

Stories of Wirn wirndook Yeerung

# The Macalister River





Macalister River Gorge, below  
Hagan's Bridge



## Introduction

**The Macalister River supports a healthy environment, a thriving irrigation region and a strong community. It has a vast and colourful history, and this publication tells the story of the river's importance to the community and the benefits of the collective efforts of many to look after it.**

The West Gippsland Catchment Management Authority and the Macalister Environmental Water Advisory Group (EWAG) have worked together to produce this publication telling the story of the river. With so much work having been done over many years by landholders, community and government organisations to maintain and restore the health and function of the Macalister, we felt it important to reflect on this story and showcase the important work and collaboration that has occurred.

Through a collection of stories from interviews with seven people connected to the Macalister River in different ways, the recollections and stories in this book take us through different aspects of river management over the years.

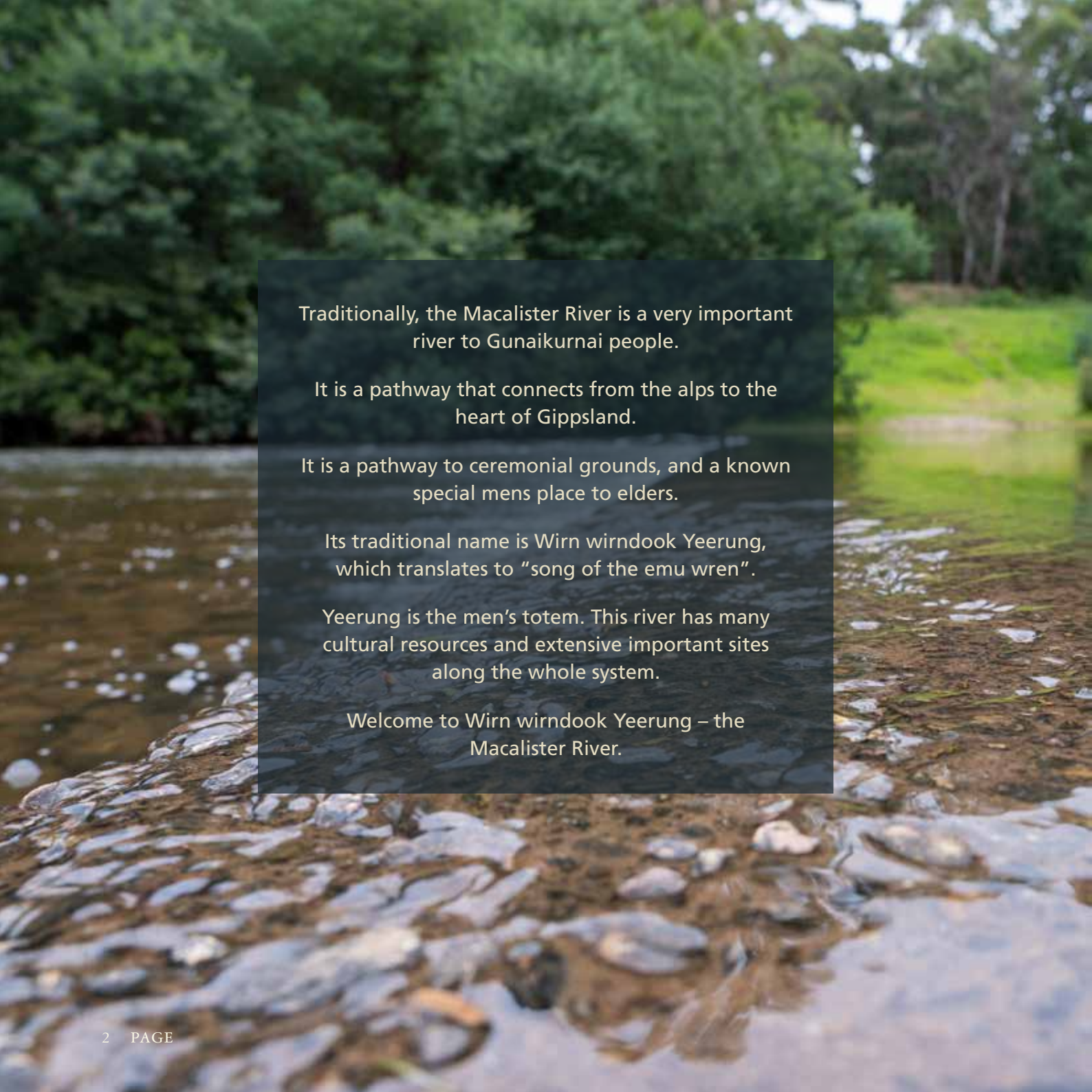
These include the cultural significance of the river, and early historical memories of the river and its catchment. We read about the story of working with the river over the decades, which involved early trial and error and a shift toward working with the environment and at a whole-of-catchment approach. We hear about the importance of restoring flows to the river through water for the environment, and of the water and nutrient saving programs that continue to transform the irrigation district from inefficient to modernised systems.

Interviewees share their observations of how the river has changed over time in response to changes in the landscape and to management interventions, and finally, we look to the future to hear about peoples hopes for the river in the coming years.

We hope that you enjoy this collection of recollections and stories from the Macalister community. Here's to many more years of communities and government agencies working together to take care of the Macalister, for the benefit of all.

*Pictured above: the Macalister in flood over farmland adjacent to Bellbird Corner Reserve (2007), by Duncan Fraser*





Traditionally, the Macalister River is a very important river to Gunaikurnai people.

It is a pathway that connects from the alps to the heart of Gippsland.

It is a pathway to ceremonial grounds, and a known special mens place to elders.

Its traditional name is Wirn wirndook Yeerung, which translates to “song of the emu wren”.

Yeerung is the men’s totem. This river has many cultural resources and extensive important sites along the whole system.

Welcome to Wirn wirndook Yeerung – the Macalister River.



## TRADITIONAL OWNERS

# Welcome to Wirn wirndook Yeerung

The Gunaikurnai are recognised as Traditional Owners over approximately 1.33 million hectares in Gippsland – extending east-west from near Warragul to the Snowy River and north-south from the Great Dividing Range to the coast and sea country.

Gunaikurnai have lived in the valleys, on the fertile plains and up in the mountains of their traditional country for many thousands of years. They see their land (Wurruk), waters (Yarnda), air (Watpootjan) and every living thing as one. All things come from Wurruk, Yarnda and Watpootjan and they are the spiritual life-giving resources, providing the people with resources and forming the basis of their cultural practices. Gunaikurnai culture and identity is embedded in Country.

Aboriginal heritage is strong across the Gippsland Lakes catchment, and cultural sites and artefacts can be found along Gunaikurnai songlines, and trade routes, mountain ridges and waterways. They remind the Gunaikurnai about the ways of their ancestors and show their close and continuing connection to Country.

The Gunaikurnai people are actively pursuing their cultural responsibilities to care for country through the management and protection of cultural and natural assets and values on their country, including Wirn wirndook Yeerung.

Wirn wirndook Yeerung is part of the country of the Brayakaulung people.



GLaWAC Country in the Gippsland region of Victoria

## CONTRIBUTORS



### Duncan Fraser

Duncan Fraser arrived at the farm at Bellbird Corner with his mother as a 10 year old in 1945. The property then belonged to his 'Uncle Jack'.

Duncan is a passionate local naturalist who has been actively involved in the preservation of the Bellbird Corner area of the river, which has been transformed by volunteers who have restored the area for the community to enjoy.

He is also a keen photographer, native gardener and nature blogger, and hosts the Nature of Gippsland and Ben Cruachan websites.

### Jack Dwyer

The Dwyer family has been dairy farming along the Macalister River since 1913, celebrating 100 years on the farm in 2013. Jack has spent 91 years on the property.

Jack's father first came across the farm, known as Innisfail, while riding his horse, taking a liking to the property. When it became available for sale, he was able to purchase Innisfail with his sisters and mother.

Jack has had great involvement in river improvement over many years, witnessing first hand the approaches of the 1950's give way to more successful measures. He's been a longstanding member of river management boards including the River Improvement Trusts and more recently, WGCMA community advisory groups, and being a founding member of the Bellbird Corner Reserve Group.

### Steven Dwyer

Steven Dwyer, son of Jack Dwyer, has spent his entire life on his family farm located on Lower Newry Road and now runs the property.

Steve is an active member of groups such as the Macalister Customer Consultative Committee (MCCC).

Steve talks of the family farm being passed down from generation to generation starting with his grandfather's mother, his grandfather, his father and now himself.



## CONTRIBUTORS



### Phil Taylor

Phil was the first employee of the Thomson River Improvement Trust in 1969. He spent 42 and a half years working, with about five different name changes, and saw an enormous amount of positive work carried out right throughout the catchment.

Phil has worked as operations manager mostly on the upper reaches of The Macalister and worked on the flood restoration after the 2006 fires and the 2007 floods from the National Park right down through to the Glenmaggie Weir.

"When I first started I didn't know I'd end up like this. I was apprehensive – only a young plant operator. I was the first employee with the Thomson River Improvement Trust as a plant operator. This went for 10 years, the foreman resigned after the 78 floods and I was appointed the foreman of works and applied for natural disaster funding to do all the works to repair Rainbow Creek and the Thomson – in those years, 79, 80, 81. I managed to land \$1.1 million to do works on those waterways."

### Stephanie Suter

Stephanie works at the West Gippsland Catchment Management Authority in the role of Environmental Water Resources Officer for the Macalister and Thomson rivers.

She has a PhD in freshwater ecology, and a Bachelor of Science in Environmental Management and Ecology. She loves getting out in the field and getting her hands dirty (or wet!). She is responsible for managing how environmental flows are delivered to the Macalister River.

### GLaWAC

The Gunaikurnai are the Traditional Owners over much of Gippsland, including the Lake Wellington catchment and the Macalister River (Wirn wirndook Yeerung). The rights and interests of the Gunaikurnai peoples are represented by the Gunaikurnai Land and Waters Aboriginal Corporation (GLaWAC) and legally recognised under the *Traditional Owner Settlement Act 2010* and the *Native Title Act 1993*. GLaWAC continues to work in partnership with the water authorities to maintain the health of our rivers and waterways.

### Terry Clapham

Terry started working at Southern Rural Water in 1986 as a water bailiff and from there worked his way up to Manager of Water Supply (East).

He's been involved in a period of great change across the Macalister Irrigation District, seeing the district transform from an inefficient network to a modernised system. He's seen and been involved with the introduction and implementation of nutrient reduction programs as well as the introduction of environmental water entitlement. In his spare time he loves to kayak on the Macalister River.





## WHAT WE LOVE ABOUT THE RIVER

# A river much loved by generations

Flowing from Mt Howitt in the Alpine National Park and joining the Thomson River south of Maffra, the Macalister River has a vast history shared by farmers, those who work the river and the general community over generations.

Many locals have special memories of their time growing up or working on the river.

Jack Dwyer speaks fondly of a childhood spent swimming, digging for worms, relaxing and fishing in the river.

"We are located just a mile from the river and we used to love going down there as kids. When the weather got hot we would go for a swim or fish, we spent a lot of time on the river. I have great memories of digging for worms and catching a few sand trout or silver eels," he said.

*Jack's son, Steve, has equally fond memories of his time growing up along the Macalister, meeting friends and enjoying hot days cooling off in crystal clear water.*

"We spent most of our summers either swimming in the river or at Glenmaggie Weir. The Weir was always cloudy, you would squish through the clay to get there, but the Macalister you always went down the bank into some fairly crystal clear water," he said.

"It was beautiful down at the river and we used to meet up with the Caffreys who were across the river and swim together when we were kids."

Steve says he still swims in the river, "I will jump in on a hot day myself when I go down to get the cows. It's still very beautiful down there."

*Phil Taylor speaks affectionately about his history with the Macalister River and his connection to the local environment.*

"Any river is special to me and I think the fact that I have worked on them and supervised works and fought to get those works done on both the Macalister and Thomson rivers makes them





both very dear to me. I live in Heyfield so they are both very important rivers to me and the local community,” he said.

“My favourite section of the Macalister is not a little section, but I just love the area from the Wellington River down to the Glenmaggie Lake. I think the upper reaches are the jewels in the crown. The lower reaches not so much – love them, but, I love the upper reaches of all the waterways.

The waterways tend to be forgotten in times of need due to other issues in the country and I’d hate to see funding taken away from waterways. Our clean water is a very basic thing we need in life.”

*Terry Clapham enjoys kayaking on the river, saying it gives him the opportunity to observe how things have changed.*

Flood water below Pine Hill, adjacent to Bellbird Corner, circa 1962, by Duncan Fraser

“I really like to use the Macalister River as my kayaking spot. It’s local and very pretty. I usually put the kayak in at Maffra Weir and at least once a month I will kayak up to Bellbird Corner until the rocks start to get in the way and then turn back. The round trip is around seven kilometres,” he said.

*When asked what the Macalister River means to him, Duncan Fraser, said “thinking about Bellbird Corner and the Macalister I love the fact that it’s a complete ecosystem, it’s just so important”.*

“I did a check the other day and the bird count is now up to 98 species. The river is not just a stream of water running through to the sea. It is a complete ecosystem running from the source out to sea.

“I guess the farmers mainly look at it as a source of water for their irrigation, but for me it just supports such a wide range of life forms, flora and fauna.”

## MACALISTER RIVER

# The Macalister at a glance

### Traditional Owners

Gunaikurnai (Brayakaulung people)

### Geographical description


The Macalister River begins in the northern slopes of the Great Dividing Range below Mt Howitt and flows through to its confluence with the Thomson River, south of Maffra. The river winds its way in a south-easterly direction through mostly forested, confined valleys and narrow floodplains above Lake Glenmaggie. The downstream reaches flow through wide alluvial floodplains that have been cleared for agriculture, meeting the Thomson and Latrobe rivers to flow into the Gippsland Lakes at Lake Wellington. The river has 15 tributaries, including the Wellington River and Glenmaggie Creek.

### Who looks after water in the Macalister River?

Landholders and farmers/irrigators, the West Gippsland Catchment Management Authority, Southern Rural Water, Gippsland Water, GLaWAC, Victorian Environmental Water Holder, the Macalister Environmental Water Advisory Group.



**Key industries**  
dairy, horticulture, beef

 **70% of catchment**  
is forested land including the Alpine National Park

### The Macalister in figures

**177 kms** River length  
**2,330 km<sup>2</sup>** Catchment size  
**1,530 m** Highest point



**Flow = Olympic swimming pool x 180,000**

**Average annual flow into Lake Glenmaggie** is 450,000 megalitres (million litres) = 450 gegalitres



**Volume = Olympic swimming pool x 70,000**

**Volume of Lake Glenmaggie** = 177 gegalitres

The Macalister River provides around **16%** of the total discharge to the Gippsland Lakes



**Amount of water used for irrigation**  
= 180 gegalitres each year



**Environmental water entitlement**  
= 22 gegalitres each year



**Includes the largest irrigation district south of the Great Dividing Range** comprising of 53,000 ha (extending from downstream of Lake Glenmaggie to Sale)

**The Macalister River is the main source of irrigation water** for the Macalister Irrigation District (MID), and is also used to supply potable water to the nearby towns of Coongulla, Maffra, Stratford, Heyfield and Glenmaggie

**Approx. 350 irrigation farms** in the Macalister Irrigation District





## MACALISTER RIVER

# From the mountains to the sea



# Timeline of a river

60,000 + years  
of Indigenous  
history - Gunaikurnai  
traditional owners

Gunakurnai have lived on their traditional country for many thousands of years. They see their land (Wurruk), waters (Yarnda), air (Watpootjan) and every living thing as one. Gunaikurnai culture and identity is embedded in Country and Water.

The Macalister River (Wirn wirndook Yeerung) is part of the Country of the Brayakaulung people – their clan area extends from around the current site of Sale, Providence Ponds, Avon and Latrobe rivers; west of Lake Wellington to Mounts Saw Saw and Howitt.

1800s

First  
European  
settlement



1900

Sugar beet  
first grown

1930s

Floods

Late 1940's

Lake Glenmaggie dam wall raised by 3.6 metres to increase capacity to provide extra water for returned soldier settlers in Narmbrok Denison and Airly/Bundaluguah

1919-1926

Soldier  
settlements,  
and the first  
stage of Lake  
Glenmaggie  
was  
constructed

1960's

Large floods

1867

Drowning of local girl Eliza Amey in a nearby waterhole, who is buried near Bellbird corner in a coffin made of two sheets of bark from a big redgum tree – known as the "Coffin Tree"

Newry Creek in flood,  
courtesy Duncan Fraser



Spillway flow over  
Glenmaggie Weir (1954)



1981- 1982

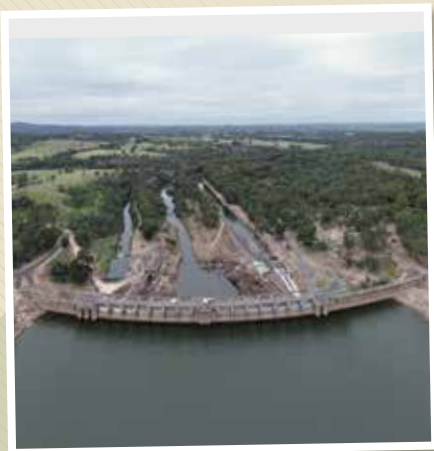
Severe drought,  
and the first time  
in European history  
Macalister River has  
stopped flowing.  
Glenmaggie Weir  
was drained and  
empty at Christmas



The Bellbird Corner farm under  
flood with Duncan's uncle paddling  
the old tin bath, circa 1930s, photo  
courtesy Duncan Fraser



Lake Glenmaggie today



1987

Lake Glenmaggie dam was strengthened to withstand major floods and earthquakes

1998

The first Macalister Irrigation District Nutrient Reduction Plan developed to address nutrients entering the Gippsland Lakes



Flood water seen from Bellbird entry, June 2007, environmental work well under way. Photo by Duncan Fraser

2005

First recorded platypus sighted at Bellbird Corner in many years



2001-2003

Early works at Bellbird Corner and committee is formed to look after the reserve

Early phases of the MID2030 modernisation project started in the mid-2000's

2006-2007

Bushfires, followed by the biggest flood on record, with severe damage and lost river flats above Glenmaggie and large restoration efforts



2013

Drought



2012

First stage of MID2030 modernisation project kicked off

2019

The Lake Wellington Land and Water Management Plan was created

2011

The first environmental flows were delivered in the Macalister with the creation of the environmental entitlement

White-faced Heron, by Duncan Fraser



## A visitor to Maffra in 1898

*"I found it interesting the stroll along the banks of the Macalister River which is bordered by a dense but narrow strip of woodland. Compressed in its deep bed, the river winds its way round many bends and stretching out dead branches as it approaches its final destination in Lake Wellington.*

*In the spring, when it received a good supply of water from the mountains, the river filled the many ponds and lagoons which bordered it. In these, the water remained until summer and was the reason that, whilst the rest of the countryside was quite dry, everything here was still lovely and green.*

*The eucalypts, truly giants, were placed quite far apart as in the open bushland, but here they have, contrary to those in the open land, thick undergrowth of young trees and tea-trees, a tree-like bush which likes to create dense thickets and likes wet areas. In between those densely covered banks there are open spaces without any undergrowth where kangaroo grass flourished and which were covered with a very pretty bush with bright orange fruits like our sloes. (Prunus Spinosa)*

*The lagoons and ponds were home to broad-leafed aquatic plants and at Christmas the water lilies appeared, pretty white flowers with three petals and a yellow centre."*

Johann Schwarzer, 1898

(in article "A Visitor to Maffra in 1898")





Popular swimming hole on the Macalister, Maffra



## HISTORICAL RECOLLECTIONS

# Clear water, fishing and abundance of river life form fond memories

A local resident since 1945, Duncan Fraser first arrived in the country accompanied by his mother, while his father was deployed with the army overseas. The pair made their home at 'Uncle Jack's Farm' at Bellbird Corner and Duncan has called the region his home ever since.



Duncan at the farm swimming hole in Newry Creek in army disposals rubber dinghy, circa 1946

Duncan's memories of Bellbird Corner stem from well before the weir wall was raised, when large scale floods were a regular occurrence.

"Newry Creek and all the waterholes used to get filled with freshwater.

"These held sweet water with lush water vegetation, teeming with aquatic life. I can remember tying a jam tin to a length of cord, throwing it into the creek,

then pulling it out to find it full of fat shrimp, pygmy perch and other creatures – all signs of a healthy waterway. The water vegetation was lush and healthy. Not like it is now, unfortunately," he reminisced.

"Short-finned Eels were very abundant. We used to fish for those at night by the light of the hurricane lamp.

"Another thing that there was plenty of was the Eastern Snake-necked Turtles. We used to see a lot of those and find their nests where they had laid their eggs. We also used to see lots of water rats fossicking along the banks of the river."

Duncan has childhood memories of beautiful clear water running down the river where they could look into the water and clearly see what was at the bottom in places.

"In those days too, before the introduction of European carp, the river water was clear. When levels were low we could see eels lying beside logs and there were thriving populations of native fish like the Tupong and Blackfish. Brown Trout and Redfin were in the river too.

"The river held a beautiful population of Tupong, I could go fishing and come back with 6 or 8 or 10 good sized fish. Tupong grows to a maximum size of about 35cm. I'd commonly catch them up to about 25cm or 10 inches.

*"Sometimes you would be sitting there quietly fishing and a platypus would come up beside you. It was just so good back in those days," he said with a smile.*

"Two species of bird were very much at home in that natural environment – the Black-fronted Dotterel around the edge of the many waterholes on the farm and the Whistling Kite soaring overhead. Ducks, swamphens, and coots were common of course, and in spring and summer we used to flush Latham's Snipe.



"There used to be a nest of sea eagles close to the Macalister out on the Lower Newry Road. We would often see them. They deserted that nest and built another one at The Billabong, then another further over near the paddock."

Prior to the swimming pool being built, the river, a short distance upstream from the bridge, was used as the central swimming spot for the local community.

"I recall the schools using this spot for teaching children to swim. There were very basic change rooms with no roof and swimming tests were conducted there."

Like many who were lucky enough to grow up along the Macalister River in days gone by, Duncan has so many beautiful memories of time spent in and around the river.

*"My favourite memories are really just the time I spent fishing down at the river. Just sitting quietly, catching the odd fish and just seeing everything going on around. It doesn't come much better than that."*

Jack Dwyer's family celebrated 100 years on their Macalister River farm in 2013 and Jack has fabulous childhood memories of fishing, swimming and growing up along the river.

The Dwyer family's long history with the family farm began when Jack's father noticed the property while riding his horse.

"He saw great potential in the property. He had been involved with another farm on the other side of the river, but when he found out this farm was

Cousin Bill in Newry Creek swimming hole



Duncan's aunt and her sister cooling off in the river, circa 1930s.

for sale he decided it was what he wanted. He was very single minded about it and decided to do his best to buy it. The rest is history," said Jack.

"When the weather got hot we would head to the river for a swim. We spent quite a lot of time on the river. If it was cooler we would fish. We would dig for worms one day and we would be going fishing the next. By the time we got our can of worms, half of them would have escaped," he said laughing.

"We always managed to catch a few fish, maybe coming home with one or two sand trout and we would also catch silver eels."

A ferry was once operated on the river by Mrs Job Dan, who was reported as being the first resident white woman of Maffra. She arrived in Maffra in 1862 with her husband and raised a family of six daughters and two sons.

The punt was established just below the Johnson Street Bridge, to facilitate traffic to the goldfields via Stratford, and consisted of eight casks with a decking attached. The use of this primitive form of transit was superseded by a bridge. (reported in the obituary of Mrs Job Dan, Maffra Spectator).





"... the river was saved by  
old cars of all things!"

- Jack Dwyer



## THEN AND NOW

# Working with the river over the decades

The Macalister River is a dynamic and changing river system. People have made various attempts to manage and control the river and respond to its many changes over the years. There have been many processes tried and tested – with some a great success and others taking farmers and river management groups back to the drawing board to find better ways to work with the river.

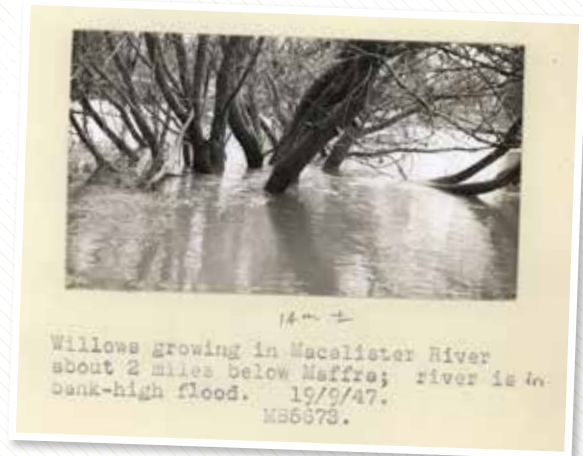
### **The early days – floods, erosion and “river improvements”**

The Dwyer family has been farming along the river since they took up land at Newry in 1913. It was very fertile river country and some of the most productive land in Gippsland and was some of the earliest land to be divided and auctioned.

Ninety one year old, Jack Dwyer, said he’s been on this land his entire life and has watched many changes unfold.

“It’s the most wonderful catchment. The river was very clean, but when clearing began and the erosion really started to set in, it got dirty. The river was threatening to jump out of its banks and change course all over the place. The risk of breakouts was dire and everyone was frightened of Maffra being inundated with water,” he said reflecting on his memories.

“We used to keep ahead of it, always about one flood ahead. If you go down to the river there’s a time capsule of all the different ways they had of trying to contain it.



“When I first left school the river was degrading and the seasons at that time seemed to be getting wetter. We had a lot of really wet years, especially in the 50s and then again in the 70s. This meant we had a lot of flood situations. On the flip side in between we had a lot of really dry times, so it was testing,” said Jack.

“The Macalister is a river that would have altered its path as part of a natural course of events, if it had of been allowed to. At this stage the land is tightly held along the river in what we would call a perched situation. It is running on the high ground on both sides, which makes it higher than the surrounding country.”

Jack said flooding over the years has caused much anguish among farmers.

Macalister River  
looking from right bank  
towards Nestles factory  
just upstream of railway  
bridge. The large log  
could not be lifted  
clear so it was pulled  
towards the right bank  
and left standing against  
the bridge.

AHH  
31/7/58

MB10369



A snapshot of  
history: flood damage  
and river restoration  
over the decades



Looking downstream at junction of Macalister with Thomson River, compare MB.6299. 17/2/49.

"There were farmers along one side of the river ganging up on farmers along the other side resulting in competitive bank building. At one stage there was a decision made to bank the whole river from Greenvale down to Mewburn Park.

"The result of this was very drastic for the people of Newry. This caused much higher than usual flooding, creating a terrible situation where it was happening continually. This was causing bank erosion and being perched on the high ground meant as it flowed through it would cut a new course.

"This caused great problems trying to access your own country. When the river broke over at Cowwarr and Rainbow Creek formed (from the Thomson River), well

the realisation was that it's going to happen shortly at Maffra. The state government at the time realized there was a critical situation unfolding and copped an enormous repair bill for Rainbow Creek. They had the foresight to see something equally as big could happen with the Macalister."

*Jack said the situation was becoming desperate and that's when cars were used in the river to create breaks.*

*"Someone got a bright idea and they started to use the wrecks of cars instead of logs. It was a sight to behold. Old worn out cars down the river. The paddock was full of them and they built them into the bank and matted them together with wire," he said.*





The Macalister River winds through the  
Dwyer family property "Innisfail" at Newry



*"The amazing part was, it worked like a shot. It saved the situation – the river was saved by old cars of all things," he said laughing.*

"The Council got wind of what was happening and they said 'well that's enough of that – you're not to do it anymore', so we had to have another bright idea to take its place. Thoughts were turned to car tyres, so they were used for some time.

"They would tie them into mats, but they weren't nearly as successful as the cars were. They did a wonderful job those cars.

"There are great big trees growing along the bank, deep rooted trees, and there's no danger of the river breaking in that area at all now. That is all thanks to the old car bodies," said Jack.

"The tyres only worked where the river wasn't going to break. They weren't as successful as car bodies as they usually broke apart at some stage.

### **Learning to work with nature**

Anyway, we finished up with a new engineer and he had the right idea. He wanted to use a rock that was not very hard that would eventually disappear in the soil. He sourced it out at Valencia Creek and that's the way the job was done from then on, using rock. He did a wonderful job, it was very successful.

"His name was Ian Drummond, and we give him credit for saving the river. He had studied all over the world and all his ideas on the river were forward thinking. He died recently, but he left a great legacy in the Macalister River, he certainly saved it from ever breaking," reminisced Jack.

Community tree planting day at Maffra, 1999



Inspecting the damage at Licola after 2007 floods



Cleaning up after 2007 floods



"Before Ian we were doing the wrong things, we were trying to straighten the bends out. He said no, that is wrong, you have to drive the river into its old course and keep it where it was and that will slow it down. He said that every bend you take out speeds the river up and increases the eroding ability of it. He was quite right.

"The natural thing is for a river to cut a course that winds around bends and it never runs straight. If it runs straight, you have a problem as it runs too fast."

Jack agrees that farmers along the river learnt a lot over those years from Ian Drummond. "We have all benefited from the great experience of people like Ian, he was a wonderful man".

### **Moving to a whole of catchment approach**

The first employee of the River Improvement Trust, Phil Taylor spent over 42 years working in natural resource management including 19 years working on the Macalister River Catchment.

"If I go back to 1969 when I started, we had a Holden car that belonged to the foreman and an axe and chainsaw and we worked out of the boot of the car. Over my time we had about five different name changes and we saw an enormous amount of good work done and carried out right throughout the catchment," said Phil.

"Rod Johnson was the foreman for Avon / Macalister. We worked with the landowners, the shires and the general public over a number of years.

"One of the biggest things was becoming whole of catchment. Initially there was 27 River Improvement Trusts (RITs) in the state and everybody doing their own thing. Nobody was talking to each other.

"It wasn't a case of snobbery, it was a case of nobody knew any different. The whole of catchment concept came along many years later where you looked after the waterways from the source to the sea. That made a lot of sense, and made life easier to manage and try and get things right.

"There's still quite a bit of work to do finishing off total removal of willows from waterways and replacing them with native vegetation," he said. "It had its ups and downs as far as setting it up. We're creatures of habit, we got used to a lot of the old ways and we had to change a lot of our ways to manage whole of catchment and involve a lot more people and government agencies and different rating systems. Projects carried out initially were funded through an annual works program, whereas nowadays they look at river health and water quality on the broader scale and have Catchment Management Authorities, replacing the old river trusts."

Speaking about the changes over the years as river management evolved, he said, "there were lots of mistakes made and a lot of things done that should never have been done".

"In the early days, with the Thomson River Improvement Trust, we managed one side of the river. We were sitting on one bank looking at the Macalister crew on the other bank – and we didn't even know them.

"They were putting car bodies in the Macalister River and we were planting willows and putting tyres down the banks... all the stuff that looking back were horror stories. But of course, once it was properly funded and managed on a whole-of-catchment basis we've never looked back.

## THEN AND NOW

# Bellbird Corner Reserve



Bellbird Corner at the Bellbird corner bridge, circa 1930s. Photo courtesy Duncan Fraser

Macalister Environmental Water Advisory Group member and long-time resident, Duncan Fraser has been involved in extensive river restoration works over the years.

“Prior to 2000, the Newry Macalister Landcare group, a group of concerned farmers, thought they’d like to do something about Bellbird Corner. It is a famous old beauty spot, really. Anyway, they got to work and organised for it to be fenced off and classified as a public reserve.

“The first revegetation planting took place in 2001, with the Young Farmers stepping in to complete it. In 2003 Wellington Shire decided to divest itself of a lot of parcels of public land that it was looking



Craigs Monument Bridge at Bellbird Corner Reserve, by Duncan Fraser



after and Bellbird Corner was one of them. So the Shire organised a public meeting with DELWP or whatever they were called back then, and that's where the new committee was formed.

"We've been looking after the place ever since. Much of the work has been in revegetating and there's been a lot of natural regeneration of course. A lot of weed control with blackberries, tradescantia and a lot of other weeds. We've got those completely under control now."

*"It's not looking like it used to, but it's a lot better than it was when we took over."*

"The river has improved to what it was, but the turbidity of the water is the big thing. We've got those European carp of course, and a lot of the turbidity in my opinion comes from the weir as well," he said.



Top left: Bellbird Corner environmental works, left: Bellbird Committee member spraying weeds at the reserve, above: Fish monitoring at Bellbird Corner. Photos by Duncan Fraser

*"The Bell Miner, or Bellbird as it was called, is of course the bird that gave the bend of the river at its junction with the Newry Creek the name Bellbird Corner, a name that also referred to the local area."*

*"A colony of these chiming songsters inhabited what was until the 1950s dense native bush. When that was cleared the birds moved on but the name remains, as does their call in the memories of those who heard them. We used to ride our bikes the four and a half miles in to school at Maffra over the Bellbird Bridge and the three others that spanned floodways."*

*"Only one of which now remains, the Craig's Monument Bridge at the Maffra end of the reserve. I can still recall stopping to search for the Bellbirds in the trees,"*

*- Duncan Fraser*

## WATER FOR THE ENVIRONMENT

# Restoring the flows

### Rivers have changed

Steph Suter explains that the Macalister is a regulated river, with water stored in Lake Glenmaggie and an extensive irrigation area downstream in the Macalister Irrigation District.

“This has brought about a lot of changes both in the hydrology of the river and the surrounding land use. There’s a lot of cleared area that’s now under irrigated agriculture, where there used to be trees and grasslands,” she said.

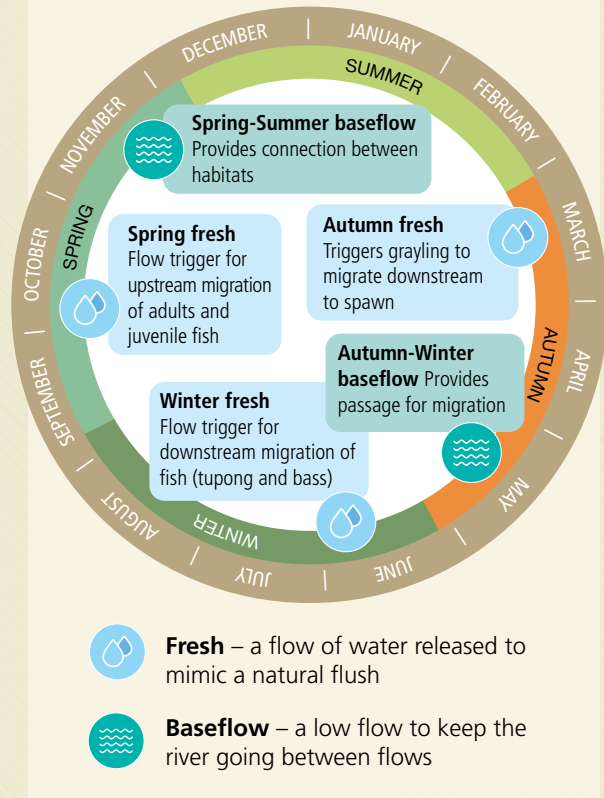
“The dam itself has changed the flow regime of the river. When I talk about flow regime I’m talking about the amount of water that’s going down the river, but also the seasonality of when the river flows, which is one of the big changes we’ve seen.

“The river flow has actually reversed from what happened naturally before the dam was built.

“Naturally in the Macalister, the river tended to experience higher flows and some flooding in the winter and spring, from winter rainfall and spring snowmelt. That’s now collected in Glenmaggie for use later in the summer, and we now have higher flows in the river in the summer and autumn period when that water is in demand for irrigation.

“We call this a seasonality reversal. So all the critters in the river that are used to and have evolved to a winter high flow are now losing that connection. They don’t get the biological and ecological cues of temperature and flow, which can actually have an

Watering actions to support the river year round



impact on how they’re feeding, in their breeding and also their movement around the system. So that’s a really noticeable change,” she said.

“Additionally, the amount of water flowing down the river has really changed. About 47% of the



annual flow has been removed and gets captured by the dam, and that has big impacts not only on the stream here, but also downstream in the wetlands and the Gippsland Lakes, which are getting less water because of that changed flow regime.”

### **Water for the environment – restoring the flows**

Part of my role as an Environmental Water Resource Officer is to manage an entitlement of water that we have set aside for the environment – we call this “water for the environment”, or “environmental flows”. This water can be used to have direct benefits for the ecology of the river. And that’s really exciting, because it means we can look at the ecology of the river and actually deliver flows that target particular species and the environmental cues that they need, when they need them.

Environmental water flows in the river are incredibly important, not only for the fish and other species living in and around the river, but also vegetation.

Duncan Fraser said, “the environmental flows support such a diversity of life by invigorating streamside vegetation that supports a large insect population, which in turn supports the birds and microbats living around the river”.

*“We’ve got quite a range of little mammals down there. Apart from the common ones like the brushtail and the ringtail possums, we’ve got sugar gliders and little colonies of swamp rats,” he said.*

According to Terry Clapham, “the environmental entitlement that we have here in the lake – it started from a need and the question was, how do you create that? How do you take what turned out to be 10% of what’s in Glenmaggie – about 14,000 megalitres of water – from a district where most customers they would say that we never have enough water?

“It was a real question of how do you partition that for an environmental use when farmers see the water in the river and they say ‘there is water in the river, what do you want more for’?

“So initially when the idea of the environmental entitlement came up, the attitudes were not positive. The Macalister Customer Consultative Committee (MCCC), our Southern Rural Water customer advisory group, was against the idea initially but quickly understood how it was going to be created and what benefit they would get from it.

“The marriage of modernising the district in order to save water, taking it back into Glenmaggie and creating an environmental reserve, and using that for better health of the river... the MCCC quickly realised that it was a huge benefit for customers because they got the modernisation benefits. It wasn’t that we were taking water from them in order to use it for something else.

“In further years, as part of modernisation, the water’s come back into the district via auctions and sales.

“I think overall customers have been pragmatic about it in terms of ... well it’s gone out of the river in terms of productive use, but, we all love the river and we all love the Gippsland Lakes... this is an opportunity for the health of that to improve.”

Steve Dwyer talks about his involvement with Southern Rural Water for around 20 years and being on the MCCC which led him to be interested in environmental flows in the river.

“When the Catchment Management Authority started to work with the farmers things improved as they allowed the flows to happen when it suited farmers,” he said.

"A couple of times I remember they actually held off releasing flows so the farmers could get a spill entitlement. This would not have happened before, but all of a sudden there is an agency willing to work with farmers so they have their interests looked after as well as the environment being taken care of.

"There has never been a better time than now with how the river is being managed. There is real collaboration between all parties. There are still some areas that need to be cleaned out, but I think that is more to do with a lack of funds. As far as environmental flows go, I think the CMA is very much working in sync with farmers," Steve said.

Steve talks about the improved relationship between farmers and government departments, saying "it was around 5-10 years ago that things started to shift and we now see farmers realising that the environment needs a flow. It used to be about the farm and me and now farmers realise there is an environmental aspect to it".

*"We are so close to Lakes Entrance – we can see it. Whereas I think on the Murray Darling, it's a long way from South Australia and it's a long way from a city at the end of your river. We don't have that sort of problem and we don't want to see ourselves having a problem either.*

"I think we are close enough to a holiday area that we realise we do have an impact and we do have to have some sort of an environmental flow that passes through."

So how do we really know if the environmental flows are working? Steph Suter said, "we've been working with scientists from the Arthur Rylah Institute (ARI), who have been researching what's happening in the river in response to our environmental flows".

"ARI did some recording of adult fish moving as well as egg collection. The timing and duration of that flow mimicked the natural variability of the river enough that we had fish moving down into the estuary and a big count of eggs released.

"It's really positive to see things like that, and there's also surveys done each year which are showing us which fish are actually hanging around in all of the systems," she said.

"The environmental flows are making a difference and are benefiting those fish populations in the long term by allowing them to breed and become more self-sustaining."

### **Working with the community**

The WGCMA works closely with interested parties to plan flows, making sure stakeholders are all involved, explains Steph Suter.

"For each of our river systems we bring together a range of people involved in each river system, and talk about "what are the things you actually value about the river?" From these conversations, we get a suite of objectives or values that people want to improve or maintain in the long term.

"This included resilience for fish species and getting more native fish into the river, as well as healthy vegetation in the river and looking after river bank stability. And in the river – platypus used to be quite extensive in this area and now you only get anecdotal sightings now and then.



“Through this process in the Macalister we came up with a plan so the scientists could work out the flows that each of those species or different values need. It’s a bit of a recipe book, outlining that “this flow will get that outcome”.

So we’ve been able to use that valuable information to plan flows each year and in the longer term in the Macalister River,” she said.

“We have a Macalister Environmental Water Advisory (EWAG) group in place. Each year we go through all the recent science, talk about what flows we’re planning on delivering, and get their input into if they think it’s worthwhile, and if our flows are working.

*“It’s about taking everyone along on the journey about flow management from the start to the finish each year.*

“The EWAGs are made up of local landholders and irrigators, community and fish groups, as well as government agencies.

“It’s a real mix of people who are interested in what goes on with the flows and the condition of the river. By meeting with this group a few times a year we get real insight into what’s going on, on the ground. In my role I’m really interested in the ecology, so I’m using their knowledge to ask how might this impact or work with things like irrigation seasons. I’m not an expert in irrigation, but I have experts in irrigation on the group.

“Also, people who are out and about planting trees might actually see things that I don’t see in my day to day work. It’s the historical knowledge as well – people who know about what things have changed that might be causing particular impacts or issues that are coming up.

*“We are also proud to be working in close partnership with the Gunaikurnai Traditional Owners to incorporate more of what is important to their community in how we manage the water and river as well. This is really important to the CMA, and bringing in that traditional knowledge can add a lot to our understanding of how to look after the rivers.*

Steph talks about how important engagement is with all stakeholders, saying “with the irrigation community we meet up with SRW’s customer committee (MCCC) once a year. In this area Spring is an important time as that’s when the dam is likely to spill, so that has implications for the irrigation community. It’s also the time that we like to do a delivery for our fish species.

“Information sharing is really important so there is no miscommunication around things and people understand where we are coming from.

“I think relationships and understanding have really been improving. We’re hearing what they are saying and they understand why we are making decisions,” said Steph.

“We need to find a balance between the environmental needs of the river and the irrigation, social and cultural aspects of it.”



Glenmaggie Weir today



# Improvements go hand in hand

The river has played a major role in irrigating farms over the years and it's been a real collaboration between farmers, government departments and community groups to create the modernised, efficient irrigation system you see today and manage nutrients in the district.

### "The most wonderful catchment"

Jack Dwyer speaks about the natural advantages of the catchment for irrigation on his family farm.

*"It's a marvellous thing, especially when the rest of the country is so dry. It's the most wonderful catchment. We've got an area that goes up to Mount Howitt and it can empty Glenmaggie every year and refill it every year."*

"It's not only with rainwater, its water from melting snow. It gives us a lot of confidence in Newry that we're farming with the security of the Glenmaggie Weir behind us. It serves us very, very well. It's the right weir in the right place. It looks good, it is good. We're very happy."

### Modernising the district: saving water and nutrients

Terry Clapham gives a great recollection of irrigation and nutrient management across the catchment, having spent many years working in the district.

"When I started in 1986, the district was quite similar to what it was in the 1920s. Not much had changed, we still regulated water with a very primitive method. We used wooden check bars to regulate water through different pools and different systems, it was extremely inefficient," he said.

"It was probably running somewhere between 50 and 60 per cent. So, 100 ML released from Lake Glenmaggie, only 50 or 60 per cent of that got to a farmer and went through the meter. The rest of it was lost through leakage, seepage, into outfalls, and all that eventually, ended up in the river.

"The channel system was pretty much the same. The idea of the MID channel system being the lifeblood of the district and how that interacts with the Macalister River was true then – not many people acknowledged it then, but certainly it's acknowledged now. Particularly as we move into a dry climate.

"We seemed to have plenty of water. There were scenarios where we could have potentially had six to seven megalitres a day going over a farm for the whole weekend and not being turned off until sometime on Monday.

"We actually thought we were doing the river a favour by letting water through the drain and letting it all out and giving the river a 'flush' with 'fresh' water. That's what we used to think, and that's wrong. It was actually nutrient rich, horrible water that we were putting in, rather than the nice stuff we see here in the lake.

"We quickly realised that after the water has been through our channel network and probably over a farm or two, by the time it leaves our channel system through outfalls and gets into a drain or the river, it is carrying nutrients. It's something we hadn't really considered before. We were outfalling 30,000 ML – 30,000 million litres of water every year, which ended up in the river carrying all those nutrients with it."



Glenmaggie Weir spilling spring 2020



"So, we had to change that around. With the likes of the CMA, DELWP and predecessors we were able to weave that nutrient reduction plan into something that made a big impact in this region, particularly for the Macalister," said Terry.

*"Through reducing that water loss, in the first five or six years we made a big chunk of reducing those nutrient levels and meeting our targets for nutrient flowing down into the Gippsland Lakes."*

"In 2004 we started playing around with some automated gear to get us out of that primitive way of moving water around, and that's certainly ramped up in the last 10 years to the point now that there's only a small part of the MID now that isn't modernised," he said.

### **We've changed**

A big part of nutrient reduction in the river was farmer attitudes and according to Terry this took some work.

"Why should I change? I'm not the one upsetting the river; the river's always been fine...I can see there's trees in the river" – were some of the common things we heard," said Terry.

"Seeing something in a snapshot over a short period of time, you don't really see the impact long term. The river wasn't in a good way and it's a tributary of the Thomson and the Thomson was also not in a good way.

"So the nutrient reduction plan, the modernisation of the district, the work the CMA and DELWP completed along with us and farmers to reduce those nutrient levels, was huge.

"Somehow or other I was given the task of helping a fellow from the EPA. There was a trial program going where part of the Nutrient Reduction Plan was to have an audit of the dairy farmers not only in the MID but in the region around the MID, to see what they were doing with their dairy effluent.

"As you can imagine at the time, we came across all sorts of stuff, all sorts of different arrangements.

"I think one of the classic stories was a farmer on the Macalister River between the weir and Maffra, who had a dairy farm with about 500 cows. When we went to visit him he said...what effluent system?"

"We said well, you know, when you hose out your dairy – where does all your effluent go?"



"Turns out that it was just going into the delver and straight into the river. So, 500 cows, milking twice a day, he had no effluent system at all, and it was hard for him to get it into his head because he'd done it that way for so long, same way his father did.

"That was the way we do things around here. It was difficult for farmers to get into their head that their farm can have a cumulative impact on what's going on in the river.

"I won't use the language that he used, but he said 'well as far as I know, Clapham, I haven't killed anyone yet'. There were lots of expletives in that," Terry said laughing.

"It turns out that farmer, to give him his due, he spent a lot of money on an effluent system, with help and support from DELWP and others. He was so appreciative once that system was in place, because he used that nutrient rich water to supplement his irrigation, which reduced his fertiliser demand, it was a great story."

### Doing irrigation better

The nutrient reduction program and water savings programs have attracted a lot of time and energy and many practical things were set in place to make sure goals were met.

Maffra Weir today



"In terms of nutrient reduction, not only from a community perspective from the MID, but individually on farms, there's been a huge amount of work done with DELWP and the CMA in terms of irrigation development guidelines," said Terry.

"So no one can just start up a new enterprise and willy nilly irrigate like they're probably used to. There's a formal guideline now that they have to fit within... which is great.

"Individually on farms things like reuse dams... they've been massive in terms of reusing water back on farm, rather than it going into the drain, because it's really hard when you're flood irrigating to understand how much water you're putting on, and some of it is going to escape at the end of the day, no matter how good you are.

"SRW had a program going where they gave back to farmers the use of drains to use as reuse dams. So that very drainage network that was contributing all the nutrient to rivers, there's now something like 200 kms or SRW drains back in hands of farmers and being put into use as reuse dams. These are the kind of things that both individually and as cooperative that we've able to achieve.

### The Premier Irrigation District

When told that some people refer to the region as the 'Premier Irrigation District' Terry agreed; "we want it to be the Premier Irrigation District not only in Victoria but in Australia."

*"This area has the climate and the soils and the water availability that other areas just don't. With climate change that'll be even more important. The sustainability of the MID is paramount in making sure that, as some say, we already are the Premier Irrigation District... in order to ensure that it is into the future."*



Glenmaggie Weir today



## THEN AND NOW

# Things are getting better

The Macalister River has seen many changes over time, having been degraded and then with many efforts to restore it. In this story, people share their observations about the impact of some of those changes, and about how the river is looking today.

Duncan Fraser believes the Macalister has improved a lot in recent times compared to what it was at one point.

"It's improved to what it was, but the turbidity of the water is the big thing. We've got European carp and a lot of the turbidity in my opinion comes from the weir," he said.

"Bellbird Corner of course, we've revegetated that. That's not looking like it used to, but it's a lot better than it was when we took over.

"Gradually the river is becoming more natural again. When it was cleared it wasn't a natural river, but now, with the trees falling in and the habitat re-establishing, it's a natural river again. That's the best way I can describe it."



Male Rufous Whistler, by Duncan Fraser

"The Tupong, also known as Congoli or freshwater flathead, is a fish that breeds in the saline water of the estuaries. When I was a boy it was very plentiful in the river, grew to a good size, and was a popular eating fish sought by locals.

"This was prior to the River Improvement Trust desnagging and damaging the river, which was still in a fairly natural state with deeper pools, shallow areas and sandbars. However, since the diversion weir was built obstructing their migratory path, they have all but disappeared from the river upstream. A fish ladder bypassing the weir could possibly see this native fish return to Bellbird Corner. Other native species would also benefit," said Duncan.

Jack Dwyer reminisced about times when he was growing up and the river was filled with fresh water.

"A mate of mine, we used to always go down to the crossings where the SRW channels would cross the road, and we would put nets in. Each day after we came home from school we'd go down and pick up the nets and we would always have fish in them," he said fondly.

"We would have a lot of trout and a lot of little black fish that we used to catch. We would put them all in the troughs around the farm.

"Then it got to the stage where the river started to get degraded and I think the water quality dropped off and became very cloudy. There was a time when I think the Glenmaggie Weir itself was eroding a fair bit and you would see spots where a lot of the clays have disappeared around the weir. The clays were suspended in the water and it became very cloudy.



Eastern Yellow Robin,  
by Duncan Fraser

The iconic Yellow-tailed Black Cuckatoo utilising the silver wattle regrowth that was revegetated from a bare bank, by Duncan Fraser



"I think it's improved since then. Probably in the last 20 years it's becoming fresher again. Although when you're in the water if you open your eyes it's still gritty."

Long time Macalister River farmer and son of Jack, Steve Dwyer, said he's seen great improvements in the river in the past eight years.

"I think it's gotten better, it's less silty looking, the banks are looking better and there is less carp than there used to be," he said.

Steve has memories of works done as a child to improve the river even though it may have changed his favourite camp spot. "At one stage there we had a little place we camped at, cut out of the blackberries I'm afraid to say! Anyway the River Improvement Trust came and clear felled the lot, took out the willows and I said 'Oh, its not going to be a good camping spot now!' and they responded, 'You'll be camping among native trees in a little while,' which it has ended up with and is a beautiful spot."

"People are talking about seeing platypus at Bellbird Corner as well, which is really positive.

"A lot of the river improvement works that have been done where trees were planted are starting to pay off with those trees growing and stabilising the banks. Now you have always got that environmental flow going through. I think it's a combination of all those factors that is seeing a real improvement in and around the river.

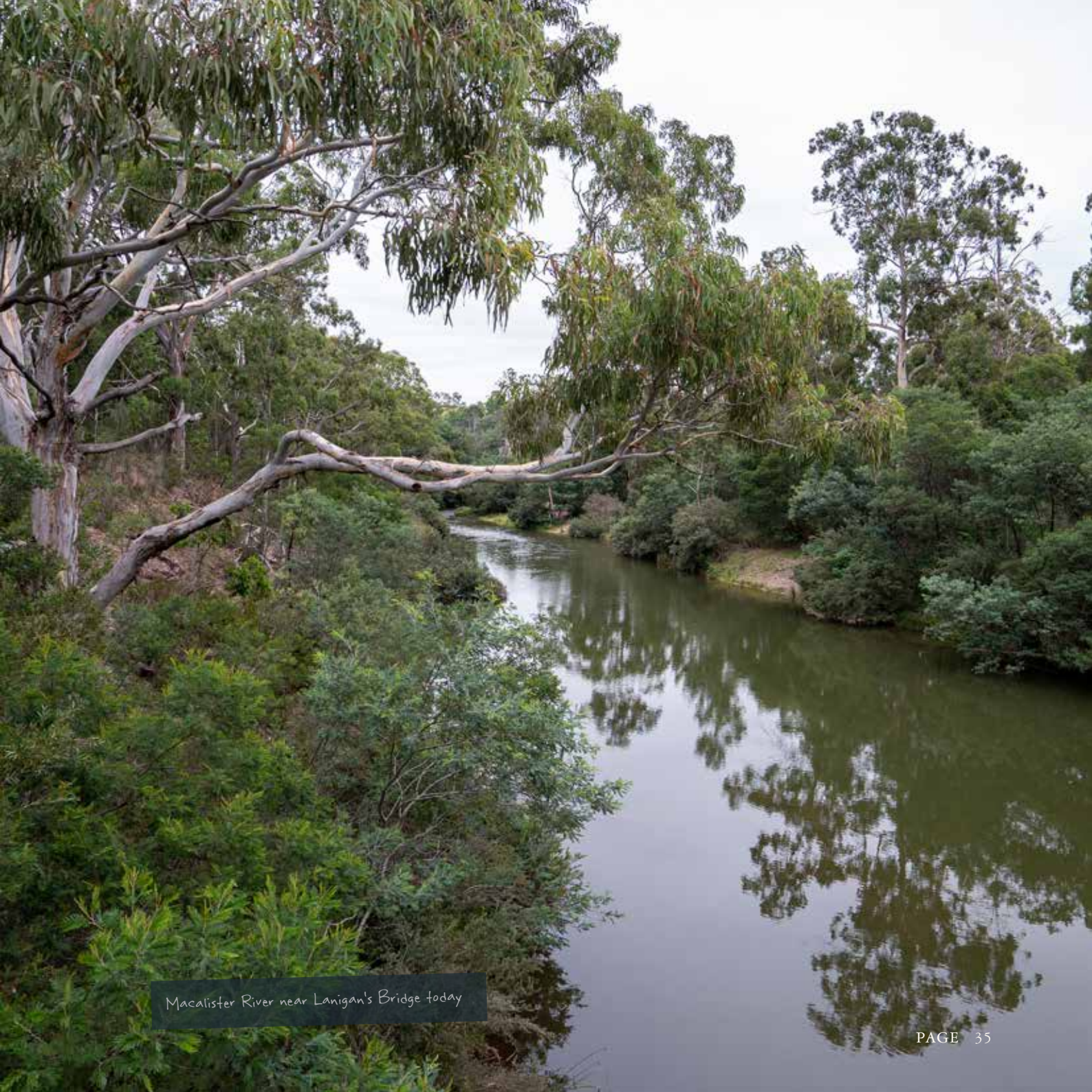
"As kids we would happily swim in the river. I'd say 20 years ago no one would have swum in there and now you could say it's actually swimmable again."

When asked what improvements he can see, Phil said "well, I can drive around and see massive improvements. The big project was getting rid of a lot of the willows out of the centre of the streams first and along banks and replacing the willows with native vegetation. That's been a great challenge to get to this stage where we can look around now and see that there's been a lot of good work done."

Steph reflects on the positive results coming out of scientific monitoring, and observations from community members about how the efforts to restore the river through environmental flows and revegetation are helping.

"Monitoring on the Macalister by the Arthur Rylah Institute is showing that the environmental flows are making a difference and hopefully benefiting those fish populations in the long term by allowing them to breed and become more self-sustaining populations. And people are telling us that they're seeing blackfish and platypus starting to come back. And that's all really exciting to see."





Macalister River near Lanigan's Bridge today



## THE MACALISTER RIVER

# Visions for the future

### Duncan Fraser

"I'd love to see the fish passage go in at Maffra Weir. We don't see the Tupong upstream of the weir anymore, and I doubt that there would be all that many eels get past either."



### Terry Clapham

"It would be awesome if Maffra Weir had a fish ladder. That way migratory species could move up and down. It's a bit isolated between Maffra Weir and Lake Glenmaggie at the moment."

### Jack Dwyer

"The weir gives us a lot of confidence that we are farming with the security of the Glenmaggie Weir behind us. It's the right weir in the right place. It looks good and it is good!"



### Steve Dwyer

"The Maffra Weir is still a barrier, and there's still more fencing and trees to plant."



### Phil Taylor

"There's still quite a bit of work to do finishing off total removal of willows from waterways and replacing them with native vegetation – I see this as the most important step."

### Stephanie Suter

"Maffra Weir is still a big barrier to fish migration in the Macalister River to get to some of the upper reaches above the weir – putting in a fish way there would allow the native fish species to get up further and use that habitat between the weir and Lake Glenmaggie for better habitat and successful population growth."





Pictured: The Macalister River downstream  
of Glenmaggie Weir showing Hagans Bridge  
and the Macalister Gorge

Back cover: Wirn wirndook Yeerung - the  
Macalister River



