

4. *Water Resources And Utilisation*

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Water resources

Surface Water

The major hydrological feature of the study area is the Goulburn River and its tributaries. The river originates on the northern slopes of the Great Dividing Range and flows in a generally westerly direction through the Shire of Yea before turning northwards near Seymour and continuing to the Murray River. The catchment of the river is bounded in the south by the Yarra and Thomson River catchments, in the west by the Campaspe River catchment and in the north by the catchment of the Broken River (Figure 4.1).

The Goulburn River arises in mountainous forested terrain near Woods Point and is harvested by Lake Eildon for use in the extensive Goulburn and Loddon irrigation areas, particularly around Shepparton, Stanhope, Pyramid Hill and Boort. Water from the Goulburn can also be delivered via a network of channels to the Wimmera and Mallee regions of Western Victoria.

Lake Eildon is, after Lake Dartmouth in the north-east of the State, the second-largest water storage in Victoria. Apart from its main purpose as an irrigation storage, Lake Eildon is also an important recreation destination for both local population and visitors from other areas, principally Melbourne.

Lake Eildon and that part of its catchment which falls within the boundary of the study area have been excluded from consideration in this discussion of water resources and utilisation. It is felt that the vast range of issues associated with this storage are important enough to warrant a separate study. The area would best be addressed as part of an Upper Goulburn Region study examining the Goulburn River catchment above the township of Eildon.

Lake Negambie, which is formed by the Goulburn Weir, is outside the study area and, like Lake Eildon, is a key element of the Rural Water Commission's irrigation and domestic/stock supply system.

The Goulburn River passes through four shires. A description of sections of the river and its tributaries within each shire is as follows:

Shire of Alexandra

To the north, the Goulburn Valley is bounded by the Strathbogie Ranges, exhibiting characteristic plateau formations up to 900 m in elevation and steep scarps. From the south, the Acheron and Murrindindi Rivers flow from the moderately steep Cathedral Range which rises to elevations of about 800 m.

The Royston and Upper Rubicon Rivers drain a plateau area at 1200 m and before their confluence, drop through steep-sided gorges. The Rubicon emerges abruptly onto its alluvial plain, and flows in a north west direction to join the Goulburn near Thornton.

The streams which drain the northern part of the shire have formed a very different landscape. These streams are bounded by the Black Range to the west and the Puzzle Range to the east.

Home Creek its tributaries, the Middle and Godfreys Creels, rise on the Black Range which forms the scarp of the Strathbogie Plateau.

Spring Creek, Johnson Creek and UT Creek flow roughly parallel to Home Creek, rising on the highly dissected Puzzle Range. All of these streams flow in a south-west direction over broad alluvial plains to their confluence with the Goulburn River.

Shire of Yea

The Yea River is the principal northward flowing tributary of the Goulburn River in the Shire. It is confluent with Murrindindi River on O'Connors Flat, just north of Murrindindi Homestead. The catchment of the Yea River is bounded to the south by the Yarra River catchment, to the west by the catchment of King Parrot Creek and to the east by the catchment of the Acheron River. The river rises in mountainous, forested terrain, and, not being regulated to any extent, is subject to flooding. The

catchment area of the Yea River at Devlins Bridge on the Lilydale-Yea Road is about 356 sq km, and the catchment area of the Murrindindi River at Murrindindi above Colwells is some 100 sq km.

King Parrot Creek is a northward flowing tributary of the Goulburn River and constitutes in part the western boundary of the Shire of Yea. The catchment of King Parrot Creek is bounded to the south by the catchment of the Yarra River, to the east by the catchment of Sunday Creek and to the west by the catchment of the Yea River. The creek originates in the Mt Disappointment area (elevation 600-900 m) and is also subject to flooding. The catchment area of King Parrot Creek at Strath Creek is some 384 sq km.

Hughes Creek rises to the north of the Shire of Yea and flows in a generally north-westerly direction, passing close to Avenel and joining the Goulburn River approximately mid-way between Seymour and Negambie. The creek rises in the Strathbogie Ranges, and has a catchment area of some 466 sq km, at Tarcombe Road. Stewarts Creek, Boundary Creek and Woolshed Creek, which are either partially wholly located within the Shire of Yea, are tributaries of Hughes Creek.

Shires of Seymour and Broadford

The topography of the catchments of the Seymour and Broadford Shires can be divided into four areas; the relatively steep ranges to the south in the Mt Disappointment – Mt Tallarook area, rolling hills to the west between Kilmore and Pyalong, the broad flat Goulburn Valley running through the centre and the rounded Strathbogie Ranges to the north-east.

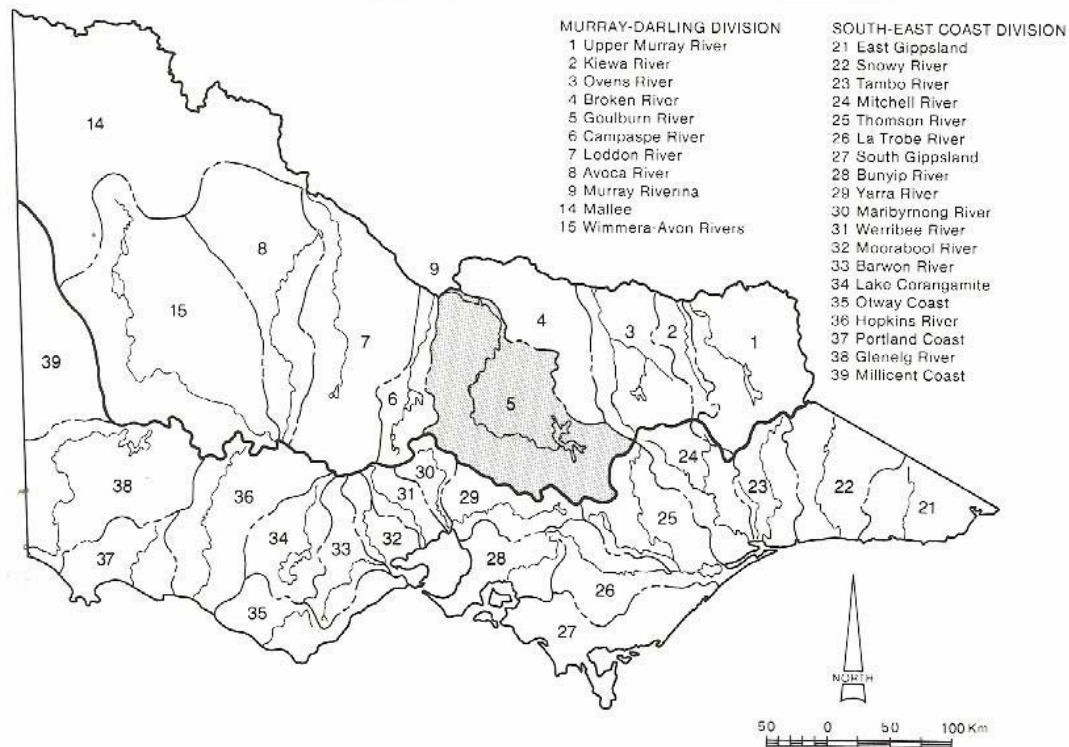


Figure 4.1 Drainage divisions and basins of Victoria.

The south east section of the Goulburn Valley is flanked by the Goulburn Gorge. Here slopes are very steep leading up to the Tullarook Ranges to the south-west (Mt Tallarook 805 m) and Mt Eaglehawk (520 m) to the north-east.

The Goulburn Valley opens out again downstream of Tallarook where the river flows through broad alluvial plains to the northern shire boundary.

The major southern tributaries of the Goulburn form the Sunday Creek system which has its confluence with the Goulburn at Seymour.

Sunday Creek rises on the Mt Disappointment plateau and flows through steep forested country before emerging onto flatter farming land. From here to Seymour, it follows a northerly course on cleared alluvial plains. Flowing roughly parallel to Sunday Creek is Sugarloaf Creek whose tributaries rise in the Great Dividing Range between Kilmore and Mt William (807 m). These ranges have gently rolling relief, compared to the steep country in the Sunday Creek headwaters.

Sunday and Sugarloaf Creeks are separated for most of their lengths by a narrow flat-topped divide.

The Mollisons Creek forms the major tributary to Sugarloaf Creek, rising on Taylors Hill (620 m) in the Cobaw Ranges and flowing in an easterly direction through rolling hills to Pyalong, then through a flat alluvial valley to its confluence with the Sugarloaf.

Stony Creek and Sheepwash Creek are two minor tributaries of the Goulburn, rising in the hills east of Puckapunyal. Stony Creek flows in an easterly direction through rolling hills, whilst Sheepwash Creek quickly emerges into a broad flat alluvial basin, flowing easterly to its confluence with the Goulburn.

Mill Creek and Falls Creek rise on the Tallarook Ranges and follow steep gradients before emerging on the Goulburn floodplain near Tallarook and Trawool respectively.

Dabyminga Creek is a northward flowing tributary, rising in dissected forested land north of the Mt Disappointment plateau and following a steep sided valley to Tallarook to its confluence with the Goulburn.

Whiteheads Creek is an intermittent stream running through a broad basin to its confluence with the Goulburn at Seymour. Back Creek, its main tributary, flows parallel to it, and is separated by a low line of rounded hills. Whiteheads Creek's other tributaries drain the northern slopes of Mt Eaglehawk in a parallel pattern.

Parts of the catchments of the Mollison, Sugarloaf and Sunday Creeks are contained within the Shires of Kilmore and Pyalong.

Hydrology Statistics

Details of catchment area, annual discharges and instantaneous maximum flow recorded at current stream gauging stations are given in Table 4.1. Current (active) Stations are marked on Figure 4.2.

The total catchment area for that part of the study area below Eildon is approximately 5,071 sq km derived as follows;

Catchment upstream of Mitchellstown	8982
Catchment upstream of Eildon	-3911
Catchment Eildon to Mitchellstown	5071 sq km

Surface Water Quality

The factors characterising water quality include temperature, hardness, turbidity, levels of dissolved oxygen, colour, organic matter content, bacterial contamination and the concentration of total dissolved solids (TDS). The last measure listed is the most commonly used indicator of the chemical quality of water and serves as a means of comparing water quality in different streams. Table 4.2 illustrates how high TDS levels limit the uses to which water can be put. In general, 1,000 milligrams per litre (mg/L) TDS is the upper limit for water for domestic use, while under certain conditions sheep can tolerate up to 16,000 mg/L.

Table 4.1 Hydrology Statistics for Current Stream Gauging Stations.

Stream	Station	Station Number	Commenced Records	Annual Discharges (ML)			Instantaneous Maximum flow ML/d (Year)	Catchment Area (Sq.km)
				Maximum	Minimum	Mean		
Acheron River	Taggerty	405209	1945	850,000	1,220	328,700	11,000 (1974)	619
Goulburn River	Seymour	405202	1957	4,810,000	1,800,000	2,578,400	105,000 (1974)	8,601
Goulburn River	Eildon	405203	1916	4,140,000	711,000	1,633,100	196,000 (1916)	3,900
Hughes Creek	Tarcombe Rd	405228	1958	174,000	18,100	78,990	29,200 (1975)	471
King Parrot Creek	Flowerdale	405231	1961	78,200	12,600	34,150	12,100 (1971)	184
Murrindindi River	Above Colwells	405205	1939	125,000	32,400	57,907	5,020 (1959)	101
Rubicon River	Rubicon	405241	1922	309,000	55,800	135,572	11,300 (1958)	129
Snobs Creek	Snobs Ck Hatchery	405257	1974	53,300	25,300	35,400	2,630 (1975)	54
Spring Creek	Fawcett	405261	1973	18,100	3,150	10,800	7,710 (1979)	67
(Colonial Creek)	Ash Bridge	405240	1966	158,000	10,100	65,060	42,700 (1978)	609
Sugarloaf Creek	Tallarook	405212	1945	70,300	10,900	32,737	26,000 (1974)	337
Sunday Creek	Devilins Bridge	405217	1954	316,000	40,200	109,140	21,500 (1974)	360
Yea River								

ML = Megalitre = One million litres

ML/d = Megalitres per day

Sq.km = Square kilometres

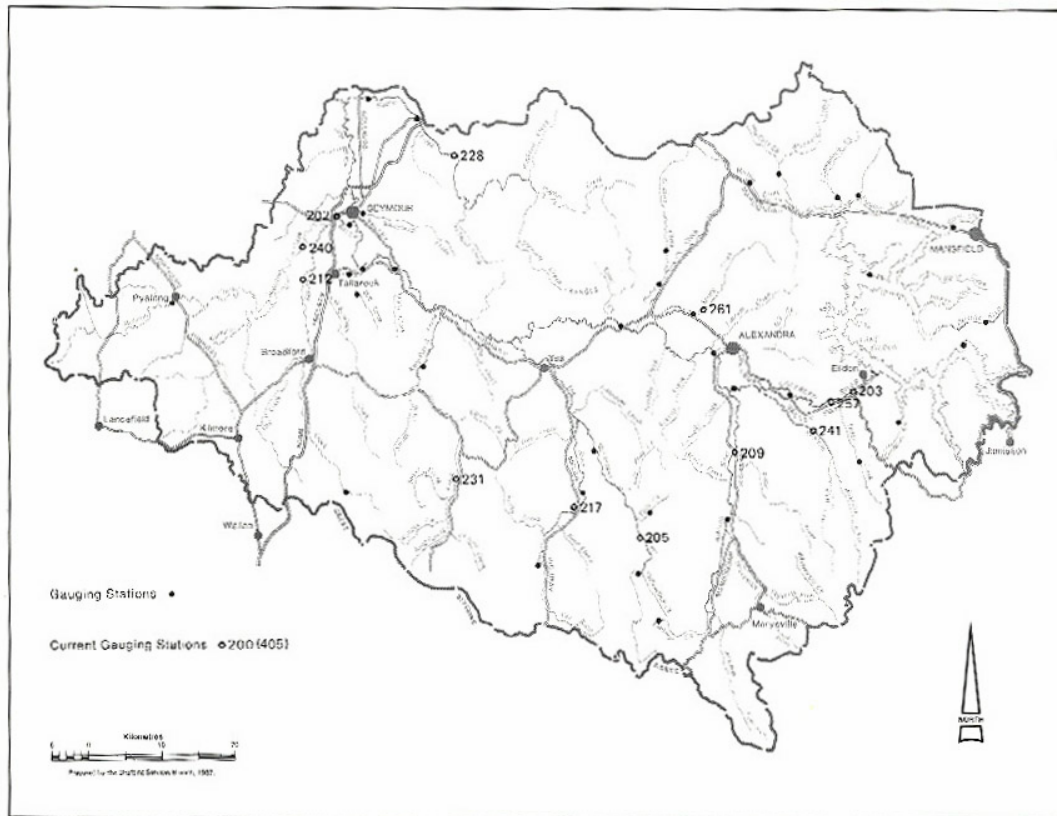


Figure 4.2 Current (active) gauging stations within the study area

Table 4.2 Water Salinity and its Effect on Application.

Salinity (mg TDS per litre)	Usage
Less than 1,000	Commonly suitable for domestic and industrial use and for livestock and irrigation. The limit for vegetable production is about 1,000 mg per L. (The salinity of Melbourne's water is 100 mg per L; Adelaide's is 300 mg per L).
1,000 - 3,000	Brackish water. Maximum salinity humans can normally tolerate is around 2,000 mg per L. The threshold salinity for most plants is 3,000 mg per L. This water is suitable for all livestock and some domestic and limited industrial uses. Use for irrigation is possible under favourable conditions.
3,000 - 7,000	Increasingly brackish water. Suitable for most livestock (poultry up to 3,500; pigs up to 4,500; horses, ewes with lambs and dairy cattle, up to 6,000 mg per L), but very limited for domestic and industrial purposes.
7,000 - 16,000	Salty water, Beef cattle will tolerate up to 10,000 mg per L. The maximum for sheep on green pasture is 16,000 mg per L.
More than 16,000	Unsuitable for livestock.
35,000	Sea water.

Within the Shire of Alexandra, water quality in the southern tributaries of the Goulburn is good, with low salinity readings in all streams; Rubicon River at Rubicon – 19 mg/L; Acheron River at Taggerty – 33 mg/L; Snobs Creek at the Hatchery – 24 mg/L. In the northern part, however, stream salinity increases due to low summer flows, clearance of upper catchments and the rock type forming the catchments. An example is Spring Creek (Colonial Creek) at Fawcett – 212 mg/L. The Goulburn River itself has good quality water with salinity generally less than 130 mg/L.

Water quality is currently measured at three stations within the shire of Yea; King Parrot creek at Flowerdale – 61 mg/L, Murrindindi River above “Colwells” – 32 mg/L and Yea River at Devlin's Bridge – 56 mg/L. Again these southern tributaries of the Goulburn have low salinity.

Within the Shire of Seymour water quality measurements are made on four streams; the Goulburn at Seymour, Hughes Creek at Tarcombe Road, Sugarloaf at Ash Bridge and Sunday Creek at Tallarook.

Sugarloaf and Sunday Creek have the poorest water quality with mean salinities of 666 mg/L and 585 mg/L respectively. Groundwater in these catchments, particularly that derived from sedimentary bedrock, is also prone to high salinity levels; as shown by numerous areas affected by dryland salting.

Increased salinity of aquifers has caused a deterioration of both surface and groundwater supplied, and is a major factor in gully initiation in tributary streams, particularly in the Sunday Creek catchment.

Salinity levels in Whiteheads and Bucklands Creek are likely to be very high as large areas adjacent to streams in these catchments are affected by dryland salting. Extremely saline groundwater has been sampled close to the surface in the Bucklands Creek catchment.

Hughes Creek, the catchment of which is predominantly on granite, has less of a salinity problem. Readings for salinity at Tarcombe Road average 210 mg/L. Bacterial contaminant levels are high after heavy storms, especially those following long, dry spells.

Water quality in both the Mill and Falls Creeks is very good. Part of Seymour's domestic water supply is drawn from a small reservoir on Falls Creek near Trawool.

The most commonly used indicator of disease-causing organisms (pathogens) in water is *E. coli*. These organisms themselves do not usually pose a health risk, however, because they naturally inhabit the gut of birds, humans and other warm blooded animals, their presence in water indicates that excrement from these sources has recently polluted the water and that pathogens may also be present.

The upper catchments, especially Mollisons and Dry Creeks, often record high *E. coli* counts.

Water quality data is recorded regularly at twelve stream gauging stations (Table 4.1). The data recorded is temperature, pH, dissolved oxygen, turbidity and salinity. Salinity details are given in Table 4.3.

Table 4.3 Maximum and Minimum stream salinity readings.

Stream	Station	Commenced Records	Stream Salinity (mg/L TDS)			Mean	
			Max TDS	Flow (MI/d)	Min. TDS		Flow (MI/d)
Acheron River	Taggerty	1975	255	181	15	390	33
Goulburn River	Seymour	1976	230	2,220	36	8,670	75
Goulburn River	Eildon	1975	114	125	21	4,600	43
Hughes Creek	Tarcombe Road	1976	314	75	110	1,810	208
King Parrot Creek	Flowerdale	1975	202	22	20	13	61
Murrindindi River	Above (Colwells)	1975	81	173	15	85	32
Rubicon River	Rubicon	1975	167	102	7	150	19
Snobs Creek	Snobs Creek Hatchery	1975	190	29	15	152	24
Spring Creek	Fawcett	1975	320	1	56	2,950	224
(Colonial Creek)	Ash Bridge	1976	1,464	1	178	1,270	666
Sugarloaf Creek	Tallarook	1978	1,986	2	220	294	585
Sunday Creek	Devilins Bridge	1975	95	358	41	142	59

Approximate conversion – Electrical Conductivity $\mu\text{S}/\text{cm} = \text{TDS mg/L}$ divided by 0.60

Groundwater

The study area is largely composed of Palaeozoic sedimentary and igneous rocks and groundwater resources are generally limited, with bore yields typically less than 10 litres/second. Salinity ranges from 1000 to 3000 mg/L TDS and most of the water is suitable for irrigation and stock purposes.

There is a zone of high-yielding (bore yields > 10 L/sec), low salinity (TDS < 1000 mg/L) groundwater present in the alluvials of the Acheron River valley from Buxton to the river's confluence with the Goulburn, and in the Goulburn Valley alluvials between Eildon and Molesworth.

On the east side of the Acheron Valley lies the Cerberean Cauldron of rhyolite and rhyodacite lavas and associated ring dykes which have intruded the Palaeozoic sediments. The groundwater yields in this igneous suite are low. The water quality in the rocks and sediments on the eastern side of the Cauldron, however, have low salinity and are suitable for domestic use.

The bulk of the study area between Seymour and Lake Eildon and south to the Kinglake National Park has low yielding bores that are generally not suitable for domestic purposes although 1000 ML is authorised annually for extraction in the Yea-Flowerdale area.

Salinity of groundwater in the Puckapunyal-Pyalong district ranges from 3000 to 7000 mg/L TDS which is acceptable for most stock.

Water utilisation

Stream Diversions

There are no proclaimed irrigation areas in the study area. Landholders adjacent to streams may be authorised, under Section 204 of the Water Act (1958), to divert water for irrigation, domestic and stock or other purposes under diversion licences or permits issued by the Rural Water Commission (RWC).

In addition, some landholders bordering streams in the district may possess a riparian right which entitles them to divert water for domestic and stock use free of charge and without any authority from the Commission. As defined in Sections 7 and 14 of the Water Act (1958), riparian rights exist where the bordering stream has no crown frontages or surveyed boundaries.

There are 398 permits and licences issued for irrigation purposes in the study area. The combined volume authorised for diversion is 22,638 megalitres for the irrigation of 3,772 hectares.

Rivers and streams are generally fully committed to satisfying the needs of present diverters and no further permits authorising diversions for irrigation use are being issued.

If diverters on streams, other than the Goulburn River and major rivers and creeks, are prepared to conserve winter flows by constructing on-stream or off-stream storages, the RWC would issue a permit authorising irrigation of an area calculated on the basis of one hectare for each three megalitres of stored water. Construction of on-stream storage would only be permitted if summer flows were allowed to pass undiminished and if the structure complied with RWC requirements.

A total of 539 annual permits have been issued for domestic and stock use. As the name implies, a domestic and stock permit allows the permit-holder to divert water for supply to stock and for normal household purposes, including a garden. The total amount authorised to be diverted is 1,228 megalitres, although the actual volume would be much larger than this due to the existence of riparian rights on some streams.

Whilst, in the future, domestic and stock permits would not be refused to individual applicants, developers of large scale subdivisions may be required to provide water storage suitable to satisfy the domestic requirements of lot holders. This would ensure that existing authority holders are not disadvantaged by future urban development.

Nineteen permits have been issued for industrial use and another seventeen for miscellaneous purposes. The types of use allowed under these permits include gravel washing, log watering, sand washing, fish farming and road making. The total volume authorised is 1,379 megalitres.

Groundwater

To ensure the protection of the State's groundwater resources, the Victorian Groundwater Act (1969) provides that bore construction must be in accordance with a permit issued by the Department of Minerals and Energy. Any proposal to drill a bore for irrigation purposes is then referred to the Rural Water Commission for comment and determination of groundwater licence extraction conditions. Although domestic and stock bores do not need to be licenced, they must be registered with the Commission.

There are currently 45 bores licenced for irrigation purposes. The total authorised extraction volume is 4,079 megalitres for the irrigation of 770 hectares.

There are 250 bores registered for stock and domestic use. The amount of water allocated to each bore for domestic use is 1.25 megalitres (total 312.5 megalitres). Usage for stock would vary depending on the number and type of livestock involved. Bore yields vary from 0.04 ML/day to 2.0 ML/day with an average yield of 0.18 ML/day.

Three bores are licenced for the extraction of water for industrial purposes. The licences authorise a total extraction of 54 megalitres for recreation, sawmilling and mineral water purposes.

Urban Water Supplies

Twelve towns are provided with an urban water supply and, in some cases, supplementary ground water bores are also required. Details of the towns, populations, treatment etc. are provided in Table 4.4.

Catchment management

River Management Boards

The majority of the study area is covered by River Management Boards (formerly River Improvement Trusts) as shown on Figure 4.3. These River Management Boards, which are outlined below, were established under the provisions of the River Improvement Act (1958) and are responsible for stream management and erosion control works within their constituted districts, under the general supervision of the Rural Water Commission.

1. The Mid-Goulburn Rivers Management Board was constituted in 1985 and encompasses the former districts of the King Parrot Creek Improvement Trust (constituted 1966) and the Shire of Seymour River Improvement Trust (constituted 1963) and has also been extended to include the whole of the area of the Shire of Broadford.

Master Plans for future management strategies (Gutteridge *et al.* 1984, and Drummond *et al.* 1984), prepared by consultants for both former trusts contain much detailed information about the condition of waterways and catchments in these areas. Briefly, the most serious degradation has been identified as:

- severe siltation in Hughes Creek;
- streambank erosion, slumping and sand and gravel deposition in King Parrot Creek;
- gullyng in Kangaroo Creek and Hughes Creek tributaries;
- bank erosion and channel widening and deepening in Carvers and Strath Creeks;
- dryland salting along the banks of Whiteheads and Bucklands Creek, and
- generally poor environment values throughout the Goulburn River tributaries.

Table 4.4 Source and Treatment of Urban Water Supplies for Towns within the Alexandra Region.

Authority	Towns Served	Source	Population Served	Treatment C – Chlorination F – Filtration
Alexandra Shire	Alexandra	Goulburn River	2,000	C
Broadford Water Board	Thornton	Rubicon River	150	
	Broadford	Sunday Creek	2,000	-
Kilmore Shire	Kilmore	Sunday Creek	4,000	-
	Wandong/Heathcote Junction	Sunday Creek	1,000	-
Marysville Water Board	Wallan	Sunday Creek	1,500	-
	Marysville	Steavenson River	600	C
Pyalong Water Board	Pyalong	Mollison Creek	200	C
	Seymour Water Board	Supplementary Bore		
Seymour Water Board	Seymour	Goulburn River	9,000	F & C
	Tallarook	Falls Creek		
Yea Water Board	Avenel	Goulburn River	220	F & C
	Yea	Falls Creek		
Yea Water Board		Hughes Creek	370	-
		Supplementary Bore		
	Yea	Yea River	1,100	C

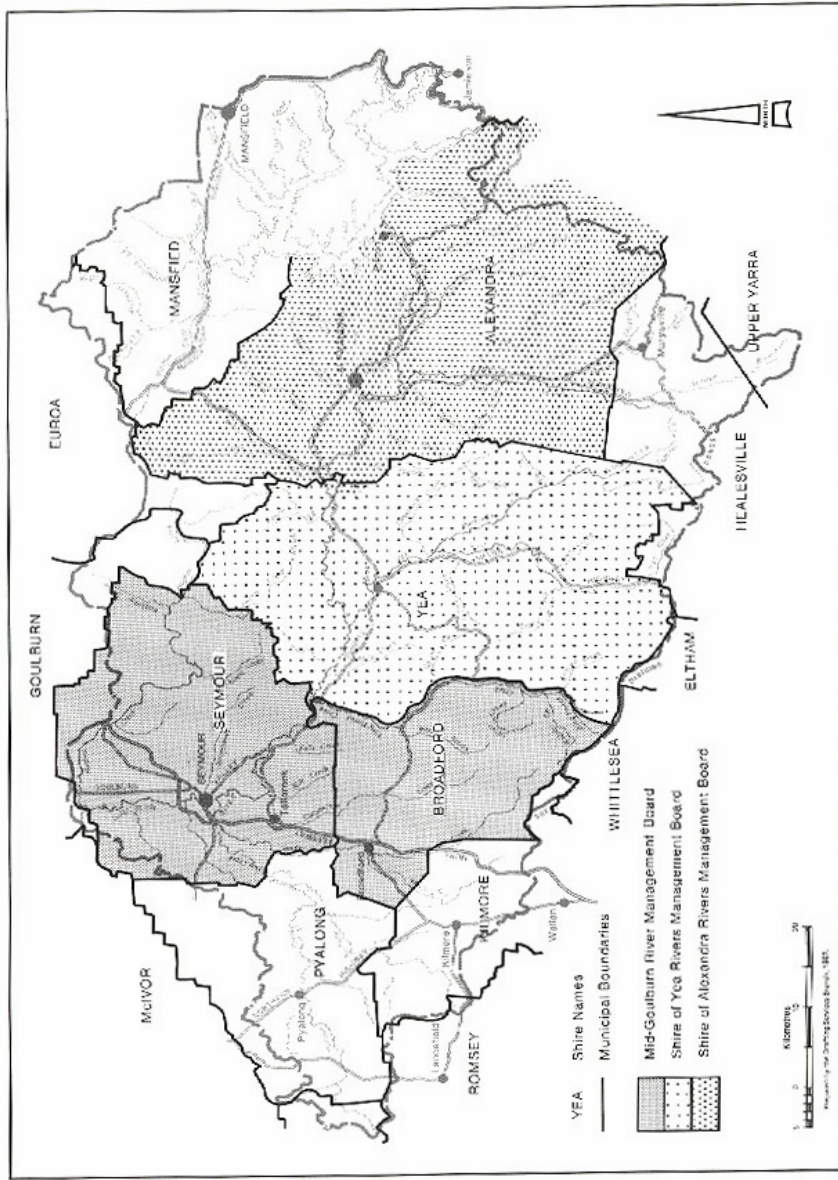


Figure 4.3 River Management Boards within the study area.

2. The Shire of Yea Rivers Management Board was recently established following legislation allowing a change of name from the Shire of Yea River Improvement Trust. The original body was instituted in 1973 with the objective of controlling erosion and reducing flooding along the Goulburn River and tributary streams within the whole of the Shire of Yea with the exception of land draining to the King Parrot Creek.

A master plan (Willing *et al.* 1985) (commissioned by the former Trust) has also been produced for this area and gives a large amount of detail concerning stream and catchment management problems. Major problems include:

- bank and gully erosion along the Goulburn and Yea Rivers and their tributaries, notably Mountain, Stony, Spring, Break O'Day, Ti Tree, Rellimeiggam, Native Dog and Limestone Creeks;
- minor bank erosion and washways on other tributaries including Dairy, Ti Tree, Boundary, Rocky and Boggy Creeks;
- restricted channel capacity which leads to flooding on the Yea River and on Home Creek.

3. The Shire of Alexandra Rivers Management Board was also recently established following a change of name from the Shire of Alexandra River Improvement Trust. The Trust, which encompasses the whole of the Shire of Alexandra, was constituted in 1963 and has also produced a comprehensive master plan (Drummond *et al.* 1984).

Stream management problems here are similar to those listed for the previous two Boards and include channel deepening, bank erosion, tributary gullying, debris blockages and flooding. Major watercourses in the area include the Goulburn River and its smaller tributaries (Godfrey, Middle, Home, Spring, Johnson, UT, Snobs and Crystal Creeks), Acheron River and tributaries (Steavenson and Little Rivers, Swamp and Connelly Creeks), and the Rubicon River and its tributaries.

The Master Plans prepared for each of the above areas give detailed descriptions of all factors involved in the management of the respective catchments and their streams. The Master Plans have been examined by both the Rural Water Commission and the Department of Conservation, Forests and Lands.

Flood Plain Management

The Rural Water Commission (RWC) is the constituted drainage authority for rural Victoria. In discharging this responsibility, the RWC:

- develops floodplain management strategies, in consultation with local advisory committees;
- overviews the implementation of strategies by municipalities;
- provides advice to local planning bodies on matters relating to development on lands subject to flooding (eg. subdivision applications).

The major focus of the RWC's flood plain management activities in the study area has centred on the Goulburn River. One percent probability flood levels have been designated under the Drainage of Land Act (1975) for the reach of the Goulburn from Seymour to Shepparton, and for the township of Seymour encompassing the Goulburn River and Whiteheads Creek. A comprehensive flood plain management study (SR & WSCV 1984) of Seymour has been carried out by the RWC in close consultation with the municipality and other organisations. Arising from this study are proposals for flood mitigation works for the town. Flood level profiles for the reach from Eildon to Seymour have been calculated.

In addition, the RWC has gathered historical flood level information for the township of Yea which adjoins the Yea River. The lower reaches of the Merton, Brankeet and Doolam Creek flood plains have been mapped as part of the Shire of Mansfield Rural Land Mapping Project (1986).

The following is a summary list of flooding information held for this area:

Plans	Plan No.
(i) Eildon-Seymour	
- photobacked plans (9 sheets)	147148
- Goulburn River Survey, 1935, Eildon-Molesworth	30023-30025
- flood photography 1975	
- longitudinal 1% flood profile	
(ii) Seymour	
- designation of 1% flood levels, Goulburn River (3 sheets)	136010
- designation of 1% flood levels Whiteheads Creek	147316
- flood photography 1974	
(iii) Seymour-Shepparton	
- designation of 1% flood levels, Goulburn River (9 sheets)	141937
- Mitchellstown Weir Survey	18626-18628
- flood photography 1973	

Reports

- ❖ Seymour – A Report of Flooding from Goulburn River, 1981. (SR & WSCV 1981). Appendix F is a separate report: Lake Eildon, Effects on Flood Frequencies at Eildon.
- ❖ Seymour Flood Plain Management Study (SR & WSCV 1984).

Proclaimed Water Supply Catchments

At times, it is necessary to control certain land uses or land management activities within water catchments in order to protect the quality and quantity of water derived from the catchment. Proclamation of catchments is designed to meet these objectives and is achieved under the provisions of the Soil Conservation and Land Utilisation Act (1958) and the Land Conservation Act (1970).

Following proclamation, a land use determination investigation may be undertaken and this involves a detailed study of the catchment to evaluate existing soil erosion and other land use hazards, the potential for erosion, and to identify land uses and management methods which may conflict with water supply interests.

In some circumstances, catchments are closed to all uses other than water production, however, it is more usual for a system of multiple land use to be prescribed. These controls and the investigations leading to them are administered by the Land Protection Division (LPD) of the Department of Conservation, Forests and Lands.

To date there have been three catchments, proclaimed within the study area; two of these involving water supply to the town of Kilmore.

The first area proclaimed was the Lake Eppalock catchment in 1960, but only a small part of this catchment falls within the study area. (approx 40 sq km).

An area containing the catchments of two tributaries of the Sunday Creek (Hazel and Harpers Creeks), was proclaimed in 1963 to protect the quality of water reticulated to Kilmore. This catchment of 4.7 sq km had a follow-up land use determination made in 1965.

The Broadford Waterworks Trust and the Shire of Kilmore have resolved to jointly develop the water resources of Sunday Creek and have constructed a 1,700 ML reservoir to meet increasing demands on their systems. In order to protect the quality of water entering this reservoir, a 20 sq km area of the Sunday Creek catchment was proclaimed in 1984.

A 166 sq km area of the Mollison Creek catchment was proclaimed in March 1986. This proclamation will help protect and improve the quality of water supply to the township of Pyalong which draws its water from the creek.

The main consequence of a statutory proclamation of a catchment is that it requires the referral of certain land use developments to the LPD for comment. It also formally and publicly recognises that the primary function of the catchment is water supply.