

# Gippsland region

Great news for the migration of native fish with the opening of the new Thomson River Fishway at Horseshoe Bend. Across much of Gippsland very dry conditions continued, with water managers focussing on where and how to use available water to optimise environmental outcomes and maintain river health.

## Water for the environment delivered to the Gippsland region in 2018-19 (megalitres)

- ◆ Latrobe system 5,502 ML
- ◆ Thomson system 12,699 ML
- ◆ Macalister system 15,124 ML
- ◆ Snowy system 129,400 ML

Thomson, Macalister & Latrobe systems

Snowy system

## Latrobe system

### Effective and efficient water use

Continually learning about the water needs of the environment and improving what we do with water for the environment are key to ensuring effective and efficient water use and maximising environmental benefits.

Recently the environmental flow recommendations for the Latrobe River, Latrobe River estuary and lower Latrobe wetlands were reviewed and updated in consultation with local community to ensure environmental flows management is using the best available knowledge and science.

Environmental Water Officer at the West Gippsland CMA, Adrian Clements, says the recent review adds to the level of knowledge involved in managing the system.

“The new recommendations take a more integrated approach to managing flows in the wider Latrobe catchment,” Adrian said.

“In 2018-19 over 5,500 megalitres of water for the environment were used in this system to protect a broad range of environmental objectives. The environmental watering program continues to improve with new knowledge and adaptive management.”

The Latrobe system includes the Latrobe River and its tributaries and the lower Latrobe wetlands. Plant and animal species of high conservation significance are found here, including several vegetation types and waterbird,

fish and frog species, including the Australian grayling, dwarf galaxias and Macquarie perch. The Latrobe River also provides an essential source of freshwater to the internationally recognised, Ramsar listed Gippsland Lakes site, which includes the lower Latrobe wetlands.

“A sound understanding of how much water is required, and under what conditions the water is needed, is essential to ensuring that environmental values are maintained or improved here. Working with a Project Advisory Group on the review ensured we could include the local community, access the necessary expertise and consult with the right stakeholders,” said Adrian.

The result of their efforts is a set of environmental flow recommendations for the West Gippsland CMA and the VEWH to use for planning environmental watering activities. The new information builds on existing knowledge and means managers are now better equipped to consider the wetlands and estuary at the end of the system when planning to release environmental flows in the Latrobe and Thomson Rivers.



**Waterway manager:**  
West Gippsland CMA

**Storage manager:**  
Southern Rural Water  
(Latrobe River)

**Land manager:**  
Parks Victoria and Field & Game  
(lower Latrobe wetlands)

Site	Volume delivered 2018-19 (megalitres)
Latrobe River	5,502
Heart Morass	Water was diverted into Heart Morass from the Latrobe River
Sale Common	Water was diverted into Sale Common from the Latrobe River
Dowd Morass	Water was diverted into Dowd Morass from the Latrobe River

**Left:** Thomson River at Horseshoe Bend, by Kathryn Walker, VEWH

**Above:** Environmental Flows Technical Panel assessing a lower reach on the Latrobe River, by West Gippsland CMA



## Community Highlights

### Lower Latrobe wetlands

*"A tremendous working relationship"*

West Gippsland CMA manages water for the environment for the lower Latrobe wetlands, Sale Common, Heart Morass and Dowd Morass. The three wetlands are an important component of the internationally recognised Gippsland Lakes Ramsar site and provide habitat for a variety of waterbirds of state, national and international conservation significance.

**Above:** Sale Field and Game measuring water quality at Heart Morass, by West Gippsland CMA



They are also sites close to the heart of Sale Field & Game members, who have done extensive conservation work on the 3,000 acres of Heart Morass they manage on behalf of their members and the duck hunting community.

To assist in the decision-making process for environmental water delivery, in August 2018, Sale Field & Game were engaged to undertake monthly water quality monitoring at several sites at Heart Morass.

Sale Field & Game representative Gary Howard said, "The water quality monitoring undertaken by Sale Field & Game further entrenches our fantastic partnership with the CMA for the betterment of the wetlands."

"Sale Field & Game have had a tremendous working relationship with West Gippsland CMA since the restoration project at Heart Morass began and we are keen to see this continue," he said.

Results from this monitoring informs the timing of environmental water delivery.

Adrian Clements, Environmental Water Officer at West Gippsland CMA, says "Initially, six sites were selected for monitoring, however at the request

of the Field & Game volunteers, an additional five sites have been included in the monitoring regime. This is a significant improvement as it provides a higher resolution of water quality information from across the morass."

"Water delivery timing and volume is the key to mitigating salinization, caused by intrusion of salt water from Lake Wellington and acidification, caused by acid sulphate soils in the morass," says Adrian.

Heart Morass was partially filled with water for the environment between August and October 2018, and further top-ups were provided in December 2018 and March 2019 to manage acid sulphate soils. Monitoring showed that the environmental flows reduced salinity in the wetland while also inundating semi-aquatic grasses, which provided food for waterbirds.

"Through the CMA's Water Management Program, we've improved it. It's noticeable in the vegetation. There were areas there that were bare, red dirt bare." Gary says the red colour comes from the influx of salts to the soil. "We now have areas that are improving very slowly and other areas where plants are again starting to grow quite successfully."

## Thomson system

### Helping fish move freely

Construction of the Thomson River Fishway, completed in mid-2019, at Horseshoe Bend near Walhalla in Gippsland has ensured a balance between the preservation of a heritage gold mining site and restoration of river flows and fish passage to support the region's natural heritage.

The fishway will significantly boost the outcomes achievable from environmental flows by allowing the threatened Australian grayling and other native fish species to move further along the length of the Thomson River.

With a low impact design incorporating natural rock eddies and pools, the new fishway has reopened the original river bed, connecting the river above and below an historical goldmining river diversion tunnel. Water entering Horseshoe Bend on the Thomson River will be shared between the tunnel and the original riverbed (60% for the tunnel and 40% for the fishway), maintaining the heritage values of the tunnel, while simultaneously restoring river passage from the Gippsland Lakes to the Victorian Alps for the benefit of native fish.

Most migratory fish living in the Thomson River below Horseshoe Bend have been unable to move upstream due to the barrier presented by the tunnel. Fish migration is important in the lifecycle of many native fish, including the threatened Australian grayling. The fishway means fish in the Thomson River and estuary will have access to an extra 22 km of the Thomson River and 64 km of the Aberfeldy River.

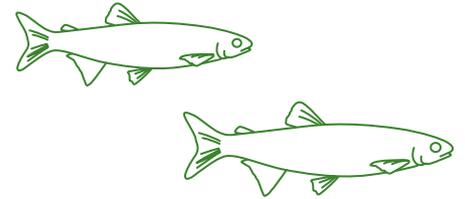
The historic Horseshoe Bend Tunnel, which was built to divert the river for gold mining over 100 years ago, has been preserved. This feature is a favourite with sight seers in the picturesque Baw Baw region.

Jemima Milkins Environmental Water Resource Officer at the West Gippsland CMA is enthusiastic about the benefits of the fishway to the Thomson River.

"The combination of the fishway construction and provision of environmental flows will benefit the whole system. Connectivity has been restored and fish passage enabled."

"This year we could not provide the autumn fresh that was initially planned for this system, due to the construction works. I am really looking forward to seeing that increased autumn flow in 2020. These flows cue the downstream migration of Australian grayling, for spawning in the estuary."

"The fishway provides access to the upper Thomson and Aberfeldy rivers, which increases the amount of fish habitat. The more habitat available the more fish in the system, which increases the success of future fish spawning events," Jemima said.



#### Waterway manager:

West Gippsland CMA

#### Storage manager:

Melbourne Water, Southern Rural Water

#### Site

#### Volume delivered 2018-19 (megalitres)

Thomson River	12,699
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**Above:** Thomson River fishway, by Kathryn Walker, VEWH

## Macalister system

### Challenging conditions lead to thoughtful planning

Very dry conditions prevailed across much of Gippsland, including the Macalister River catchment during the 2018-19 watering year. The region experienced below average to well below average rainfall and above average temperatures for most of the year. Lake Glenmaggie, on the Macalister River, did not spill in 2018-19, which is rare for this system.

Low inflows to Lake Glenmaggie resulted in a stressed catchment and algal blooms in all sections of the lower Macalister River and irrigation channels. This lower stretch of the river is home to seven species of native migratory fish relying on access to both the freshwater reaches of the river and the Latrobe River estuary and ocean to complete their lifecycles. With such dry conditions there was a risk that flow below Maffra weir would cease completely and threaten this important fish community.

Martin Fuller, Chief Executive Officer at the West Gippsland CMA, said that conditions were challenging, and water managers needed to think laterally.

"A variation to our original water planning was required in this scenario. Using water for the environment we sustained low flows at Maffra weir to ensure that the Macalister River continued to flow; and aquatic life was maintained during the algal bloom."

"This is a way to protect our aquatic plants and animals and allow instream vegetation to remain wetted, allow water bugs and fish to move around their habitats and maintain the water quality and critical ecological processes," Martin explained.

"A protective flow like this also means that if the situation improves and we receive significant rain, we can alter the plan. Or if water quality diminishes, we can respond to that too. Through our monitoring we saw an improvement in dissolved oxygen levels, lowered water temperature and generally the flow sustained the health of this stretch of the river. It was a marked improvement from what was happening before the flow commenced."

"Every season brings opportunities to learn, we are always improving our understanding of best use of water for the environment," said Martin.

"Working with the community and our partners was particularly important in informing the appropriate responses for the conditions. Our staff worked through the implications of the changed conditions with our community-based Macalister Environmental Water Advisory Group, who endorsed the revised approach."

**Variations to water planning can be accessed through the VEWHS website.**



**Waterway manager:**  
West Gippsland CMA

**Storage manager:**  
Southern Rural Water

Site	Volume delivered 2018-19 (megalitres)
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Macalister River	15,124
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**Above:** Macalister River before and after protective flow, by West Gippsland CMA

## Snowy system

### Community consultation is critical

A new community based committee will guide decision making on environmental flows for the iconic Snowy River. Formed in 2018 by the NSW Government, the Snowy Advisory Committee has been tasked with providing vital community and expert input to the timing and pattern of the release of environmental flows to the Snowy River and Snowy montane rivers, to ensure their ongoing health. The committee's advice captures ecological, technical, social and cultural considerations.

Graeme Dear, Chief Executive Officer at East Gippsland CMA is a member of the committee that also includes local community members, Aboriginal representation, environmental experts and NSW and Victorian government delegates.

"This committee is working together well and provides advice on flows based on input from a broad cross section of government and community interests in New South Wales and Victoria," Graeme said.

Investment in environmental water recovery by the Victorian, New South Wales and Commonwealth governments has enabled up to 21% of the natural flow to be returned to the Snowy River – up from just 3% in 2002.

The East Gippsland CMA monitors the outcomes of environmental flows in the Snowy system, and utilises the information gained to provide ongoing advice through the advisory committee.

Bec Hemming, Program Manager at the CMA said, "Over the past seven years monitoring has confirmed that managed environmental flows help improve physical and ecological processes, increase ecosystem productivity and improve aquatic habitat in the Snowy River catchment. These healthy conditions are great for the plants and animals using the waterways, and for the kayakers, anglers and local communities who love it too!"

**Below:** Snowy River, by East Gippsland CMA

**Waterway manager:**  
NSW Department of Primary Industries, East Gippsland CMA

**Storage manager:**  
Snowy Hydro Limited

Site	Volume delivered 2018-19 (megalitres)
Snowy River	129,400

