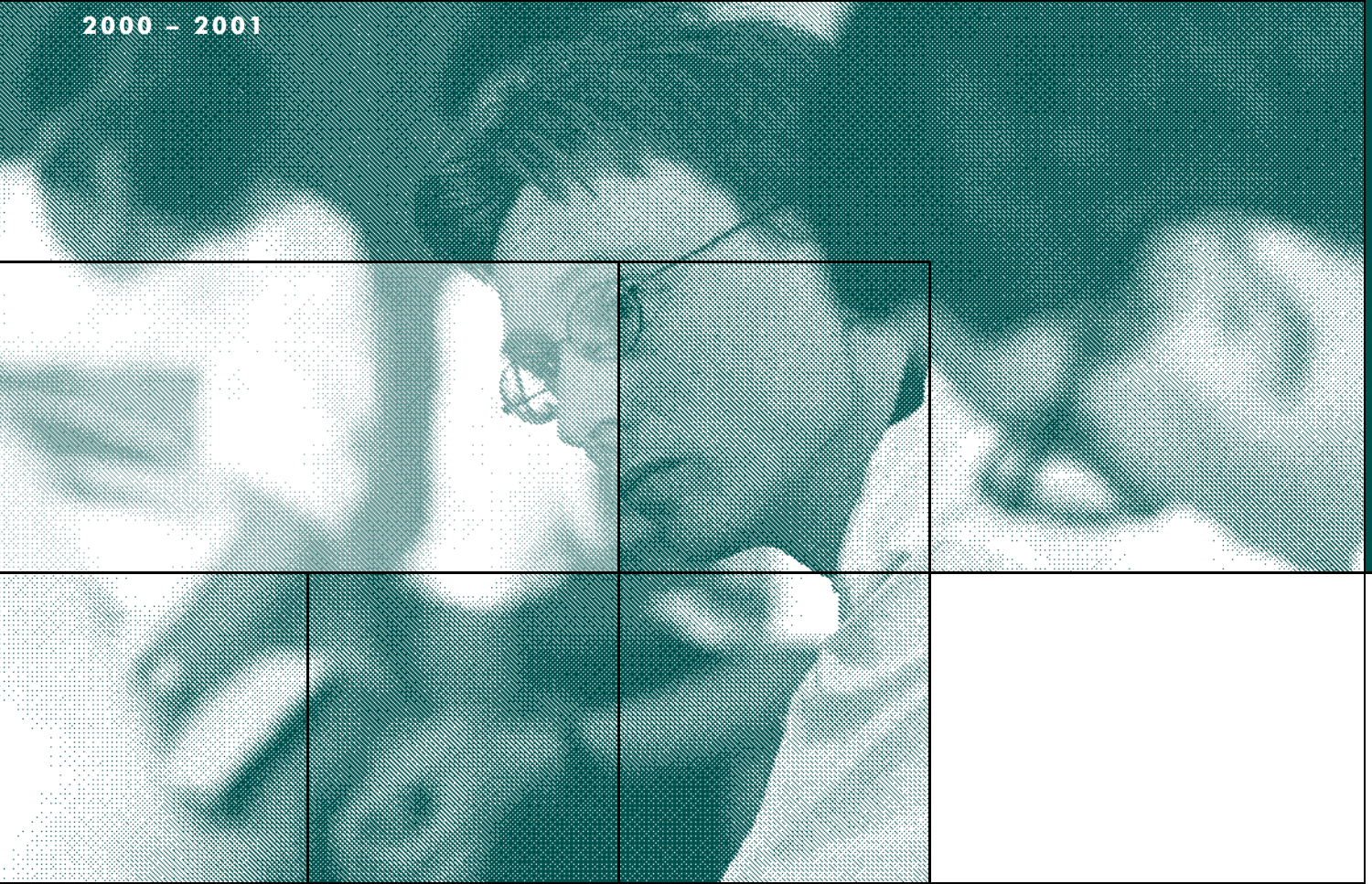


PERFORMANCE INDICATORS

2000 - 2001



PERFORMANCE EVALUATION

OBJECTIVES OF THE CENTRE

Nature of Indicator	Performance Indicator	Target over life of Centre	Measure – Leading	Measure – Real Time	Measure – Lagging	Report of Activities and Achievements for 1999/2000	Report of Activities and Achievements for 2000/2001
Outcome	Economic benefit to Centre	Adding value to intellectual capital at least equal to CRC Commonwealth funding	Building Centre intellectual capital	Maximising value of intellectual capital	Demonstrated application of Centre's public good research	11 major cooperative research projects underway. Further 3 in July 2000.	19 collaborative core research projects and 5 major contract research projects underway.
		Additional income (contract research) of \$10.1 m over life of Centre	Budget provision	Additional contract income in year	Cumulative income	Research Contracts with AFFA, LWRRDC, MDBC, SEQRWQMS. Contract income \$0.05m for 99/2000 of total \$0.92m in contracts to date. [Includes \$0.03m from direct CRC contract/consulting work]	Research Contracts with AFFA, LWRRDC, MDBC, SEQRWQMS. Contract income \$0.79m for 2000/01 of total \$1.47m in contracts to date. [Includes \$0.18m from direct CRC contract/consulting work]
	Economic benefit to user core participants	Actual or future potential benefits more than 3 times total resources committed	Dissemination of Centre IP to Parties.	Access to Centre IP and know-how	Actual benefit achieved or achievable by core user participants	IP access: Communication and Adoption Program underway. Seminars and dissemination of reports, videos continuing,	IP access: Communication and Adoption Program underway. Seminars and dissemination of reports, videos continuing,
			Potential economic benefit assessed			Overall indicative economic benefits highlighted in Business Plan. Individual assessments of Party economic benefits to follow project completions.	Overall indicative economic benefits highlighted in Business Plan. Individual assessments of Party economic benefits to follow project completions.
	Economic benefit to Australia	Actual or future potential benefits more than 5 times total resources committed	Potential economic benefit assessed	Completed economic benefit assessments for projects	Actual benefit achieved or achievable	Overall indicative economic benefits highlighted in Business Plan	Overall indicative economic benefits highlighted in Business Plan
Economic benefit - other	Public benefit from positive environmental impact	Public good potential identified	Completed assessments of public good potential benefit for projects	Public good benefit achieved	Public good potential outlined in Business Plan	Public good potential outlined in Business Plan	
					Assessments of national economic benefits to follow project completions	Assessments of public good and other economic benefits to follow project completions	
Input	Total resources	\$67.7m total resources Total leverage > 4.1 vs Commonwealth cash	Agreement	Actually committed	Cumulative resources	Parties/Grant Total Agreement commitment of \$57.6m. \$6.1 m committed to 30 June 2000.	Parties/Grant Total Agreement commitment of \$57.6m. \$11.8 m committed by Parties to 30 June 2001.
	Cash resources	\$33.6m cash resources Cash 49% of total resources	Agreement	Actually committed	Cumulative resources	Total Agreement cash budget of \$33.6m. \$3.3m cash committed to 30 June 2000.	Total Agreement cash budget of \$33.6m. \$3.6m Grant/Parties cash committed in year to 30 June 2001. Cumulative \$6.9m Grant/Parties.
Process	Program/Project Management	Project initiation, management, review and evaluation systems	Adoption of project management approach	Quarterly reports Regular project reviews	Projects completed on time and on budget	Monthly Project finance reporting continuing. Quarterly Project reporting continuing. Reporting format upgraded.	Monthly Project finance reporting continuing. Quarterly Project reporting continuing.
Outputs	Centre Publications transferring research outcomes and technology to industry	50 Centre reports	Number planned	Number in preparation	Number issued	3 Industry Reports [one 2nd Ed], 14 Technical Reports, 5 videos and 5 Working Documents published since July 99. Email notification and database established with 590 recipients. 11 issues of monthly newsletter issued (800 in hard copy, 200 emailed – includes Website posting).	12 Technical Reports and 2 videos published. Email notification and database established with 760 recipients. 11 issues of monthly newsletter issued (890 in hard copy, 360 emailed – includes Website posting). Approx 2000 visits to CRC website per month with over 700 visiting more than twice per month.
	Industry Seminars	50 Seminars	Number planned	Number each year	Total number completed	5 Industry Seminars presented since July 99. 14 Technical Seminars	19 CRC Technical Seminars presented
	Industry Workshops	20 Workshops	Number planned	Number each year	Total number completed	7 CRC workshops/field tours since July 99	14 CRC Workshops/field tours given

QUALITY AND RELEVANCE OF THE RESEARCH PROGRAM

Nature of Indicator	Performance Indicator	Target over life of Centre	Measure – Leading	Measure – Real Time	Measure – Lagging	Report of Activities and Achievements for 1999/2000	Report of Activities and Achievements for 2000/2001
Outcome	Scientific status and user satisfaction	Demonstrated research quality	Scientific review of planned projects	Annual review for scientific status and user satisfaction	Cumulative results	Technical Advisory Groups involved in developing projects. Project review panels established for projects. Independent science review included in project review panel tasks.	Technical Advisory Groups involved in developing projects. 14 Project review panels held to June 2001 covering all projects. Independent science review included in project review panel tasks.
		Demonstrated user satisfaction	User input to planned projects			Industry users represented in Technical Advisory Groups for Projects. Participation also in Project Review panels	Industry users represented in Technical Advisory Groups for Projects. Participation also in Project Review panels
Input	Research program resources	\$46m total cash and in-kind resources on research program	Strategic plan	Actually committed	Cumulative resources	\$3.5m research expenditure (cash and in-kind) for 99/2000	\$5.2m research expenditure (cash and in-kind) for 2000/01 Cumulative total \$8.7m
Process	Advisory committees/groups	Technical Advisory Groups (TAGs) for Research Programs	Roles defined, meetings scheduled	Membership, meetings held	Extent of involvement and contribution to research directions and management	Technical Advisory Groups established and used in developing projects.	Technical Advisory Groups established and used in developing projects.
	Involvement of research users	User driven selection, review and termination of applied projects	Project selection	Consultation and project monitoring	Project reviews	Research users strongly represented in project formulation stages and Technical Advisory Groups. Project review panels established for projects. Independent science review included in project review panel tasks	Research users strongly represented in project formulation stages, Technical Advisory Groups and Communication and Adoption Plans. Project review panels held for all core projects. Independent science review included in project review panel tasks
Outputs	External publications	100 publications in refereed journals	Number planned	Number of publications submitted	Total number published	Over 40 refereed papers in 99/2000.	69 refereed papers published/accepted in 2000/01.
		100 papers in international conferences				16 international conference papers in 99/2000	
		100 papers in national conferences				41 Australian conference papers in 99/2000	

PERFORMANCE EVALUATION

STRATEGY FOR UTILISATION AND APPLICATION OF RESEARCH OUTPUTS

Nature of Indicator	Performance Indicator	Target over life of Centre	Measure – Leading	Measure – Real Time	Measure – Lagging	Report of Activities and Achievements for 1999/2000	Report of Activities and Achievements for 2000/2001
Outcome	Development of approaches to improve land and water management and adoption by end-users	Demonstration of approaches to improve land and water management in Centre's 5 focus catchments	Communication and adoption activities planned	Communication and adoption activities completed	Demonstrated adoption of Centre research outcomes and approaches by end-users in focus catchments	Communication and Adoption planning framework developed for new Programs. Pilot undertaken with industry users for Urban Stormwater Quality Program. Continuing activity with take-up of CRC products by users for Urban Hydrology, Predictive tools, Flood hydrology.	Communication and Adoption planning framework adopted for Programs. Continuing activity with take-up of CRC products by users for all Programs.
Input	Resources devoted to communication and adoption program	Minimum \$13m cash and in-kind on communication and adoption program	Strategic plan – Commercialisation and adoption strategy	Actually committed	Cumulative resources	Total \$1.5m cash and in-kind expenditure for 99/2000 on Communication and Adoption Program	Total \$2.2m cash and in-kind expenditure for 2000/01 on Communication and Adoption Program Cumulative total \$3.7m
	User core participant resources	\$21m core user participant resources Core user participant resources 32% of total resources	Agreement	Actually committed	Cumulative resources	Total \$21.8m committed by core user Parties in Agreement. Contributions of \$2.3 m 99/2000. 46% of total contributions by core users, 99/2000.	Total \$21.8m committed by core user Parties in Agreement. Contributions of \$3.2m 2000/01. Cumulative total \$5.5m 50% of total contributions by core users, 2000/01.
Process	Communication and implementation of Centre research outcomes and technology	Integration of communication and adoption (technology transfer) principles into Programs/projects and focus catchments	Appointment of Program Leader – Communication and Adoption. Appointment of 5 site coordinators.	Number of meetings held by program leaders and site coordinators with stakeholders on communication and adoption	External independent review of Communication and Adoption Program at end of years 1, 3 & 5	Appointments completed for Program Leader and Focus Catchment Coordinators. Meetings held Dec 99 and February 2000. Workshop early April 2000 for Program Leaders and Focus Catchment Coordinators.	Workshop early April 2000 for Program Leaders and Focus Catchment Coordinators. Workshops held Oct 2000 and early April 2001 for Program Leaders and Focus Catchment Coordinators.
Outputs	Centre products	Monthly newsletter to over 1400 industry end-users. 14 Major updates of Centre Web site. 20 Industry seminars 30 Technical seminars 15 Industry reports and videos 35 Technical reports 15 Field tours and demonstrations of Centre products. 20 Workshops 20 Targeted short courses. 4 Contributions to influential trade journals.	Number planned	Number each year	Total number completed	Monthly newsletter continuing: copies to 1000 subscribers (surveyed need) and available on CRC website. Since July 99, second major update of Website underway. 5 Industry Seminars presented since July 99. 14 technical seminars since July 99. 3 Industry Reports and 5 videos, 14 Technical Reports, and 5 Working Documents issued since July 99. 2 Field tours held since July 99, 5 workshops held since July 99, 4 day Stormwater Management short course planned for October 2000, 5 industry articles. CRC contribution/ features for AWA Journal 'Water' being prepared for Nov/Dec 2000 issue	Monthly newsletter continuing: copies to 1250 subscribers (surveyed need) and available on CRC website. Second major update of Website completed. 19 Technical seminars. 12 Technical Reports, 2 Videos issued, 1 Field Tour, 13 CRC workshops held, 15 industry articles. 9 CRC contributions/features in AWA Journal 'Water'. Cumulative totals: 2 Website upgrades 5 Industry Seminars 33 Technical Seminars 3 Industry Reports 26 Technical Reports 3 Field Tours 18 Workshops 20 Industry/trade articles.

COLLABORATIVE ARRANGEMENTS

Nature of Indicator	Performance Indicator	Target over life of Centre	Measure – Leading	Measure – Real Time	Measure – Lagging	Report of Activities and Achievements for 1999/2000	Report of Activities and Achievements for 2000/2001
Outcome	Cooperation in research within Australian and overseas and more efficient use of resources	Twenty collaborative arrangements	Number planned	Number implemented	Total number completed	Nine collaborative arrangements being established with ANU; Coastal Zone CRC and Freshwater Ecology CRC; others being planned	Four collaborative arrangements being established with ICAM(ANU); NIWA(NZ); close collaboration with University of Texas and Univ Nth Carolina, USA.
Input	Research providers contributed resources	\$19.5m total cash and in-kind	Agreement	Actually committed	Cumulative resources	\$2.6m committed by Research providers to 99/2000.	\$3.1m committed by Research providers in 2000/01. \$5.7m Cumulative
	Research providers FTEs in-kind	11.4 FTE in-kind	Agreement	Actually committed	Cumulative resources	10.6 FTE for 99/2000 Increased level expected for later years.	13.0 FTE for 2000/01 23.6 FTE Cumulative
Process	Collaboration between researchers	All projects to involve two or more Parties	Average number of Parties proposed per agreement	Average number for projects initiated within year	Average cumulative number of Parties per project	Average of 5 Parties for 11 Agreements signed February 2000.	Average of 4.4 Parties for 21 Agreements signed to June 2001.
		Participants workshop each year	Workshop planned for year	Number attending	Total number of participant workshops held and cumulative attendance	Workshop held 4-6 April 2000 (Mt Buffalo) 68 attended	Workshop held 3-5 April 2001 (Cobram-Barooga) 93 attended 161 Cumulative Total
	Collaboration between researchers and research users	University and non-University supervisors for 75% of postgraduate students	Percentage planned	Percentage for students starting in year	Cumulative percentage of students with university and non-university supervisors	Currently over 50% of postgraduates have both university and non-university supervisors	Currently over 34% of postgraduates have both university and non-university supervisors
	International collaboration	Centre researchers involved in 3 international collaborations per year	Number planned for year	Number of collaborations in year	Cumulative number of international collaborations	Collaborative arrangements developed for projects including Projects 1.1(Univ Edinburgh), 4.1(Univ Essen), 5.1(WMO), 6.5 (Univ Alberta). Other collaborations occurred with Prog 1-IUFRO (Vertessy), Prog 2-NIWA,NZ(Seed) – 6 in total listed	Collaborative arrangements developed for projects including Projects 1.1(Univ of Texas, Univ of N.Carolina), 1.2 (Univ of Vienna, Univ of Uppsala), 2.2 (C. Univ of Leuven) 4.1/4.2 (Colorado State Univ), 5.1(Univ. Calif.)(WMO), 5.2 (Univ of Natal), 6.5 (Univ Alberta). Other collaborations occurred with Prog 1- Univ of Cincinatti (Vertessy); Prog 5-NIWA,NZ(Seed) – 12 in total listed
		75% of postgraduate students to present at one international conference	Number planned for year	Number attended in year	Cumulative number	Presentations in 99/2000 by 5 postgraduates at Intl confs: Haupt, Hoang, Jordan, McJannet, Wilkinson.	Presentations in 2000/01 by 2 postgraduates at Intl confs: Lloyd, Wilkinson. Cumulative total 7.
	Associate membership program	5 Associates (by Year 4)	Number planned in year	Number joined in year	Total number	SA Water joined. State Forests of NSW renewed.	SA Water continuing involvement. State Forests of NSW renewed.
	Secondments of industry staff to research providers	12 secondments to research providers	Secondments planned in year	Number of secondments in year	Cumulative number of secondments	H Duncan (Melb Water) and J Green (DLWC)(part of year) at Monash Univ.	H Duncan (Melb Water) and (part of year) R O'Neill (DLWC), M Seker (Goulburn-Murray Water), B James (DNRE) at Monash Univ. Cumulative 6 (part) secondments.
Secondments of research provider staff to industry	12 secondments to industry	Secondments planned in year	Number of secondments in year	Cumulative number of secondments	L Siriwardena located at Bureau of Met for part of year	S Lloyd and J Lewis located at Melbourne Water for part of year. Cumulative 3 (part) secondments.	
Outputs	Collaborative publications (Centre researchers and authors from other organisations)	100 collaborative publications	Number planned in year	Number published in year	Total number	10 refereed journal papers, 1 CRC Technical Report, and 13 conference papers – with external collaborators	14 refereed journal papers and 12 conference papers – all with external collaborators.

PERFORMANCE EVALUATION

EDUCATION AND TRAINING

Nature of Indicator	Performance Indicator	Target over life of Centre	Measure – Leading	Measure – Real Time	Measure – Lagging	Report of Activities and Achievements for 1999/2000	Report of Activities and Achievements for 2000/2001
Outcome	Training and equipping postgraduate students as future leaders in research and management: Education benefit – postgraduate	All postgraduates employed 50% of postgraduate students employed in user or related industry	Students trained in job skills	Employment of graduating students	Number employed, % employed in user or related industry % employed in user or related industry	Postgraduate skills training being planned. Further interaction with industry provided in Annual workshop. Postgraduates*: Feikema, Haupt, Jordan, Richards, Siriwardhena, Simes with user industry, Davis, Herron, McJannet, Scanlon, and Stewardson with research providers <i>*Submitted theses in 99/2000</i>	Postgraduate skills workshop held April 2001. Further interaction with industry provided in Annual workshop. Postgraduates*: Hoang, Lewis, Sabaratnam, Tilleard with user industry. Roberts with research providers. <i>*Submitted theses in 2000/01</i>
	Increase in knowledge and skill base available for land and water management in Australia: Education benefit – other	Short courses attended by 500 industry persons	Number planned	Number per year and number attending	Cumulative number of courses and attendees	208 attended courses/workshops on: <i>Continuous simulation system for design flood estimation Nov 99 (15), Planning and design of stormwater management measures, Nov 99 (30); Setting priorities for stream restoration, Dec 99 (25); Hydrology and Hydraulics for Floodplain Managers May 2000 (33); Urban stormwater monitoring Protocol workshop May 2000 (25); Urban Stormwater Field workshop – examples of best practice (80)</i>	Over 490 attended courses/workshops on: <i>Hydrology and hydraulics for floodplain managers – Design flood flow estimation, July 2000 (45); Water sensitive urban design – Field trip, July 2000 (90); Murrumbidgee 2000, July 2000 (85); Water sensitive urban design, Aug 2000 (40); Hydrology and hydraulics for floodplain managers – Flood level estimation, Oct 2000 (35); Regional hydrologic modelling, Oct 2000 (24); Planning and design of urban stormwater management measures, Oct 2000 (17); Hydrology and hydraulics for floodplain managers – Design of flood mitigation measures, Nov 2000 (31); Stochastic hydrology, Feb 2001 (25); Environmental management support system, March 2001 (25); MUSIC (Model for urban stormwater improvement conceptualisation), April 2001 (12); MUSIC (Model for urban stormwater improvement conceptualisation), May 2001 (14); Tarsier developers workshop, May 2001 (12); Future issues workshop, May 2001 (38). Cumulative total 698.</i>
Input	Education and training Program resources	\$6.1m cash and in-kind resources	Strategic plan	Actually committed	Cumulative resources used	\$0.53m for 99/2000	\$1.05m for 2000/01 \$1.58m Cumulative
Process	Industry training	All students to undergo industry induction	Planning of induction	Number of students inducted in year	Cumulative number inducted	Induction program to be planned	Industry placements program being developed (S.Lloyd with Melb. Water on specific project)
Outputs	PhD program	12 full scholarships 12 top-up scholarships	Number planned	Number in year	Cumulative number Awarded	Two rounds of scholarships advertised. Lloyd, Muthukumaran, Anderson, Ghali awarded scholarships and/or top-ups during 99/2000.	Five rounds of scholarships advertised [Aug., Sept., Oct., Nov. 2000; Mar/April 2001]. Best, Etechells, Gooch, Grudzinski, Lyburner, Newton, Ramchurn, Thomsen, White C. awarded scholarships and/or top-ups. 13 Cumulative total scholarships/top-ups.

MANAGEMENT STRUCTURE AND ARRANGEMENTS

Nature of Indicator	Performance Indicator	Target over life of Centre	Measure – Leading	Measure – Real Time	Measure – Lagging	Report of Activities and Achievements for 1999/2000	Report of Activities and Achievements for 2000/2001
Outcome	Continuity of long term research effort	Satisfaction of Parties	Survey of Parties satisfaction	Annual Party survey results	Cumulative results	Survey to be planned.	Survey to be planned. (CRC Parties included in Communication survey in 2000/01)
Input	Total cash and in-kind resources in general administration program	\$2m cash and in-kind	Strategic plan	Actually committed	Cumulative resources	\$0.54m total expenditure 99/2000.	\$0.35m total expenditure 2000/01. Cumulative total \$0.89m
Process	Governing Board	Representatives for each Party Majority of user and independent members on Governing Board	Chair and number of members	Number of meetings held in year	Performance review	Each Party* represented on Governing Board. Two independents appointed (in addition to independent Chair) Independents and users form majority on Board (3 independents, 8* users, 4 research providers) (*3 Rural Water Authorities share one Board representative)	Each Party* represented on Governing Board. Two independents appointed (in addition to independent Chair) Independents and users form majority on Board (3 independents, 8* users, 4 research providers) (*3 Rural Water Authorities share one Board representative)
	Occupational Health and Safety	Incident and accident free workplaces	OH&S training. Risk identification and assessment procedures	OH&S to be part of project meetings and reviews	OH&S incident/accident performance	First Aid courses attended by selected staff and postgrads. OH&S field policies from Parties used to aim at overall compliance for visiting researchers	First Aid courses attended by selected staff and postgrads. OH&S field policies from Parties used to aim at overall compliance for visiting researchers
	Project management skills	All program/ project leaders to attend one course	Selection and planning of Project Management/leadership training for Program/projects	Number of project leaders attending training courses in year	Cumulative number of program/project leaders who attended courses	New Program/Project leaders to be invited to attend training courses where appropriate.	Budget provided for Program/Project leaders to attend training courses where appropriate.
Outputs	Financial management	Programs and projects within budget	Program budgeting for year ahead and three years	Budget versus actual performance within year	Cumulative income and expenditure budget performance	<i>Program budgeting:</i> Program budgeting for initial projects on three year basis. Program budget approved May 2000 Board (14 projects) <i>Project Budget performance:</i> All projects under budget for 99/2000.	<i>Program budgeting:</i> Program budgeting for initial projects on three year basis. Program budget approved May 2001 Board (21 projects) <i>Project Budget performance:</i> 17 projects under cash budget for 2000/01. Total cash 83% of budget.
	Monthly, quarterly and Annual report on time	Completion by required dates each year	Preparation of reports	Timeliness within year	Cumulative performance	Parties provided monthly cash reporting Quarterly in-kind reports submitted in time.	Parties provided monthly cash reporting Quarterly in-kind reports submitted in time.

BUDGET

2000 - 2001



TABLE 1(a) IN-KIND CONTRIBUTIONS FROM PARTIES (DOLLARS IN \$'000'S)

Participant	ACTUAL EXPENDITURE																GRAND TOTAL		
	99/00	00/01	00/01	Cumulative		01/02		02/03		03/04		04/05		05/06		Total	Agreement	Difference	
	YEAR 1	YEAR 2	YEAR 2	Total to Date		YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	7 Years	7 Years	7 Years						
	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement				
Brisbane City Council																			
Salaries	147	11	28	158	56	28	28	28	28	28	28	28	28	28	28	298	196	102	
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other	263	359	372	622	744	372	372	372	372	372	372	372	372	372	372	2,482	2,604	(122)	
Total	410	370	400	780	800	400	400	400	400	400	400	400	400	400	400	2,780	2,800	(20)	
Bureau of Meteorology																			
Salaries	80	189	137	269	274	137	137	137	137	137	137	137	137	137	137	954	959	(5)	
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other	160	358	284	518	568	284	284	284	284	284	284	284	284	284	284	1,938	1,988	(50)	
Total	240	547	421	787	842	421	421	421	421	421	421	421	421	421	421	2,892	2,947	(55)	
CSIRO Land & Water																			
Salaries	417	451	423	868	846	423	423	423	423	423	423	423	423	423	423	2,983	2,961	22	
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other	552	598	561	1,150	1,122	561	561	561	561	561	561	561	561	561	561	3,955	3,927	28	
Total	969	1,049	984	2,018	1,968	984	984	984	984	984	984	984	984	984	984	6,938	6,888	50	
Department of Land & Water Conservation, NSW																			
Salaries	107	77	151	184	302	151	151	151	151	151	151	151	151	151	151	939	1,057	(118)	
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other	74	58	102	132	204	102	102	102	102	102	102	102	102	102	102	642	714	(72)	
Total	181	135	253	316	506	253	253	253	253	253	253	253	253	253	253	1,581	1,771	(190)	

BUDGET

TABLE 1(b) IN-KIND CONTRIBUTIONS FROM PARTIES (DOLLARS IN \$'000'S)

Participant	ACTUAL EXPENDITURE															GRAND TOTAL		
	99/00	00/01	00/01	Cumulative		01/02	02/03	03/04	04/05	05/06								
	YEAR 1	YEAR 2	YEAR 2	Total to Date		YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total	Agreement	Difference					
	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	7 Years	7 Years	7 Years
Department of Natural Resources & Mines, Qld.																		
Salaries	110	94	180	204	360	180	180	180	180	180	180	180	180	180	180	1,104	1,260	(156)
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	189	216	338	405	676	338	338	338	338	338	338	338	338	338	338	2,095	2,366	(271)
Total	299	310	518	609	1,036	518	518	518	518	518	518	518	518	518	518	3,199	3,626	(427)
Department of Natural Resources & Environment, Vic.																		
Salaries	75	318	187	393	374	187	187	187	187	187	187	187	187	187	187	1,328	1,309	19
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	122	356	230	478	460	230	230	230	230	230	230	230	230	230	230	1,628	1,610	18
Total	197	674	417	871	834	417	417	417	417	417	417	417	417	417	417	2,956	2,919	37
Griffith University																		
Salaries	200	237	229	437	456	230	230	231	231	231	231	231	231	231	231	1,591	1,610	(19)
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	214	344	290	558	578	291	291	292	292	292	292	292	292	292	292	2,017	2,037	(20)
Total	414	581	519	995	1,034	521	521	523	523	523	523	523	523	523	523	3,608	3,647	(39)
Melbourne Water																		
Salaries	69	93	76	162	152	76	76	76	76	76	76	76	76	76	76	542	532	10
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	93	236	226	329	452	226	226	226	226	226	226	226	226	226	226	1,459	1,582	(123)
Total	162	329	302	491	604	302	302	302	302	302	302	302	302	302	302	2,001	2,114	(113)

TABLE 1(c) IN-KIND CONTRIBUTIONS FROM PARTIES (DOLLARS IN \$'000'S)

Participant	ACTUAL EXPENDITURE																GRAND TOTAL		
	99/00	00/01	00/01	Cumulative		01/02		02/03		03/04		04/05		05/06		Total	Agreement	Difference	
	YEAR 1	YEAR 2	YEAR 2	Total to Date	Total to Date	YEAR 3	YEAR 3	YEAR 4	YEAR 4	YEAR 5	YEAR 5	YEAR 6	YEAR 6	YEAR 7	YEAR 7	7 Years	7 Years	7 Years	
	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement				
Monash University																			
Salaries	334	257	270	591	540	270	270	270	270	270	270	270	270	270	270	1,941	1,890	51	
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other	384	305	318	689	636	318	318	318	318	318	318	318	318	318	318	2,279	2,226	53	
Total	718	562	588	1,280	1,176	588	588	588	588	588	588	588	588	588	588	4,220	4,116	104	
Goulburn-Murray Water																			
Salaries	18	16	22	34	44	22	22	22	22	22	22	11	11	11	11	122	132	(10)	
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other	52	50	57	102	114	57	57	47	47	48	48	24	24	24	24	302	314	(12)	
Total	70	66	79	136	158	79	79	69	69	70	70	35	35	35	35	424	446	(22)	
The University of Melbourne																			
Salaries	112	306	200	418	400	200	200	200	200	200	200	200	200	200	200	1,418	1,400	18	
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other	116	316	206	432	412	206	206	206	206	206	206	206	206	206	206	1,462	1,442	20	
Total	228	622	406	850	812	406	406	406	406	406	406	406	406	406	406	2,880	2,842	38	
Total In-Kind Contributions																			
Salaries	1,669	2,049	1,903	3,718	3,804	1,904	1,904	1,905	1,905	1,905	1,905	1,894	1,894	1,894	1,894	13,220	13,306	(86)	
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other	2,219	3,196	2,984	5,415	5,966	2,985	2,985	2,976	2,976	2,977	2,977	2,953	2,953	2,953	2,953	20,259	20,810	(551)	
Grand Total In-Kind (T1)	3,888	5,245	4,887	9,133	9,770	4,889	4,889	4,881	4,881	4,882	4,882	4,847	4,847	4,847	4,847	33,479	34,116	(637)	

BUDGET

TABLE 2(a) CASH CONTRIBUTIONS (DOLLARS IN \$'000'S)

	ACTUAL EXPENDITURE															GRAND TOTAL		
	99/00	00/01	00/01	Cumulative		01/02		02/03		03/04		04/05		05/06		Total	Agreement	Difference
	YEAR 1	YEAR 2	YEAR 2	Total to Date		YEAR 3		YEAR 4		YEAR 5		YEAR 6		YEAR 7		7 Years	7 Years	7 Years
	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement			
Partners																		
Brisbane City Council	50	50	50	100	100	50	50	50	50	50	50	50	50	50	50	350	350	–
Bureau of Meteorology	50	50	50	100	100	50	50	50	50	50	50	50	50	50	50	350	350	–
CSIRO Land & Water	100	100	100	200	200	100	100	100	100	100	100	100	100	100	100	700	700	–
Dept. Land & Water Conservation, NSW	100	100	100	200	200	100	100	100	100	100	100	100	100	100	100	700	700	–
Dept. Natural Resources & Mines, Qld.	100	100	100	200	200	100	100	100	100	100	100	100	100	100	100	700	700	–
Dept. Natural Resources & Environment, Vic.	100	100	100	200	200	100	100	100	100	100	100	100	100	100	100	700	700	–
Griffith University	50	50	50	100	100	50	50	50	50	50	50	50	50	50	50	350	350	–
Melbourne Water	50	50	50	100	100	50	50	50	50	50	50	50	50	50	50	350	350	–
Monash University	100	100	100	200	200	100	100	100	100	100	100	100	100	100	100	700	700	–
Murray-Darling Basin Commission	50	50	50	100	100	50	50	50	50	50	50	50	50	50	50	350	350	–
Goulburn-Murray Water	150	150	150	300	300	150	150	150	150	150	150	150	150	150	150	1,050	1,050	–
Southern Rural Water	30	30	30	60	60	30	30	30	30	30	30	30	30	30	30	210	210	–
Wimmera Mallee Water	60	60	60	120	120	60	60	60	60	60	60	60	60	60	60	420	420	–
The University of Melbourne	50	50	50	100	100	50	50	50	50	50	50	50	50	50	50	350	350	–
Total Cash From Participants	1,040	1,040	1,040	2,080	2,080	1,040	1,040	1,040	1,040	1,040	1,040	1,040	1,040	1,040	1,040	7,280	7,280	–

TABLE 2(b) CASH CONTRIBUTIONS (DOLLARS IN \$'000'S)

	ACTUAL EXPENDITURE																GRAND TOTAL		
	99/00	00/01	00/01	Cumulative		01/02		02/03		03/04		04/05		05/06		Total	Agreement	Difference	
	YEAR 1	YEAR 2	YEAR 2	Total to Date		YEAR 3		YEAR 4		YEAR 5		YEAR 6		YEAR 7		7 Years	7 Years	7 Years	
	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement				
Other Cash																			
Non-participants	78	83	–	161	–	120	–	–	–	–	–	–	–	–	–	281	–	281	
External Grants	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Contract Research ¹	32	152	700	184	1,000	50	1,000	1,400	1,400	1,800	1,800	2,300	2,300	2,600	2,600	8,334	10,100	(1,766)	
Commercialisation	61	–	–	61	–	–	–	–	–	–	–	–	–	–	–	61	–	61	
Education	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Interest	66	118	–	184	–	30	–	–	–	–	–	–	–	–	–	214	–	214	
Total Other Cash	237	353	700	590	1,000	200	1,000	1,400	1,400	1,800	1,800	2,300	2,300	2,600	2,600	8,890	10,100	(1,210)	
CRC Grant	2,242	2,600	2,600	4,842	4,842	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	1,000	1,000	16,242	16,242	–	
Total CRC Cash Contribution (T2)	3,519	3,993	4,340	7,512	7,922	3,840	4,640	5,040	5,040	5,440	5,440	5,940	5,940	4,640	4,640	32,412	33,622	(1,210)	
Cash From Previous Year	527	1,775				2,118		1,168		1,168		1,168		1,168					
Less Unspent Balance	1,775	2,118				1,168		1,168		1,168		1,168		1,168					
Total Cash Expenditure (T3)	2,271	3,650	4,340	5,921	7,922	4,790	4,640	5,040	5,040	5,440	5,440	5,940	5,940	4,640	4,640	31,771	33,622	(1,851)	
Allocation of Cash Expenditure Between Heads of Expenditure																			
Salaries	1,232	2,067	2,312	3,299	4,220	2,465	2,472	2,685	2,685	2,898	2,898	3,165	3,165	2,472	2,472	16,984	17,912	(928)	
Capital	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Other	1,039	1,583	2,028	2,622	3,702	2,325	2,168	2,355	2,355	2,542	2,542	2,775	2,775	2,168	2,168	14,787	15,710	(923)	
Total Cash Expenditure (T3)	2,271	3,650	4,340	5,921	7,922	4,790	4,640	5,040	5,040	5,440	5,440	5,940	5,940	4,640	4,640	31,771	33,622	(1,851)	

Note 1: See also Contract Research listed in Chapter on "Utilisation and Application of research"

BUDGET

TABLE 3 SUMMARY OF RESOURCES APPLIED TO ACTIVITIES OF CENTRE (DOLLARS IN \$'000'S)

	ACTUAL EXPENDITURE																GRAND TOTAL		
	99/00	00/01	00/01	Cumulative		01/02		02/03		03/04		04/05		05/06		Total	Agreement	Difference	
	YEAR 1	YEAR 2	YEAR 2	Total to Date		YEAR 3		YEAR 4		YEAR 5		YEAR 6		YEAR 7		7 Years	7 Years	7 Years	
	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement				
Grand Total In-Kind Table 1 (T1)	3,888	5,245	4,887	9,113	9,770	4,889	4,889	4,881	4,881	4,882	4,882	4,847	4,847	4,847	4,847	33,479	34,116	(637)	
Grand Total Cash Table 2 (T3)	2,271	3,650	4,340	5,921	7,922	4,790	4,640	5,040	5,040	5,440	5,440	5,940	5,940	4,640	4,640	31,771	33,622	(1,851)	
Total Resources Applied to																			
Activities of Centre (T1 + T3)	6,159	8,895	9,227	15,054	17,692	9,679	9,529	9,921	9,921	10,322	10,322	10,787	10,787	9,487	9,487	65,250	67,738	(2,488)	

Allocation of Total Resources Applied to Activities of Centre Between Heads of Expenditure

Total Salaries (Cash & In-Kind)	2,901	4,116	4,215	7,017	8,024	4,369	4,376	4,590	4,590	4,803	4,803	5,059	5,059	4,366	4,366	30,204	31,218	(1,014)
Total Capital (Cash & In-Kind)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Other (Cash & In-Kind)	3,258	4,779	5,012	8,037	9,668	5,310	5,153	5,331	5,331	5,519	5,519	5,728	5,728	5,121	5,121	35,046	36,520	(1,474)

TABLE 4 ALLOCATION OF RESOURCES BETWEEN CATEGORIES OF ACTIVITIES (DOLLARS IN \$'000'S)

Program	RESOURCE USAGE			
	\$ Cash (1)	\$ In-Kind	Contributed Staff (2)	Cash Funded Staff (2)
Research	1,949	3,309	21.48	17.25
Education	381	676	0.93	1.32
External Communication	835	832	1.26	2.16
Commercialisation/Technology Transfer	209	356	0.31	0.93
Administration	276	72	0.28	2.04
Total	3,650	5,245	24.26	23.70
	(T3)	(T1)		

(1) Cash from all sources, including CRC Program

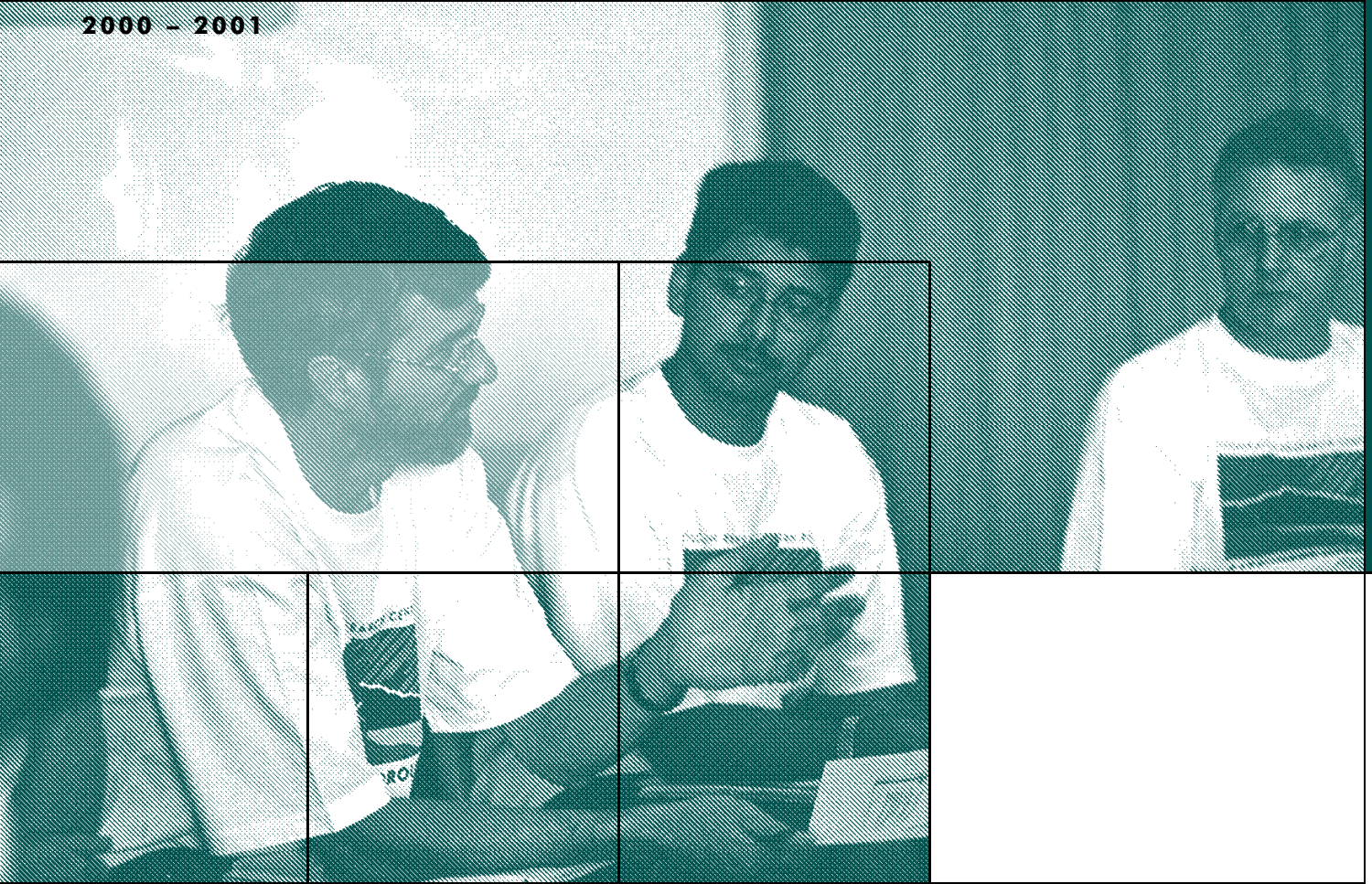
(2) Person years, Professional and support staff (total as in "Research Staff Resources" plus "Support Staff" tables)

(3) Resources allocated to "Commercialisation/Technology Transfer" and "Education" also cover relevant

Research Program/Project resources including part of time by contributed and funded staff under Research in columns 3 and 4.

AUDIT

2000 - 2001



CRC FOR CATCHMENT HYDROLOGY**STATEMENT OF FINANCIAL PERFORMANCE**

FOR THE YEAR ENDED 30 JUNE 2001

	Note	2001 \$	2000 \$
Revenue From Ordinary Activities			
Commonwealth Grant		2,600,000	2,242,000
Interest		117,757	65,849
Other		234,747	170,895
Expenses From Ordinary Activities			
Salary and Related Expenses of Researchers		(2,718,719)	(1,537,504)
Operating Expenses of Researchers		(931,194)	(733,560)
Inkind Research Expenses		(5,245,746)	(3,888,015)
Profit (Loss) From Ordinary Activities Before Income Tax Expense		(5,943,155)	(3,680,335)
Income Tax Expense		-	-
Profit (Loss) From Ordinary Activities After Income Tax Expense		(5,943,155)	(3,680,335)
Accumulated losses at the beginning of the financial year		(3,680,335)	-
Accumulated losses at the end of the financial year		(9,623,490)	(3,680,335)

The above Statement of Financial Performance should be read in conjunction with the accompanying notes.

CRC FOR CATCHMENT HYDROLOGY**STATEMENT OF FINANCIAL POSITION**

AS AT 30 JUNE 2001

	Note	2001 \$	2000 \$
Current Assets			
Cash Assets	3(a)	2,047,100	1,860,408
Receivables	4	483,360	9,559
Total Current Assets		2,530,460	1,869,967
Current Liabilities			
Payables		38,271	95,370
Party Contributions in Advance		375,000	-
Total Liabilities		413,271	95,370
Net Assets		2,117,189	1,774,597
Researchers' Funds			
Contributions by Parties	2	11,740,679	5,454,932
Accumulated losses		(9,623,490)	(3,680,335)
		2,117,189	1,774,597

The above Statement of Financial Position should be read in conjunction with the accompanying notes.

CRC FOR CATCHMENT HYDROLOGY**STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 30 JUNE 2001**

	Note	2001 \$	2000 \$
Cash Flows From Operating Activities:			
Receipts from the Commonwealth Government		2,600,000	2,242,000
Interest		117,801	58,839
Other Income		185,960	223,322
GST Inflows		329,569	–
GST Outflows		(404,626)	–
Payments for Research		(3,707,012)	(2,229,922)
Net cash inflow (outflow) from Operating Activities	3(b)	(878,308)	294,239
Cash Flows From Financing Activities:			
Cash Contributions by Parties		1,065,000	1,040,000
Net cash inflow (outflow) from Financing Activities		1,065,000	1,040,000
Net Increase (Decrease) In Cash Held		186,692	1,334,239
Cash At The Beginning Of The Financial Year		1,860,408	526,169
Cash At The End Of The Financial Year	3(a)	2,047,100	1,860,408

The above Statement of Cash Flows should be read in conjunction with the accompanying notes.

Note 1. Summary of Significant Accounting Policies

This general purpose financial report has been prepared in accordance with Accounting Standards, other authoritative pronouncements of the Australian Accounting Standards Board, and Urgent Issues Group Consensus Views. It is prepared in accordance with historical cost convention. Unless otherwise stated, the accounting policies adopted are consistent with the previous year. As a result of applying the revised Accounting Standard AASB 1018 Statement of Financial Performance, revised AASB 1034 Financial Report Presentation and Disclosures and AASB 1040 Statement of Financial Position for the first time, a number of comparative amounts were represented or reclassified to ensure comparability with the current reporting period.

(a) Income Tax

The Cooperative Research Centre for Catchment Hydrology (CRC) is an unincorporated Joint Venture and is defined as a Partnership for income tax purposes. The CRC does not lodge a Partnership tax return as it has been granted an exemption from doing so by the Australian Taxation Office, on the basis that all of the parties to the Joint Venture are tax exempt entities. As the CRC is not a separate tax paying entity it has not provided for income tax expense in its accounts.

(b) Commonwealth Grants

Grants made by the Commonwealth of Australia under the terms of the Cooperative Research Centres Agreement have been included as revenue from ordinary activities in the Statement of Financial Performance.

(c) Inkind Contributions

Pursuant to an agreement between the parties, inkind contributions to the Centre have been included in the Statement of Financial Performance as expenditure on behalf of the Centre. The agreed value of inkind contributions has been credited to the parties' equity in the Joint Venture and is included in Researchers' Funds in the Statement of Financial Position.

(d) Research and Development

The Governing Board of the Centre have considered the requirements of Australian Accounting Standard 13 (AAS 13), Accounting for Research and Development and have resolved that none of the expenditure by the Centre meets the requirements of AAS 13 concerning deferral of expenditure to future years. Accordingly all expenditure has been recorded in the Statement of Financial Performance as an expense of ordinary activity.

CRC FOR CATCHMENT HYDROLOGY
NOTES TO THE FINANCIAL STATEMENTS

30 JUNE 2001

	CASH		IN-KIND		TOTAL CASH AND IN-KIND	
	2001	2000	2001	2000	2001	2000
Note 2: Contributions by Parties (excluding advance contributions)	\$	\$	\$	\$	\$	\$
Brisbane City Council	50,000	50,000	369,930	409,831	419,930	459,831
Bureau of Meteorology	50,000	50,000	546,690	240,081	596,690	290,081
CSIRO Land & Water	100,000	50,000	1,049,438	968,952	1,149,438	1,068,952
Department of Land & Water Conservation, NSW	100,000	100,000	134,543	180,997	234,543	280,997
Department of Natural Resources and Mines, Qld	100,000	100,000	310,330	299,367	410,330	399,367
Department of Natural Resources & Environment, Vic.	100,000	100,000	674,437	196,714	774,437	296,714
Griffith University	50,000	50,000	580,456	414,189	630,456	464,189
Melbourne Water Corporation	50,000	50,000	328,883	162,226	378,883	212,226
Monash University	100,000	100,000	562,420	717,395	662,420	817,395
Murray-Darling Basin Commission	50,000	50,000	–	–	50,000	50,000
Goulburn-Murray Rural Water Authority	150,000	150,000	66,273	70,096	216,273	220,096
Gippsland & Southern Rural Water Authority	30,000	30,000	–	–	30,000	30,000
Wimmera-Mallee Rural Water Authority	60,000	60,000	–	–	60,000	60,000
The University of Melbourne	50,000	50,000	622,347	228,167	672,347	278,167
	1,040,000	1,040,000	5,245,747	3,888,015	6,285,747	4,928,015
Opening balance Party Contributions					5,454,932	–
Contributions this year, cash and inkind					6,285,747	4,928,015
Net contribution, former CRC					–	526,917
Closing balance Party contributions					11,740,679	5,454,932

NOTES TO THE FINANCIAL STATEMENTS

30 JUNE 2001

	2001	2000
Note 3: Cash Flow Information	\$	\$

(a) Reconciliation of Cash

For the purposes of the statement of cash flows, cash includes:
 (i) cash on hand and in at call deposits with banks or financial institutions.
 (ii) cash held by CRC parties as part of unspent advances.

Cash at the end of the year is shown in the Statement of Financial Position as:

Cash Assets	2,047,100	1,860,408
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(b) Reconciliation of Net Cash Provided by Operating Activities to Operating Loss After Income Tax.

Operating Loss after income tax	(5,943,155)	(3,680,335)
Non cash flows in operating loss after income tax:		
In-Kind expenditure	5,245,747	3,888,015
Changes in assets and liabilities:		
Increase / (Decrease) in Creditors	(57,100)	13,642
(Increase) / Decrease in Receivables	(123,800)	72,917
Net cash provided by/(used in) Operating Activities	(878,308)	294,239

Note 4: Receivables

Interest Receivable	7,641	7,684
Debtors	475,719	1,875
	483,360	9,559

STATEMENT BY GOVERNING BOARD OF THE CENTRE

In the opinion of the Governing Board of the CRC For Catchment Hydrology, the financial statements present fairly the sources of funding, the application of funding and the financial position of the Centre in accordance with applicable Accounting Standards, and in terms of clauses 4, 5.1, 5.2, 5.3, 9.1, 9.5 and 12.2 of the Commonwealth Agreement. In particular:

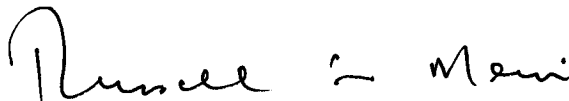
1. (a) The Researchers' Contributions were made in accordance with the Budget as specified in the Agreement and their total value has equalled or exceeded the Grant (Clause 4). The actual cash and in-kind contributions compared to the amounts committed in the Agreement are shown in Tables 1 and 2.
(b) The valuation of In-kind contributions, including where appropriate, the use of salary multipliers has been in accordance with that specified in the Agreement and such valuations have been made on a fair and reasonable basis.
(c) The Researcher has used the Grant and the Researchers' Contributions only for the Activities of the Centre and not for any other purpose (Clause 5.1).
(d) A comparison of actual and agreement expenditure by Heads of Expenditure as shown in Table 3 for the 12 months to 30 June 2001 shows that the variation between actual and agreement figures is within the limits imposed by Clause 5.2
(e) There were no Capital Items, as defined by Clause 5.3, acquired from the grant or the Researcher's contribution.
(f) Intellectual Property in all Contract Material is vested as provided in the Joint Venture Agreement and no Intellectual Property has been assigned or licensed without the prior approval of the Board and the Commonwealth (Clause 9.1, 9.5).
(g) Proper accounting standards and controls have been exercised in respect of the Grant and Researchers' Contributions and income and expenditure in relation to the Activities of the Centre have been recorded separately from other transactions of the Researcher (Clause 12.2).
2. The Financial Statements of the CRC for Catchment Hydrology, the Statement of Financial Performance, Statement of Financial Position, Statement of Cash Flows and accompanying Notes to the Accounts are drawn up to give a true and fair view of the state of affairs as at 30 June 2001.

This statement is made in accordance with a resolution of the Governing Board and is signed on behalf of the Board.

John Langford Chairman, Governing Board



Russell G. Mein Chief Executive Officer /Director



Dated this

31st day of August 2001

INDEPENDENT ACCOUNTANT'S REPORT
TO THE COOPERATIVE RESEARCH CENTRES SECRETARIAT DEPARTMENT OF
INDUSTRY, SCIENCE AND RESOURCES REPRESENTING THE COMMONWEALTH IN
RESPECT OF COOPERATIVE RESEARCH CENTRE FOR CATCHMENT HYDROLOGY

FINANCIAL INFORMATION FOR THE YEAR ENDED 30 JUNE 2001

Scope

We have conducted a limited scope review of the attached financial statements and Tables 1 to 4 of the Cooperative Research Centre for Catchment Hydrology for the financial year ended 30 June 2001. The parties to the Cooperative Research Centre are responsible for the preparation and presentation of the information.

The financial information has been prepared for the parties to the Cooperative Research Centre for Catchment Hydrology for the purposes of fulfilling their annual reporting obligations under clause 14 (1) (f) of the Commonwealth Agreement and for distribution to the Cooperative Research Centres Program, Department of Industry, Science and Resources, representing the Commonwealth of Australia. We disclaim any assumption of responsibility for any reliance on this report or on the financial information to which it relates to any person other than those mentioned above, or for any purpose other than that for which it was prepared.

The scope of our review was based on our understanding of the business activities of the Cooperative Research Centre for Catchment Hydrology and the systems for recording financial information. Our specific procedures consisted primarily of:

- inquiries of written representations from the Cooperative Research Centre for Catchment Hydrology parties as to the continued effectiveness of internal accounting controls;
- a review of the existence of material matters relating to the financial position and results of the Cooperative Research Centre for Catchment Hydrology;
- a review of the compliance with the terms of Clauses 4, 5(1), 5(2), 5(3), 9(1), 9(5) and 12(2) of the Commonwealth Agreement; and
- analytical review procedures applied to financial data.

These procedures provide less assurance than an audit conducted in accordance with Australian Auditing Standards. We have not performed an audit and, accordingly, we do not express an audit opinion.

Review Opinion

- Based on our review, nothing has come to our attention that causes us to believe that the multipliers adopted by the Centre to value in-kind contributions other than salary costs do not have a sound and reasonable basis, and each partner's component of the Researcher's Contributions for the year ended 30 June 2001 has not been provided at least to the value for that period committed in the Budget as specified in the Commonwealth Agreement, with the following exceptions:



In Kind Contributions

<u>Organisation</u>	<u>Amount Committed</u> (S)	<u>Amount Provided</u> (S)
Brisbane City Council	400,000	370,000
Department of Land & Water Conservation	253,000	135,000
Department of Natural Resources and Mines Qld	518,000	310,000
Monash University	588,000	562,000
Goulburn-Murray Rural Water Authority	79,000	66,000

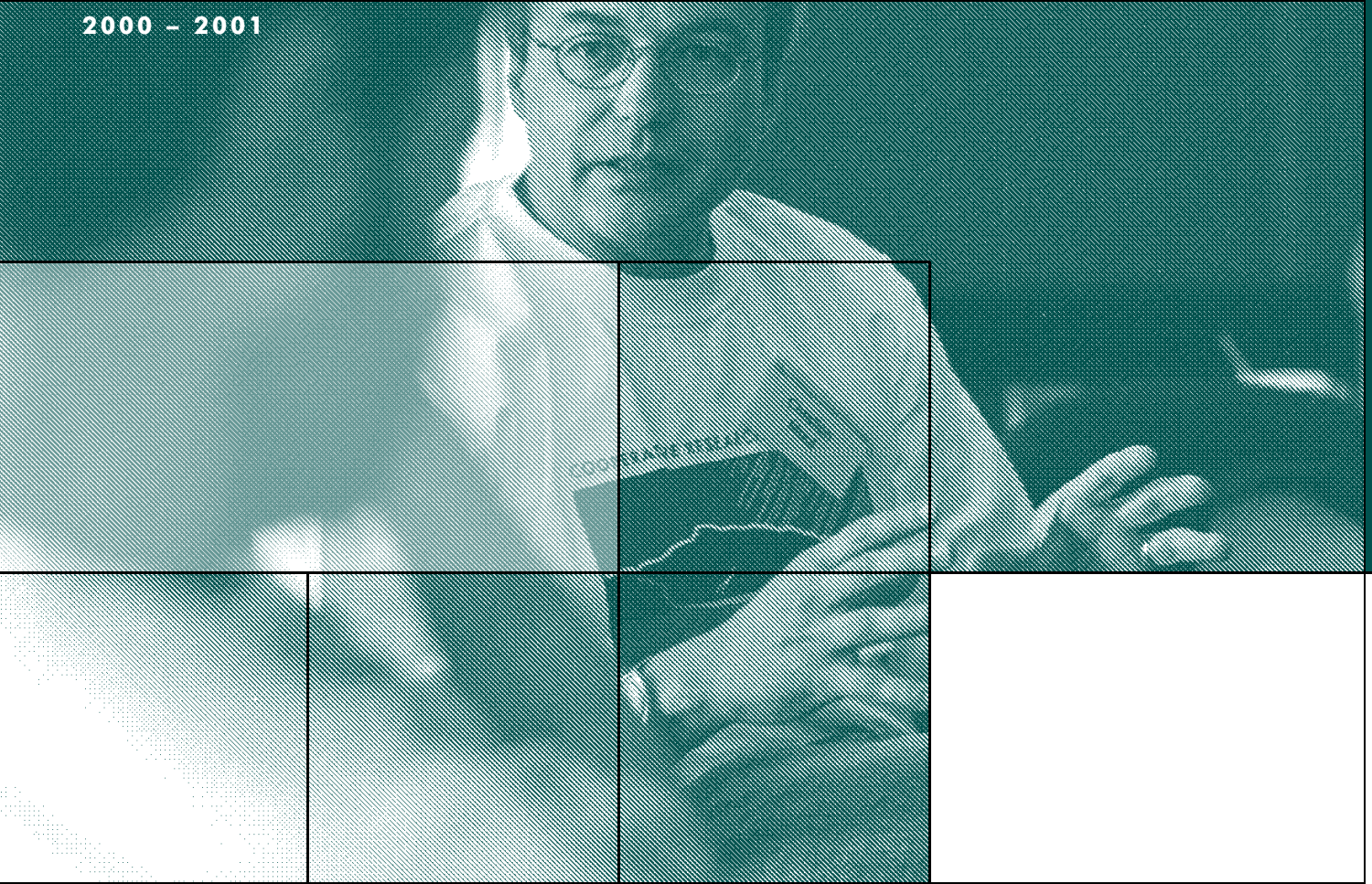
- Based on our review, nothing has come to our attention that causes us to believe that the total value of all contributions for the period under review does not equal or exceed the amount of the grant paid during the year.
- Based on our review, nothing has come to our attention that causes us to believe that the financial information presented in Tables 1 to 4 does not present fairly the sources of funding, the application of funding and the financial position of the Cooperative Research Centre for Catchment Hydrology for the period ending 30 June 2001 in accordance with applicable Accounting Standards, the CRC Secretariat's Guidelines for Auditors, and the requirements of the Commonwealth Agreement in terms of Clauses 4, 5(1), 5(2), 5(3), 9(1), 9(5) and 12(2).
- Based on our review, nothing has come to our attention that causes us to believe that the Researcher's allocations of the budgetary resources between Heads of Expenditure have been lower or higher than the allocation in the budget by \$100,000 or 20% (whichever is the greater amount) without prior approval by the Commonwealth.
- Based on our review, nothing has come to our attention that causes us to believe that the Researcher has not used the Grant and the Researcher's Contributions essentially for the Activities of the Centre and not for any other purpose, and in our professional opinion there appears to be no material reporting irregularities.
- Based on our review, nothing has come to our attention that causes us to believe that capital items acquired from the Grant and Researcher's Contributions are not vested as provided in the Joint Venture Agreement.
- Based on our review, nothing has come to our attention that causes us to believe that proper accounting standards and controls have not been exercised in respect of the Grant and Researcher's contributions.
- Based on our review, nothing has come to our attention that causes us to believe that income and expenditure in relation to the Activities of the Centre have not been recorded separately from other transactions of the Researcher.
- Based on our review, nothing has come to our attention that causes us to believe that Intellectual Property in all Contract Material is not vested as provided in the Joint Venture Agreement and Intellectual Property has been assigned or licensed with the prior approval of the Commonwealth.

Deloitte Touche Tohmatsu
DELOITTE TOUCHE TOHMATSU

John Etherington
JOHN ETHERINGTON
Partner
Chartered Accountants

Melbourne, 31st August 2001

APPENDIX – STAFF RESOURCES
2000 – 2001



APPENDIX

STAFF RESOURCES 2000 – 2001

RESEARCH STAFF – CONTRIBUTED AS INKIND RESOURCES

Name	Main Activity	Total % Time	% Spent on Research Program (R)							Total on Research	% Spent on Education Program (8)/(E)	% Spent on Commercialisation Program (7)/(C)	% Spent on Administration Program (9)/(A)
			Subprograms										
			1	2	3	4	5	6	10				
Brisbane City Council													
Mr A. Taylor	R	6	1	1	0	2	0	1	0	5	0	1	0
Mr T. Weber	R	10	1	0	0	8	0	0	0	9	0	1	0
TOTAL		16	2	1	0	10	0	1	0	14	0	2	0
Bureau of Meteorology													
Mr G. deHoedt	R	47	0	0	0	0	0	0	47	47	0	0	0
Dr E. Ebert	R	4	0	0	0	0	4	0	0	4	0	0	0
Mr J. Elliott	R	5	0	0	0	0	4	0	0	4	0	1	0
Mr R. James	R	9	0	0	0	0	0	0	9	9	0	0	0
Dr G. Mills	R	13	0	0	0	0	13	0	0	13	0	0	0
Dr M. Manton	R	5	0	0	0	0	5	0	0	5	0	0	0
Dr A. Seed	R	80	4	0	0	0	72	0	0	76	0	4	0
Dr S. Srikanthan	R	82	0	0	0	0	78	0	0	78	0	4	0
Mr B. Stewart	C	8	0	0	0	0	0	0	0	0	0	8	0
TOTAL		253	4	0	0	0	176	0	56	236	0	17	0
CSIRO Land and Water													
Dr B. Bates	R	5	0	0	0	0	5	0	0	5	0	0	0
Dr H. Cresswell	R	3	0	3	0	0	0	0	0	3	0	0	0
Ms S. Cuddy	R	41	40	0	0	1	0	0	0	41	0	0	0
Mr W. Dawes	R	11	0	11	0	0	0	0	0	11	0	0	0
Dr J. Gallant	R	7	7	0	0	0	0	0	0	7	0	0	0
Dr P. Hairsine	R	68	0	44	18	0	0	0	0	62	0	6	0
Dr N. McKenzie	R	2	0	2	0	0	0	0	0	2	0	0	0
Ms F. Marston	R	15	15	0	0	0	0	0	0	15	0	0	0
Dr J. Olley	R	44	0	44	0	0	0	0	0	44	0	0	0
Dr I. Prosser	R	57	0	57	0	0	0	0	0	57	0	0	0
Mr J. Rahman	R	30	30	0	0	0	0	0	0	30	0	0	0
Mr M. Reed	R	10	10	0	0	0	0	0	0	10	0	0	0
Dr R. Silberstein	R	17	0	17	0	0	0	0	0	17	0	0	0
Dr R. Vertessy	R	100	58	10	0	2	4	0	0	74	2	11	13
Dr N. Viney	R	9	0	0	0	0	9	0	0	9	0	0	0
Dr G. Walker	R	11	0	10	0	0	0	0	0	10	0	1	0
Dr P. Wallbrink	R	24	0	24	0	0	0	0	0	24	0	0	0
Dr W. Young	R	12	0	12	0	0	0	0	0	12	0	0	0
Dr L. Zhang	R	28	0	28	0	0	0	0	0	28	0	0	0
TOTAL		494	160	262	18	3	18	0	0	461	2	18	13
Department of Land and Water Conservation, NSW													
Mr P. Brinsley	R	3	1	0	2	0	0	0	0	3	0	0	0
Dr G. Geeves	R	39	0	39	0	0	0	0	0	39	0	0	0
Dr M. Littleboy	R	8	1	7	0	0	0	0	0	8	0	0	0
Mr G. Podger	R	4	3	0	0	0	1	0	0	4	0	0	0
Dr T. Tuteja	R	2	0	2	0	0	0	0	0	2	0	0	0
Ms C. Young	R	21	0	12	0	0	0	0	0	12	0	9	0
Mr C. Zierholz	R	19	0	19	0	0	0	0	0	19	0	0	0
TOTAL		96	5	79	2	0	1	0	0	87	0	9	0

Note: Subprogram 10 covers work on activities from initial CRC.

RESEARCH STAFF – CONTRIBUTED AS INKIND RESOURCES continued

Name	Main Activity	Total % Time	% Spent on Research Program (R)							Total on Research	% Spent on Education Program (8)/(E)	% Spent on Commercialisation Program (7)/(C)	% Spent on Administration Program (9)/(A)
			Subprograms										
			1	2	3	4	5	6	10				
Department of Natural Resources and Mines, Qld													
Dr Y. Abawi	R	2	0	0	0	0	1	0	0	1	0	1	0
Mr C. Carroll	R	17	0	8	1	0	0	0	0	9	0	8	0
Dr H. Hunter	R	45	0	45	0	0	0	0	0	45	0	0	0
Mr G. Luck	R	1	0	0	1	0	0	0	0	1	0	0	0
Mr B. Powell	R	5	0	0	0	0	0	5	0	5	0	0	0
Dr D. Rassam	R	11	0	11	0	0	0	0	0	11	0	0	0
Mr K. Roberts	R	30	0	0	0	0	0	0	0	0	30	0	0
Mr J. Ruffini	R	11	11	0	0	0	0	0	0	11	0	0	0
Mr M. Sallaway	R	6	0	0	0	0	0	0	0	0	1	5	0
Mr M. Silburn	R	21	0	19	0	0	1	1	0	21	0	0	0
TOTAL		149	11	83	2	0	2	6	0	104	31	14	0

Department of Natural Resources and Environment, Vic

Dr B. Christy	R	15	0	15	0	0	0	0	0	15	0	0	0
Mr M. Bethune	R	68	0	68	0	0	0	0	0	68	0	0	0
Dr C. Beverley	R	11	0	11	0	0	0	0	0	11	0	0	0
Dr C. Daamen	R	66	0	66	0	0	0	0	0	66	0	0	0
Dr A. Heuperman	R	38	0	38	0	0	0	0	0	38	0	0	0
Mr M. Hocking	R	17	0	17	0	0	0	0	0	17	0	0	0
Mr G. Hoxley	R	42	0	42	0	0	0	0	0	42	0	0	0
Mr B. James	R	8	0	0	8	0	0	0	0	8	0	0	0
Dr P. Lane	R	41	0	41	0	0	0	0	0	41	0	0	0
Dr C. Maul	R	18	18	0	0	0	0	0	0	18	0	0	0
Dr J. Morris	R	100	0	100	0	0	0	0	0	100	0	0	0
Mr K. Patrick	R	51	0	51	0	0	0	0	0	51	0	0	0
Dr Q.J. Wang	C	1	0	0	0	0	0	0	0	0	0	1	0
TOTAL		476	18	449	8	0	0	0	0	475	0	1	0

Goulburn – Murray Water

Mr G. Earl	R	1	0	0	1	0	0	0	0	1	0	0	0
Mr P. Feehan	C	6	0	0	0	0	0	0	0	0	0	6	0
Mr G. Hannan	C	3	0	0	0	0	1	0	0	1	0	2	0
Mr M. Seker	R	8	0	0	7	0	1	0	0	8	0	0	0
TOTAL		18	0	0	8	0	2	0	0	10	0	8	0

Griffith University

Prof S. Bunn	R	18	0	12	0	0	0	6	0	18	0	0	0
Dr C. Fellows	R	14	0	14	0	0	0	0	0	14	0	0	0
Assoc Prof J. Fien	E	33	0	0	0	0	0	0	0	0	33	0	0
Dr M. Greenway	R	48	0	0	0	48	0	0	0	48	0	0	0
Dr G. Jenkins	R	22	0	0	0	22	0	0	0	22	0	0	0
Prof R. Rickson	R	12	0	0	0	0	0	0	12	12	0	0	0
Dr I. Phillips	R	1	0	0	0	1	0	0	0	1	0	0	0
Dr J. Tisdell	R	50	0	0	39	0	0	0	0	39	5	6	0
Prof R. Tomlinson	R	4	0	0	0	2	0	0	0	2	2	0	0
Dr B. Yu	R	41	0	41	0	0	0	0	0	41	0	0	0
TOTAL		230	0	67	39	73	0	6	12	197	33	0	0

Note: Subprogram 10 covers work on activities from initial CRC.

APPENDIX

STAFF RESOURCES 2000 – 2001

RESEARCH STAFF – CONTRIBUTED AS INKIND RESOURCES *continued*

Name	Main Activity	Total % Time	% Spent on Research Program (R)							Total on Research	% Spent on Education Program (8)/(E)	% Spent on Commercialisation Program (7)/(C)	% Spent on Administration Program (9)/(A)
			Subprograms										
			1	2	3	4	5	6	10				
Melbourne Water													
Mr H. Duncan	R	100	0	0	0	100	0	0	0	100	0	0	0
Mr B. Rhodes	R	1	0	0	0	0	1	0	0	1	0	0	0
Mr G. Rooney	R	8	0	1	0	2	0	4	0	7	0	1	0
Mr S.Seymour	R	4	0	0	0	3	0	1	0	4	0	0	0
Mr I. Watson	R	3	0	0	0	2	0	1	0	3	0	0	0
TOTAL		116	0	1	0	107	1	6	0	115	0	1	0
Monash University													
Assoc. Prof. G. Codner	R	14	0	0	14	0	0	0	0	14	0	0	0
Dr R. Hadgraft	R	3	2	0	0	0	0	0	0	2	1	0	0
Assoc. Prof. R. Keller	R	37	2	9	0	0	0	17	7	35	1	1	0
Prof. R. Mein	C	50	0	0	1	0	0	0	3	4	6	25	15
Mr E. Weinmann	R	45	0	0	15	0	0	0	8	23	1	21	0
Mr R. Wotton	R	26	0	0	0	26	0	0	0	26	0	0	0
Assoc. Prof. T. Wong	R	59	0	0	0	35	0	0	0	35	0	24	0
TOTAL		234	4	9	30	61	0	17	18	139	9	71	15
The University of Melbourne													
Dr R. Argent	R	16	16	0	0	0	0	0	0	16	0	0	0
Dr F. Chiew	R	20	15	0	0	5	0	0	0	20	0	0	0
Dr B. Downes	R	2	0	0	0	0	0	2	0	2	0	0	0
Prof. J. Fenton	R	2	0	1	0	0	0	0	0	1	0	1	0
Assoc. Prof. B. Finlayson	R	4	0	0	0	0	1	2	0	3	0	1	0
Assoc. Prof. R. Grayson	R	84	63	12	0	0	1	0	6	82	1	1	0
Dr J. Lin	R	6	0	4	0	0	0	1	0	5	0	1	0
Prof. T. McMahon	R	26	4	4	7	3	2	0	3	23	0	3	0
Assoc. Prof. H. Malano	R	26	0	0	21	0	0	0	0	21	5	0	0
Dr G. Moore	R	2	0	0	0	0	0	0	2	2	0	0	0
Dr M. Peel	R	57	26	0	0	0	31	0	0	57	0	0	0
Prof G. Pegram	R	14	0	0	0	0	14	0	0	14	0	0	0
Dr I. Rutherford	C	5	0	0	0	0	0	1	0	1	0	4	0
Assoc Prof I. Simmonds	R	7	0	0	0	0	7	0	0	7	0	0	0
Mr J. Styles	R	2	0	0	0	0	0	2	0	2	0	0	0
Dr T. Weaver	E	12	0	0	0	0	0	0	0	0	12	0	0
Dr S. Zhou	R	59	15	0	0	0	39	0	0	54	0	5	0
TOTAL		344	139	21	28	8	95	8	11	310	18	16	0

Note: Subprogram 10 covers work on activities from initial CRC.

RESEARCH STAFF – CRC FUNDED RESOURCES

Name	Employing Organisation	Main Activity	Total % Time	% Spent on Research Program (R)						Total on Research	% Spent on Education Program (8)/(E)	% Spent on Commercialisation Program (7)/(C)	% Spent on Administration Program (9)/(A)	
				Subprograms										
				1	2	3	4	5	6					10
Dr H. Richter	Bur. of Met	R	42					42						
Mr A. Bradford	CSIRO	R	20		20									
Dr G. Caitcheon	CSIRO	R	49		49									
Mr J. Coleman	CSIRO	R	75				75							
Dr H. Cresswell	CSIRO	R	6		6									
Mr T. Ellis	CSIRO	R	40		40									
Dr P. Hairsine	CSIRO	R	25		25									
Mr A. Hughes	CSIRO	R	40		40									
Mr D. Jacquier	CSIRO	R	19		19									
Mr P. Kin	CSIRO	R	40	40										
Dr N. McKenzie	CSIRO	R	6		6									
Mr J. Rahman	CSIRO	R	50	50										
Mr P. Richardson	CSIRO	R	1		1									
Mr A. Scott	CSIRO	R	46		46									
Mr S. Seaton	CSIRO	R	25	25										
Dr R. Silberstein	CSIRO	R	10		10									
Mr B. Smith	CSIRO	R	17		17									
Dr N. Viney	CSIRO	R	10					10						
Dr L. Zhang	CSIRO	R	25		25									
Dr M. Littleboy	DLWC, NSW	R	10		10									
Dr D. Rassam	DNRM, Qld	R	5		5									
Mr A. Davis	Griffith Univ.	R	25	25										
Mr D. Drapper	Griffith Univ.	R	67				67							
Dr C. Fellows	Griffith Univ.	R	10		10									
Mr A. Grudzinski	Griffith Univ.	R	60			60								
Mr N. Marsh	Griffith Univ.	R	15						15					
Mr B. Mullins	Griffith Univ.	R	25			25								
Dr J. Tisdell	Griffith Univ.	R	50			50								
Mr J. Ward	Griffith Univ.	R	50			50								
Mr J. Whelan	Griffith Univ.	E	50							50				
Dr B. Yu	Griffith Univ.	R	10		10									
Dr T. Fletcher	Mon. Univ.	R	83				83							
Mr J. Lewis	Mon. Univ.	R	21				21							
Ms S. Lloyd	Mon. Univ.	R	20				20							
Prof. R. Mein	Mon. Univ.	R	50			9				8	22	11		
Mr D. Perry	Mon. Univ.	R	100							10	90			
Dr S. Schreider	Mon. Univ.	R	13			13								
Mr L. Siritwardena	Mon. Univ.	R	67				67							
Ms T. Walker	Mon. Univ.	R	21				21							
Dr R. Argent	Univ. Melb.	R	31	31										
Dr F. Chiew	Univ. Melb.	R	69				5	64						
Assoc. Prof. R. Grayson	Univ. Melb.	R	16	16										
Mr G. Kanahala	Univ. Melb.	R	58	58										
Dr A. Ladson	Univ. Melb.	R	60	11	26				23					
Prof. T. McMahon	Univ. Melb.	R	60					40		2	11	7		
Ms K. Mueller	Univ. Melb.	R	29	29										
Dr M. Peel	Univ. Melb.	R	15	15										
Dr I. Rutherford	Univ. Melb.	R	50						30	10	10			
Ms C. Savage	Univ. Melb.	R	11	11										
Dr M. Stewardson	Univ. Melb.	R	85						73		12			
Dr P. Scanlon	Univ. Melb.	R	30	30										
Dr A. Western	Univ. Melb.	R	98	79				19						
Dr R. Young	Univ. Melb.	R	22	11				11						
Dr S. Zhou	Univ. Melb.	R	30					30						
TOTAL			1,962	431	365	207	359	216	141	0	1,719	80	145	18

Note: Subprogram 10 covers work on activities from initial CRC.

APPENDIX

STAFF RESOURCES 2000 – 2001

SUMMARY OF CONTRIBUTION IN PERSON YEARS (100% = 1 PERSON YEARS)

	Total Equivalent Person Years	Person Years Spent on Research Programs								Total on Research	Person Years Spent on Education Program	Person Years Spent on Commercialisation Program	Person Years Spent on Administration Program
		Subprogram											
		1	2	3	4	5	6	10					
Total Contributed as In-Kind	24.26	3.43	9.72	1.35	2.62	2.95	0.44	0.97	21.48	0.93	1.57	0.28	
Total Funded by CRC	19.62	4.31	3.65	2.07	3.59	2.16	1.41	0.00	17.19	0.80	1.45	0.18	
Grand Total	43.88	7.74	13.37	3.42	6.21	5.11	1.85	0.97	38.67	1.73	3.02	0.46	

<i>Proportion of total professional staff resources in each activity</i>	100	18	31	8	14	12	4	2	88	4	7	1
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SUPPORT STAFF (100% = 1 PERSON YEARS)

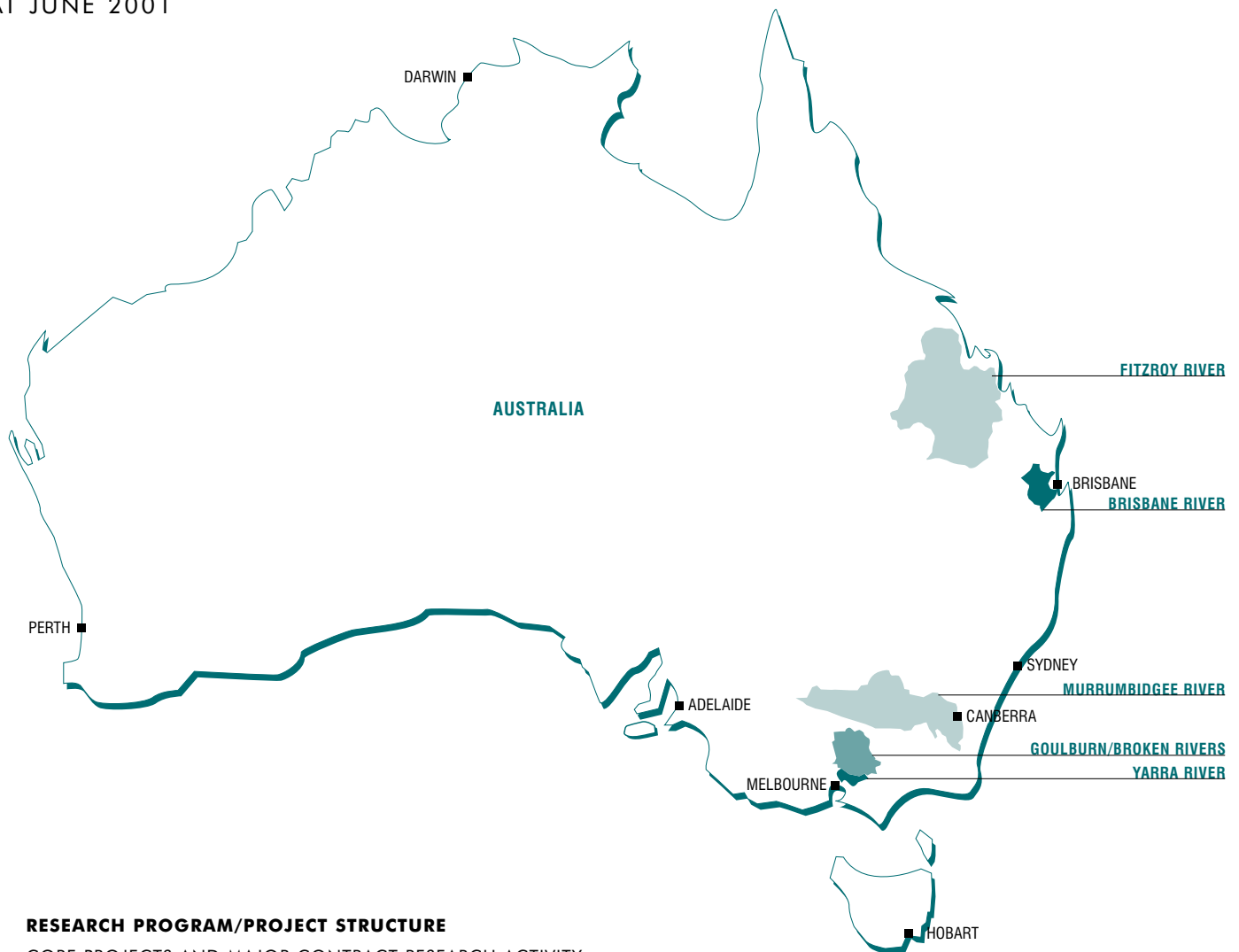
(1) Contributed (Note)

(2) CRC Funded

Organisation	Number of Staff		Organisation	Number of Staff	
	Person Years	Person Years		Person Years	Person Years
CSIRO	0.00		CSIRO	1.27	
Monash University	0.00		Monash University	2.06	
The University of Melbourne	0.00		The University of Melbourne	0.75	
TOTAL	0.00		TOTAL	4.08	

FOCUS CATCHMENTS

AT JUNE 2001



RESEARCH PROGRAM/PROJECT STRUCTURE

CORE PROJECTS AND MAJOR CONTRACT RESEARCH ACTIVITY

PROGRAM 1

PREDICTING CATCHMENT BEHAVIOUR

- 1.1 Development of a catchment modelling toolkit
- 1.2 Scaling procedures to support process-based modelling at large scales
- 1.3 Development of an environmental management support system (EMSS) for catchments in South East Queensland
- 1.4 Modelling and estimating sediment and nutrient loads in South East Queensland catchments

PROGRAM 2

LAND-USE IMPACTS ON RIVERS

- 2.1 Sediment movement, water quality and physical habitat in large river systems
- 2.2 Managing pollutant delivery in dryland upland catchments
- 2.3 Predicting the effects of land-use changes on catchment water yield and stream salinity
- 2.5 Nitrogen and carbon dynamics in riparian buffer zones
- 2.6 Predicting the combined environmental impact of catchment management regimes on dryland salinity

PROGRAM 3

SUSTAINABLE WATER ALLOCATION

- 3.1 Integration of water balance, climatic and economic models
- 3.2 Enhancement of the water market reform process: A socio-economic analysis of guidelines and procedures for trading in mature water markets

PROGRAM 4

URBAN STORMWATER QUALITY

- 4.1 Stormwater pollutant sources, pathways and impacts
- 4.2 Stormwater best management practices

PROGRAM 5 CLIMATE VARIABILITY

- 5.1 Modelling and forecasting hydroclimate variables in space and time
- 5.2 National data bank of stochastic climate and streamflow models

PROGRAM 6 RIVER RESTORATION

Project Group A: Stream Restoration – Procedures and Evaluation

- 6.1 Developing criteria and concepts for planning the evaluation of stream rehabilitation projects
- 6.2 Optimising urban stream rehabilitation planning and execution
- 6.3 Restoration ecology in the Granite Creeks, Victoria
- 6.4 Evaluation of riparian revegetation in a South East Queensland catchment

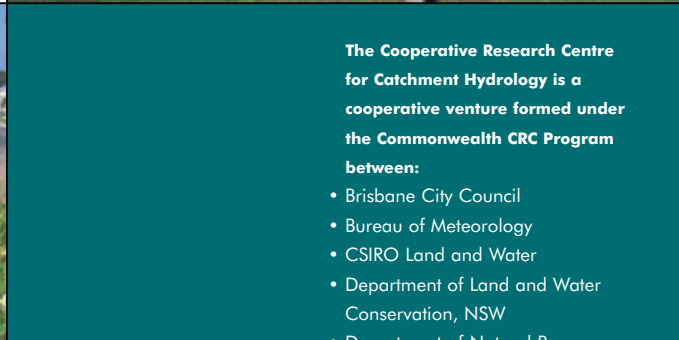
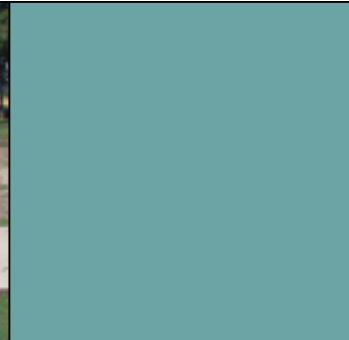
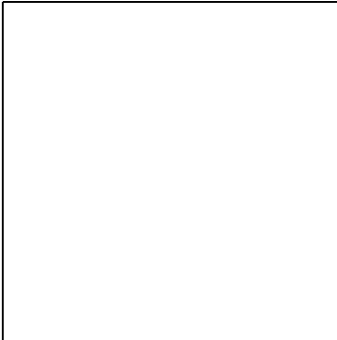
Project Group B: Tools for Stream Restoration

- 6.5 Hydraulics and performance of fishways in Australian streams
- 6.6 Developing tools to predict scour of rehabilitation works
- 6.7 Developing an environmental flow methodology: a trial on the Campaspe River
- 6.8 Research to improve the effectiveness of Australian fishway design

PROGRAM 8

EDUCATION AND TRAINING

- 8.1 Capacity building, education and training
- 8.2 Public participation and community change



The Cooperative Research Centre for Catchment Hydrology is a cooperative venture formed under the Commonwealth CRC Program between:

- Brisbane City Council
- Bureau of Meteorology
- CSIRO Land and Water
- Department of Land and Water Conservation, NSW
- Department of Natural Resources and Environment, Vic
- Goulburn-Murray Water
- Griffith University
- Melbourne Water
- Monash University
- Murray-Darling Basin Commission
- Natural Resources and Mines, Qld
- Southern Rural Water
- The University of Melbourne
- Wimmera Mallee Water

ASSOCIATES:

- SA Water
- State Forests of NSW

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