

Nillumbik Heatwave Strategy (sub-Plan) Municipal Emergency Management Plan

Version 2.1

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Contents

- Executive Summary 4**
- 1. Heatwave Plan Overview..... 5**
 - 1.1 Introduction..... 5
 - 1.2 Purpose..... 5
 - 1.3 Definition of a Heatwave? 6
 - 1.4 Policy & Organisational Context..... 7
 - 1.5 Key Stakeholders 9
 - Agencies and Organisations* 9
 - Nillumbik Shire Council*..... 9
 - Victoria Police*..... 9
 - Department of Health (DOH)* 9
 - 1.6 Reviewing the Plan.....10
- 2. Heatwave Impact11**
 - 2.1 Heatwave Background.....11
 - 2.2 Impact on the Vulnerable12
 - 2.3 Impact on the Municipality14
 - 2.4 Impact on Agencies16
- 3. Heatwave Response.....18**
 - 3.1 Response Framework.....18
 - 3.2 Communications Strategy21
 - Heat health alert system*21
 - Communicating with the Elderly*.....26
 - Emergency Risk Register*26
 - 3.3 Emergency Management Impact & Issues.....27
 - Bushfire and Heatwaves*.....27
 - Impact on emergency personnel*.....27
 - Effective operation of emergency coordination and Emergency Relief Centres in a heatwave*.....28
 - Impact on other emergency operations*.....28
 - 3.4 Business Continuity Planning and maintaining service delivery29
 - 3.5 Working with the Community29
 - Pet and Animal Management*.....29
 - 3.6 Heatwave Recovery Framework29
- Appendices.....30**
 - A1. Key Heat health messages.....30
 - A2. Additional Resources31

Tables

Table 1: Vulnerable Population Groups.....	12
Table 2: Heatwaves and Environments for Health.....	15
Table 3: Nillumbik Heatwave sub-Plan Key Actions.....	19
Table 4: Heatwave Communications Strategy.....	23

Figures

Figure 1: Legislative Context.....	7
Figure 2: Policy Context.....	8
Figure 3: People (in Nillumbik) who need assistance for core activities (by age group).....	13

Glossary

BCP – Business Continuity Plan
CERM – Community Emergency Risk Management
DOH – Department of Health
DHS – Department of Human Services
ICC – Incident Control Centre
MECC – Municipal Emergency Coordination Centre
MEMP – Municipal Emergency Management Plan
MEMPC-Municipal Emergency Management Planning Committee
MERO – Municipal Emergency Response Manager
MRM – Municipal Recovery Manager
NCHS- Nillumbik Community Health Service
OH&S – Occupational Health and Safety
NHWP –Nillumbik Health and Wellbeing Plan
RDNS- Royal District Nursing Service
Strategy – Nillumbik Heatwave Strategy (sub-Plan of MEMP)
Shire – Nillumbik Shire Council
VicPol – Victoria Police

Executive Summary

The Nillumbik Heatwave Strategy is a sub-Plan of the Municipal Emergency Management Plan. The Strategy outlines the response to a heatwave event for agencies within the Nillumbik area. The Plan also outlines the impact on the community and service agencies. There are significant implications for agencies if an extended heatwave event were to occur, including potential interruptions to service delivery and business continuity.

Heatwaves, as well as a range of other extreme weather events, are expected to occur with a greater frequency, intensity and duration in the future due to the impacts of climate change.

Fortunately, the impact of heatwaves on the community can be lessened by effectively communicating heat health messages to the community and being prepared for the impacts of extreme heat.

There are many in the community who are especially vulnerable in a heatwave.

This Strategy includes:

- A coordinated response structure to manage the impacts of a heatwave, including:
 - A detailed framework
 - Clear assignation of responsibility for distributing information
 - A process that encourages information sharing and hence informed response escalation
- The potential impacts on agency functions and services including threats to critical activities;
- An investigation of the impact on emergency management, and recommendations to ameliorate that impact

1. Heatwave Plan Overview

1.1 Introduction

The Nillumbik Heatwave Strategy has been produced pursuant to Section 20(2), *Municipal Emergency Management Plan*, of the Emergency Management Act 1986.

The Municipal Emergency Management Planning Committee has identified Heatwave as a risk to the community in Nillumbik. This sub plan has been developed to manage this risk. Heatwave Planning is a priority for the Department of Health, who provide communications and event warning resources to assist Council and other agencies.

1.2 Purpose

The Heatwave Strategy (the Strategy) provides a framework for managing the risk of extreme heat events that impact on the health of the community and on agencies' business continuity. The Plan is a sub-plan of the Municipal Emergency Management Plan (MEMP).

The purpose of the Strategy is to provide the Municipal Emergency Management Planning Committee with a response structure to a Heatwave Event, including an appropriate communications strategy. Specifically, the purpose is:

1. To provide to the Nillumbik community, and particularly those especially vulnerable to heatwaves, the information necessary to make informed decisions about their health and needs in a heatwave.

Key Process: Communication Strategy, page 21

2. To inform the MEMPC's emergency responsibilities and strategies in the case of a heatwave occurring simultaneously with an emergency event.

Key Process: Emergency Impact & Issues, page 27

1.3 Definition of a Heatwave?

A heatwave is declared when the 'heat threshold' is reached. For Nillumbik (and indeed most of the rest of the state) this threshold is:

A 24 hour period where the daily (day/night) mean temperature is 30°C or above

At this threshold the temperature is likely to have a significant impact on the health of the community.

Note: that to attain this threshold, either the daytime temperature will be extreme, or the night-time temperature will remain high, or possibly both.

Extreme Heatwave

It is difficult to precisely define an extreme heatwave as conditions are so variable. However the conditions of an extreme heatwave are:

1. An extended event of four or more days
2. An event of extreme high temperature (50°C+)

Either of these conditions is likely to coincide with a significant increase in the fire danger rating.

The Department of Health will annually distribute information and guidance for the current *Heat Health Alert System*.

1.4 Policy & Organisational Context

In 2009, Victorian Councils were funded by the Department of Health to develop a Heatwave Strategy as a part of the Heatwave Plan for Victoria. The Heatwave Plan for Victoria provides an indication of state-wide responses, guidance on developing a local plan and heat health information. The Nillumbik Strategy sits under the state-wide plan and provides a local response as appropriate to Nillumbik's agency resources and community needs.

The Strategy has been produced pursuant to Section 20(2), *Municipal Emergency Management Plan*, of the Emergency Management Act 1986 and as part of the Department of Health *Heatwave Plan for Victoria*.

The Heatwave Strategy has been developed as a sub-plan of the MEMP. In a heatwave emergency, Victoria Police is the nominated Control Agency. If additional resources are required from Nillumbik Shire Council or from within the municipality to respond to the emergency the responsibility lies with the Municipal Emergency Response Coordinator (MERC) from Victoria Police, in consultation with the Municipal Emergency Resource Officer (MERO) and Municipal Recovery Manager (MRM).

The Strategy constitutes only the heatwave portions of the overall Municipal Emergency Management Plan (MEMP). It should be implemented in conjunction with the MEMP and other relevant sub-plans (such as the Nillumbik Emergency Relief Plan, Nillumbik Emergency Recovery Plan and the Public Health Emergency Management Plan (in development)).

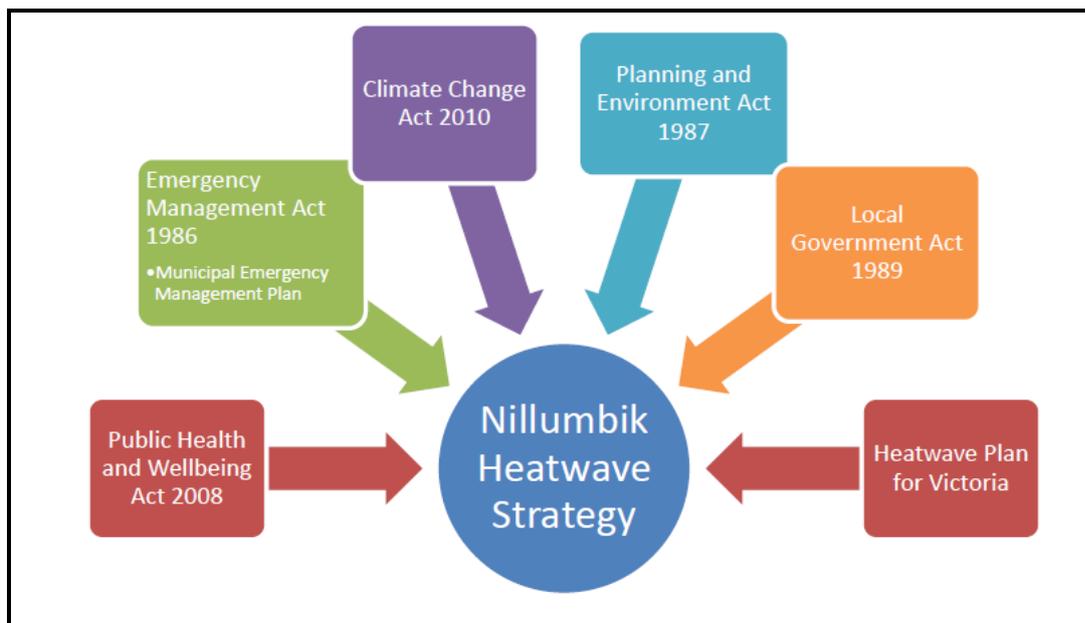


Figure 1: Legislative Context

Subsequently, to fulfil their responsibilities in the Strategy, agencies are encouraged to develop their own internal response plan. In particular, it should include relevant OH&S policies in relation to responding to a heatwave, their communication strategy and links to Business Continuity Planning and Recovery.

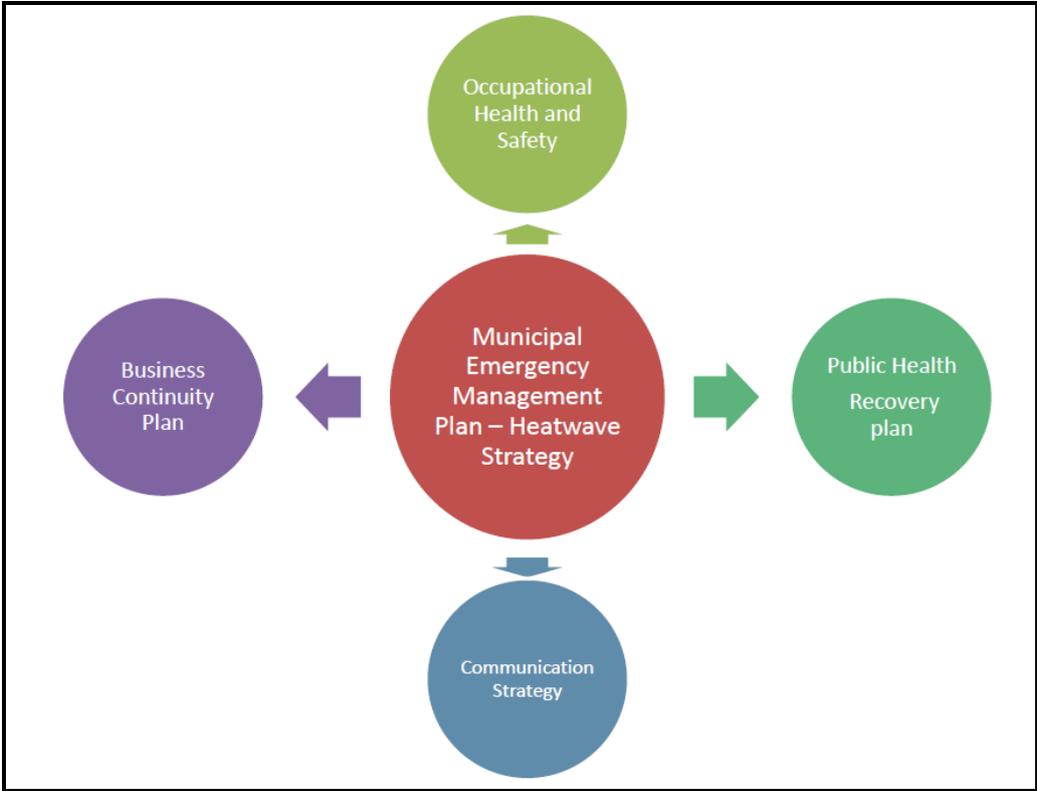


Figure 2: Policy Context

1.5 Key Stakeholders

Agencies and Organisations

- Royal District Nursing Service
- Nillumbik Community Health Service
- Schools, Pre-schools and Childcare Centres
- Leisure Centres/Facilities
- Living and Learning Centres
- Disability Service Providers
- Libraries
- Medicare Local (Northern Melbourne)

Nillumbik Shire Council

- Aged and Disability Services
- Maternal and Child Health
- Environmental Health
- Early Years - Family Day Care
- Playhouses
- Communications
- Environmental Planning
- Leisure Services
- Regulatory Services
- Emergency management staff
- Infrastructure Services
- OD&R

Victoria Police

In a heatwave emergency, Victoria Police is the nominated Control Agency.

Victoria Police will play a key role in ensuring appropriate responses are being undertaken by responsible agencies such as health, infrastructure and transport.

Department of Health (DOH)

DOH is responsible for the Heat Health Alert System. This system has been developed to notify councils, departmental program areas, hospitals, and health and community service providers of forecast heatwave conditions which are likely to impact on human health. Previous alerts were issued from the State Emergency Management Centre (SEMC) inbox, however, from 2012/2013 the alerts are issued from the Chief Health Officer's (CHO) inbox. The CHO is responsible for approving and issuing heat health alerts. The alerts are issued to key stakeholders including the State Emergency Management Centre and State Health Command for further distribution.

1.6 Reviewing the Plan

Testing

Exercises will be conducted in a variety of formats to test various parts of the Heatwave Strategy sub-Plan. Exercises may be run in conjunction with other emergency management or business continuity exercises. Records will be kept by Nillumbik Shire Council as part of the MEMPC.

Review

The Heatwave Strategy sub-Plan will be reviewed following a heatwave event to ensure that it functions adequately. This will include all of the relevant agencies. This may need to be undertaken by an independent facilitator.

It will also be reviewed annually to keep information contained within it up-to-date and take into account developments or changes in internal processes, other agencies and the region.

Updating and re-issuing of the Municipal Heatwave Strategy is the responsibility of the MEMPC. Nillumbik Shire Council will retain copies of the plan.

Evaluation

Evaluation of activities and programs following emergency events is essential to maximise lessons learned and identify where improvements can be made.

Evaluation should be conducted at local, regional and state level, (depending on the scale of activation of activities related to the event). The evaluation can be:

- An informal or formal debrief;
- Workshops;
- Seminars; and
- Applied research into particular areas of activity.

Evaluation must identify the strengths and weaknesses of the operational response to the needs of the community. The outcomes should be reported and shared between all relevant agencies and the community.

Monitoring and Reporting

While activities are being undertaken agencies and organisations delivering services will:

- Monitor the delivery and effectiveness of emergency operations through regular reporting; and
- Adjust the management and delivery of activities as necessary to achieve better outcomes.

2. Heatwave Impact

Heatwaves impact agencies and the community in many different ways. As well as the physical and health impact of a heatwave, there is also an economic, social and cultural impact (which may mean more or less social contact depending on the person and their situation), and an impact on the natural and built environment.

2.1 Heatwave Background

Heatwaves, as well as a range of other extreme weather events, could occur with a greater frequency, intensity and duration in the future due to the impact of climate change.

Melbourne currently has an annual average of 9 days on which the temperature exceeds 35°C. The latest climate change predictions from the Australian Bureau of Meteorology forecast that this is likely to increase to 11-13 days by 2030 and 12-26 days by 2070.

Heatwaves are periods of unusually high and prolonged temperatures that can result in significant harm. As temperatures exceed the heat threshold (30°C average temperature over a 24 hour period) we can expect:

- **A significant loss of life and injury, especially in the vulnerable**
- **An increase in anti-social behaviour**
- **Increase in absenteeism**
- **Population displacement from rural areas**
- **Decrease in economic activity, especially rural and strip shopping centres**
- **Increased usage of all air-conditioned buildings open to the public**
- **Disruption to public transport**
- **Stress to parks and gardens**
- **Short term power blackouts or brownouts**
- **Increased demand on medical and social facilities**
- **Increased probability of fire (bushfire/wildfire)**
- **Increased severity and in the consequences and complexity in the recovery of emergency events that occur at the same time**

Heatwaves in Nillumbik are likely to occur at the same time as a elevated fire danger ratings..

2.2 Impact on the Vulnerable

Most people have the knowledge, ability and capacity to look after themselves in the heat and will respond appropriately to public health messages. However, the capacity of many people to respond to the heat is impaired for a variety of reasons.

A risk profile of Nillumbik provides an understanding of vulnerable people that may be affected in Nillumbik. This allows targeted action to assist those most in need (see Table 2: Vulnerable Population Groups).

As per the Communications Strategy, agencies that manage or interact with any of these vulnerable groups will be involved in informing their client groups of heat health messages.

Table 1: Vulnerable Population Groups

Vulnerable People	How they are effected
Aged (over 65)	Thermoregulation ¹ ability declines with age as does perception of hydration resulting in particular vulnerability to heat stress and illness High likelihood to have at least one, if not multiple other vulnerabilities
Overweight or Obese	Greater mass to surface ratio makes it harder for the body to cool down
Pregnant mothers and nursing mothers and babies	Greater body mass to cool, higher than normal hydration needs and hormonal variation that can affect perception of heat and hydration Childs thermoregulation capacity still developing
Chronic illnesses	Ability to perceive and respond (consciously and unconsciously) to environment impaired. Particularly medical conditions that affect the cardiovascular, respiratory, renal and endocrine systems or thermoregulation capacity
Limited or poor mobility	Less able to adapt to physical environment to make it cooler or to seek cool respite
Taking medications that may interfere with temperature regulation	Ability of body to respond to temperature variation and hydration needs impaired
Anyone who cannot find relief from the heat for at least 2 hours per day	2 hours relief provides the body with critical recuperation time ² Can include public housing residents, socially isolated, housing insecure, outdoor workers
Living in bushfire prone areas	In the event of an imminent bushfire threat, defending the home or evacuation is likely to expose effected residents to the heat

¹ Ability to perceive and adapt to temperature variation

² *Heat Health Plans*, WHO Europe, 2006

The most critical population group in relationship to exposure to heatwave is the aged, as they are likely to have compounded other vulnerabilities, such as social isolation.

Another critical group is those that need assistance for their core activities. As of the last 2011 Census, there were 1,479 persons (or 2.5% of the population) in need of assistance for core activities³. Of those aged 60 years and over and needing assistance with core activities⁴, there were 734 people, or 7.7% of the population of this age group.

Nillumbik Shire has a lower proportion of pre-schoolers and post retirement age than Greater Melbourne⁵. It also has a below average population of both the aged and those needing assistance for core activities. However, the availability of care and assistance during a heatwave or other emergency may become limited, particularly for those in rural areas.

However, there are protective factors that reduce this vulnerability in the Shire, in that there is a high rate of volunteering and community participation.

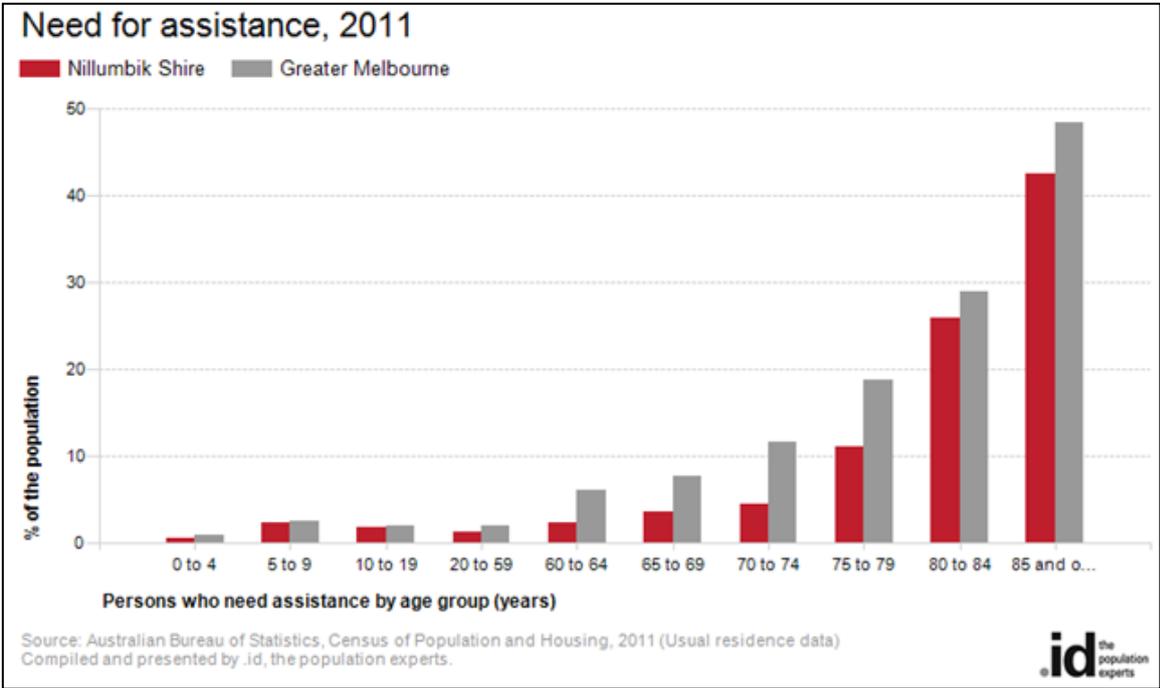


Figure 3: People (in Nillumbik) who need assistance for core activities (by age group)

³ Source: Australian Bureau of Statistics, [Census of Population and Housing](#) 2006 and 2011. Compiled and presented by .id.

⁴ Needing assistance with core activities includes eating, moving and hygiene.

⁵ <http://profile.id.com.au/nillumbik> as accessed on 29 October 2012

2.3 Impact on the Municipality

This section outlines the impacts of a heatwave on the whole municipality using the 'Environments for Health' Framework⁶. This framework is often used in Health Planning, Emergency Recovery Planning and the development of the Municipal Public Health and Wellbeing Plan by local governments.

The framework identifies four environmental components that, when taken together, can inform the MEMPC of the overall impact of an event or policy on human health.

The four components are:

- **Built/Physical:** include all components of the human made landscape
- **Social/Community:** includes all social and cultural interactions, including service delivery and support
- **Economic:** includes all components that contribute to economic activity, including human resources
- **Natural:** which includes all natural environmental features

Impacts and adaptations for heatwaves are identified in each environment. This table is not meant to be comprehensive, and may be added to over time. It commences with the impacts at the top of the table and flows downwards to discuss impact issues, adaption principles and adaptation examples.

⁶ The *Environments for Health framework* (Department of Health) is an analysis tool to assist in understanding the impact of an event or policy on human health.

Table 2: Heatwaves and Environments for Health

Environment	Built/Physical	Social	Economic	Natural
Impact	Infrastructure under increased stress	Social fabric substantially altered and community support mechanisms in high demand	Significant reduction in economic activity in strip shopping centres	Stress on natural environment and resources
Impact Issues	<ul style="list-style-type: none"> Public and private infrastructure stress Amenities and facilities less accessible Works activities reduction Increased impact of other emergency events 	<ul style="list-style-type: none"> Death and illness Social isolation Housing heat stress Increase in drinking and drug taking Emergency recovery becomes more challenging Demand on community facilities Increased likelihood of food borne disease 	<ul style="list-style-type: none"> Impact on Revenue Strip shopping activity reduction Works activities reduction Employee stress Blackouts and brownouts Information systems outage 	<ul style="list-style-type: none"> Vegetation stress Increased water usage High energy consumption
Adaptation principles	Adaptation of the urban landscape to mitigate heat island effect and emergency planning	Increased community capacity to respond and adapt through information, support and community planning	Creation of a more hospitable built environment and economic planning to manage impacts	Resource efficiency measures and passive thermal regulation technologies
Adaptation examples	<ul style="list-style-type: none"> Reduce Urban Heat Island effect Responsive emergency planning Heat stress tolerant infrastructure Passive cooling technologies Plan for power outages 	<ul style="list-style-type: none"> Flexible service delivery Communication planning Focus on the most vulnerable Community development approach Resourcing increased facilities demand 	<ul style="list-style-type: none"> Flexible working conditions Anticipate increased resource demand Holistic view of risk 	<ul style="list-style-type: none"> Passive cooling technologies Focus on the most vulnerable in appropriate programs Heat tolerant gardens Water available in public places Water conservation strategies

2.4 Impact on Agencies

The impact on service and emergency service operations will be significant, especially as the area is likely to be in a period of elevated fire danger rating when most heatwaves are declared. In which case facilities and services in rural areas and townships of the Shire will be closed, leaving only those services in the urban areas available.

The main impacts on operations are:

- Increased absenteeism
- Power brown-outs and outages
- Closed facilities
- High demand on air-conditioned facilities
- High demand on social services
- Impaired ability to undertake outdoor work
- Cancelled public transport services
- Increase in anti-social behaviour
- Staff fatigue and heat stress

In an extreme event, agencies with responsibilities under this Plan may need to activate their Business Continuity Plan.

Agencies will have relevant OHS policies in place regarding Heatwaves or Fire Danger Periods.

These policies need to highlight a range of measures to reduce the risk to staff on days of heatwave conditions. These measures will include reduced service delivery in some areas. In particular:

- Delivered meals and personal care services will not be provided; 2 frozen meals will be delivered at the beginning of summer for use on days of Extreme or Code Red Fire danger.
- Closure of Council owned buildings and centres
- Closure of education facilities (pre-school, child care centres, schools)
- Work may be limited to urban built up areas of Diamond Creek, Greensborough and Eltham other than critical emergency work outside those areas

Other external impacts that may affect agency operations are:

- Increased staff absenteeism; due to:
 - Looking after sick or vulnerable relatives or friends
 - School closure requiring parents to look after children
 - Heat stress due to heat exposure or lack of sleep during hot nights
 - Attending to bushfire threats – primarily for staff living in bush fire areas, but may include other responsibilities like CFA volunteers
 - Cancellation of public transport services or traffic management issues
- Power brown-outs and outages
 - Power issues including brownout and blackout are a near certainty in an event of more than a couple of days. Constant high temperatures are likely to result in power usage beyond generation capacity due to intensive operation of cooling devices such as air conditioners.

- Power brown outs, where power companies limit power supply to areas of the city on a rotating basis to manage exceptionally high demand, are highly likely and affect most homes and businesses in an area.
- Blackouts are likely, as electricity infrastructure fatigue (due to both heat and ageing) and failure becomes more likely with both severity and duration of a heatwave event.
- Staff fatigue and heat stress
 - Staff fatigue is a critical issue for any staff who are required to work outdoors;
 - Fatigue can also affect all staff, as many people do not sleep well during hot nights. This can impact job performance in terms of accuracy, productivity and social behaviour
- Agencies can undertake sound OH&S practice in heatwave management by:
 - Identifying all reasonably foreseeable risks to the health and safety of employees and prepare a plan to remove or minimize these risks
 - Keeping staff informed and up to date on heatwave information, including the agency's actions during a heatwave. Those with management responsibility for OH&S will be kept informed and up to date.

An internal Communications Strategy adequately manages the majority of the OH&S requirements.

3. Heatwave Response

This section provides a summary of key actions required by nominated agencies. Agencies will have varying levels of responsibility given their method of service delivery, target client groups or type of work that they do.

3.1 Response Framework

In the event of a heatwave, it's likely that Nillumbik will be in or near a Code Red Fire Day situation. Resources may be directed towards managing a bushfire or threatening situation.

The Plan has two key components that form the heatwave response. These are the communications strategy and Emergency Impact.

The following Heatwave Response Framework outlines the process from preparation and planning, through event management to recovery and review. This Framework will be followed on notification of a heatwave.

Table 3: Nillumbik Heatwave sub-Plan Key Actions

Phase	Trigger	Process	Response	Responsibility
Planning and Preparation	Pre-Summer	Review the Heatwave Communications Strategy (s3.2)	Preparation of materials and workshops for relevant staff Forward strategy to all relevant agencies for review	Nillumbik Shire Council
Before Heatwave	7 days' notice	Heatwave warning usually received within 7 days or 3-4 days of potential heatwave	<ul style="list-style-type: none"> Prepare communication materials (See Communications Strategy) 	Agencies can order communication materials from Department of Health website
			<ul style="list-style-type: none"> Ensure any OH&S needs are met and communicated 	<ul style="list-style-type: none"> All Agencies
			<ul style="list-style-type: none"> Inform staff and key external stakeholders 	<ul style="list-style-type: none"> All Agencies
			<ul style="list-style-type: none"> Prepare scripts for Council customer service officers and on hold messages 	<ul style="list-style-type: none"> Nillumbik Shire Council
			<ul style="list-style-type: none"> Monitor weather conditions after warning is issued and update key stakeholders on status and expected intensity. 	<ul style="list-style-type: none"> Nillumbik Shire Council, and other agencies
			<ul style="list-style-type: none"> Service agencies notify vulnerable clients or Next of Kin 	<ul style="list-style-type: none"> Relevant agencies – RDNS, NCHS
Heatwave occurs	1-4 days heatwave	No Code Red Day Declared	<ul style="list-style-type: none"> Implement Communications Strategy 	<ul style="list-style-type: none"> Nillumbik Shire Council and service agencies
			<ul style="list-style-type: none"> MERO/MRM meet with key response/recovery agencies (telephone or otherwise) 	<ul style="list-style-type: none"> Nillumbik Shire Council, Department of Health/DHS, VicPolice and key service agencies
Heatwave occurs	1-4 days heatwave	Code Red Day declared	<ul style="list-style-type: none"> If Code Red declared, then take actions in accord with policies for elevated fire danger rating, taking note of heatwave issues. 	<ul style="list-style-type: none"> All agencies
			<ul style="list-style-type: none"> Communication of Heat health messages should occur whenever possible during a period of elevated fire danger rating 	<ul style="list-style-type: none"> All agencies

Phase	Trigger	Process	Response	Responsibility
			<ul style="list-style-type: none"> Service agencies notify vulnerable clients of any impacts to service delivery and heat health messages 	<ul style="list-style-type: none"> Relevant agencies –RDNS, NCHS
Extreme Heatwave or Emergency situation occurs during Heatwave	4+ days heatwave or extreme temperatures	Escalated Response	<ul style="list-style-type: none"> VicPol may activate MECC, in consultation with Nillumbik Shire Council 	<ul style="list-style-type: none"> VicPOL
			<p>Heat Health guidelines and relevant OH&S policy communicated to all personnel in an emergency that coincides with a heatwave. Ensure emergency support staff from all agencies are aware impacts of a heatwave on:</p> <ul style="list-style-type: none"> Transport Emergency Relief Centres Information Technology and Communications 	<ul style="list-style-type: none"> Nillumbik Shire Council All agencies
			<ul style="list-style-type: none"> Alter or close services as required and communicate to MECC 	All agencies
			<ul style="list-style-type: none"> Monitor power outages and associated issues 	All agencies
			<ul style="list-style-type: none"> Manage staff health and availability (see agency BCP) 	All agencies
Post Impact/ Recovery	End of response/ recovery operations		<ul style="list-style-type: none"> Gather impact information, data and persons affected by heatwave as per Nillumbik Emergency Recovery Plan Collate information regarding response and recovery operations implemented by Council and other agencies Report Post Impact Assessment information to Department of Health and MEMPC 	Municipal Recovery Manager, in consultation with all agencies
Review	End of Heat wave period (March / April)		<ul style="list-style-type: none"> Evaluate actions, update and review the Heatwave Plan 	<ul style="list-style-type: none"> Nillumbik Shire Council, and MEMPC

3.2 Communications Strategy

Effective communications are a key component of responding effectively to a heatwave. Raising awareness in the community results in better heat health management of individuals.

A straightforward and comprehensive communication strategy is outlined in the following Communications Strategy

This strategy promotes:

- Preparation materials and communications before heatwaves are likely to occur
- Providing vulnerable clients and their Next of Kin with information on how to prepare themselves for emergencies and developing their emergency plan
- Distribution of general heat health messages during summer
- Heatwave communications during an event, specifically for vulnerable persons
- Internal communication to agency staff of impacts of heatwaves, OH&S procedures and heat policies

Communicating heat health messages to agency staff, and ensuring they are looking after themselves is a critically important part of the communications strategy.

There is a growing body of information about heat health management for particular groups and situations. A list of resources is provided in Appendix A2.

Heat health alert system

This section is taken from the *Heatwave Plan for Victoria*⁷.

Victorian Department of Health

When forecast temperatures are predicted to reach or exceed the heat health temperature thresholds (see section 1.3), the Department of Health will issue a heat health alert notifying recipients of forecast heatwave conditions. The alert will be sent to departmental program areas, hospitals, local governments and health and community service providers.

High temperatures will also signal the release of public health messages to the broader community through media releases and interviews with the chief health officer and agencies such as Ambulance Victoria and the Bureau of Meteorology. These agencies will work with the department to provide consistent heat health messages.

The heat health alert will continue to be available on the department's website. The department may also use mainstream advertisements to target particular groups or provide heat health messages when extreme temperatures are expected.

It is important to note that once an alert is issued and subsequent weather monitoring indicates that daily average temperatures are no longer predicted to reach/exceed the heat health temperature threshold an email will not be sent out advising of the change in weather.

Local government and agencies

The Department of Health will provide information and advice. The heat health alert advises local government and service providers to continue monitoring local conditions and respond in accordance with local heatwave plans and operational protocols. Local agencies must continue to provide safe service provision and business continuity.

⁷ Can be accessed at <http://www.health.vic.gov.au/environment/heatwave/>

Service providers have a range of relationships with those who are most vulnerable and have actions and systems in place to support these people. Their established communication channels will be used to share information regarding what to do in a heatwave.

Table 4: Heatwave Communications Strategy

When	What	How	Responsibility
Pre Summer	Prepare heatwave information and promotional materials to address the needs of the Nillumbik community for Heatwaves.	<ul style="list-style-type: none"> Review existing materials and prepare or order additional resources as required, including fact sheets/posters etc. Ensure identified vulnerable population groups (including CALD populations) have access to the information and resources 	All agencies Department of Health
	Educate the community regarding heatwaves	<ul style="list-style-type: none"> Agency Website Agency/Council publications (e.g. Nillumbik News,) Newspaper ads Email networks/lists Letters sent to clients regarding effects of heatwave Reminder sent to and determination of whether vulnerable clients have Fire or Emergency Plan Verbal advice regarding individual emergency plans (fire/heatwave) given to clients during Assessment process for HACC services 	All agencies
	Provide advice to mitigate the impacts of climate change (e.g. modifications to houses to enhance natural cooling, tree planning)	<ul style="list-style-type: none"> Environment network Website Environment email networks/lists 	Nillumbik Shire Council
	Agency Staff (HACC, Nurses, Outreach workers etc.)	Provide education and training to workers on the effects of heat <ul style="list-style-type: none"> Training at team meetings Provide information on how to recognise the signs of heat stress and what to do 	All agencies
	Agency Staff (Outdoor and other)	Reinforce OH&S, Code Red Fire Danger and outdoor work policies through <ul style="list-style-type: none"> Internal email, staff meetings and noticeboards, intranet 	All agencies
During Summer	Community	Promote and provide key Heatwave messages to the general community through: <ul style="list-style-type: none"> Local Papers Council Website Displays in Council foyers & Libraries 	Department of Health Nillumbik Shire Council

When	What	How	Responsibility
		<ul style="list-style-type: none"> • Council Pools & Gyms • Immunisation Sessions • Childcare centres • Seniors citizens centres 	
	Parents of young children	Provide information to parents of young children about effects of hot weather on children <ul style="list-style-type: none"> • During MCH visits • During new mothers groups • Display Posters & distribute brochures through the MCH centres • Early Years Newsletters • School newsletter 	Nillumbik Shire Council Nillumbik Community Health Service
	Older Adults	Promote key messages to Older Adults <ul style="list-style-type: none"> • HACC newsletter (Active Ageing) • Senior Clubs meetings • Verbal advice during HACC and delivered meals visits 	RDNS Nillumbik Shire Council Nillumbik Community Health Service
	Pet Care/Animal Management	<ul style="list-style-type: none"> • Information available on DPI website 	Nillumbik Shire Council Department Primary Industry
Heatwave Forecast	Alert agencies to Heatwave Forecast <i>(up to seven days prior forecast event)</i>	<ul style="list-style-type: none"> • Email external key organisations • Heatwave Alert displayed on front page of Council Website 	Nillumbik Shire Council
During Declared Heatwave	Communication with key agencies/community	<ul style="list-style-type: none"> • Email/call key organisations/stakeholders • Heat Health guidelines and relevant OH&S policy communicated to all personnel in an emergency that coincides with a heatwave. 	Nillumbik Shire Council
		Alert people to the extreme heat conditions and provide information on appropriate behaviour through <ul style="list-style-type: none"> • Display Extreme Heat Alert on agency websites • Provide information to Community Services Organisations to display in public spaces, if appropriate • Verbal (or telephone) advice during home visits of vulnerable clients 	All agencies

When	What	How	Responsibility
	If emergency occurs during heatwave	<ul style="list-style-type: none"> • VicPol may request MECC to be open • Heat health guidelines and relevant OH&S policy communicated to all personnel in an emergency • Ensure agency emergency management support staff are aware of impacts of a heatwave on: <ul style="list-style-type: none"> ↳ Transport ↳ Emergency Relief Centres ↳ Information Technology and Communications • Communicate information regarding alterations or closure of services as required to MECC 	VicPol, Nillumbik Shire Council All agencies
	Power black outs	<ul style="list-style-type: none"> • Provide Food safety advice for residents and registered food premises power outages 	Nillumbik Shire Council- Environmental Health
Post Impact/ Recovery	End of response/ recovery operations	<ul style="list-style-type: none"> • Gather impact information, data and persons affected by heatwave as per Nillumbik Emergency Recovery Plan • Collate information regarding response and recovery operations implemented by Council and other agencies • Report Post Impact Assessment information to Department of Health and MEMPC 	Municipal Recovery Manager
Review	End of Heat wave period (March / April)	Evaluate actions, update and review the Heatwave Strategy (sub-Plan of MEMP)	Nillumbik Shire Council in consultation with MEMPC

Communicating with the Elderly

The elderly are one of the most vulnerable groups in a heatwave, and also often depend heavily or interact regularly with social services, particularly through the Home and Community Care (HACC) program or nursing home visits. Appendix 1 provides information for HACC workers that can assist them in ensuring the elderly are able to manage their health in the heat.

Having Home Visit staff well informed is one of the simplest and most effective ways to assist the elderly to manage in the heat.

SP Ausnet maintains also maintains a database of vulnerable clients that depend on electrical equipment for health maintenance or life support. Clients should register their details with their electricity supplier. However this is not a guarantee of supply safety, and customers who rely on electricity for life support equipment are encouraged to speak with their GP to develop a plan of action in place to address supply interruptions.

Emergency Risk Register

Most service agencies maintain a register of vulnerable clients. This is called the Vulnerable Persons Register (VPR). There are specific criteria that define which clients are to be included on this register.

3.3 Emergency Management Impact & Issues

It is unlikely that a heatwave alone will be the principal cause of an emergency. However, the impacts of some intense and prolonged heatwaves will require actions through the MEMP and state emergency management plans.

Circumstances that are likely to require such a response include:

- record-breaking or extreme heat events
- Code Red fire danger days
- power and public transport failures
- extreme demand on health services such as ambulances, hospitals and GPs.

The emergency management response in Victoria is detailed in the *Emergency management manual Victoria* (EMMV).

In a heatwave emergency, Victoria Police will be the control agency. The impacts of heatwave may include infrastructure, such as electricity generation and distribution or transport failure as well as human health impacts. Victoria Police will play a key role in ensuring appropriate responses are being undertaken by responsible agencies such as health, infrastructure and transport. **Victoria Police is the nominated Control Agency.**

There are a number of key issues that need to be addressed by the Shire's Municipal Emergency Management Planning Committee (MEMPC). These are detailed below.

Bushfire and Heatwaves

Any occurrence of a heatwave is likely to occur simultaneously with a period where bushfire risk is high. An extreme heatwave is a near certainty to be occurring during times of elevated fire danger warnings.

The communications plan is the primary instrument of heatwave action during this period. Heat health messages can help both the community and emergency personnel to maintain better health and to ensure effective response and community support.

Impact on emergency personnel

All agency staff and volunteers mobilised to assist during an emergency need to be educated in the risks to personal health during heatwaves, such as dehydration, heat-related fatigue and heat-stress. Supportive OH&S systems and structures need to be in place, prior to deployment of personnel, in order to minimise the risk to emergency and agency personnel.

High temperatures, especially overnight, will result in increased personnel fatigue and is likely to be accompanied by a reduced capacity to concentrate for extended periods and greater difficulty in coping with stressful situations.

There is also likely to be an increase in absenteeism due to either:

- Heat related illness
- Family members suffering from heat related or heat triggered illness
- Looking after children due to school closure
- Fire preparations for those living in rural areas

All agencies should have their own Extreme Weather and Outdoor Heat policies. This policy should be rigorously enforced and communicated to all personnel.

Effective operation of emergency coordination and Emergency Relief Centres in a heatwave

Nominated emergency coordination centres such as Incident Control Centre (ICC), Municipal Emergency Coordination Centre (MECC) and the Emergency Relief Centres need to be able to operate effectively during a heatwave. The functioning of the ICC/MECC can be severely hampered during a heatwave. The MECC located at the Nillumbik Shire Council offices has a back-up power generator.

During a heatwave, there are some critical considerations that come into play in choosing a MECC or Emergency Relief Centre site. These considerations are:

- Ability of the building to stay cool if air-conditioning fails for a period of time
- High quality air-conditioning units
- Ability to maintain key electronic equipment in the event of a brown out or black out.

The critical roles that these centres play during an emergency and the services that these centres currently deliver should be evaluated in the context of planning for emergencies during extreme heatwave events.

The choice of an **Emergency Relief Centres** should take into account the same considerations. Nominated facilities should be assessed for how heatwave resilient they are, and action taken to improve performance in the heat as required. Resources would need to be identified to carry out such work. This type of audit would include information on:

- Passive thermal measures
- Building performance in the heat
- Air conditioning
- Ability to distribute information to the community
- Whether the facility/organisation has a heatwave plan

See the MEMP and Nillumbik Emergency Relief sub-Plan for further information.

Impact on other emergency operations

The likelihood of power brownouts and transport interruptions and congestion are very high during periods of extreme heatwaves, and are the critical issues likely to affect emergency operations in a number of ways.

Increased **transport interruptions** are predicted during periods of extreme heatwaves as public transport services are reduced, power-cuts impact on traffic signalling systems and more cars are on the roads. Staffed traffic management is made more complex by the extreme heat.

Power outages will also impact on the **Information Technology and Communication** systems used by the emergency services and the broader emergency management network. Uninterrupted Power Supplies (UPS) can offer some insurance in the case of power failure, however for more frequent cuts or for longer power outages even the larger UPS will struggle to guarantee IT system continuity.

3.4 Business Continuity Planning and maintaining service delivery

Agencies are responsible for developing and activating their own Business Continuity Plan (BCP). BCPs are usually only triggered in the case where a threat to business operations is likely to occur.

Fortunately, the need to trigger the BCP is likely to be predictable before the event due to the forward forecasting ability of the Bureau of Meteorology. There is likely to be a 3-4 day forewarning of the need to activate the BCP.

For further details regarding accessing further resources in the case of an emergency see the MEMP plan (Resource Sharing Protocol).

3.5 Working with the Community

The MEMP contains a comprehensive list of community agencies that provide a wide range of services to the community, as well as those that have specific responsibilities within the MEMP framework.

Emergency relief oriented organisations are likely to be stretched for resources through the impact of absenteeism as well as a likely increase in emergency calls.

Under Extreme Heatwave conditions, all agencies will be stretched for capacity and resources. It must be clearly communicated that Council and other agencies may not be able to provide assistance and will be unlikely to be able to provide timely assistance to any crisis situation that arises.

In an extreme heatwave, all agencies within the municipality need to work together, as well as be as self-sufficient as possible. Business Continuity Planning is likely to provide the best framework to ensure self-sufficiency.

Pet and Animal Management

The fire and emergency section of the Department of Environment and Primary Industry website (<http://www.depi.vic.gov.au/fire-and-emergencies/animals-in-emergencies>) provides members of the public with a wide range of information about animal welfare in emergencies. The information outlines animal owners' responsibilities and provides guides for planning for different types of animals, different hazards, and for recovery after an event.

3.6 Heatwave Recovery Framework

On the days following a heatwave, key agencies need to still consider the continued effects of heat on at-risk clients that may impact on their need for support.

The Department of Health will use the heat health information surveillance system to track and provide regular reports on the human health impact of heatwaves over the summer by collecting and assessing morbidity and mortality data from a range of hospital, health and emergency services.

The Nillumbik Emergency Recovery Plan details the recovery arrangements and systems that are 'all-hazards' focused to support impacted individuals, families, neighbourhoods and communities in the immediate and longer term after an emergency event.

The Department of Human Services leads the emergency recovery arrangements at state and regional levels, with local government coordinating recovery services at the local level.

Monitoring the impacts during extreme heat events contributes valuable data and knowledge to inform ongoing heatwave planning. The Municipal Recovery Manager at Nillumbik Shire Council will coordinate a local agency debriefing and the collation of post impact information.

Appendices

A1. Key Heat health messages

Media releases can be written as needs arise, but should reinforce the heat health messages promoted by the Department of Health and work in with bushfire messaging. The key messages to promote are:

- **Keep the home cool** (retrofit, close out the heat/open when cooler, utilise the coolest rooms, turn off non-essentials)
- **Keep out of the heat** (if you have to go outside, go early or late in the day, change schedules if needed, move to a cooler place if required e.g. other people's homes, cooler public spaces)
- **Keep the body cool and hydrated** (light loose clothes, damp cloth or shower, spray water, drink plenty of water)
- **Help others if you can** (visit or call vulnerable friends and family, volunteer to be the person on a care plan)
- **Know what to do if you have a health problem** (know danger signs, medication care, what to do in an emergency)
- **Know what to do when others feel unwell** (know the danger signs, medication care, what to do in an emergency)

The Department of Health also has brochure templates and files containing heat health information for individuals to take care of themselves and look out for family, friends and neighbours who may need help coping with the heat. These can be located at:

<http://www.health.vic.gov.au/environment/heatwave/>

These messages should also be communicated to all staff as the basis for sound OH&S policy.

A2. Additional Resources⁸

- World Health Organisation (WHO) 10 Heat health Fact sheets
 1. Recommendations for the public during heat-waves
 2. Vulnerable population groups
 3. Recommendations for general practitioners
 4. Some recommendations for retirement and care home managers
 5. Adverse effects of drugs during hot weather
 6. Considerations for medical professionals regarding drinking recommendations during hot weather and heatwaves
 7. Key principles of heat risk communication
 8. Mild and moderate heat illnesses and their management
 9. Management of life-threatening heatstroke
 10. Reducing indoor temperatures during hot weather

<http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/Climate-change/news/news/2012/06/severe-heat-wave-in-europe-advice-on-health-effects-and-ultraviolet-exposure>

<http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/Climate-change/publications/pre-2009/heathealth-action-plans>
- Managing Heat Stress
 - www.health.vic.gov.au/hacc/downloads/pdf/heatwave_hacc_clients.pdf
 - <http://www.health.vic.gov.au/environment/heatwaves-healthy-heat-clinicians.htm>
- Food Safety during Power outages
 - http://www.health.vic.gov.au/foodsafety/bus/emergency_situations.htm
 - <http://docs.health.vic.gov.au/docs/doc/Emergency-power-failure-food-storage-checklist>
- Living without Power
 - <http://docs.health.vic.gov.au/docs/doc/Power-blackouts---using-alternative-fuel-and-electricity-generation-safely>
- Bushfire smoke and your Health
 - <http://health.vic.gov.au/environment/bushfires-smoke.htm>
- Better Health Channel
 - http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Heat_stress_and_heat-related_illness
 - http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.Nsf/pages/Heat_stress_preventing_heat_stroke?OpenDocument
 - [http://www.betterhealth.vic.gov.au/bhcv2/bhcvpdf.nsf/ByPDF/Heat_stress_and_heat-related_illness/\\$File/Heat_stress_and_heat-related_illness.pdf](http://www.betterhealth.vic.gov.au/bhcv2/bhcvpdf.nsf/ByPDF/Heat_stress_and_heat-related_illness/$File/Heat_stress_and_heat-related_illness.pdf)

⁸ All website address current as 5 November 2012

- Australian Red Cross
 - www.redcross.org.au/files/rediplan_booklet.pdf
- ABC Emergency
 - <http://www.abc.net.au/news/emergency/plan-for-an-emergency/heatwave/>

Specific Groups:

- Summer Sanity - Keeping Baby Cool
 - <https://www.breastfeeding.asn.au/bf-info/you-and-your-breastfed-baby/cool>
- Babies in hot weather
 - <http://www.cyh.com/HealthTopics/HealthTopicDetails.aspx?p=114&np=305&iid=1605>
- Heatwave tips for children
 - http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1210577610802?p=1204031509010
- Child Safety in hot weather
 - http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Child_safety_hot_weather
- Information Sheet – Sports
 - http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.Nsf/pages/Heat_stress_and_sport_reducing_the_risks?OpenDocument
- Pet and Animal Welfare
 - <http://www.depi.vic.gov.au/fire-and-emergencies/animals-in-emergencies>