



River Murray. Courtesy MCMA

Mallee Region

Occupying the north-western corner of Victoria is the Mallee region. The landscape is dominated by semi-arid plains and although national parks and reserves occupy much of the region, the remaining land is used extensively for dryland grazing of sheep, cereal crops as well as irrigated horticulture along the River Murray.

Three river basins form the region – One main one, Mallee (basin 14), parts of Avoca (basin 8) and Wimmera (basin 15).

The Mallee is the largest river basin in Victoria although it contributes the least to total annual streamflow across the State. Streams in the region are clustered in the north along the River Murray where networks of wetlands, tributaries and anabranches form distinctive riverine bioregions.

The confluences of the River Murray with the Darling, Wakool and Murrumbidgee Rivers occurs in the Mallee region.

Only 3% of stream length in the Mallee basin was in moderate condition. The majority of stream length was in poor condition (64%) or very poor condition (32%). Of the six reaches in the Avoca basin assessed as part of the Mallee region, four had insufficient data to determine condition. One reach was in moderate condition (reach 26) and the other was in poor condition (reach 25). Two reaches in the Wimmera basin are part of the Mallee region. One (reach 91) had insufficient data to determine condition and the other reach was in very poor condition (reach 24).

Water Quality

Eight reaches were monitored to assess water quality in the Mallee, six of these were located on the River Murray and one each on Lindsay River (reach 71) and Toupnein Creek (reach 76).

Water quality results ranged from good to moderate. All sites assessed had high levels of turbidity and phosphorus (where assessed).

Hydrology

Flow stress scores were assessed at 18 reaches along the River Murray in the Mallee region. Hydrology scores for all other reaches in the Mallee basin were extrapolated from these scores. All reaches (with the exception of reach 24, Yarriambiack Creek, in the Wimmera basin) had extremely modified flow regimes.

All reaches experienced significant summer and winter stress, with all reaches experiencing higher stress in winter. This is attributed to irrigation supply systems operating in the large tributaries upstream of the Mallee catchment, notably the Loddon, Campaspe, Goulburn and Broken Rivers, where flows are harvested in winter and released in summer to meet agricultural demands. Furthermore, a significant proportion of summer irrigation releases are diverted to large channels and irrigation districts before the flow reaches Swan Hill (reach 10). This accounts for reduced flows at the end of the high flow season and increased flows during low flow periods in summer.

Drought had a significant impact in the Mallee region. All sites had higher levels of flow stress during the drought compared with flow stress before the drought.



Sandilong Creek. Courtesy MCMA

Vegetation

Streamside vegetation was assessed at 73 reaches across the Mallee region. Of these, only one reach (reach 2 on the River Murray) was in excellent condition. The majority (59% or 43 reaches) were in good condition and the remainder were either in moderate (34% or 25 reaches) or poor (6% or four reaches) condition.

Sixty-five reaches were assessed in the Mallee basin, where the condition of streamside vegetation ranged from excellent to poor. Thirty-eight reaches (58%) were in good condition, 22 reaches (34%) were in moderate condition and four reaches (20, 45, 79 and 81) were in poor condition. The low scores were attributed predominantly to narrow, fragmented streamside vegetation, while the moderate and good scores reflected diverse streamside vegetation and the absence of willows.

Six reaches in the Avoca catchment and two reaches in the Wimmera catchment were assessed as part of the Mallee region. Scores were either moderate or good.

Physical Form

The physical condition of 73 reaches was assessed as part of the Mallee region. The majority (67% or 49 reaches) were in moderate condition. The remainder ranged from poor (eight reaches or 11%) to good (12 reaches or 16%) and excellent (four reaches or 6%).

Of the 73 reaches assessed, 64 were located in the Mallee basin. Three-quarters (72% or 46 reaches) of the basin's reaches were in moderate condition and only two reaches, reach 1 on the River Murray and reach 46 on an unnamed creek, were in excellent condition. Six reaches (9%) were classified as poor, the worst being reaches 57 and 69 on Sandy Creek and Lindsay River respectively - both scored poorly for all parameters. Notably, with the exception of reaches 46, 47 and 81, all of the reaches assessed in the Mallee basin were affected by downstream fish barriers.

Six reaches in the Avoca catchment and two reaches in the Wimmera catchment were assessed as part of the Mallee region. Of the six reaches in the Avoca basin, two were in excellent condition (Tyrell Creek reach 24 and Parnee Malloo Creek reach 26), two were in good condition (Lalbert Creek, reach 22 and River Murray, reach 25) and two in moderate condition (Lalbert Creek reach 21 and Tyrell Creek reach 23).

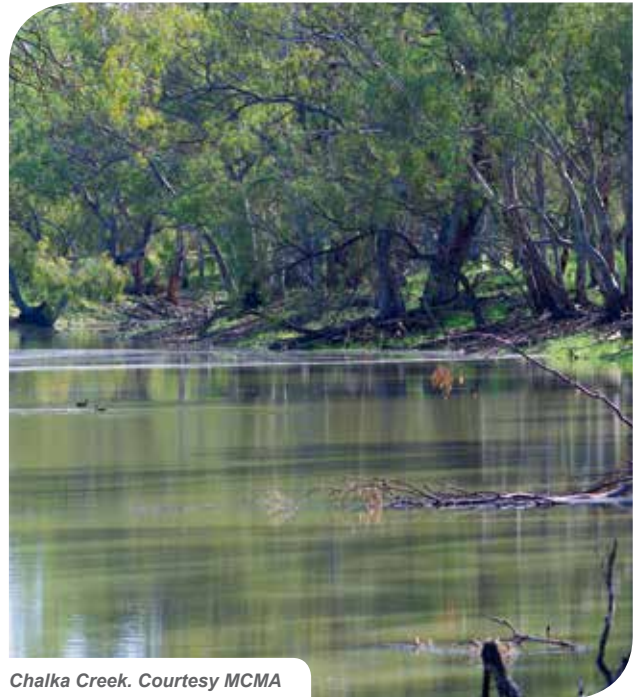
Sandilong Creek. Courtesy MCMA



In the Wimmera basin, reach 24 on Yarriambiack Creek was in poor condition, attributed to major downstream fish barriers and the absence of instream woody habitat, and reach 91 on Outlet Creek was in moderate condition.

Aquatic Life

No data was available for aquatic life in the Mallee region.

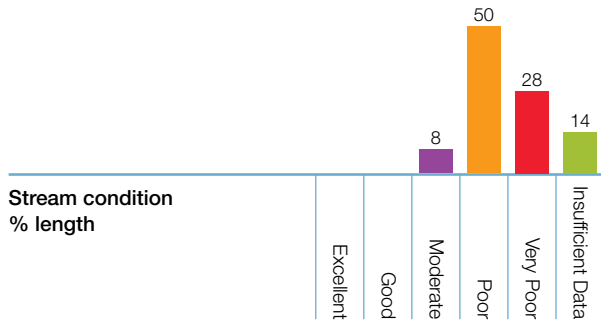


Chalka Creek. Courtesy MCMA

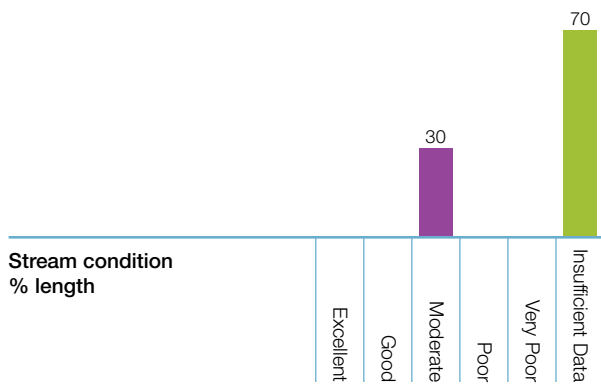


Narcooyia Creek. Courtesy MCMA

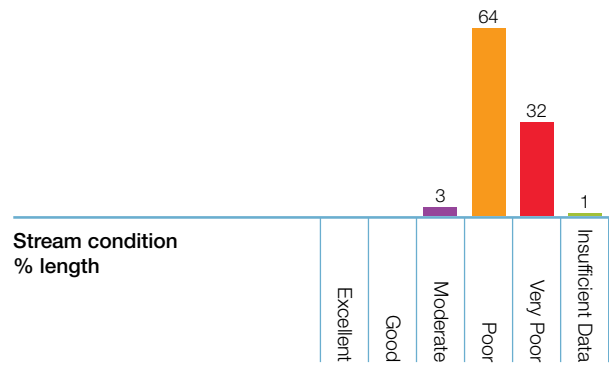
/ Mallee Region



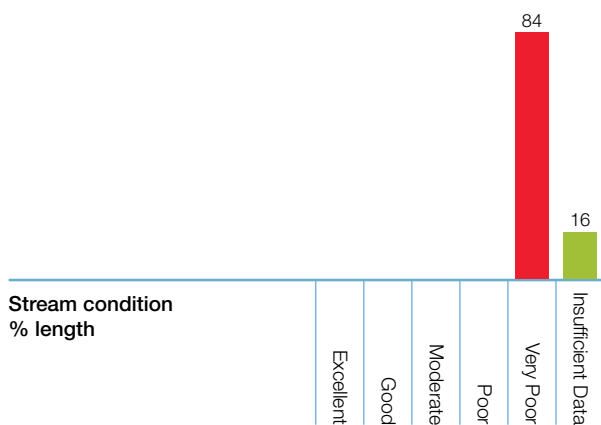
/ Avoca



/ Mallee



/ Wimmera



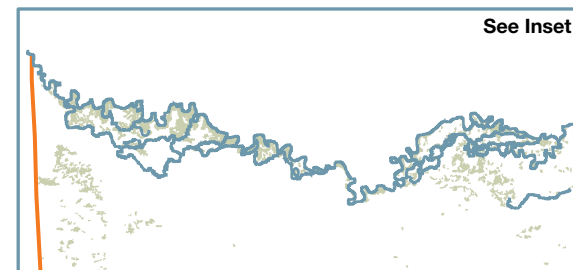
Environmental Condition



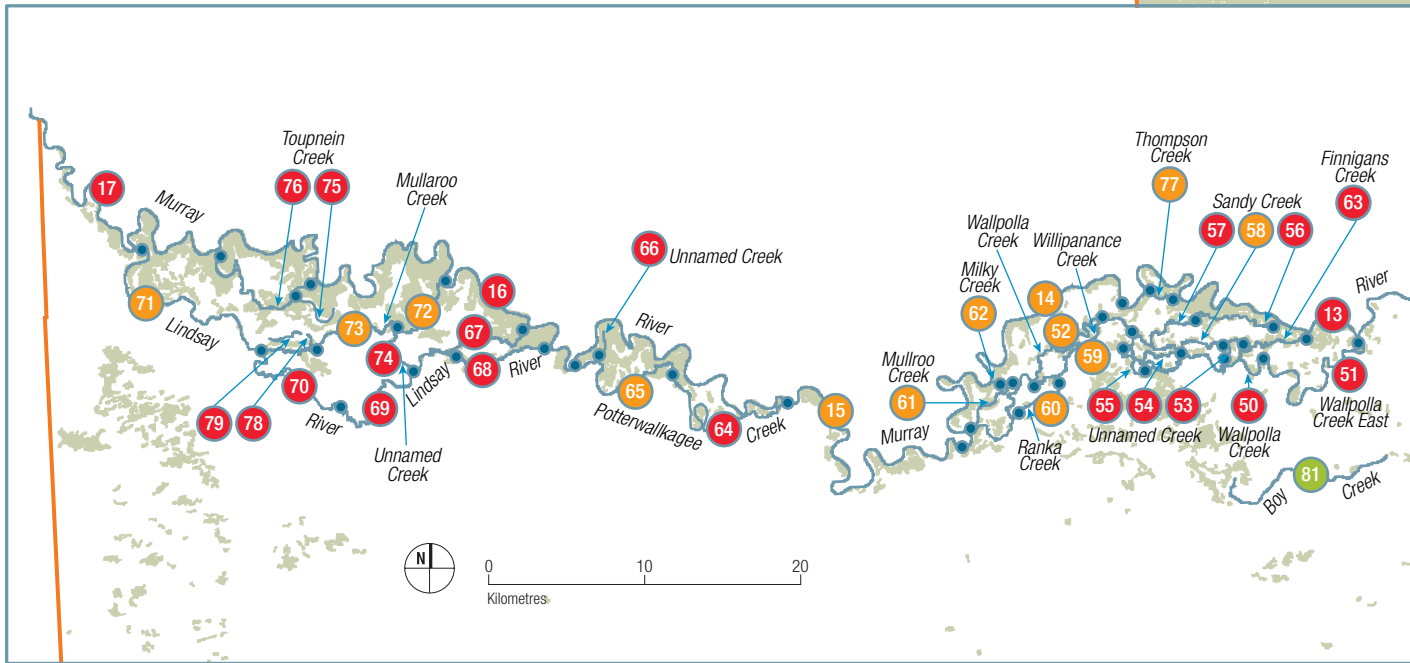


Mallee

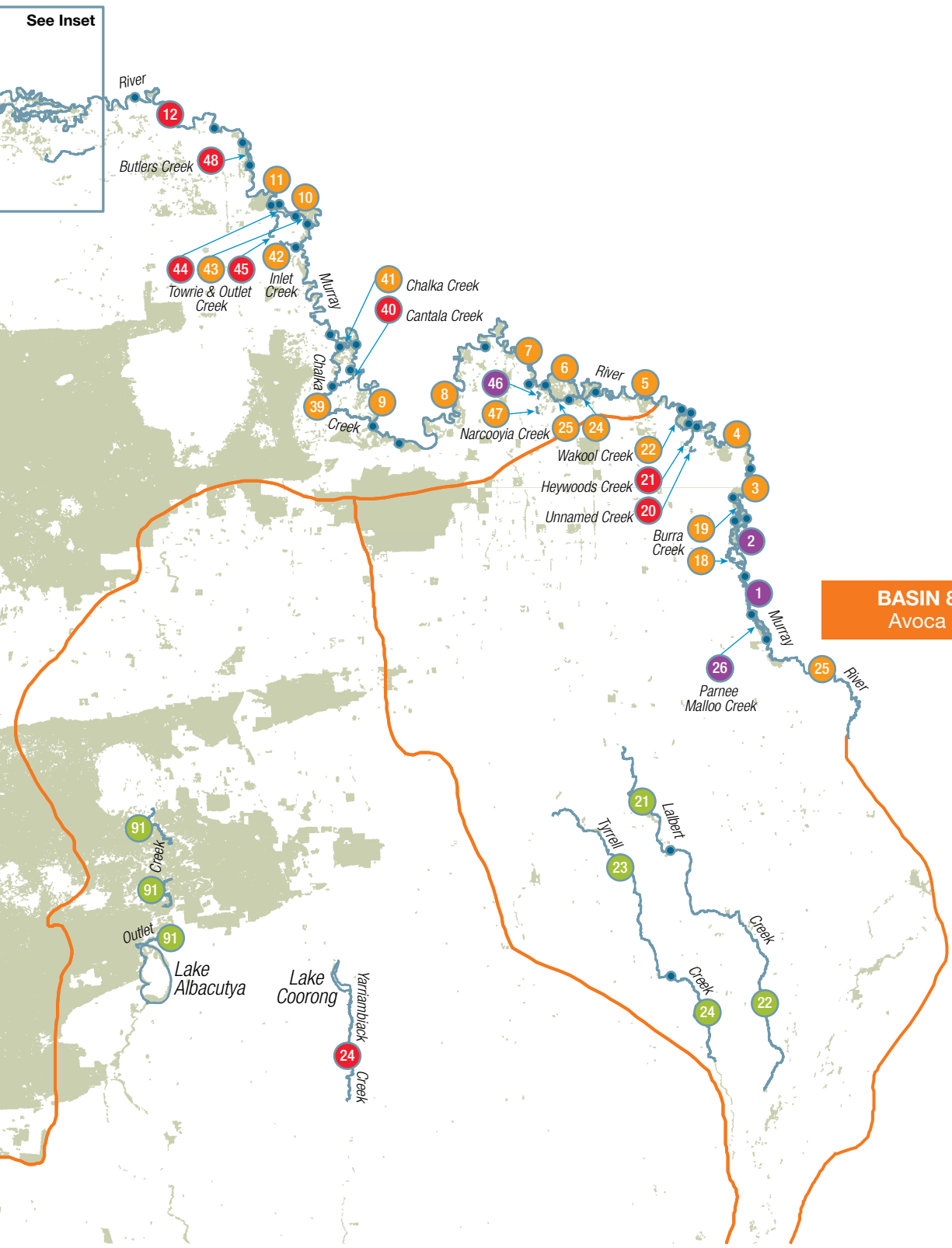
- / Avoca – basin 8 (part)
- / Mallee – basin 14
- / Wimmera – basin 15 (part)



BASIN 14
Mallee



BASIN 15
Wimmera



BASIN 8
Avoca

- Environmental Condition**
- Excellent
 - Good
 - Moderate
 - Poor
 - Very Poor
 - Insufficient Data
 - Reach Division
 - Forest (uncleared)
 - 10 Reach number

Index of Stream Condition

/ Avoca Basin

Basin	Reach	Reach Length (Km)	River	Hydrology	Physical Form	Streamside Zone	Water Quality	Aquatic Life	ISC Score	Condition
8	21	34.2	Lalbert Creek		5	7				Insufficient Data
8	22	84.8	Lalbert Creek		7	7				Insufficient Data
8	23	30.3	Tyrrell Creek		5	6				Insufficient Data
8	24	30.4	Tyrrell Creek		10	8				Insufficient Data
8	25	61.1	Murray River ¹	2	8	6	8		25	Moderate
8	26	17.3	Pamee Malloo Creek ¹	2	9	7			25	Moderate

/ Mallee Basin

Basin	Reach	Reach Length (Km)	River	Hydrology	Physical Form	Streamside Zone	Water Quality	Aquatic Life	ISC Score	Condition
14	1	19.4	Murray River ³	2	9	7	8		28	Moderate
14	2	18.8	Murray River ³	2	8	10	6		27	Moderate
14	3	21.1	Murray River	2	5	8	7		23	Poor
14	4	38.4	Murray River	2	5	8			21	Poor
14	5	47.7	Murray River	2	5	7			21	Poor
14	6	32.4	Murray River	2	4	8			20	Poor
14	7	46.0	Murray River	2	5	8			21	Poor
14	8	60.9	Murray River	2	5	8			21	Poor
14	9	62.9	Murray River	2	5	7			21	Poor
14	10	71.0	Murray River	2	5	7			21	Poor
14	11	38.5	Murray River	1	5	7	8		21	Poor
14	12	38.3	Murray River	1	5	7			17	VPoor
14	13	46.7	Murray River	1	5	7			17	VPoor
14	14	29.7	Murray River ³	1	5	8	6		20	Poor
14	15	51.3	Murray River ³	1	5	7	6		20	Poor
14	16	35.0	Murray River	1	5	7			17	VPoor
14	17	46.0	Unnamed Creek	1	5	7			17	VPoor

¹ Used hydrology result from 2004 ISC ³ Only 1 year water quality data available

Basin	Reach	Reach Length (Km)	River	Hydrology	Physical Form	Streamside Zone	Water Quality	Aquatic Life	ISC Score	Condition
14	18	27.6	Burra Creek	2	7	7			22	Poor
14	19	16.0	Burra Creek	2	7	7			22	Poor
14	20	2.5	Unnamed Creek	2	5	4			17	VPoor
14	21	5.0	Heywoods Creek	2	6	5			18	VPoor
14	22	8.5	Wakool Creek	2	6	6			21	Poor
14	24	9.3	Narcooyia Creek	2	5	8			21	Poor
14	25	9.3	Narcooyia Creek	2	6	8			22	Poor
14	39	42.2	Chalka Creek	2	6	7			21	Poor
14	40	8.3	Cantala Creek	2	5	5			18	VPoor
14	41	9.0	Chalka Creek	2	6	7			21	Poor
14	42	6.0	Inlet Creek	2	7	6			21	Poor
14	43	4.0	Towrie And Outlet Creek	2	7	5			21	Poor
14	44	6.2	Towrie And Outlet Creek	2	5	5			18	VPoor
14	45	11.5	Towrie And Outlet Creek	2	5	3			14	VPoor
14	46	2.1	Unnamed Creek	2	9	6			24	Moderate
14	47	1.7	Unnamed Creek	2	8	6			22	Poor
14	48	5.2	Butlers Creek	1	5	6			16	VPoor
14	50	18.3	Wallpolla Creek	1	5	7			17	VPoor
14	51	17.2	Wallpolla Creek (East)	1	6	5			16	VPoor
14	52	20.4	Wallpolla Creek	1	6	7			20	Poor
14	53	3.9	Unnamed Creek	1	7	5			17	VPoor
14	54	4.2	Unnamed Creek	1	5	7			17	VPoor
14	55	4.4	Unnamed Creek	1	5	5			16	VPoor
14	56	8.0	Sandy Creek	1	5	5			16	VPoor
14	57	7.5	Sandy Creek	1	3	6			13	VPoor
14	58	7.2	Sandy Creek	1	6	7			20	Poor
14	59	9.7	Willipanance Creek	1	6	7			20	Poor

/ Mallee Basin

Basin	Reach	Reach Length (Km)	River	Hydrology	Physical Form	Streamside Zone	Water Quality	Aquatic Life	ISC Score	Condition
14	60	5.1	Ranka Creek	1	6	7			20	Poor
14	61	4.6	Mullroo Creek	1	6	8			20	Poor
14	62	1.8	Milky Creek	1	6	8			20	Poor
14	63	7.7	Finnigans Creek	1	5	6			16	VPoor
14	64	16.2	Potterwalkagee Creek	1	5	5			16	VPoor
14	65	11.5	Potterwalkagee Creek	1	6	7			20	Poor
14	66	2.3	Unnamed Creek	1	5	5			16	VPoor
14	67	12.5	Lindsay River	1	4	7			16	VPoor
14	68	9.5	Lindsay River	1	4	7			16	VPoor
14	69	11.8	Lindsay River	1	3	6			13	VPoor
14	70	10.3	Lindsay River	1	4	7			16	VPoor
14	71	17.4	Lindsay River ³	1	5	7	6		20	Poor
14	72	6.9	Mullaroo Creek	1	6	7			20	Poor
14	73	12.1	Mullaroo Creek	1	6	8			20	Poor
14	74	4.4	Unnamed Creek	1	7	5			17	VPoor
14	75	6.3	Toupnein Creek	1	5	5			16	VPoor
14	76	10.9	Toupnein Creek ³	1	5	7	5		19	VPoor
14	77	3.4	Thompson Creek	1	7	6			20	Poor
14	78	1.7	Unnamed Creek	1	5	6			16	VPoor
14	79	2.6	Unnamed Creek	1	5	3			12	VPoor
14	81	13.8	Boy Creek		7	4				Insufficient Data

³ Only 1 year water quality data available

/ Wimmera Basin

Basin	Reach	Reach Length (Km)	River	Hydrology	Physical Form	Streamside Zone	Water Quality	Aquatic Life	ISC Score	Condition
15	24	43.1	Yarriambiack Creek	3	3	6			18	VPoor
15	91	8.2	Outlet Creek		3	7				Insufficient Data



Lake Labert. Courtesy MCMA