

2014-17

STRATHBOGIE
SHIRE
COUNCIL

STRATHBOGIE SHIRE HEATWAVE PLAN





Table of Contents

What it is all about	3
Why we need a Heatwave Plan	4
What our community looks like	5
Our setting	5
Our population.....	6
Our lifestyle.....	6
How heatwaves affect the Strathbogie Shire	7
How heatwaves affect our health.....	8
People most at-risk to heatwave conditions	9
Our elderly	10
Our tourists	11
Our farmers.....	11
Likely health impacts.....	11
Our partners.....	16
What we are going to do	17
Our action plan	17
What we do in Stage 1	18
What key stakeholders can do in Stage 1	20
What we do in Stage 2	20
What key stakeholders can do in Stage 2	21
What we do in Stage 3	21
What key stakeholders can do in Stage 3	23
How we evaluate the plan’s effectiveness	23
Bibliography	24
Appendix 1: Key heatwave terms	25
Appendix 2: Heatwave survey	26
Appendix 3: DoH heatwave messages.....	26



What it is all about

In the past, people in Strathbogie Shire have dealt with prolonged periods of heat using a common sense approach. Our Council and other local organisations have used a variety of informal systems during summer to reduce the effects of heat especially on those at risk to heat illness. These have included 'Sunsmart' policies, the use of air-conditioners, flexible working hours and passing on temperature forecasts. As we face a future with an increased likelihood of hot weather, it is important that we develop and implement a municipal wide approach to dealing with heatwave events. Our plan will provide a framework of support to our local community and vulnerable population groups so we can be better equipped to handle more intense and frequent heatwaves.

The *Strathbogie Shire Heatwave Plan* will be used by Council and its partners in the planning-for and responding- to heatwave conditions. It has been developed using the general principles of emergency management as a guide to planning, preparation, response and recovery. The plan is underpinned by a long term approach by Strathbogie Council, as a partner in the Goulburn Broken Greenhouse Alliance, to reduce the scale of climate change and decrease its overall impact on the local environment.

The *Heatwave Plan* has been written to:

- Be consistent with departmental guidelines and other Council planning frameworks;
- Outline health and community actions and response arrangements to heatwave alert;
- Identify vulnerable persons within the Strathbogie community;
- Propose a clear communication strategy to initiate alert, response and recovery phases of the plan;
- Describe key stakeholder roles and responsibilities; and
- Promote a community awareness and education component.





Why we need a Heatwave Plan

Local Councils in Victoria have been asked to prepare heatwave plans to support their local communities to adapt to heatwave conditions. By developing our own plan, we can use our understanding of local conditions and resources to better prepare for, respond to and recover from heatwave conditions.

High temperatures can seriously impact on the health of people in our Shire especially the very young, the elderly, tourists and farmers. We need to be well prepared in advance to make sure our community has the necessary tools to cope in times of extreme heat.

By having a *Heatwave Plan*, we can:

- Ensure that health information and support is readily available to our community;
- Increase the capacity of our community to respond during heatwaves;
- Manage a heatwave emergency more effectively; and
- Develop long term changes in our behaviour to improve our health and wellbeing.

The aim of our *Heatwave Plan* is to:

- Support the Strathbogie community to prepare-for, respond-to and recover-from heatwave conditions.

We will achieve this by:

- Identifying vulnerable population groups in our community and the risks they face during heatwaves;
- Developing partnerships with local organisations to better coordinate a response to heatwaves;
- Outlining effective strategies and actions to implement in the event of a heatwave; and
- Building practices to evaluate the ongoing effectiveness of the plan.





What our community looks like

Our setting

Strathbogrie Shire is a rural municipality located in north central Victoria. It was formed in November 1994 with the amalgamation of the former Shires of Goulburn, Euroa and Violet Town, and part of Seymour. Now it supports a diverse community served by the townships of Arcadia South, Avenel, Baddaginnie, Bailieston, Balmattum, Boho, Boho South, Creek Junction, Creighton, Creightons Creek, Earlston, Euroa, Gooram, Goulburn Weir, Graytown, Kelvin View, Kirwins Bridge, Kithbrook, Koonda, Locksley, Longwood, Longwood East, Mangalore, Marraweeny, Miepoll, Mitchellstown, Molka, Moorilim, Moormbool West, Nagambie, Nalinga, Pranjip, Riggs Creek, Ruffy, Sheans Creek, Strathbogrie, Tabilk, Tamleugh, Tarcombe, Upotipotpon, Upton Hill, Violet Town, Warring, Whroo and Wirrate.

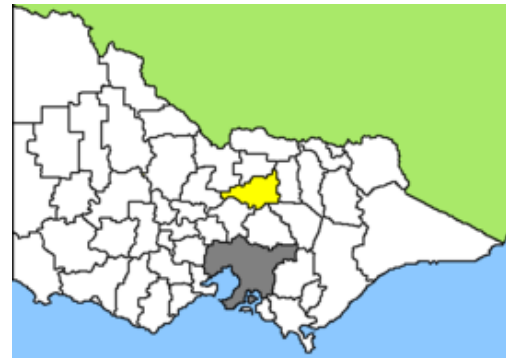


Figure 1: Location of Strathbogrie Shire in Victoria

Our setting is bounded by the Strathbogrie Ranges located to the east, the Goulburn River to the south and the Hume Freeway which runs through the middle of the municipality. The Goulburn Valley Highway also passes through the western part of the Shire. Our position on these major national highways provides ready and convenient access to our towns and rural areas. We are situated midway between Melbourne and Albury and cover an area of 3,302 square kilometres. To the east and south east are the municipalities of Benalla and Mansfield; Murrindindi and Mitchell to the south; the City of Greater Bendigo and the Campaspe Shire to the west; and the City of Greater Shepparton to the north.

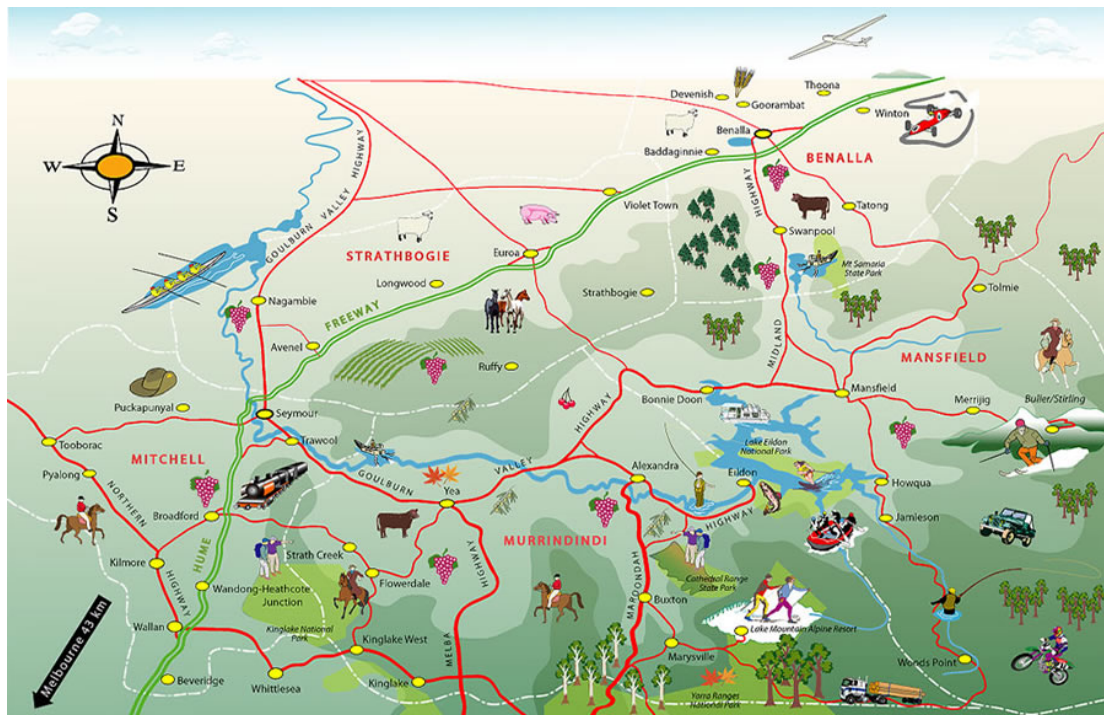


Figure 2: Major towns in Strathbogrie Shire



The Shire is predominantly rural in nature with supporting services in small towns. Farming industries have traditionally been sheep, cattle and wheat cropping, but in recent years the tendency has been to diversify into smaller holdings specialising in stock such as goats, deer, fine wool sheep and fish, or crops such as herbs, blueberries, grapes, nuts and cherries. We boast extensive vineyards at Nagambie and throughout the Strathbogrie Ranges, and host a wide range of intensive agriculture such as poultry and horticultural enterprises. Officially, we have been called the ‘Horse Capital of Victoria’, and are renowned for our leading thoroughbred studs and racehorses.

Our population

Our residents live predominantly around the four small towns of Euroa, Nagambie, Violet Town and Avenel. Strathbogrie Shire’s population as at 30 June 2011 was 9,486. The populations of each of the major districts within the Shire are: Euroa 3166; Nagambie 1548; Avenel 1048; Violet Town 1084 (Strathbogrie Shire Council). Department of Sustainability and Environment (DSE) population projections indicate that the shire’s total population will grow to 10,877 people by 2031. This equates to an average annual increase of 0.40% between 2001 and 2031. In the same period, the population of Victoria is projected to increase at an average annual rate of 0.87% and

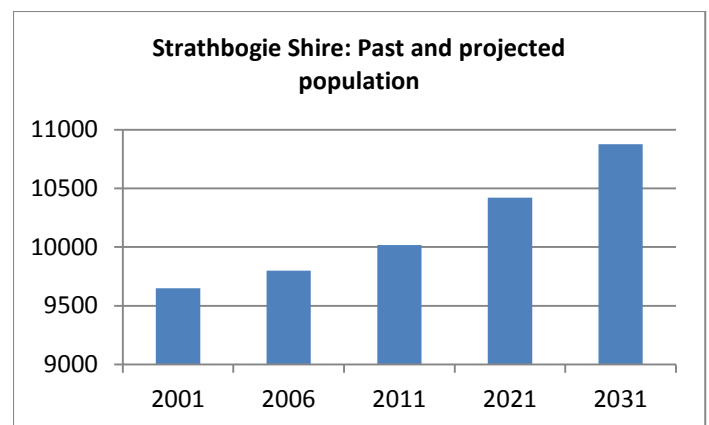


Figure 3: Strathbogrie Shire: Past and projected population

Strathbogrie has of late become more popular as a lifestyle and retirement destination for people leaving Melbourne. Over the next 30 years, the population will continue to grow, but will be increasingly comprised of older age groups. This shift to an older age profile will accompany declining household size and rising household numbers as family households become 'empty nesters' and are added to by smaller, older, retiree households.

Our lifestyle

The Strathbogrie Shire offers a unique mix of attractive rural surroundings, welcoming towns with rich heritages, four distinct seasons and a varied economy. Diverse landscapes vary from rolling green plains to rugged hills; from bush outlooks to water views. Our rural areas, within an easy 90 minute drive from Melbourne, are home to a rising number of urban residents seeking a better lifestyle. Many have been attracted to the ‘tree change’ phenomenon as they seek a better life/work balance. They are drawn to the scenic surrounds, community spirit and enviable way of life.

The Shire has a full range of medical and educational facilities. Council offers a range of community services, aged care, libraries, maternal and child health and youth services. Sporting and recreational clubs, arts and crafts, festivals and events have contributed to a community spirit that is vibrant and progressive. Nagambie, in the Shire’s west, offers spectacular lake views and recreational water sports. As a significant state water facility, it provides residents with fishing, waterskiing and boating opportunities and is also home to one of Australia’s national standard canoeing and rowing venues, the Nagambie Lakes Regatta Centre. The Strathbogrie Ranges are the backdrop for local tourism ventures including bushwalking and camping. Established towns such as Violet Town and Euroa are supported by excellent facilities and environmental projects.



How heatwaves affect the Strathbogie Shire

In the summer of 2009, the Strathbogie Shire, along with the rest of Victoria, experienced temperatures among the highest ever recorded. The Chief Health Officer estimated that 374 additional deaths occurred state-wide during this heatwave (Victorian Office of the Chief Health Officer, 2009)². Our Shire experienced heat of unprecedented intensity and duration with maximum temperatures 12 to 15°C above normal for much of the area. The temperature was above 43°C for three consecutive days from 28 to 30 January reaching a peak of 45.1°C on 30 January 2009.

In the summer of 2013-14, heatwave conditions affected the Shire again, with similar intensity to those of 2009. In January 2014, there were 9 Heat Health Alerts issued by the Department of Health in the North Central region. Records across the State were set for the most consecutive days with temperatures at or above threshold levels. In our region, Benalla had 7 days at 38°C threshold for the period 12/1 – 18/1/14; the previous record was 5 days during the period 20/1 – 24/1/73 and 28/1 – 1/2/09. Shepparton and Mangalore equalled the records set in 2009. Both had 4 days at 42°C threshold for the period 14/1 – 17/1/14; the previous was also 4 days during the period 28/1 – 31/1/09.

Maximum temperatures were the hottest on record for most of the Northern Country district and very much above average for most of the rest of the state. The area averaged maximum temperature was 28.79 °C, which is 2.07 °C warmer than the 1961-90 average of 26.72 °C, making summer 2013/14 the 3rd hottest for maximum temperatures. (Bureau of Meteorology, 2013).

Victoria in summer was characterised by:

- Unrelenting heat delivering Victoria its 3rd hottest summer for maximum and overall temperatures
- Warmer than usual overnight temperatures
- High rainfall in the northern Mallee

This was mirrored across wide areas in Victoria, South Australia and New South Wales.

In response, the Bureau of Meteorology launched a new pilot heatwave forecast service, which provides a measure of the intensity of a heatwave and complements the official temperature forecast. The Bureau advises that when high maximum temperatures and above average minimum temperatures are sustained over a number of days, there is a build-up of 'excess' heat.

The heatwave service allows the Bureau to inform the community of the extremity of heatwave events, for their planning and preparation. The new service is able to map the level of intensity of each heatwave event, indicating areas of 'severe' and 'extreme' heatwave at the upper end of the scale.

The January 2014 events showed large areas of southern Australia reached severe to extreme heatwave conditions. Severe and extreme heatwaves pose significant risks to human health and safety, in particular for the elderly, who are more vulnerable to the effects of heat stress. When average conditions are exceeded over a period of time by continuously high night-time and day-time temperatures, heat stress becomes a critical factor in human survival and infrastructure resilience (Bureau of Meteorology, 2013).

Research tells us that climate change is expected to increase the frequency and intensity of such heatwaves in our area. During the last decade, average temperatures in our region have been recorded as 0.4°C warmer than the 30 year (1961 to 1990) average. The future climate of our area is



expected to be hotter and drier than it is today. By 2030, average annual temperatures will be around 0.8°C warmer and the number of hot days (days over 30°C) will continue to increase.

Statistics also show a decline in the region's rainfall over the past decade. Between 1998 and 2007, our average rainfall was 17% below the 1961 to 1990 average. There were recorded 17 fewer rainy days each year on average. It is predicted that the number of hot days will continue to increase and rainfall totals will continue to drop (Goulburn Broken Catchment Management Authority). As these predictions in relation to climate change are that extreme weather events are going to become more frequent and severe in the years to come, we have a duty to ensure that all residents and services of Strathbogie are well prepared to protect the most vulnerable members of our communities during such events.

Strathbogie Shire's diverse landscapes and climate make it vulnerable to drought, bushfire and heatwave conditions. High temperatures in the Strathbogie area typically correspond to low humidity values because the prevailing winds originate from the dry inland parts of the state. While more humid conditions can exist when the air temperature is closer to 30°C and can provide some degree of discomfort, such days are not generally associated with heatwave conditions. As a result, for Strathbogie the air temperature alone can provide a reasonable measure of heat stress.

Very hot days are usually associated with hazardous fire weather conditions in the region. The fire threat is increased when thunderstorms develop causing lightning that provides the ignition for storms. This is particularly the case when thunderstorms cause little or no rain, as is sometimes the case in our Shire. As a result of the bushfires of February 2009 in neighbouring municipalities, Strathbogie Shire Council has updated its Municipal Emergency Management Plan.



Fires again featured in the summer of 2013/14 with major events occurring in the Grampians and Gippsland; and local events in the north of Melbourne into the neighbouring Mitchell Shire, and north of Shepparton in the Wunghu, Bunbartha and Numurkah areas. These fires have burnt tens of thousands of hectares, destroyed homes and infrastructure and impacted on livelihoods. The final impact figure will run into millions of dollars.

The *Strathbogie Heatwave Plan* is underpinned by a long term approach by Strathbogie Shire Council, as a partner in the Goulburn Broken Greenhouse Alliance, to reduce the scale of climate change and decrease its impact by adapting the built environment. Our Council also promotes sustainable living by encouraging all residents to take practical action and reduce their ecological footprints by becoming involved in the Sustainable Communities Program.

How heatwaves affect our health

As temperatures rise, so does the risk of contracting a heat related illness, a medical condition that results from the body's inability to cope with heat and cool itself. If left untreated, a heat illness can



lead to serious complications, even death. In fact, heat kills more people than tornadoes, hurricanes, lightning and flash floods – combined.

Heat related illness can make people feel uncomfortable, not so much because they feel hot, but rather because they sense how difficult it has become to lose body heat at the rate necessary to keep their inner body temperature close to 37°C. The body responds to this stress progressively through three stages.

1. Heat cramps - muscular pains and spasms caused by heavy exertion. Although heat cramps are the least severe stage they are an early signal that the body is having trouble with the heat.
2. Heat exhaustion - typically occurs when people exercise heavily or work in a hot, humid place where body fluids are lost through heavy sweating. Blood flow to the skin increases, causing a decrease of flow to the vital organs. This results in mild shock with symptoms of cold, clammy and pale skin, together with fainting and vomiting. If not treated the victim may suffer heat stroke.
3. Heat stroke - is life threatening. The victim's temperature control system, which produces sweating to cool the body, stops working. The body temperature may exceed 40.6°C potentially causing brain damage and death if the body is not cooled quickly.

High temperatures can also be linked to increased hospital admissions relating to heat stress, dehydration, or as a result of heat exacerbating existing conditions; increased rates of certain crimes particularly those related to aggressive behaviour such as homicide; increased number of work-related accidents and reduced work productivity; and decreased sporting performance.

To help prevent the onset of a heat related illness, people in the Strathbogie Shire are advised to:

- Carefully monitor the temperature and humidity outdoors, and plan activities and work hours accordingly by scheduling outdoor activities during cooler parts of the day;
- Stay in the shade or indoors in a cool location as much as possible;
- Drink plenty of water to replace fluids lost through sweating;
- Use a spray bottle to keep cool by misting;
- Wear lightweight loose-fitting and light-coloured clothing; and,
- Protect from the sun by wearing a hat and sunglasses, and using an umbrella.

General care for heat emergencies includes cooling the body, giving fluids and minimising shock.



People most at-risk to heatwave conditions

Although anyone can suffer from the effects of prolonged periods of heat at any time, some people are at greater risk than others. Those most vulnerable include the elderly, infants and young children, people with a disability, people with a pre-existing medical condition and people who are socially and economically disadvantaged. Other groups at risk to heat include people who are



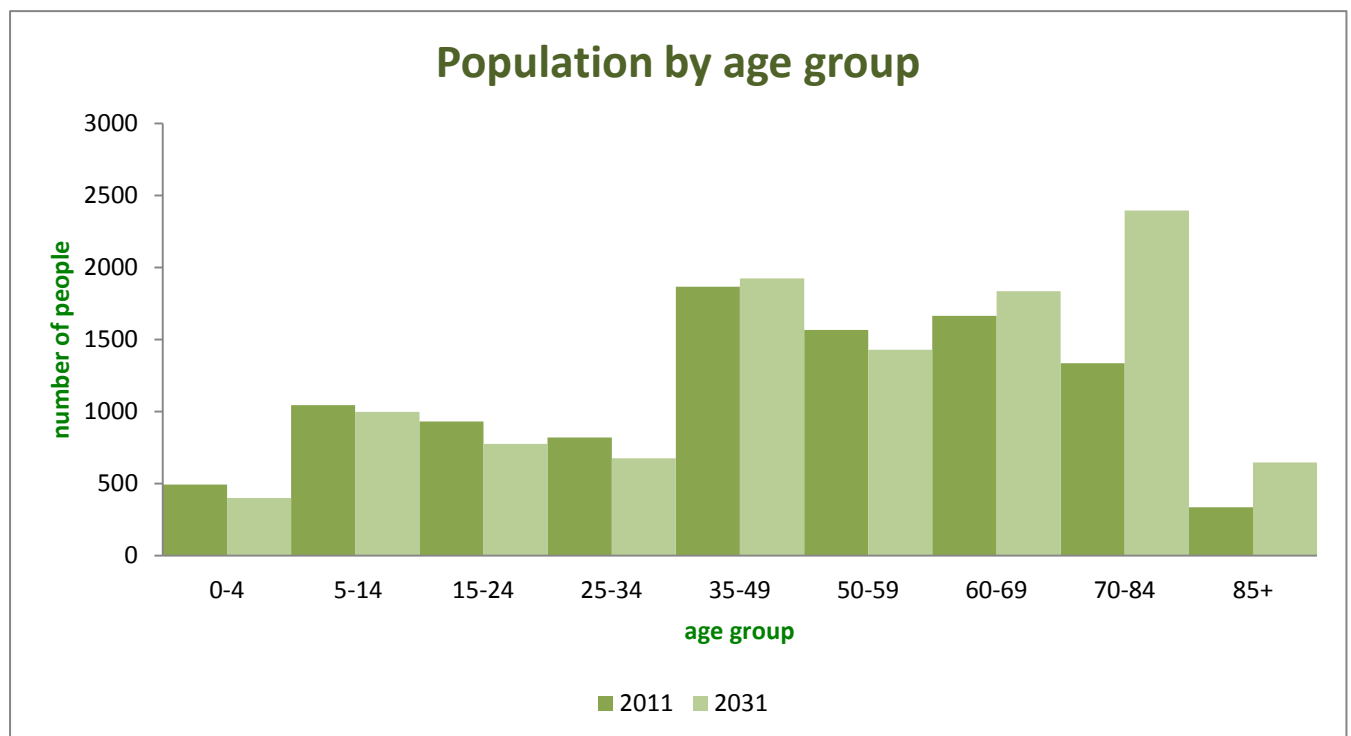
overweight, people who over-exert during work or exercise and people confined to bed and unable to care for themselves. While the *Strathbogrie Shire Heatwave Plan* plans for a whole-of-community response, it particularly focuses on those aged above 60 years of age, children between 0 and 4 years of age, tourists and farmers.

Our elderly

Elderly people in our community are more prone to heat stress for several reasons.

1. Elderly people do not adjust as well as young people to sudden changes in temperature.
2. They are more likely to have a chronic medical condition that upsets normal body responses to heat.
3. They are more likely to take prescription medicines that impair the body's ability to regulate its temperature or that inhibit perspiration.

Strathbogrie's population, like most parts of Australia, is ageing. This ageing trend is projected to continue, but at a higher rate as the baby boomers enter old age. The Shire has the second highest % population of over 60 year olds in Victoria (34.2%) and the fifth highest of over 75 years olds (11.5%). By 2031 the number of 75 year olds and older is predicted to be 19.2% of the population of Strathbogrie. By 2031 the number of 60 year olds and over is predicted to be 44% (Strathbogrie Shire Council, 2013)





Our young children

Young children are also sensitive to the effects of high temperatures because they produce more metabolic heat than adults and rely on others to regulate their environments and provide adequate liquids. Their core temperature can raise quickly causing dehydration. We need to watch our children carefully in times of prolonged heat as they can give in to heat illness in a very short period of time.

Although our numbers are projected to fall in the next few years, we still have a significant share of families with young children in our Shire. At present children aged 0 to 4 years comprise 4.8% of our population. They are catered for by four Maternal and Child Health centres located across the Shire with access to a range of children's services including kindergartens, preschools and playgroups.

Our tourists

In heat events, dehydration and heat stress can be a risk, particularly for unacclimatised people. The Strathbogie Shire attracts about 369,000 visitors per annum, many of them in the summer months (Tourism Research Australia, 2009). Whilst our region is recognised as a safe place to visit, as visitor numbers increase over summer, additional pressure can be placed on the capacity of health and safety services to meet the needs of visitors if they suffer from heat related illnesses. Simple messages need to be given to our tourists on very hot days such as:

- When it's hot, it's time to slow down and drink lots of water;
- Wear a broad-brimmed hat and cool loose clothes which "breathe";
- Use sun screen and carry copious supplies of water (drink around 500 ml before leaving your accommodation, then 200-300ml every 15 minutes); and
- Reduce exercise in duration and intensity, or postpone to a more suitable, cooler time.

Our farmers

Prolonged periods of hot weather can have far-reaching effects on our farmers. Because farmers generally work outdoors, they are at an increased risk of heat stress. Research tells us that during heatwave conditions there are higher numbers of work-related farm accidents and reduced work productivity, yet increased workloads and higher levels of stress for farming families. Deterioration of water supplies, along with drought and bushfire threat, can further add to difficult and expensive summers for our farmers.

The local economy of the Strathbogie Shire is largely built on agriculture. It is the major industry employer absorbing almost a quarter of all employees across the Shire (Australian Bureau of Statistics, 2006). There are approximately 7100 rural rated properties in the Strathbogie Shire. Some of these farming communities are situated in isolated geographic locations away from services and supports.

Likely health impacts

By completing a heatwave survey (see Appendix 2), Strathbogie Shire key stakeholders have helped Council identify a number of local impacts occurring as a result of hot weather. It is important to understand these so that an accurate assessment can be made when it comes to dealing with heatwaves on a local level.

The potential impacts associated with heat are summarised in the Strathbogie Shire Heatwave Impact Matrix (see Figure 5). A risk rating has been given to each impact based upon Risk Assessment Rating Guide (see Figure 6). The rating was determined after thought was given to the



likelihood of the impact occurring, coupled with the severity of any consequences. A risk rating of low indicates that the issue could be managed through the usual processes. A risk rating of moderate indicates that the management of the issue may require further resources and attention. A risk rating of high suggests the issue is more serious with substantial impacts on individuals and/or organisations. Issues that receive a high risk rating require careful consideration in our heatwave action plan. The impact matrix reveals a number of issues with high risk ratings. These include risk of dehydration and heat related illness for all vulnerable and stakeholder groups, concern for those living alone and/or disconnected from services and networks in the event of a heatwave, and increased workloads and stress levels for health service staff.



Figure 5: Strathbogie Shire’s heatwave impact matrix

Affected community	Heat related issue	Likely impact – Risk (R)	L’hood	Conseq	Rating
Elderly	Heat related illness - dehydration	Requires medical assistance Can become deadly if unattended	C	4	High
	Sleep disturbance	Fatigue Slowed reflexes and response Requires medical assistance	B	1	Low
	Discomfort in the home	Irritability	B	1	Low
	Change in temperament	Displays of anger and anti social behaviour; depression; anxiety	C	2	Low
	Loss of ability to ‘self care’	Requires medical assistance Exacerbation of existing conditions	C	3	Mod
	Stays inside and doesn’t connect with social activities, transport, community services	Social isolation Feelings of loneliness and despair Can’t shop or access services	B	2	Mod
	Taking medication that puts the elderly in danger of heat stroke	Requires medical assistance	C	3	Mod
	Lack of appetite	Can become malnourished	C	3	Mod
	Being alone	No one to check on health	C	4	High
Very young	Heat related illness	Requires medical assistance Can become deadly if unattended	C	4	High
	Fatigue	Irritability	B	1	Low
	Failure to attend immunisation clinics in heat	No vaccinations and protection from infectious diseases	C	2	Low
	Modification of infant feedings	Breastfeeding mothers need to demand feed, drink plenty of water themselves; Bottle fed infants require more water	A	3	High
Tourists	Not acclimatised to local conditions	Heat related illness	C	3	Mod
	Over exercise in hot weather	Dehydration	C	3	Mod
Farmers	Lack of access to water for themselves and stock	Dehydration	C	2	Low
	Working outdoors in extreme heat	Heat related illness	C	3	Mod
Carers/ health workers	Modification of programs	Kindergarten/preschool playtime earlier in day; MCH to commence earlier	A	2	Mod
	Unwillingness to complete duties in non-air conditioned places	Interruption to services	C	4	High
	Workplace stress	Fatigue, sick leave, under-staffed	C	3	Mod
	Driving in hot weather	Risk of heat related illness	C	2	Low
Organisations	Higher presentation to emergency departments in hospitals	Drain on services; insufficient staff	A	3	High
	Increase in workload (holidays)	Pressure on resources	A	3	High
	Poor workplace practice in hot conditions	Reduced productivity	C	3	Mod
Other	Water restrictions	Reluctance to use water to cool down	C	2	Low
	People disconnected from services or networks don’t hear warnings	Heat related illness; no one checks up on them	C	4	High
	People with disabilities cannot access information	People with disabilities are ill informed and not prepared for a heatwave	B	2	Mod
	Critical infrastructure failure – power grid failure	Triggering of Emergency Management Plan	D	4	Mod
	People on low incomes cannot afford air conditioning	Need other strategies to cool down	B	2	Mod



Figure 6: Strathbogie Shire’s risk assessment rating guide

LIKELIHOOD DESCRIPTORS & RATINGS	
Likelihood	Risk Category
Almost Certain	A
Likely	B
Possible	C
Unlikely	D
Highly Unlikely	E

RISK RATING						
	Consequence					
	1	2	3	4	5	
Likelihood	A	M	M	H	H	E
	B	L	M	M	H	E
	C	L	L	M	H	H
	D	L	L	M	M	H
	E	L	L	L	M	H



Consequence descriptors (Risks)

Consequence	Category	Social Profile	Community Connectedness	Health and Wellbeing	Environment
Catastrophic	5	*Widespread, irreversible impact on the city's population resulting in displacement of social groups and marked decrease in standard of living affecting occupation, education, income and/or family structure	*Significant barriers preventing access to, and participation in, physical, cultural and social environments by the city's population resulting in alienation and violation of civil liberties	*Widespread direct and/or indirect effects on the health and wellbeing of the general population *Significant, irreversible health and wellbeing impacts	*Complex and hazardous environmental impact on general population *Significant, irreversible damage to people's access to, and control over, their environment
Major	4	*Likely displacement of social group/s resulting in decreased standard of living	*Inequitable access to, and participation in, services and facilities for a large section of the community *Serious divisions within social groups requiring significant alternative service delivery arrangements	*General community concern about potential unequal health and wellbeing impacts *Serious disruption to a large section of the community	*Serious adverse environmental impact on general community
Moderate	3	*Likely adverse impact on more than one particular social group resulting in social/economic inequalities *Likely to be resolved	*Impeded access to, and participation in, services and facilities impacting on more than one social group for longer than one month *Increased social tension *Intervention required	*Potential for likely unequal health and wellbeing impacts on more than one particular social group *Considerable disruption to affected communities	*Likely adverse environmental impact on more than one particular social group
Minor	2	*Likely adverse social/economic impact on a particular social group *Likely to be resolved	*Temporary impeded access to, and participation in, some services and facilities for a particular social group *Minor social tension *Minor breakdown in social networks	*Potential for likely unequal health and wellbeing impacts on a particular social group *Minor disruption to affected community	*Likely adverse environmental impact on a particular social group
Negligible	1	*No adverse impact on people's way of life and standard of living	*No adverse impact on community cohesion and stability	*No adverse impact on people's health and wellbeing	*No environmental hazards or risks



Our partners

The *Heatwave Plan* sits alongside other Council plans and strategies. It has clear links with the *Strathbogrie Shire Council Municipal Public Health and Wellbeing Plan*, the *Strengthening Strathbogrie in a Climate Change: Risk Assessment and Adaptation Strategy*, adopted by Council in December 2011, and the *Municipal Emergency Management Plan* and current *Council Plan*. It also falls under the state-wide heatwave plan which details the different areas of response and action across government and the health and community sectors.

Council is working alongside stakeholders from within the targeted sector groups in the Strathbogrie community to act as key partners in the future evaluation of the *Heatwave Plan*. We will partner with government, private sector, service provider and community group organisations that represent our vulnerable communities of the very young, elderly, tourists and farmers. These partners include:

- Department of Health
- Emergency services
- Goulbourn Valley PCP
- Goulbourn Valley Health
- Goulbourn Rural Access
- Local schools and kindergartens
- Violet Town Bush Nursing Hospital
- Euroa Health Inc
- Nagambie HealthCare
- Local sporting bodies

Each of the key partners has an important role to play in the event of a declared heatwave. Their responsibilities are summarised in the action plan. Strathbogrie Council will offer to support these agencies to coordinate their responses by way of communicating heatwave declarations where needed.





What we are going to do

To be better prepared for heatwave conditions this summer, Strathbogie Council is going to:

- Include heatwave preparation, response and recovery where relevant into existing municipal plans;
- Make use of existing community registers;
- Promote the use of cool areas in key locations around the Shire;
- Use our community services and organisations to support vulnerable populations;
- Engage in a communication and media campaign using heatwave messages consistent with Department of Health materials; and
- Respond to state activated heat alert system in a planned and considered way.

Our action plan

Our action plan is not just about responding to a pending heatwave; it also provides guidance all-year-round as we prepare our community in advance for very hot summers. Our actions then can be divided into three stages.

- Stage One: Pre summer preparation
- Stage Two: During summer prevention
- Stage Three: Heatwave response

Each stage is characterised by a set of key actions (see Figure 7).

Figure 7: Summary of heatwave plan actions

Stage One Pre summer preparation April 1 to November 30	<ul style="list-style-type: none"> • Implement Heatwave Awareness Campaign (April to Nov) • Identify vulnerable groups and update community registers • Identify cool areas • Engage key stakeholders
Stage Two During summer prevention December 1 to March 31	<ul style="list-style-type: none"> • Implement Heatwave Awareness Campaign (Dec to March) • Advise key stakeholders of roles and responsibilities • Organise cool areas for possible use • Monitor Bureau of Meteorology (BoM) thresholds for Strathbogie Shire
Stage Three Heatwave response Trigger: Department of Health (DoH) heat alert	<ul style="list-style-type: none"> • Alert key stakeholders to enact specific actions • Advertise cool areas • Inform Municipal Emergency Response Officer • Monitor BoM reports



What we do in Stage 1

Heatwave Awareness Campaign

Strathbogrie Shire Council will use the same key health messages as recommended by the Department of Health (DoH) to prepare the general public and vulnerable groups in the community for the upcoming summer (see Appendix 3). The campaign will involve simple, specific tips around how to prevent and identify the symptoms of heat-related illness and provide advice on the appropriate actions to take if a person exhibits signs of a heat-related illness.

As older people and young children have been identified as a vulnerable group during heatwaves, messages and resources will be used to particularly target people 60 years or older and their carers; and parents with young children. A range of materials such as posters, brochures and fridge magnets will be made available during this time.

Identify vulnerable groups and update community registers

Key stakeholders who interact directly with vulnerable clients will be encouraged during Stage 1 to maintain, as part of their individual care and response plan, a community register within their organisation or group. The registers will provide an opportunity to share public health information about heatwaves and heat-related illnesses to those who have enrolled voluntarily. In the event of a declared heatwave, this register would be used to phone high risk people, activate community phone trees and remind neighbours to check on each other every day during a heatwave.

Identify cool areas

Council does not have the capacity to open and staff cooling centres across the Shire during a heatwave. The Shire also does not have a large shopping centre for residents to access during the hottest parts of the day. However, there are many small businesses such as hotels, restaurants and cafes in each major town that may offer respite from the heat. Due to this lack of cooling centres, it is therefore critical that our community members heed the heatwave messages about how to keep themselves cool and to check on vulnerable family, friends and neighbours. Council has identified limited cool areas that residents may choose to attend in the event of a Heatwave, during opening hours. These are:

Libraries:

Euroa - 62 Binney Street Euroa 3666
1300 374 765
www.gvrlc.vic.gov.au
Mon Closed
Tue-Fri 10.00am-12.30pm & 1.30pm-5.30pm
Sat 9.30am-12.00pm



Nagambie - 352 High Street Nagambie 3608

1300 374 765

www.gvrlc.vic.gov.au

Mon Closed

Tue 10.00am - 1.00pm

Wed-Thu 1.30pm - 5.30pm

Fri 10.00am - 1.00pm

Sat 9.30am - 12.00pm

Violet Town - Cowslip Street Violet Town 3669

1300 374 765

www.gvrlc.vic.gov.au

Mon Closed

Tue 5.00pm - 7.00pm (Summer) 2.30pm-4.30pm (Winter)

Wed 2.30pm - 5.30pm

Thu 10.30am - 1.30pm

Fri 2.30pm - 5.30pm

Sat 10.00am - 12.00pm

Local Swimming Pools:

Euroa, Brock Street

Nagambie, Vickers Road, (Nagambie Recreation Reserve)

Violet Town, Tulip Street

Avenel, Queen Street

Opening Hours (All Pools)

- Weekdays – 1.00 pm to 7.00pm ** Evening Extension 9.00 pm
- Weekend – 1.00 pm to 7.00 pm
- School Holidays – 12.00pm to 7.00 pm

** Evening Extension shall be at the discretion of the Contractor and only to the maximum time specified. Council reserves the right to direct the closure at any time during the extension period. The evening period is usually extended if the ambient temperature is at 30oC or higher at 6.00 pm. Local shops, hotels, restaurants, coffee shops within the shopping centres of Euroa, Nagambie and Violet Town.

Engage key stakeholders

Successful implementation of our *Heatwave Plan* is dependent upon key stakeholders understanding their role in the event of a declared heatwave in the Shire. Stakeholders will have different responsibilities according to the stage of the plan and context of the heatwave conditions. They will be reminded of these in Stage 1. Key stakeholders are encouraged to have their own heatwave plans where possible and appropriate.



What key stakeholders can do in Stage 1

In Stage 1, key stakeholders should consider:

- Revisiting their actions from the previous summer and evaluate their levels of effectiveness;
- Joining an email distribution group with Council to receive key heatwave messages;
- Updating their community registers;
- Participating in Council’s Heatwave Awareness Campaign;
- Educating any staff of key heatwave messages; and
- Auditing client homes (if appropriate).

What we do in Stage 2

Stage 2 includes a range of actions to further build resilience amongst Strathbogie Shire residents during the summer months. It directly involves the actions of most key stakeholders. This stage is implemented between December 1 and March 31 each year.

Implement the Heatwave Awareness Campaign

The campaign will provide key heat/health messages to the community during this time via media releases, website news and Strathbogie community newsletters. These will include:

Cool your home down

- Keep windows that are exposed to the sun closed during the day, and opened at night when the temperature has cooled
- Turn off non essential lights and electrical equipment
- Move to the coolest room to sleep

Stay out of the heat

- Keep out of the sun during the hottest part of the day
- Avoid extreme physical exercise
- Wear light, loose fitting clothes
- Reschedule appointments to early morning

Keep yourself cool and hydrated

- Drink plenty of water; avoid caffeine/ alcohol
- Take a cool shower
- Spray water over your skin or clothing
- Keep a damp cloth on the back of your neck

What you can do for others

- Phone or visit elderly or sick neighbours
- Be aware of phone numbers you can ring to get help
- Know where cool areas are in the Shire

Advise key stakeholders of roles and responsibilities

Council will contact key stakeholders to advise them on the implementation of Stage 2 of their plans. Sporting bodies and summer event organisers will also be informed of heatwave thresholds.

Organise cool areas for use where possible

During Stage 2, Council will advise the public of cool areas within the Shire as identified in this plan, via radio and the Council website. Shire public pools will be informed of Stage 3 actions.

Monitor BOM thresholds for Strathbogie Shire

Strathbogie Shire Council will check Bureau of Meteorology (BoM) reports daily for weather updates.



What key stakeholders can do in Stage 2

In Stage 2, key stakeholders will be advised by Council to consider:

- Participating in Council's Heatwave Awareness Campaign;
- Identifying cool areas;
- Keeping in regular contact with vulnerable clients;
- Modifying client programs;
- Providing staff with access to extra water and cool clothing; and
- Rescheduling staff work hours.

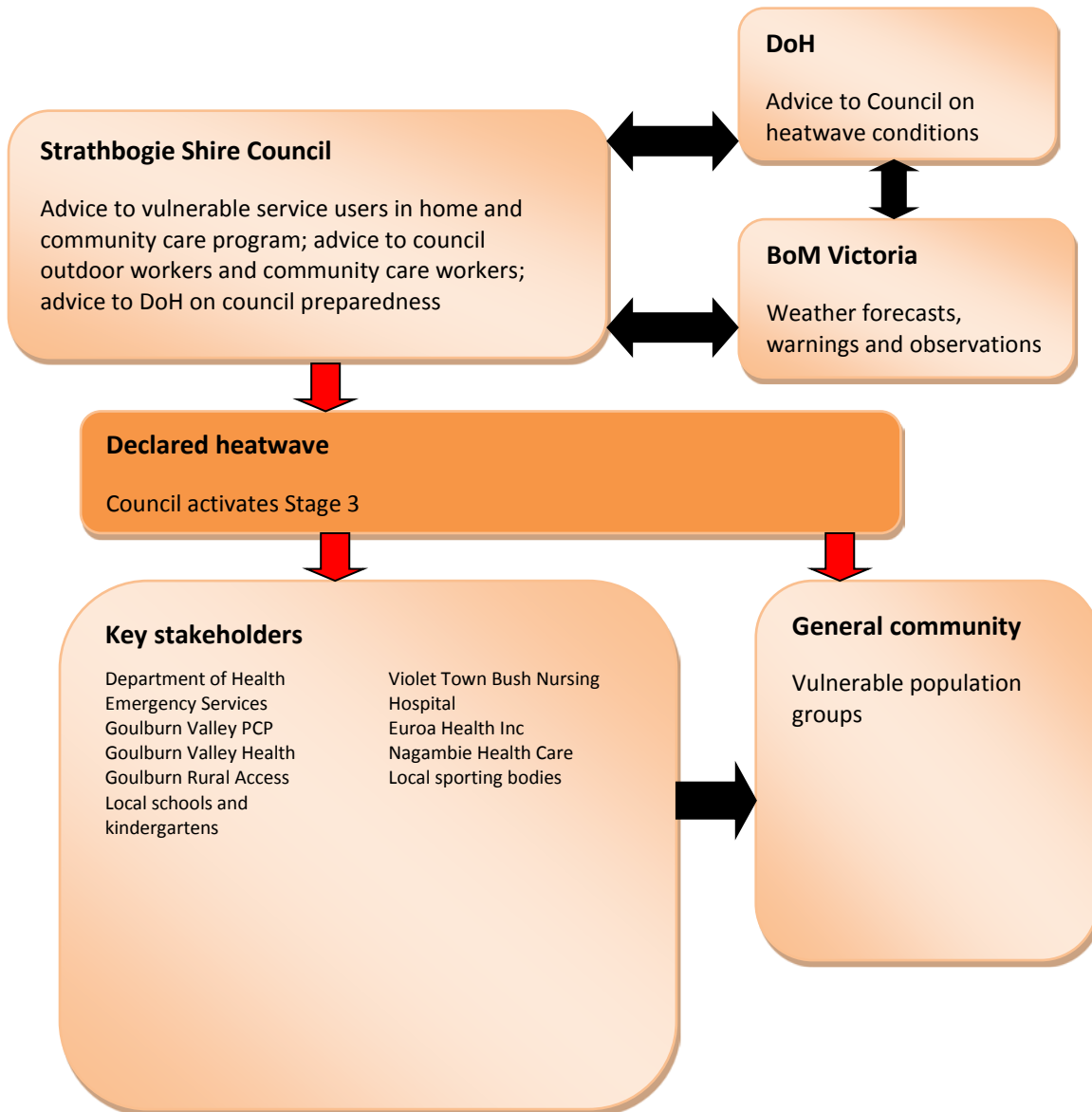
What we do in Stage 3

Stage 3 is triggered when imminent heatwave temperatures are predicted by BoM for the Strathbogie Shire. Council will know to move to this stage when it is notified by DoH. Two staff members at Council, Manager Community Development and Director Corporate and Community, will receive an email alert on the day when forecasted temperatures first exceed threshold levels. It will then be up to Council to continue to monitor forecast temperatures in our area and notify the relevant stakeholders to activate Stage 3 of this *Heatwave Plan*.

Efficient implementation of Stage 3 is dependent upon Strathbogie Shire Council informing all key stakeholders of their responsibilities to enact Stage 3 of the *Heatwave Plan* via email, fax or telephone. The communication plan below will be followed to ensure this process is carried out smoothly and effectively.



Figure 8: Stage 3 Communication Plan





During Stage 3, Strathbogie Shire Council's key responsibilities are to:

- Alert key stakeholders to enact their specific actions;
- Advertise cool areas and revisit pool opening and closure times;
- Monitor DHS and BOM reports daily;
- Alter staff scheduling (particularly outdoor workers);
- Reassess any Council run outdoor events; and
- Inform Council's Municipal Emergency Response Officer.

Aspects of the *Municipal Emergency Management Plan* would be activated by Strathbogie Shire Council only in response to declared emergencies resulting from heatwave conditions. In this case, the Municipal Emergency Response Coordinator would assume command.

What key stakeholders can do in Stage 3

Prompt action by stakeholders during Stage 3 will ensure the impacts of heat on the elderly, very young, tourists and farmers are kept to a minimum. Key stakeholders who have opted into Council's heatwave distribution group will be advised by email to consider:

- Enacting their phone trees;
- Prioritising tasks especially for those involving physical exertion;
- Assessing risk for clients and staff;
- Rescheduling staff work times and hours;
- Providing additional fluids and cool places to rest for clients and staff;
- Modifying client programs;
- Transporting clients in cooler parts of the day; and
- Altering children's outdoor activities and play times.

How we evaluate the plan's effectiveness

To ensure Strathbogie's *Heatwave Plan* remains relevant and meets the changing needs of our community, Council will review it annually after each summer and use any amendments to inform an updated *Heatwave Plan* every four years. This will be carried out in conjunction with the *Municipal Public Health and Wellbeing Plan* review cycle. All relevant stakeholders will be invited to participate in the evaluation. The following questions will be addressed.

- Were the actions in Stage 3 appropriate and timely?
- What worked?
- What didn't work?
- Was information communicated effectively to stakeholders?
- Was information communicated effectively to the general community?
- What could we do differently next summer?



Bibliography

Australian Bureau of Statistics. (2006). Retrieved 2010, from www.abs.gov.au

Australian Bureau of Statistics. (2011). *Census Quick Stats*. Retrieved November 15, 2013, from Australian Bureau of Statistics:
http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/quickstat/LGA26430?opendocument&navpos=220

Bureau of Meteorology. (2013). Retrieved January 29, 2013, from Australian Government Bureau of Meteorology: www.bom.gov.au

Department of Planning and Community Development. (2011). *Strathbogie One Page Profile*. Retrieved August 15, 2013, from
http://www.dpcd.vic.gov.au/__data/assets/pdf_file/0008/106496/Strathbogie-One-Page-Profile-VIF2012.pdf

Goulburn Broken Catchment Management Authority. (n.d.). Retrieved January 29, 2013, from Goulburn Broken Catchment Management Authority: www.gbcma.vic.gov.au

Strathbogie Shire Council. (2013). *Healthy Communities Plan 2013-2017*. Retrieved January 7, 2014, from Strathbogie Shire Council: www.strathbogie.vic.gov.au

Tourism Research Australia. (2009). *National Visitor Survey: Travel to Strathbogie and Mitchell*.

Victorian Office of the Chief Health Officer. (2009). *Office of the Chief Health Officer Report*. Retrieved January 4, 2010, from Department of Health: www.health.vic.gov.au



Appendix 1: Key heatwave terms

Climate: Climate summarises the average, range and variability of weather elements (rain, wind, temperature, fog, thunder and sunshine) observed over many years at a location or across an area. It includes the future expectation of long term weather, in the order of weeks, months or years ahead.

Climate change: Climate change is the change in average weather over time and over a region. Climate change includes changes in temperature, wind patterns and precipitation.

El Niño: El Niño refers to the extensive warming of the central and eastern Pacific that leads to a major shift in weather patterns across the Pacific. In Australia (particularly eastern Australia), El Niño events are associated with an increased probability of drier conditions.

Global warming: Human activities have caused the warming of the global climate over the last 150 years, accompanied by retreating alpine glaciers, rising sea levels and shifting climate zones. Scientists believe that global warming will lead to changes in wind patterns, precipitation and frequency and type of severe weather events. This, in turn, could have significant environmental and economic consequences.

Greenhouse effect: The greenhouse effect is a natural warming process of the earth. Without greenhouse gases, the earth's average surface temperature would be about 35 ° Celsius cooler. Scientists are concerned that higher greenhouse gas concentrations, resulting from human activity, will lead to an "enhanced" greenhouse effect which may lead to global climate change.

Heatwave: A heatwave is a period of abnormally hot weather lasting several days.

Morbidity: Morbidity is an incidence of ill health. It is measured in various ways, often by the probability that a randomly selected individual in a population at some date and location would become seriously ill in some period of time.

Mortality: A fatal outcome.



Appendix 2: Heatwave survey

Heatwave Survey

Strathbogie Shire Council reissued a survey in 2014 to various health service providers to generate a distribution list for receiving Heat Health Alerts. Survey questions included:

Name of group/organisation

Contact details

Of your clients, who is most 'at risk' from prolonged periods of hot weather?

How does extreme hot weather impact this group?

In your experience, which of these impacts pose the highest level of risk to the health and wellbeing of this group?

How are you informed of impending heatwave conditions?

Would your agency like to be added to Council's email distribution group to receive Heat Health Alerts issued by the Department of Health?

How does your service deal with heatwave conditions so you and your clients are protected?

Has your organisation any systems in place to prepare for a heatwave?

Do you have a formal response strategy for a heatwave?

What could be done to further protect you and your clients in an episode of extreme hot weather?

Is there anything else you would like us to know about the effects of heatwaves on you or the users of your service?

Would you like to receive Heat Health alerts and warnings from Strathbogie Shire Council when issued by the Department of Human Services? If yes, please provide the email address of the recipient to be added to a local email distribution group.

Participants were invited to join an email distribution list to receive Heat Health Alerts. The distribution group will be updated as required.



Appendix 3: DoH heatwave messages

Staying healthy
in the heat

health

- Look after yourself and others
- Drink plenty of water
- Keep cool
- Stay out of the sun

For more information, visit:
www.health.vic.gov.au/environment/heatwave



Department of Health



Staying healthy in the heat

health

**Hot weather can make you very sick
so remember to...**



Look after yourself

Talk to others. Ask for help if you need it.



Drink lots of water

Check with your doctor about how much water to drink when it is very hot.



Keep cool

Stay in a cool, air-conditioned place like your house or a shopping centre.



Keep out of the sun

Stay in the shade. Wear a hat.
Wear loose clothing that is light in colour.

If you feel sick when it is hot you can phone
NURSE-ON-CALL on 1300 60 60 24
or in an emergency an ambulance on 000



Approved and published by the Victorian Government, 50 Lonsdale St Melbourne
Except where otherwise indicated, the images in this publication show models and illustrative settings only
and do not necessarily depict actual services, facilities or recipients of services.
© Department of Health, August 2012 (11000-00) Print managed by Printbury Group.

Department of Health