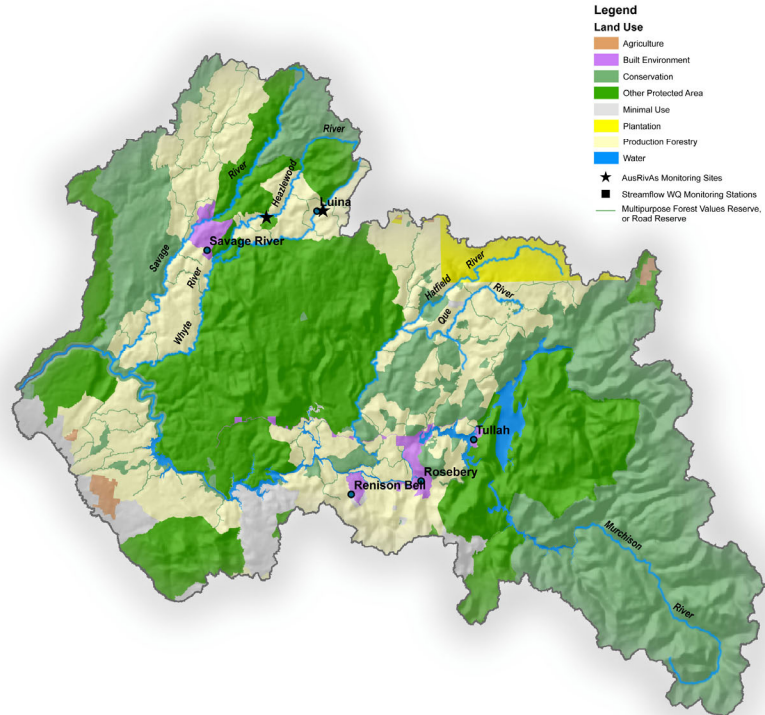


## Pieman Catchment

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### 1. About the catchment

The Pieman catchment drains a land mass of more than 4,100 km<sup>2</sup> stretching from about Lake St Clair in the Central Highlands west more than 90 km to Granville Harbour on the rugged West Coast of Tasmania. Major rivers draining the catchment are the Savage, Donaldson and Whyte rivers in the lower catchment, the Pieman, Huskisson rivers in the middle catchment and the Mackintosh, Murchison and Anthony rivers in the upper catchment.

Some of the highest rainfall in Tasmania occurs in this catchment (annual rainfall throughout the catchment is between 1,500 – 2,500 mm), and this has led to significant hydro-electric development. Major impoundments have been constructed on the Pieman River (Lake Pieman and Lake Rosebery), and higher up on the Mackintosh, Murchison and Anthony rivers.

The catchment also has a long history of mining; for iron ore at Savage River and for gold, copper, lead and zinc in the Rosebery area, and pollution from these activities continues to affect waterways in this catchment. Forest harvesting also occurs in the northern sections of the catchment, and all of the catchment above Lake Murchison and north to Cradle Mountain lies within the Tasmanian Wilderness World Heritage Area.

## 2. River Health

The Australian River Assessment System (AUSRIVAS) is a standardised national system for assessment of river condition that uses benthic macroinvertebrates.

The AUSRIVAS models predict the aquatic macroinvertebrate fauna that would be expected to occur at a site in the absence of environmental stress such as pollution, habitat degradation or flow regulation. A comparison of the macroinvertebrates expected to occur at the test site with those actually collected (O/E ratio) provides a site specific measure of the biological impairment of the test site. Further details about AUSRIVAS can be found at:

[www.ausrivas.canberra.edu.au/ausrivas](http://www.ausrivas.canberra.edu.au/ausrivas)

AUSRIVAS assessments are carried out at two locations in the Pieman River catchment;

- Heazlewood River at Waratah Road; and
- Whyte River upstream of Luina.



**Fig:** Heazlewood River at Waratah Road.

### Heazlewood River at Waratah Road

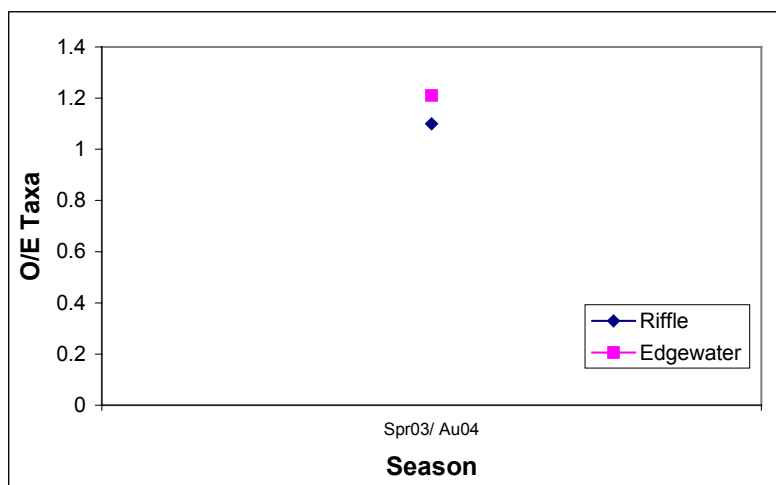
This site is located at the Waratah Road bridge crossing approximately 7 Kilometres west of the township of Luina.

The Heazlewood River at this point is 8 to 11 metres wide and consists of fast flowing riffles and runs flowing over boulder/cobble substrate. Riparian vegetation is dominated by native heath and mixed forest which is in an undisturbed state with the exception of the now disused picnic/recreational area immediately downstream of the road crossing. No weed species have been noted at this site to date.

Water quality at the site is generally good with all physio-chemical water quality parameter within expected ranges for a river of natural condition.

Combined season AUSRIVAS assessment of the riffle habitat indicates that the macroinvertebrate fauna is similar to that expected under reference conditions (Band A). The edgewater habitat contained a greater number of taxa than expected (O/E = 1.21) and is of above reference condition (Band X).

Season	O/E Taxa Riffle	Band	O/E Taxa Edgewater	Band
Spr03/ Au04	1.1	A	1.21	X



**Fig:** Combined season AUSRIVAS O/E Taxa scores for the Heazlewood River at Waratah Road.

## Whyte River upstream of Luina

This site is located upstream of the Waratah Road crossing at the tin mining township of Luina. The river is approximately 6 to 8 metres wide and consists of a shallow riffle/run flowing over pebble/cobble substrate. The riparian zone though reduced in width by the road and township is predominantly native with minor cover by blackberries and overall displays little disturbance. Rehabilitation of Luina and areas impacted by mining is in progress through the 'Aberfoyle Resources Revegetation Project'.



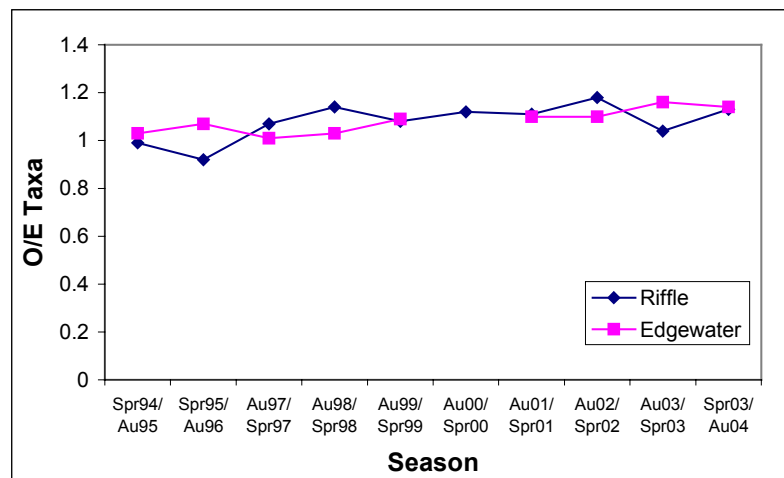
**Fig:** Whyte River upstream of Luina.

The macroinvertebrate fauna is diverse with an average of 23 families found in the riffle habitat and 20 families in the edgewater and the families present are indicative of very good site condition.

This site has been sampled continuously since spring 1994 and combined season AUSRIVAS assessments have consistently classified this site as equivalent to reference (Band A) or above (Band X) for both the riffle and edgewater habitats. Combined season AUSRIVAS assessments of the edgewater habitat are not possible for autumn 2000/ spring 2000 as high flows during spring 2000 prevented the collection of a comparable edgewater sample.

Mineral exploration on the west coast is currently reviewing the potential for reopening the Cleveland tin mine at Luina with an ore reserves of around 2 million Tonnes.

Season	O/E Taxa	Band	O/E Taxa	Band
	Riffle		Edgewater	
Spr94/ Au95	0.99	A	1.03	A
Spr95/ Au96	0.92	A	1.07	A
Au97/ Spr97	1.07	A	1.01	A
Au98/ Spr98	1.14	X	1.03	A
Au99/ Spr99	1.08	A	1.09	A
Au00/ Spr00	1.12	A		NS
Au01/ Spr01	1.11	A	1.1	A
Au02/ Spr02	1.18	X	1.1	A
Au03/ Spr03	1.04	A	1.16	X
Spr03/ Au04	1.13	X	1.14	A



**Fig:** Combined season AUSRIVAS O/E Taxa scores for the Whyte River upstream of Luina.