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# Corangamite Catchment Region

## Regional information and activities

The information and activities in this section of the *Waterwatch Education Kit* supplement those in the Statewide section of this Kit. One approach is to conduct the Statewide activities first and apply the Statewide questions and activities to your local focus. The following specifically regional activities can then be conducted within an understanding of the broader Statewide issues related to water quality and use.

The information and activities in this Kit supplement those in *A Community Water Quality Monitoring Manual for Victoria*.

## Corangamite Catchment Region

Corangamite Catchment Region is one of the ten Catchment Regions in Victoria.

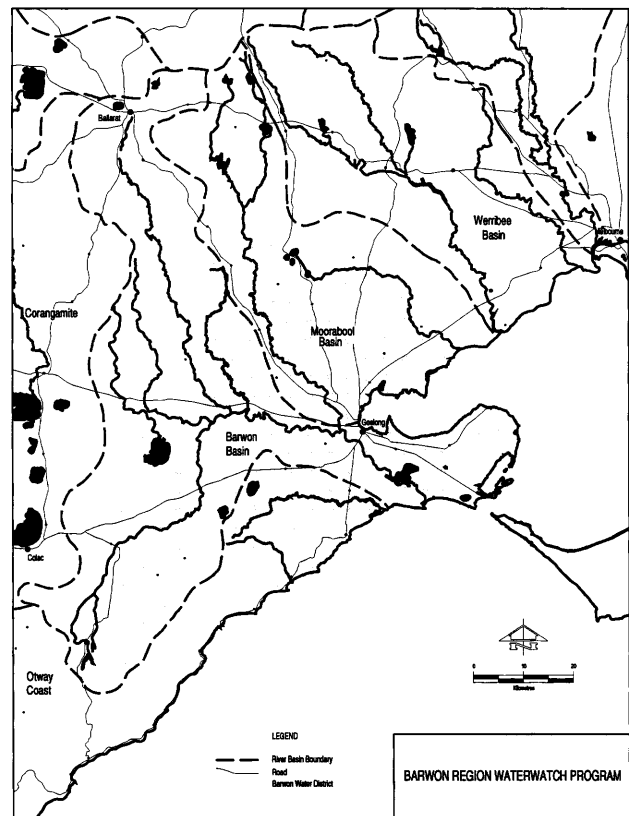
Four major drainage basins - Barwon Basin, Moorabool Basin, Otway Coast Basin and Corangamite Basin - are grouped together to make up the larger Corangamite Catchment Region. A Regional Catchment Strategy has been prepared for the Corangamite Catchment Region to assist with planning and management. Copies of this Strategy are available through your facilitator.

This section provides specific information and activities for the Corangamite Catchment Region. More focus is given to the eastern half of the region, the area covered by Barwon Water's Community Waterwatch Program.

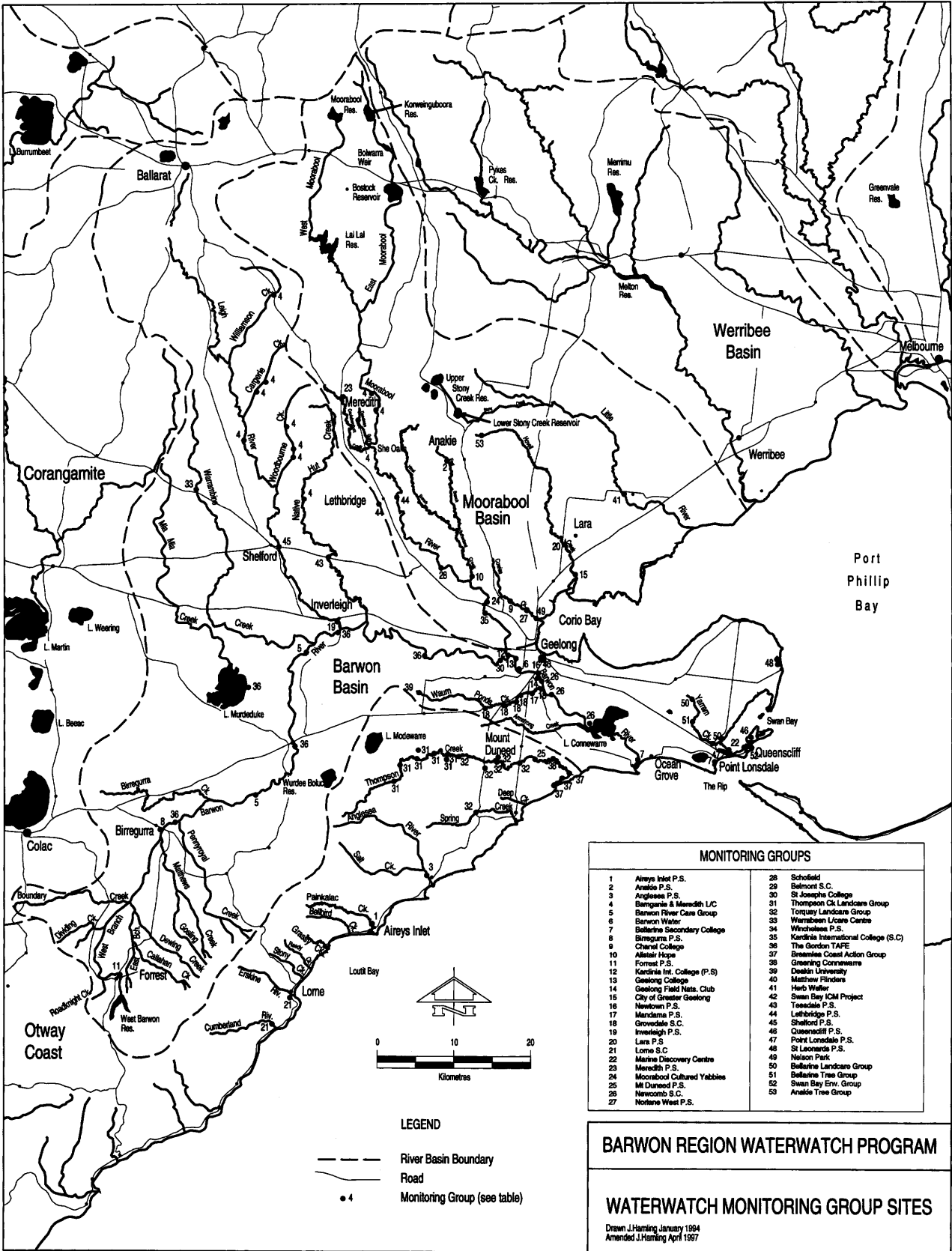
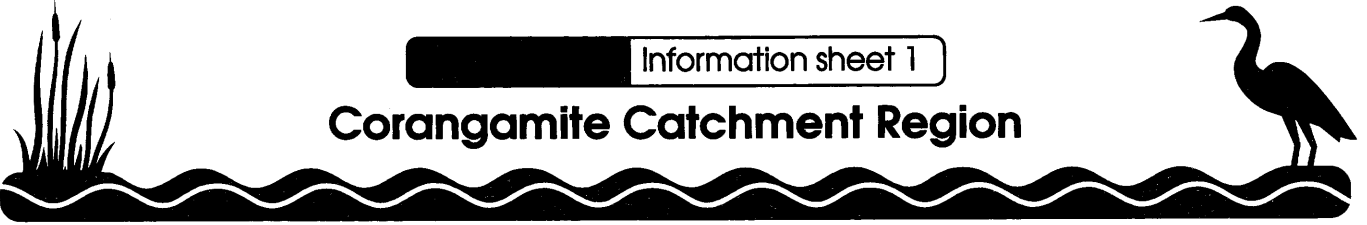


## Catchment and Land Protection Act

The *Catchment and Land Protection Act 1994* laid down a framework for a co-ordinated and strategic approach to catchment management across Victoria. Catchment and Land Protection Boards (CALP) were established in 1994 in each region to advise on the management of land and water resources in their region. The Act required that the CALP Boards prepare a Regional Catchment Strategy for their region. The desired outcome of each region's strategy is that the community manages land and water based on an understanding of and a commitment to sustainable use, conservation and rehabilitation of those resources. In July 1997 nine new Catchment Management Authorities (CMAs) with expanded roles replaced the CALP Boards. Each CMA is made up of local representatives from land and water management agencies, local councils and representative community groups [check]. The CMAs will use the Regional Catchment Strategies as their blueprint for integrating and delivering land and water management programs into the next century.



# Corangamite Catchment Region



# Corangamite Catchment Region



## Yollinko Wetlands

This wetland had all but vanished until recently. All that remained were the tough water plants that could survive the eating and trampling of cattle (Lignum and Water Couch).

The Yollinko Wetland has been restored as an initiative of Barwon Water. The project has been assisted by the State Government through employment training programs and many community groups have assisted with tree plantings. Boardwalks have been included to let visitors experience this fragile wetland environment without damaging it.

## Yollinko Living Station

Yollinko Living Station has been a cooperative venture between the Wathaurong Aboriginal Co-op Barwon Water, the City of Greater Geelong, and Highton Rotary. The gardens surrounding the Aboriginal midden exhibit plants used by the local Koori population.

## The wetlands

The wetland is a rich and diverse environment that complements the Barwon River. It is dependent on and urban stormwater runoff from Newtown which is directed into Balyang Sanctuary before discharging into the wetland site. Yollinko Wetland fills with the floods of winter and spring, then gradually dries out during summer and autumn. Its wetland plants have evolved in a cycle of flood and drought. There is a natural succession of plants as the water level changes. Green algae are a normal and important part of ephemeral wetlands as they provide food and cover for invertebrates such as water snails. In summer the algal mats dry out at the muddy margins.

## Stan Lewis Walk

This 2.5 km walking track between Queens Park and Princess Bridge has been the site of one of Geelong's largest revegetation projects. From the early 1990s, woody weeds such as Boxthorn and Ash have been removed and replaced with indigenous trees, shrubs and grasses. This project has received several state and federal environmental awards.

## Fyansford Information Centre

The centre has information displays about the Barwon River and its human and natural history.

## Additional regional resources

The following publications contain useful additional information specific to the Corangamite Catchment Region.

### Education materials

*The Water Cycle*. J. Dart & M. Galletly. Barwon Water. 1993. This education kit includes the following activities and information:

Geelong's Water Supply History information, pages 27-28; activities, pages 33-35.

Geelong's Water Supply Today information, pages 37-39, 57; activities, pages 45-56.

Water Treatment information, page 59; activity, page 61.

Wastewater information, pages 63-65, 73-76; activities, pages 67-72, 77-81

Barwon River information, pages 83-85; activities, pages 87-93

Barwon River History information, pages 95-96; activities, pages 97-101

Barwon River Today information, page 103; activity, page 104

Environment Issues information, pages 105-110, 121, 131-132; activities, pages 111-120, 123-129

*Barwon River Environment Trail*. A unit of work for upper Primary School students. Barwon Water. 1997.

### Plant and animal lists

*The Water Cycle*, pages 88-89

*Barwon River Flora*. Barwon Water booklet.

*Barwon River Fauna*. Barwon Water booklet.

### Brochures

*Yollinko Park Aboriginal Garden*. Barwon Water.

*Barwon River Environment Trail*. Barwon Water.

### Cultural heritage

*The Cultural Heritage of the Barwon River*. A study commissioned by Barwon Water. Bev Roberts. 1993.

*Do you remember? Memories of the Barwon*. Gordon College and Barwon Water.

These two publications are the sources of quotes in the Wathaurong and European information and activity pages of the Corangamite regional section of this Kit.

### Regional catchment strategy

*Corangamite Regional Catchment Strategy*.

Corangamite Catchment & Land Protection Board. June 1997.



# Wathaurong ways

## Key Learning Outcomes

### Level 4

#### SOSE: Place and Space

Analyse how people's beliefs & practices influence the ways they interact with places.

#### Time, continuity & change

Describe ways of life of people in the past.

Portray an event or occasion from a particular perspective.

#### Resources

Explain factors that affect resource use & development.

#### Natural & social systems

Describe responses of different elements (including people) to change in natural systems.

### Level 5

#### SOSE: Place and Space

Explain how peoples' use of natural environments changes over time.

#### Resources

Describe how resources are owned and accessed.

#### English

## Aims

- to develop understandings about how the Wathaurong people used waterways and water related resources in the region

## Materials

Information sheet 3: People who belong to the water

Student sheets 1A and 1B: Names and remains along the Barwon

Refer to the Aboriginal uses of waterways information and activity pages in the Statewide section of this Kit.

## Additional resources

Barwon River History information pages 95 in *The Water Cycle*. J. Dart & M. Galletly. Barwon Water. 1993.

*Barwon River Environment Trail*. A unit of work designed for upper Primary School students. Barwon Water. 1997. Activity 8: Yollinko wetland; Activity 10: Useful plants.

*Yollinko Park Aboriginal Garden* brochure. Barwon Water.

## Advanced preparation

- Duplicate the required number of the information and student sheet listed under Materials.
- Based on your students' reading levels decide whether the activity will be best done in small groups or individually, or whether you will read the information sheet out aloud to the class in sections, as related to each site to be mapped on Student sheet 1B.

## Activities

- Distribute Information sheet 2 and Student sheet 1A and 1B.
- Read out, or have students read the information and map the named sites onto Student sheet 1B.
- Students write a story about a Wathaurong family group, describe their lifestyle, especially the ways in which they collected, used and managed water and water related resources.
- Summarise as a class some ways in which the Wathaurong people used rivers and wetlands, and how these resources influenced their lifestyle.

## Extension

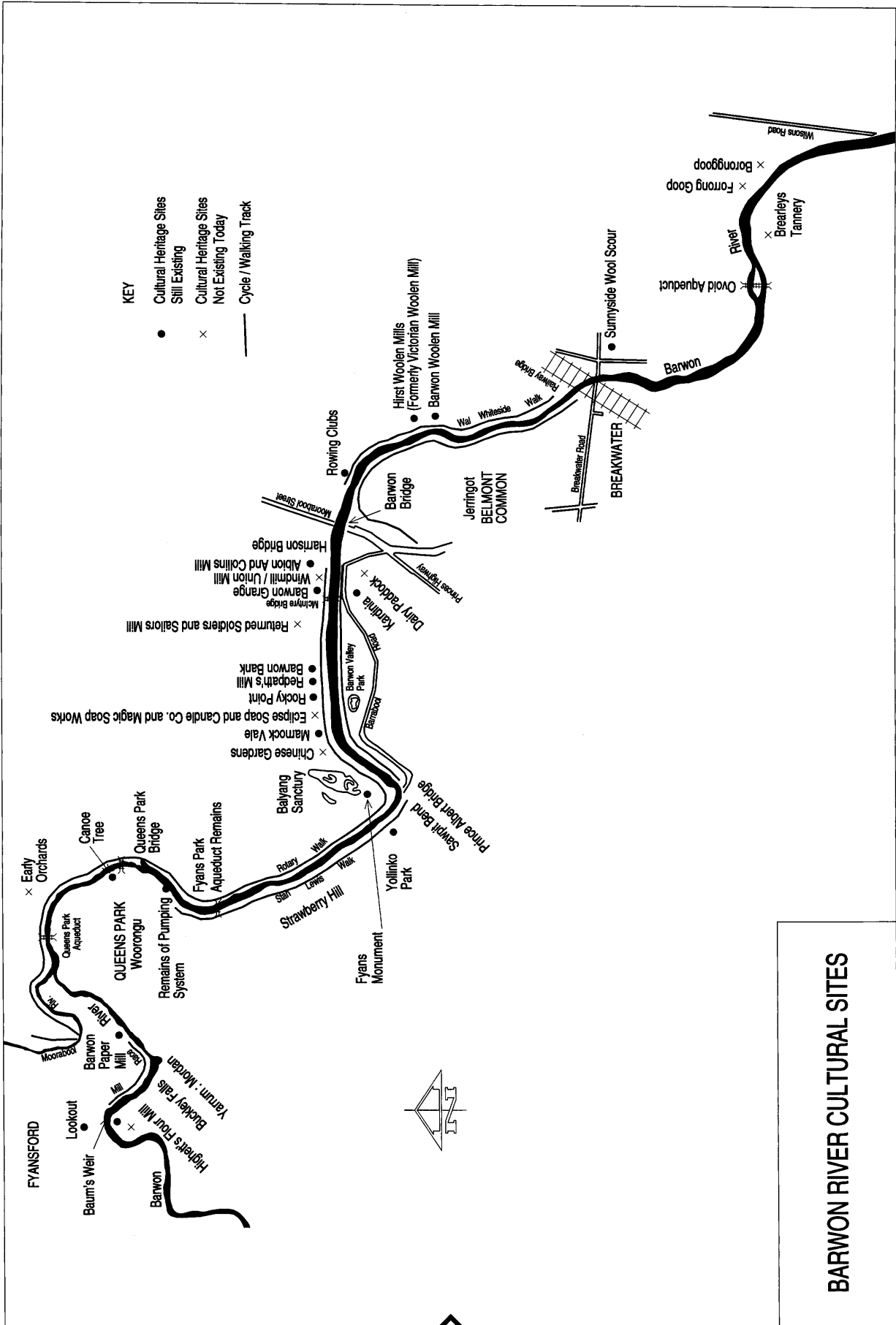
- Arrange for a local Aboriginal Cultural Officer to meet with your class.
- Visit the Yollinko Park Aboriginal Garden. The gardens surrounding the Aboriginal midden and mound displays plants used by the local Koori population.
- The Aboriginal names given to some areas of the river show their significance as sources of particular foods.
  - Boonea: Yallock (above Baum's Weir) - a place for trapping eels and fish.
  - Porrong: Goop (Boronggoop) - place of quails.
  - Liep: Liep (Lap Lap or Lib Lib, near Reedy Lake) - place of the waterbird Lewin's Rail.
  - Koo: N: Warre (Lake Connewarre) - mud oyster water.
  - Balliang - the place of bulrushes.

## Wathaurong Aboriginal Co-operative

About 1200 descendants of Victorian Kooris live in the Geelong - Otway region. The Wathaurong Aboriginal Co-operative based in Geelong is a centre of education and cultural awareness regarding Koori heritage in the area.



# Wathaurong ways



BARWON RIVER CULTURAL SITES



## People who belong to the water



### The Wathaurong

Wathaurong means 'people who belong to the water'. The Wathaurong tribal area covered most of the present day Barwon and Moorabool River Basins and part of Otway Coast and Corangamite River Basins.

The Barwon River was an important part of the Wathaurong's territory. Their pattern for hundreds if not thousands of years was to move each year between their established camping sites along or near the river. Depending on the food supply they stayed briefly, or for 2-3 months.

The number of Aboriginal people in the Western District was perhaps 2000 to 3000 but, following white settlement, their numbers quickly fell. After only 50 years, the traditional system which had supported the Aborigines for centuries no longer existed. The last member of the Wathaurong tribe died in 1885.

### Using the Barwon River

It is the lack of evidence of the Wathaurong's impact on the river which tells us most about their special relationship with it - it tells us they had little impact.

The Wathaurong lived and hunted along the Barwon using the river's natural resources. The river was a source of food, shelter and clothing. Moving from place to place according to the seasons and food sources, they used most sections of the river. The river's estuary, and the coastline and intertidal zone are very rich in food and were the focus of much of their everyday existence.

While the men might trap or spear fish in the river, the women would collect the new young rhizomes of reeds at the water's edge, or fruits, gum and nectar from the riverside trees.

#### Animal foods

The river itself provided fish, shellfish, eels and water birds. Kangaroos were caught coming to drink. Possums were caught in riverbank trees.

#### Plant foods

Plant foods were easily collected. The sweet, starchy tubers of Water Ribbons were cooked in earth ovens. The tough starchy roots of Small-leafed Clematis and Blushing Bindweed were cooked in baskets and kneaded into dough on a small sheet of bark. The underground stems (rhizomes) of Bracken were roasted in hot ashes and then beaten to break up its hard fibres. Mistletoe flowers and fruits were used for sweetness, as were Lerps (the surgery covering of a tiny insect that lives on eucalypt leaves).

#### Tools

To carry water from the river the Wathaurong people made water containers from a sheet of fresh acacia bark about 30 x 50 cm, bent double and sewn up each side with sinews. The seams were caulked up with cement made of wattle gum and wood ash made in hot water. For a small water bag the pouch of a kangaroo was used. A larger water bag was made from the skin of a male Brush Wallaby, cut at the neck and sewn water tight with ligatures.

The plentiful Tea-tree and Reeds were made into spear shafts. Wattle and Red Gum trees were ideal for boomerangs (wanguim). Marine shells and fresh-water mussel shells were used for knives

Bark from the riverside trees provided ready-made cover for shelters. Wood was used to make handles for weapons and tools. Wattle gum was made into glue by chewing balls of the gum or dissolving it in water. Some of the local stone was used for tools. Barrabool sandstone was used for sharpening axe heads or grinding wattle or grass seeds into flour.

### Trading

The Wathaurong traded products and resources from their local area. The Barwon River region was known for its trading in stone for axes, special wattle gum for adhesives, and shells for knives.

### Bunyips

The Barwon River was also the home of a local mythological creature, the Bunyip. According to members of the Wathaurong, the local Bunyip was a fearsome creature responsible for a number of deaths. Its breast was said to be covered with different coloured feathers, and its usual method of killing its prey was by hugging it to death.

*... it did not come on land except on extremely hot days. (its) head resembled an emu with a long bill at the extremity of which was a transverse projection on each side with serrated edges like the bone of a stingray. It's legs were long and resembled a crocodile's with sharp claws, and stood 12 or 13 feet [about 4 metres] in height. When in water it swam like a frog, and when on land it walked on its hind legs with its head erect.*

1845 quote from a Wathaurong tribe member who believed his mother was killed by the Bunyip.

# Names and remains along the Barwon



## Names and sites along the Barwon River

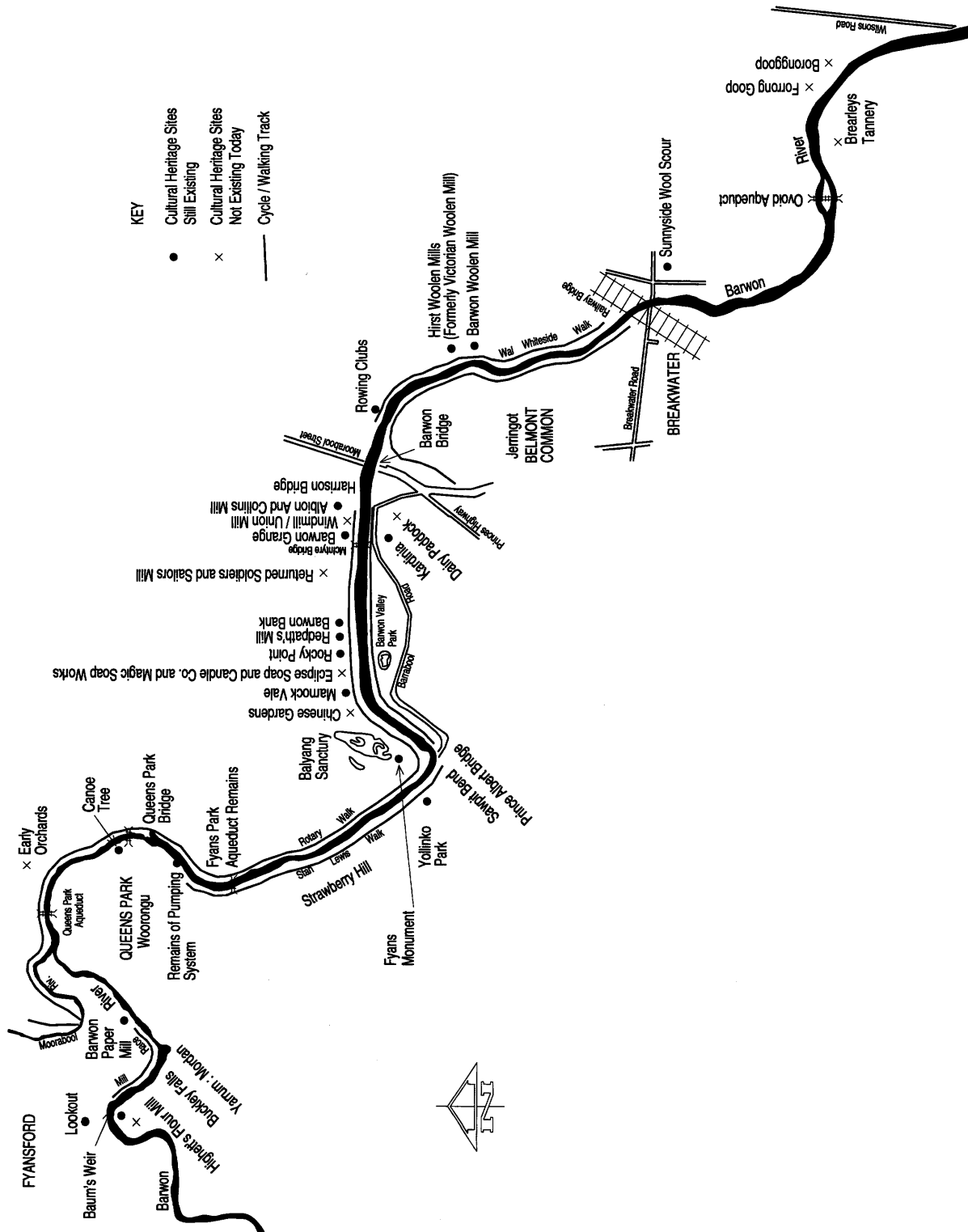
1. **Barwon River -BARRE : WARRE : N: YALLOCK** - means the great river (Yallock) that ran from the mountains (Barre) to the ocean (WARRE).  
*Aboriginal people don't often name a river because how can you name a river when the water is flowing away from you? Instead they had names all along the river where they camped. In the case of the Barwon they did have a name for it.*
2. **Moorabool - MOORA** means ghost.  
*There was a very large lagoon on the Moorabool river and the Aboriginal people believed ghosts lived there. The Moorabool also means Cooloo and this is a night bird, so they only heard it, never saw it, so they thought it was the voice of a ghost.*
3. **Buckley Falls - YARRAM MORDONG, YARRAM** means a waterfall or rapid and **MORDONG** means eels.  
*The eels don't breed here, they go down to the sea and swim away. When they come back, they are only little tiny things . . . about eight centimetres long, they wriggle up where the water is running over the rocks.*
4. **Fyansford - BUKAR BULAC** means a place between two rivers; Fyansford lies at the junction of the Moorabool and the Barwon rivers.  
*Bukar:Buloc was a significant area to the Wathaurong tribe as one of the locations on their seasonal food-gathering route which was followed each year. This site was a major source of eels and fish.*
5. **Queens Park - WOORONGA** means trees which had protruding gnarls. It is also thought the name represented the shape of the river at this site which curves in a 'gnarly' manner.  
*Gnarls were useful when making coolamons (containers). There were lots of trees where they cut these gnarl's off and they would make vats to hold water. The vats were kept with fresh water in them and they used to make nice drinks for the little children by soaking flowers to get honey out of them. They also put gum in it and stirred it up. When the children came back from the morning's foraging they would offer them a honey drink - that was why they needed these great vats to keep water in.*  
  
The stump of a River Red Gum 'canoe tree' can be seen today at Queens Park. The tree's bark has been stripped to make a simple canoe.  
*... a huge dish-shaped sheet or bark was stripped from a mature gum tree. It could be used only on calm water. The flat craft was punted along by a long pole which also served as a fish harpoon ... As well as fishing for eels by torchlight, the canoe was ideal for pursuing aquatic birds in moult or for harvesting their eggs.*
6. **Kardinia Creek - KA: DIN :IU** means the hissing of a snake and perhaps refers to the rippling of the tide as it moved upstream. This was a Wathaurong camping place.  
*There is a mound at Yollinko Park . . . There were 800 artefacts on one mound.*
7. **Yollinko. YOLLINKO** means yesterday.  
*The Wathaurong people camped here in winter for 5000 years. It was an ideal place, sheltered from all winds, and up to 2 degrees warmer than up on the ridge. Fresh water was available from the creek and there were plenty of waterfowl, fish and freshwater mussels to eat. Across the river are the wetlands which provided good hunting. There is also a mound or fishing stage (located where Princes Bridge now is) which provided a flat space from which fish could be caught when the river was flooding.*
8. **Porrong:Goop (Boronggoop)** - place of quails.
9. **Belmont Common-** was called **JERRINGOT** means water all around or a place of billabongs.
10. **Waurn Ponds Creek - WUURRN YALLOCK** means homes along the river.
11. **Reedy Lake- BANGI: BALLA** means inert or placid water.
12. **Barwon Estuary - KOOURIN** means neck.
13. **Barwon Heads - KOLO: ET KOLO** means fresh water. Salt water meets fresh water here.





# Names and remains along the Barwon

1. Mark onto the map below all the Wathaurong sites mentioned on the previous page.
2. Mark onto the map below all the European sites mentioned in Information sheet
3. European settlement in the region.



# European settlement of the region



## Key Learning Outcomes

### Level 4

#### SOSE: Place and Space

Analyse how people's beliefs & practices influence the ways they interact with places.

#### Time, continuity & change

Describe ways of life of people in the past.

Portray an event or occasion from a particular perspective.

#### Resources

Explain factors that affect resource use & development.

#### Natural & social systems

Describe responses of different elements (including people) to change in natural systems.

### Level 5

#### SOSE: Place and Space

Explain how peoples' use of natural environments changes over time.

#### Resources

Describe how resources are owned and accessed.

#### English

## Advanced preparation

1. Look through *The Water Cycle* education kit and decide which activities and information pages from that publication you want to include as part of this topic.
2. Based on your students' reading levels decide whether the reading activities will be best done in small groups or individually, or whether you will read the information sheet out aloud to the class in sections, as related to each site to be mapped on Student sheet 1B.
3. Duplicate the required number of information and student sheets listed under Materials, and required pages from *The Water Cycle*.
4. Prepare an overhead of Blackline master 1: Map 1 of Corangamite Region.

## Activities

1. On an overhead of Blackline master 1, locate your town. Can students identify nearby rivers and reservoirs? Show the location of these on the overhead map. Identify the reservoir(s) that now supply your town with water. [Refer to Information sheet 3.]
2. Make the point that the water that comes out of your taps today comes from nearby rivers [*name them*] and that water from these rivers is stored in reservoirs. Early settlers did not have water on tap and had to obtain it directly from rivers and this affected settlement patterns. It was often quite a task for people in the 1800s to get clean water every day.
3. Distribute copies of page 28 of *The Water Cycle*, Student sheet 2: Water supply for Geelong, and Blackline master 2: Map 2 of Corangamite Region. Students read the information page, complete the timeline and label the mentioned sites onto the regional map.  
Discuss the results as a class to summarise the major events and significance of these to the region.
4. Distribute Information sheet 3: European settlement in the region and Student sheet 1B: Names and remains along the Barwon.

## Aims

- to develop understandings about early European uses of waterways and water related resources in the region

## Materials

Student sheet 2: Water supply for Geelong and region

Water Supply information on page 28 *The Water Cycle*

Blackline master 1: Map 1 of Corangamite Region

Blackline master 2: Map 2 of Corangamite Region

Information sheet 3: European settlement in the region

Student sheet 1B: Names and remains along the Barwon

Refer to the European history information and activity pages in the Statewide section of this Kit.

## Additional resources

*The Water Cycle*. Barwon Water. 1993. Geelong's Water Supply History information, pages 27-28; activities, pages 33-3; Barwon River History information, pages 95-96; activities, pages 97-101.



## European settlement of the region cont.



5. Read out, or have students read the information sheet and map the named sites onto Student sheet 1B. Emphasize the important role of the Barwon River in the development of the region.

Use an overhead of the Student sheet 1B to show the historical sites along the Barwon and summarise their impacts on the river and the town, beneficial and detrimental.

6. As a class, list the ways in which the Barwon River was used from the 1830s to 1940s by people and industry.

*[E.g. for people's drinking water, water for household uses such as washing and gardens, water for livestock; for generating steam power; water for industrial processing in wool, paper and tanning factories; a drain for discharging wastes from these factories; a drain for household sewerage; water for orchards and market gardens.]*

Discuss why all these uses could not continue.

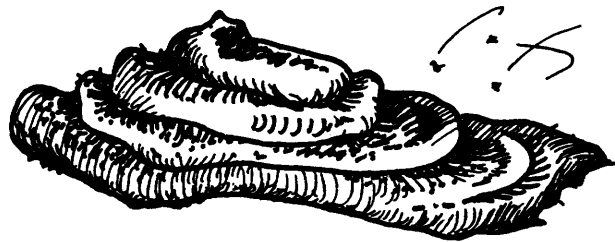
*[Some activities polluted the water which meant it became a health hazard and could not be used for purposes that required high quality water.]*

7. Students write a story describing the life of a family of early settlers in the region in the mid 1800s. This could cover a period of drought or flood as well as a time of typical river levels. The essay should explain the ways in which the family collected, used and managed water, what they needed water for (e.g. domestic use, stock, crops), and what the quality of water was like.
8. Summarise as a class some ways in which early European settlers used rivers, and how these resources influenced where they settled and their lifestyle. *[e.g. needing to travel to the river every day, or buy water in barrels].*

### Extension

#### Maths

Students use the map to estimate the distance water flows from the relevant reservoir(s) to their town.



# Water supply for Geelong and region



1. Read the information on page 28 of *The Water Cycle*.

## Complete this timeline.

- 1866 Geelong's first reservoir is made by building a dam across \_\_\_\_\_ Creek in the Brisbane Ranges.
- 1898 After a drought that year, it was decided to divert water from the \_\_\_\_\_ River to Stony Creek Reservoir.
- 19\_\_\_\_ The Geelong Waterworks and Sewerage Trust began sewerage the city.
- 1914 K \_\_\_\_\_ Reservoir near Ballan was built.
- 1954 Geelong was in danger of running out of water in times of drought, even though the \_\_\_\_\_ near Winchelsea and the Bostock Reservoir on the \_\_\_\_\_ had been built.
- 19\_\_\_\_ The West Barwon Reservoir was built to overcome drought water shortage.
- 1970s Geelong Waterworks and Sewerage Trust began testing for \_\_\_\_\_
- 1972 The \_\_\_\_\_ Dam is built on the West Moorabool River. This water is shared with \_\_\_\_\_.
- 1984 A number of smaller water authorities in the region merged with Geelong Waterworks and Sewerage Trust to become the Geelong and District Water Board.
- 1994 Barwon Water is the new name for the region's water authority.
- 1997 Barwon Water merges with Otway Water but retains the name 'Barwon Water'.

2. Label the rivers, waterways, water storages and other mentioned sites onto your map of the region.

