

Appendix D: Macroinvertebrates in the Hunter River catchment

Table D1: Water sharing plan management zone, AUSRIVAS band or SIGNAL score and electrical conductivity (EC) level

Where annotated, edge samples are identified as “_E” after the site code; riffle samples as “_R” after the site code. SIGNAL scores represent an average across habitats and samples.

Macroinvertebrate colour coding has been applied to identify sites considered to be in good to very good condition (blue and green), fair condition or disturbed condition (yellow) and poor to very poor or severely to extremely impaired condition (red and pink).

EC colour coding has been based on the general criteria for the salinity of irrigation water in the Hunter Valley (Creelman 1994, Croft and Associates 1983) where: blue represents low salinity (<280 $\mu\text{S}/\text{cm}$), green medium salinity (280–800 $\mu\text{S}/\text{cm}$), yellow high salinity (800–2300 $\mu\text{S}/\text{cm}$), orange very high salinity (2300–5500 $\mu\text{S}/\text{cm}$); and red extreme salinity waters (>5500 $\mu\text{S}/\text{cm}$).

Site code	Latitude	Longitude	AUSRIVAS band	SIGNAL score	Water sharing plan management zone	EC median ($\mu\text{S}/\text{cm}$)	EC 80th percentile ($\mu\text{S}/\text{cm}$)	EC N
HU02	-32.128	151.470		6.3	Allyn River	97.5	115	2
52003_E	-32.281	151.542	A		Allyn River	810	810	1
HUNT03_E	-32.317	151.514	X		Allyn River	179	284	13
HUNT03_R	-32.317	151.514	A		Allyn River			
HU01	-32.317	151.513		5.7	Allyn River	278	314	2
51191_E	-32.524	151.596	A		Allyn River	751	751	1
HUNT584_E	-32.444	150.450	A		Baerami Creek	926	926	1
52191_E	-32.513	150.466	B		Baerami Creek	208	208	1
52238_E	-32.481	150.486	A		Baerami Creek	807	807	1
HUNT542_E	-32.809	151.356	C		Black Creek	1088.5	1277	2
HU04	-32.794	151.352		4	Black Creek	623	757	2
HU33	-32.790	151.351		3.7	Black Creek	2600.5	3420	2
52024_E	-32.720	151.328	B		Black Creek	957	957	1
52039_E	-32.712	151.323	B		Black Creek	1040	1040	1
52039_R	-32.712	151.323	B		Black Creek			
HU46	-32.187	150.216		4.6	Bow River	1987	2030	2
52222_E	-32.990	151.287	A		Congewai Creek	272	272	1
52193_E	-32.986	151.377	A		Congewai Creek	211	211	1
52193_R	-32.986	151.377	A		Congewai Creek			
HUNT574_E	-32.995	151.334	A		Congewai Creek	247.5	298	2
52239_E	-32.140	150.660	OEM		Cuan and Reedy creeks	1230	1230	1
52239_R	-32.140	150.660	A		Cuan and Reedy creeks			
52384_E	-32.066	150.678	A		Cuan	620	620	1
HU39	-32.506	151.385		4.7	Glendon Brook	1190	1290	2
HU38	-32.515	151.376		4.3	Glendon Brook	2519.5	3090	2
HU08	-32.413	151.192		5.2	Glennies	255	260	2
GOO006_E	-32.410	151.182	B	3.7	Glennies	757	795	12
GOO006_R	-32.410	151.182	A	4.9	Glennies			
52036_E	-32.475	151.086	A		Glennies	602	602	1

Site code	Latitude	Longitude	AUSRIVAS band	SIGNAL score	Water sharing plan management zone	EC median (µS/cm)	EC 80th percentile (µS/cm)	EC N
GOO004_R	-32.369	151.183	A	5.2	Glennies			
GOO004_E	-32.369	151.183	A	3.9	Glennies			
CAM003_E	-32.340	151.179	A	3	Glennies	841	941	12
CAM003_R	-32.340	151.179	X	5.1	Glennies			
GOO001_E	-32.277	151.213	OEM	4.2	Glennies	546	666	12
GOO001_R	-32.277	151.213	B	5.8	Glennies			
52359_E	-32.296	151.183	X		Glennies	708	708	1
52359_R	-32.296	151.183	A		Glennies			
HU06	-32.285	151.303		5.5	Glennies	188	188	1
GOO003_E	-32.343	151.187	OEM	3.8	Glennies	809	923	12
GOO003_R	-32.343	151.187	A	5.2	Glennies			
HUNT577_R	-32.279	150.509	B		Halls Creek	1528.5	1625	2
HUNT577_E	-32.279	150.509	A		Halls Creek			
52347_E	-31.934	150.487	OEM		Halls Creek	885	885	1
52347_R	-31.934	150.487	A		Halls Creek			
52405_E	-32.148	150.509	OEM		Halls Creek	1510	1510	1
HUNT579_E	-32.332	150.623	B		Hollydeen	1246	1269	2
51185_E	-32.638	151.475	OEM		Hunter Regulated River Alluvial	2360	2360	1
HU17	-32.237	150.874		5.3	Hunter Regulated River Alluvial	350.5	371	2
HUNT572_E	-32.526	151.052	B		Hunter Regulated River Alluvial	997	1006	2
HUNT572_R	-32.526	151.052	B		Hunter Regulated River Alluvial			
HUNT576_E	-32.518	150.937	B		Hunter Regulated River Alluvial	1012	1014	2
HUNT576_R	-32.518	150.937	B		Hunter Regulated River Alluvial			
HUNT583_E	-32.125	150.924	A		Hunter Regulated River Alluvial	702	717	2
HUNT583_R	-32.125	150.924	B		Hunter Regulated River Alluvial			
HU19	-32.518	150.937		4.7	Hunter Regulated River Alluvial	605.5	681	2
HU16	-32.295	150.845		4.5	Hunter Regulated River Alluvial	400	448	2
HU14	-32.583	151.205		4.3	Hunter Regulated River Alluvial	484	510	2
HU15	-32.565	151.137		4.6	Hunter Regulated River Alluvial	458	476	2
HUNT854_E	-32.236	150.875	X		Hunter Regulated River Alluvial	399	667	6
HUNT854_R	-32.236	150.875	A		Hunter Regulated River Alluvial			

Site code	Latitude	Longitude	AUSRIVAS band	SIGNAL score	Water sharing plan management zone	EC median (µS/cm)	EC 80th percentile (µS/cm)	EC N
HUNT506_E	-32.268	150.886	B		Hunter Regulated River Alluvial	954	1902	2
HUNT571_E	-32.257	150.884	B		Hunter Regulated River Alluvial	756.5	783	2
HUNT571_R	-32.257	150.884	B		Hunter Regulated River Alluvial			
HUNT847_E	-32.611	151.347	B		Hunter Regulated River Alluvial	794	1100	6
HU22	-31.775	151.080		5.1	Isis River	577.5	585	2
HUNTM5_E	-32.449	151.029	OEM		Jerrys	4920	5990	3
52212_E	-32.402	150.972	OEM		Jerrys	6580	6580	1
HU03	-32.416	151.026		4.4	Jerrys	4470	4780	2
53046_E	-32.028	150.580	X		Kars Springs	658	658	1
53046_R	-32.028	150.580	A		Kars Springs			
HU25	-32.101	150.115		4.5	Krui River	813	856	2
53033_E	-31.907	150.298	OEM		Krui River	782	782	1
53033_R	-31.907	150.298	B		Krui River			
HUNT511_R	-32.097	150.117	A		Krui River	652	700	2
HUNT511_E	-32.097	150.117	X		Krui River			
HUNT585_R	-32.194	150.866	A		Lower Dart Brook	1284	1409	2
HUNT585_E	-32.194	150.866	B		Lower Dart Brook			
HU47	-32.418	150.315		4.3	Lower Goulburn River	1250	1360	2
HUNT507_E	-32.347	150.574	X		Lower Goulburn River	719	1170	4
HUNT588_E	-32.417	150.317	A		Lower Goulburn River	882.5	889	2
HUNT588_R	-32.417	150.317	B		Lower Goulburn River			
HUNT07_E	-32.308	150.239	X		Lower Goulburn River	960	1140	4
HUNT07_R	-32.308	150.239	A		Lower Goulburn River			
HU11	-32.310	150.239		4	Lower Goulburn River	1120	1140	2
53048_E	-32.037	150.858	X		Lower Middle Brook and Kingdon Ponds	671	671	1
52241_E	-32.138	150.865	X		Lower Middle Brook and Kingdon Ponds	1030	1030	1
53032_E	-31.927	150.826	B		Lower Middle Brook and Kingdon Ponds	316	316	1
52038_E	-32.773	151.100	A		Lower Wollombi Brook	543	543	1
52240_E	-32.745	151.098	A		Lower Wollombi Brook	366	366	1
52030_E	-32.739	150.936	A		Lower Wollombi Brook	334	334	1
HUNT05_R	-32.747	150.922	C		Lower Wollombi Brook			
HUNT05_E	-32.740	150.936	X		Lower Wollombi Brook	241	310	6
HU07	-32.725	150.937		5.4	Lower Wollombi Brook	294	310	2
52221_E	-32.738	151.147	A		Lower Wollombi Brook	1118	1118	1
51192_E	-32.611	151.436	A		Luskintyre	1140	1140	1
52011_E	-32.642	151.401	OEM		Luskintyre	3370	3370	1
51001_E	-32.611	151.365	B		Luskintyre	8000	8000	1

Site code	Latitude	Longitude	AUSRIVAS band	SIGNAL score	Water sharing plan management zone	EC median (µS/cm)	EC 80th percentile (µS/cm)	EC N
HUNT580_E	-32.602	150.718	B		Martindale Creek	199.5	250	2
53030_E	-32.145	150.302	B		Merriwa River	317	317	1
HU26	-32.097	150.365		4.2	Merriwa River	1075	1090	2
HU48	-32.364	150.340		4.4	Merriwa River	1384	1548	2
52392_E	-32.211	150.316	OEM		Merriwa River	2160	2160	1
53018_E	-32.190	150.344	OEM		Merriwa River	8130	8130	1
HUNT578_E	-32.286	150.326	A		Merriwa River	1008	1034	2
HUNT578_R	-32.286	150.326	B		Merriwa River			
HU28	-31.982	150.007		5.3	Munmurra River	815	840	2
53047_E	-32.043	149.963	X		Munmurra River	668	668	1
53047_R	-32.043	149.963	A		Munmurra River			
HUNT582_R	-31.783	150.794	A		Murrurundi	411	494	2
HUNT582_E	-31.783	150.794	X		Murrurundi			
53004_E	-31.794	150.880	OEM		Murrurundi	779	779	1
HUNT510_E	-31.789	150.897	A		Murrurundi	560.5	600	2
HUNT510_R	-31.789	150.897	A		Murrurundi			
HUNT573_E	-32.120	150.983	C		Muswellbrook	337.5	361	2
HU21	-32.120	150.984		3.9	Muswellbrook	340	360	2
53010_E	-32.207	150.758	B		Muswellbrook	1090	1090	1
52346_E	-32.285	151.017	OEM		Muswellbrook	1020	1020	1
52346_R	-32.285	151.017	B		Muswellbrook			
53007_E	-32.209	150.989	B		Muswellbrook	2520	2520	1
52349_E	-32.206	150.779	OEM		Muswellbrook	1590	1590	1
52025_E	-32.282	150.956	X		Muswellbrook	1700	1700	1
52012_E	-32.658	151.838	A		Newcastle	224	224	1
HUNTM1_E	-32.730	151.589	B		Newcastle	780	1038.5	5
HUNT902_E	-32.807	151.851	OEM		Newcastle			0
HUNT901_E	-32.800	151.852	C		Newcastle			0
HUNT508_E	-32.780	151.736	C		Newcastle	743.5	960	2
HU18	-32.728	151.588		4.5	Newcastle	750	820	2
51019_E	-32.743	151.631	B		Newcastle			0
HU32	-32.608	151.616		4.9	Paterson River Tidal Pool	381.5	415	2
52203_E	-32.373	151.484	OEM		Paterson River Tributaries	1180	1180	1
52002_E	-32.374	151.483	B		Paterson River Tributaries	1130	1130	1
51201_E	-32.518	151.519	A		Paterson River Tributaries	226	226	1
51201_R	-32.518	151.519	A		Paterson River Tributaries			
51035_E	-32.638	151.605	D		Paterson River Tributaries	243	243	1
51200_E	-32.654	151.603	C		Paterson River Tributaries	323	323	1
HU34	-32.139	150.996		4.7	Rouchel Brook	617.5	735	2
53001_E	-32.108	151.241	OEM		Rouchel Brook	639	639	1
53001_R	-32.108	151.241	X		Rouchel Brook			

Site code	Latitude	Longitude	AUSRIVAS band	SIGNAL score	Water sharing plan management zone	EC median (µS/cm)	EC 80th percentile (µS/cm)	EC N
52387_E	-32.163	151.139	X		Rouchel Brook	5500	5500	1
52387_R	-32.163	151.139	A		Rouchel Brook			
52231_E	-32.631	151.121	OEM		Singleton	5370	5370	1
52369_E	-31.988	150.760	A		Upper Dart Brook	452	452	1
52369_R	-31.988	150.760	A		Upper Dart Brook			
HUNT08_R	-31.877	150.665	A		Upper Dart Brook	689	907	3
HUNT08_E	-31.876	150.665	A		Upper Dart Brook			
HU23	-31.878	150.665		6.4	Upper Dart Brook	808		2
HUNT587_R	-32.329	150.039	A		Upper Goulburn River	785	803	2
HUNT587_E	-32.329	150.039	B		Upper Goulburn River			
HU45	-32.315	149.737		6.1	Upper Goulburn River	325	370	2
52407_E	-32.344	150.076	A		Upper Goulburn River	908	908	1
52407_R	-32.344	150.076	A		Upper Goulburn River			
HU09	-32.351	150.051		4.6	Upper Goulburn River	1345	1570	2
52406_E	-32.219	149.786	X		Upper Goulburn River	695	695	1
HUNT512_E	-32.217	149.788	X		Upper Goulburn River	1123	1600	3
HUNT512_R	-32.217	149.788	A		Upper Goulburn River			
53501_E	-31.890	151.386	A		Upper Hunter	44	44	1
53501_R	-31.890	151.386	X		Upper Hunter			
55001_E	-31.926	151.388	B		Upper Hunter	32	32	1
55001_R	-31.926	151.388	A		Upper Hunter			
HU50	-31.927	151.388		6.9	Upper Hunter	29.5	36	2
54538_E	-31.920	151.360	B		Upper Hunter			
54538_R	-31.920	151.360	B		Upper Hunter	70	70	1
53034_E	-31.966	151.333	A		Upper Hunter	465	465	1
53034_R	-31.966	151.333	B		Upper Hunter			
HU13	-32.004	151.109		5.4	Upper Hunter	340	420	2
HU20	-31.927	151.237		5.9	Upper Hunter	220	270	2
52376_E	-31.861	151.281	X		Upper Hunter	774	774	1
52376_R	-31.861	151.281	A		Upper Hunter			
53490_E	-31.824	151.407	A		Upper Hunter	255	255	1
53490_R	-31.824	151.407	A		Upper Hunter			
HUNT11_E	-31.907	151.260	A		Upper Hunter	133	163	3
HUNT11_R	-31.907	151.260	B		Upper Hunter			
53493_E	-31.725	151.327	A		Upper Hunter	274	274	1
53493_R	-31.725	151.327	A		Upper Hunter			
54002_E	-31.726	151.310	A		Upper Hunter	224	224	1
54002_R	-31.726	151.310	A		Upper Hunter			
54003_E	-31.703	151.232	B		Upper Hunter	489	489	1
54003_R	-31.703	151.232	A		Upper Hunter			
54007_E	-31.681	151.206	A		Upper Hunter	182	182	1

Site code	Latitude	Longitude	AUSRIVAS band	SIGNAL score	Water sharing plan management zone	EC median (µS/cm)	EC 80th percentile (µS/cm)	EC N
54007_R	-31.681	151.206	B		Upper Hunter			
HU30	-32.281	151.393		6.1	Upper Paterson	194	202	2
HU31	-32.326	151.457		4.7	Upper Paterson	167.5	182	2
51182_E	-32.711	151.511	C		Wallis Creek	422	422	1
HUNTM4_E	-32.777	151.530	A		Wallis Creek	644	1160	4
HUNT590_E	-32.875	151.479	B		Wallis Creek	646.5	878	2
HU49	-32.933	151.438		5.5	Wallis Creek	1113	1576	2
HU37	-32.753	151.542		3.4	Wallis Creek	1677.5	2310	2
HUNT504_E	-32.644	151.721	C		Williams River	111	111	1
53060_E	-32.234	151.726	A		Williams River	115	115	1
53060_R	-32.234	151.726	B		Williams River			
HUNT04_E	-32.117	151.489	A		Williams River			
HUNT04_R	-32.117	151.489	A		Williams River	51	65	14
W02	-32.117	151.487		7.2	Williams River	65.5	73	2
51002_E	-32.652	151.792	A		Williams River	8000	8000	1
51043_E	-32.478	151.766	A		Williams River	1455	1455	1
HUNT02_R	-32.469	151.760	A		Williams River	275.5	384	4
HUNT02_E	-32.469	151.760	A		Williams River			
HUNT849_E	-32.455	151.768	A		Williams River	136	216	3
W14	-32.471	151.760		6.4	Williams River	275.5	290	2
51018_E	-32.574	151.765	A		Williams River	7500	7500	1
HUNT09_E	-32.158	151.577	A		Williams River			
HUNT09_R	-32.158	151.577	B		Williams River	22.5	34	4
HUNT509_R	-32.398	151.765	A		Williams River	160	160	2
HUNT509_E	-32.398	151.765	B		Williams River			
52388_E	-32.486	149.978	A		Wollar Creek	628	628	1
53011_E	-32.284	149.810	X		Wollar Creek	725	725	1
HU41	-32.363	149.949		4.5	Wollar Creek	2210	2320	2
52194_E	-33.057	151.136	B		Wollombi Brook			
52194_R	-33.057	151.136	B		Wollombi Brook	181	181	1
52037_E	-32.995	151.136	B		Wollombi Brook	403	403	1
HUNT543_R	-32.926	151.123	B		Wollombi Brook	495	748	3
HUNT543_E	-32.925	151.125	A		Wollombi Brook			
52020_E	-33.114	151.185	A		Wollombi Brook	154	154	1
HU42	-33.031	151.133		4.4	Wollombi Brook	280	430	2
HU44	-32.270	150.635		4.3	Wybong	3350	3470	2

Data sourced from OEH's macroinvertebrate database; Chessman 1997a, b; and Hunter–Central Rivers CMA.