# Budget 2001 – 2002



# Budget

Table 1 (a) In-Kind Cont		•															
		UAL EX			0		00/	0.0	0.0 //	0.4	0.4/	05	05.0		0.0		T A I
	99/00	00/01	01/02	01/02		ulative	02/		03/0		04/		05/0			AND TO	
	YEAR 1	YEAR 2	YEAR 3	YEAR 3		to Date	YEA		YEAF		YEAI		YEAF		Total	Agreement	
Participant Brisbane City Council	Actual	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	7 Years	7 Years	7 Years
Salaries	147	11	12	28	170	84	28	28	28	28	28	28	28	28	282	196	86
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	263	359	364	372	986	1,116	372	372	372	372	372	372	372	372	2,474	2,604	(130)
TOTAL	410	370	376	400	1,156	1,200	400	400	400	400	400	400	400	400	2,756	2,800	(44)
Bureau of Meteorolog	IY																
Salaries	80	189	142	137	411	411	137	137	137	137	137	137	137	137	959	959	-
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	160	358	293	284	811	852	284	284	284	284	284	284	284	284	1,947	1,988	(41)
TOTAL	240	547	435	421	1,222	1,263	421	421	421	421	421	421	421	421	2,906	2,947	(41)
CSIRO Land & Water Salaries	417	451	470	423	1,338	1,269	423	423	423	423	423	423	423	423	3,030	2,961	69
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	552	598	623	561	1,773	1,683	561	561	561	561	561	561	561	561	4,017	3,927	90
TOTAL	969	1,049	1,093	984	3,111	2,952	984	984	984	984	984	984	984	984	7,047	6,888	159
Department of Land &	& Water Cons	ervatior	n, NSW														
Salaries	107	77	167	151	351	453	151	151	151	151	151	151	151	151	955	1,057	(102)
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	74	58	112	102	244	306	102	102	102	102	102	102	102	102	652	714	(62)
TOTAL	181	135	279	253	595	759	253	253	253	253	253	253	253	253	1,607	1,771	(164)
Department of Nature	al Resources &	Mines	, Qld.														
Salaries	110	94	447	180	651	540	180	180	180	180	180	180	180	180	1,371	1,260	111
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	189	216	727	338	1,132	1,014	338	338	338	338	338	338	338	338	2,484	2,366	118
TOTAL	299	310	1,174	518	1,783	1,554	518	518	518	518	518	518	518	518	3,855	3,626	229

# Table 1 (b) In-Kind Contributions From Parties (Dollars in \$'000's) ACTIVAL EXPENDITURE

	ACT	TUAL EX	PENDIT	URE													
	99/00	00/01	01/02	01/02	Cum	ulative	02	/03	03/	04	04/	05	05/0	)6	G R	AND TO	TAL
	YEAR 1	YEAR 2	YEAR 3	YEAR 3	Total	to Date	YEA	AR 4	YEA	R 5	YEA	R 6	YEAF	R 7	Total	Agreement	Difference
Participant	Actual	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	7 Years	7 Years	7 Years
Department of Natural Res	ources 8	k Enviro	onment,	, Vic													
Salaries	75	318	194	187	587	561	187	187	187	187	187	187	187	187	1,335	1,309	26
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	122	356	236	230	714	690	230	230	230	230	230	230	230	230	1,634	1,610	24
TOTAL	197	674	430	417	1,301	1,251	417	417	417	417	417	417	417	417	2,969	2,919	50
Griffith University																	
Salaries	200	237	255	230	692	686	231	231	231	231	231	231	231	231	1,616	1,610	6
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	214	344	317	291	875	869	292	292	292	292	292	292	292	292	2,043	2,037	6
TOTAL	414	581	572	521	1,567	1,555	523	523	523	523	523	523	523	523	3,659	3,647	12
Melbourne Water																	
Salaries	69	93	100	76	262	228	76	76	76	76	76	76	76	76	566	532	34
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	93	236	244	226	573	678	226	226	226	226	226	226	226	226	1,477	1,582	(105)
TOTAL	162	329	344	302	835	906	302	302	302	302	302	302	302	302	2,043	2,114	(71)
Monash University																	
Salaries	334	257	292	270	883	810	270	270	270	270	270	270	270	270	1,963	1,890	73
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	384	305	340	318	1,029	954	318	318	318	318	318	318	318	318	2,301	2,226	75
TOTAL	718	562	632	588	1,912	1,764	588	588	588	588	588	588	588	588	4,264	4,116	148
Goulburn-Murray Water																	
Salaries	18	16	23	22	57	66	22	22	22	22	11	11	11	11	123	132	(9)
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_
Other	<u>го</u>	FO	50	57	101	171	17	17	40	40	24	24	24	24	304	314	(10)
UIIEI	52	50	59	57	161	171	47	47	48	48	24	24	24	24	304	514	(10)

# Budget

Table 1 (c) In-Kind Contributio	ns From Po	arties (Do	ollars in S	\$'000's)													
	AC	UAL EX	PENDIT	URE													
	99/00	00/01	01/02	01/02	Cun	nulative	02	/03	03/	04	04/	05	05/0	)6	G R	AND TO	TAL
	YEAR 1	YEAR 2	YEAR 3	YEAR 3	Total	to Date	YE	AR 4	YEA	R 5	YEA	R 6	YEAF	R 7	Total	Agreement	Difference
Participant	Actual	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	7 Years	7 Years	7 Years
The University of Melbourn	ne																
Salaries	112	306	184	200	602	600	200	200	200	200	200	200	200	200	1,402	1,400	2
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_
Other	116	316	190	206	622	618	206	206	206	206	206	206	206	206	1,446	1,442	4
TOTAL	228	622	374	406	1,224	1,218	406	406	406	406	406	406	406	406	2,848	2,842	6
Total In-Kind Contributions																	
Salaries	1,669	2,049	2,286	1,904	6,004	5,708	1,905	1,905	1,905	1,905	1,894	1,894	1,894	1,894	13,602	13,306	296
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	2,219	3,196	3,505	2,985	8,920	8,951	2,976	2,976	2,977	2,977	2,953	2,953	2,953	2,953	20,779	20,810	(31)
Grand Total In-Kind (T1)	3,888	5,245	5,791	4,889	14,924	14,659	4,881	4,881	4,882	4,882	4,847	4,847	4,847	4,847	34,381	34,116	265

		UAL EX	PENDIT	URE													
	99/00	00/01	01/02	01/02	Cun	nulative	02/	03	03/0	)4	04/0	)5	05/0	)6	G P	RAND TO	TAL
	YEAR 1	YEAR 2	YEAR 3	YEAR 3	Total	to Date	YEA	R 4	YEAF	R 5	YEAF	R 6	YEAR	7	Total	Agreement	Differen
Partners	Actual	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	7 Years	7 Years	7 Yea
Brisbane City Council	50	50	50	50	150	150	50	50	50	50	50	50	50	50	350	350	
Bureau of Meteorology	50	50	50	50	150	150	50	50	50	50	50	50	50	50	350	350	
CSIRO Land & Water	100	100	100	100	300	300	100	100	100	100	100	100	100	100	700	700	
Dept. Land & Water Conservation, NSW	100	100	100	100	300	300	100	100	100	100	100	100	100	100	700	700	
Dept. Natural Resources & Mines, Qld.	100	100	100	100	300	300	100	100	100	100	100	100	100	100	700	700	
Dept. Natural Resources & Environment, V	/ic. 100	100	100	100	300	300	100	100	100	100	100	100	100	100	700	700	
Griffith University	50	50	50	50	150	150	50	50	50	50	50	50	50	50	350	350	
Melbourne Water	50	50	50	50	150	150	50	50	50	50	50	50	50	50	350	350	
Monash University	100	100	100	100	300	300	100	100	100	100	100	100	100	100	700	700	
Murray-Darling Basin Commission	50	50	50	50	150	150	50	50	50	50	50	50	50	50	350	350	
Goulburn-Murray Water	150	150	150	150	450	450	150	150	150	150	150	150	150	150	1,050	1,050	
Southern Rural Water	30	30	30	30	90	90	30	30	30	30	30	30	30	30	210	210	
Wimmera Mallee Water	60	60	60	60	180	180	60	60	60	60	60	60	60	60	420	420	
The University of Melbourne	50	50	50	50	150	150	50	50	50	50	50	50	50	50	350	350	
Total Cash from Participants	1,040	1,040	1,040	1,040	3,120	3,120	1,040	1,040	1,040	1,040	1,040	1,040	1,040	1,040	7,280	7,280	
Other Cash																	
Non-participants	78	83	30	-	191	-	-	-	-	-	-	-	-	-	191	-	191
External Grants	-	-	-	-	-	-	_	-	-	-	-	-	-	-	-	-	
Contract Research <sup>1</sup>	32	152	30	1,000	214	2,000	1,400	1,400	1,800	1,800	2,300	2,300	2,600	2,600	8,314	10,100	(1,786
Commercialisation	61	-	118	-	179	-	-	-	-	-	-	-	-	-	179	-	179
Education	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Interest	66	118	105	-	289	-	-	-	-	-	-	-	-	-	289	-	289
Total Other Cash	237	353	283	1,000	873	2,000	1,400	1,400	1,800	1,800	2,300	2,300	2,600	2,600	8,973	10,100	(1,127
CRC Grant	2,242	2,600	2,600	2,600	7,442	7,442	2,600	2,600	2,600	2,600	2,600	2,600	1,000	1,000	16,242	16,242	
Total CRCCash Contribution (T2)	3,519	2,000 <b>3,993</b>	2,600 <b>3,923</b>	<b>4,640</b>	11,435	12,562					-		<b>4,640</b>	<b>4,640</b>	<b>32,495</b>	-	/1 107
iulai unuuasii uuliliibuliuli (12)	3,319	<b>ა</b> ,993	ა,ყ <b>2</b> პ	4,040	11,435	12,302	5,040	5,040	5,440	5,440	5,940	5,940	4,040	4,040	32,495	33,622	(1,127
Cash From Previous Year	527	1,775	2,118				1,388		1,388		1,388		1,388				
Less Unspent Balance	1,775	2,118	1,388				1,388		1,388		1,388		1,388				
Total Cash Expenditure (T3)	2,271	3,650	4,653	4,640	10,574	10 500	5.040	5,040	5.440	5,440	5,940	5,940	4,640	4,640	31,634	33,622	

### Table 2 Cash Contributions (Dollars in \$'000's)

# Budget

Table 2 Cash Contributions (E	Collars in \$	1000 cl															
		TUAL EX															
	AC	IUALEA	FENDII	UNE													
	99/00	00/01	01/02	01/02	Cun	nulative	02,	/03	03/	04	04/	05	05/0	06	G R	AND TO	DTAL
	YEAR 1	YEAR 2	YEAR 3	YEAR 3	Total	to Date	YEA	AR 4	YEA	75	YEA	R 6	YEAF	37	Total	Agreement	t Difference
	Actual	Actual	Actual	Agreement	Actual	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	Budget	Agreement	7 Years	7 Years	7 Years
Allocation of Cash Expend	diture Bet	ween H	leads o	f Expend	iture												
Salaries	1,232	2,067	2,349	2,472	5,648	6,692	2,685	2,685	2,898	2,898	3,165	3,165	2,472	2,472	16,868	17,912	(1,044)
Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	1,039	1,583	2,304	2,168	4,926	5,870	2,355	2,355	2,542	2,542	2,775	2,775	2,168	2,168	14,766	15,710	(944)
Total Cash Expenditure (T3)	2,271	3,650	4,653	4,640	10,574	12,562	5,040	5,040	5,440	5,440	5,940	5,940	4,640	4,640	31,634	33,622	(1,988)

Note: 1: See also Contract Research listed in chapter on "Utilisation and Application of Research".

() [[[]]|[]

#### Table 3 Summary of Resources Applied to Activities of Centre (Dollars in \$'000's)

Grand Total Inkind Table 1 (T1)	3,888	5,245	5,791	4,889	14,924	14,659	4,881	4,881	4,882	4,882	4,847	4,847	4,847	4,847	34,381	34,116	265
Grand Total Cash Table 2 (T3)	2,271	3,650	4,653	4,640	10,574	12,562	5,040	5,040	5,440	5,440	5,940	5,940	4,640	4,640	31,634	33,622	(1,988)
Total Resources Applied to																	
Activities of Centre (T1+T3)	6,159	8,895	10,444	9,529	25,498	27,221	9,921	9,921	10,322	10,322	10,787	10,787	9,487	9,487	66,015	67,738	(1,723)

Allocation of Total Resour	ces Appli	ed to A	ctivities	of Centre	e Bewteen	Heads of	f Expenditur	e									
Total Salaries (Cash and In-Kind)	2,901	4,116	4,635	4,376	11,652	12,400	4,590	4,590	4,803	4,803	5,059	5,059	4,366	4,366	30,470	31,218	(748)
Total Capital (Cash and In-Kind)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Other (Cash and In-Kind)	3,258	4,779	5.809	5,153	13.846	14.821	5,331	5.331	5.519	5.519	5.728	5.728	5.121	5.121	35,545	36,520	(975)

#### Table 4 Allocation of Resources Between Categories of Actvities (Dollars in \$'000's)

		RESO	URCE USAGE	
Program	\$ Cash (1)	\$ In-Kind	Contributed Staff (2)	Cash Funded Staff (2)
Research	2,338	3,502	20.56	22.70
Education	535	554	0.77	0.98
External Communication	1,187	1,347	2.01	2.61
Commercialisation/Tech.Transfer	276	290	0.50	0.65
Administration	317	98	0.30	2.13
TOTAL	4,653	5,791	24.14	29.07
(1) Cash from all sources, including CRC Program	(T3)	(T1)		

(2) Person years, Professional and support staff

(3) Resources allocated to "Commercialistion / 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 2001 – 2002



CRC for Catchment Hydrology Statement of Financial Performance For the Year Ended 30 June 2002

	Note	2002 \$	2001 \$
Revenue From Ordinary Activities			
Commonwealth Grant		2,600,000	2,600,000
Interest		104,740	117,757
Other		177,614	234,747
Expenses From Ordinary Activities			
Salary and Related Expenses of Researchers		(3,118,399)	(2,718,719)
Operating Expenses of Researchers		( <b>1,534,595)</b>	(931,194)
Inkind Research Expenses		(5,790,967)	(5,245,746)
Profit / (Loss) From Ordinary Activities Before Income Tax Expense		(7,561,607)	(5,943,155)
Income Tax Expense		-	-
Profit /(Loss) From Ordinary Activities After Income Tax Expense		(7,561,607)	(5,943,155)
Accumulated losses at the beginning of the financial year		(9,623,490)	(3,680,335)
Accumulated losses at the end of the financial year		(17,185,097)	(9,623,490)

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 2002

	Note	2002 \$	2001 \$
Current Assets		•	Ŷ
Cash Assets	3(a)	1,540,345	2,047,100
Receivables	4	243,467	483,360
Total Current Assets		1,783,812	2,530,460
Current Liabilities			
Payables		22,264	38,271
Party Contributions in Advance		375,000	375,000
Total Liabilities		397,264	413,271
Net Assets		1,386,548	2,117,189
Researchers' Funds			
Contributions by Parties	2	18,571,645	11,740,679
Accumulated losses		(17,185,097)	(9,623,490)
		1,386,548	2,117,189

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 2002

	Note	2002 \$	2001 \$
Cash Flows From Operating Activities:			
Receipts from the Commonwealth Government		2,600,000	2,600,000
Interest		105,971	117,801
Other Income		95,690	185,960
GST Inflows		415,989	329,569
GST Outflows		(432,904)	(404,626)
Payments for Research		(4,669,001)	(3,707,012)
Net cash inflow / (outflow) from Operating Activities	3(b)	(1,884,255)	(878,308)
Cash Flows From Financing Activities:			
Cash Contributions by Parties		1,377,500	1,065,000
Net cash inflow / (outflow) from Financing Activities		1,377,500	1,065,000
Net Increase / (Decrease) in Cash Held		(506,755)	186,692
Cash at the Beginning of the Financial Year		2,047,100	1,860,408
Cash at the End of the Financial Year	3(a)	1,540,345	2,047,100

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

## **CRC for Catchment Hydrology** Notes to the Financial Statements 30 June 2002

#### **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.

#### (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 financial statements.

#### (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 2002

		2002	2001
Note 2 Contributions by Parties (Excluding advance contributions)	Note	\$	\$
Cash Dichara City Council		50.000	F0 000
Brisbane City Council		50,000	50,000
Bureau of Meteorology		50,000	50,000
CSIRO Land & Water		100,000	100,000
Department of Land & Water Conservation, NSW		100,000	100,000
Department of Natural Resources and Mines, Qld.		100,000	100,000
Department of Natural Resources & Environment, Vic.		100,000	100,000
Griffith University		50,000	50,000
Ielbourne Water Corporation		50,000	50,000
Aonash University		100,000	100,000
Aurray-Darling Basin Commission		50,000	50,000
Goulburn-Murray Rural Water Authority		150,000	150,000
Sippsland & Southern Rural Water Authority		30,000	30,000
Vimmera-Mallee Rural Water Authority		60,000	60,000
he University of Melbourne		50,000	50,000
		1,040,000	1,040,000
n-Kind Richard City Council		07E 000	
Brisbane City Council		375,896	369,930
Bureau of Meteorology		435,251	546,690
CSIRO Land & Water		1,092,683	1,049,438
Department of Land & Water Conservation, NSW		279,004	134,543
Department of Natural Resources and Mines, Qld.		1,173,895	310,330
Department of Natural Resources & Environment, Vic.		430,207	674,437
Sriffith University		572,349	580,456
Aelbourne Water Corporation		343,543	328,883
Aonash University		632,296	562,420
Aurray-Darling Basin Commission		-	-
Goulburn-Murray Rural Water Authority		82,313	66,273
Sippsland & Southern Rural Water Authority		-	-
Nimmera-Mallee Rural Water Authority		-	-
The University of Melbourne		373,530	622,347
		5,790,967	5,245,747
Total Cash and In-Kind Contributions		405 000	410.000
Brisbane City Council		425,896	419,930
Bureau of Meteorology		485,251	596,690
CSIRO Land & Water		1,192,683	1,149,438
Department of Land & Water Conservation, NSW		379,004	234,543
Department of Natural Resources, Qld.		1,273,895	410,330
Department of Natural Resources & Environment, Vic.		530,207	774,437
Ariffith University		622,349	630,456
Aelbourne Water Corporation		393,543	378,883
Aonash University		732,296	662,420
Aurray-Darling Basin Commission		50,000	50,000
Goulburn-Murray Rural Water Authority		232,313	216,273
Sippsland & Southern Rural Water Authority		30,000	30,000
Vimmera-Mallee Rural Water Authority		60,000	60,000
he University of Melbourne		423,530	672,347
		6,830,967	6,285,747
Opening balance Party Contributions		11,740,679	5,454,932
Contributions this year, cash and inkind		6,830,967	6,285,747
Closing balance Party contributions		18,571,646	11,740,679

# **CRC for Catchment Hydrology** Notes to the Financial Statements 30 June 2002

Note 3: Notes to the Statement of Cash Flows	Note	2002 \$	2001 \$
(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; and (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		1,540,345	2,047,100
Non cash flows in Loss from Ordinary Activities after income tax:			
Loss from Ordinary Activities after Income Tax Expense Non cash flows in Loss from Ordinary Activities after income tax: In-Kind expenditure		(7,561,607) 5,790,967	(5,943,155) 5,245,747
Changes in assets and liabilities: Increase / (Decrease) in Payables (Increase) / Decrease in Receivables		(16,007) (97,608)	(57,100) (123,800)
Net cash provided by/(used in) Operating Activities		(1,884,255)	(878,308)
Note 4: Receivables			
nterest Receivable		6,409	7,641
Other Receivables		237,058	475,719

## CRC for Catchment Hydrology Statement by Governing Board of 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 2002 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 Researchers' 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 Financial Statements are drawn up to give a true and fair view of the state of affairs as at 30 June 2002.

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	
R.A. Vertessy Chief Executive Officer	
Dated this So day of August 2002	

Deloitte Touche Tohmatsu A.B.N. 74 490 121 060 505 Bourke Street Melbourne VIC 3000 GPO Box 78B Melbourne VIC 3001 Australia

DX 111 Telephone (03) 9208 7000 Facsimile (03) 9208 7001 www.deloitte.com.au

# Deloitte Touche Tohmatsu

#### **INDEPENDENT ACCOUNTANT'S REPORT**

#### TO THE COOPERATIVE RESEARCH CENTRES PROGRAM, DEPARTMENT OF EDUCATION, SCIENCE <u>AND TRAINING REPRESENTING THE COMMONWEALTH IN RESPECT OF COOPERATIVE</u> <u>RESEARCH CENTRE FOR CATCHMENT HYDROLOGY</u>

#### FINANCIAL INFORMATION FOR THE YEAR ENDED 30 JUNE 2002

<u>Scope</u>

We have conducted a limited scope review of the financial information of the Cooperative Research Centre for Catchment Hydrology as set out in the attached tables 1 to 4 for the financial year ended 30 June 2002. The parties to the Cooperative Research Centre are responsible for the preparation and presentation of the financial 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 Education, Science and Training, 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 ab ove, 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, which is not an audit, 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 2002 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:

The liability of Deloitte Touch Tohmatsu, is limited by, and to the extent of, the Accountants' Scheme under the Professional Standards Act 1994 (NSW).

# Deloitte Touche

#### **In Kind Contributions**

Organisation	<u>Amount</u> Committed	<u>Amount</u> Provided
	(\$)	(\$)
Brisbane City Council	400,000	376,000
The University of Melbourne	406,000	374,000

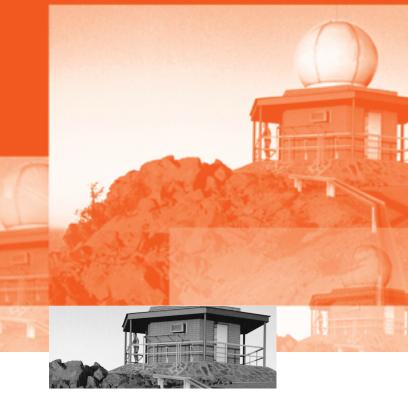
- Based on our review, nothing has come to our attention that causes us to believe that the total value of all contributions for the year under review does not equal or exceed the amount of the grant paid during the year.
- Based on our review, nothing has come to our attention that causes us to believe 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 2002 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.

oithe Touche Tohmatsa

DELOITTE TOUCHE TOHMATSU IN ETHERINGTON Partner **Chartered Accountants** 

Melbourne, 30 August 2002

Appendix – Staff Resources 2001 – 2002



#### **Research Staff - Contributed as In-Kind Resources**

Research Statt - Co								% Spent on Research Program											
						(R)					Education Program	Commercialisation Program	% Spent on Administration Program						
		Total %			Su	bprogra	ms			Total on									
Name	Main Activity	Time	1	2	3	4	5	6	10	Research	(8)/(E)	(7)/(C)	(9)/(A)						
Brisbane City Council																			
Mr T. Weber	R	19	2	2	1	7	1	1	0	14	1	4	0						
TOTAL		19	2	2	1	7	1	1	0	14	1	4	0						
Bureau of Meteorology																			
Dr E. Ebert	R	5	0	0	0	0	5	0	0	5	0	0	0						
Mr J. Elliott	R	5	0	0	0	0	4	0	0	4	0	1	0						
Dr M. Manton	R	6	0	0	0	0	6	0	0	6	0	0	0						
Dr G. Mills	R	17	0	0	0	0	17	0	0	17	0	0	0						
Dr A. Seed	R	70	0	0	0	0	64	0	0	64	0	6	0						
Dr S. Srikanthan	R	90	0	0	0	0	87	0	0	87	0	3	0						
Mr B. Stewart	С	2	0	0	0	0	0	0	0	0	0	2	0						
TOTAL		195	0	0	0	0	183	0	0	183	0	12	0						
CSIRO Land and Water																			
Dr B. Bates	R	10	0	0	0	0	10	0	0	10	0	0	0						
Ms S. Cuddy	R	44	43	0	0	0	0	0	0	43	0	1	0						
Mr W. Dawes	R	11		11	0	0	0	0	0	11	0	0	0						
Dr J. Gallant	R	6	6	0	0	0	0	0	0	6	0	0	0						
Dr P. Hairsine	R	60	0	50	0	0	0	0	0	52	0	8	0						
Dr N. McKenzie	R	7	0	7	0	0	0	0	0	7	0	0	0						
Ms F. Marston	R	19	0	0	0	0	0	0	0	19	0	0	0						
Dr J. Olley	R	55	0	55	0	0	0	0	0	55	0	0	0						
Dr I. Prosser	R	45	0	45	0	0	0	0	0	45	0	0	0						
Mr J. Rahman	R	56	55	0	0	0	0	0	0	55	0	1	0						
Dr R. Silberstein	R	37	4	33	0	0	0	0	0	37	0	0	0						
Prof R. Vertessy	R	100	55	3	0	0	0	0	0	58	0	28	14						
Dr N. Viney	R	29	0	0	0	0	29	0	0	29	0	0	0						
Dr G. Walker	R	17	0	17	0	0	0	0	0	17	0	0	0						
Dr P. Wallbrink	R	45	0	45	0	0	0	0	0	45	0	0	0						
Dr W. Young	R	24	0	24	0	0	0	0	0	24	0	0	0						
Dr L. Zhang	R	33	0	30	0	0	0	0	0	30	0	3	0						
TOTAL	П	598	182	320	0	0	39	0	2	543	0	41	14						
	Notor Concorrectio		102	020	0	0	03	0		040	0	41	14						
Department of Land and V				40					0	10		^							
Dr G. Geeves	R	16	0	16	0	0	0	0	0	16	0	0	0						
Ms J. Green	R	10	0	0	0	0	0	0	10	10	0	0	0						
Dr M. Littleboy	R	19	3	16	0	0	0	0	0	19	0	0	0						
Dr N. Nandakumar	R	8	0	0	0	0	0	0	8	8	0	0	0						
Dr D. Outhet	R	1	0	1	0	0	0	0	0	1	0	0	0						
Mr G. Summerell	R	37	0	37	0	0	0	0	0	37	0	0	0						
Ms C. Young	C	65	0	32	0	0	0	0	0	32	0	33	0						
Mr C. Zierholz	R	22	0	22	0	0	0	0	0	22	0	0	0						
TOTAL		178	3	124	0	0	0	0	18	145	0	33	0						

### Research Staff - Contributed as In-Kind Resources continued

				% 5	% Spent on	% Spent on	% Spent on						
						(R)					Education	Commercialisation Program (7)/(C)	Administration Program (9)/(A)
		Total %			Su	bprogran	ns			Total on			
Name	Main Activity	Time	1	2	3	4	5	6	10	Research	(8)/(E)		
Department of Natural	Resources and Min	bl0, ze											
Mr C. Carroll	C	39	0	15	2	0	0	0	0	17	0	22	0
Mr R. DeHayr	R	50	0	50	0	0	0	0	0	50	0	0	0
Mr R. Gillespie	R	7	0	7	0	0	0	0	0	7	0	0	0
Mr M. Gooda	R	1	1	0	0	0	0	0	0	1	0	0	0
Dr H. Hunter	R	55	0	55	0	0	0	0	0	55	0	0	0
Mr G. Miller	R	41	0	41	0	0	0	0	0	41	0	0	0
Mr B. Noble	С	4	0	0	0	0	0	0	0	0	0	4	0
Mr B. Powell	R	10	0	10	0	0	0	0	0	10	0	0	0
Dr D. Rassam	R	52	0	52	0	0	0	0	0	52	0	0	0
Mr K. Roberts	E	8	0	0	0	0	0	0	0	0	8	0	0
Mr J. Ruffini	R	7	0	0	0	0	0	0	0	5	0	2	0
Mr M. Sallaway	R	14	5	6	0	0	0	2	0	10	3	1	0
Mr M. Silburn	R	11	2	11	0	0	0	0	0	11	0	0	0
Mr S. Stevens	R	14	0	14	0	0	0	0	0	14	0	0	0
TOTAL		313	8	261	2	Û	0	2	0	273	11	29	0
			-		_	-	-		-				-
Department of Natural	Resources and Envi	ronment.	Vic										
Dr B. Christy	R	26	0	26	0	0	0	0	0	26	0	0	0
Mr M. Bethune	R	21	0	21	0	0	0	0	0	21	0	0	0
Dr C. Beverly	R	32	0	32	0	0	0	0	0	32	0	0	0
Dr C. Daamen	R	10	0	10	0	0	0	0	0	10	0	0	0
Dr A. Heuperman	R	7	0	7	0	0	0	0	0	7	0	0	0
Mr M. Hocking	R	5	0	5	0	0	0	0	0	5	0	0	0
Mr B. James	R	4	0	0	4	0	0	0	0	4	0	0	0
DrP.Lane	R	77	0	77	0	0	0	0	0	77	0	0	0
Dr C. Maul	R	14	14	0	0	0	0	0	0	14	0	0	0
Dr J. Morris	R	89	23	66	0	0	0	0	0	89	0	0	0
TOTAL		285	37	244	4	0	0	0	0	285	0	0	0
Goulburn – Murray Wa		0	0	0	0	0	4	0	0	0	0	0	0
	R R	3	0	2	0	0	1	0	0	3	0	0	0
Mr G. Earl	C	2	0	0	2	0	0	0	0	0	0	0 9	0
Mr P. Feehan Mr G. Hannan							0						
	R	5	0	0	2	0	2	0	0	4	0	1	0
Mr M. Seker TOTAL	R	8 27	1	1	4	0	1	0	0		0	1	0
TUTAL		21	1	3	8	0	4	0	0	16	0	11	0
Griffith University													
Prof S. Bunn	R	13	0	6	2	0	0	5	0	13	0	0	0
Dr C. Fellows	R	30	0	30	0	0	0	0	0	30	0	0	0
Assoc Prof J. Fien	E	30	0	0	0	0	0	0	0	0	30	0	0
Dr M. Greenway	R	47	0	0	0	44	0	0	0	44	0	0	30
Dr G. Jenkins	R	18	0	0	0	9	9	0	0	18	0	0	0
Prof R. Rickson	C	10	0	0	0	0	0	0	0	0	0	10	0
Dr J. Tisdell	R	50	0	0	40	0	0	0	0	40	1	9	0
Prof R. Tomlinson	R	7	0	0	40	7	0	0	0	40	0	0	0
Dr B. Yu	R	44	8	34	0	0	0	0	0	42	0	0	2
DI D. 10	п	-17	U	57	U	U	U	U	v	74	U	U	2

## **Appendix Staff Resources** 2001 – 2002

#### Research Staff - Contributed as In-Kind Resources continued

		% Spent on Research Program								% Spent on	% Spent on	% Spent on	
			(R)					Education	Commercialisation Program	Administration Program			
		Total %	Subprograms		Total on	Program							
Name	Main Activity	Time	1	2	3	4	5	6	10	Research	(8)/(E)	(7)/(C)	(9)/(A)
Melbourne Water													
Mr H. Duncan	R	100	0	0	0	100	0	0	0	100	0	0	0
Mr B. Rhodes	С	1	0	0	0	0	0	0	0	0	0	1	0
Mr G. Rooney	С	7	0	0	0	1	0	1	0	2	0	5	0
Mr S. Seymour	R	3	0	0	0	2	0	1	0	3	0	0	0
Mr I. Watson	R	12	0	12	0	0	0	0	0	123	0	0	0
TOTAL		123	0	12	0	103	0	2	0	117	0	6	0
Monash University													
Assoc. Prof. G. Codner	R	19	0	0	19	0	0	0	0	19	0	0	0
Dr R. Hadgraft	R	6	5	0	0	0	0	0	0	5	0	1	0
Assoc. Prof. R. Keller	R	40	0	6	0	0	0	29	3	38	0	2	0
Prof. R. Mein	С	50	0	0	0	0	0	0	4	4	76	28	11
Mr E. Weinmann	R	41	0	0	15	0	0	0	8	23	0	18	0
Assoc. Prof. T. Wong	R	69	0	0	0	46	0	0	0	46	6	17	0
Mr R. Wootton	R	18	0	0	0	17	0	0	0	17	0	1	0
TOTAL		243	5	6	34	63	0	29	15	152	13	67	11
The University of Melbo	urne												
Dr R. Argent	R	14	8	1	0	0	0	0	0	9	0	5	0
Dr F. Chiew	R	11	8	0	0	3	0	0	0	11	0	0	0
Dr B. Downes	R	5	0	0	0	0	0	5	0	5	0	0	0
Prof. J. Fenton	С	5	0	1	0	0	0	0	0	1	0	4	0
Assoc. Prof. B. Finlayson	R	2	0	0	0	0	0	2	0	2	0	0	0
Assoc. Prof. R. Grayson	R	31	14	2	0	0	1	0	8	25	0	6	0
Dr J. Lin	С	4	0	0	0	0	0	1	0	1	0	3	0
Prof. T. McMahon	R	17	0	3	5	0	3	0	0	11	4	2	0
Assoc. Prof. H. Malano	R	31	0	0	30	0	0	0	0	30	1	0	0
Dr G. Moore	R	3	0	0	0	0	0	0	3	3	0	0	0
Dr M. Peel	R	24	10	0	0	0	14	0	0	24	0	0	0
Dr I. Rutherfurd	С	11	1	0	0	0	0	1	0	2	0	9	0
Assoc Prof I. Simmonds	R	10	0	0	0	0	10	0	0	10	0	0	0
Dr T. Weaver	E	16	0	0	0	0	0	0	0	0	16	0	0
TOTAL		184	41	7	35	3	28	9	11	134	21	29	0

#### **Research Staff - CRC Funded Resources**

				% Spent on Research Program (R)					% Spent on Education	% Spent on Commercialisation	% Spent on Administration			
	Employing	Main	Total %			Su	oprogram	าร			Total on	Program	Program	Program
Name	Organisation	Activity	Time	1	2	3	4	5	6	10	Research	(8)/(E)	(7)/(C)	(9)/(A)
Dr H. Richter	Bur. of Met	R	100					100			100			
VIs K. Borman	CSIRO	R	10		10						10			
Mr H. Bowman	CSIRO	R	40		40						40			
Dr G. Caitcheon	CSIRO	R	47		47						47			
Mr J. Coleman	CSIRO	R	30				30				30			
Dr H. Cresswell	CSIRO	R	6			6					6			
Mr T. Dowling	CSIRO	R	20			20					20			
Mr T. Ellis	CSIRO	R	40		40						40			
Mr C. Flemming	CSIRO	R	30		30						30			
Ms L. Gregory	CSIRO	R	10			10					10			
Dr P. Hairsine	CSIRO	R	25		25						25			
Mr A. Hughes	CSIRO	R	60		60						60			
Dr N. McKenzie	CSIRO	R	6			6					6			
Mr J. Rahman	CSIRO	R	50	50							50			
Mr A. Scott	CSIRO	R	37		37						33			
Mr S. Seaton	CSIRO	R	100	100							100			
Dr R. Silberstein	CSIRO	R	100			10					100			
Mr B. Smith	CSIRO	R	20		20						20			
Mr C. Thompson	CSIRO	R	20		20						20			
Dr N. Viney	CSIRO	R	0								0			
Mr D. Wilkins	CSIRO	R	50		50						50			
Dr L. Zhang	CSIRO	R	25		00	25					25			
Dr M. Littleboy	DLWC, NSW	R	2		2	20					2			
Dr D. Rassam	DNRM, Qld	R	30		30						30			
Dr C. Fellows	Griffith Univ.	R	27		27						27			
Dr E. Larsen	Griffith Univ.	R	24		21		24				24			
Mr N. Marsh	Griffith Univ.	R	100				100				100			
Dr J. Tisdell	Griffith Univ.	R	50			50	100				50			
Mr J. Ward	Griffith Univ.	R	50			50					50			
Mr J. Whelan	Griffith Univ.	E	72			00					00	72		
Dr B. Yu	Griffith Univ.	R	6		6						6	12		
Dr R. Bartley	Mon. Univ.	R	17		0						17			
Mr A. Barton	Mon. Univ.	R	3				3				3			
Dr T. Fletcher	Mon. Univ.	R	100				100				100			
Mr J. Lewis	Mon. Univ.	R	59				59				59			
Ms S. Lloyd	Mon. Univ.	R	20				20				20			
Prof. R. Mein	Mon. Univ.	C	50			9	20				9	8	22	11
Mr D. Perry	Mon. Univ.	C	100			5					0	10	90	
MrP.Poelsma	Mon. Univ.	R	100				10				10	10	50	
Mr A. Ryan	Mon. Univ.	R	8				8				8			
Dr S. Schreider	Mon. Univ.	R	100			100	U				100			
Mr G. Taylor	Mon. Univ.	R	25			100	25				25			
Ms A. Wilson	Mon. Univ.	R	7			7	20				23			
Mr F. Winston	Mon. Univ.	R	31			I			31		31			
Dr R. Argent	Univ. Melb.	R	26	26					31		26			
Mr A. Bock	Univ. Melb.	R	9	20					9		9			
Dr F. Chiew		R	79				5	74	э		79			
Dr F. Chiew Dr S. Ewing	Univ. Melb. Univ. Melb.	R	23	14			J	14			14		9	
Assoc. Prof. R. Grayson	Univ. Melb.	R	23	24							24		3	
Ms E. Howes	Univ. Melb.			24					19					
		R	19								19			
Ms R. Jackson	Univ. Melb.	R	4	r					4		4			
Mr S. Jha	Univ. Melb.	R	5	5	4.4				<b>F</b> 4		5			
Dr A. Ladson	Univ. Melb.	R	98	<u> </u>	44				54		98			
Mr J. Lander	Univ. Melb.	R	11	6				0.4	5		11	0	40	7
Prof. T. McMahon	Univ. Melb.	R	53					34			34	2	10	7
Prof. G. Pegram	Univ. Melb.	R	41					41			41			
Mr R. Pipunic	Univ. Melb.	R	8	8							8			

## Appendix Staff Resources 2001 – 2002

#### Research Staff - CRC Funded Resources continued

					% 3	Spent on	Researc	h Progra	m			% Spent on	% Spent on	% Spent on
							(R)					Education	Commercialisation	Administration
	Employing	Main	Total %			Su	bprograr	ns			Total on	Program	Program	Program
Name	Organisation	Activity	Time	1	2	3	4	5	6	10	Research	(8)/(E)	(7)/(C)	(9)/(A)
Mr M. Roberts	Univ. Melb.	R	10						10		10			
Assoc Prof. I. Rutherfurd	Univ. Melb.	R	42						32		32		10	
Ms C. Savige	Univ. Melb.	R	1					1			1			
Dr P. Scanlon	Univ. Melb.	R	16					16			16			
Mr T. Seyfarth	Univ. Melb.	R	15	15							15			
Ms L. Sheather	Univ. Melb.	R	5						5		5			
Mr L. Siriwardena	Univ. Melb.	R	68				12	47			59	3	6	
Dr M. Stewardson	Univ. Melb.	R	97						84		84		13	
Ms S. van de Meene	Univ. Melb.	R	4						4		4			
Dr A. Western	Univ. Melb.	R	99	78				21			99			
Dr R. Young	Univ. Melb.	R	62	32				30			62			
Dr S. Zhou	Univ. Melb.	R	97					97			97			
TOTAL			2,543	358	505	293	396	461	257	0	2,270	95	160	18

#### Summary of Contribution in Person Years (100% = 1person years)

	Total			Person	Years Sp	ent on				Person Years	Person Years	Person Years
	Equivalent			Resea	irch Prog	rams				Spent on	Spent on	Spent on
	Person			Sı	Ibprogra	m			Total on	Education	Commercialisation	Administration
	Years	1	2	3	4	5	6	10	Research	Program	Program	Program
Total Contributed as In-Kind	24.14	2.87	10.49	1.26	2.36	2.64	0.48	0.46	20.56	0.77	2.51	0.30
Total Funded by CRC	25.43	3.58	5.05	2.93	3.96	4.61	2.57	0.00	22.70	0.95	1.60	0.18
Grand Total	49.57	6.45	15.54	4.19	6.32	7.25	3.05	0.46	43.26	1.72	4.11	0.48

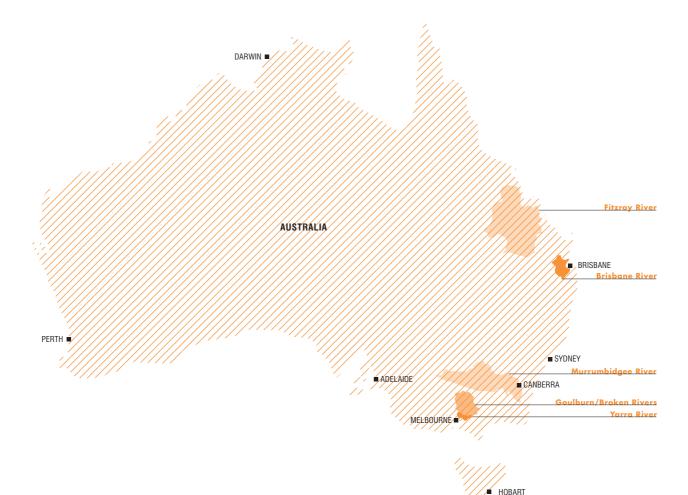
Proportion of total professional staff resources in each activity	100	13	31	9	13	15	6	1	87	4	8	1

#### Support Staff (100% = 1person years)

(1) Contributed	Number of Staff
Organisation	Person Years
CSIRO	0.00
Monash University	0.00
The University of Melbourne	0.00
TOTAL	0.00

(2) CRC Funded	
	Number of Staff
Organisation	Person Years
CSIRO	1.40
Monash University	2.21
The University of Melbourne	0.03
TOTAL	3.64

### Focus Catchments at June 2002



#### 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
- 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

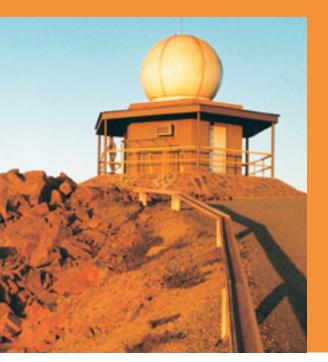
#### Program 8

#### **Education and Training**

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







#### **Centre Office**

Department of Civil Engineering PO Box 60 Clayton Campus Monash University VIC 3800 Australia Telephone +61 3 9905 2704 Facsimile +61 3 9905 5033 http://www.catchment.crc.org.au 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

#### Associate:

• Water Corporation of Western Australia



Established and supported under the Australian Government's Cooperative Research Centres Program