

Strathbogie Shire Council

Heatwave Plan

A complementary plan to the Municipal
Emergency Management Plan

Endorsed by the Strathbogie MEMPC on
16 February 2022.



Strathbogie
SHIRE COUNCIL

Table of Contents

What it is all about	2
Why we need a Heatwave Plan.....	3
What our community looks like.....	4
Our setting	4
Our population	5
Our lifestyle.....	7
How heatwaves affect the Strathbogie Shire.....	7
How heatwaves affect our health	9
People most at-risk to heatwave conditions.....	10
Our elderly.....	10
Our young children	11
Our tourists.....	11
Our farmers	11
Likely health impacts	11
Our partners.....	16
Our action plan.....	16
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.....	20
What we do in Stage 3	21
What key stakeholders can do in Stage 3.....	21
How we evaluate the plan’s effectiveness.....	21
Bibliography.....	22
Appendix 1: Key heatwave terms.....	23
Appendix 2: DoH heatwave messages.....	24

What it is all about

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. This 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* is a Complementary of the Strathbogie Municipal Emergency Management Plan (MEMP) approved by the Strathbogie Municipal Emergency Management Planning Committee (MEMPC). The Plan will be used by Council and its partners in the planning-for and responding to heatwave conditions.

The *Heatwave Plan* has been written to:

- Be consistent with departmental guidelines;
- 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

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 Shire 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, Baddaginnee, 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 Fast Mangalore Marraweenv Mienoll Mitchellstown Creek, Strathbogrie, Tabilk, Tamleugh, Tarcombe, Upotipotpon, Upton Hill, Violet Town, Wahring, Whroo and Wirrate.

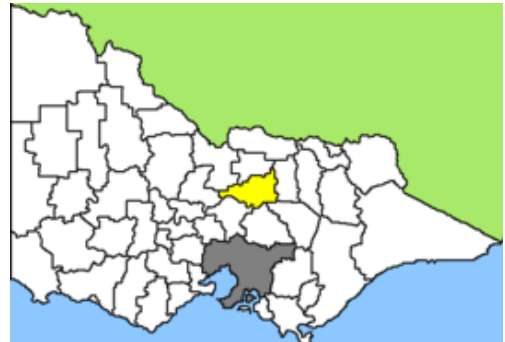


Figure 1: Location of Strathbogrie Shire in Victoria

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

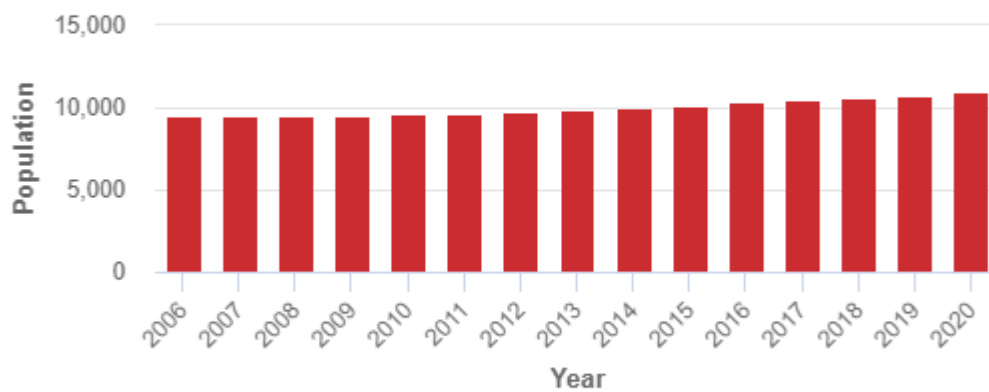
The Shire is predominantly rural in nature with supporting services in small towns. Farming industries have traditionally been sheep, cattle and wheat cropping, but in recent years the tendency has been to diversify into smaller holdings specialising in stock such as goats, deer, fine wool sheep and 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

Strathbogie Shire's estimated resident population in 2020 is 10,992. Recent years have shown an increase at or above regional population growth for the Strathbogie Shire.

Estimated Resident Population Strathbogie Shire

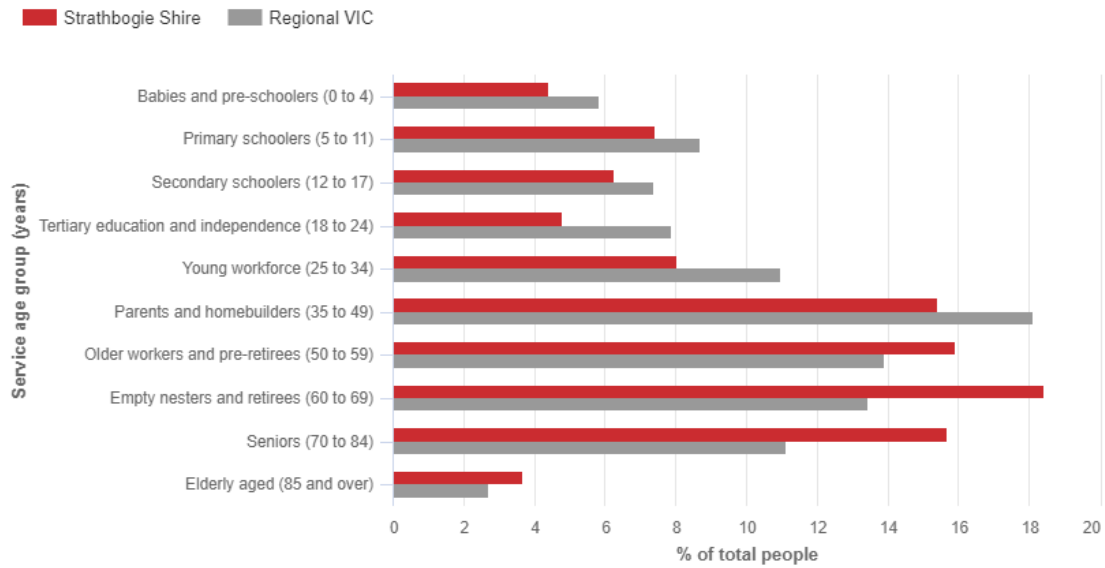


Source: Australian Bureau of Statistics, Regional Population Growth, Australia (3218.0). Compiled and presented by id (informed decisions)

Figure 3 Estimated Resident Population

Age structure - service age groups, 2016

Total persons

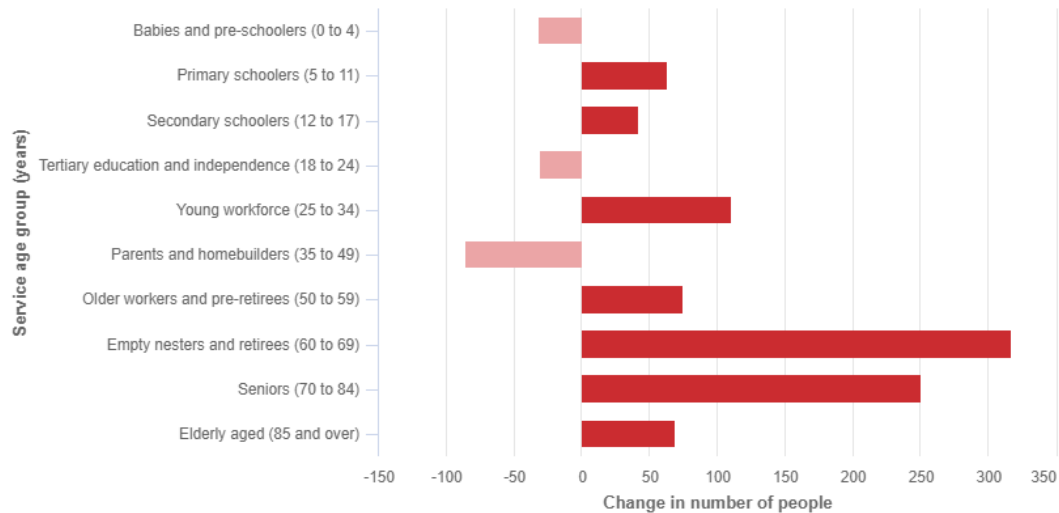


Source: Australian Bureau of Statistics, Census of Population and Housing, 2016 (Usual residence data). Compiled and presented in profile.id by .id (informed decisions).

Figure 4 Age Structure – service age groups

Change in age structure - service age groups, 2011 to 2016

Strathbogie Shire - Total persons



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 and 2016 (Usual residence data). Compiled and presented in profile.id by .id (informed decisions).

Figure 5 Change in age structure 2011 to 2016

Strathbogie Shire, although predominantly agricultural, has two main population centres, Euroa (3,279) and Nagambie (1,880) are attractive regional towns of a good size, with good local amenities but not so big to have become impersonal. Strathbogie Shire towns are personable friendly communities and attracting interest from families aspiring to make a treechange. The continued nationwide rollout of the NBN and the impacts of COVID 19 have shown that many Australians now realise they don't need to be living in the major cities for

work, which could lead to big changes in the years ahead for our towns that are easily accessible from Melbourne

According to ABS Statistics the current estimated population growth in Nagambie is 2.24% per annum, which is greater than the current average population growth of 1.37% seen in regional Victoria. Predicted population rates based on 2.24% would see Nagambie's population reach 2,442 over the next 5 years and 2,728 over the next 10 years.

Unlike many other regional locations who have seen population growth as a result of the increased population of Empty Nesters and Retirees Nagambie has seen significant population growth in the Young Workforce 25-34 year age group. From 2011 – 2016 this age group increased by 28%. Our expectation is that population growth in this demographic will have a direct correlation to an increase in young families over the next 10 years.

Strathbogie 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 Strathbogie 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, 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, water-skiing and boating opportunities and is also home to one of Australia's national standard canoeing and rowing venues, the Nagambie Lakes Regatta Centre. The Strathbogie 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

The following graphics were obtained from the climate change Victoria's website based on Victoria's Science Report 2019 and the Goulburn Climate Predictions 2019 report (DELWP/CSIRO).

Evidence is the best basis for decisions about the future

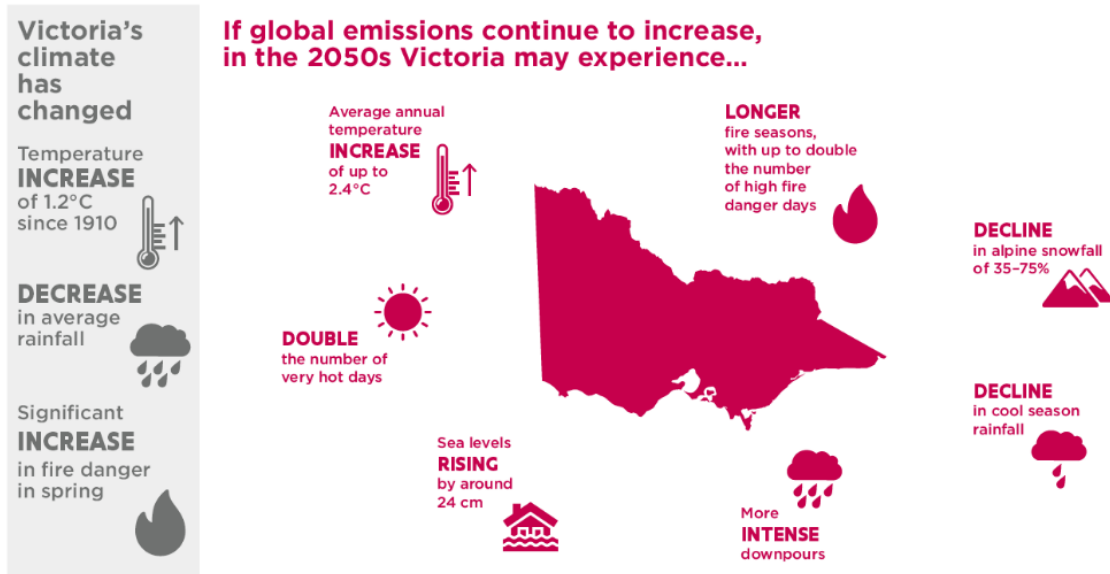


Figure 6 Forecast Impacts of Climate Change at 2050

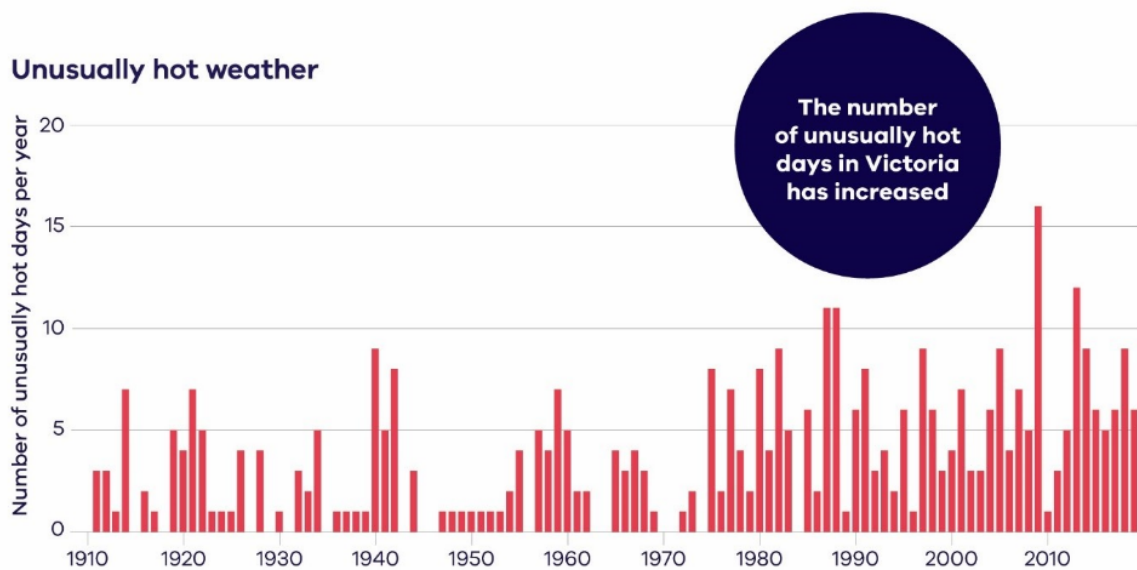


Figure shows days per year when the Victorian average temperature is 'unusually hot'. Unusually hot days are those above the 99th percentile of each month from 1910 to April 2019 (BoM, 2019).

Extreme heat events already cost the Victorian economy on average \$87 million a year, and this cost is projected to rise as heatwave events become more frequent.

Figure 7 Number of unusually hot days per year 1910 to 2019

A way to understand the forecast extreme temperature forecasts is to look at the number of the number of temperature exceedances per year. For example, on average between 1981 and 2010, Shepparton experienced 14.8 days per year when the temperature exceeded 35°C. By the 2050s under a high emissions scenario, this is expected to increase to between 23 and 40 days per year.

At the same time the overnight temperatures exceeding 22°C in Shepparton are expected to increase from 2.6 days per year to between 7.2 to 14.6 days per year.

The extensive Black Summer of Bushfires experienced in 2020 which impacted on all the eastern states of Australia, and the significant fires in Europe, Greece and America in 2021

is further evidence of the impacts of climate change and the heat risks faced by communities during hotter summer periods.

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. The *Strathbogie Shire Heatwave Sub-Plan* is particularly focused 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.

A total of 3,879 people were aged over 60 years old at the 2016 census and this group had the largest increase since the 2011 Census and represents 37.8% of the shire's population compared to the Victorian regional average of 27.2%.

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.

According to the 2016 Census there were 762 children aged 0 to 4 years comprising 4.4% of our population compared to the regional Victorian average of 5.8%. 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 visitors travelling from cooler areas. 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 20% of all employees across the Shire (Australian Bureau of Statistics, 2016). There are approximately 2,266 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

The potential impacts associated with heat are summarised in the Strathbogie Shire Heatwave Impact Matrix (see Figure 8). A risk rating has been given to each impact based upon Risk Assessment Rating Guide (see Figure 9). 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 the heatwave action plan. The impact matrix reveals several scenarios with HIGH risk ratings. These include risk of dehydration and heat related illness for all vulnerable 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 8: Strathbogie Shire’s heatwave impact matrix

Affected community	Heat related issue	Likely impact – Risk (R)	L’hood	Consequence	Rating
Empty Nestors, Seniors & Elderly (60+ yrs)	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	2	MOD
	Discomfort in the home	Irritability	B	2	MOD
	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	D	2	LOW
	Lack of appetite	Can become malnourished	C	2	LOW
	Being alone	No one to check on health	C	3	MOD
Very young (0 to 4 yrs)	Heat related illness	Requires medical assistance Can become deadly if unattended	C	4	HIGH
	Fatigue	Irritability	C	3	MOD
	Failure to attend immunisation clinics in heat	No vaccinations and protection from infectious diseases	C	1	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
Farmers	Lack of access to water	Dehydration	C	2	LOW
	Working outdoors in extreme heat	Heat related illness	B	3	MOD
Carers/ health workers	Modification of programs	Kindergarten/preschool playtime earlier in day; MCH to commence earlier	A	2	MOD
	Unsuitable environment without 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
Hospitals/ Health Service Providers	Higher presentation to emergency departments in hospitals	Drain on services; insufficient staff with overlay of COVID PPE/pre-cautions	A	3	HIGH
	Increase in workload (holidays)	Pressure on resources	A	3	HIGH
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	3	MOD
	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	Loss of air-conditioning. Need other strategies to cool down	C	3	MOD
	Over exercise in hot weather	Dehydration	C	3	MOD
	People on low incomes cannot afford air conditioning	Need other strategies to cool down	C	3	MOD

Figure 9: 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 *Strathbogie Shire Heatwave Plan* compliments the *Strathbogie Shire MEMPC* in identifying emergency arrangements leading up to, during and after a heatwave event.

Council will partner with other members on the MEMPC including operators of vulnerable facilities to ensure the most vulnerable in our community are supported. Our partners include:

- Department of Health
- Emergency services
- Nexus Primary Health
- Goulburn Valley Health
- Goulburn 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.



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 10).

Figure 10: Summary of heatwave plan actions

Stage One

<p>1 April to 30 November</p>	<ul style="list-style-type: none"> • Preparation of a Heatwave Awareness Campaign (April to Nov) targeting vulnerable groups • Identify cool areas • Collaborate with key stakeholders
<p>Stage Two During summer 1 December to 31 March</p>	<ul style="list-style-type: none"> • Launch Heatwave Awareness Campaign (Dec to March) • Collaborate with key stakeholders • Promote cool areas for possible use
<p>Stage Three Heatwave response Trigger: Department of Health (DoH) heat alert</p>	<ul style="list-style-type: none"> • Key stakeholders to enact specific actions • Advertise cool areas • Activate Council's Incident Management Team arrangements • Monitor BoM reports

What we do in Stage 1

Preparation of a Heatwave Awareness Campaign

Strathbogie Shire Council and other MEMPC agency representatives will collaborate with key stakeholders in the preparation of the Heatwave Awareness campaign which promotes the key health messages as recommended by the Department of Health (DoH) (see Appendix 2).

Identify vulnerable groups and update community registers

Key stakeholders who interact directly with vulnerable clients are encouraged during Stage 1 to review and maintain their own individual heatwave plans in readiness for the summer period.

Identify cool areas

Council currently has limited facilities suitable as cool areas although grant applications have been made to modify our five existing emergency relief centre sites to enable portable backup generators to maintain power at these sites in the case of power outages.

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 30°C or higher at 6.00 pm. Local shops, hotels, restaurants, coffee shops within the shopping centres of Euroa, Nagambie and Violet Town.

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.

Engage key stakeholders

Successful implementation of our *Heatwave Sub-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. Key stakeholders are encouraged to have their own heatwave plans.

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;
- Updating their community registers;
- Participating in a 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 1 December and 31 March each year.

Launch 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

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, using media placements, the Council website and social media.

Monitor BOM thresholds for Strathbogie Shire

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

What key stakeholders can do in Stage 2

In Stage 2, key stakeholders will:

- Continue with their targeted Heatwave Awareness Campaign;
- Identifying relevant 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 as required.

What we do in Stage 3

Stage 3 is triggered when imminent heatwave temperatures are predicted by BoM for the Strathbogie Shire. Council and other key stakeholders will know to move to this stage when it is notified by DoH.

Council, through the MEMO or MRM, and other key stakeholders will notify their respective key staff to implement identified stage 3 actions.

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

- Advertise cool areas including pools and adjust opening and closure times as required;
- Monitor DoH and BOM reports daily;
- Alter staff scheduling (particularly outdoor workers);
- Reassess any Council run outdoor events; and
- Activate Council's Incident Management Team.

Aspects of the *Municipal Emergency Management Plan* would be activated by Strathbogie Shire Council only in response to declared emergencies resulting from heatwave conditions.

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 are encouraged 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, the MEMPC will review it annually after each summer and use any amendments to inform an updated *Heatwave Plan* every three (3) years. 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

Victoria's Science Report 2019 (DELWP)

Goulburn Climate Projections 2019 (DELWP/CSIRO)

Strathbogie Shire Community Profile 2016 Census Comparison to 2011 .id Informed Decisions

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

Information at 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: DoH heatwave messages

SURVIVE THE HEAT

Heat kills more Australians than any other natural disaster

- DRINK WATER**
Even if you don't feel thirsty, drink water. Take a bottle with you always.
- HOT CARS KILL**
Never leave kids, older people or pets in cars. The temperature inside a parked car can double within minutes.
- KEEP COOL**
Seek out air-conditioned buildings, draw your blinds, use a fan, take cool showers and dress in light and loose clothing made from natural fibres.
- PLAN AHEAD**
Schedule activities in the coolest part of the day and avoid exercising in the heat. If you must go out, wear a hat and sunscreen and take a bottle of water with you.
- CHECK IN ON OTHERS**
Look after those most at risk in the heat – your neighbour living alone, older people, the young, people with a medical condition and don't forget your pet.