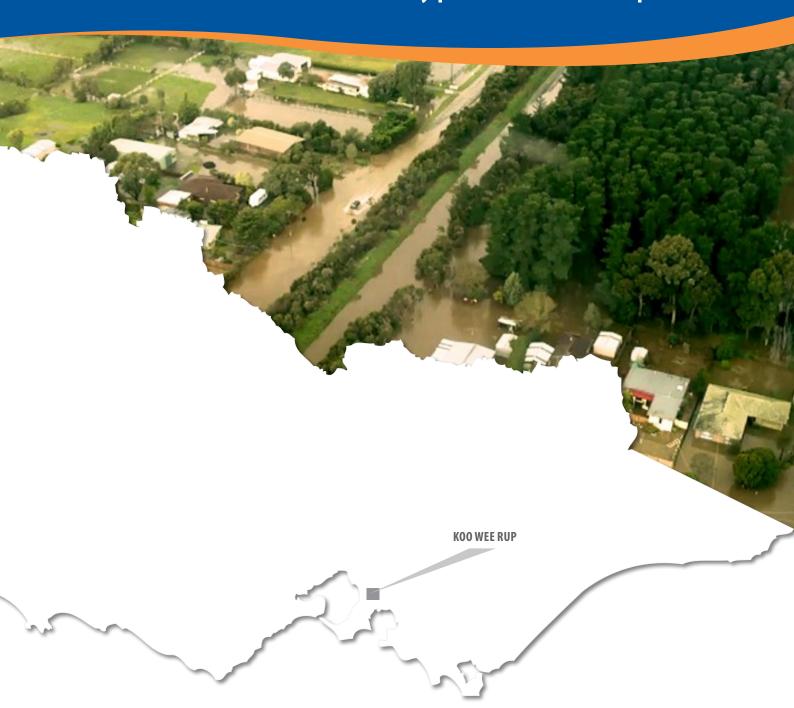




Flood information for the Bunyip River at Koo Wee Rup







#### The Koo Wee Rup area

Cardinia Shire has an area of approximately 1,280 square kilometres, and is located 45 kilometres east of Melbourne CBD. The shire extends from the Dandenong Ranges in the north to Westernport Bay in the south. It comprises rapidly growing residential areas, rural farmland including significant wetlands, densely vegetated rolling hills, plains and swamps. The Shire contains the urban growth areas of Beaconsfield, Officer and Pakenham, and the townships of Upper Beaconsfield, Cockatoo, Emerald and Gembrook, Bunyip, Garfield, Koo Wee Rup, Lang Lang, Nar Nar Goon and Tynong.

The township of Koo Wee Rup is located approximately 60 kilometres southeast of Melbourne. Prior to European settlement the area was occupied by the Bunurong Aborigines. It is from their language that the town's name derives-'ku-wirup' allegedly meaning 'plenty of blackfish' or 'blackfish swimming'.

The Bunyip River is the main waterway in the Koo Wee Rup area. The map below shows the potential impact of a major flood in the Koo Wee Rup township:

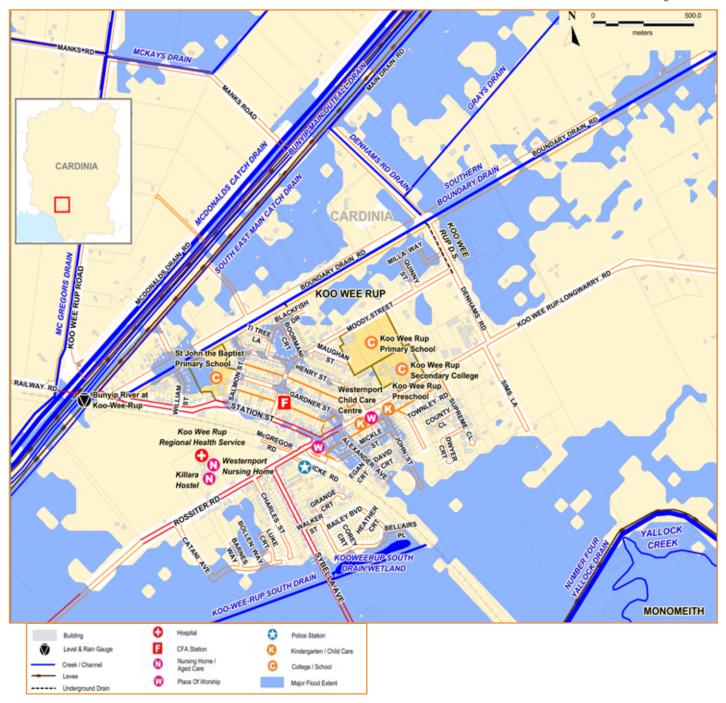
#### Your local emergency broadcasters are

- ABC Melbourne 774 AM
- 3AW 693 AM
- FOX 101.9 FM
- NOVA 100.3 FM
- SEN 1116 AM
- Triple M 105.1 FM
- Stereo 97.4 FM
- Plenty Valley 88.6 FM
- SKY NEWS Television

#### **Cardinia Shire Council details:**

Phone: 1300 787 624

Email: mail@cardinia.vic.gov.au Web: www.cardinia.vic.gov.au



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# Your Local Flood Information

# Know your risk

### Are you at risk of flood?

Cardinia Shire is particularly prone to both inland and coastal flooding. The lowlands of the extensive Koo Wee Rup Swamp originally formed from a depressed basin between the Tyabb Fault and Heath Hill Fault. While these features extend outside the municipal boundary, the Great Swamp of the lowland is a dominant landscape feature of the region covering over 400 square kilometres with extensive flat areas surrounding the swamp.

Typically the flatter regions became a deposition zone for the larger catchments that drain into the area. This has formed a series of connected wetlands that gave rise to the extensive peat swamps and lowland terrain of today.

Floods typically occur in the low-lying areas of Cardinia Shire, however, flash flooding can occur in other areas as a result of short bursts of heavy rain fall that cannot drain away quickly. Any property on the low side of a street may be at risk. In addition, there is also a risk of flooding caused by drains overflowing. Every flood is different. The map opposite is a guide only and may not be representative of every flood event.

Since records began in 1891, Cardinia Shire has had 15 recorded flood events. The Koo Wee Rup Township has been affected on a number of these occasions. As the area sees slow water movement due to the flat terrain, when flooding occurs, it can last for a number of days or even weeks.

During floods a number of essential services in the Koo Wee Rup area are at risk, including:

- Major and local roads are at risk of closure during flooding around Koo Wee Rup including the South Gippsland Hwy, Koo Wee Rup - Longwarry Road, Ballarto Road, Koo Wee Rup Road, Bunyip River Road and Koo Wee Rup - Pakenham (Healesville) Road.
- Koo Wee Rup Hospital access could be limited due to local road closures.
- Koo Wee Rup Police and Country Fire Authority (CFA) stations could be isolated if local roads become inundated.

### Did you know?

Koo Wee Rup has a history of flooding including in 1900, 1901, 1911, 1923, 1934, 1937, 1996, 2011 and 2012. Most of these have resulted from heavy rainfall falling in a short period of time.

In February 2011, heavy rainfall in the area resulted in:

- Victoria State Emergency Service (SES) issuing an emergency alert to over 6,000 individuals with recommendations to evacuate in the Iona, Cora Lynn, Koo Wee Rup and Bayles areas
- Management having to evacuate 51 patients from the Koo Wee Rup Hospital due to the potential isolation of the building.
- Inundation of farms between McDonalds Drain Road, Ballarto Road and Fechner Road with some stock loss and fencing damage, residents in the Koo Wee Rup Township were also isolated due to road inundation.

In 2012, floods in Cardinia Shire and in particular in the Koo Wee Rup area resulted in road closures, damage to local crops, public and private property and rehousing of people and animals.

While no two floods are the same, floods like this or worse could occur again.

If you live close to a creek, river or in a low-lying area you may be at risk of flooding. Even if you are not directly affected, you may still need to detour around flooded areas.

### Flooding in Koo Wee Rup

During a flood, Cardinia Shire Council and the SES recommends the following actions for Koo Wee Rup residents:

- Follow your Home Emergency Plan (see page 5).
- Monitor the Victoria State Emergency Website (SES), Bureau of Meteorology and Melbourne Water websites for information about your area.
- Tune into your emergency broadcaster to listen to warnings and advice (see page 2).

During a flood, the Koo Wee Rup Community Centre may be used as a meeting point and information hub.



The Koo Wee Rup Community Centre

### **Flash Flooding**

When flash flooding is likely, if you decide to leave, do so **well before** flooding occurs. Leaving early before flooding occurs is always the safest option. You may decide to shelter with neighbours, family or friends in a safer area.

Evacuating through floodwater is very dangerous and you may be swept away. NEVER drive, ride or walk through floodwater: you don't know what you're getting into.

If you do not leave early enough and become trapped by rising floodwater inside your home or business, stay inside your building and seek the highest part e.g. a second story.

If your emergency is life-threatening, call 000 (Triple Zero).

# **About Flood Warnings**

#### What warnings mean

**Flood Watches** and **Flood Warnings** are issued by the Bureau of Meteorology (BoM) to tell people about possible flooding.

A **Flood Watch** means there is a developing weather pattern that might cause floods in one or two days.

**Flood Warnings** mean flooding is about to happen or is already happening. There are Minor, Moderate and Major flood warnings.

#### A Minor Flood Warning means floodwater can:

- Reach the top of the river banks
- Come up through drains in nearby streets
- Cover low-lying areas including riverside camping areas
- Affect some low-lying caravan parks
- Cover minor roads, tracks and low level bridges
- Spread across land or go into buildings on some properties and farms.

#### A Moderate Flood Warning means floodwater can:

- Spill over river banks and spread across low-lying areas
- Start to threaten buildings, roads, rail, power and other developments
- Require evacuation in some areas
- Cover main roads.

#### A Major Flood Warning means floodwater can:

- Cause widespread flooding
- Threaten more houses and businesses
- Cause properties and whole areas to be isolated by water
- Disrupt major roads and transport routes
- Require many evacuations.

The SES will give information about how the floodwater might affect people and properties. This includes safety messages to remind you what to do.

#### **Severe Thunderstorm Warnings**

Thunderstorms are classified as severe, due to their potential to cause significant localised damage through: wind gusts, large hail, tornadoes or flash flooding. Severe thunderstorm warnings are issued to the community by the Bureau of Meteorology.

#### **Severe Weather Warnings**

These warnings are issued to the community by the Bureau of Meteorology when severe weather is expected that is not directly related to severe thunderstorms, tropical cyclones or bushfires. Examples of severe weather include damaging winds, flashflooding and dangerous surf or tides.

Listen to Severe Thunderstorm and Severe Weather warnings for your area. If you hear a warning, check the Bureau of Meteorology and Victoria State Emergency Service for information and advice.

**Flash flooding** occurs because rain falls faster than the ground has the ability to absorb, causing water run-off into low-lying areas and into local drainage systems unable to cope with the volume of water. This results in water rising rapidly and flowing powerfully and quickly.

#### Flash flooding:

- Occurs so fast that it is often difficult to provide a detailed warning. Often it arrives without warning.
- Usually results from heavy rainfall falling during severe storms over a short time.

Remember, you may not receive any official warning.

Emergency assistance may not be immediately available. Be aware of what is happening around you to stay safe.

Never wait for a warning to act.

#### **Emergency Alert**

SES may provide alerts to the Koo Wee Rup community through the Emergency Alert telephone warning system. All Emergency Services can use Emergency Alert to warn communities about dangerous situations by voice message to landline telephones or text message to mobile phones.

If you receive a warning, make sure that all family members, people at work and your neighbours are aware of the situation.

If you receive an Emergency Alert you should pay attention and act. It could mean life or death.

If you need help to understand a warning, ask a friend, neighbour or family member.

#### **Warnings for Koo Wee Rup**

For Koo Wee Rup, Flood Warnings, Thunderstorm Warnings and Severe Weather warnings are issued by the Bureau of Meteorology. Flood Warnings provide predictions of flood size (minor, moderate or major), time and possible height of the Bunyip River.

Severe Weather Warnings and Severe Thunderstorm warnings will be issued with alerts of what to expect including if there is heavy rainfall expected in your area.

# **Preparing for Floods**

#### **NOW** - before a flood

- Check if your home or business is subject to flooding. For more information, contact Cardinia Shire Council.
- Develop an Emergency Plan.
- Check if you could be cut off by floodwater.
- Know the safest way to go if you decide to leave your property and plan an alternative route.
- Check your insurance policies to ensure your equipment, property and business are covered for flood damage.
- Keep a list of emergency numbers near the telephone.
- Put together an Emergency Kit.

#### When a flood is likely

- Take action. Follow your Emergency Plan.
- Listen to your radio for information and advice.
- Check your neighbours are safe and know about the flood.
- Stack possessions on benches and tables with electrical goods in the highest places.
- Anchor objects that are likely to float and cause damage.
- Move rubbish bins, chemicals and poisons to the highest place.
- Put important papers, valuables, photos and other special personal items into your Emergency Kit.
- Business owners should raise stock, business records and equipment onto benches and tables.
- Rural property owners should move livestock, pumps and machinery to higher ground.
- If you are likely to be isolated, have enough food, drinking water, medicine, fuel and other needs to last at least three days.
- Do not forget pet food and stock feed.

The time for me to evacuate is before:			

# Prepare a plan

#### **Your Emergency Plan**

Emergencies can happen at any time, with little warning. People who have planned and prepared for emergencies have reduced the impact and recovered faster.

Taking the time to think about emergencies and make your own plan helps you think clearly and have more control to make better decisions when an emergency occurs.

Your Emergency Plan should identify:

- The types of emergencies that might affect you.
- How those emergencies might affect you.
- What you will do before, during and after an emergency.
- Where to get more information.
- Where you will go if you evacuate and the best way to go in different circumstances.
- A list of phone numbers you will need, including emergency services, your insurance company, friends and family.



Visit **www.ses.vic.gov.au** to obtain a copy of your Home Emergency Plan workbook

#### **Evacuation**

Victoria Police is responsible for coordinating an evacuation in an emergency. During a flood, Police, SES and other emergency services may advise you to evacuate to keep you safe. It is important that you follow this advice.

There are two types of evacuation notices that may be issued via your emergency broadcaster during a flood:

- **Prepare to evacuate** means you should act quickly and take immediate action to protect your life and property. Be ready to leave your property. You may have little time to prepare in a flash flood situation.
- **Evacuate immediately** you must leave immediately as there is a risk to lives.

Remember you can leave at any time if you feel unsafe. You do not need to wait to be told to evacuate.

# **Emergency Kit**

### Every home and business should have a basic emergency kit:



Check your kit often. Make sure things work. Replace out of date items.

# When a warning is issued, have ready for use or pack into your kit:



# During and After a Flood

# **During a flood**

When flooding has begun:

- Never drive, ride, swim or walk through floodwater.
- Floodwater can be deep and damage roads and bridges.
- Do not let your children play or swim in floodwater. It is dirty, dangerous and deadly.
- Tune in to your emergency broadcasters: ABC Local Radio, Commercial Radio, designated Community Radio Stations and SKY NEWS Television.
- In life-threatening emergencies, call 000 (triple zero).
- For emergency help from the SES in floods and storms call 132 500.
- Stay away from all waterways including drains and culverts.
- Stay away from fallen power lines electricity travels easily through water.
- Be aware that animals, snakes, rats, spiders and other pests may be on the move during a flood - they can come into houses and other buildings or hide around sandbags.
- Keep in contact with neighbours.
- Be prepared to leave early and act quickly.

When you leave early or evacuate:

- Leaving early is always the safest option, leave well before roads are closed by floodwater.
- Take your emergency kit and three days supply of clothing with you.
- Turn off the electricity, gas and water as you leave.
- Take your pets with you. Do not leave them behind. Dogs should be muzzled and cats in cages.
- Go to a relief centre or to stay with friends or family in higher areas.

If activated, Relief Centres can help you with:

- Temporary accommodation
- Financial help
- Personal support
- Drinks and meals
- Basic clothing and personal needs
- Help to contact family and friends.

If you choose to shelter with a friend or relative, tell authorities where you are staying.

### Never Drive, Ride or Walk Through Floodwater

#### After a flood

Flood dangers do not end when the water begins to fall. To make sure you stay safe:

- Keep listening to local emergency broadcasters.
- Do not return home until advised that it is safe.

Once you return to your home:

- Drink bottled water or boil all drinking water until advised that the water supply is safe.
- Throw away any food or medicines that may have been in contact with floodwater or affected by power outages.
- When entering the building, use a torch to light your way - never use matches, cigarette lighters or any other flame as there may be gas inside.
- Keep the electricity and gas off until checked and tested by a professional.
- Take photographs of all damage for insurance.
- Clean your home straight away to stay healthy.

### How SES helps the community

The Victoria State Emergency Service (SES) is a volunteer based emergency service. Although our SES volunteers attempt to reach everyone prior to or during an emergency, at times this is not possible. Therefore it is advisable for you to be prepared for emergencies so that you can share responsibility for your own wellbeing during those times. In a flood, SES assistance may include:

- Giving flood advice
- Protecting essential services
- Helping to protect infrastructure
- Rescuing people from floodwater
- Advising of an evacuation.

To assist your preparation, it is recommended that you obtain a copy of the SES Home Emergency Plan by visiting **www.ses.vic.gov.au**.



# **Emergency Checklist**

NOW: Flood preparation	<b>Life threatening Emergency</b> Police fire ambulance	OOO Triple	e Zero 106	
Check if your insurance policies cover flooding.	Vistorio Chata Francusco de Camina (CEC)			
Keep this list of emergency numbers near the telephone.	Victoria State Emergency Service (SES) For flood / storm emergency calls			
Put together an Emergency Kit and prepare a home or business		1200 045	727	
Emergency Plan, see www.ses.vic.gov.au.	SES Information Line	1300 842 1300 VIC		
When you hear a Flood Watch or weather warning	Operates during major floods or storms	www.ses.vic.go	v.au	
Listen to severe weather warnings for flash flood.	Bureau of Meteorology (BoM) 1300 659 217			
Listen to radio and check the SES website for more information	Weather Information, forecasts, warnings www.bom.gov.au		.au	
and advice.	National Relay Service (NRS)	www.relayservice.	.com.au	
Go over your Emergency Plan. Pack clothing and other extra	The deaf, hearing or speech impaired can call SES or 000 using NRS:			
items into your Emergency Kit and take this with you if you evacuate.		DIAL	THEN ASK F	
	Speak and Listen (SSR) users phone	1300 555 727	132 500	
When flooding may happen soon (a Flood Warning)	■ TTY / Voice users phone	13 36 77	132 500	
Make sure your family members and neighbours are aware of what is happening.	Internet Relay users log into	www.iprelay.co		
Be ready to evacuate. Act early, conditions change rapidly, roads and escape routes can be covered or blocked. Don't forget to take pets and your medicine with you.	<b>VicRoads</b> Road closures and hazard reporting service	<b>13 11 70</b> www.vicroads.vic.gov.au		
Put household valuables and electrical items as high as possible.				
Turn off water, gas and electricity at the mains.	Cardinia Shire Council Contact Details	5		
Secure objects likely to float and cause damage. Raise	Phone: 1300 787 624 Email: mail@cardinia.vic.gov.au			
chemicals and oils well above the predicted flood height.		ww.cardinia.vic.gov.au		
Move pumps, machinery, hay and livestock to higher ground.	Weather District: Central			
During the flood	Catchment: Me	elbourne Water		
For emergency assistance, call 132 500 for SES.	Emergency Broadcasters	ABC 774 AM		
DO NOT drive, ride, swim or walk through floodwater. This is the	Emergency broadcasters include ABC	Stereo 97.4 FM		
main cause of death during floods.	Local Radio, designated commercial radio stations across Victoria and SKY NEWS		VS Television	
NEVER allow children to play in floodwater. This is the main	Television.	More page 2		
cause of death during floods for children and young people.	Complete the following and k	eep this information		
Stay away from drains, culverts and waterways, water can flow quickly and have strong currents.	handy close to the phone:  Your electricity supplier:			
Stay well clear of fallen trees, power lines and damaged buildings.				
After the flood: recovery	Your gas supplier:			
If your property has been flooded, check with Cardinia Shire	Doctory			
Council for information and advice.	Doctor:			
Have all electrical and gas equipment professionally tested before use.	Vet:			
For more information visit:	Insurance			
www.ses.vic.gov.au	Policy Number:			
www.facebook.com/vicses	•			
www.twitter.com/vicseswarnings	Phone Number:			

**Emergency Contacts** 

THEN ASK FOR 132 500 132 500

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For the latest version of this publication visit www.ses.vic.gov.au