Colac Otway Shire Municipal Flood Emergency Plan

A Sub-Plan of the Municipal Emergency Management Plan

For Colac Otway Shire
And
VICSES Unit(s) Colac and Otway

Version 1.0 April 2015

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1		Office Copy	
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3		Municipal Emergency Resource Officer	
4		Deputy Municipal Emergency Resource Officer	
5		Municipal Recovery Manager	
6		MERC (Colac Police Station)	
7		Victoria Police – Regional Emergency Management Inspector	
8		Apollo Bay Police Station	
9		Forrest Police Station	
10		Lavers Hill Police Station	
11		Birregurra Police Station	
12		VICSES South West Region Geelong Office	
13		VICSES (Colac Unit)	
14		VICSES (Otway Unit)	
15		Corangamite Catchment Management Authority	
16		Bureau of Meteorology (Flood Warning)	
17		Department of Environment, Land, Water & Planning	
18		Parks Victoria	
19		Ambulance Victoria (Emergency Management branch)	
20		CFA District Catchment Officer	
21		CFA Colac (District 6 Office)	
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Document Transmittal Form / Amendment Certificate

This Municipal Flood Emergency Plan (MFEP) will be amended, maintained and distributed as required by VICSES in consultation with the Colac Otway Shire

Suggestions for amendments to this Plan should be forwarded to VICSES Regional Office 90 Furner Avenue, Bell Park VIC 3215.

Amendments listed below have been included in this Plan and promulgated to all registered copyholders.

Amendment Number	Date of Amendment	Amendment Entered By	Summary of Amendment
0.1	November 2013	Ian Carlton VICSES	Draft Plan commenced
0.2	June 2014	Ian Carlton VICSES	Version 1 Release
0.3	April 2015	Ian Carlton VICSES	Version 1

This Plan will be maintained on the following websites: www.ses.vic.gov.au and www.colacotway.vic.gov.au.

List of Abbreviations & Acronyms

The following abbreviations and acronyms are used in the Plan:

AEP	Annual Exceedance Probability
AHD	Australian Height Datum (the height of a location above mean sea level in metres)
AIIMS	Australasian Inter-service Incident Management System
AoCC	Area of Operations Control Centre / Command Centre
ARI	Average Recurrence Interval
ARMCANZ	Agricultural & Resource Management of Australia & New Zealand
AV	Ambulance Victoria
BoM	Bureau of Meteorology
CEO	Chief Executive Officer
CERA	Community Emergency Risk Assessment
CFA	Country Fire Authority
CMA	Catchment Management Authority
RERC	Regional Emergency Response Coordinator
RERCC	Regional Emergency Response Coordination Centre
DHHS	Department of Health and Human Services
DELWP	Department Environment, Land Water and Planning
EMMV	Emergency Management Manual Victoria
EMT	Emergency Management Team
EO	Executive Officer
FO	Floodway Overlay
FWS	Flood Warning System
FZ	Floodway Zone
IC	Incident Controller
ICC	Incident Control Centre
IMT	Incident Management Team
IMS	Incident Management System
EMLO	Emergency Management Liaison Officer
LSIO	Land Subject to Inundation Overlay
MECC	Municipal Emergency Coordination Centre
MEMP	Municipal Emergency Management Plan
MEMPC	Municipal Emergency Management Planning Committee
MERC	Municipal Emergency Response Coordinator
MERO	Municipal Emergency Resource Officer
MFB	Metropolitan Fire and Emergency Services Board
MRM	Municipal Recovery Manager
PMF	Probable Maximum Flood
RCC	Regional Control Centre
RDO	Regional Duty Officer
SBO	Special Building Overlay
SCC	State Control Centre
SEWS	Standard Emergency Warning System
SHERP	State Health Emergency Response Plan
SOP	Standard Operating Procedure
VicPol	Victoria Police
VICSES	Victoria State Emergency Service

Part 1. INTRODUCTION

1.1 Municipal Endorsement

This Municipal Flood Emergency Plan (MFEP) has been prepared by the Colac Otway Shire Municipal Emergency Management Planning Committee (MEMPC) – (refer to section 1.6 endorsement of plan) pursuant to Section 20 of the Emergency Management Act 1986 (as amended).

This MFEP is a sub plan to the Colac Otway Shire Municipal Emergency Management Plan (MEMP), is consistent with the Emergency Management Manual Victoria (EMMV) and the Victoria Flood Management Strategy (DNRE, 1998a), and takes into account the outcomes of the Community Emergency Risk Assessment (CERA) process undertaken by the Municipal Emergency Management Planning Committee.

The Municipal Flood Emergency Plan is consistent with the Regional Flood Emergency Plan and the State Flood Emergency Plan.

This Municipal Flood Emergency Plan is a result of the cooperative efforts of the Colac Otway Shire Municipal Emergency Management Planning Committee and its member agencies.

This Plan is endorsed by the Colac Otway Shire MEMPC as a sub-plan to the MEMP.

Endorsement

15/7/15

Doug McNeill Date
Chair – Colac Otway Shire Municipal Emergency Management Planning Committee

21/8/15.

~~Matt Maywald~~ JANNE BOWEN (ACTING) Date
Regional Manager VICSES South West Region

1.2 The Municipality

An outline of Colac Otway Shire in terms of its location, demography and other general matters is provided in the MEMP. An outline of the flood threat is provided in Appendix A of this Plan.

1.3 Purpose and Scope of this Flood Emergency Plan

The purpose of this MFEP is to detail arrangements agreed for the planning, preparedness / prevention, response and recovery from flood incidents within the Colac Otway Shire.

As such, the scope of the Plan is to:

- Identify the Flood Risk to Colac Otway Shire;
- Support the implementation of measures to minimise the causes and impacts of flood incidents within the Colac Otway Shire;
- Detail Response and Recovery arrangements including preparedness, Incident Management, Command and Control;
- Identify linkages with Local, Regional and State emergency and wider planning arrangements with specific emphasis on those relevant to flood.

1.4 Municipal Flood Planning Committee (MFPC)

Membership of the Colac Otway Shire Flood Planning Committee (MFPC) will comprise of the following representatives from the following agencies and organisations:

- VICSES (i.e. Unit Controller & Regional Officer – Emergency Management) **(Chair)**,
- Colac Otway Shire,
- Victoria Police (i.e. Municipal Emergency Response Co-ordinator) (MERC),
- Corangamite Catchment Management Authority, (CCMA)
- Department of Health and Human Services (DHHS) as required,
- Department of Environment, Land, Water and Planning (DELWP) as required,
- Water Authorities as required,
- Bureau of Meteorology as required,
- Local community representatives and
- Other agencies as required

1.5 Responsibility for Planning, Review & Maintenance of this Plan

This Municipal Flood Emergency Plan must be maintained in order to remain effective.

VICSES through the Flood Planning Committee has responsibility for preparing, reviewing, maintaining and distributing this plan.

The MFPC will meet at least once per year.

The plan should be reviewed:

- Following any new flood study;
- Change in non-structural and / or structural flood mitigation measures;

- After the occurrence of a significant flood event within the Municipality to review and where necessary amend arrangements and information contained in this Plan.

1.6 Endorsement of the Plan

The MFEP will be circulated to the MEMPC for endorsement with the recommendation to include the MFEP as a sub-plan of the MEMPlan.

Part 2. PREVENTION / PREPAREDNESS ARRANGEMENTS

2.1 Community Awareness for all Types of Flooding

Details of this MFEP will be released to the community through local media, the FloodSafe program, websites (VICSES and the Municipality).

VICSES with the support of Colac Otway Shire and Corangamite CMA will coordinate community education programs for flooding within the area. E.g. FloodSafe / StormSafe.

There have been a number of Local Flood Guides developed for communities within Victoria, the following are applicable to the Colac Otway Shire:

- Apollo Bay (Draft)

There have been a number of Caravan Park Flood Emergency Plans developed for Caravan Parks within Victoria, the following are applicable to the Colac Otway Shire:

- Kennett River Holiday Park

2.2 Structural Flood Mitigation Measures

There are no structural flood mitigation measures on river or streams within the Colac Otway Shire.

Corangamite Catchment Management Authority does not manage any levees and is not aware of any within Colac Otway Shire. There is currently a State wide review of levees being led by West Gippsland CMA.

2.3 Non-structural Flood Mitigation Measures

2.3.1 Exercising the Plan

Arrangements for exercising this Plan will be at the discretion of the MEMPC and led by VICSES. This Plan should be regularly exercised, preferably on an annual basis. Refer to section 4.7 of the EMMV for guidance.

2.3.2 Flood Warning

Arrangements for flood warning are contained within the State Flood Emergency Plan and the EMMV (Part 3.7) and on the BoM website.

Specific details of local flood warning system arrangements are provided in appendix E.

2.3.3 Flood Wardens

Flood Wardens provide a means of gathering information in real time on flood behaviour along a stream system, and a network for the distribution of community information and warnings to communities along the stream system.

Colac Otway Shire, **does not** have any identified flood wardens at this stage, however VICSES is working to identify and coordinate these wardens.

Part 3. RESPONSE ARRANGEMENTS

3.1 Introduction

3.1.1 Activation of Response

Flood response arrangements may be activated by the Regional Duty Officer (RDO) VICSES South West Region or Incident Controller.

The Incident Controller / RDO VICSES will activate agencies as required and documented in the State Flood Emergency Plan.

3.1.2 Responsibilities

There are a number of agencies with specific roles that will act in support of VICSES and provide support to the community in the event of a serious flood within the Colac Otway Shire. These agencies will be engaged through the Emergency Management Team (EMT).

The general roles and responsibilities of supporting agencies are as agreed within the Colac Otway Shire MEMP, EMMV (Part 7 'Emergency Management Agency Roles'), State Flood Emergency Plan and Regional Flood Emergency Plan.

3.1.3 Municipal Emergency Coordination Centre (MECC)

Liaison with the MECC will be through the established Division/Sector Command and through Municipal involvement in the Incident EMT, in particular the Municipal Emergency Response Coordinator (MERC). The VICSES RDO / ICC will liaise with the MECC directly if no Division/Sector Command is established.

The function, location, establishment and operation of the MECC will be as detailed in the Colac Otway Shire MEMP.

3.1.4 Escalation

Most flood incidents are of local concern and an appropriate response can usually be coordinated using local resources. However, when these resources are exhausted, the State's arrangements provide for further resources to be made available, firstly from neighbouring Municipalities (on a regional basis) and then on a State-wide basis.

Resourcing and event escalation arrangements are described in the EMMV ('State Emergency Response Plan' – section 3.5).

3.2 Strategic Control Priorities

To provide guidance to the Incident Management Team (IMT), the following strategic control priorities shall form the basis of incident action planning processes:

1. Protection and preservation of life is paramount - this includes:

    a. Safety of emergency services personnel, and;

    b. Safety of community members including vulnerable community members and visitors / tourists located within the incident area.

2. Issuing of community information and community warnings detailing incident information that is timely, relevant and tailored to assist community members make informed decisions about their safety;

3. Protection of critical infrastructure and community assets that supports community resilience;

4. Protection of residential property as a place of primary residence;

5. Protection of assets supporting individual livelihoods and economic production that supports individual and community financial sustainability;

6. Protection of environmental and conservation values that considers the cultural, biodiversity, and social values of the environment;

7. Effective transition to recovery.

Circumstances may arise where the Incident Controller is required to vary these priorities, with the exception being that the protection of life should remain the highest. This shall be done in consultation with the State Controller and relevant stakeholders based on sound incident predictions and risk assessments.

3.3 Command, Control & Coordination

The Command, Control and Coordination arrangements in this Municipal Flood Emergency Plan must be consistent with those detailed in State and Regional Flood Emergency Plans. For further information, refer to sections 3.4, 3.5 & 3.6 of the EMMV.

The specific details of the Command, Control and Coordination arrangements for this plan are to be provided in Appendix C.

3.3.1 Control

Functions 5(a) and 5(c) at Part 2 of *the Victoria State Emergency Service Act 1986 (as amended)* detail the authority for VICSES to plan for and respond to flood.

Part 7.1 of the EMMV prepared under the *Emergency Management Act 1986 (as amended)*, identifies VICSES as the Control Agency for flood. It identifies DELWP as the Control Agency responsible for "*dam safety, water and sewerage asset related incidents*" and other emergencies

All flood response activities within the Colac Otway Shire including those arising from a dam failure or retarding basin / levee bank failure incident will therefore be under the control of the appointed Incident Controller, or his / her delegated representative.

3.3.2 Incident Controller (IC)

An Incident Controller (IC) will be appointed by the VICSES (as the Control Agency) to command and control available resources in response to a flood event on the advice of the Bureau of Meteorology (or other reliable source) that a flood event will occur or is occurring. The Incident Controller responsibilities are as defined in Part 3.5 of the EMMV

3.3.3 Incident Control Centre (ICC)

As required, the Incident Controller will establish an Incident Control Centre (ICC) from which to initiate incident response command and control functions. The decision as to if and when the ICC should be activated, rests with the Control Agency (i.e. VICSES).

Pre-determined Incident Control Centre locations are located at Geelong and Warrnambool.

3.3.4 Divisions and Sectors

To ensure that effective Command and Control are in place, the Incident Controller may establish Divisions and Sectors depending upon the complexity of the event and resource capacities.

The following Divisions and Sectors may be established to assist with the management of flooding within the Municipality:

Division	Sector
Colac North	To be determined at the time of an incident
Colac South	To be determined at the time of an incident

Suggested Sectors could be the Plains Sector, Ranges Sector and the Coastal Sector.

Pre-determined Division Command locations are:

- Colac CFA Rae Street, Colac VIC

Pre-determined Sector Command locations are:

- None determined

3.3.5 Incident Management Team (IMT)

The Incident Controller will form an Incident Management Team (IMT).

Refer to 3.5 of the EMMV for guidance on IMTs and Incident Management Systems (IMS).

3.3.6 Emergency Management Team (EMT)

The Incident Controller will establish a multi-agency Emergency Management Team (EMT) to assist the flood response. The EMT will consist of key personnel (with appropriate authority) from stakeholder agencies and relevant organisations who need to be informed of strategic issues related to incident control and who are able to provide high level strategic guidance and policy advice to the Incident Controller for consideration in developing incident management strategies.

Organisations, including Colac Otway Shire, required within the EMT will provide an Emergency Management Liaison Officer (EMLO) to the ICC if and as required as well as other staff and / or resources identified as being necessary, within the capacity of the organisation.

Refer to 3.5 of the EMMV for guidance on EMTs.

3.3.7 On Receipt of a Flood Watch / Severe Weather Warning

Incident Controller or VICSES RDO (until an incident controller is appointed) will undertake actions as defined within the flood intelligence cards (appendix C). General considerations by the Incident Controller/VICSES RDO will be as follows:

- Review flood intelligence to assess likely flood consequences
- Monitor weather and flood information – www.bom.gov.au
- Assess Command and Control requirements.
- Review local resources and consider needs for further resources regarding personnel, property protection, flood rescue and air support
- Notify and brief appropriate officers. This includes Regional Control Centre (RCC) (if established), State Control Centre (SCC) (if established), other emergency services through the EMT.
- Assess ICC readiness (including staffing of IMT and EMT) and open if required
- Ensure flood bulletins and community information are prepared and issued to the community
- Monitor watercourses and undertake reconnaissance of low-lying areas
- Develop media and community information management strategy
- Ensure flood mitigation works are being checked by owners
- Develop and issue incident action plan, if required
- Develop and issue situation report, if required

3.3.8 On Receipt of the First and Subsequent Flood Warnings

Incident Controller / VICSES RDO (until an incident controller is appointed) will undertake actions as defined within the flood intelligence cards (appendix C). General considerations by the Incident Controller / VICSES RDO will be as follows:

- Develop an appreciation of current flood levels and predicted levels. Are floodwaters, rising, peaking or falling?
- Review flood intelligence to assess likely flood consequences. Consider:
    - What areas may be at risk of inundation
    - What areas maybe at risk of isolation
    - What areas maybe at risk of indirect affects as a consequence of power, gas, water, telephone, sewerage, health, transport or emergency service infrastructure interruption
    - The characteristics of the populations at risk
- Determine what the at-risk community need to know and do as the flood develops.
- Warn the at-risk community including ensuring that an appropriate warning and community information strategy is implemented including details of:
    - The current flood situation
    - Flood predictions
    - What the consequences of predicted levels may be
    - Public safety advice

- Who to contact for further information
- Who to contact for emergency assistance

- Liaise with relevant asset owners as appropriate (i.e. water and power utilities)
- Implement response strategies as required based upon flood consequence assessment.
- Continue to monitor the flood situation – www.bom.gov.au/vic/flood/
- Continue to conduct reconnaissance of low-lying areas

3.4 Community Information and Warnings

Guidelines for the distribution of community information and warnings are contained in the State Flood Emergency Plan.

Community information and warnings communication methods available include:

- Emergency Alert;
- Phone messages (including SMS);
- Radio and Television;
- Two-way radio;
- Mobile and fixed public address systems;
- Sirens;
- Verbal Messages (i.e. Doorknocking);
- Agency Websites;
- VICSES Flood Storm Information Line;
- Variable Message Signs (i.e. road signs);
- Community meetings;
- Newspapers;
- Email;
- Telephone trees;
- Community Flood Wardens;
- Fax Stream;
- Newsletters;
- Letter drops;
- Social media and/or social networking sites (i.e. twitter and / or Facebook).

Refer to Appendix C and E for the specific details of how community information and warnings are to be provided.

The release of flood bulletins and information with regard to response activities at the time of a flood event is the responsibility of VICSES, as the Control Agency.

Council has the responsibility to assist VICSES to warn individuals within the community including activation of flood warning systems, where they exist. Responsibility for public information, including media briefings, rest with VICSES as the Control Agency.

Other agencies such as CFA, DELWP and VICPOL may be requested to assist VICSES with the communication of community flood warnings.

In cases where severe flash flooding is predicted, dam failure is likely or flooding necessitating evacuation of communities is predicted, the Incident Controller may consider the use of the Emergency Alert System and Standard Emergency Warning System (SEWS).

DH will coordinate information regarding public health and safety precautions.

3.5 Media Communication

The Incident Controller through the Information Unit established at the ICC will manage Media communication. If the ICC is not established the RDO will manage all media communication.

3.6 Initial impact assessment

An initial impact assessment can be conducted in accordance with part 3 of the EMMV to assess and record the extent and nature of damage caused by flooding. This information may then be used to provide the basis for further needs assessment and recovery planning by DHS and recovery agencies.

3.7 Preliminary Deployments

When flooding is expected to be severe enough to cut access to towns, suburbs and / or communities the Incident Controller will consult with relevant agencies to ensure that resources are in place if required to provide emergency response. These resources might include emergency service personnel, food items and non-food items such as medical supplies, shelter, assembly areas, emergency relief centres etc.

3.8 Response to Flash Flooding

Emergency management response to flash flooding should be consistent with the guideline for the emergency management of flash flooding contained within the State Flood Emergency Plan.

When conducting pre-event planning for flash floods the following steps should be followed, and in the order as given:

1. Determine if there are barriers to evacuation by considering warning time, safe routes, resources available and etc;

2. If evacuation is possible, then evacuation should be the adopted strategy and it must be supported by a public information capability and a rescue contingency plan;

3. Where it is likely people will become trapped by floodwaters due to limited evacuation options safety advice needs to be provided to people at risk advising them not to attempt to flee by entering floodwater if they become trapped, and that it may be safer to seek the highest point within the building and to telephone 000 if they require rescue. This advice needs to be provided even when evacuation may be possible, due the likelihood that not all community members will evacuate.

4. For buildings known to be structurally un-suitable an earlier evacuation trigger will need to be established (return to step 1 of this cycle).

5. If an earlier evacuation is not possible then specific preparations must be made to rescue occupants trapped in structurally unsuitable buildings either pre-emptively or as those people call for help.

During a flash flood it will often be difficult, due the rapid development of flooding, to establish evacuation (relief) centres ahead of actually triggering the evacuation as is normal practice but this is insufficient justification for not adopting evacuation.

Refer to appendix C for response arrangements for flash flood events.

3.9 Evacuation

The decision to recommend or warn people to prepare to evacuate or to evacuate immediately rests with the Incident Controller.

Once the decision is made VicPol are responsible for the management of the evacuation process where possible. VICSES and other agencies will assist where practical. VICSES is responsible for the development and communication of evacuation warnings.

VicPol and / or Australian Red Cross may take on the responsibility of registering people affected by a flood emergency including those who have been evacuated.

Refer to section 3.8 of the EMMV and the Evacuation Guidelines for guidance of evacuations for flood emergencies.

Refer to Appendix D of this Plan for detailed evacuation arrangements for Colac Otway Shire.

3.10 Flood Rescue

VICSES may conduct flood rescues. Appropriately trained and equipped VICSES units or other agencies that have appropriate training, equipment and support may carry out rescues.

Rescue operations may be undertaken where voluntary evacuation is not possible, has failed or is considered too dangerous for an at-risk person or community. An assessment of available flood rescue resources (if not already done prior to the event) should be undertaken prior to the commencement of Rescue operations.

Rescue is considered a high-risk strategy to both rescuers and persons requiring rescue and should not be regarded as a preferred emergency management strategy. Rescuers should always undertake a dynamic risk assessment before attempting to undertake a flood rescue.

Resources available for use for rescues to be carried out within Colac Otway Shire are detailed in Appendix D.

3.11 Aircraft Management

Aircraft can be used for a variety of purposes during flood operations including evacuation, resupply, reconnaissance, intelligence gathering and emergency travel.

Air support operations will be conducted under the control of the Incident Controller.

The Incident Controller may request aircraft support through the State Air Desk located at the State Control Centre will establish priorities.

Suitable airbase facilities are located at:

- Colac Airfield
- Apollo Bay Airfield

3.12 Resupply

Communities, neighbourhoods or households can become isolated during floods as a consequence of road closures or damage to roads, bridges and causeways. Under such

circumstances, the need may arise to resupply isolated communities/properties with essential items.

When predictions / intelligence indicate that communities, neighbourhoods and / or households may become isolated, VICSES will advise businesses and/or households that they should stock up on essential items.

After the impact, VICSES can support isolated communities through assisting with the transport of essential items to isolated communities and assisting with logistics functions.

Resupply operations are to be included as part of the emergency relief arrangements with VICSES working with the relief agencies to service communities that are isolated.

3.13 Essential Community Infrastructure and Property Protection

Essential Community Infrastructure and Property (e.g. residences, businesses, roads, power supply etc.) may be affected in the event of a flood.

The Colac Otway Shire maintains a small stock of sandbags, and back-up supplies are available through the VICSES Regional Office. The Incident Controller will determine the priorities related the use of sandbags, which will be consistent with the strategic priorities.

If VICSES sandbags are becoming limited in supply, then priority will be given to protection of Essential Community Infrastructure. Other high priorities may include for example the protection of historical buildings.

Property may be protected by:

- Sandbagging to minimise entry of water into buildings
- Encouraging businesses and households to lift or move contents
- Construction of temporary levees in consultation with the CMA, LGA and VICPOL and within appropriate approval frameworks.

The Incident Controller will ensure that owners of Essential Community Infrastructure are kept advised of the flood situation. Essential Community Infrastructure providers must keep the Incident Controller informed of their status and ongoing ability to provide services.

Refer to Appendix D for further specific details of essential infrastructure requiring protection and location of sandbag collection point(s).

3.14 Disruption to Services

Disruption to services other than essential community infrastructure and property can occur in flood events. Refer to Appendix D for specific details of likely disruption to services and proposed arrangements to respond to service disruptions in Colac Otway Shire.

3.15 Road Closures

Colac Otway Shire and VicRoads will carry out their formal functions of road closures including observation and placement of warning signs, road blocks etc. to its designated local and regional roads, bridges, walking and bike trails. Colac Otway Shire staff may also liaise with and advise VicRoads as to the need or advisability of erecting warning signs and / or of closing roads and bridges under its jurisdiction. VicRoads are responsible for designated main roads and highways and Council's are responsible for the designated local and regional road network.

VICROADS and Colac Otway Shire will communicate community information regarding road closures.

3.16 Dam Failure

DELWP is the Control Agency for dam safety incidents (e.g. breach, failure or potential breach / failure of a dam), however VICSES is the Control Agency for any flooding that may result.

Major dams with potential to cause structural and community damage within the Municipality are contained in Appendix A.

3.17 Waste Water related Public Health Issues and Critical Sewerage Assets

Inundation of critical sewerage assets including septic tanks and sewerage pump stations may result in water quality problems within the Municipality. Where this is likely to occur or has occurred the responsible agency for the critical sewerage asset should undertake the following:

- Advise VICSES of the security of critical sewerage assets to assist preparedness and response activities in the event of flood;
- Maintain or improve the security of critical sewerage assets;
- Check and correct where possible the operation of critical sewerage assets in times of flood;
- Advise the ICC in the event of inundation of critical sewerage assets.

It is the responsibility of the Colac Otway Shire Environmental Health Officer to inspect and report to the MERO and the ICC on any water quality issues relating to flooding.

3.18 After Action Review

VICSES will coordinate the after action review arrangements of flood operations as soon as practical following an event.

All agencies involved in the flood incident should be represented at the after action review.

Part 4. EMERGENCY RELIEF AND RECOVERY ARRANGEMENTS

4.1 General

Arrangements for recovery from a flood incident within the Colac Otway Shire are detailed in the Colac Otway Shire MEMP and / or the Recovery Sub-plan.

4.2 Emergency Relief

The decision to recommend the opening of an emergency relief centre rests with the Incident Controller. Incident Controllers are responsible for ensuring that relief arrangements have been considered and implemented where required under the State Emergency Relief and Recovery Plan (Part 4 of the EMMV).

The range and type of emergency relief services to be provided in response to a flood event will be dependent upon the size, impact, and scale of the flood. Refer to 4.4 of the EMMV for details of the range of emergency relief services that may be provided.

Suitable emergency relief centres have been identified for use during floods are detailed in the MEMPlan and the Relief and Recovery Plan.

Details of the relief arrangements are available in the MEMPlan.

4.3 Animal Welfare

Matters relating to the welfare of livestock, companion animals and wildlife (including feeding and rescue) are to be referred to DELWP.

Requests for emergency supply and / or delivery of fodder to stranded livestock or for livestock rescue are passed to DELWP.

Matters relating to the welfare of wildlife are to be referred to DELWP.

Refer to Appendix D for animal shelter compound locations.

4.4 Transition from Response to Recovery

VICSES as the Control Agency is responsible for ensuring effective transition from response to recovery. This transition will be conducted in accordance with existing arrangements as detailed in Part 3 of the EMMV.

APPENDIX A - FLOOD THREATS FOR Colac Otway Shire

This Appendix is to provide a broad overview of flood risk within the Municipality. Detailed Flood Risk Information for Individual Communities should be detailed in Appendix C.

General

Colac Otway Shire is located in the south-west of Victoria, approximately 150 kilometres from Melbourne. Colac Otway Shire is bounded by Golden Plains Shire in the north, Surf Coast Shire in the east, the Southern Ocean in the south, and Corangamite Shire in the west.

Colac Otway Shire includes the townships and rural localities of Aire Valley, Alvie, Apollo Bay, Balintore, Barongarook, Barongarook West, Barramunga, Barwon Downs, Barunah Plains, Beeac, Beech Forest, Birregurra, Bungador, Cape Otway, Carlisle River, Carpendeit, Chapple Vale, Colac, Colac East, Colac West, Coragulac, Cororooke, Corunnun, Cressy, Cundare, Cundare North, Dreeite, Dreeite South, Elliminyt, Eurack, Ferguson, Forrest, Gellibrand, Gellibrand Lower, Gerangamete, Glenaire, Grey River, Hordern Vale, Irrewarra, Irrewillipe, Irrewillipe East, Jancourt East, Johanna, Kawarren, Kennett River, Larpent, Lavers Hill, Marengo, Mount Sabine, Murroon, Nalangil, Ombersley, Ondit, Pennyroyal, Petticoat Creek, Pirron Yallock, Separation Creek, Simpson, Skenes Creek, Skenes Creek North, Stonyford, Sugarloaf, Swan Marsh, Tanybryn, Warncoort, Warrion, Weeaproinah, Weering, Whoorel, Wingeel, Wongarra, Wool Wool, Wyelangta, Wye River, Yeo, Yeodene and Yuulong.

Unique beauty and character is a feature of the areas within the Colac Otway Shire – one of the most picturesque Municipalities in the State. The geography of the Shire varies from lush plains in the north to the rugged and beautiful Otway Ranges in the south with its spectacular coastline. As the gateway to the Otway Ranges and the Western Plains, Colac is the only City in the hinterland region and is the commercial centre for the Shire's vast range of industry and primary producers.

Colac Otway Shire is a rural, residential and resort area. The Shire encompasses a total land area of approximately 3,500 square kilometres, of which a large proportion is Crown Land (43%) including the Great Otway National Park. Much of the rural area is used for timber production and agriculture, with farming, cropping and dairying being the main agricultural pursuits. Agricultural activity is concentrated in the northern part of the Shire, although timber and fishing are prevalent in the south. Tourism is an important industry, especially in the southern section along the Great Ocean Road. The Shire has two main townships, with many small villages and localities. The only city is Colac, which serves as an administrative, retail and commercial centre. The other major township is Apollo Bay, which serves as the major tourism centre.

Industry is supported by comprehensive infrastructure including rail, road, air and sea transport. The Municipality is serviced by three major roads – the Hamilton Highway, Princes Highway and Great Ocean Road, as well as rail passenger and freight facilities and a vast network of road transport operations.

There are approximately 25 named waterways, including rivers, creeks and water bodies within Colac Otway Shire. The main waterway within the Shire is the Barwon River which begins in the Otway Ranges and traverses its way through the Shire to the east and the passes through the Surf Coast Shire, the Golden Plains Shire and then through the City of Greater Geelong before it discharges into Bass Strait.

There are many waterways that begin and end within the Shire, either discharging into Bass Strait or flowing into other waterways. The waterways within the Otway Ranges are short in distance and may be susceptible to flash flooding or short duration floods.

Historic Floods

Year	Incident
1995	In November 1995, severe rainfalls in the Otway's produced extensive flooding in the Barwon River with substantial stock losses, local erosion and one house flooded. Flooding in the Thompson Creek catchment also caused widespread disruption.
1952	During the 1952 flood, a near emergency occurred when an Army Duck with a sick elderly lady and a pregnant woman on board was jammed against a bridge on the Birregurra – Deans Marsh Road just out of Birregurra
1951-2	Floods during 1951 and 1952 caused substantial loss to private property as well as damage to bridges within the Shire.
1882	During a disastrous flood in the Gellibrand River during October 1882, lives were lost by drowning while rescuing sheep at Chapple Vale.

Description of Major Waterways and Drains

The major waterways and drains within the Colac Otway Shire are within the following Catchment Areas:

Barwon River Catchment
Corangamite Lakes Catchment
Otway Coast Catchment

River	Description
Aire River	The Aire River is in the Otway Ranges south of Beech Forest and enters Bass Strait through the Great Otway National Park
Barham River	The Barham River rises as an east and west branch in the Otway Ranges behind Apollo Bay. Shortly after the confluence of the branches, the river leaves the narrow Barham Valley to enter a broad flood plain before discharging into the sea on the edge of the Apollo Bay Township. The flood plain is almost 200ha in extent and is known locally as the Barham River Flats.
Barwon River East Branch	Barwon River (East Branch) in southwest Victoria starts at an elevation of 286m and ends near Gerangamete Flats at an elevation of 120m flowing into the Barwon River. The Barwon River (East Branch) drops around 166m over its 19.7km length. The following creeks and rivers flow into the Barwon River (East Branch): Dewing Creek, Callahan Creek and King Creek.
Barwon River West Branch	Barwon River (West Branch) in southwest Victoria starts below Devil's Elbow at an elevation of 295m and ends near Gerangamete Flats at an elevation of 120m flowing into the Barwon River. The Barwon River (West Branch) drops around 175m over its 31km length. The Barwon River (West Branch) flows through West Barwon Reservoir (194m) on its way to joining the Barwon River.
Calder River	The Calder River starts near Bateman Ridge at an elevation of 393m and flows into the Southern Ocean. The Calder River drops around 392m over its 14km length.

River	Description
Carlisle River	The Carlisle River starts near Carlisle River (township) at an elevation of 90m and ends at an elevation of 28.8m merging with the Gellibrand River. The Carlisle River drops around 61.2m over its 8.68km length. The following creeks and rivers flow into the Carlisle River: Arkins Creek and Cole Creek.
Elliot River	The Elliot River starts near Paradise at an elevation of 305m at an elevation of 12.1m The Elliot River drops around 293m over its 7.63km length.
Ford River	The Ford River starts near Glenaire at an elevation of 92.7m and flows into the Southern Ocean. The Ford River drops around 92.8m over its 7.6km length.
Grey River	The Grey River in southwest Victoria starts below Muddy Saddle at an elevation of 491m and flows into Addis Bay in the Tasman Sea of the South Pacific Ocean. The Grey River drops around 491m over its 9.41km length.
Gellibrand River	The Gellibrand River starts near Upper Gellibrand at an elevation of 356m and flows into the Southern Ocean. The Gellibrand River drops around 356m over its 96.4km length. The Gellibrand River flows through West Gellibrand Dam (344m). The following 14 creeks and rivers flow into the Gellibrand River (ordered by descending elevation): Olangolah Creek (243m), Barramunga Creek (159m), Asplin Creek (135m), Love Creek (82m), Lardner Creek (73m), Charleys Creek (69m), Sandy Creek (41m), Carlisle River (32m), Leahy Creek (26m), Nariel Creek (24m), Kennedys Creek (15m), Chapple Creek (14m), Bryant Creek (13m) and Atkinson Creek (7m).
Parker River	The Parker River starts near Parker Spur at an elevation of 291m and flows into Blanket Bay in the Tasman Sea of the South Pacific Ocean. The Parker River drops around 286m over its 13.3km length.
Wye River	The Wye River starts at an elevation of 601m and flows into the Tasman Sea of the South Pacific Ocean. The Wye River drops around 601m over its 10.8km length.

Creeks	Description
Atkin Creek	Atkin Creek in southwest Victoria starts below Yeodene at an elevation of 187m and ends at an elevation of 110m flowing into the Barwon River. The Atkin Creek drops around 77m over its 10.3km length.
Arkins Creek	Arkins Creek starts below Wyelangta at an elevation of 525m and ends at an elevation of 68.7m flowing into the Carlisle River. The Arkins Creek drops around 457m over its 8.33km length.
Barongarook Creek	Barongarook Creek starts below Barongarook at an elevation of 227m at an elevation of 119m. The Barongarook Creek drops around 108m over its 15.5km length. The Barongarook Creek flows into Lake Colac (118m).
Barramunga Creek	Barramunga Creek starts below Mount Sabine at an elevation of 516m and ends near Upper Gellibrand at an elevation of 155m flowing into the Gellibrand River. The Barramunga Creek drops around 361m over its 9.94km length.
Birregurra Creek	Birregurra Creek starts below Yeowarra at an elevation of 165m and ends at an elevation of 99m flowing into the Barwon River. The Birregurra Creek drops around 65.9m over its 25.1km length.
Callahan Creek	Callahan Creek starts near Otway Range at an elevation of 502m and ends at an elevation of 136m flowing into the Barwon River (East Branch). The Callahan Creek drops around 367m over its 12.3km length.
Carisbrook Creek	Carisbrook Creek starts below Pine Ridge Hill at an elevation of 529m and flows into Addis Bay in the Tasman Sea of the South Pacific Ocean. The Carisbrook Creek drops around 529m over its 10.7km length.
Chapple Creek	Chapple Creek starts near Chapple Vale at an elevation of 117m and ends at an elevation of 11m flowing into the Gellibrand River. The Chapple Creek drops around 106m over its 9.96km length. The following creeks and rivers flow into the Chapple Creek: Skinner Creek, Chapple Creek (South Branch) and Chapple Creek (North Branch).
Chapple Creek (South Branch)	Chapple Creek (South Branch) starts below Stalker at an elevation of 492m and ends at an elevation of 92.3m flowing into the Chapple Creek. The Chapple Creek (South Branch) drops around 399m over its 8.01km length

Creeks	Description
Chapple Creek (North Branch)	Chapple Creek (North Branch) starts below Stalker at an elevation of 341m and ends at an elevation of 103m flowing into the Chapple Creek. The Chapple Creek (North Branch) drops around 238m over its 6.55km length.
Charleys Creek	Charleys Creek starts below Charleys Creek Township) at an elevation of 186m and ends near Gellibrand at an elevation of 67m flowing into the Gellibrand River. The Charleys Creek drops around 119m over its 10.7km length.
Cole Creek	Cole Creek starts below Charleys Creek at an elevation of 263m and ends at an elevation of 38.7m flowing into the Carlisle River. The Cole Creek drops around 224m over its 6.87km length.
Dewing Creek	Dewing Creek starts near Otway Range at an elevation of 517m and ends at an elevation of 125m flowing into the Barwon River (East Branch). The Dewing Creek drops around 393m over its 14.5km length.
Duck Creek	Duck Creek starts below E S Hill at an elevation of 134m and flows into the Southern Ocean. The Duck Creek drops around 140m over its 9.76km length. The Duck Creek flows through Lake Craven.
King Creek	King Creek starts below TW Spur at an elevation of 503m and ends at an elevation of 147m flowing into the Barwon River (East Branch). The King Creek drops around 356m over its 10.5km length.
Kennedys Creek	Kennedys Creek starts below Ross Plain at an elevation of 96.7m and ends at an elevation of 11m flowing into the Gellibrand River. The Kennedys Creek drops around 85.6m over its 26.4km length. The following creeks and rivers flow into the Kennedys Creek: Tomahawk Creek and Danger Creek.
Lardner Creek, Lardner Creek East & West Branch	Lardner Creek starts near Gellibrand at an elevation of 116m and ends at an elevation of 73.4m flowing into the Gellibrand River. The Lardner Creek drops around 42.2m over its 4.18km length. The following 2 creeks and rivers flow into the Lardner Creek (ordered by descending elevation): Lardner Creek (East Branch) (90m) and Lardner Creek (West Branch) (90m).

Creeks	Description
Loves Creek	Love Creek starts near Kawarren at an elevation of 154m and ends at an elevation of 82m flowing into the Gellibrand River. The Love Creek drops around 72.3m over its 8.33km length. The following creeks and rivers flow into the Love Creek: Porcupine Creek, Ten Mile Creek and Yahoo Creek.
Matthews Creek	Matthews Creek starts near Pennyroyal at an elevation of 291m and ends at an elevation of 111m flowing into the Barwon River. The Matthews Creek drops around 180m over its 16.1km length.
Murree Creek	Murree Creek starts near Burtons Lookout at an elevation of 300m and ends at an elevation of 154m merging with the Tomahawk Creek. The Murree Creek drops around 146m over its 6.92km length.
Olangolah Creek	Olangolah Creek starts below Groves Hill at an elevation of 385m and ends at an elevation of 243m flowing into the Gellibrand River. The Olangolah Creek drops around 142m over its 5.73km length. The Olangolah Creek flows through Olangolah Weir (371m) on its way to joining the Gellibrand River.
Penny Royal Creek	Penny Royal Creek starts near Benwerrin in the Otway Ranges and flows into the Deans Marsh Creek west of the Deans Marsh township.
Pirron Yallock Creek	Pirron Yallock Creek starts below Swan Marsh at an elevation of 142m at an elevation of 117m The Pirron Yallock Creek drops around 25.1m over its 8.83km length. The Pirron Yallock Creek flows into Lake Corangamite (117m).
Porcupine Creek	Porcupine Creek in southwest Victoria starts near Upper Gellibrand at an elevation of 291m and ends at an elevation of 116m merging with the Love Creek. The Porcupine Creek drops around 175m over its 10.4km length.
Skenes Creek	Skenes Creek starts below Tanybryn at an elevation of 488m and flows into Apollo Bay in the Tasman Sea of the South Pacific Ocean. The Skenes Creek drops around 489m over its 9.35km length.
Skinner Creek	Skinner Creek starts near Crowes at an elevation of 426m and ends at an elevation of 20.4m merging with the Chapple Creek. The Skinner Creek drops around 406m over its 9.57km length.

Creeks	Description
Ten Mile Creek	Ten Mile Creek in southwest Victoria starts near Burtons Lookout at an elevation of 299m and ends at an elevation of 120m merging with the Love Creek. The Ten Mile Creek drops around 179m over its 7km length.
Tomahawk Creek	Tomahawk Creek starts near Irrewillipe East at an elevation of 225m and ends at an elevation of 96.7m merging with the Kennedys Creek. The Tomahawk Creek drops around 128m over its 18.1km length. The Murree Creek flows into the Tomahawk Creek.
Wild Dog Creek	Wild Dog Creek starts below Haines Junction at an elevation of 532m and flows into Apollo Bay in the Tasman Sea of the South Pacific Ocean. The Wild Dog Creek drops around 532m over its 13.2km length.
Yahoo Creek	Yahoo Creek starts below Burtons Lookout at an elevation of 268m and ends near Kawarren at an elevation of 111m merging with the Love Creek. The Yahoo Creek drops around 157m over its 6.26km length.
Lakes	
Lake Beeac	Lake Beeac, when full, covers an area of around 630 hectares.
Lake Burn	Lake Burn, when full, covers an area of around 54 hectares.
Lake Colac	Lake Colac, when full, covers an area of around 2,800 hectares. The Lake Colac is fed by the Barongarook Creek.
Lake Craven / Lake Costin	Lake Craven, when full, covers an area of around 89 hectares. Lake Craven is fed by the Duck Creek.
Lake Cundare	Lake Cundare, when full, covers an area of around 280 hectares
Lake Elizabeth	Created more than 50 years ago but record rainfall that sent thousands of tonnes of rock and earth into the East Barwon River, creating a dam that went on to form the lake. This lake is now the home and habitat for wild Platypus, and other wildlife
Lake Martin (Part)	Lake Martin, when full, covers an area of around 2,200 hectares and is located in VIC. The Lake Martin is fed by the Woady Yaloak River.
Lake Ondit	Lake Ondit, when full, covers an area of around 100 hectares.
Lough Calvert	Lough Calvert is a locality in southwest Victoria, Australia situated about 120km west-southwest of Melbourne (show me). Lough Calvert is at an altitude of approximately 122m.

Dam Failure

Flooding resulting from failure of the following dams is likely to cause significant structural and community damage within the Colac Otway Shire.

The following supporting documentation is provided:

Location	Owner	Dam Height	Dam Capacity	Comments
West Gellibrand Reservoir	Barwon Water	23m	2000 ML	On-stream storage on the west branch of Gellibrand River with private level / outflow monitoring equipment installed onsite. Dam break inundation mapping available.
West Barwon Reservoir	Barwon Water	43m	21504 ML	On-stream storage on junction of West Barwon River and Monday Creek with private level / outflow monitoring equipment installed onsite. Dam break inundation mapping available.
Marengo Reservoir	Barwon Water	10m	125 ML	Off-stream storage with private level / outflow monitoring equipment installed onsite. Dam break inundation mapping available.
Apollo Bay Reservoir	Barwon Water	10m	250 ML	Off-stream storage with private level / outflow monitoring equipment installed onsite. Dam break inundation mapping available.
Olangolah Reservoir	Barwon Water	9.7m	165 ML	On-stream storage on Olangolah Creek upstream of the junction with West Gellibrand River with private level / outflow monitoring equipment installed onsite. Dam break inundation mapping available.
No 4 Basin Colac	Barwon Water	10m	196 ML	Off-stream storage with private level / outflow monitoring equipment installed onsite. Dam break inundation mapping available.
No 5 Basin Colac	Barwon Water	8.2m	472 ML	Off-stream storage with private level / outflow monitoring equipment installed onsite. Dam break inundation mapping available.
420 Birregurra-Deans Marsh Rd, Whoorel	Private	6.5m	102 ML	Private dam registered with DELWP and Southern Rural Water
1745 Colac Forest Road, Gerangamete	Private	6.38m	458.9 ML	Private dam registered with DELWP and Southern Rural Water
McCalls Road, Yeodene	Private	7.0m	160 ML	Private dam registered with DELWP and Southern Rural Water
20 Dewings Bridge Road, Gerangamete	Private	5.72m	52.5 ML	Private dam registered with DELWP and Southern Rural Water

APPENDIX B - TYPICAL FLOOD PEAK TRAVEL TIMES

Ricketts Marsh Gauge Heights and Triggers (Conns Lane)

Flood Event	ARI (yrs)	Adopted Flow		Ricketts Marsh Gauge	Property Affected
		(Ml/day)	(m3/sec)		
					zero gauge = 96.82 m AHD
		2,130	**25**	**3.00**	**Minor Flood Warning level (BoM)**
16-Jan-2011	< 2	2,910	34	3.67	
		4,400	**51**	**6.00**	**Moderate Flood Warning level (BoM)**
				4.80	Conns Lane closed
Nov-1978	6,530	76	5.89		
Apr-2001	8,300	96	6.42		
		8,690	**101**	**6.70**	**Major Flood Warning level (BoM)**
	5	9,150	106	6.59	
Jun-1978	9,870	114	6.68		
	10	10,100	117	6.71	
Nov-1995	24	11,300	131	6.82	
	25	11,600	134	6.84	
	50	13,300	154	6.93	
Oct-1976	80	14,500	168	6.99	
	100	15,000	174	7.02	

Flood peak travel times	
Ricketts Marsh to Kildean Road	14 hours
Kildean Road to Winchelsea	6 - 7 hours
Winchelsea to Inverleigh Gauge	10 - 12 hours
Inverleigh to Leigh River junction (Inverleigh Town)	4 - 6 hours
Leigh River junction to Pollocksford Bridge	4 - 6 hours

Note: There are no other BOM monitored gauges upstream or downstream of the gauge at Rickets Marsh (Conns Lane).

APPENDIX C – [ENTER NAME OF COMMUNITY] FLOOD EMERGENCY PLAN

Note: This section of the plan is to be completed in more detail once known.

Overview of Flooding Consequences

Provide a general overview of flooding consequence.

- What areas are affected
- Caravan parks likely to be affected
- How many properties
- How much warning time
- Impacts on essential community infrastructure
- Isolation risks
- Major road closures
- Locations where evacuation difficulties may occur for example low flood islands

Flood Mitigation

Provide a broad overview of any flood mitigation systems / measures:

Where do levees and retarding basins exist? What communities do they protect? Who manages them? What are their design heights relative to gauge? What are their crest heights relative to gauge? Location of any spillways? Details of any levee closure points such as railway crossing etc., which may need to be sandbagged.

Flood Impacts and Required Actions

Populate the following tables using all available information. Typically, this includes:

- Deliverables from flood, drainage and other studies;
- Flood inundation maps (including LSIO, SBO and FZ delineations from the Planning Scheme);
- Hydraulic modelling / flood inundation animations;
- Past flood experience – gleaned from files, records and reports of previous floods including nature and severity of floods (i.e. flash floods, riverine floods, major floods etc), newspaper accounts, post-event funding submissions, etc, etc;
- Community or agency flood awareness material (particularly in relation to FloodSafe or StormSafe material - make sure information / intelligence is shared and consistent);
- Community and agency knowledge;
- Any known or possible community infrastructure impacts including:

- Any sewer pumps likely to be inundated;

- Any groundwater wells likely to be inundated;

- Water treatment plants and water storage areas to be affected;

- Pumps and other service equipment etc. likely to be inundated;

- Look to agencies – BoM FW directives, Council's MEMP, Corangamite CMA FW directive and associated information, etc, etc.

NOTE – intelligence MUST have regard for changes within catchments that modify likely flood behaviour (e.g. Mitigation works that reduce the severity of a flood risk)

This intelligence can be presented in a number of ways – on the y axis of a hydrograph, against a graphic of a staff gauge, etc. At this stage, tables as follows are considered best but other presentation may be added provided they do not lead to confusion or result in critical information being overlooked

CMAs can assist with population of the following three tables – in terms of consequences, flows, levels and AEPs. VICSES to complete actions column

Note – In Flash Flood areas without gauges, it will only be possible to provide a general description of likely flood impacts.

Command, Control and Coordination

To be determined for each town.

Gauge Location: Barwon River at Location Ricketts Marsh (Conns Lane)

River Height (m) and or River Flow (ML/d)	Annual Exceedance Probability
3.00m	Minor Flood Level
6.0m	Moderate Flood Level
6.70m	Major Flood Level

Note: flood intelligence records are approximations. This is because no two floods at a location, even if they peak at the same height, will have identical impacts. Flood intelligence cards detail the relationship between flood magnitude and flood consequences. More details about flood intelligence and its use can be found in the Australian Emergency Management Manuals flood series.

APPENDIX D - FLOOD EVACUATION ARRANGEMENTS

Note: This section of the plan is to be completed in more detail once known.

Phase 1 - Decision to Evacuate

The Incident Controller may make the decision to evacuate an at-risk community under the following circumstances:

- Properties are likely to become inundated;
- Properties are likely to become isolated and occupants are not suitable for isolated conditions;
- Public health is at threat as a consequence of flooding and evacuation is considered the most effective risk treatment. This is the role of the Health Commander of the incident to assess and manage. Refer to the State Health Emergency Response Plan (SHERP) for details);
- Essential services have been damaged and are not available to a community and evacuation is considered the most effective risk treatment.

The following should be considered when planning for evacuation:

- Anticipated flood consequences and their timing and reliability of predictions;
- Size and location of the community to be evacuated;
- Likely duration of evacuation;
- Forecast weather;
- Flood Models;
- Predicted timing of flood consequences;
- Time required to conduct the evacuation;
- Time available to conduct the evacuation;
- Evacuation priorities and evacuation planning arrangements;
- Access and egress routes available and their potential flood liability;
- Current and likely future status of essential infrastructure;
- Resources required to conduct the evacuation;
- Resources available to conduct the evacuation;
- Shelter including Emergency Relief Centres, Assembly Areas etc.;
- Vulnerable people and facilities;
- Transportation;
- Registration
- People of CALD background and transient populations;
- Safety of emergency service personnel;
- Different stages of an evacuation process.

The decision to evacuate is to be made in consultation with the MERO, MERC, DHS, Health Commander and other key agencies and expert advice (CMA's and Flood Intelligence specialists).

The table below details triggers for evacuation, if these heights are predicted or are likely to occur evacuation should be considered

Sector	Gauge	Trigger

The table below details time required to evacuate established areas.

Sector	Likely time required for evacuation (including resource assumptions)

Phase 2 – Warning

Warnings may include a warning to prepare to evacuate and a warning to evacuate immediately. Once the decision to evacuate has been made, the at-risk community will be warned to evacuate. Evacuation warnings can be disseminated via methods listed in part 3 of this plan.

Evacuation warning messages will be developed and issued by VICSES in consultation with the MERO, MERC, DHS and other key agencies and expert advice (CMA's and Flood Intelligence specialists).

Phase 3 – Withdrawal

Withdrawal will be controlled by VICPOL. VICSES will provide advice regarding most appropriate evacuation routes and locations for at-risk communities to evacuate to, etc.

VICSES, CFA, AV and Local Government will provide resources where available to support VICPOL/VICROADS with route control and may assist VICPOL in arranging evacuation transportation.

VICPOL will control security of evacuated areas.

Evacuees will be encouraged to move using their own transport where possible. Transport for those without vehicles or other means will be arranged in consultation between the Incident Controller, VICPOL and the MERO.

Possible Evacuation Routes to be used:

Sector	Evacuation Route	Evacuation route closure point and gauge height of closure

Landing zones for helicopters are located at:

- Colac Airfield
- Apollo Bay Airfield

Special needs groups will be / are identified in Council's Vulnerable Persons register. This can be done through community network organisations. Further information on Council's Vulnerable Persons register can be obtained from Victoria Police.

Phase 4 – Shelter

Emergency Relief Centres and / or assembly areas which cater for people's basic needs for floods may be established to meet the immediate needs of people affected by flooding. For a detailed list of these facilities, see the Municipal Emergency Management Plan.

VICPOL in consultation with VICSES will liaise with Local Government and DHHS (where regional coordination is required) via the relevant control centre to plan for the opening and operation of relief centres. This can best be achieved through the Emergency Management Team (EMT).

Animal Shelter

Animal shelter compounds will be established for domestic pets and companion animals of evacuees. These facilities may be located at locations detailed below and coordinated by Colac Otway Shire or provide reference to MEMP.

Sector	Animal Shelter (include address)	Comments
	Emergency Relief Centre – Central Reserve	
	Council Pound	
	Sale Yards	Larger Animals (stock / horses / sheep)

Caravans

Caravans maybe evacuated to the following locations:

Sector	Caravan evacuation location (include address)	Comments

Phase 5 – Return

Return will be consistent with the Strategic Plan for the Return of Community

The Incident Controller in consultation with VICPOL will determine when it is safe for evacuees to return to their properties and will arrange for the notification of the community.

VicPol will manage the return of evacuated people with the assistance of other agencies as required.

Considerations for deciding whether to evacuate include:

- Current flood situation;
- Status of flood mitigation systems;
- Size and location of the community;
- Access and egress routes available and their status;
- Resources required to coordinate the return;
- Special needs groups;
- Forecast weather;
- Transportation particularly for people without access to transport

Disruption to Services

Disruption to a range of services can occur in the event of a flood. This may include road closures affecting school bus routes, water treatment plant affecting potable water supplies etc.

Service	Impact	Trigger Point for action	Strategy/Temporary Measures

Essential Community Infrastructure and Property Protection

Essential Community Infrastructure and properties (e.g. residences, businesses, roads, power supply etc.) that require protection are:

Facility	Impact	Trigger Point for action	Strategy/Temporary Measures

Colac Otway Shire will establish a sandbag collection point at a point to be determined at the time.

Rescue

The following resources are available within Colac Otway Shire to assist with rescue operations:

- Aircraft available through the State Aircraft Unit
- Boats available through VICSES RDO.
- VicPol resources available via the RERC.

Known high-risk areas / communities (i.e. low-lying islands) where rescues might be required include:

- Kennett River Caravan Park (Flash Flooding – overland)

APPENDIX E - FLOOD WARNING SYSTEMS

Flood Warning

Flood Warning products and Flood Class Levels can be found on the BoM website. Flood Warning Products include Severe Thunderstorm Warnings, Severe Weather Warnings, Flood Watches and Flood Warnings.

Flood Bulletins

VICSES distributes flood emergency information to the media through "Flood Bulletins". Flood Bulletins provide BoM Flood Warning information as well as information regarding possible flood consequences and safety advice, not contained in BoM Flood Warning products. VICSES uses the title Flood bulletin to ensure emphasis is placed upon BoM Flood Warning product titles.

The relevant VICSES Region Headquarters or the established ICC will normally be responsible for drafting, authorizing and issuing issue Flood Bulletins, using the One Source, One Message system.

Flood Bulletins should refer to the warning title within the Bulletin header, for example Flood Bulletin for Major Flood Warning on Yarra River.

Flood Bulletins should follow the following structure

- What is the current flood situation;
- What is the predicted flood situation;
- What are the likely flood consequences;
- What should the community do in response to flood warnings;
- Where to seek further information;
- Who to call if emergency assistance is required.

It is important that the description of the predicted flood situation is consistent with and reflects the relevant BoM Flood Warning.

Flood Bulletins should be focused on specific gauge (or in the absence of gauges, catchment) reference areas, that is the area in which flood consequences specifically relate to the relevant flood gauge.

Flood Bulletins should be prepared and issued after receipt of each Flood Watch and Flood Warning from the BoM, or after Severe Weather or Thunderstorm Warnings indicating potential for severe flash flooding.

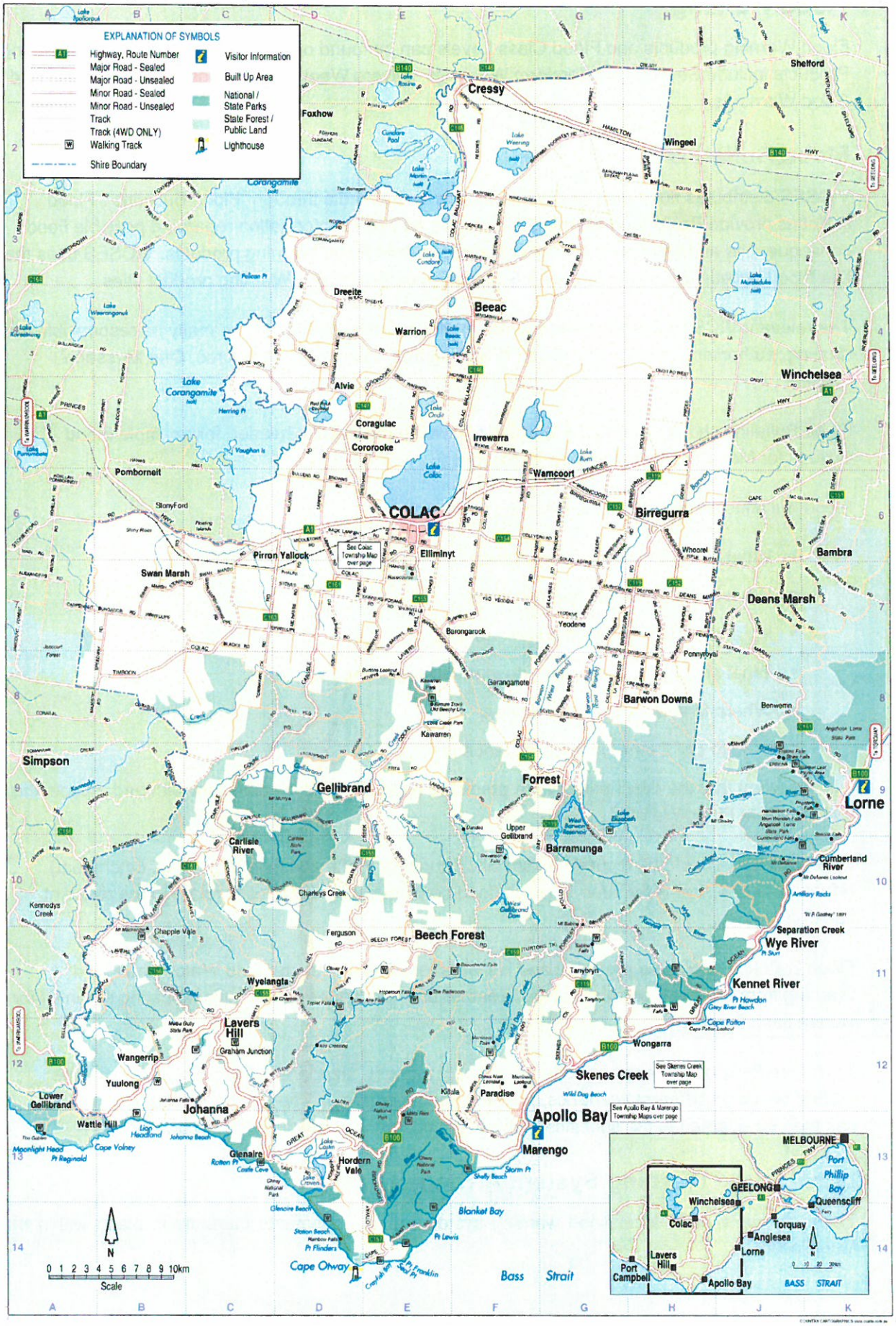
To ensure flood bulletins are released in a timely manner, standardised flood bulletins may be drafted based on different scenarios, prior to events occurring. The standardised flood bulletins can then be adapted to the specifics of the event occurring or predicted to occur.

Local Flood Warning System Arrangements

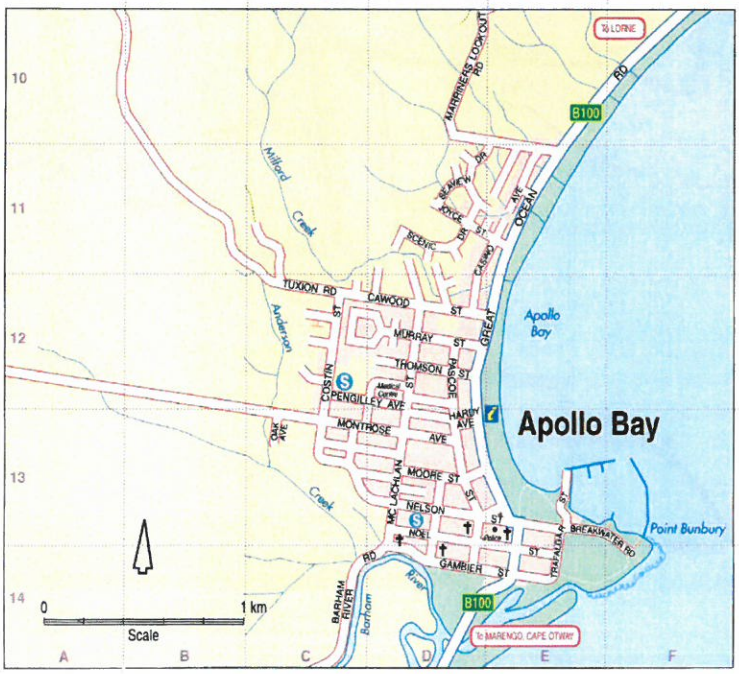
There are no specific local flood warning systems or arrangements currently in place within the Municipality.

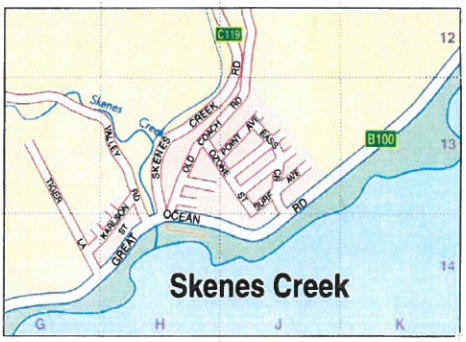
APPENDIX F – MAPS

Colac Otway Shire Map

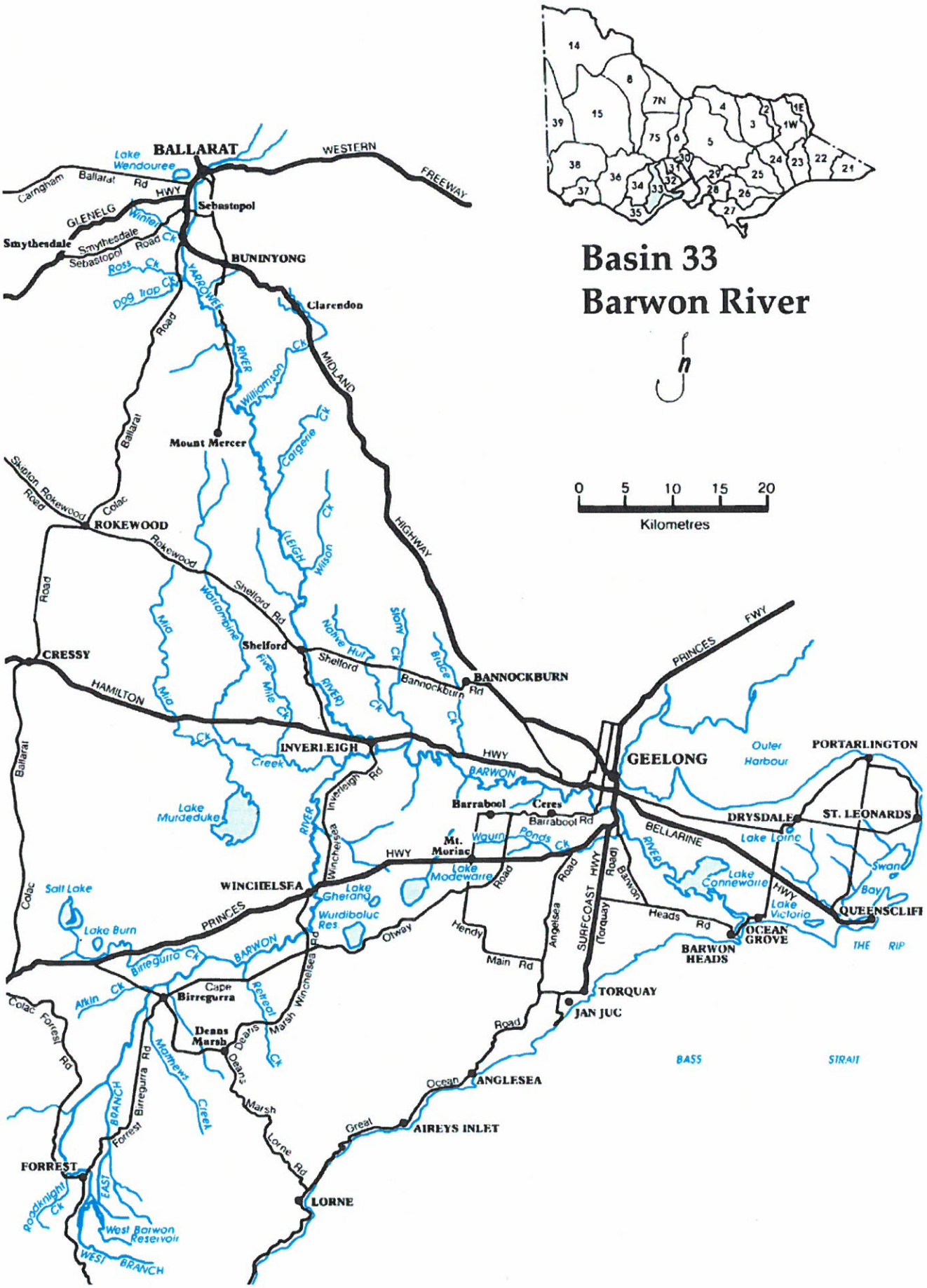


Colac Otway Shire Town Maps

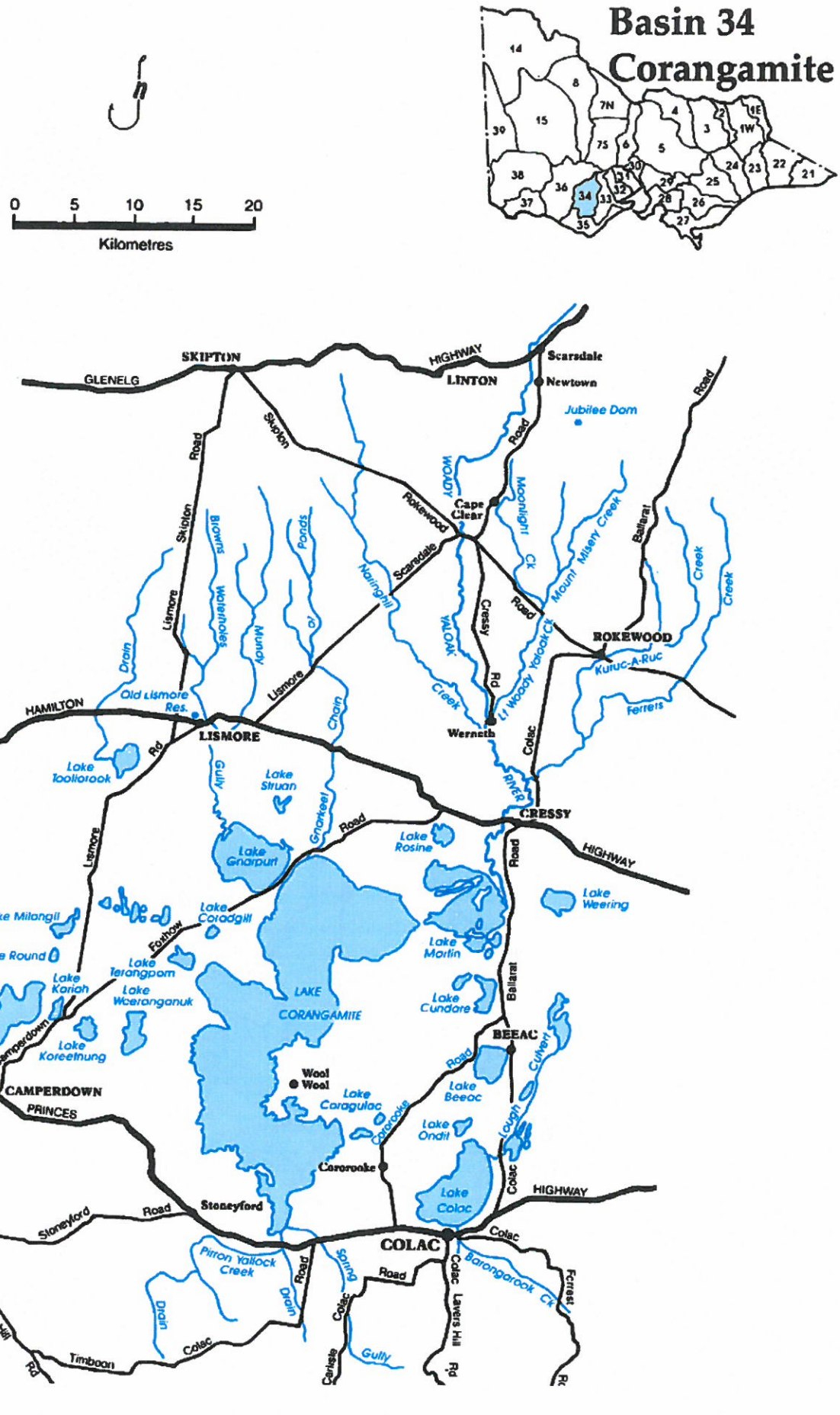




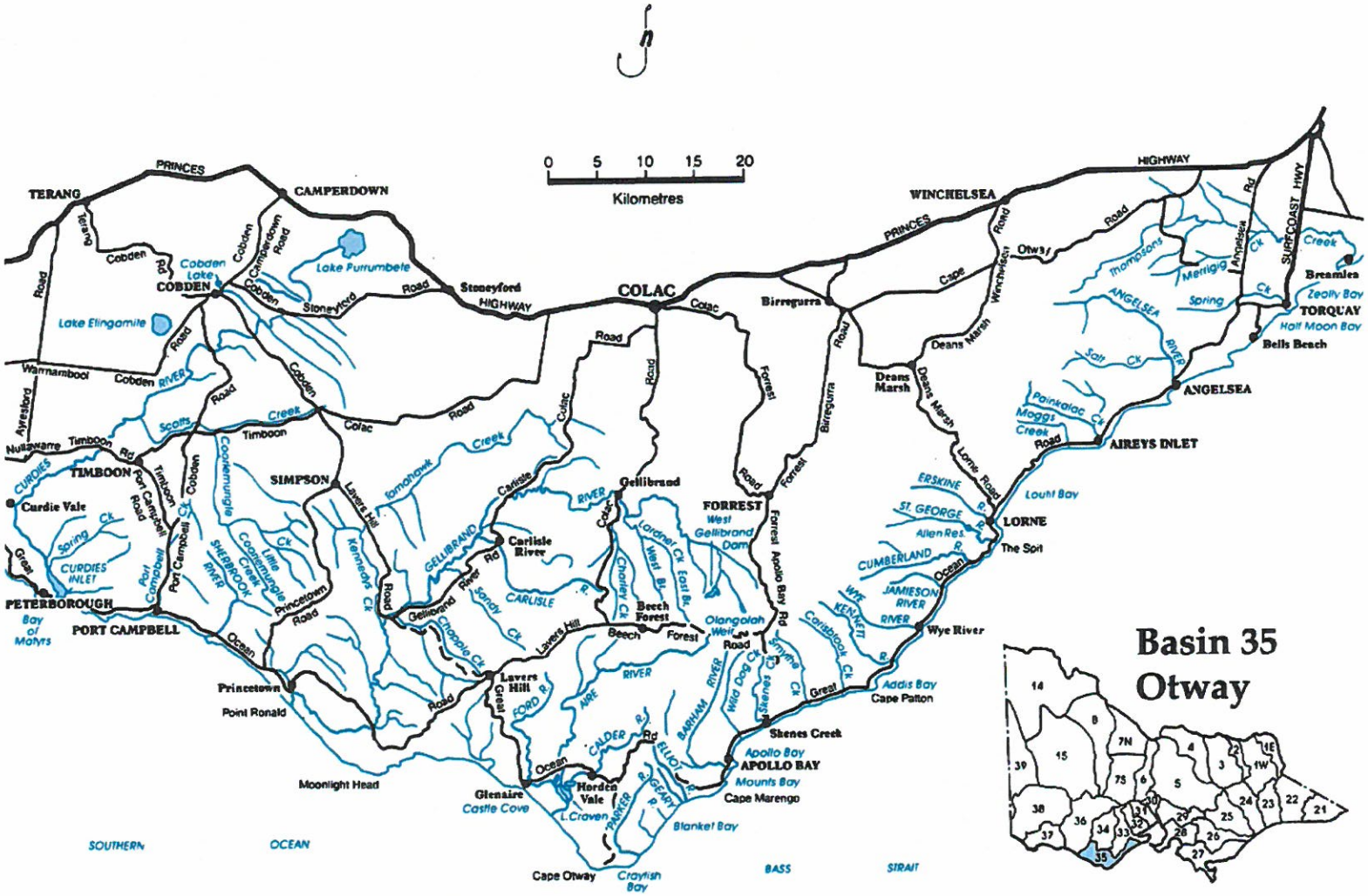
Barwon River Catchment Map



Corangamite Catchment Map



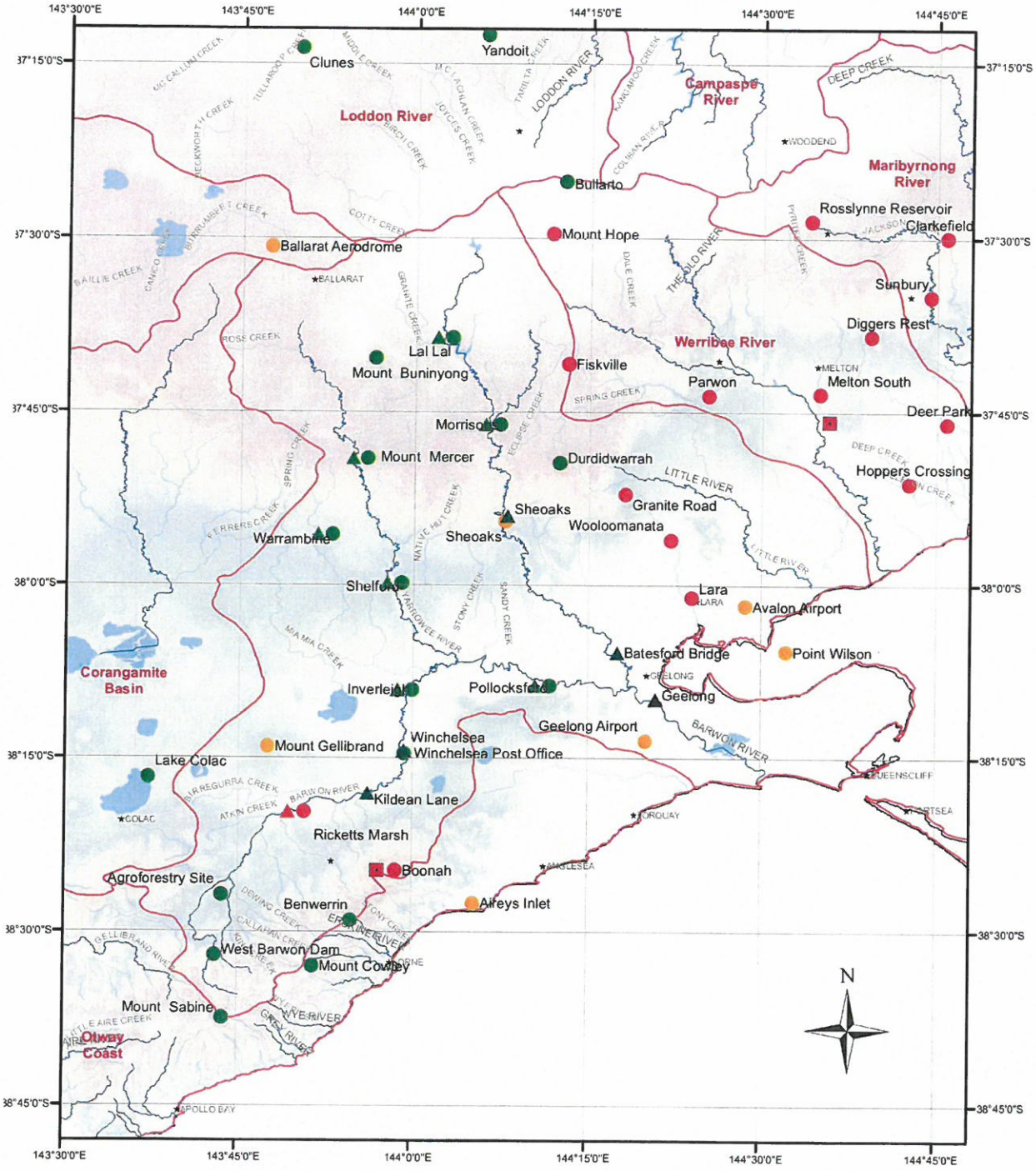
Otway Catchment Map



Barwon, Moorabool and Leigh Rivers

Flood Warning Data Collection Networks

Australian Government
Bureau of Meteorology

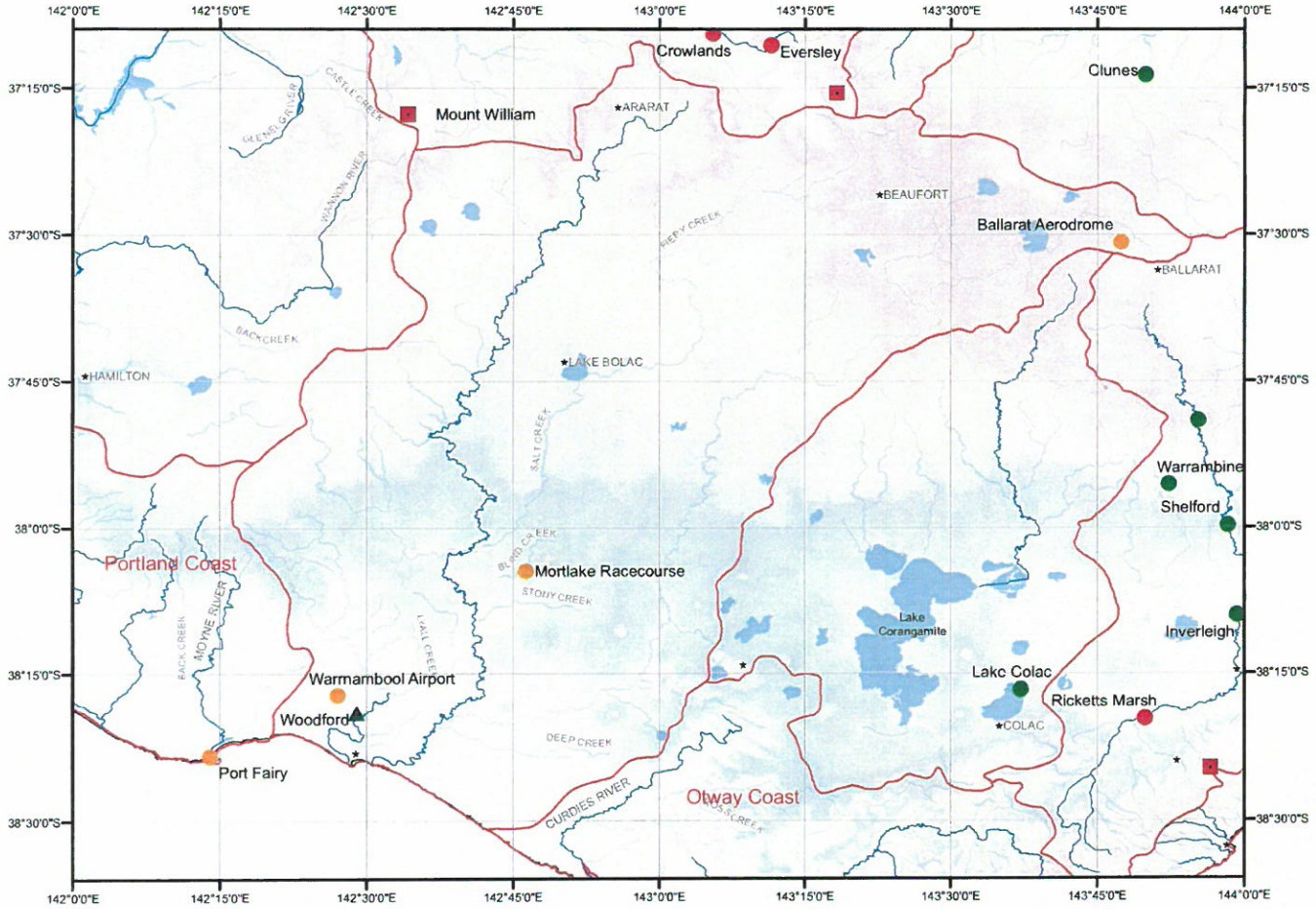


Hydrology and Flood Warning Section
Victorian Region
August 2007

Hopkins River and Corangamite Basins

Flood Warning Data Collection Network

Australian Government
Bureau of Meteorology



Legend

Water Level Sites
- ERTS
- Mindata/Campbell
- Vocamark/Telemark
- FTP
- Staff gauge

Rain Gauge Sites
- ERTS
- Mindata/Campbell/ES
- AWS
- FTP
- Manual Gauge

Repeater Sites
- ERTS

0 5 10 20 30 40 Kilometers

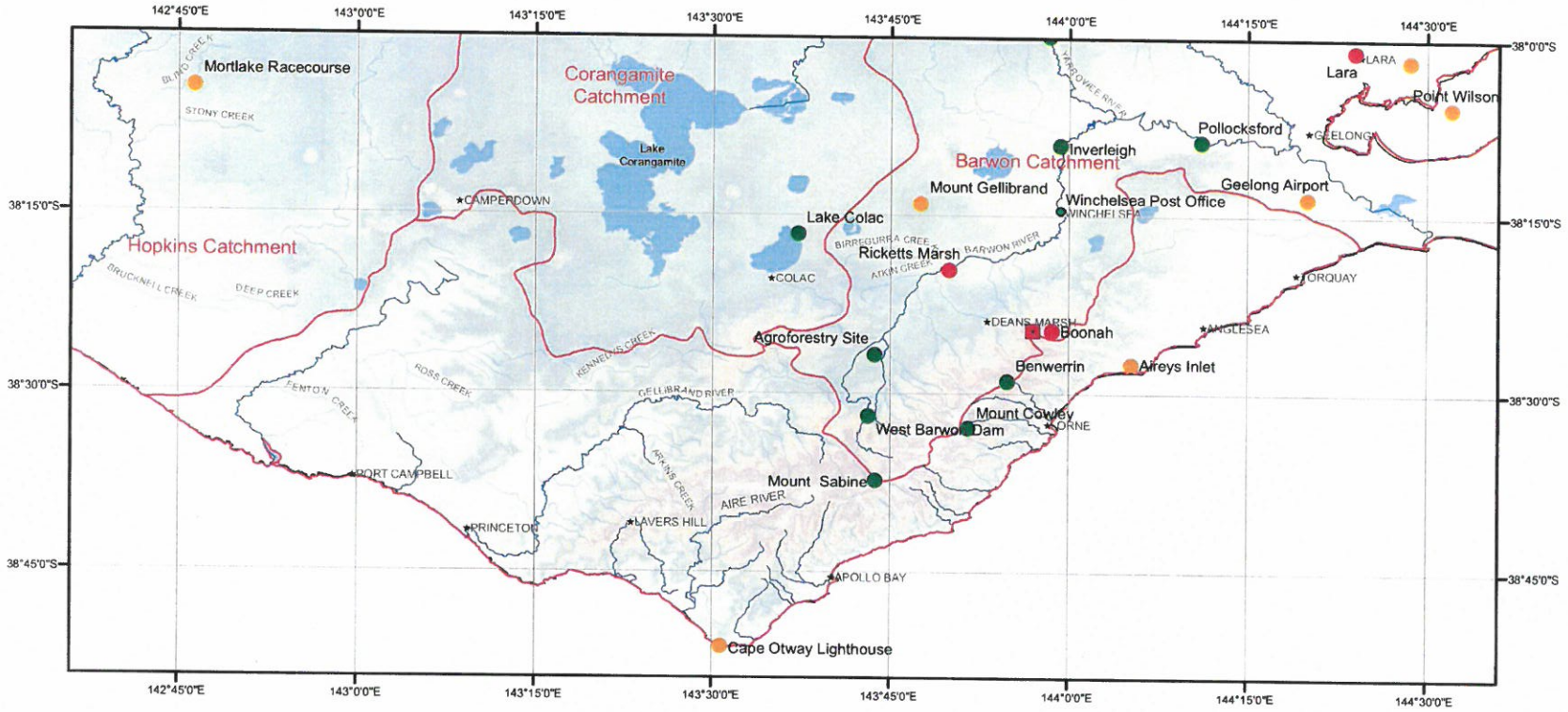
N

Hydrology and Flood Warning Section
Victorian Region
August 2007

Otway Coast

Flood Warning Data Collection Network

Australian Government
Bureau of Meteorology



Legend

Water Level Sites
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- Mindata/Campbell/ES
- AWS
- FTP
- Manual Gauge

Repeater Sites
- ERTS

0 5 10 20 30 40 Kilometers

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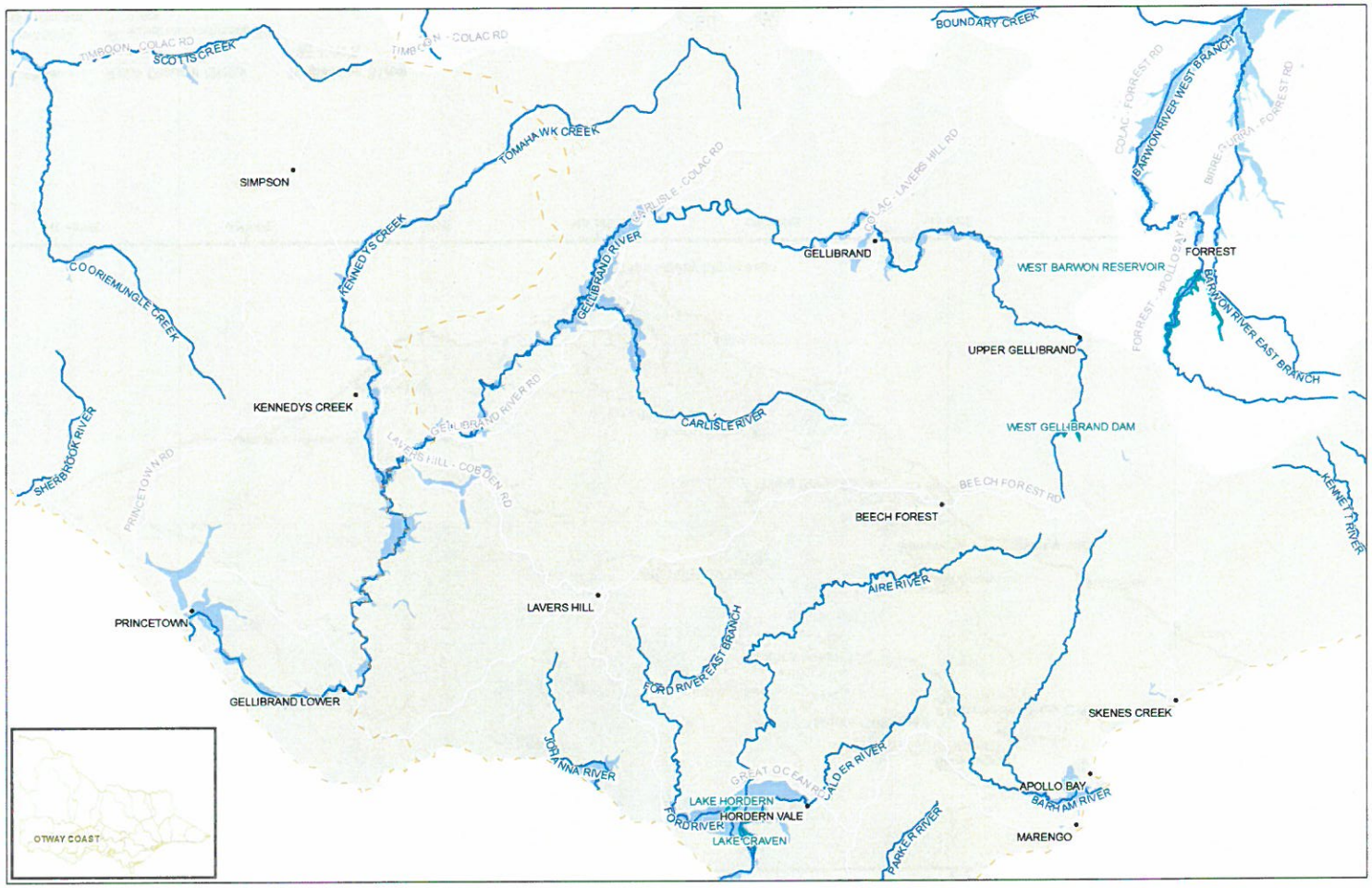
Hydrology and Flood Warning Section
Victorian Region
August 2007



Gellibrand River Otway Coast Catchment

- Township
- Rail Line
- Major Road
- River/Creek
- 1% AEP Flood
- Otway Coast Catchment
- Lake
- LGA Boundary

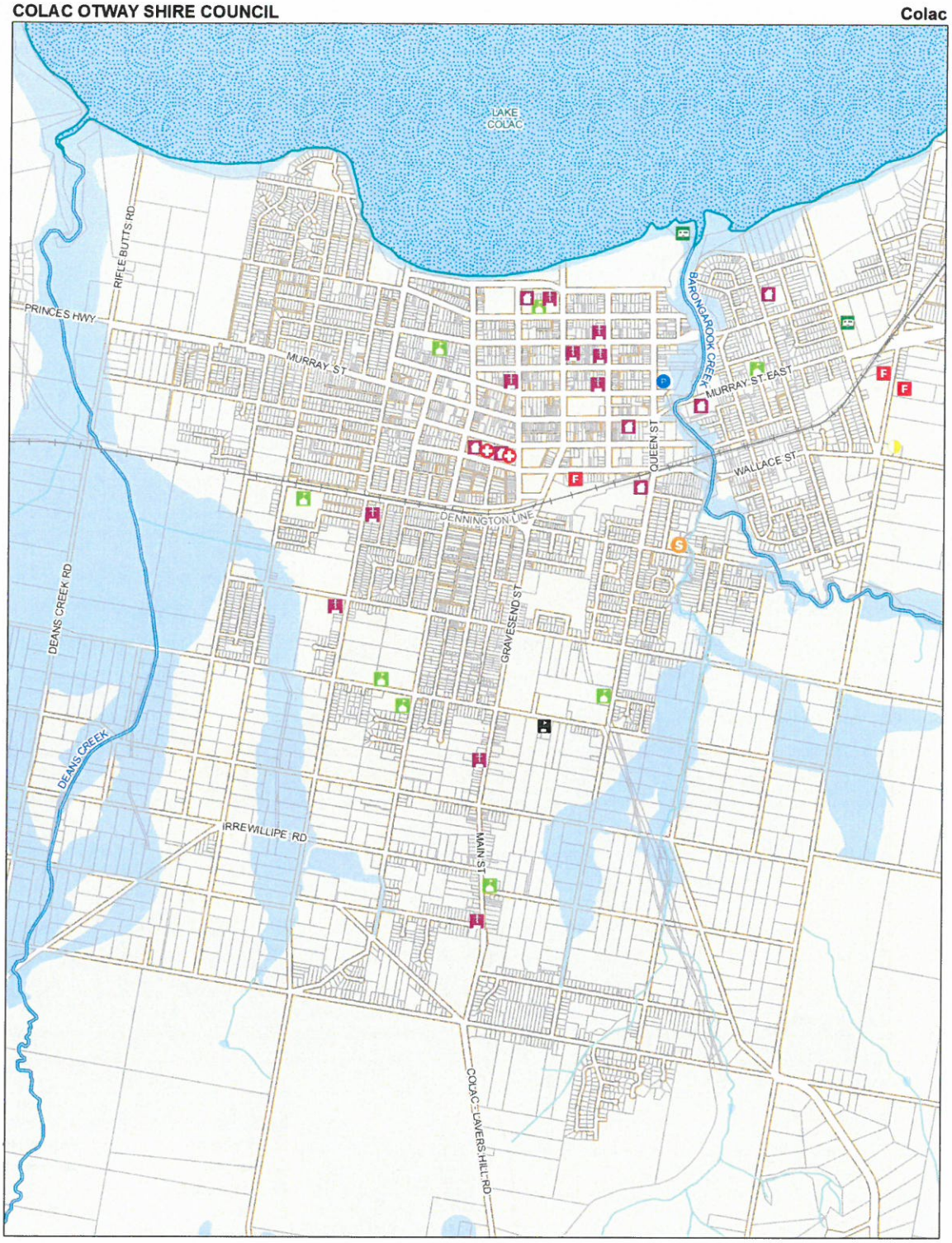
Scale at A4

Kilometers 0 2.5 5 10

1:250,000

N

COLAC OTWAY SHIRE COUNCIL **Colac**



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VicMap data sourced from DSE, November, 2012.

Apollo Bay

COLAC OTWAY SHIRE COUNCIL

Wye River

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