

Compiled by Peter Brady.

Table A

District Irrigation

Landholder November 2001	20 YEARS AGO	Min. Area Acres	Max. Area Acres	Max. pump Litres per second	% Use cycle	NOW	Min. Area Acres	Max. Area Acres	Volume Litres per second	% Use cycle
Cedar Vale										
Landholder	✓	3	5	1.5	20%	X	-	-	-	-
Landholder	✓	5	8	3	60%	✓	5	8	3	60%
Landholder	✓	5	20	5	60%	½	3	10	5	30%
Landholder	✓	5	10	4	60%	✓	5	10	4	60%
Landholder	X	-	-	-	-	½	5	10	5	10%
Total	4	18	43	13.5	55%	3	18	38	17	50%
Lower Scrub Creek										
Landholder	✓	6	20	6	40%	½	3	10	2.8	30%
Landholder	✓	20	30	10	60%	X	-	-	-	-
Landholder	½	2	2	1.5	5%	✓	5	13	4	60%
Total	2½	28	52	17.5	50%	1½	8	23	6.8	45%
Bracewell										
Landholder	✓	5	8	3	40%	X	-	-	-	-
Landholder	X	-	-	-	-	½	4	8	3	60%
Landholder	✓	8	15	5	40%	½	8	15	3	40%
Landholder	✓	4	10	5	40%	X	-	-	-	-
Landholder	✓	10	20	6	60%	X	-	-	-	-
Landholder	✓	3	8	3	30%	X	-	-	-	-
Landholder	X	-	-	-	-	X	-	-	-	-
Landholder	✓	-	-	6	40%	✓	-	-	10	20%
Total	6	30	61	28	40%	2	12	23	16	40%
East End Catchments to Mine										
Landholder	✓	4	8	3	40%	X	-	-	-	-
Landholder	✓	4	8	3	60%	X	-	-	-	-
Landholder	✓	5	10	3	60%	X	-	-	-	-
Landholder	✓	2	4	2	20%	X	-	-	-	-
Landholder	✓	10	20	6	60%	X	-	-	-	-
Landholder	✓	5	10	5	60%	X	-	-	-	-
Landholder	✓	10	20	8	40%	X	-	-	-	-
Total	7	40	80	30	50%	0	-	-	-	-
Hut Creek Catchment										
G. Peters	✓	6	12	4	45%	X	-	-	-	-
Total	1	6	12	4	45%	X	-	-	-	-
Grand Total	20½	122	248	93	50%	6½	38	84	39.8	45%

Note: - ~~Landholder~~, Bracewell was not irrigating in 1980 nor in 2000. However, the amount of water used mid 1993 to November 97 was about 1 ML per week, and is quoted in "EEMAG ADDENDUIM - February 2000 - Page 10".

2.2 COMPARISON OF ANNUAL RECHARGE v IRRIGATION

For the first time ever, I will use the 'Kalf formula' for district recharge to compare with irrigation usage for each catchment of the district.

Kalf recharge formula: 900mm rainfall (av) = 5% recharge

District	Catchment Area km ²	Annual Recharge in ML using 'Kalf Recharge' formula	Irrigation Usage 2001
Cedar Vale	23 km ²	1035 ML / yr	17 litres / sec @ 50% = 268 ML / yr
Lower Scrub Creek Jacobs Creek	15 km ² 12 km ² 27 km ²	1215 ML / yr	6.8 litres / sec @ 45% = 97 ML / yr
Upper Bracewell Lower Bracewell Jacobs Creek Capture	7.5 km ² 10.0 km ² 4.0 km ² 21.5 km ²	967.5 ML / yr	16 litres / sec @ 40% = 202 ML / yr
East End catchment to Mine- Catchment 1 Machine Creek below Weir 2 – Catchment 2	8.5 km ² 12.0 km ² 20.5 km ²	382.5 ML / yr 540 ML / yr 882.5 ML / yr	0 ML / yr
Hut Creek Upper Reaches	8.5 km ² 8.5 km ²	382 ML / yr 382 ML / yr	0 ML / yr
Grand Total	100.5 km ²	4422 ML / yr	567 ML / yr (over)

Conclusions:- As 567 ML per year represents irrigation usage for the complete district in 2001, and recharge for the same area using the Kalf formula is 4040 ML / year, during an average rainfall year, it can only be concluded that if 14% of recharge is used for irrigation, then this should be sustainable.

As we all know, watertable levels in Lower Bracewell and Lower Scrub Creek are falling, so it can only be concluded that some other influence, other than irrigation is causing that decline. John Waterhouse found in his study that irrigation usage combined with rainfall deficit were the identified causes of the water table decline.