



Shire of Northam
Heritage, Commerce and Lifestyle

Shire of Northam

Minutes

Bush Fire Advisory Committee

27 November 2018

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1. DECLARATION OF OPENING

Councillor Terry Little declared the meeting open at 5:32pm.

2. ATTENDANCE

Voting Committee:

Councillor – Shire of Northam	Terry Little
Chief Bush Fire Control Officer	Mathew Macqueen
Deputy Bush Fire Control Officer	Simon Peters
Inkpen Brigade	Nic Dewar
Bakers Hill Brigade	Steve Gray
Grass Valley Brigade	Sam Moss
Irishtown Brigade	Murray McGregor
Jennapullin Brigade	Brett Smith
Southern Brook Brigade	Paul Antonio
Wundowie Volunteer Fire and Rescue Service	Tyron McMahan
Northam Volunteer Fire and Rescue Service	Greg Montgomery

Representatives and Staff:

Chief Executive Officer	Jason Whiteaker
Executive Manager Development Services	Chadd Hunt
A/Community Emergency Service Manager	Brendon Rutter
A/Area Officer Upper Wheatbelt	Daniel Hendriksen
A/Executive Assistant to CEO	Jodi White

Gallery:

Bakers Hill Bush Fire Brigade	Kris Brown
Grass Valley Bush Fire Brigade	Chris Marris
Public	Matt Letch
	Michael Letch
	Rob Herzer

2.1 APOLOGIES

Councillor – Shire of Northam	Carl Della
A/Area Officer Upper Wheatbelt	Daniel Hendriksen
Department of Parks and Wildlife (Wheatbelt)	Graeme Keals
Department of Parks and Wildlife (Perth Hills)	Michael Pasotti
Clackline Muresk Brigade	Liam Connolly
Southern Brook Brigade	Paul Antonio

3. DISCLOSURE OF INTERESTS

Item Name	Item No.	Name	Type of Interest	Nature of Interest
Honorarium's for chief & deputy chief bush fire control officer	5.3	Matthew McQueen	Financial	Item is about my position as a Bush Fire Control Officer
Honorarium's for chief & deputy chief bush fire control officer	5.3	Simon Peters	Financial	Item is about my position as a Bush Fire Control Officer

4. CONFIRMATION OF MINUTES

4.1 COMMITTEE MEETING HELD 20 AUGUST 2018

RECOMMENDATION / COMMITTEE DECISION

Minute No: BFAC.198

Moved: Mr Sam Moss

Seconded: Mr Tyron McMahon

That the minutes of the Bush Fire Advisory meeting held 20 August 2018 be confirmed as a true and correct record of that meeting.

CARRIED 9/0

5. COMMITTEE REPORTS

5.1 CHIEF BUSHFIRE CONTROL OFFICER (CBFCO) REPORT

Address:	N/A
Owner:	N/A
File Reference:	5.1.3.1
Reporting Officer:	Mathew Macqueen CBFCO
Responsible Officer:	Chadd Hunt Executive Manager Development Services
Voting Requirement	Simple Majority

BRIEF

For the Committee to receive and note the report provided by the Chief Bushfire Control Officer.

ATTACHMENTS

Nil.

BACKGROUND / DETAILS

The CBFCO pre-season report for the 2018/19 bushfire season has been provided under the 'Officer's Comment' of this report.

CONSIDERATIONS

Strategic Community / Corporate Business Plan

Theme Area 3: Safety and Security

Outcome 3.1: Shire of Northam residents are able to pursue the fullest life possible without fear of or hindrance from crime and disorder.

Financial / Resource Implications

Nil.

Legislative Compliance

Nil.

Policy Implications

Nil.

Stake Holder Engagement / Consultation

Nil.

Risk Implications

Nil.

OFFICER'S COMMENT – Mathew Macqueen

- Discussed the upcoming fire season. Due to a wet winter fuel loading has gotten extremely high which will make it interesting for the upcoming fire season.
- The Bureau of Meteorology has provided a warning about peculiar weather coming down the state from the North West with large amounts of lightning and little rain which will possibly affect the Eastern part of the Shire.
- Can all Brigades please be aware of who is available for callouts if the need arises over the upcoming fire season.
-

OFFICERS COMMENT – Simon Peters

- Make sure Brigades are vigilant over this upcoming summer period.
- Discussed the Wundowie incident on Great Eastern Highway and how the Brigades worked efficiently with the VFRS (Volunteer Fire Rescue Services)

RECOMMENDATION/ COMMITTEE DECISION

Minute No: BFAC.199

Moved: Mr Sam Moss
Seconded: Mr Nic Dewar

That Council note the Chief Bushfire Control Officer Report as provided.

CARRIED 9/0

RECOMMENDATION/ COMMITTEE DECISION

Minute No: BFAC.199

Moved: Mr Tyron McMahon
Seconded: Mr Murray McGregor

That Council note the Deputy Chief Bushfire Control Officer Report as provided.

CARRIED 9/0

5.2 COMMUNITY EMERGENCY SERVICES MANAGER REPORT

Address:	N/A
Owner:	N/A
File Reference:	5.1.3.1
Reporting Officer:	Brendon Rutter Community Emergency Services Manager
Responsible Officer:	Chadd Hunt Executive Manager Development Services
Voting Requirement	Simple Majority

BRIEF

For the Committee to receive and note the update provided by the Community Emergency Services Manager.

ATTACHMENTS

Attachment 1: Progress against Outstanding BFAC / Council decisions.
Attachment 2: Northam Risk Assessment.

BACKGROUND / DETAILS

N/A.

CONSIDERATIONS

Strategic Community / Corporate Business Plan

Theme Area 3: Safety and Security

Outcome 3.1: Shire of Northam residents are able to pursue the fullest life possible without fear of or hindrance from crime and disorder.

Financial / Resource Implications

Nil.

Legislative Compliance

Nil.

Policy Implications

Nil.

Stake Holder Engagement / Consultation

Nil.

Risk Implications

Nil.

R2R- Over the past few months I have been working on the R2R for the Shire of Northam. The process has been completed and the document is attached.

PPC- PPC for brigades that requested it has been ordered and is almost in stock. I'm just waiting for a few more items to arrive then I'll be sorting the orders and getting them out to the brigades as a priority.

Annual Servicing – The annual servicing has almost been completed, there is a few issues with minor damage being done to the appliances and not being reported. It is essential that all damage to the appliances, regardless of level of severity to be reported to myself, to enable recording as appropriate. This is the only way of identifying if there is an ongoing issue that is causing the damage to reoccur.

New Sheds – Construction of the Grass Valley BFB shed has commenced and is well under way. The upgrade to the facility will provide a much needed training/social space for the brigade and will further enhance the suitability of the building being used as a forward control point in the event of a major incident.

The Bakers Hill shed has started to progress again, and now that the proposed site has been vacated by the road works crews in the area, we can move into the next stage of the build and start with the site feature surveys and development application.

Further details will be provided on the progress of this build.

RECOMMENDATION/ COMMITTEE DECISION

Minute No: BFAC.200

Moved: Mr Nic Dewar

Seconded: Mr Sam Moss

That Council note the Community Emergency Services Manager Report as provided.

CARRIED 9/0

Attachment 1

By Officer & Status								
Date	Motion No	Item No	Subject	Motion	Action By	Comment	Date Completed	Status
18-Jul-18	C.3415	11.1	BUSH FIRE ADVISORY COMMITTEE MEETING HELD ON 3RD JULY 2018	<p>That Council:</p> <ol style="list-style-type: none"> 1. Note the Community Emergency Services Manager Report as provided. 2. Note the Risk Assessment for vehicle and structural fires. 3. Endorse the construction of a new Bakers Hill Fire Shed on a portion of Reserve 3308 subject to approval being issued by the Department of Heritage, Planning and Lands and the additional funding being provided by the ESL to be referred back to Council for formal approval following the submission of a planning application and consultation with adjoining landowners and the Bakers Hill Progress Association. 4. Appoint Mr Mathew Macqueen as the Chief Bushfire Control Officer and Mr Simon Peters as the Deputy Chief Bushfire Control Officer for the 2018/19 period. 5. Accept the revised Fire Breaks & Fuel Load Notice for the 2018/19 period subject to the following amendments: <ol style="list-style-type: none"> a. Section 1 – Building Protection Zone, item 15 being removed which relates to roof mounted evaporative air coolers being fitted with ember proof screens; b. Section 3 – Land with an area greater than 10,000m² (1 hectare), item 3(2) add 'excluding cropped and/or stubble land'; c. Section 10 – Harvest, Movement of Vehicles and Hot Works Ban, Remove the proposed additions as highlighted in Attachment 1. d. Amending the Firebreak requirements to be consistent with the requirements detailed in 2017/18 Firebreak & Fuel Load Notice (with reference to having different requirements for lots less than 10 hectares and a separate section for lots greater than 10 hectares) with the addition of remnant vegetation requiring a firebreak of 3 metres within 10 metres of the property boundary. 6. Request the Chief Executive Officer to investigate an annual fee 	CESM	8/11/2018 1. No action required. 2. No action required. 3. In progress. 4. No action required. 5. Complete. 6. To be presented to next BFAC meeting in November 2018.		Open

By Officer & Status									
Date	Motion No	Item No	Subject	Motion	Action By	Comment	Date Completed	Status	
				for the Chief and Deputy BFCO for the 2018/19 season and the findings be presented to the next Bush Fire Advisory Committee meeting.					



Mr Mathew Macqueen and Mr Simon Peters declared a "Financial" interest in item 5.3 – Honorarium's for Chief & Deputy Chief Bush Fire Control Officer as they are currently in the position as CBFCO and DCBFCO.

Both the CBFCO and DBFCO left the chambers at 5.38pm.

5.3 HONORARIUM'S FOR CHIEF & DEPUTY CHIEF BUSH FIRE CONTROL OFFICER

Address:	N/A
Owner:	N/A
Applicant:	N/A
File Reference:	5.1.3.1
Reporting Officer:	Brendon Rutter A/Community Emergency Services Manager
Responsible Officer:	Chadd Hunt Executive Manager Development Services
Officer Declaration of Interest:	Chief Bushfire Control Officer – Mat Macqueen Deputy Chief Bushfire Control Officer – Simon Peters
Voting Requirement:	Simple Majority
Press release to be issued:	No

BRIEF

July Council meeting, council resolved that the CEO would investigate council's options regarding an honorarium payment to the CBFCO and DCBFCO positions.

ATTACHMENTS

Nil.

BACKGROUND / DETAILS

At the June BFAC it was agreed by all members present that the provision of an annual Honorarium or Operational Efficiency payment would be appropriate for the Chief Bushfire Control Officer and potentially also the Deputy Chief Bushfire Control Officer

CONSIDERATIONS

Strategic Community / Corporate Business Plan

Theme Area 3: Safety and Security

Outcome 3.1: Shire of Northam residents are able to pursue the fullest life possible without fear of or hindrance from crime and disorder.

Financial / Resource Implications

Unbudgeted expense, and is not eligible under the ESL, item to be included as a line item in the 2019/2020 draft budget.

Legislative Compliance

Nil.

Policy Implications

Nil.

Stakeholder Engagement / Consultation

Officers have discussed at length with the Chief & Deputy Bush fire Control Officers. Officers have liaised with other Local Government CSM's during the research of this proposal about the effectiveness of the Honorarium payments.

Risk Implications

- Reputational –High
 - The risk of opposing honorariums to the CBFCO & DCBFCO positions places a negative financial impact on these volunteers and will create a reluctance in future years for suitably qualified members to nominate for the role.
- Financial - Moderate
 - The honorariums are not eligible to be funded through the LGGS, so will result in a financial cost to council.
- Compliance - Low
 - There is no legislative requirement to provide remuneration to these positions however would be considered a positive step in acknowledging the high workloads of these voluntary roles.
- Legal – Low
 - Officers have assessed that there are no legal risk implications associated with this matter.

OFFICER'S COMMENT

Officers have reviewed the publicly available budgets of several local governments to investigate how many local governments pay honorariums to their CBFCO & DCBFCO and to use this information in forming a recommendation to council of a dollar amount for consideration.

The officer has found the following information for annual allowances/honorariums at the following local government areas.

- Shire of Serpentine/Jarrahdale- \$10,000 for CBFCO only
- Shire of Busselton- \$1,500 for CBFCO & \$1,000 for DCBFCO
- Shire of Broome, - \$1,500 for CBFCO Only

- Shire of York, - \$1,200 for CBFCO only
- Shire of Ravensthorpe- \$4,333 for CBFCO only
- Shire of Manjimup- \$5,000 for CBFCO, \$3,000 for DCBFCO
- Augusta/Margaret River – Decided annually for CBFCO & DCBFCO
- Shire of Collie, \$1,000 for CBFCO only

The Shire of Northam currently provides both the CBFCO and DCBFCO positions with a mobile phone, and a Fire Support Vehicle (Chief Vehicle). Some Shires also supply Fire Support Vehicles for their volunteer CBFCO & DCBFCO use at incidents during the fire season only.

The Shire of Northam has had 2 relatively quiet seasons although the positions of Chief and Deputy BFCO's are important roles that require a lot of sacrifice from the officers to attend to their expected duties. As such the officers incur significant out of pocket expenses due to attending multiple meetings at both brigade and district level each year including but not limited to BFAC, LEMC & DOAC meetings, additional to workshops, exercises, brigade trainings etc.

It is the view of officers that additional to the support the Shire of Northam currently extends to these volunteer positions there should be a financial allowance or honorarium paid to these officers to ensure their out of pocket expenses are reduced for such events as much as practical.

RECOMMENDATION

That Council:

- 1. Include an annual honorarium of \$2,500 payable to the CBFCO & \$1,500 to the DCBFCO in the 2019/20 Draft Annual Budget;**
- 2. Request the CBFCO and DCBFCO to provide a log book at the conclusion of each financial year to the Community Emergency Services Manager prior to payment of the honorarium; and**

COMMITTEE DECISION

Minute No: BFAC.201

Moved: Mr Sam Moss

Seconded: Mr Murray McGregor

That Council pay an annual honorarium of \$2,500 to the volunteer CBFCO & \$1,500 to the volunteer DCBFCO commencing in the 2018/19 Fire Season.

CARRIED 7/0

Discussion was held in regard to the Honorariums for the volunteer CBFO and DCBFCO. The Acting Community Emergency Services Manager advised that an investigation was carried out in relation to these positions held within other Shires. It was noted that this Shire provides mobile phones to the CBFCO and DCBFCO whereas most other Shires do not.

Clarification was sought in regard to the following items:

- Will the Honorariums be strictly kept for volunteer positions only? Cr Terry Little advised that yes they would be kept only for volunteers in that position (as reflected in the recommendation).
- Why do they need to keep a separate log book if the vehicles are owned by the Shire they would already have a current log book? It was agreed that the requirement for a log book needing to be provided would be removed.

Both the CBFCO and DBFCO returned the chambers at 5.45 pm.

Reason for Change to Officer Recommendation

Not viewed as required in the context of the honorarium. Simply adding a layer of complexity which is not required

5.4 STANDARD OPERATING PROCEDURES

Address:	N/A
Owner:	N/A
Applicant:	N/A
File Reference:	5.1.3.1
Reporting Officer:	Brendon Rutter A/Community Emergency Services Manager
Responsible Officer:	Chadd Hunt Executive Manager Development Services
Officer Declaration of Interest:	Nil
Voting Requirement:	Simple Majority
Press release to be issued:	No

BRIEF

Standard Operating procedures for the Shire of Northam Volunteer Bush Fire Brigades

ATTACHMENTS

- Attachment 1: SOP 16 – Harvest, Vehicle Movement & Hot works ban.
Attachment 2: SOP 17 – Prohibition of Lighting a Fire.
Attachment 3: SOP 18 – Permits to set fire to the bush.

BACKGROUND / DETAILS

In the interest of further development of the Shire of Northam Bush Fire Manual. Several SOP's have been developed to ensure that consistency and efficiency are maintained to ensure an effective delivery of services to the residents within the Shire of Northam.

CONSIDERATIONS

Strategic Community / Corporate Business Plan

Theme Area 3: Safety and Security

Outcome 3.1: Shire of Northam residents are able to pursue the fullest life possible without fear of or hindrance from crime and disorder.

Financial / Resource Implications

Nil.

Legislative Compliance

Bush Fires Act 1954.
Bush Fires Regulations 1954.

Policy Implications

Shire of Northam Bush Fire Manual.

Stakeholder Engagement / Consultation

Chief & Deputy Chief Bush Fire Control Officers.

Risk Implications

- Reputational - High
 - By setting a minimum standard that should be achieved ensures that consistency is followed through all aspects of the service delivery, therefore reducing the potential for council to be exposed to negative feedback from the community.
- Financial – Low
 - Officers believe there is no financial risk to council by adopting the SOP's
- Compliance - Low
 - There is no legislative requirement to develop Standard Operating Procedures however to ensure a consistent approach it is in the best interests of council to set a minimum standard.
- Legal – Low
 - Officers have assessed that there are no legal risk implications associated with this matter.

OFFICER'S COMMENT

In accordance with the Shire of Northam Bush Fires Manual, Officers have developed some Standard Operating Procedures that documents a defined process that must be followed to ensure that a consistent approach is being followed to maintain an efficient and effective emergency service delivery to the residents within the Shire of Northam.

SOP 16 has been developed in accordance to s27 of the bush Fires Act 1954. This document outlines the process and procedures that must be applied each time a HVMB is imposed within the Shire of Northam

SOP 17 has been developed in accordance with s46 of the Bush fires Act of 1954. This document outlines the process and procedures that must be followed each time a prohibition is imposed within the Shire of Northam.

SOP 18 has been developed in accordance with s18 of the Bush Fires Act 1954. This document outlines the process and procedures that must be followed each time a permit to set fire to the bush is issued within the Shire of Northam.

RECOMMENDATION/ COMMITTEE DECISION

Minute No: BFAC.202

Moved: Mr Murray McGregor

Seconded: Mr Tyron McMahan

That Council endorse SOP16, SOP17 & SOP18, and acknowledge that these SOP's will be included in the future Section 8 SOP's of the Bush Fire Manual, subject to;

- 1. dot point 2 of SOP16, being amended to remove reference to 'a harvest ban shall be imposed' and redrafted to reflect that the notification of the potential for a fire ban the following day is an advisory notice only and that a decision to impose a fire ban will be made on the day and necessary notification provided at that time.**
- 2. staff undertaking a final review of the SOP's to ensure they align with the bushfire manual and make any necessary adjustments to cause this to occur if it is not the case.**

CARRIED9/0

Attachment 1

SOP.16 Harvest, Vehicle Movement & Hot Works Bans

Procedure No.	SOP.16
Procedure Subject:	Harvest Vehicle Movement & Hot Works Bans

Introduction

Throughout the year it may be necessary for the Chief Bush Fire Control Officer and/or his/her delegate to impose a Harvest, Vehicle Movement & Hot Works Ban to prevent the likelihood of a fire starting. This is conducted in accordance with Section 27 of the Bush Fires Act 1954.

Procedure

The Shire of Northam Chief Bushfire Control Officer or his/her Deputy (or the CESM in both their absence) may choose at any time to implement a Harvest Vehicle Movement and Hot Works Ban (HVMB) under section 27 of the Bush Fires Act 1954 subject the following conditions.

- The following Public Holidays including any Saturday and Sunday of a long weekend will have a HVMB issued (irrespective of the forecast weather)

Christmas Day
Boxing Day
New Years Day
Australia Day

- On days where the forecast Fire Danger Rating (FDR) for the following day Very High or above with a likelihood of the Fire Danger Index (FDI) reaching 32 or above in any district of the Shire, a harvest ban shall be imposed between the hours of 1000-1800hrs, and will be imposed prior to 1700 the day before to assist with compliance from members of the public. In consultation with the Fire Weather Officers the CBFCO or their deputy may impose the HVMB earlier or later than the above nominated hours if the local conditions warrant.
- Where possible all HVMB bans should begin by 1000 and be lifted by 1800 unless current weather conditions improve, then the ban can be lifted at the discretion of the CBFCO or his/her delegate.
- A member of the Local Government will send out communications using SMS in the first instance, and if/when possible on social media and the Shire of Northam website, as per the Harvest Ban procedure.

Attachment 2

SOP.17 Prohibition of Lighting a Fire



Procedure No.	SOP.17
Procedure Subject:	Prohibition of Lighting a Fire

Introduction

Under Section 46 of the Bush Fires Act 1954, the Chief Bushfire Control Officer of the Shire of Northam can impose a prohibition of the lighting of any fire within the Shire of Northam local government boundary.

This prohibition can be imposed at any time of year, even during the unrestricted fire period if in the opinion of the Chief Bush Fire Control Officer, local conditions warrant a prohibition being imposed.

Procedure

The Shire of Northam Chief Bushfire Control Officer or his/her Deputy or the CESM in their absence may choose at any time of year to prohibit the lighting of a fires in accordance with section 46 of the Bush Fires Act 1954.

This prohibition could be imposed under the following conditions.

- On days where the forecast FDR for the following day Very High or above with an FDI of 32 or above a prohibition of lighting of a fire may be imposed.
- Upon receiving advice from DFES and/or the Bureau of Meteorology that the forecast for the district could mean that a fire would be difficult to control or pose an increased risk to members of the public
- If there is a significant danger posed to the public should a fire start due to a shortage of resources or emergency service personnel in the region.
- For any other reason the Chief Bush Fire Control Officer decides would be in the best interests of the general population of the Shire of Northam.

Attachment 3

SOP.18 Permits to Burn the Bush

Procedure No.	SOP.18
Procedure Subject:	Permits to Burn the Bush

Introduction

Under Section 18 of the Bush Fires Act 1954 & Section 15 of the Bush Fires Regulations 1954 a resident within the Shire of Northam must apply for a permit to set fire to the bush during the restricted period.

When issuing a permit, Bush Fire Control Officers (BFCO's) will not deviate from or alter the below conditions at any time. If these conditions cannot be met, the applicant must be referred to the CBFCO and/or CESM in accordance with Section 5.7G of the Shire of Northam Bush Fires Manual.

This is to ensure a consistent approach to the provision of permits to burn across the Shire of Northam.

Procedure

- A resident of the Shire of Northam who wishes to obtain a permit to burn, should be directed to apply online through the Shire of Northam Website.
- If the applicant is unable to utilise the online system, they may make contact with their local BFCO or Shire staff whom are able to complete the application on their behalf through the online portal.
- Shire Staff will receive the permit and process which will include issuing a permit number and updating the permit register on the Shire website.
- After processing, the permit shall be sent to a local BFCO of the brigade area that the burn will be conducted.
- The BFCO officer may make additional conditions above and beyond the standard conditions on the permit, at his/her discretion, after which the permit will be issued to the applicant.
- At the time of issuing the permit, the BFCO shall explain the conditions of the permit to the applicant, as well as advise them of their responsibilities under the Bush Fires Act 1954.
- If at any time a permit holder is in breach of the permit conditions or is in breach of the Bush Fires Act 1954 or the Bush Fires Regulations 1954, the permit will be cancelled and the applicant will be directed to extinguish the fire and cease all burning activity.

Restrictions

In keeping with Council values of honesty, openness and accountability, BFCO officers are prohibited from issuing a permit under the following circumstances.

- If the applicant is a member of their immediate family.
- If the Bush Fire Control Officer has an actual or perceived interest in the property where the burn will be conducted.

5.5 RISK TO RESOURCE ASSESSMENT (R2R)

Address:	N/A
Owner:	N/A
Applicant:	N/A
File Reference:	5.1.3.1
Reporting Officer:	Brendon Rutter A/Community Emergency Services Manager
Responsible Officer:	Chadd Hunt Executive Manager Development Services
Officer Declaration of Interest:	Nil
Voting Requirement:	Simple Majority
Press release to be issued:	No

BRIEF

The R2R document comprises the following stages-

Stage 1 - Bushfire Risk Identification

Stage 2 - Local Government response criteria and key risk assessment

Stage 3 - Risk reduction and control assessment and strategies

Stage 4 - Identified Risk re-assessment after stage 3 mitigation strategies

Stage 5 - Resource requirements

This report seeks endorsement of Stage 1 and 2 of the document and agreement on how to proceed with the finalisation of Stages 3 to 5.

ATTACHMENTS

Attachment 1: Draft R2R Document.

BACKGROUND / DETAILS

In completing Stages 1 and 2 of the document each brigade has been involved throughout the process as much as practical by way of holding workshops to establish the specific local risks within each fire district.

Each brigade has been assessed using the same risk based approach identifying brigade strengths by skillset, brigade incidents, and vehicle turnouts. This data was compiled together with data obtained from CENSUS to identify accurate population size, number of dwellings, land mas etc.

Officers have met with each brigade to workshop a set of generic risk statements as supplied by the State Emergency Management Committee, as well as additional specific risks associated with each district.

The final result is an assessment of higher risk areas within each fire district within the Shire of Northam.

In order to complete Stage 3 to 5 of the process it is proposed that a workshop be held with representatives from each Brigade (suggested 2 as per previous workshops) , where the proposed risk reduction and controls for the identified “at risk” assets and infrastructure(stage 3) will be completed. As this is being completed it is anticipated that the findings and recommendations for Stage 5 will become clearer across the Shire. It is further suggested that in order to assist the workshop arrive at agreed recommendations that an independent facilitator be used to work with Brigade representatives.

It is proposed that the Workshop will be held in December (date to be confirmed by BFAC members – currently suggested 18th December 2018) in Council Chambers.

It is further proposed that the recommendations from the workshop for Stages 3 to 5 of the R2R document will be presented at a special BFAC meeting again at a date agreed by BFAC (suggested January or early February 2019). There is a requirement to ensure that all Brigades have an opportunity to review the recommendations from the workshop prior to presented them to BFAC.

At the workshop, a series of recommendations will be developed for BFAC and Council to consider, this will include the development of a strategic plan that will assist council in developing the Volunteer Bush Fire Service for the next 10 years.

This plan will assist officers when completing the annual LGGs applications on behalf of the Volunteer Bush Fire Brigades.

CONSIDERATIONS

Strategic Community / Corporate Business Plan

Theme Area 5: Infrastructure & Service Delivery.

Outcome 5.2: Environmental risks are proactively managed to minimise impact on residents.

Objective: Continued bushfire management planning and mitigation works.

- Support local bushfire brigades in bushfire management; and

- Support the bushfire brigades in the maintenance and acquiring of suitable plant and equipment.

Financial / Resource Implications

Dependent on the final recommendations. There will be potential financial implications, generally this would be funded through the ESL.

Legislative Compliance

Nil.

Policy Implications

Nil.

Stakeholder Engagement / Consultation

Multiple workshops with brigades throughout the process

Risk Implications

- Reputational –High
 - Should the Resource to Risk Assessment not be endorsed by the Council this would reflect poorly on its reputation as this has been requested by the Brigades for a period of time with an understanding that this will be implemented.
- Financial - Low
 - There is no cost to implement the plan. All financial elements/outcomes from this document are eligible expenses under the Local Government Grants Scheme (LGGGS) and Emergency Services Levy (ESL).
- Compliance - Low
 - There is no legislative requirement to adopt a Resource to Risk Assessment however is considered best practice as this could affect future LGGGS funding.
- Legal – Low
 - Officers have assessed that there are no legal risk implications associated with this matter.

OFFICER'S COMMENT

The R2R assessment phase of the process is now complete and ready to move into the next phase of developing strategies with the assistance of the brigades in ensuring that the currently available resources and future resourcing are being used effectively and efficiently with a strong focus on delivering a professional, dependable and effective emergency service to the community.

By completing the R2R process, officers have been able to identify any gaps that exist in our emergency service coverage, which will then be used to

develop a strategic plan that will provide a blueprint for future growth of both the service itself and the community we protect.

As indicated previously the dates in the body of the report are suggestions and BFAC has the opportunity to modify if they do not believe there is sufficient time for Brigades to consider any aspect of the process.

NOTICE OF MOTION

Minute No: BFAC.203

Moved: Mr Murray McGregor

Seconded: Mr Nic Dewar

That BFAC endorses the current Risk to Resources process and that all Brigades abide by the outcomes of the Risk to Resources process and the final decision made by the Shire of Northam.

CARRIED 9/0

RECOMMENDATION

That Council endorse the Risk to Resource Document (stages 1 and 2) as attached.

COMMITTEE DECISION

Minute No: BFAC.204

Moved: Mr Murray McGregor

Seconded: Mr Sam Moss

That Council notes the Risk to Resource Document (stages 1 and 2) as attached and refers it to a Bush Fire Advisory working group for further development.

CARRIED 9/0

Reason for Change to Officer Recommendation

Committee formed a view that some of the detail in the document needed further scrutiny prior to it being endorsed.

Attachment 1



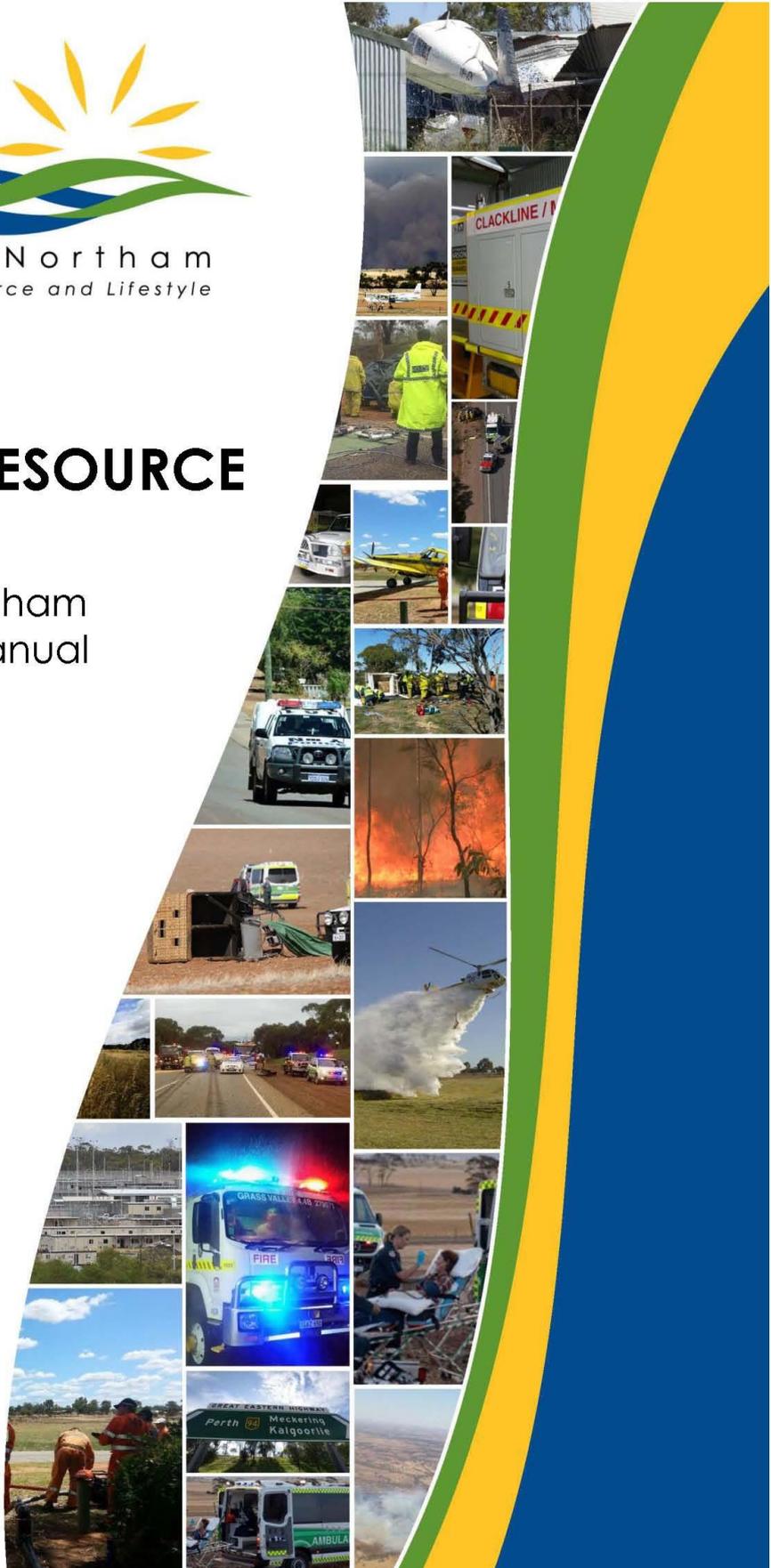
Shire of Northam
Heritage, Commerce and Lifestyle

RISK 2 RESOURCE

Shire of Northam
Bush Fire Manual

PART 9

2018



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Introduction

The Risk to Resource (R2R) assessment has been undertaken by the Shire of Northam Emergency Management staff and the appointed Chief Bushfire Control Officer, in liaison with representatives of the Department of Fire & Emergency Services (DFES), and the volunteer bushfire brigades located within the Shire of Northam.

The R2R assessment has been carried out based on the DFES recommended process and considers the strengths and opportunities that exist in and around the Shire of Northam, as well as revealing threats and weaknesses through risk assessment, analysis and treatments.

The R2R process involves five (5) stages, being:

- Stage 1 - Bushfire Risk Identification
- Stage 2 - Local Government response criteria and key risk assessment
- Stage 3 - Risk reduction and control assessment and strategies
- Stage 4 - Identified Risk re-assessment after stage 3 mitigation strategies
- Stage 5 - Resource requirements

1. Stage 1 - Bushfire Risk Identification

To undertake an assessment of bushfire risk and coverage extensive GIS mapping has been provided and assessed.

The GIS mapping takes a layered approach, with the aim of identifying areas within the Shire of Northam that have perceived elevated risks. This layering includes;

- Shire of Northam local government area
- Shire of Northam bushfire brigade designated areas
- DFES mapping of bushfire risk areas
- Identification of population areas and key infrastructure
- Identification of DFES estimated response / turn out times for brigades

Based on the mapping assessment there are a number of areas identified within the Shire of Northam that do not meet the established criteria.

2. Stage 2 – Local Government Response Criteria and key risk assessment

In order to assess the mapping, it is important to establish a response criteria or service standard that the Shire of Northam believes is acceptable in relation to responding to bushfire threats.

The State Government has established a generic response criterion, which establishes a framework around acceptable levels / times for responding to

bushfires based on a range of land categories. The State Government framework includes the following land categories – pastoral, rural/broad acre, South West Agriculture or Central West Coastal and Lower West Coastal. The table below is from DFES guide for preparing a Risk to Resource document-

LOCAL GOVERNMENT RESPONSE CRITERIA

KEY= *Property under threat from bushfire # Turnout time to incident. + Aircraft and/or appropriate machinery where required

PASTORAL		Firefighting response for bushfire within 3 hours (200 + kms between services) + Firefighting response on site for property threat within 3 hours* Specialist Units (ICV) on site within 2 days
RURAL BROADACRE	/	Up to two fire fighting appliances on site for bushfire in 1 hour (30 + kms between services)# 1 fire firefighting appliance on site for property threat in 1 hour Specialist Units (ICV) on site within 6 hours
SOUTH AGRICULTURAL or CENTRAL COASTAL	WEST WEST	Up to 6 fire fighting appliances on site for bushfire in 30 minutes (20kms between services) # 1 fire fighting appliance on site for property threat in 30 minutes Specialist Units (ICV) on site within 3 hours
LOWER COASTAL	WEST	Initial dispatch of 2 fire fighting appliances on site for bushfire in 20 minutes (10 kms between services). 1 fire fighting appliance on site for property threat in 20 minutes Specialist Units (ICV) on site within 1 hour, Perth Outer Metropolitan within 45 minutes

The Shire of Northam has adapted these categories to ensure applicability to our context, whilst still utilising the turnout times as the basis for establishing Shire of Northam turnout times – refer table 2 below.

Table 2

SHIRE OF NORTHAM RESPONSE CRITERIA	
KEY= # Turnout time to incident.	
RURAL / BROADACRE	Up to two firefighting appliances on site for wildfire in 1 hour (30 + kms between services) # 1 fire firefighting appliance on site for property/Asset protection in 1 hour Specialist Units (ICV) on site within 6 hours(Note this includes the CBFCO and CESM vehicle so criteria is met)
SETTLEMENT/TOWNSITE/RURAL RESIDENTIAL AND RURAL SMALLHOLDING ZONES	Up to 6 firefighting appliances on site for wildfire in 30 minutes (20kms between services) # 1 firefighting appliance on site for property/Asset protection in 30 minutes Specialist Units (ICV) on site within 3 hours (Note this includes the CBFCO and CESM vehicle so criteria is met)
CRITICAL INFRASTRUCTURE (includes properties with major infrastructure and large numbers of people either working, residing or otherwise at that facility)	Up to 6 firefighting appliances on site for wildfire in 30 minutes (20kms between services) # 1 firefighting appliance on site for property/Asset protection in 30 minutes Specialist Units (ICV) on site within 3 hours (Note this includes the CBFCO and CESM vehicle so criteria is met)

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The Shire of Northam response times maps as provided by DFES have been provided in Appendix 2. It should be noted that for the purposes of undertaking the risk assessment the 30 minute response time mapping has been based on a 10 minute travel time from the Brigade Shed – this allows for volunteer turn out times to the Brigade sheds.

The turnout times for the 60 minute response times are based on the actual 30-minute travel time from the brigade shed and 30 minute turn out time to the brigade shed. The above was undertaken to give a more realistic response time recognising the challenges of brigade members travelling to the specific fire shed.

The mapping has been based on the fire units travelling at 80km/hr on sealed roads and 60km/hr on unsealed roads.

It is also be noted that the assessments in appendix 1 have been based on the assumption that all Shire of Northam appliances are able to be crewed within the timeframes above and are obviously based on no other incidents being active at that time.

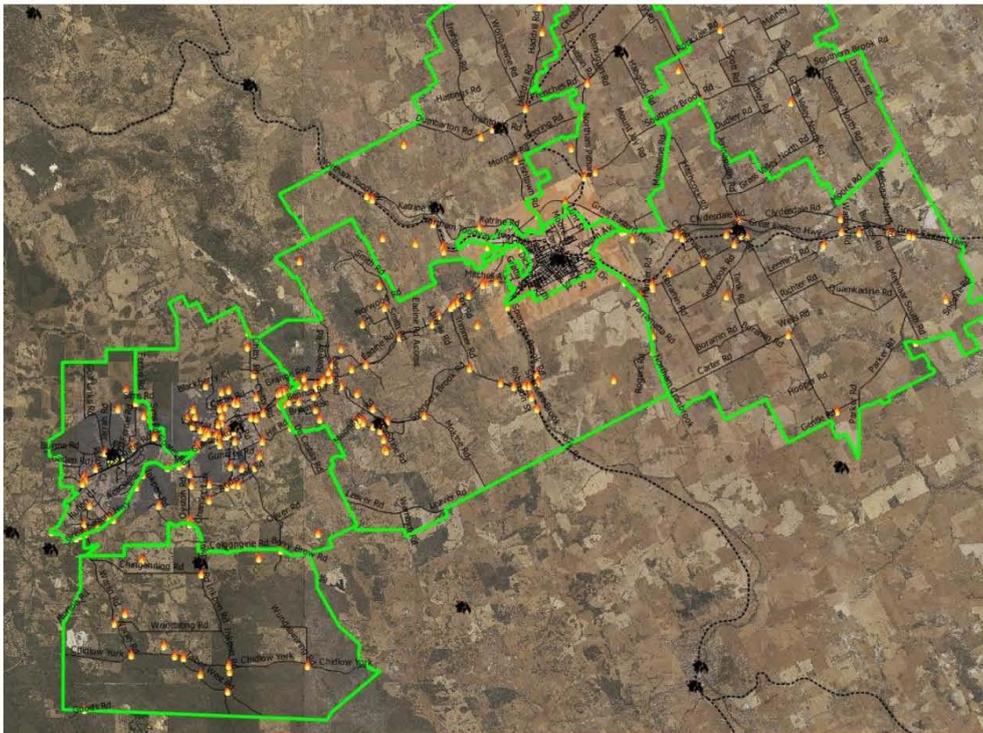
The assessment includes two units from Wundowie VFRS (of two) and two units from the Northam VFRS (of three) being turned out. At this stage there is no assessment being made of adjoining local authority brigade turning out to an incident outside of their local authority area.

2.1 Incident History

The following Map has been developed based on information sourced from the Department of Fire and Emergency Services. The map clearly indicates the number and extent of level 1 and level 2 bushfire incidents that have occurred in the Shire of Northam over the past five years.

The map below also although captures the further information on each of the mapped fire incidents, it is not possible at this stage to demonstrate on a printed map, however the captured data includes the following information –

- Type of fire
- Suspected cause of fire
- Type of units in attendance



2.2 Shire of Northam Brigade Profiles & Available Resources

Pursuant to s41 of the Bush Fires Act 1954, the Shire of Northam has established the following brigades-

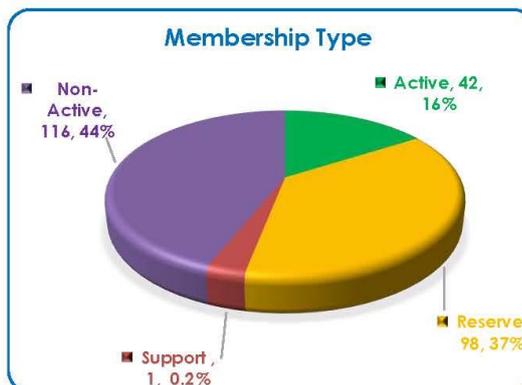
- Bakers Hill
- Clackline-Muresk
- Grass Valley
- Inkpen
- Irishtown
- Jennapullin (Farmer Response Only)
- Southern Brook
- Wundowie (created but has no appliances, equipment etc.)

The possibility of creating a Northam Central Bush Fire Brigade has also been suggested in the past. At this stage a Northam Central brigade has not been gazetted.

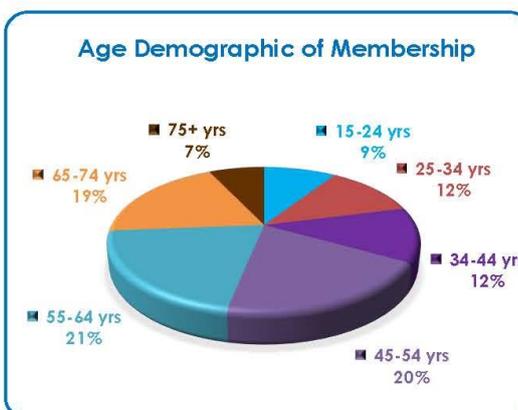
The following information is provided, detailing the established bushfire brigades within the Shire of Northam, profiling their membership, training, recent brigade activity and available resources. Utilising this information, a risk profile has been established for each brigade.

2.2.1 All Shire of Northam Volunteer Bush Fire Service

Membership Profile	
Membership	321
Average Age	47
Average Tenure	11 years
75% of membership over 55yrs old	
Training	
AIMS awareness	166
Introduction to Fire Fighting	87
Bushfire Fighting	173
Machine Supervision	2
Intro to structural fire fighting	66
Structural Fire Fighting	60
Pump Operations	39
Ground Controller	68
Advanced bushfire fighting	66
Crew Leader	25
Sector Commander	22
AIMS 4 for 2017	8
Fire Control Officer Training	51
L1 Incident Controller	4
Membership Type	
Active - A member who has attended 10 or more incidents for the sample period	42
Reserve - Turning out to 1-9 incidents during sample period	98
Support - Allowance of min 1 support member per brigade	7
Non-active - 1 or less turnouts during sample period	116



** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018



** Data Obtained from DFES Resource Management Systems (RMS) System, Data correct as off 21st August 2018

Shire of Northam Bush Fire Manual
 Risk to Recourse (R2R) Assessment

Brigade activity		
Documented incident turn out		
	2013/2014	98
	2014/2015	113
	2015/2016	85
	2016/2017	125
	2017/2018	88
Appliance & Resources List		
	1.4R	3
	2.4R	3
	2.4U	1
	4.4B	1
	Light tanker	4
	Various mobile pumps	2
	Standpipe pumping trailer	0
External Available Resources		
	Shire of Northam works depot - Loaders, Graders, Posi Tracks, 2 x Water Carts and tree looping teams, Traffic Management from the Shire	30-60 mins to mobilise



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2.2.2 Inkpen Volunteer Bush Fire Brigade – (6300)

The Inkpen Fire District is a large agricultural district within the Shire of Northam, west of the Northam town site.

There are approximately 12 private dwellings within the Inkpen location, with a further 38 private dwellings in the Woottating area. It is estimated that there is at least one additional outbuilding or structure per property, with many properties having multiple additional outbuildings.

Other significant infrastructure in the brigade area include BGC quarry, composting facility on Horton Road and Great Southern Highway (York-Lakes Road). According to 2016 Census these dwellings equate to 20 residents within the Inkpen Area and 66 residents within the Woottating area.

The Shire of Northam is experiencing some growth in rural residential housing to the west of the Shire. Whilst this is not currently within the Inkpen fire district, it is likely that this area will be developed further over the next 10 years given its proximity to the Perth metropolitan area.

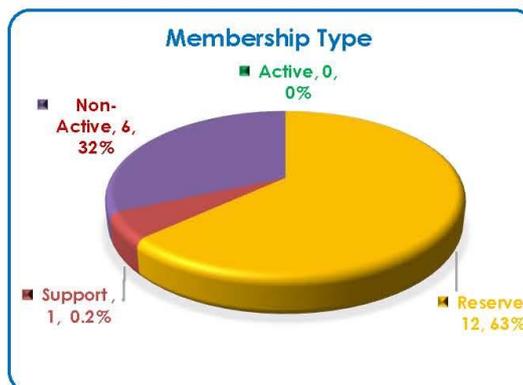
Approx. 167km² or 16,700ha² of predominantly broad acre properties, which encompasses a large refuse site of strategic importance to the Shire.

The area is predominantly vegetated with Jarrah/marri/wandoo/Dryander forest and Cereal crops.

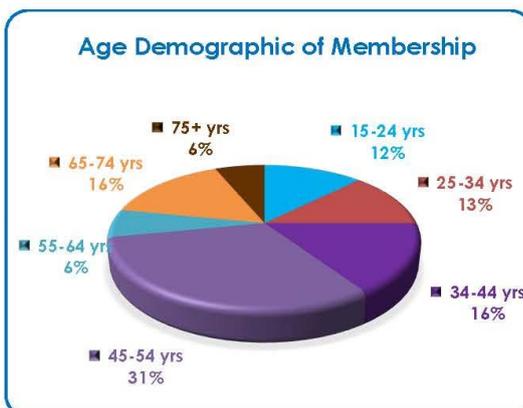
Shire of Northam Bush Fire Manual
Risk to Recourse (R2R) Assessment



Membership Profile	
Membership	41
Average Age	54
Average Tenure	13 years
50% of Membership over 60yrs	
Training	
AIMS awareness	25
Introduction to Fire Fighting	28
Bushfire Fighting	26
Machine Supervision	2
Intro to structural fire fighting	9
Structural Fire Fighting	2
Pump Operations	21
Ground Controller	2
Advanced bushfire fighting	3
Crew Leader	2
Sector Commander	2
AIMS 4 for 2017	0
Fire Control Officer Training	4
L1 Incident Controller	Nil
Membership Type	
Active - A member who has attended 10 or more incidents for the sample period	0
Reserve - Turning out to 1-9 incidents during sample period	12
Support - Allowance of min 1 support member per brigade	1
Non-active - 1 or less turnouts during sample period	6



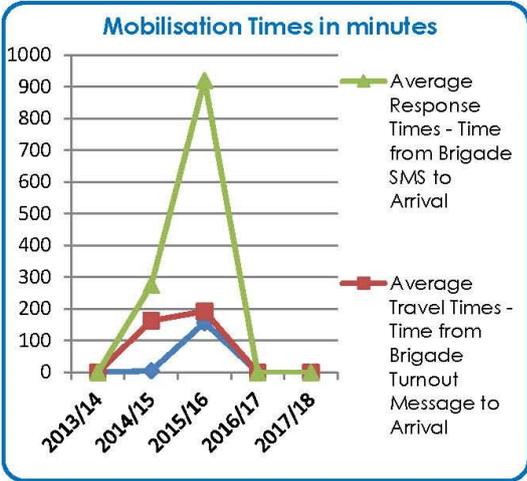
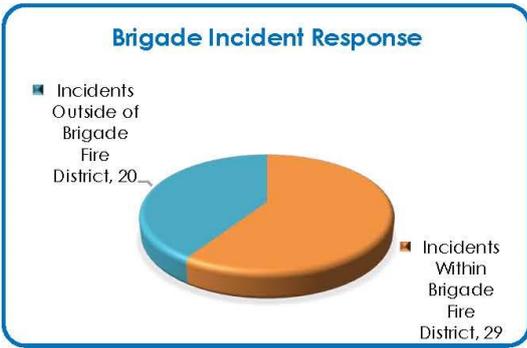
** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018



** Data Obtained from DFES Resource Management Systems (RMS) System, Data correct as off 21st August 2018

Shire of Northam Bush Fire Manual
Risk to Recourse (R2R) Assessment



Brigade activity		Inkpen BFB
Documented incident turn out		 <p>Mobilisation Times in minutes</p> <p>Legend: - Average Response Times - Time from Brigade SMS to Arrival - Average Travel Times - Time from Brigade Turnout Message to Arrival</p>
2013/2014	11	
2014/2015	28	
2015/2016	16	
2016/2017	10	
2017/2018	13	
Bridge incident response 2013 - 2018 (June)		<p>** Data Obtained from DFES Incident Reporting System (IRS) System. Data correct as off 21st August 2018</p>
Incidents within the district	29	
Incidents outside the district	20	 <p>Brigade Incident Response</p> <p>Legend: - Incidents Within Brigade Fire District, 29 - Incidents Outside of Brigade Fire District, 20</p>
Appliance & Resources List		
1.4R	1	
2.4R	1	
2.4U	0	
4.4B	0	
Light tanker	0	
Various mobile pumps	0	
Standpipe pumping trailer	0	
1 bay facility with, Office/Comms Room	0	
2 bay facility with, Office/Comms Room	1	
3 bay facility with, Office/Comms Room	0	
Training Room	1	
Lunch Rooms	1	
Disabled Access Toilets and Showers	2	
External Available Resources		<p>** Data Obtained from DFES Incident Reporting System (IRS) System. Data correct as off 21st August 2018</p>
Shire of Northam works depot - Loaders, Graders, Posi Tracks, 2 x Water Carts and tree looping teams, Traffic Management from the Shire	30-60 mins to mobilise	

2.2.3 Bakers Hill Volunteer Bush Fire Brigade

Bakers Hill is a town 73 kilometres east of Perth, Western Australia on the Great Eastern Highway. The town is located within the Shire of Northam, between Wundowie and Clackline. There are numerous pockets of rural residential/hobby farm areas being developed around the townsite. Current planning indicates that this will continue in the future.

Other significant infrastructure in the brigade district include Great Eastern Highway, Bakers Hill Townsite and the Inkpen Waste Disposal Facility. In the former area (now part of Wundowie BFB) other infrastructure includes El Cabello Lifestyle Village, El Cabello resort, El Cabello road house, tavern and shops and Linley Valley abattoir.

There are approximately 577 residential dwellings within the Bakers Hill area, plus 37 extra dwellings in the Copley Area, it is further estimated that there is at least one extra outbuilding or structure per property,. According to the 2016 census, these dwellings equate to a population of 1,257 in Bakers Hill, with a further population of 67 in Copley.

Approximately 180km² or 18,00ha² district that is small mixed farming/hobby farms/small village with commercial/light industrial.

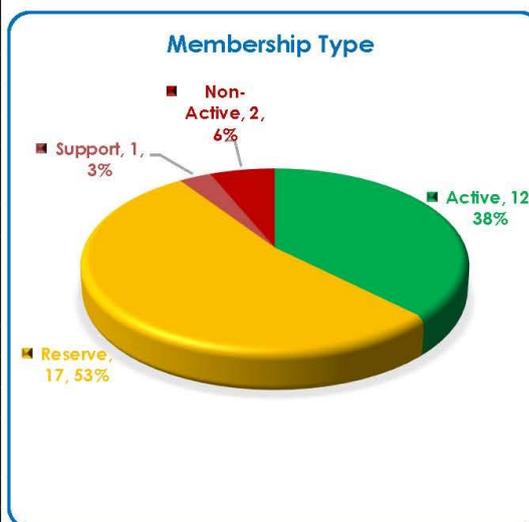
The area is predominantly vegetated with Jarrah/marri/wandoo/Dryander forest, cereal crops.

The Bakers Hill fire district was recently modified with the creation of the Wundowie BFB. For the purposes of this assessment the original Bakers Hill fire district has been used in the initial assessment phase.

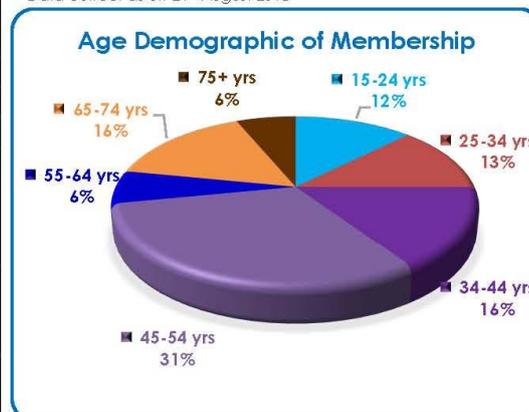
Shire of Northam Bush Fire Manual
 Risk to Recourse (R2R) Assessment



Membership Profile	
Membership	32
Average Age	47
Average Tenure	11
50% of the membership over 48yrs	
Training	
AIMS awareness	24
Introduction to Fire Fighting	25
Bushfire Fighting	18
Machine Supervision	3
Intro to structural fire fighting	12
Structural Fire Fighting	12
Pump Operations	4
Ground Controller	3
Advanced bushfire fighting	8
Crew Leader	8
Sector Commander	7
AIIMS 4 for 2017	0
Fire Control Officer Training	8
L1 Incident Controller	0
Membership Type	
Active - A member who has attended 10 or more incidents for the sample period	12
Reserve - Turning out to 1-9 incidents during sample period	17
Support - Allowance of min 1 support member per brigade	1
Non-active - 1 or less turnouts during sample period	2



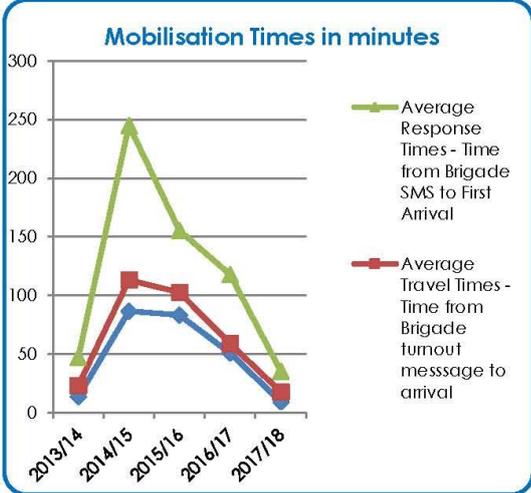
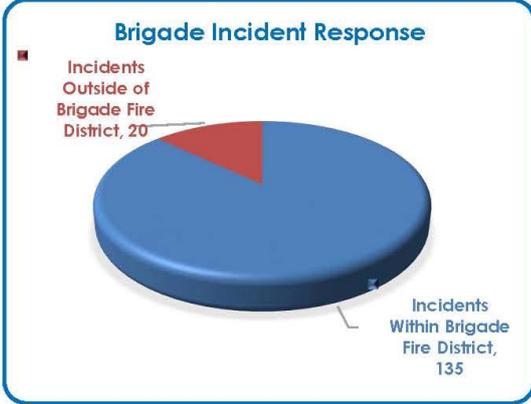
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Shire of Northam Bush Fire Manual
Risk to Recourse (R2R) Assessment



Brigade activity		Bakers Hill																		
Documented incident turn out																				
2013/2014	47	 <p>Mobilisation Times in minutes</p> <p>The graph shows two data series: Average Response Times (Time from Brigade SMS to First Arrival) and Average Travel Times (Time from Brigade turnout message to arrival). The Y-axis represents time in minutes, ranging from 0 to 300. The X-axis shows the financial years from 2013/14 to 2017/18. Response times peak at 245 minutes in 2014/15, while travel times peak at 115 minutes in 2014/15.</p> <table border="1"> <caption>Mobilisation Times Data</caption> <thead> <tr> <th>Year</th> <th>Average Response Times (min)</th> <th>Average Travel Times (min)</th> </tr> </thead> <tbody> <tr> <td>2013/14</td> <td>45</td> <td>25</td> </tr> <tr> <td>2014/15</td> <td>245</td> <td>115</td> </tr> <tr> <td>2015/16</td> <td>155</td> <td>85</td> </tr> <tr> <td>2016/17</td> <td>120</td> <td>60</td> </tr> <tr> <td>2017/18</td> <td>35</td> <td>20</td> </tr> </tbody> </table>	Year	Average Response Times (min)	Average Travel Times (min)	2013/14	45	25	2014/15	245	115	2015/16	155	85	2016/17	120	60	2017/18	35	20
Year	Average Response Times (min)		Average Travel Times (min)																	
2013/14	45		25																	
2014/15	245		115																	
2015/16	155		85																	
2016/17	120	60																		
2017/18	35	20																		
2014/2015	52																			
2015/2016	45																			
2016/2017	53																			
2017/2018	41																			
Bridge incident response 2013 – 2018 (June)																				
Incidents within the district	135	 <p>Brigade Incident Response</p> <p>The pie chart shows the distribution of incidents: 135 incidents within the Brigade Fire District and 20 incidents outside the district.</p> <table border="1"> <caption>Brigade Incident Response Data</caption> <thead> <tr> <th>Category</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Incidents Within Brigade Fire District</td> <td>135</td> </tr> <tr> <td>Incidents Outside of Brigade Fire District</td> <td>20</td> </tr> </tbody> </table>	Category	Count	Incidents Within Brigade Fire District	135	Incidents Outside of Brigade Fire District	20												
Category	Count																			
Incidents Within Brigade Fire District	135																			
Incidents Outside of Brigade Fire District	20																			
Incidents outside the district	20																			
Appliance & Resources List																				
1.4R	0	<p>** Data Obtained from DFES Incident Reporting System (IRS) System. Data correct as off 21st August 2018</p> <p>** Data Obtained from DFES Incident Reporting System (IRS) System. Data correct as off 21st August 2018</p>																		
2.4R	1																			
2.4U	0																			
4.4B	0																			
Light tanker	1																			
Various mobile pumps	0																			
Standpipe pumping trailer	0																			
1 bay facility with, Office/Comms Room	0																			
2 bay facility with, Office/Comms Room	1																			
3 bay facility with, Office/Comms Room	0																			
Training Room	0																			
Lunch Rooms	0																			
Disabled Access Toilets and Showers	1 (Not disabled)																			
External Available Resources																				
Shire of Northam works depot - Loaders, Graders, Posi Tracks, 2 x Water Carts and tree looping teams, Traffic Management from the Shire	30-60 mins to mobilise																			

2.2.4 Clackline Bush Volunteer Bush Fire Brigade

Clackline is a locality in the Wheatbelt region of Western Australia, about 80 kilometres east-north-east of Perth. It is a large district that has a strong agricultural influence, that is slowly being developed in pockets with multiple small land holdings & hobby farms and it is likely that this trend will continue in the years to come.

Other significant infrastructure in the brigade area include the townsite of Clackline and Spencers Brook, Muresk Agricultural Institute, Springhill recovery centre, Great Eastern Highway, Yongah Hill Detention Centre and Northam Army Camp.

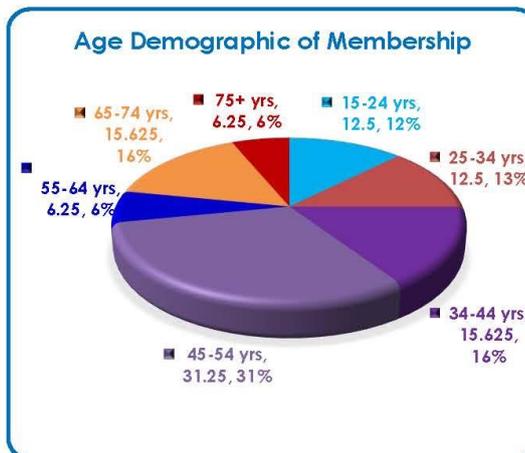
The 2016 Census indicates Clackline has approx. 166 private residential dwellings that are typically family homes with an additional 3 in Muresk, 87 in Spencers Brook, 103 in Mokine and 46 in Burlong, & 87 in Muluckine bringing the total of private residential dwellings to 492, it is further estimated that there is at least 1x extra outbuilding or structure per property, but in a lot of cases more. According to 2016 Census these dwellings equate to Clackline having a population of 310, with a further 28 for Muresk, 206 for Mokine, 488 for Burlong, 218 residents in Muluckine & 51 for Spencers Brook bringing the population for the district to a total of 1,301 residents.

The area is approximately 291km² or 29,100ha² of predominantly agricultural with multiple large broad acre farms, a large number of small/rural holdings, and hobby farms. Other vegetation includes jarrah/marri/wandoo/Dryander forest moving into York/Salmon gum, jam.

Shire of Northam Bush Fire Manual
 Risk to Recourse (R2R) Assessment



Membership Profile	
Membership	43
Average Age	55
Average Tenure	11
50% of membership over 55yrs	
Training	
AIMS awareness	37
Introduction to Fire Fighting	39
Bushfire Fighting	37
Machine Supervision	11
Intro to structural fire fighting	15
Structural Fire Fighting	14
Pump Operations	4
Ground Controller	9
Advanced bushfire fighting	8
Crew Leader	8
Sector Commander	5
AIMS 4 for 2017	2
Fire Control Officer Training	11
L1 Incident Controller	1
Membership Type	
Active - A member who has attended 10 or more incidents for the sample period	9
Reserve - Turning out to 1-9 incidents during sample period	21
Support - Allowance of min 1 support member per brigade	1
Non-active - 1 or less turnouts during sample period	12



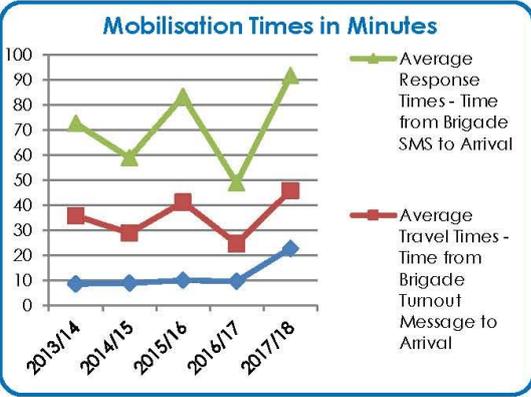
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Shire of Northam Bush Fire Manual
Risk to Recourse (R2R) Assessment



Brigade activity		Clackline BFB
Documented incident turn out		 <p>Mobilisation Times in Minutes</p> <p>Legend: - Average Response Times - Time from Brigade SMS to Arrival (Green line with triangles) - Average Travel Times - Time from Brigade Turnout Message to Arrival (Red line with squares) - (Blue line with diamonds, unlabeled)</p>
2013/2014	43	
2014/2015	55	
2015/2016	46	
2016/2017	44	
2017/2018	28	
Bridge incident response 2013 – 2018 (June)		<p>** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018</p>
Incidents within the district	88	
Incidents outside the district	69	
Appliance & Resources List		 <p>Brigade Incident Response</p> <p>Legend: - Incidents Within Brigade Fire District, 88 (Blue) - Incidents Outside of Brigade Fire District, 69 (Red)</p>
1.4R	1	
2.4R	1	
2.4U	0	
4.4B	0	
Light tanker	1	
Various mobile pumps	0	
Standpipe pumping trailer	0	
1 bay facility with, Office/Comms Room	0	
2 bay facility with, Office/Comms Room	0	
3 bay facility with, Office/Comms Room	1	
Training Room	1	
Lunch Rooms	1	
Disabled Access Toilets and Showers	1	
External Resources Available		<p>** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018</p>
Shire of Northam works depot - Loaders, Graders, Posi Tracks, 2 x Water Carts and tree looping teams, Traffic Management from the Shire	30-60 mins to mobilise	

2.2.5 Irishtown Volunteer Bush Fire Brigade

Irishtown is a rural locality to the east of the Shire of Northam. The area is over 90% Broad acre farming and has minimal significant infrastructure other than residences and farm buildings. There is a hall and fire shed located in Irishtown, historical buildings and church at Katrine, the Avon River, Northam-Toodyay Road, Perth-Adelaide Rail Line

There are approximately 35 private dwellings within the district of Irishtown, another 21 in Wongamine, 23 in Katrine and a further 29 within the Buckland area. According to 2016 Census these dwellings equate to a population of 73 in Irishtown, 39 in Wongamine, 43 in Katrine and 39 in Buckland.

There is approximately 194km² or 19,400ha² of predominantly broad acre farming with a small section of hobby farms on smaller lots.

This area is the beginning of the broad acre farming and hence vegetation is reduced in large pasture areas, fires are more controllable. The area contains York/salmon gum and jam vegetation.

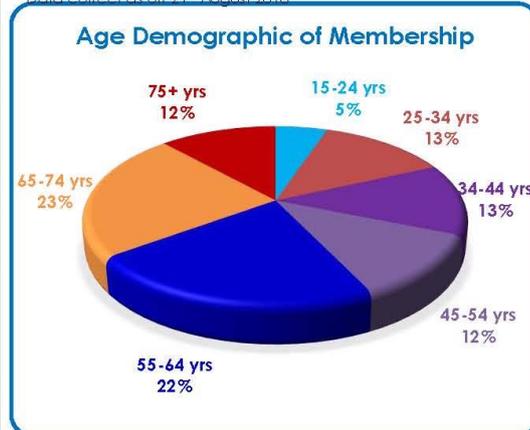
Shire of Northam Bush Fire Manual
 Risk to Recourse (R2R) Assessment



Membership Profile	
Membership	78
Average Age	55
Average Tenure	14
50% of membership over 59yrs	
Training	
AIMS awareness	23
Introduction to Fire Fighting	26
Bushfire Fighting	22
Machine Supervision	2
Intro to structural fire fighting	6
Structural Fire Fighting	6
Pump Operations	0
Ground Controller	1
Advanced bushfire fighting	4
Crew Leader	0
Sector Commander	3
AIMS 4 for 2017	0
Fire Control Officer Training	7
L1 Incident Controller	0
Membership Type	
Active - A member who has attended 10 or more incidents for the sample period	3
Reserve - Turning out to 1-9 incidents during sample period	5
Support - Allowance of min 1 support member per brigade	18
Non-active - 1 or less turnouts during sample period	59



** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018

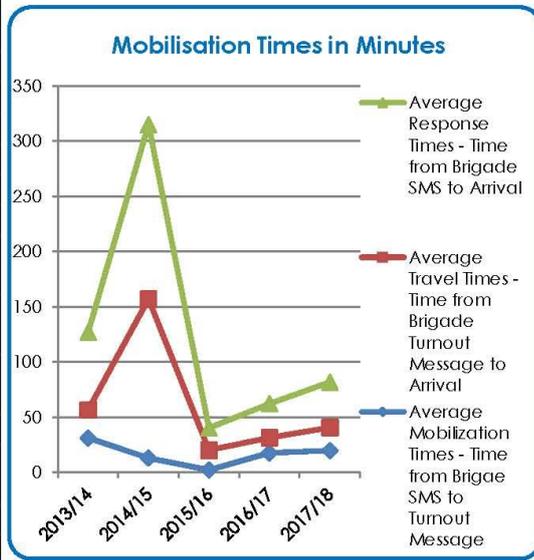


** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018

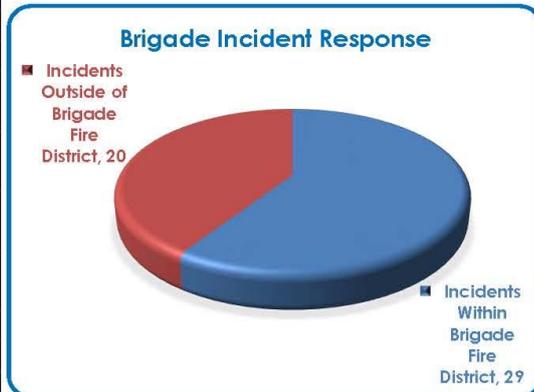
Shire of Northam Bush Fire Manual
Risk to Recourse (R2R) Assessment



Brigade activity		Irishtown BFB
Documented incident turn out		
2013/2014	14	
2014/2015	29	
2015/2016	14	
2016/2017	13	
2017/2018	20	
Bridge incident response 2013 – 2018 (June)		
Incidents within the district	29	
Incidents outside the district	20	
Appliance & Resources List		
1.4R	0	
2.4R	1	
2.4U	0	
4.4B	0	
Light tanker	2	
Various mobile pumps	0	
Standpipe pumping trailer	0	
1 bay facility with, Office/Comms Room	0	
2 bay facility with, Office/Comms Room	1 Shed only	
3 bay facility with, Office/Comms Room	0	
Training Room	0	
Lunch Rooms	0	
Disabled Access Toilets and Showers	0	
External Resources Available		
Shire of Northam works depot - Loaders, Graders, Posi Tracks, 2 x Water Carts and tree looping teams, Traffic Management from the Shire	30-60 mins to mobilise	



** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018



** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018

2.2.6 Jennapullin Volunteer Bush Fire Brigade

Jennapullin BFB is made up predominately of a small group of farmers that utilise their own private equipment for the control and extinguishment of fire within the brigade's area of responsibility. They provide support for neighbouring brigades if requested, but lack the resources to travel outside of their district. They have small community of farmers who respond with their private vehicles/appliances to handle the initial attack of fire, while they wait for support and resources from their neighbouring brigades.

The 2016 Census indicates that Jennapullin has a population of 69 people.

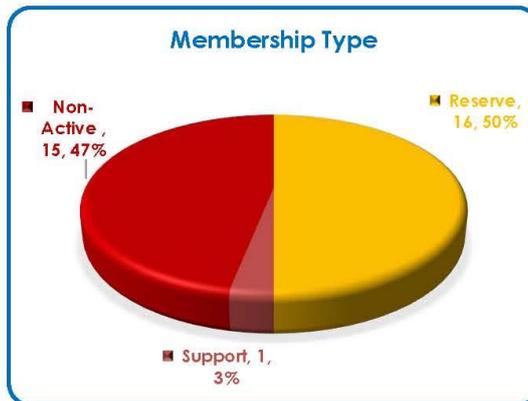
The area is approximately 105km² or 10,500ha² made up of rural blocks 12, 25, 50, 1000 hectares, small mixed farming/hobby farms and mainly broad acre farming and has minimal significant infrastructure other than residences and farm buildings.

This area is the beginning of the broad acre farming and hence vegetation is less with large pasture areas, fires are more controllable. Other vegetation includes york/salmon gum, jam vegetation, cereal crops.

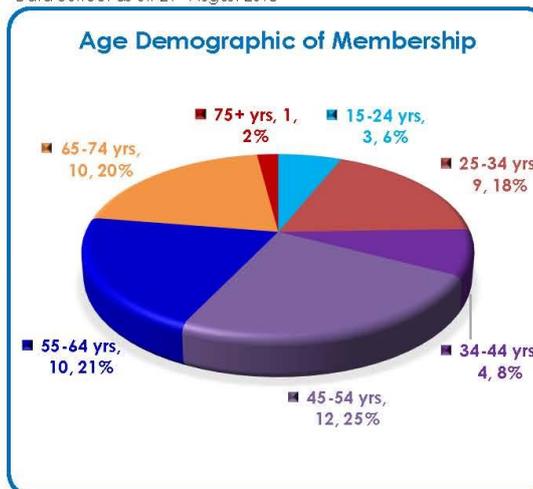
Shire of Northam Bush Fire Manual
 Risk to Recourse (R2R) Assessment



Membership Profile	
Membership	32
Average Age	47
Average Tenure	
50% of membership is over 48yrs	
Training	
AIMS awareness	8
Introduction to Fire Fighting	22
Bushfire Fighting	23
Machine Supervision	1
Intro to structural fire fighting	1
Structural Fire Fighting	1
Pump Operations	0
Ground Controller	0
Advanced bushfire fighting	0
Crew Leader	0
Sector Commander	0
AIIMS 4 for 2017	0
Fire Control Officer Training	5
L1 Incident Controller	0
Membership Type	
Active - A member who has attended 10 or more incidents for the sample period	0
Reserve - Turning out to 1-9 incidents during sample period	16
Support - Allowance of min 1 support member per brigade	1
Non-active - 1 or less turnouts during sample period	15



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Brigade activity		Jennapullin BFB
Documented incident turn out		
2013/2014	0	
2014/2015	1	
2015/2016	0	
2016/2017	0	
2017/2018	0	
Bridge incident response 2013 – 2018 (June)		
Incidents within the district	1	
Incidents outside the district	20	
Appliance & Resources List		
1.4R	0	
2.4R	0	
2.4U	0	
4.4B	0	
Light tanker	0	
Various mobile pumps	0	
Standpipe pumping trailer	0	
1 bay facility with, Office/Comms Room	0	
2 bay facility with, Office/Comms Room	0	
3 bay facility with, Office/Comms Room	0	
Training Room	0	
Lunch Rooms	0	
Disabled Access Toilets and Showers	0	
External Available Resources		
Shire of Northam works depot - Loaders, Graders, Posi Tracks, 2 x Water Carts and tree looping teams, Traffic Management from the Shire	30-60 mins to mobilise	



** Data Obtained from DFES Incident Reporting System (IRS) System. Data correct as off 21st August 2018

2.2.7 Southern Brook Volunteer Bush Fire Brigade

Southern Brook is on the far North Eastern most Corner of the Shire of Northam. The area is over 90% Agriculture with a small town settlement by the way of a Town Hall, Fire Shed & former Golf Course. Due to being a high agricultural area, the main risk to Southern Brook is during an approx. 8 week period during December & January for harvest time. At all other times the fuel load is minimal with only small amount of low/medium risk reserves throughout the area of responsibility.

According to the 2016 Census data, there is 28 private residential dwellings in Southern Brook, and a further 22 in Malabaine. It is estimated that these dwellings will have more than 1 additional outbuilding or structure. According to 2016 Census these dwellings equate to a population of 77 in Southern Brook, with a further 45 in Malabaine.

The area is approximately 163km² or 16,300ha². Rural blocks vary from 12, 25, 50, 1000 hectares for small mixed farming, hobby farms and mainly broad acre farming and has minimal significant infrastructure other than residences and farm buildings.

This area is the beginning of the broad acre farming and hence vegetation is less with large pasture areas, fires are more controllable. Other vegetation includes york/salmon gum, jam vegetation & crops immediately before and during harvest, cereal crops.

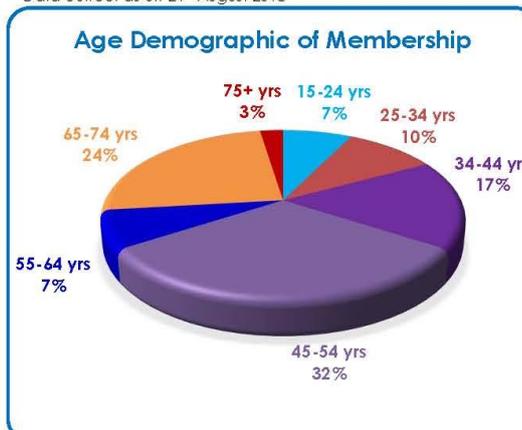
Shire of Northam Bush Fire Manual
Risk to Recourse (R2R) Assessment



Membership Profile	
Membership	30
Average Age	53
Average Tenure	16
50% of membership over 58yrs	
Training	
AIMS awareness	8
Introduction to Fire Fighting	14
Bushfire Fighting	14
Machine Supervision	0
Intro to structural fire fighting	0
Structural Fire Fighting	0
Pump Operations	0
Ground Controller	1
Advanced bushfire fighting	0
Crew Leader	0
Sector Commander	0
AIMS 4 for 2017	0
Fire Control Officer Training	3
L1 Incident Controller	0
Membership Type	
Active - A member who has attended 10 or more incidents for the sample period	0
Reserve - Turning out to 1-9 incidents during sample period	5
Support - Allowance of min 1 support member per brigade	1
Non-active - 1 or less turnouts during sample period	24
50% over 58	



** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018



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Brigade activity		Grass Valley BFB
Documented incident turn out		
2013/2014	0	
2014/2015	5	
2015/2016	6	
2016/2017	4	
2017/2018	1	
Bridge incident response 2013 – 2018 (June)		
Incidents within the district	3	
Incidents outside the district	8	
Appliance & Resources List		
1.4R	1	
2.4R	0	
2.4U	0	
4.4B	0	
Light tanker	0	
Various mobile pumps	0	
Standpipe pumping trailer	0	
1 bay facility with, Office/Comms Room	1	
2 bay facility with, Office/Comms Room	0	
3 bay facility with, Office/Comms Room	0	
Training Room	1	
Lunch Rooms	1	
Disabled Access Toilets and Showers	1	
External Available Resources		
Shire of Northam works depot - Loaders, Graders, Posi Tracks, 2 x Water Carts and tree looping teams, Traffic Management from the Shire	30-60 mins to mobilise	



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2.2.8 Grass Valley Volunteer Bush Fire Brigade

Grass Valley is a small town site 13 kilometres (8 mi) east of Northam,. It is a predominantly a broad acre farming district, although there is 2 settlements, being the Grass Valley town site, and Seabrook. Other critical infrastructure in the brigade locality include Avon Industrial Park, Great Eastern Highway, Perth-Adelaide Railway, Northam-Cranbrook Highway, Mortlock River and tributaries.

There is 78 private residential dwellings within the Grass Valley district with a further 30 dwellings in Throssell & another 12 in Meenaar. According to the 2016 census, these dwellings equate to a population of 176 residents in the Grass Valley area, with 75 residents in Throssell and a further 34 in Meenaar.

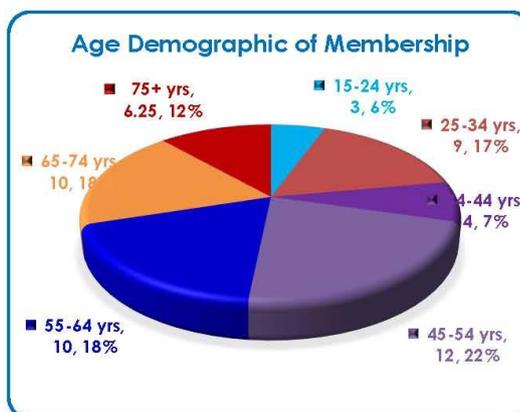
There is 242km²/24,200ha² of Rural blocks 12, 25, 50, 1000 hectares, small mixed farming/hobby farms/broad acre farming.

The area is predominantly vegetated with jarrah/marri/wandoo/Dryander forest and Cereal Crops. This area is the beginning of the broad acre farming with large pasture areas and hence vegetation is less, fires are more controllable.

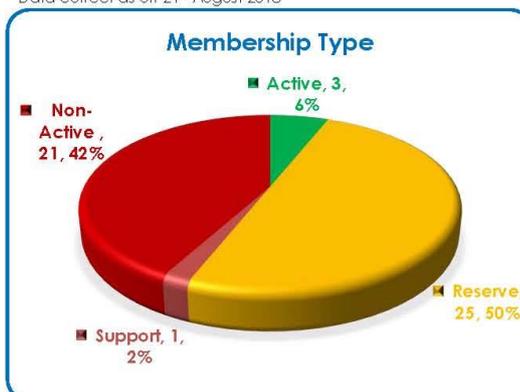
Shire of Northam Bush Fire Manual
 Risk to Recourse (R2R) Assessment



Membership Profile	
Membership	50
Average Age	50
Average Tenure	11
50% of the membership is over 52yrs	
Training	
AIMS awareness	26
Introduction to Fire Fighting	25
Bushfire Fighting	18
Machine Supervision	5
Intro to structural fire fighting	9
Structural Fire Fighting	5
Pump Operations	0
Ground Controller	7
Advanced bushfire fighting	4
Crew Leader	1
Sector Commander	1
AIIMS 4 for 2017	1
Fire Control Officer Training	9
L1 Incident Controller	0
Membership Type	
Active - A member who has attended 10 or more incidents for the sample period	3
Reserve - Turning out to 1-9 incidents during sample period	25
Support - Allowance of min 1 support member per brigade	1
Non-active - 1 or less turnouts during sample period	21



** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018

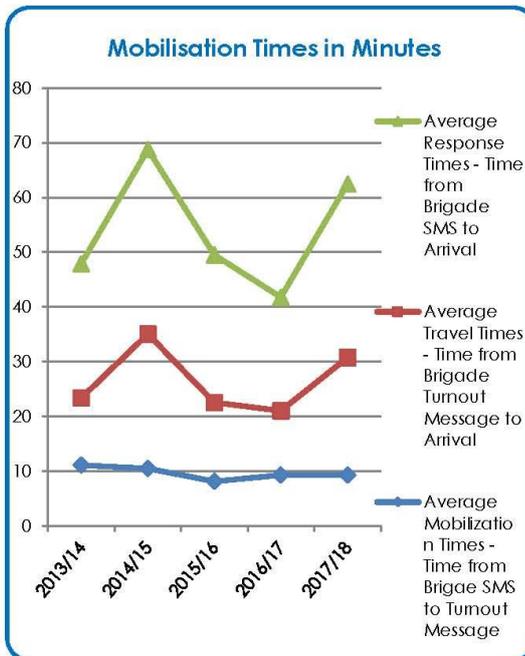


** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018

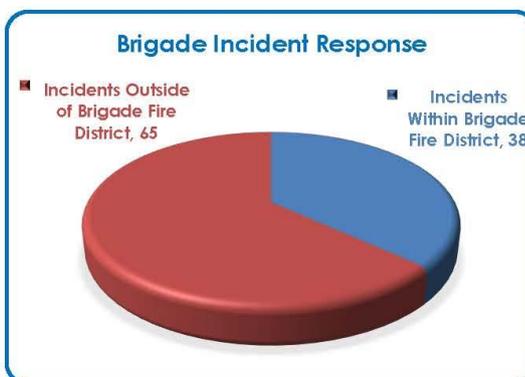
Shire of Northam Bush Fire Manual
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Brigade activity		Grass Valley BFB
Documented incident turn out		
2013/2014	43	
2014/2015	55	
2015/2016	46	
2016/2017	44	
2017/2018	28	
Bridge incident response 2013 – 2018 (June)		
Incidents within the district	38	
Incidents outside the district	65	
Appliance & Resources List		
1.4R	0	
2.4R	0	
2.4U	0	
4.4B	1	
Light tanker	0	
Various mobile pumps	0	
Standpipe pumping trailer	0	
1 bay facility with, Office/Comms Room	0	
2 bay facility with, Office/Comms Room	1	
3 bay facility with, Office/Comms Room	0	
Training Room	1	
Lunch Rooms	1	
Disabled Access Toilets and Showers	1	
External Resources Available		
Shire of Northam works depot - Loaders, Graders, Posi Tracks, 2 x Water Carts and tree looping teams, Traffic Management from the Shire	30-60 mins to mobilise	



** Data Obtained from DFES Incident Reporting System (IRS) System, Data correct as off 21st August 2018



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2.3 Risk Assessment

2.3.1 Identification & Assessment of vulnerable populations

The information gathered in stage 1 has contributed to the identification of firstly areas which are not able to meet the Shire of Northam Response Criteria (table 2).

Table 2 SHIRE OF NORTHAM RESPONSE CRITERIA KEY= *Property under threat from wildfire # Turnout time to incident. + Aircraft and/or appropriate machinery where required	
RURAL / BROADACRE	Up to two firefighting appliances on site for wildfire in 1 hour (30 + kms between services) # 1 fire firefighting appliance on site for property/Asset protection in 1 hour Specialist Units (ICV) on site within 6 hours
SETTLEMENT/TOWNSITE/RURAL RESIDENTIAL AND RURAL SMALLHOLDING ZONES	Up to 6 firefighting appliances on site for wildfire in 30 minutes (20kms between services) # 1 firefighting appliance on site for property/Asset protection in 30 minutes Specialist Units (ICV) on site within 3 hours
CRITICAL INFRASTRUCTURE (includes properties with major infrastructure and large numbers of people either working, residing or otherwise at that facility)	Up to 6 firefighting appliances on site for wildfire in 30 minutes (20kms between services) # 1 firefighting appliance on site for property/Asset protection in 30 minutes Specialist Units (ICV) on site within 3 hours

Each of these areas has then been risk assessed, in consultation with local bushfire brigades to assess levels of risk for the various communities and/or areas considered at 'risk'. Areas which are assessed as being at an elevated risk (that is areas that return a risk rating which exceeds '6') will be further assessed, along with proposed risk mitigation strategies.

The risk table, below, and associated information has been utilised, in accordance with Department of Fire and Emergency Services Guidelines;

Table 4 **Consequence**

		Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
Likelihood	Almost Certain 5	Moderate (5)	Moderate (10)	High (15)	Extreme (20)	Extreme (25)
	Likely 4	Low (4)	Moderate (8)	High (12)	Extreme (16)	Extreme (20)
	Moderate 3	Low (3)	Low (6)	Moderate (9)	High (12)	Extreme (15)
	Unlikely 2	Very Low (2)	Low (4)	Moderate (6)	High (8)	High (10)
	Rare 1	Very Low (1)	Very Low (2)	Low (3)	Moderate (4)	High (5)

An assessment of the Shire of Northam has been undertaken and assessed within each the various brigade areas. The assessment highlights there are a number of potentially vulnerable risk areas as a result of insufficient resource being able to get to the area within the specified timeframe. This is summarised as;

- 12 identified areas in the Bakers Hill Brigade area
- 1 identified area in the Inkpen Brigade area
- 4 identified areas in the Grass Valley Brigade area
- 12 identified areas in the Bakers Hill Brigade area
- 0 identified areas in the Southern Brook Brigade area
- 11 identified areas in the Clackline Brigade area
- 1 identified areas in the Irishtown Brigade area

(Appendix 1 provides the detailed assessment matrix).

The following represents a summary risk assessment undertaken within each of the identified areas to determine areas which represent a response risk;

2.3.2 Risk Assessment for Wundowie Townsite and surrounding rural residential subdivision

Vulnerable Area Risk Assessment - Wundowie Gazetted Town site and surrounding rural residential subdivisions (Supported by Wundowie BFB)			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	4	9
Wundowie Gazetted Town site and rural residential subdivisions (Currently the Wundowie VFRS gazetted brigade district)	Likelihood	Consequence	Risk Rating
<p>Characteristics Includes Wundowie Primary School, Hall, Library day care centre and numerous commercial, industrial and residential properties. Located in area surrounded to the north and east by significant reserve land.</p> <p>Hyde Dr Subdivision is predominately developed as a rural residential estate with approximately 60 lots. Numerous houses and associated buildings. Kep track is located to the north of the subdivision. Significant bushland to the east of the subdivision.</p> <p>Include established (Maringa Way, Olive Road) area and relatively new rural residential area (Acacia Retreat). Primarily developed for rural; residential and hobby farming purposes. Approximately 77 properties in the general area.</p> <p>Access Number of routes to the north and south Hyde Dr has a single road entry point into subdivision. Unconstructed road along northern end of the subdivision but not constructed. Semi-formal access to KEP track at end of Dawson Road.</p> <p>Maringer Way and Acacia Retreat have single road access to cul-de-sacs.</p>	4	3	12

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Vulnerable Area Risk Assessment - Wundowie Gazetted Town site and surrounding rural residential subdivisions (Supported by Wundowie BFB)			
Local Government Response Criteria	Target	Achieved	Total Incidents
<p>Specific Fire Management Plan prepared for Acacia Retreat with emergency exit direct to GEH</p> <p>Fire Threat External part of townsite Located within Bush Fire Prone area. Northern part of the townsite bordered by large reserves, DPAW has completed a burning program in recent years to mitigate the risk.</p> <p>Fire History There has been 18 reported fire incidents in the area in the past 5 years, The majority of fires are classified as low risk as were contained to private property.</p>			



2.3.3 Risk Assessment for Wundowie Bushfire Brigade area (formerly within Bakers Hill Bushfire Brigade Area)

Vulnerable Area Risk Assessment - Wundowie Bushfire Brigade Area (Formally Bakers Hill)			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	2	2
Maurovillo Estate Note Currently within the Wundowie BFB area(Previously Bakers Hill)	Likelihood	Consequence	Risk Rating
<p>Characteristics Newly developed rural residential estate located north west of the Wundowie townsite. New houses and associated infrastructure being developed. Significant reserve land to the south. Further lots (Stage 3) to be developed south of those existing. Longer term planning is for the area to be further developed for rural residential lots (refer Wundowie North-West Structure Plan).</p> <p>Access Extremely poor access, with single entry road being 3-5 kms long. Likelihood of residents becoming entrapped is very high. Currently single road entry and exit until adjoining land to the east is developed or gazetted road constructed.</p> <p>Fire Threat Located within Bush Fire Prone area</p> <p>Fire History 2 Fires in 2018, as this estate is still under development, this is expected to increase to more than once per year in the future.</p>	5	5	25

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Vulnerable Area Risk Assessment - Wundowie Bushfire Brigade Area (Formally Bakers Hill)			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	2	9
Bodeguero Subdivision Note Currently within the Wundowie BFB area(Previously Bakers Hill)	Likelihood	Consequence	Risk Rating
<p>Characteristics Predominately developed rural residential estate with approximately 52 lots located south west of the Wundowie townsite and adjacent to El Cabello resort and golf course.</p> <p>Access Single Road entry exit point north from Great Eastern Highway. No gazetted road access to the north of the subdivision. Physical barrier of water pipeline preventing emergency escape to the north of the estate.</p> <p>Fire Threat Located within Bush Fire Prone area, multiple pockets of remnant vegetation with minimal mitigation works. Vast areas of swamp land which provided difficult access. If fire came from south east could cause catastrophic conditions due to access issues.</p> <p>Fire History There has been 9 reported fire incidents in the area in the past 5 years, The majority of fires are classified as low risk as were contained to private property.</p>	4	5	20

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Vulnerable Area Risk Assessment - Wundowie Bushfire Brigade Area (Formally Bakers Hill)			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	2	1
Linley Valley Abattoir Note Currently within the Wundowie BFB area(Previously Bakers Hill)	Likelihood	Consequence	Risk Rating
Characteristics Large abattoir with associated buildings, ponds and holding yards. Access Access form Linley Valley Road off GEH – alternate route available. Fire Threat Located within DFES Bush Fire Prone Area. Fire History 1 Fire in 2013.	3	3	9

Vulnerable Area Risk Assessment - Wundowie Bushfire Brigade Area (Formally Bakers Hill)			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	2	5
Doy/Gaden Road Subdivision Note Currently within the Wundowie BFB area (previously Bakers Hill)	Likelihood	Consequence	Risk Rating
<p>Characteristics Approximately 30 Larger Rural Smallholding lots used for hobby farming purposes located west of Wundowie townsite. Various areas of remnant vegetation. Majority of properties have dwellings and associated outbuildings Large area of remnant vegetation to the north</p> <p>Access Good Access with Grt Eastern Hwy & Linley Valley Road, Chedaring Rd to the south or back into the Wundowie Townsite to the east.</p> <p>Fire Threat Located within Bush Fire Prone area, multiple pockets of remnant vegetation with high fuel loads and minimal mitigation works throughout the area.</p> <p>Fire History There has been 5 reported fire incidents in the area in the past 5 years, The majority of fires are classified as low risk as were either contained to private property or were a vehicle fire.</p>	3	3	9

Vulnerable Area Risk Assessment - Wundowie Bushfire Brigade Area (Formally Bakers Hill)			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	2	5
El Cabello Lifestyle Village Note Currently within the Wundowie BFB area (previously Bakers Hill)	Likelihood	Consequence	Risk Rating
<p>Characteristics Relatively new development for over 45's comprising individual houses and existing and proposed communal facilities. Currently approximately 35 houses in the development. Specific Fire Management Plan prepared for the estate. Expected to grow significantly in coming years – proposed approximately 220 units.</p> <p>Access One entry/exit road. Alternate emergency access route constructed to Great Eastern Highway and included as part of fire management plan. No gazetted road access to the north of the subdivision. Physical barrier of water pipeline preventing emergency escape to the north of the estate.</p> <p>Fire Threat Located within Bush Fire Prone area, multiple pockets of remnant vegetation with minimal mitigation works.</p> <p>Fire History There has been 5 reported fire incidents in the area in the past 5 years, The majority of fires are classified as low risk as either contained to private property or a vehicle fire.</p>	4	4	16

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Vulnerable Area Risk Assessment - Wundowie Bushfire Brigade Area (Formally Bakers Hill)			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of Shire of Northam appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	2	10
Sims Road Subdivision Note Currently within the Wundowie BFB area(Previously Bakers Hill)	Likelihood	Consequence	Risk Rating
<p>Characteristics Approximately 20 Rural residential lots located north east of the Wundowie townsite. Larger Majority of properties have dwellings and associated outbuildings. Large area of remnant vegetation to the east and west.</p> <p>Access Fernie Road provides access to the north and south. Sims road provides access south only.</p> <p>Fire Threat Located within Bush Fire Prone area, large swathes of crown reserves & private property with high fuel loads of native vegetation.</p> <p>Fire History There has been 10 reported fire incidents in the area in the past 5 years, The majority of fires are classified as moderate risk as either contained to private property or a vehicle fire.</p>	4	3	12

2.3.4 Risk Assessment for Bakers Hill BFB Fire District

Vulnerable Area Risk Assessment - Bakers Hill Bushfire Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of Shire of Northam appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	2	13
Carlin Road Subdivision	Likelihood	Consequence	Risk Rating
<p>Characteristics Rural residential area located within a few kilometres of the Bakers Hill townsite. Is home to approximately 65 residents and is abutting heavily forested areas to the north and west of the subdivision. The east and south of the subdivision is predominantly rural farm and, with small pockets of forested areas.</p> <p>Access There are two main ways of getting into and out of the subdivision which is to the east and south.</p> <p>Fire Threat Located within Bush Fire Prone area Given that it could be assumed major fire fronts would come from the north and west, risk of residents being trapped in the area are low, with sufficient warning people will be able to escape any major fire hazard. Undulating land with high slope factor above 5 degrees.</p> <p>Fire History There have been 13 reported fire incidents in the area in the past 5 years, however six of these have been to the lower risk east and south areas.</p>	5`	3	15

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Vulnerable Area Risk Assessment - Bakers Hill Bushfire Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of Shire of Northam appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	4	19
Koojedda/Jose Road Subdivision	Likelihood	Consequence	Risk Rating
<p>Characteristics Rural residential area located north west of the Bakers Hill townsite. Surrounded to the east and north by significant reserve land. Predominately developed with houses and associated infrastructure.</p> <p>Access No formal road access/egress to the north of the subdivision.</p> <p>Fire Threat Located within Bush Fire Prone area Surrounded by DPAW & Shire reserves, heavy fuel loads/jarrah forest. Undulating land with high slope factor above 5 degrees</p> <p>Fire History There have been 19 reported fire incidents in the area in the past 5 years, however most are classified as low risk as were contained to private property.</p>	5	4	20

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Vulnerable Area Risk Assessment - Bakers Hill Bushfire Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of Shire of Northam appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	4	22
Bakers Hill Townsite	Likelihood	Consequence	Risk Rating
<p>Characteristics Includes Bakers Hill Primary School, Recreation Centre, oval and numerous residential and commercial properties.</p> <p>Access Good access, with multiple egress routes.</p> <p>Fire Threat Located within Bush Fire Prone area. Low fuel loads within townsite, majority surrounded by agricultural land.</p> <p>Fire History There have been 22 reported fire incidents in the area in the past 5 years, however most are classified as low risk as were contained to private property.</p>	5	4	20

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Vulnerable Area Risk Assessment - Bakers Hill Bushfire Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	4	8
Redcourt/Odriscoll, Subdivisions	Likelihood	Consequence	Risk Rating
<p>Characteristics Rural residential subdivision south of Bakers Hill townsite comprising approximately 67 lots. Predominately developed with housing and associated infrastructure (with the exception of vacant lots in Gum Tree lane subdivision). Significant vegetation to the south and west of the area. Tree farms to the east and south east of the area</p> <p>Access Good access, with multiple egress, strategic firebreaks are installed with fire access gates.</p> <p>Fire Threat Located within Bush Fire Prone area, estates back onto large privately owned bush block, with extremely high fuel load.</p> <p>Fire History There has been 8 reported fire incidents in the area in the past 5 years, however most are classified as low risk as were contained to private property.</p>	4	4	16

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Vulnerable Area Risk Assessment - Bakers Hill Bushfire Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	4	4
Oyston Road/Glenmore Estate subdivision area	Likelihood	Consequence	Risk Rating
<p>Characteristics Approximately 90 rural residential lots located south west of the Bakers Hill townsite. New subdivisions on Oyston Road partially developed. Glenmore Estate predominately developed with a mixture of hobby farming and lifestyle properties. Significant property located to the north of Glenmore Estate.</p> <p>Access Oyston Road has direct access to GEH to the north and Inkpen Road to the south. Glenmore estate has access to the north east via Anderson Road and Oyston Road to the north west.</p> <p>Fire Threat Located within Bush Fire Prone area, Gleeson Hill & Cook St properties are vulnerable to large privately owned bush block with high fuel loads that impact the BPZ of surrounding properties, with minimal mitigation work. Large DPAW reserve to the south west, with very high fuel loads of native vegetation, with minimal mitigation work. High risk of fire inside the Inkpen Tip.</p> <p>Fire History There has been 12 reported fire incidents in the area in the past 5 years, however most are classified as low risk as were contained to private property.</p>	4	4	16

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Vulnerable Area Risk Assessment - Bakers Hill Bushfire Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	6	6
Inkpen Road Waste Disposal Site	Likelihood	Consequence	Risk Rating
<p>Characteristics Existing waste Disposal Site surrounded by significant vegetation.</p> <p>Access Inkpen Road provides access to the north and south from the facility.</p> <p>Fire Threat Located within Bush Fire Prone area.</p> <p>Fire History There has been 6 reported fire incidents in the area in the past 5 years, As the majority of these were in the DPAW reserve that surrounds the refuse site, they have been classed as high – very high risk incidents.</p>	4	4	16

2.3.5 Risk Assessment for Inkpen BFB Fire District

Vulnerable Area Risk Assessment – Inkpen Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	2	4
Wundabinning Road Area	Likelihood	Consequence	Risk Rating
<p>Characteristics Area zoned "Rural "contains approximately 16 lots used for farming/grazing purposes. Most lots have dwelling and associated farm infrastructure located on them.</p> <p>Access Approximately 8 lots have single exit/entry point back to Great Southern Highway. Remaining lots have access direct to Great Southern Highway.</p> <p>Fire Threat Located within Bush Fire Prone area, estate is surrounded on 4 sides with dense bushland, with high fuel loads, and minimal mitigation work completed. Limited water supply for firefighting, no reticulated hydrants sole reliance on privately owned static supply.</p> <p>Fire History There has been 4 reported fire incidents in the area in the past 5 years, however most are classified as low risk as were contained to private property or were vehicle fires.</p>	3	4	12

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Vulnerable Area Risk Assessment – Inkpen Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	2	5
BGC Quarry and Horton Road Composting Facility	Likelihood	Consequence	Risk Rating
<p>Characteristics Significant quarry with crushing, blasting and processing occurring on-site. Numerous truck movements in and out of facility. Composting facility located on Horton Road north of the quarry.</p> <p>Access Quarry has direct access to Great Southern Highway. Composting facility has access south on Horton Road to Great Southern Highway. Appears to have informal access to the west off Horton Road via Carter Road in the Shire of Mundaring.</p> <p>Fire Threat Located within Bush Fire Prone area,</p> <p>Fire History There has been 5 reported fire incidents in the area in the past 5 years, however most of the threat has come from fires within the Mundaring Shire LG area.</p>	3	3	9

2.3.6 Risk Assessment for Clackline BFB Fire District

Vulnerable Area Risk Assessment – Clackline Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	5	9
Clackline Townsite	Likelihood	Consequence	Risk Rating
<p>Characteristics Small townsite located on Great Eastern Highway with hall, shop and post office a number of residential and rural residential lots. Contains approximately 30 mainly developed properties. Significant vegetation on north of Great Eastern Highway and areas of vegetation within the townsite.</p> <p>Access Direct access to Great Eastern Highway to the north. Multiple egress points to the North & South.</p> <p>Fire Threat Located within Bushfire prone area, multiple large scale reserves with increasingly high fuel loads, and minimal mitigation works completed. Undulating land with high slope factor above 5 degrees.</p> <p>Fire History There has been 9 reported fire incidents in the area in the past 5 years, however most are classified as low risk as were contained to private property or were vehicle fires.</p>	4	3	12

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Vulnerable Area Risk Assessment – Clackline Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes Achieved = Total Number of appliances able to reach target Total Incidents = Total number of incidents reported within a 5yr period.	6	0	9
Spencers Brook Townsite	Likelihood	Consequence	Risk Rating
<p>Characteristics Smaller settlement located on Spencers Brook Road with Tavern and numerous residential buildings. Contains approximately 60 residential lots and numerous undeveloped lots west of the settlement. Generally surrounded by farming properties. Spencers Brook runs to the north of the town and Avon River is approximately 1.1 km to the east.</p> <p>Access Located on Spencers Brook Road, good egress to Spencers Brook/York Rd.</p> <p>Fire Threat Located within Bushfire prone area, mostly agricultural land, with remnant vegetation alongside Avon River, and old railway reserve.</p> <p>Fire History There has been 9 reported fire incidents in the area in the past 5 years, however most are classified as moderate risk as were contained to private property or were vehicle fires.</p>	4	3	12

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Vulnerable Area Risk Assessment – Clackline Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	0	7
Muresk Institute	Likelihood	Consequence	Risk Rating
<p>Characteristics Significant tertiary institution located approximately 18 km south of Northam townsite adjacent to the Avon River. Currently comprises a number of educational buildings including classrooms, lecture theatres, laboratories, accommodation units, social facilities and a working farm. Current has single privately owned Light tanker for fire suppression purposes. Has own Safety Management Plan. Reticulated water supply throughout site.</p> <p>Access Single formal access point being Muresk Road. Secondary alternate exit across Avon River to York Spencers Brook Road.</p> <p>Fire Threat Small portion of education area within Bushfire prone area. Portion of the farm located within bushfire prone area.</p> <p>Fire History There has been 7 reported fire incidents in the area in the past 5 years, however are classified as moderate risk as were contained to private property or were vehicle fires.</p>	3	3	9

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Vulnerable Area Risk Assessment – Clackline Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	2	10
Detention Centre	Likelihood	Consequence	Risk Rating
<p>Characteristics Immigration detention centre located 2.8 km west of Northam on Federal Government land being the form Northam Army Camp. Centre contains numerous accommodations units, offices and recreation areas. Northam Army Camp located to the west and vegetation located to the south west. Federal land and is not subject to the Shires Firebreak notice requirements. Has accommodation for up to 800 plus staff and associated subcontractors. Specific arrangements in place in case of emergency although not known to local emergency management personnel.</p> <p>Access Formal access located on Mitchell Avenue with informal access to Great Eastern Highway via existing Army Camp access point. Will not be allowed access into camp for asset protection. Would not risk firefighter safety by entering premises without adequate assistance from law enforcement. Residents are locked down with no escape.</p> <p>Fire Threat Located within bushfire prone mapping area, highly flammable construction methods, remnant vegetation with moderate to high fuel loads surround facility, undulating land with slope factor above 5 degrees.</p>	5	5	25

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Vulnerable Area Risk Assessment – Clackline Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Low bushfire fuel hazard within compound itself due to grounds keeping requirements. Fire History There has been 10 reported fire incidents in the area in the past 5 years, however are classified as moderate risk as were contained to private property.			



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Vulnerable Area Risk Assessment – Clackline Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	2	1
Springhill Recovery Centre	Likelihood	Consequence	Risk Rating
<p>Characteristics Former army training centre currently utilised as a recovery centre. Comprises a number of buildings including accommodation units, kitchen and function centre, recreation buildings and houses. Located adjacent to Avon River (opposite side of Spencers Brook Road). Contains some vegetation and pasture land (former golf course) on-site and vegetation to the north east of the site. The site has a specific Bushfire Management Plan.</p> <p>Access Single direct access to Spencers Brook Road.</p> <p>Fire Threat Buildings are located within Bush Fire Prone mapping area. River course can act as corridor for fire travel, undulating land with excess of 5 degree slope factor. BPZ poorly maintained, with high fuel loads encroaching on building perimeter fence.</p> <p>Fire History There has been 1 reported fire incidents in the area in the past 5 years.</p>	3	4	12

Vulnerable Area Risk Assessment – Clackline Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	3	12
Leeder Road/Mokine Area	Likelihood	Consequence	Risk Rating
<p>Characteristics Rural smallholdings estate located between Spencers Brook townsite and Clackline. Consists of approximately 85 properties that are mainly hobby farms/lifestyle lots with numerous dwellings and associated infrastructure. Numerous lots have vegetation on them, surrounding land uses are pasture/grazing. More significant vegetation to the west. Has minimal reticulated water supply and a hydrants, a standpipe.</p> <p>Access Several cul-de-sacs (Moondyne, Boondine, Harvey and Avro Anson Roads that prevents emergency exit to the south. No strategic firebreaks or emergency access/exit points.</p> <p>Fire Threat Located within bush fire prone area, large swathes of reserves with high fuel loads and minimal mitigation work.</p> <p>Fire History There has been 12 reported fire incidents in the area in the past 5 years, however are classified as moderate risk as were contained to private property.</p>	4	4	16

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Vulnerable Area Risk Assessment – Clackline Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	5	21
Breen Rise /Raymond Crt, & Benrua Area	Likelihood	Consequence	Risk Rating
<p>Characteristics Approximately 60 Rural residential and rural small holdings lots located to the south west of Clackline townsite. Mixed use of hobby farming and lifestyle lots. Some lots contain significant vegetation.</p> <p>Access Several cul-de-sacs (Raymond Court, Virginia Court, Breen Rise) that connect to strategic firebreaks/emergency access points.</p> <p>Fire Threat Located within bush fire prone area, extreme slopes above 10 degrees, high to extreme fuel loads, with difficult terrain and limited access.</p> <p>Fire History There has been 21 reported fire incidents in the area in the past 5 years, mostly escaped burns that were extinguished before they became a greater threat.</p>	5	5	25

Vulnerable Area Risk Assessment – Clackline Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	5	17
Railway Road Area	Likelihood	Consequence	Risk Rating
<p>Characteristics Approximately 30 rural smallholding lots located north of the Clackline townsite and GEH. Mixture of hobby farming and lifestyle (vegetated lots). Significant vegetation to the west. Vegetation to the east between Railway Parade and Clackline-Toodyay/Eadine Roads</p> <p>Access Several cul-de-sacs including Lukin, Connor and Railway Roads. Several access roads from Railway Road to Clackline-Toodyay Road and Eadine Road. 1 Timber bridge on Eadine Rd that could potentially be the only escape route dependant on if fire approach is from the SW.</p> <p>Fire Threat Located within bush fire prone area, heavy fuel loads in multiple DPAW, minimal mitigation reserves.</p> <p>Fire History There has been 17 reported fire incidents in the area in the past 5 years, made up of a mixture of vehicle and road verge areas.</p>	5	5	25

Vulnerable Area Risk Assessment – Clackline Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	5	6
Paynter Road/Searle Drive & Smith Road Area (Bobakine)	Likelihood	Consequence	Risk Rating
<p>Characteristics Approximately 15 rural residential lots located off Smith Road. Primarily lifestyle lots with majority of lots vegetated. Significant vegetation to the north and west. Reserve 42432(Bobakine Nature Reserve) and lot m1375(private owned) contains significant vegetation.</p> <p>Smith Rd - approximately 25 rural lots located at the end of Smith Road used for both agricultural and lifestyle purposes. Several lots contains significant vegetation. Reserve 43077 and lot 322 owned by the Ste of WA contain significant vegetation.</p> <p>Access Searle Drive and Paynter Road are cul-de-sacs and provide only means of entry/exit to the properties. Unconstructed road reserve at end of Paynter Road (approximately 3 km in length) to area adjacent to Clackline-Toodyay Road.</p> <p>Smith Road is a cul-de-sac which runs generally north from Eadine Road with no means of exit to the north.</p> <p>Fire Threat Located within bush fire prone area, heavy vegetation surrounding each subdivision, DPAW Bobakine Reserve and undulating terrain with slope factor around 10 degrees. Due to the slope raising up from the estate, it reduces the threat of</p>	3	3	9

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<p>fire but may cause winds to become unpredictable.</p> <p>Fire History There has been 6 reported fire incidents in the area in the past 5 years, several were escaped burns and there was lightning strikes as the cause of the majority of the fires.</p>			
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2.3.7 Risk Assessment for Southern Brook BFB Fire District

Vulnerable Area Risk Assessment – Southern Brook Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 60 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	2	7	3
Nil	Likelihood	Consequence	Risk Rating
Characteristics Nil. Access Nil. Fire Threat Nil. Fire History There has been 3 reported fire incidents in the area in the past 5 years, over the entire fire district.			

2.3.8 Risk Assessment for Grass Valley BFB Fire District

Vulnerable Area Risk Assessment – Grass Valley Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	1	4
Grass Valley Townsite	Likelihood	Consequence	Risk Rating
<p>Characteristics Townsite surrounded by rural residential/lifestyle lots. Includes Hall, Tavern. Post Office and associated residential infrastructure. Approximately 80 mainly developed separate properties. Some expansion of the rural residential properties to the west of the town proposed. Great eastern Highway located to the north of the townsite and Pert-Adelaide Railway line separates the residential lots to the rural residential lots to the west. Generally surrounded by farmland.</p> <p>Access Main access and egress points are to GEH to the north and Muluckine Road to the south west.</p> <p>Fire Threat Part of the townsite and areas to the south east are Located within Bush Fire Prone area, mainly surrounded by agricultural properties, with several small parcels of regrowth vegetation with low fuel loads.</p> <p>Fire History There has been 4 reported fire incidents in the area in the past 5 years, 1 of which was a structure fire, the remainder where from escaped burns.</p>	3	3	9

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Vulnerable Area Risk Assessment – Grass Valley Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	1	7
Seabrook	Likelihood	Consequence	Risk Rating
<p>Characteristics Residential lots located adjacent to Mortlock River. Primarily used for residential/lifestyle purposes. Approximately 45 separate properties. Perth-Adelaide railway line located to the north. Seabrook Battery reserve located to the east and Mortlock River to the west. Generally surrounded by broad acre farming properties to the north and east, hobby farms to the south.</p> <p>Access Access East & West is via Muluckine Road, and across the railway line via Hunter Rd.</p> <p>Fire Threat Significant number of houses (approx. 30-32) within Located within Bush Fire Prone area, surrounded by agricultural land, with pockets of vegetation along the Mortlock River. Seabrook Reserve has had mitigation works conducted in 2017.</p> <p>Fire History There has been 7 reported fire incidents in the area in the past 5 years, 1 of which was a structure fire, the remainder where from escaped burns.</p>	4	3	12

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Vulnerable Area Risk Assessment – Grass Valley Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	3	1
Avon Industrial Park	Likelihood	Consequence	Risk Rating
<p>Characteristics Heavy industrial area located approximately 17 kms west of Northam and 6 km east of Grass Valley. Currently houses various industrial sheds and land uses on 11 separate lots. Number of lots available for development and significant areas zoned for development. Surrounded by farming/grazing land to the west and east, railway line and remnant vegetation to the north and large remnant vegetation area to the south.</p> <p>Access Access in and out is via Leeming Rd onto the Grt Eastern Hwy to the North, or Grass Valley South Rd to the South.</p> <p>Fire Threat Portions of individual lots within the Bush Fire Prone area.</p> <p>Fire History There has been 1 reported fire incidents in the area in the past 5 years, which was a structure fire.</p>	2	3	6

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Vulnerable Area Risk Assessment – Grass Valley Brigade Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	3	3
Northam-York Road Lifestyle Lots	Likelihood	Consequence	Risk Rating
<p>Characteristics Approximately 25-30 rural lifestyle lots located along York-Northam Road and adjoin the Mortlock River. Primarily used for hobby farming purposes. Mortlock River at rear of properties.</p> <p>Access Most lots have direct access onto Northam-York Road.</p> <p>Fire Threat Majority of properties are either wholly or partially within the Bush Fire Prone area, largest risk is from the proximity to the Mortlock River.</p> <p>Fire History There has been 3 reported fire incidents in the area in the past 5 years, which only 1 was a scrub fire, the remainders where a structure fire and a vehicle fire.</p>	3	3	9

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Vulnerable Area Risk Assessment – Northam Townsite Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	5	12
Avon Yards/CBH Complex	Likelihood	Consequence	Risk Rating
<p>Characteristics Significant rail and marshalling yards and regional CBH grain handling facility located on Northam-Toodyay Road. Within Northam VFRS district but likely BFB required for major incident. Located on Perth-Adelaide Rail Line and Northam-Toodyay Road. Avon River located to the north. Cropping and grazing land located to the south and west, GEH located to the east and landfill facility to the south east.</p> <p>Access Direct to Northam-Toodyay Road.</p> <p>Fire Threat The highest threat for this area is from the road/rail reserve and the animal strikes along the power infrastructure within the area.</p> <p>Fire History There has been 12 reported fire incidents in the area in the past 5 years, the Majority were landscape fires, however there was multiple fires within the road/rail reserve as well as fires started by birds striking powerlines.</p>	4	3	12

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Vulnerable Area Risk Assessment – Northam Townsite Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	5	9
Old Quarry Landfill Site	Likelihood	Consequence	Risk Rating
<p>Characteristics Significant landfill facility located to the west of the Northam townsite. Located within valley and has remanet vegetation surrounding active tip face. Has existing Fire Management Plan and network of existing firebreaks. Would have significant environmental issues if a major fire was to occur. Currently within Northam VRFS district but likely BFB called for assistance.</p> <p>Access Single entry/exit point from Old Quarry Road.</p> <p>Fire Threat The highest threat for this area is from the road/rail reserve and the animal strikes along the power infrastructure within the area, there has also been several escaped farmer burns in the area adjacent to the tip in the refuse site in the past 5 yrs.</p> <p>Fire History There has been 9 reported fire incidents in the area in the past 5 years, the Majority were landscape fires, however there was multiple fires within the road/rail reserve as well as fires started by birds striking powerlines. There has also been a large green waste fire within the facility itself.</p>	4	4	16

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Vulnerable Area Risk Assessment – Northam Townsite Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	6	10
West Industrial Area	Likelihood	Consequence	Risk Rating
<p>Characteristics Partially developed Industrial area on the western extremity of the Northam townsite. Major land uses include hay processing facility, earthmoving/landscaping supply business, Water Corporation treatment plant and storage dams and several vacant properties. Has potential for expansion in the future. Perth-Adelaide rail line and Avon River located to the north. Currently within Northam VRFS district but likely BFB called for assistance.</p> <p>Access Direct to Northam-Toodyay Road and GEH.</p> <p>Fire Threat The highest threat for this area is from the road/rail reserve and the animal strikes along the power infrastructure within the area. High fuel loads along river area and difficult topography make it almost essential that air support is utilised as a priority.</p> <p>The Hay facility has also been designated as a Zone 3 response area by DFES for increased mobilisation during the high threat period.</p> <p>Fire History There has been 10 reported fire incidents in the area in the past 5 years, the Majority were landscape fires, however there was multiple fires within the road/rail reserve as well as fires started by birds striking powerlines.</p>	5	4	20

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Vulnerable Area Risk Assessment – Northam Townsite Area			
Local Government Response Criteria	Target	Achieved	Total Incidents
Target = Total number of units able to get to area within 30 minutes. Achieved = Total Number of appliances able to reach target. Total Incidents = Total number of incidents reported within a 5yr period.	6	4	6
East Industrial Area	Likelihood	Consequence	Risk Rating
<p>Characteristics Partially developed Industrial area on the eastern extremity of the Northam townsite. Major land uses include machinery sales, workshops, Northam Turf Club, Truck assembly Area and roadhouse currently under construction. Northam caravan park located in the precinct .Has potential for expansion in the future. Northam-Goomalling rail line and Mortlock River located in area. Currently within Northam VRFS district but likely BFB called for assistance.</p> <p>Access Direct to Yilgarn Avenue and GEH</p> <p>Fire Threat The highest threat for this area is from the road/rail reserve and the animal strikes along the power infrastructure within the area. Several fires to the East of this area are from escaped farmer burns.</p> <p>Fire History There has been 9 reported fire incidents in the area in the past 5 years, the Majority were landscape fires, however there was multiple fires within the road/rail reserve as well as fires started by birds striking powerlines. There has also been a large green waste fire within the facility itself.</p>	3	3	9

2.4 Identification and Assessment of Bushfire Brigades

A critical element to the ability of the Shire of Northam to manage potential bushfires goes beyond the simple physical infrastructure assessment. The volunteers who form our various bushfire brigades are the community's most valuable asset. As such an assessment of each brigade's capacity has been undertaken, based on the information provided in section 2 of this report. The matrix has been developed utilising the likelihood and consequence table applied in section 9.3.1

Brigade	Risk statement	Consequence	Likelihood	Risk Rating
Bakers Hill Brigade	Cover significant area, including Wundowie			
	Low membership base of volunteers			
	New members not being attracted to the brigade			
	Relatively small number of recently active members			
Clackline Brigade	Ageing membership base			
	Not attracting new members			
	Small number of recently active members			
Irishtown Brigade	Poor response/turnout times			
	Ageing membership			
	Not attracting new members			
	Very small number of recently active members			
Jennapullin Brigade	Potentially insufficient membership to utilise available appliances			
	Poor response/turnout times			
	No active members			
Southern Brook Brigade	No appliance			
	Not attracting new members			
Grass Valley Brigade	No recently active members			
	Not attracting new members			
Inkpen	Poor response/turnout times			
	Ageing membership			
	Not attracting new members			
	Small number of recently active members			

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3. Stage 3 – Prioritised Area Risk Reduction & Control

This section focuses on risk controls and treatments. In undertaking this section consideration has been given to the potential methods for risk reduction in general (e.g. fuel load, education, resource availability, appliance mix). Assessments around water availability, access to third party equipment (including adjoining Shire resources).

The below table has been populated based on the information and assessments undertaken in stages one, two and three. This table indicates the critical risks identified utilising the WARR tool and documents the identified options for mitigation and ultimately which mitigation options will be adopted.

This section is proposed to be completed at the proposed Workshop.

Risk Control and Treatment Schedule						
Prioritised Risk Statements	Risk Controls / Options	Impact (High/Low/Medium)	Feasibility (High/Medium/Low)	Adopt (Y / N)	Responsible Position.	Agreed Completion by Date
<u>Bakers Hill Area (including new Wundowie BFB area)</u>						
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)						
Wundowie Townsite and rural residential subdivisions						
Maurivillo Estate						
Bodeguero Way subdivision						
Linley Valley Abbatoir						
Doy Road Subdivision						
El Cabello Lifestyle Village						
Sims Road Subdivision Area						
Carlin Rd Subdivision	More detailed assessment of	High	High	Y	EMC	2019

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Risk Control and Treatment Schedule						
Prioritised Risk Statements	Risk Controls / Options	Impact (High/Low/Medium)	Feasibility (High/Medium/Low)	Adopt (Y / N)	Responsible Position.	Agreed Completion by Date
	current fuel loads to the north and west					
	Ensure all fire breaks are in place – physical November inspection	Medium	High	Y	EMC	Annual
	Promote individual bushfire preparedness planning in the area – October / November annually	Medium	High	Y	EMC	Annual mail merge to area
	Acknowledge that Wundowie VFRS are able to get to the subdivision entry point within the 30 minutes	High	High	Y	WVFRS	In place

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Risk Control and Treatment Schedule						
Prioritised Risk Statements	Risk Controls / Options	Impact (High/Low/Medium)	Feasibility (High/Medium/Low)	Adopt (Y / N)	Responsible Position.	Agreed Completion by Date
Koojeddah Road subdivision						
Bakers Hill Townsite						
Orchid Valley Subdivision (Redcourte, O'Driscoll)						
Glenmore and Oyston Road subdivisions						
Inkpen Road Waste Disposal Facility						
Rural Broad Acre (within 1 hour)						
Inkpen BFB						
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)						
Wundabinning Road						
BGC Quarry/Composting Facility						
Rural Broad Acre (within 1 hour)						
Clackline						
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)						
Clackline Townsite						
Spencers Brook Townsite						
Muresk Institute						
Detention Centre						
Springhill Recovery Centre						
Leeder Road Area						

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Risk Control and Treatment Schedule						
Prioritised Risk Statements	Risk Controls / Options	Impact (High/Low/Medium)	Feasibility (High/Medium/Low)	Adopt (Y / N)	Responsible Position.	Agreed Completion by Date
Breen Rise/ Benrua Road Area						
Railway Road Area						
Paynter Road Area						
Smith Road Area						
Rural Broad Acre (within 1 hour)						
Rogers Road Area						
Spencer Brook Road Area						
<u>IrishTown</u>						
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)						
Frenches Siding						
Rural Broad Acre (within 1 hour)						
Jennapullin						
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)						
Abattoir Goomalling Road						
Rural Broad Acre (within 1 hour)						
<u>Southern Brook</u>						
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)						

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Risk Control and Treatment Schedule						
Prioritised Risk Statements	Risk Controls / Options	Impact (High/Low/Medium)	Feasibility (High/Medium/Low)	Adopt (Y / N)	Responsible Position.	Agreed Completion by Date
Nil						
Rural Broad Acre (within 1 hour)						
Grass Valley						
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)						
Townsite						
Seabrook						
Avon Industrial Park						
York-Northam Lifestyle lots						
Rural Broad Acre (within 1 hour)						
General						
Hooper/Parker/DuckPool/Quamkadine						
Northam Townsite						
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)						
Avon Rail Yards and CBH Facility						
Old Quarry Waste Disposal Site						
West Industrial Area (Toodyay Road)						
East Industrial Area (Yilgarn Avenue)						

4. Stage 4 – Revised Risk Assessment following mitigation and control

The following revised risk assessment has been undertaken in the context of the significant risks identified and the proposed control and / or treatments identified as a result of these mitigation strategies. This indicates the perceived risk levels after mitigation.

Please note that this will be completed by staff following the workshops.

Brigade	Risk statement	Revised Consequence	Revised Likelihood	Revised Risk Rating	Original Risk Rating	Notes
Bakers Hill Brigade	Carlin Rd Subdivision	2	2	4	12	Wundowie VFRS are able to get their 2 units to the entry point of the subdivision with the required 30 minutes. The creation of a 2-unit Wundowie Brigade would also meet these criteria, thus ensuring that 6 units would be available on site within 30 minutes
	Koojedda Road subdivision					
	Bakers Hill Townsite					
	Orchid Valley Subdivision					
	Wundowie Townsite					
	Hyde Drive Subdivision (Wundowie)					
	Olive Road, Marina Way, Acacia Rd Area					
	Maurivillo Estate					
	Bodeguero Way subdivision					
Linley Valley Abattoir						
Doy Road Subdivision						

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Clackline Brigade	Carlin Rd Subdivision					
	Koojeda Road subdivision					
	Bakers Hill Townsite					
	Orchid Valley Subdivision					
	Wundowie Townsite					
	Hyde Drive Subdivision (Wundowie)					
	Olive Road, Marina Way, Acacia Rd Area					
	Maurivillo Estate					
	Bodeguero Way subdivision					
	Linley Valley Abattoir					
Irishtown Brigade	Frenches Siding subdivision					
Jennapullin Brigade	Abattoir					
Southern Brook Brigade	Nil					
Grass Valley Brigade	Townsite					
	Seabrook					
	Avon Industrial Park					
	York-Northam Road Lifestyle lots					
Inkpen	Wundabinning Road					

Brigade	Risk statement	Revised Consequence	Revised Likelihood	Revised Risk Rating	Original Risk Rating	Notes
Bakers Hill Brigade	Cover significant area, including Wundowie					
	Low membership base of volunteers					
	New members not being attracted to the brigade					
Clackline Brigade	Relatively small number of recently active members					
	Ageing membership base					
	Not attracting new members					
	Small number of recently active members					
Irishtown Brigade	Poor response/turnout times					
	Ageing membership					
	Not attracting new members					
	Very small number of recently active members					
	Potentially insufficient membership to utilise available appliances					
Jannapullin Brigade	Poor response/turnout times					
	No active members					
Southern Brook Brigade	No appliance					
	Not attracting new members					
Grass Valley Brigade	No recently active members					
	Not attracting new members					
Inkpen	Poor response/turnout times					
	Ageing membership					
	Not attracting new members					
	Small number of recently active members					

5. Stage 5 – Additional resource requirements and/or proposed internal resource reallocation

To be completed in consultation with a working group to be established by the Shire of Northam Bushfire Advisory Committee. This assessment will identify additional resources required to provide minimum level of protection to the community in the case of Level 1 incident and prioritise. If additional resources outside the ability for the Shire of Northam to source locally (e.g. appliance, building), these requirements will be documented on the ESL Grant Request Form. Consideration will be given to the appliance type most suitable to meet Level 1 fire response criteria.

Appendix 1

	Bakers Hill BFB	Wundowie VFRS	Inkpen BFB	Northam VFRS	Grass Valley BFB	Southern Brook BFB	Irishtown BFB	Clackline BFB	Total Units within 30 minutes	Total Units within 60 minutes
Bakers Hill Area (including new Wundowie BFB area)										
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)										
Wundowie Townsite and Hyde Drive, Acaia Retreat, Olive Road rural residential subdivisions	2	2							4	
Maurivillo Estate		2							2	
Bodeguero Way subdivision		2							2	
Linley Valley Abbatoir		2							2	
Doy Road Subdivision		2							2	
El Cabelo Lifestyle Village		2							2	
Sims Road Subdivisions Area										
Carlin Rd Subdivision	2								2	
Koojeda Road subdivision	2	2							4	
Bakers Hill Townsite	2	2							4	
Orchid Valley Subdivision (Redcourte,O'Driscoll)	2								2	
Glenmore and Oyston Road subdivisions	2	2	2						6	
Inkpen Road Waste Disposal Facility	2	2	2						6	

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	Bakers Hill BFB	Wundowie VFRS	Inkpen BFB	Northam VFRS	Grass Valley BFB	Southern Brook BFB	Irishtown BFB	Clackline BFB	Total Units within 30 minutes	Total Units within 60 minutes
Rural Broad Acre (within 1 hour)	2	2	2	2				3		11
<u>Inkpen BFB</u>										
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)										
Wundabinning Road			2						2	
BGC Quarry/Composting Facility									0	6
Rural Broad Acre (within 1 hour)	2	2	2							6
<u>Clackline</u>										
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)										
Clackline Townsite	2							3	5	
Spencers Brook Townsite									0	
Muresk Institute									0	

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	Bakers Hill BFB	Wundowie VFRS	Inkpen BFB	Northam VFRS	Grass Valley BFB	Southern Brook BFB	IrishTown BFB	Clackline BFB	Total Units within 30 minutes	Total Units within 60 minutes
Detention Centre				2					2	
Springhill Recovery Centre				2					2	
Leeder Road Area								3	3	
Breen Rise/ Benrua Road Area	2							3	5	
Railway Road Area	2							3	5	
Paynter Road Area									0	
Smith Road Area									0	
Rural Broad Acre (within 1 hour)	2		2	2	1		3	3		13
Rogers Road Area					1	1	3	0		5
Spencer Brook Road Area					1		3	3		7
IrishTown										
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)										
Frenches Siding							2		2	
Rural Broad Acre (within 1 hour)					1		3	3		7
Jennapullin										
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)										

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	Bakers Hill BFB	Wundowie VFRS	Inkpen BFB	Northam VFRS	Grass Valley BFB	Southern Brook BFB	Irishtown BFB	Clackline BFB	Total Units within 30 minutes	Total Units within 60 minutes
Abattoir Goomalling Road				2					2	
Rural Broad Acre (within 1 hour)					1		2			3
<u>Southern Brook</u>										
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)										
Nil										
Rural Broad Acre (within 1 hour)				2	1	1	3			7
<u>Grass Valley</u>										
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)										
Townsite					1				1	
Seabrook				2	1				3	
Avon Industrial Park						1			1	
York-Northam Lifestyle lots				2		1(northern part only)			3(northern part only)	
Rural Broad Acre (within 1 hour)										
General				2	1	1	3			7

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	Bakers Hill BFB	Wundowie VFRS	Inkpen BFB	Northam VFRS	Grass Valley BFB	Southern Brook BFB	Irishtown BFB	Clackline BFB	Total Units within 30 minutes	Total Units within 60 minutes
Hooper/Parker/DuckPool/Qu amkadine				2	1	1				4
South East Extremity. (refer to Maps)										0
Northam Townsite										
Settlement/Townsite/Rural Residential Area/Critical Infrastructure (within 30 minutes)										
Avon Rail Yards and CBH Facility				3			3		6	
Old Quarry Waste Disposal Site				3			3		6	
West Industrial Area (Toodyay Road)				3			3		6	
East Industrial Area (Yilgarn Avenue)				3	1 (eastern portion only)				4 (eastern only)	

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Risk to Recourse (R2R) Assessment

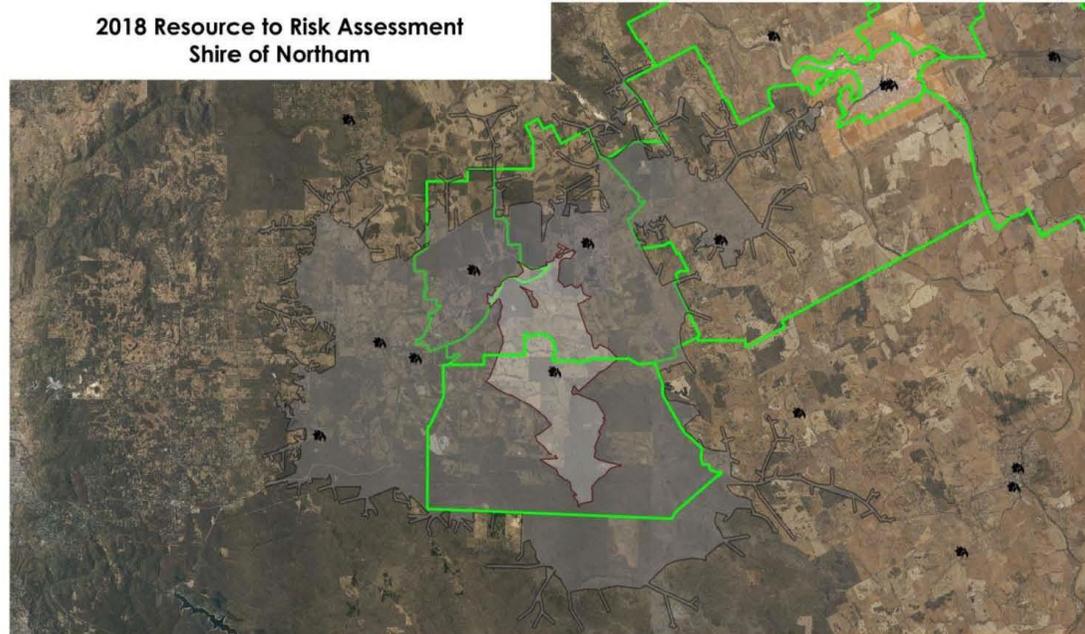


Appendix 2

Shire of Northam Bushfire Brigade Response Time Maps

Inkpen BFB 30 min & 60 min turnout maps

**2018 Resource to Risk Assessment
Shire of Northam**



**Inkpen Volunteer Bush Fire Brigade
30min & 60min Turnout Response Maps**

Legend

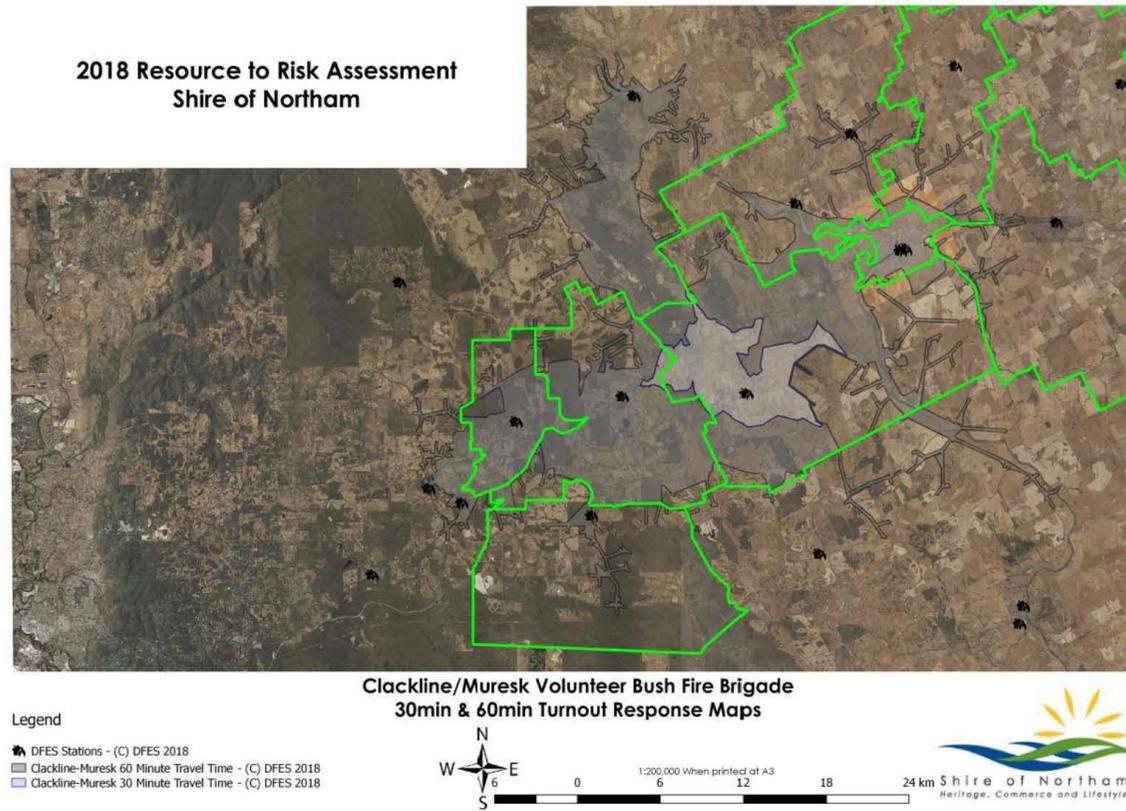
-  DFES Stations - (C) DFES 2018
-  Inkpen 60 Minute Travel Time - (C) DFES 2018
-  Inkpen 30 Minute Travel Time - (C) DFES 2018



Shire of Northam Bush Fire Manual
Risk to Recourse (R2R) Assessment

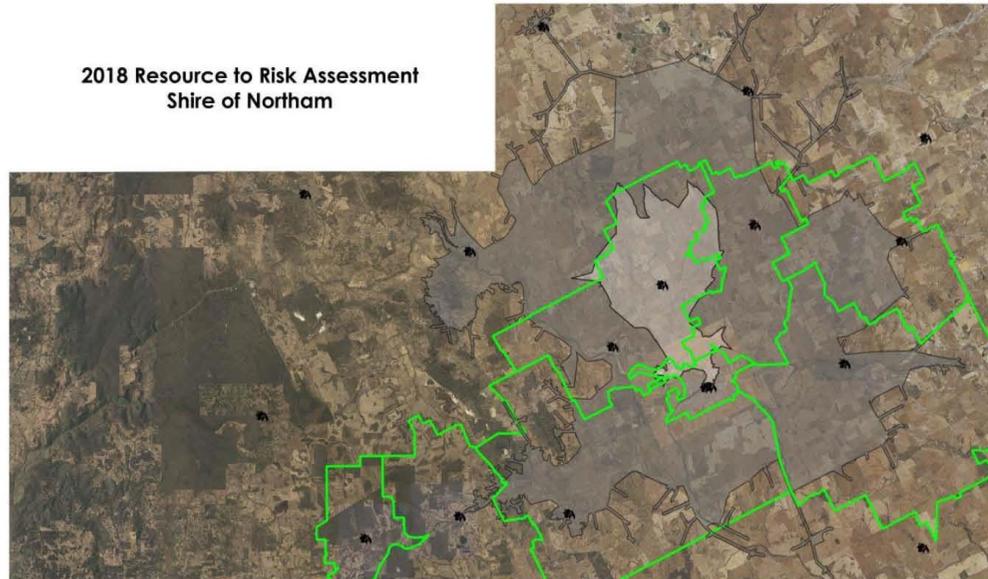


Bakers Hill 30min & 60 min turnout map



Irishtown 1 & Irishtown 2 30min & 60 min Turnout Maps

2018 Resource to Risk Assessment
Shire of Northam



Legend

- DFES Stations - (C) DFES 2018
- Irishtown 60 Minute Travel Time - BFB 1 - (C) DFES 2018
- Irishtown 30 Minute Travel Time - BFB 1 - (C) DFES 2018

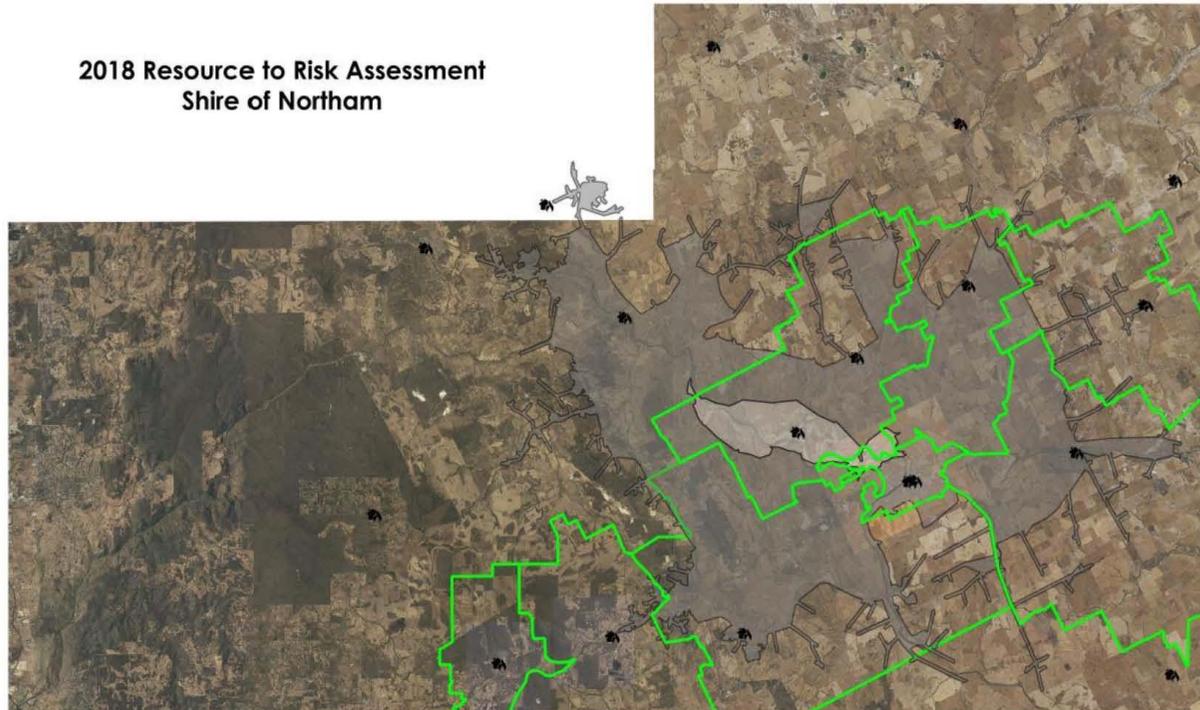
Irishtown 1 Volunteer Bush Fire Brigade
30min & 60min Turnout Response Maps



1:200,000 When printed at A3



2018 Resource to Risk Assessment
Shire of Northam



Legend

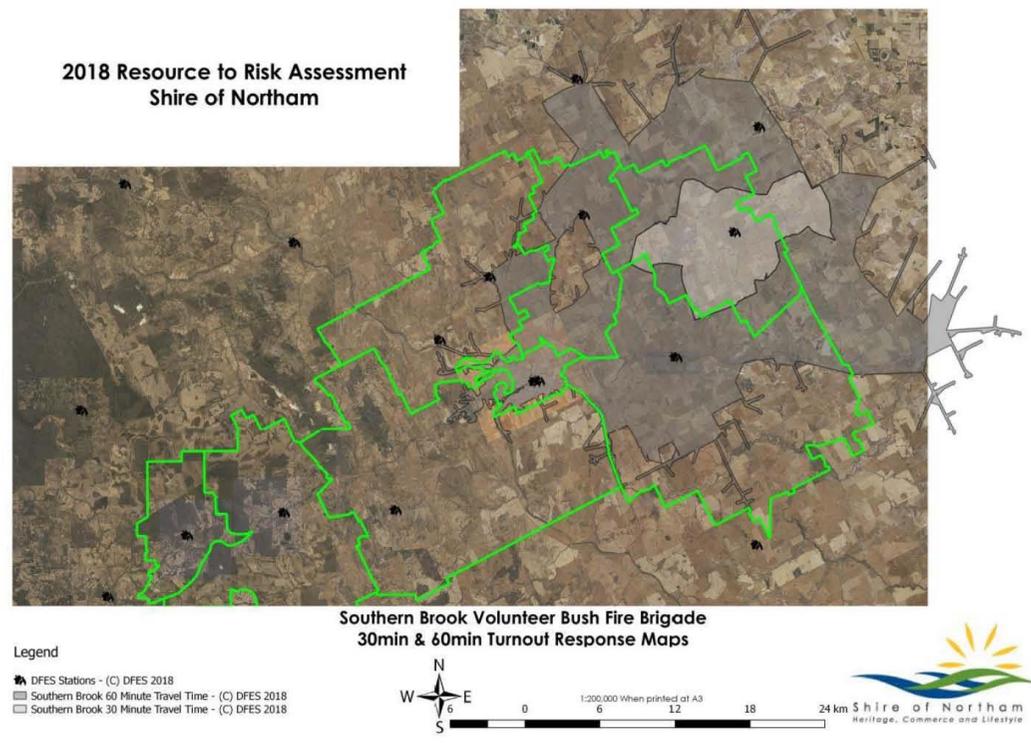
-  DFES Stations - (C) DFES 2018
-  Irishtown 60 Minute Travel Time - BFB 2 - (C) DFES 2018
-  Irishtown 30 Minute Travel Time - BFB 2 - (C) DFES 2018

Irishtown 2 Volunteer Bush Fire Brigade
30min & 60min Turnout Response Maps



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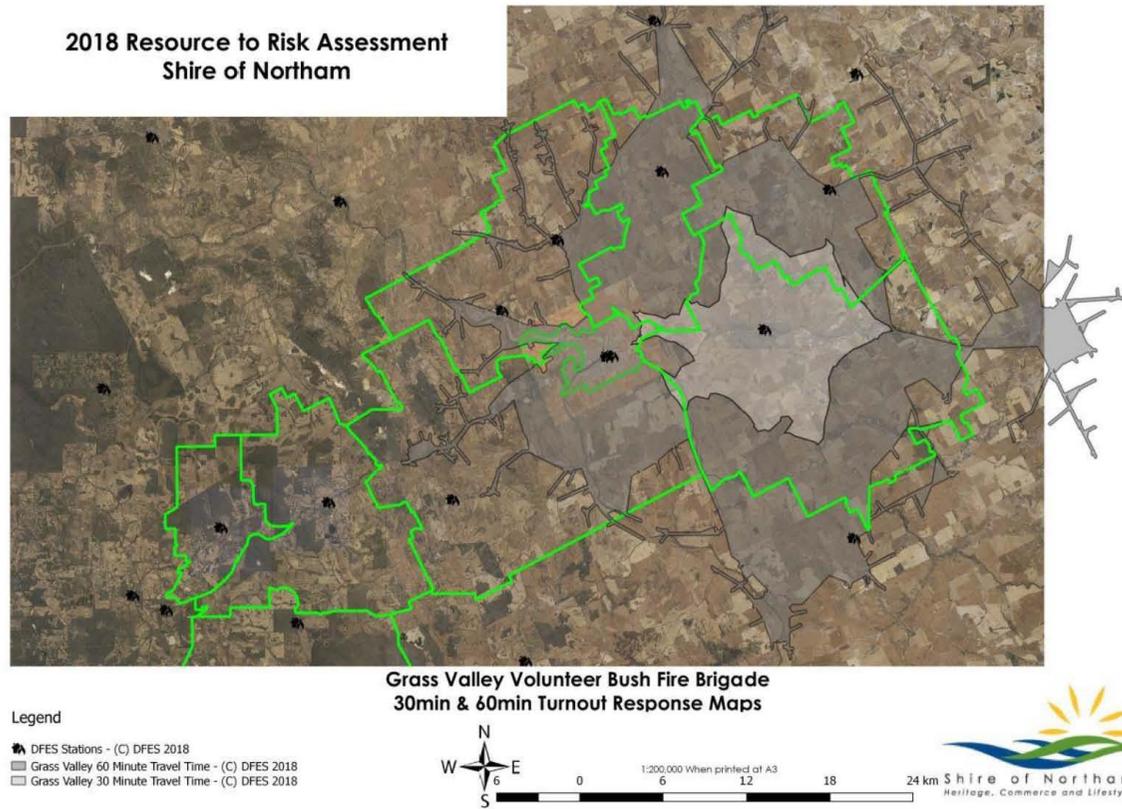
Southern Brook 30min & 60 min turnout map

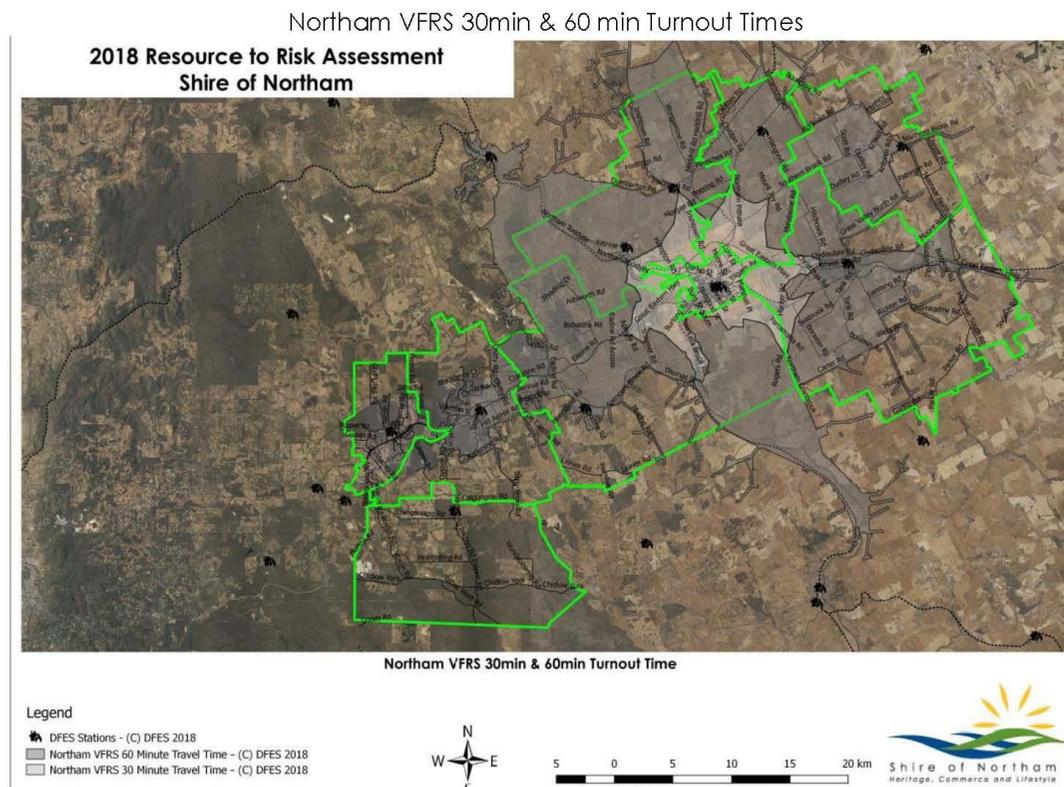


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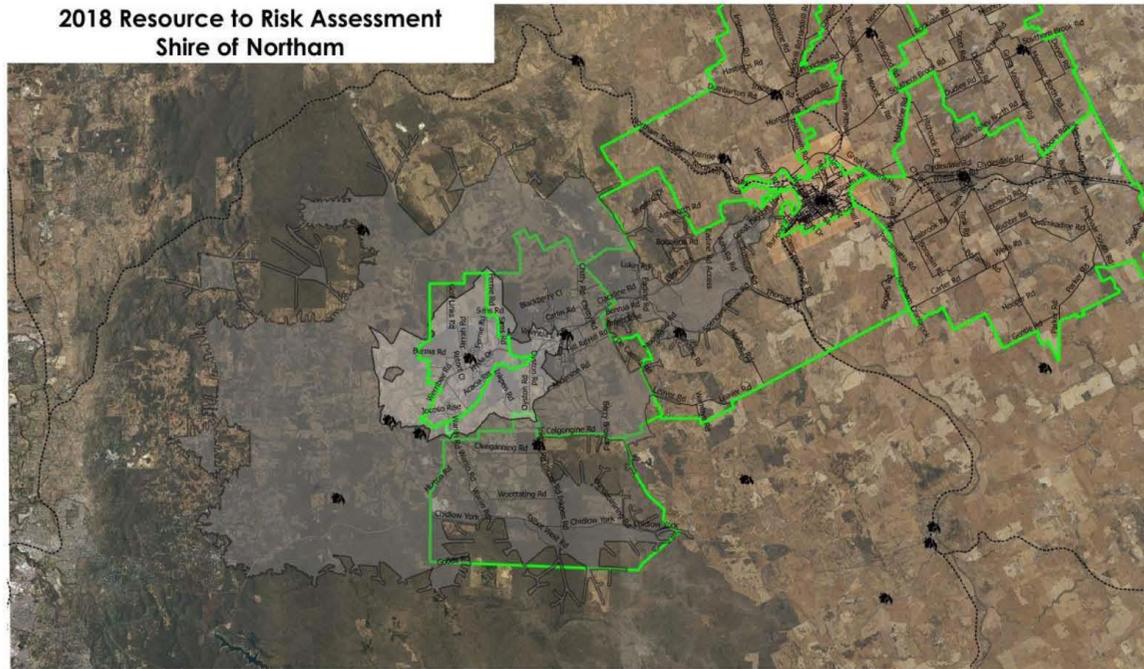


Grass Valley 30min & 60 min Turnout map





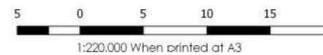
Wundowie VFRS 30min & 60min Turnout Times



Wundowie VFRS 30min & 60 min Turnout Time

Legend

-  DFES Stations - (C) DFES 2018
-  Wundowie VFRS 60 Minute Travel Time - (C) DFES 2018
-  Wundowie VFRS 30 Minute Travel Time - (C) DFES 2018



6. MOTIONS OF WHICH PREVIOUS NOTICE HAS BEEN GIVEN

MOTION

Moved: MR Sam Moss

Seconded: Mr Brett Smith

Grass Valley Bush Fire Brigade requests that BFAC and Council endorse that if the current Risk to Resource Review is not completed and implemented prior to the onset on the 2018/19 fire season, that Grass Valley BFB is transferred a second appliance from another brigade from within the Shire of Northam to be stationed in Grass Valley until the Risk to Resource is completed and implemented.

LOST 2/7

A debate was held in relation to the Grass Valley Bush Fire Brigade requesting a second firefighting unit be made available for them to use. They stated that they can man the unit and believe that the unit would be utilised often due to the large territory of town that needs to be covered in case of a fire. They also believe that this will reduce the workloads of other brigades having to assist in any fires in their areas.

Clarification was sought in relation to the following items:

- Why is Irishtown Bush Fire Brigade being the target for the unit to be relocated from? The representative for Grass Valley Bush Fire Brigade advised that they were not targeting Irishtown it was only used as an example as Irishtown had less callouts than Grass Valley but had 3 units to man the fires compared to Grass Valley only having 1 unit.
- The Chief Executive Office clarified that as the notice of motion is currently written, it would be up to Council to determine what unit was reassigned.

Background:

As previously established in prior Risk to Resource reviews and elsewhere, Grass Valley BFB urgently require a second appliance. Reasons include: Large size and variance of territory, multiple town sites and industrial park, lack of other fire resources in the eastern half of the Shire of Northam, etc. It is understood that there are currently underutilised fire appliances within the Shire which DFES can reallocate outside the Shire. As such, Grass Valley request the transfer of a unit from a brigade that has multiple units, one of which is underutilised, to Grass Valley, such as a Irishtown Light Tanker.

The Grass Valley BFB will continue to support other Brigade districts through the turning out to incidents in other areas, and believe that a second appliance

will further enhance our ability to do this while not leaving the eastern side of the Shire exposed.

Officers Comment:

Whilst it is acknowledged that the Grass Valley BFB has been campaigning for a second appliance, officers recommend that as the R2R is almost at the completed stage it would be premature to reallocate an appliance now.

7. URGENT BUSINESS APPROVED BY PERSON PRESIDING OR BY DECISION

A discussion was held in relation to the use of the Brigades hand held radio transmitters and if there was a need to do a radio check, roll call and weather update every morning.

8. DATE OF NEXT MEETING

January/February 2019, date to be confirmed.

9. DECLARATION OF CLOSURE

There being no further business the Presiding Member, Terry Little declared the meeting closed at 6:45pm.

"I certify that the Minutes of the Bush Fire Advisory Committee meeting held on Tuesday, 27 November 2018 have been confirmed as a true and correct record."

_____ Presiding Member

_____ Date

