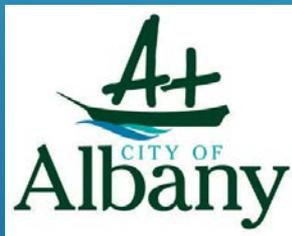




BUILDING BUSHFIRE RESILIENCE IN THE GREAT SOUTHERN



*Shire of Denmark, City of Albany, Shire of
Plantagenet*



Building bushfire resilience in communities – National strategy for disaster resilience

- “State governments and municipal councils to adopt increased or improved protective management, emergency management and advisory roles.”
- Strive to recognize and understand the risks disasters pose to their own and their communities interests.
- Leaders drive development of partnerships and networks to build resilience at government, business, neighborhood and community levels.



What is the “Building Resilience In the Great Southern” [BRIGS] Project?

- The Western Australian and Commonwealth governments have a National Partnership Agreement for Natural Disaster Resilience that delivers the National Disaster Resilience Program (NDRP).
- Application was submitted to the NDRP to fund the three local governments to enhance the evacuation planning and bushfire risk mitigation strategies over 8 precincts.
- Aimed to implement sustained resilience or disaster mitigation strategies that directly benefit the WA community.
- This project reduces identified risks and closes capability gaps, in an effort to reduce future post-disaster funding needs.
- This project aided in the development of a rigorous physical risk mitigation program where possible and develops a greater understanding of bushfire risk in the community.



GOVERNMENT OF WESTERN AUSTRALIA

DFES
Department of Fire & Emergency Services

Australian Government
Department of Home Affairs

SEMC
STATE EMERGENCY MANAGEMENT COMMITTEE

SHIRE OF DENMARK

Shire of Plantagenet

City of Albany

BUSHFIRE READY

eco logical AUSTRALIA
A YETRA TECH COMPANY

BIO DIVERSE SOLUTIONS

Bushfire Resilience in the Great Southern Project

What is the “Building Resilience In the Great Southern” [BRIGS] Project?

8 precincts in 3 LGA's

- Goode Beach (CoA);
- Little Grove and Big Grove(CoA);
- Bayonet Head(CoA);
- Peaceful Bay (SoD);
- Ocean Beach (SoD);
- Weedon Hill (SoD);
- Kendenup (SoP); and
- Mount Barker Hill (SoP).



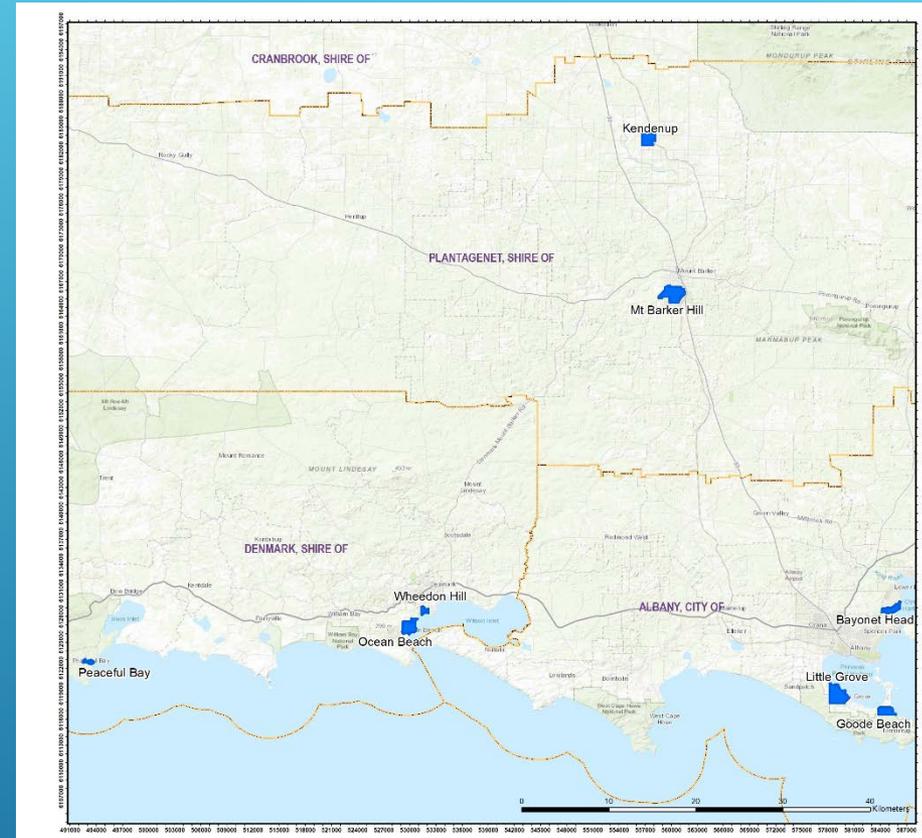
The 8 precincts identified for the project were based on the following parameters:

- High fuel loads and extreme bushfire risks;
- Limited access and egress for the communities to evacuate (one-way access);
- High population density in summer (extreme risk) period
- Legacy planning issues. Communities not consistent with the current SPP 3.7

What is the “Building Resilience In the Great Southern” [BRIGS] Project?

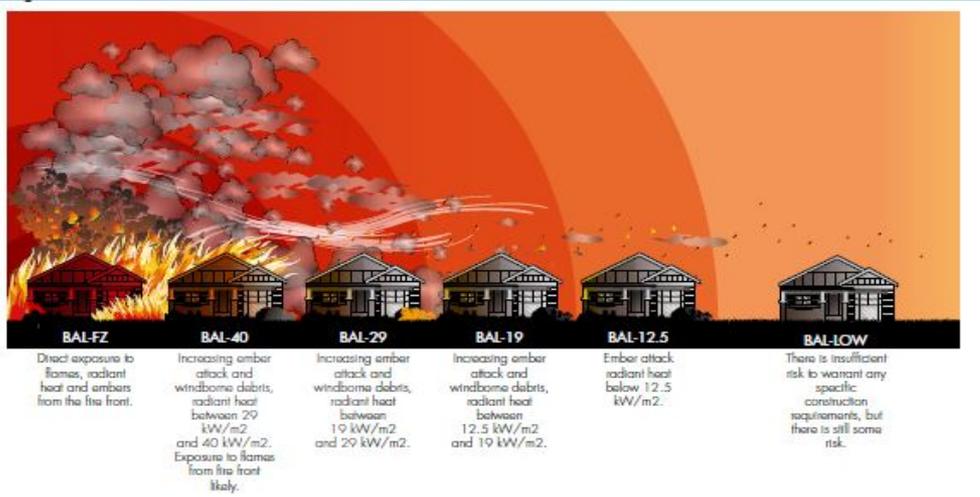
Key processes

- Applying a AS3959 BAL contouring methodology to define and map bushfire risks to our communities.
- CSIRO Spark modelling
- Identification of vulnerable communities where evacuation may be compromised.
- Identifying areas for possible community refuge. Develop Works Programs and treatment schedules with priorities developed.
- Review of gazetted fire notice in each LGA.
- Stakeholder engagement – DBCA, WCWA, DFES, LGA, DoEd,
- Public consultation – during project (in precinct, public sessions and post project through implementation).



AS3959-2018 Measures Bushfire Fuels

- AS3959 provides a measure of radiant heat flux (impact) on a building.
- AS3959 is also used as a planning tool to measure bushfire risk.
- Uses a classification system according to vegetation structure.



Plot	3, 5, 6, 7 & 13	Classification or Exclusion Clause	Forest Type A
			<p>Location: Located throughout the subject site.</p> <p>Dominant species & description: Karri Forest, Jarrah and Marri Forest, Peppermint Forest, and <i>Taxandria juniperina</i> Forest (wet areas). Overstorey of eucalyptus with mid storey species of <i>Callistachys lanceolatum</i> (Native Willow) juvenile trees, Banksia, Acacia, Kunzea, Hibbertia, Melaleuca and <i>Leopoldoon</i>. Understorey of Kangaroo paws, native sedges and herbs.</p> <p>Average vegetation height: 12-16m (Peppermint and J/M) 15-25m (Karri).</p> <p>Vegetation Coverage: >30-70% foliage cover.</p> <p>Available fuel loading: 25-35 t/ha.</p> <p>Effective slopes: Plot 3: Flat/upslope. Plot 5: D/S > 5 to 10 degrees. Plot 6: D/S > 10 to 15 degrees. Plot 7: D/S > 0 to 5 degrees.</p>
<p>Photo Id 11: View of Plot 3 Karri Forest Located to the south west of Harrington Break Estate.</p>			

Plot	4, 8 & 9	Classification or Exclusion Clause	Grassland Type G
			<p>Location: To the north, south, north east and small areas central to the subject site.</p> <p>Description: Grazed paddocks of bracken, mixed pasture and unmanaged lots with introduced species such as Kikuyu, Hibbertia, Conyza etc.</p> <p>Average vegetation height: 200-300mm.</p> <p>Vegetation Coverage: <10% trees.</p> <p>Available fuel loading: <4.5t/ha.</p> <p>Effective slope: Plot 4: Flat/upslope Plot 8: Downslope >5 to 10 degrees Plot 9: Downslope >0 to 5 degrees</p>
<p>Photo Id 20: View to the south of grazed paddocks in Plot 4 located south west of the precinct.</p>			

How do we get people out

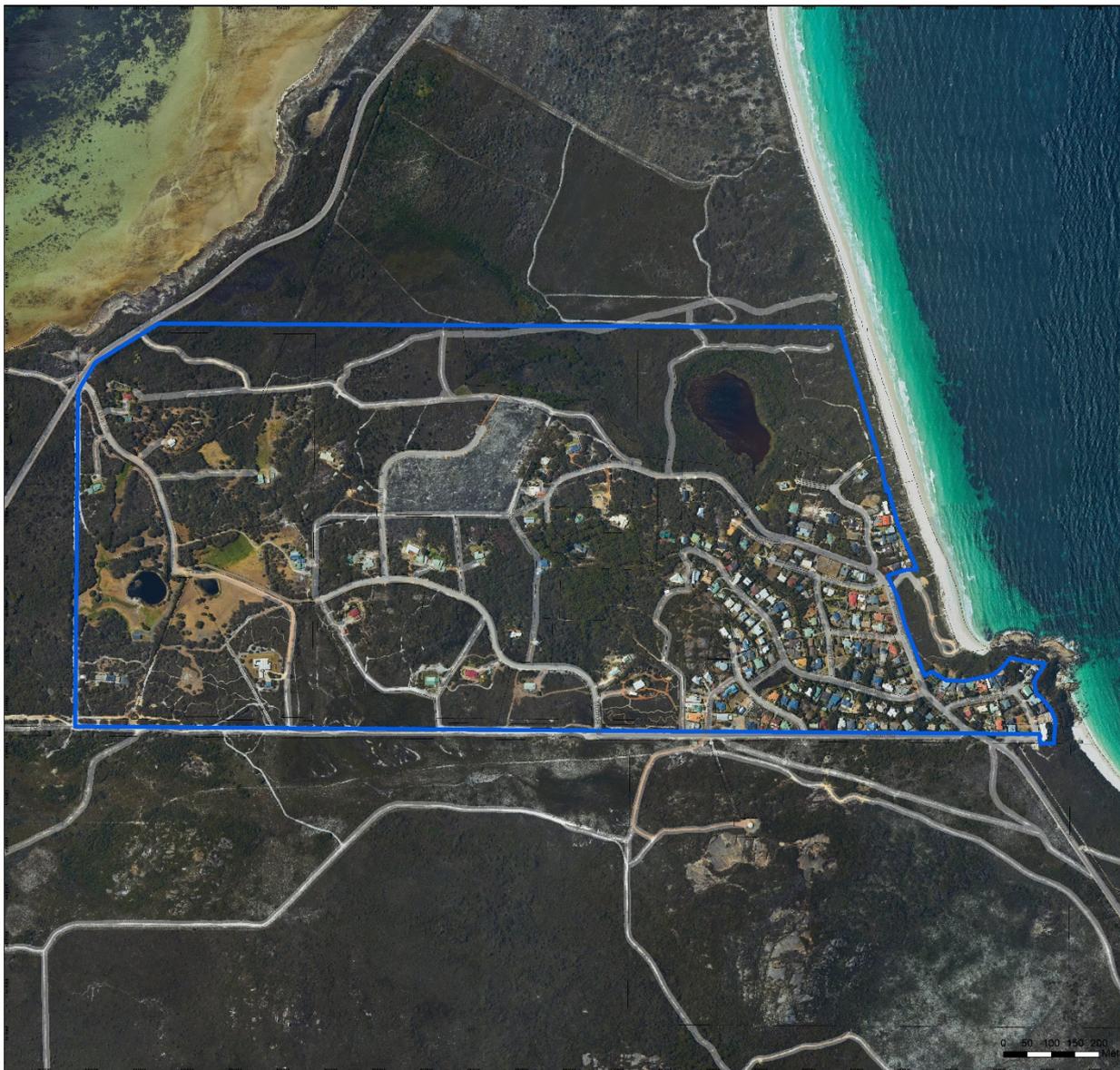
“Bushfire fatality data from 260 fire events from 1901 to 2011 analysed by CSIRO, shows that whilst late evacuation represents the primary activity taken at the time of death, there is a rising trend of fatalities occurring within structures (sheltering in place)”

Need to:

- Examine evacuation travel times and routes.
Bring together studies already done and build on what we don't know.
- If route justified do we have community refuge?
- Is our community prepared?
- Summer visitors prepared? Absentee land owners?



Goode Beach Precinct



This BAL Plan was prepared by:
 Kathryn Kinner, Bio Diverse Solutions
 Accreditation No: BPAD30794
 Jurisdiction: Level 2 - WA



29 Hercules Crescent
 Albany, WA 6330
 Australia
 Tel: 08 9842 1575
 Fax: 08 9842 1576



Overview Map Scale 1:100,000

Legend

-  Subject Site
-  Cadastre



Scale
 1:4,000 @ A1
 GDA MGA 94 Zone 50

Data Sources
 Aerial Imagery: SLIP Virtual Mosaic VMS Service, Landgate 2017
 Cadastre: Relief Contours and Roads, Landgate 2017
 IRIS Road Network, Main Roads Western Australia 2017
 Overview Map: World Topographic map service, ESRI 2012

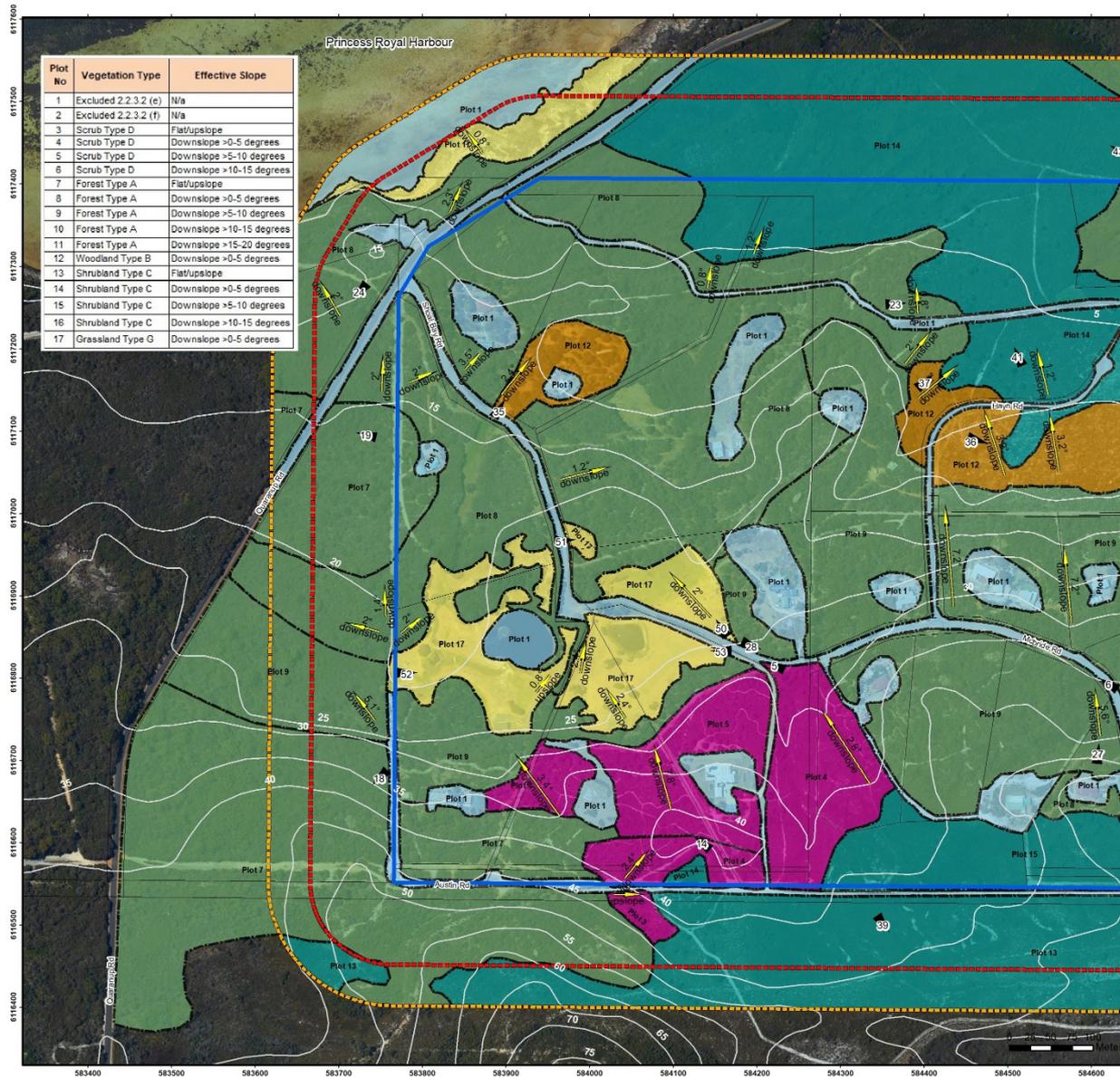
CLIENT

City of Albany
 Goode Beach Precinct
 Albany, WA 6330

Figure 1. Location Plan

BAL Assessor	QA Check	Drawn by
KK	KK	BT
STATUS	FILE	DATE
FINAL	DFES001	16/07/2019

Vegetation Mapping Goode Beach Precinct to AS3959



This BAL Plan was prepared by:
Kathryn Kinnear, Bio Diverse Solutions
Accreditation No: BPAD30784
Jurisdiction: Level 2 - WA

BPAD
Business Planning & Design
Accredited Practitioner Level 2

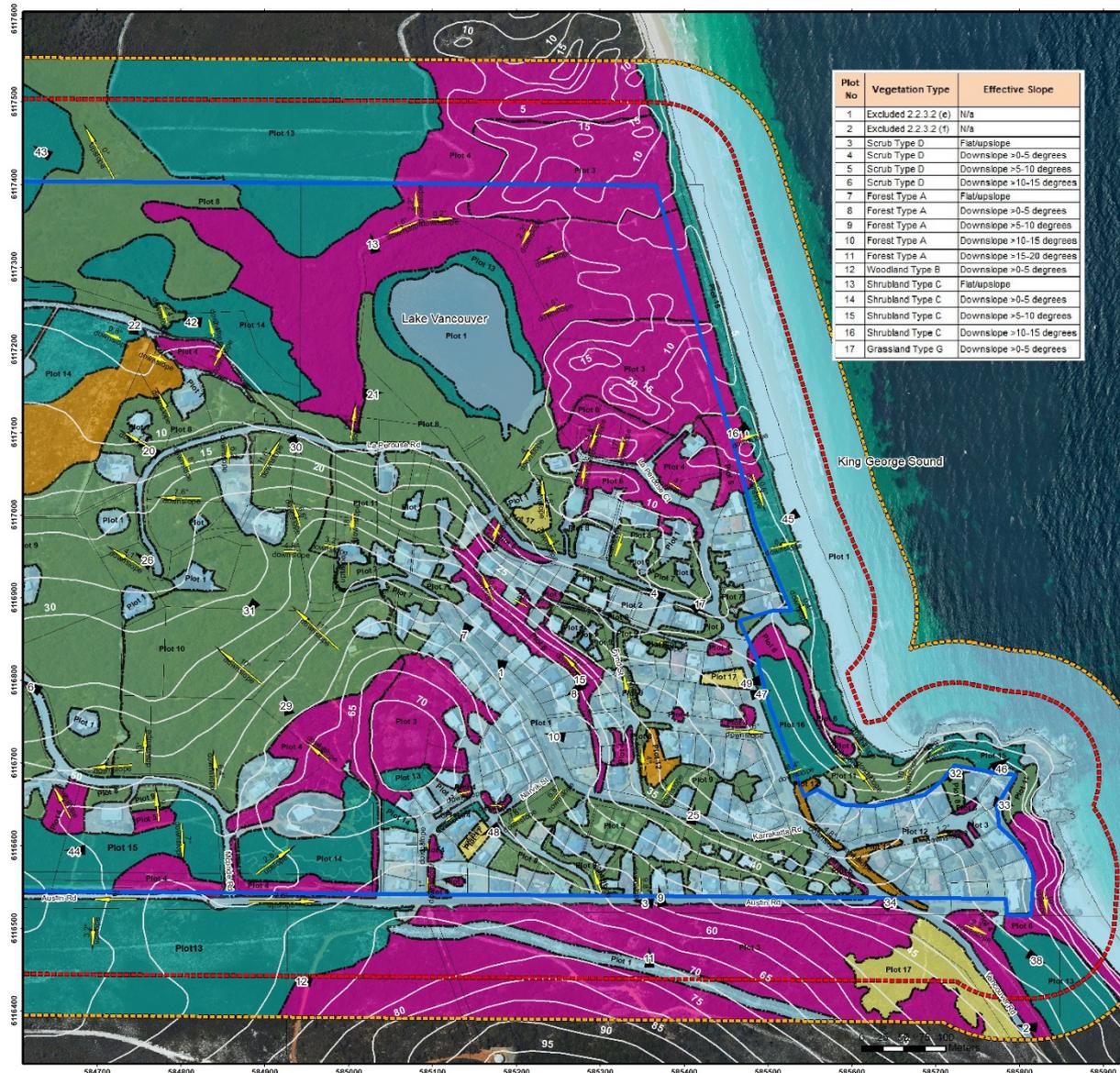
BIO DIVERSE SOLUTIONS
29 Hercules Crescent
Albany, WA 6330
Australia
Tel: 08 9842 1575
Fax: 08 9842 1575

Overview Map Scale 1:100,000

Figure 3. Vegetation Classes - West

BAL Assessor	QA Check	Drawn by
KK	JB	SA
STATUS	FILE	DATE
FINAL	DFES001	22/10/2019

Vegetation Mapping Goode Beach Precinct to AS3959



Plot No	Vegetation Type	Effective Slope
1	Excluded 2.2.3.2 (e)	N/A
2	Excluded 2.2.3.2 (f)	N/A
3	Scrub Type D	Flat/upslope
4	Scrub Type D	Downslope >0-5 degrees
5	Scrub Type D	Downslope >5-10 degrees
6	Scrub Type D	Downslope >10-15 degrees
7	Forest Type A	Flat/upslope
8	Forest Type A	Downslope >0-5 degrees
9	Forest Type A	Downslope >5-10 degrees
10	Forest Type A	Downslope >10-15 degrees
11	Forest Type A	Downslope >15-20 degrees
12	Woodland Type B	Downslope >0-5 degrees
13	Shrubland Type C	Flat/upslope
14	Shrubland Type C	Downslope >0-5 degrees
15	Shrubland Type C	Downslope >5-10 degrees
16	Shrubland Type C	Downslope >10-15 degrees
17	Grassland Type G	Downslope >0-5 degrees

This BAL Plan was prepared by:
Kathryn Kinnear, Bio Diverse Solutions
Accreditation No: BPAD30794
Jurisdiction: Level 2 - WA



29 Hercules Crescent
Albany, WA 6330
Australia
Tel: 08 9842 1575
Fax: 08 9842 1575



Overview Map Scale 1:100,000

Legend

- Subject Site
 - 100m Assessment Boundary
 - 150m Assessment Boundary
 - Cadastre
 - 5m Contours
 - Photo Point
- Vegetation**
- Forest Type A
 - Woodland Type B
 - Shrubland Type C
 - Scrub Type D
 - Grassland Type G
 - Low fuel or non vegetated 2.2.3.2



Scale
1:4,500 @ A3
GDA MGA 94 Zone 50

Data Sources
Aerial Imagery: WA Now, Landgate Subscription Imagery
Cadastre, Relief Contours and Roads: Landgate 2017
RTIS Road Network: Main Roads Western Australia 2017
Overview Map: World Topographic map service, ESRI 2012

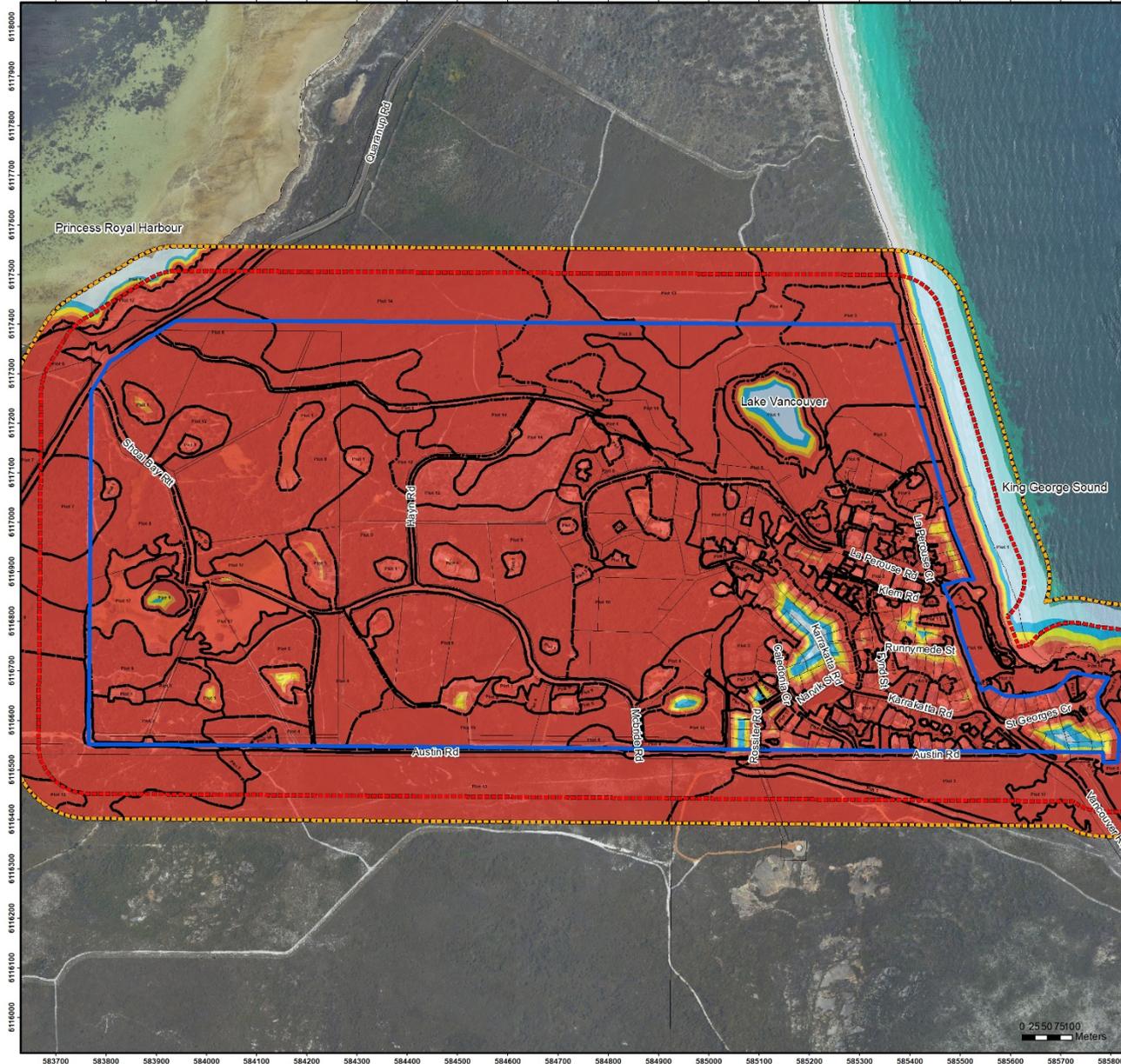
CLIENT

City of Albany
Goode Beach Precinct
Albany, WA 6330

Figure 4. Vegetation Classes - East

BAL Assessor	QA Check	Drawn by
KK	JB	SA
STATUS	FILE	DATE
FINAL	DFES001	02/07/2020

BAL Contour Plan – Goode Beach Precinct



This BAL Plan was prepared by:
 Kathryn Kinnear, Bio Diverse Solutions
 Accreditation No: BPA030784
 Jurisdiction: Level 2 - WA



28 Hercules Crescent
 Albany, WA 6330
 Australia
 Tel: 08 9842 1575
 Fax: 08 9842 1575



Overview Map Scale 1:100,000

Legend

- Subject Site
- 100m Assessment Boundary
- 150m Assessment Boundary
- Cadastre
- BAL Contours**
- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-LOW



Scale
 1:7,500 @ A3
 GDA MGA 94 Zone 50

Data Sources
 Aerial Imagery: WA Now, Landgate Subscription Imagery
 Cadastre, Relief Contours and Roads: Landgate 2017
 GIS Road Network: Main Roads Western Australia 2017
 Overview Map: World Topographic map service, ESRI 2012

CLIENT
 City of Albany
 Goode Beach Precinct
 Albany, WA 6330

Figure 5. BAL Contour Plan

BAL Assessor	QA Check	Drawn by
KK	BT	SA
STATUS	FILE	DATE
FINAL	DFES001	23/10/2019

Works Program Mapping



This BAL Plan was prepared by:
 Kathryn Kinneer, Bio Diverse Solutions
 Accreditation No. BPA030764
 Jurisdiction: Level 2 - WA



29 Hercules Crescent
 Albany, WA 6330
 Australia
 Tel: 08 9842 1575
 Fax: 08 9842 1575



Overview Map Scale 1:100,000

Legend

- Subject Site
- EAR
- Cadastre
- Existing dwelling
- APZ
- Fire Management Notice to apply
- Fuel Reduce
- Prescribed Burn
- Threatened and Priority Flora



Scale
 1:7,000 @ A3
 GDA MGA 94 Zone 50

Data Sources
 Aerial Imagery: WA Now, Landgate Subscription Imagery
 Cadastre, Relief Contours and Roads: Landgate 2017
 IRIS Road Network: Main Roads Western Australia 2017
 Overview Map: World Topographic map service, ESRI 2012

CLIENT
 City of Albany
 Goode Beach Precinct
 Albany, WA 6330

Figure 6. Program of Works

BAL Assessor KK	QA Check BT	Drawn by SA
STATUS FINAL	FILE DFES001	DATE 02/07/2020

Access and Water



6110000
6110100
6110200
6110300
6110400
6110500
6110600
6110700
6110800
6110900
6111000
6111100
6111200
6111300
6111400
6111500
6111600
6111700
6111800
6111900
6112000

This BAL Plan was prepared by:
Kathryn Klineart, Bio Diverse Solutions
Accreditation No: BPA030784
Jurisdiction: Level 2 - WA



29 Hercules Crescent
Albany, WA 6330
Australia
Tel: 08 9842 1575
Fax: 08 9842 1575



Overview Map Scale 1:100,000

Legend

- Subject Site
- Cadastre
- Emergency Access Routes (EAR)
- Fire Service Access (FSA)
- Emergency Access Way (EAW)
- Proposed Public Road (options)
- Public Drinking Water Supply (PDWS)
- Dead End Road
- Turn Around Area
- Water Point (new)
- Hydrants



Scale
1:7,500 @ A3
GDA MGA 94 Zone 50

Data Sources
Aerial Imagery: WA Now, Landgate Subscription Imagery
Cadastral, Relief Contours and Roads: Landgate 2017
IRIS Road Network: Main Roads Western Australia 2017
Overview Map: World Topographic map service, ESRI 2012

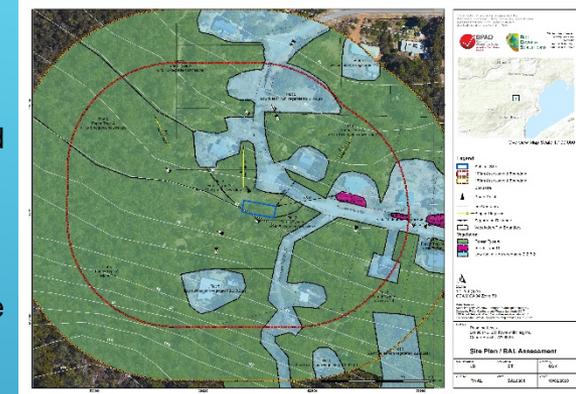
CLIENT
City of Albany
Goode Beach Precinct
Albany, WA 6330

Figure 8. Access & Water

BAL Assessor	QA Check	Drawn by
KK	BT	SA
STATUS	FILE	DATE
FINAL	DFES001	02/07/2020

Program of Works

- Applying the CoA Fire Management Notice to the precinct on private property .
- Retrofitting buildings within the precinct to BAL and AS3959.
- Undertake individual BAL assessments on dwellings to install a compliant APZ associated with BAL-29 or less and AS3959 setbacks/APZ area.
- Undertake systematic review of the FMN.
- Mechanical fuel reduction in road reserves in Emergency Access Routes to assist in safe evacuation and egress into and exiting the precinct.
- Government agencies and private land owners (larger special residential lots) to consider small, cool burns to assist reduction of fuel loads on private property/reserves and managing of fuels adjacent to other residents.
- A regular maintenance regime on all internal public roads, mowing verges, trimming overhead branches and all powerlines.
- Linking future public roads, assigning Emergency Access Routes, Emergency Access Ways and Fire Service Access Routes for assisting in rapid flow of traffic in a bushfire emergency.
- Upgrading and/or maintaining access to a minimum of trafficable standards and ensuring turnaround areas are provided to WAPC guidelines technical standards.
- Investigate through Mitigation Activities Funding arrangements (MAF) opportunities to link the public road network.
- A 10m Low fuel area applied along southern edge of Austin Road in Torndirrup NP to reduce flame and ember attack to residential areas in the south east of precinct. (noting combined with a 20m road reserve gives a 30m separation to bushfire fuels)



Project BAL Build



Building a 30% 'resilient' house, like the 30% '10 home', is not as expensive as often thought. Credit: Lee Griffin

How much does it really cost to build homes that will survive bushfires?

A new (and Australian) study by Kathryn Kinnear (Blue Diverse Solutions) and Julie de Jong (FF + H) to address the misinformation and confusion about the



35°N (T) -34°59'50.15", 117°19'14.44" E 32m



9'22.74" ±5m ▲ 47m



Water.. Do we have it when we need it?

- Water sources for the precinct are via the reticulated scheme pipe and hydrant network. Supply for fire suppression is through the hydrants.
- As power outages are anticipated it can be assumed these primary sources may be unavailable during a large fire event.
- A model for water supply for bushfire preparedness is outlined in the proposed PACE model below:

PACE – Water Supply

Primary: Reticulation scheme through hydrant supply.

Alternative: Goode Beach brigade fire shed (install 150,000L reserve).

Contingency: Torndirrup NP rangers (install new 150,000L reserve, Limeburners Creek – permanent supply identified pump/pipe connections to standpipe. Supply to be isolated from reticulated scheme supply.

Emergency: Ocean, Lake Vancouver, private tank supply on private property (minimum 10,000L standalone supply at each property, camlock fittings designated through FMN).

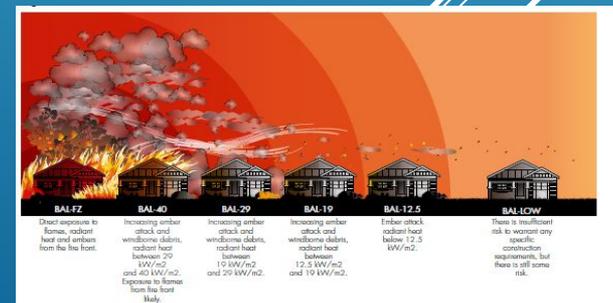
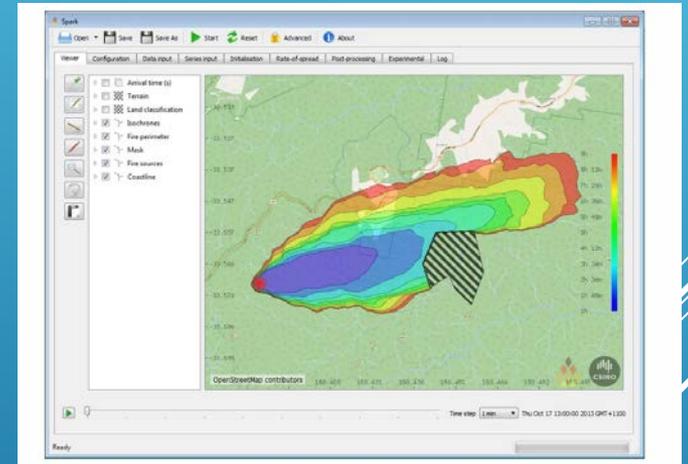
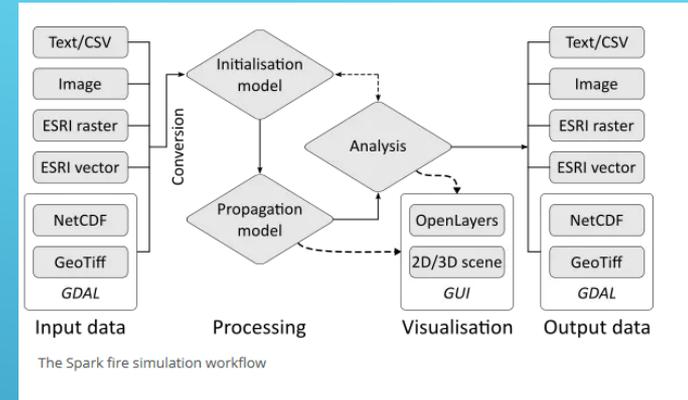


CSIRO SPARK Modelling



SPARK is a system developed by CSIRO that enables the simulation of hours of fire spread at a landscape scale.

- System based on a level set propagation model allowing simulation of any number of distinct fire fronts.
- BRIGS used SPARK to assess the likelihood and consequence of bushfire attack on life and property.
- The inputs associated with FDI 80 for each wind direction (Relative Humidity of 11%, Temperature of 41.8°C, Wind speed of 40.1 km/h and Drought factor of 9).
- 5km Broadscale Vegetation mapping undertaken by BDS.
- Undertaken on each precinct for
 - Landscape risk – how large is the bushfire catchment of the precinct;
 - Locality risk – quantity and degree of the bushfire hazard;
 - Building risk – AS3959 to assess amount of buildings at risk; and
 - Analysis of evacuation and refuge options – safer place options within the precinct based on a radiant heat flux of $\leq 10\text{kW/m}^2$.



CSIRO – SPARK burn perimeter analysis

- The precinct is most at risk from fires spreading under a SW wind.
- The ESE wind scenario also resulted in a large number of fires impacting buildings within the area this result reflects the largely uninterrupted vegetation to the southwest of the precinct.
- These results suggest that bushfires spreading under ESE and SW wind directions may impact the precinct rapidly and cut off access onto Frenchman Bay Road south of the precinct, thereby compromising evacuation.
- The nature of the vegetation surrounding the precinct (i.e. predominantly shrub/scrub fuels) allow for very fast fire spread.

Figure 4: Burn perimeter analysis (ESE)

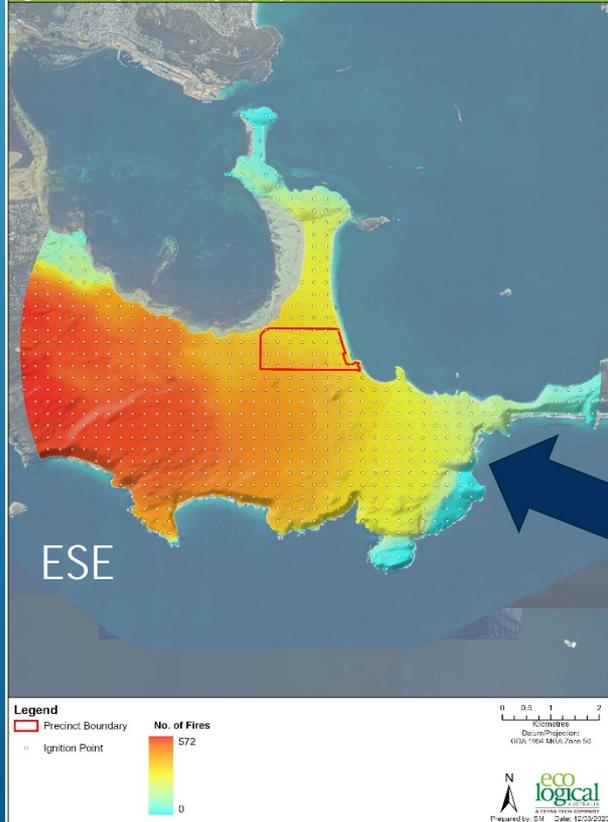


Figure 5: Burn perimeter analysis (SW)

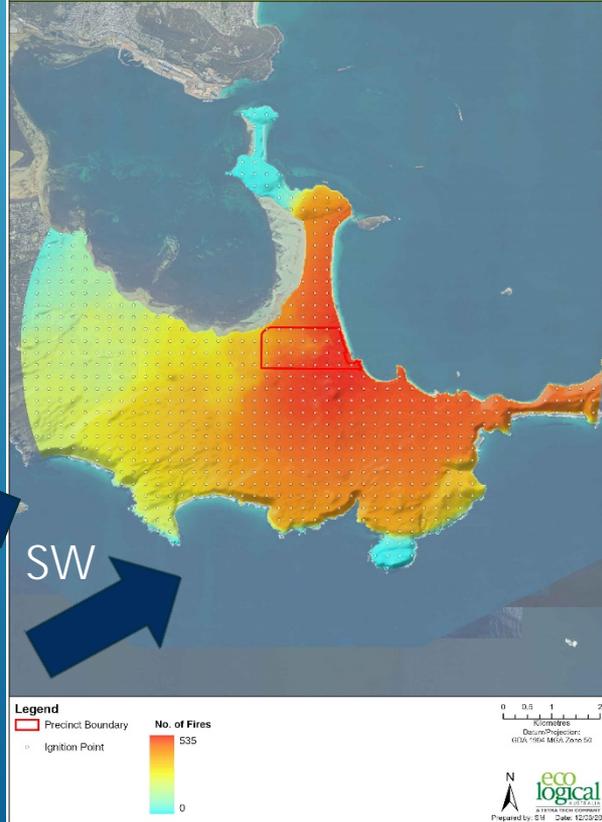
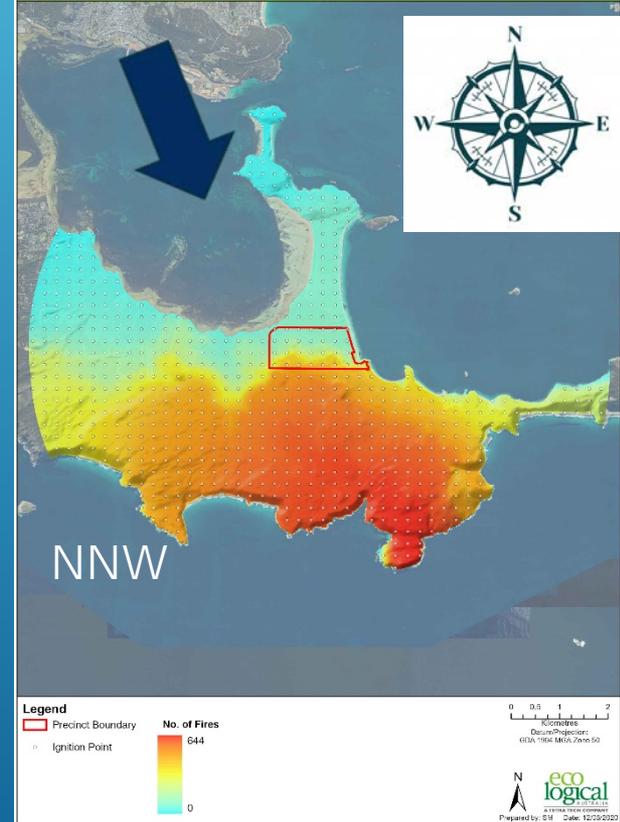


Figure 6: Burn perimeter analysis (NNW)



CSIRO – SPARK bushfire rate of spread analysis

- Assesses the potential bushfire spread and speed from different bushfire attack scenarios.
- Three directions selected ESE, SW and NNW. These directions were selected after assessing Bureau of Meteorology (BoM) weather data for Albany (Station 9500) and the data available from the National Historical Fire Weather Dataset (Lucas 2010) for the Albany weather station.
- Provides insights into the potential time to impact of assets within the precinct as well as the road network providing access.
- Shows ESE and SW wind directions pose the greatest risk to the precinct.
- Fast 'bands' related to the wind direction, topography of the land and grassland vegetation.
- Fast-moving grass fires (≥ 12 km/h) modelled have the potential to cut off roads very quickly, offsite evacuation may not be appropriate for the precinct under all conditions.

Figure 7: Bushfire rate of spread analysis (ESE)

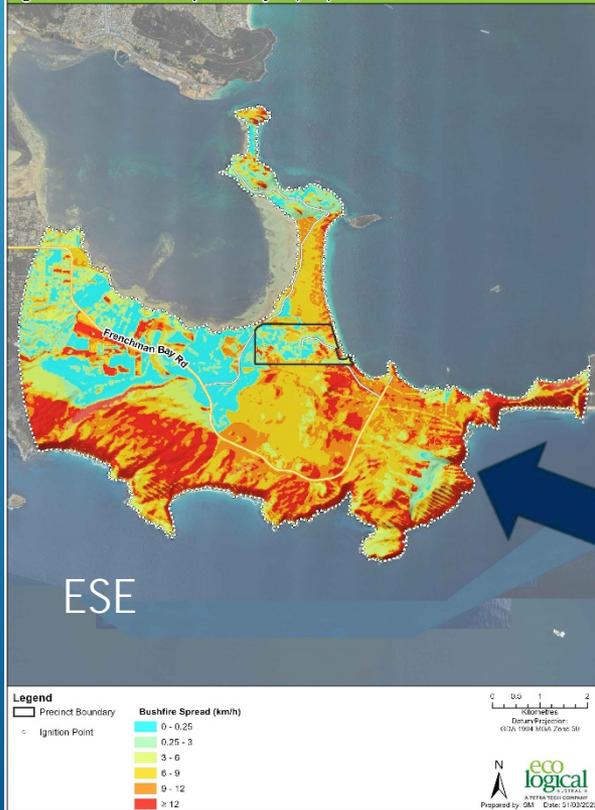


Figure 8: Bushfire rate of spread analysis (SW)

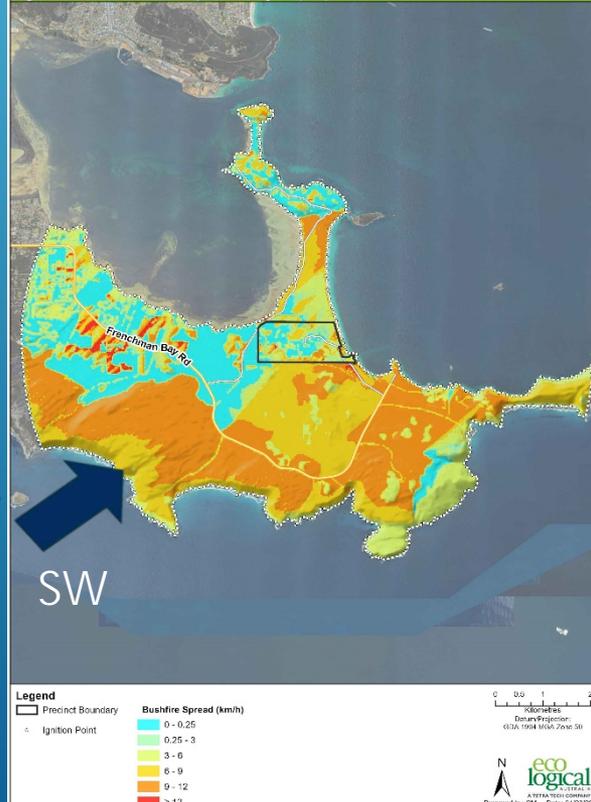
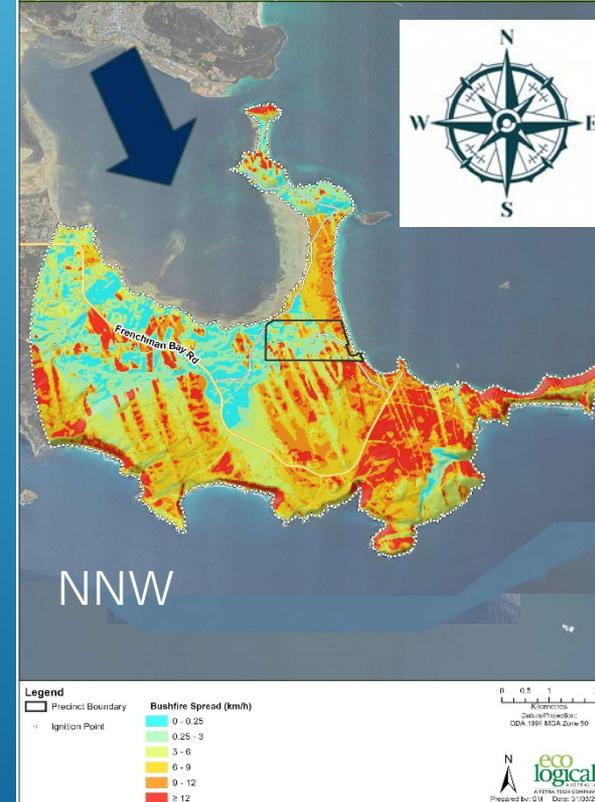
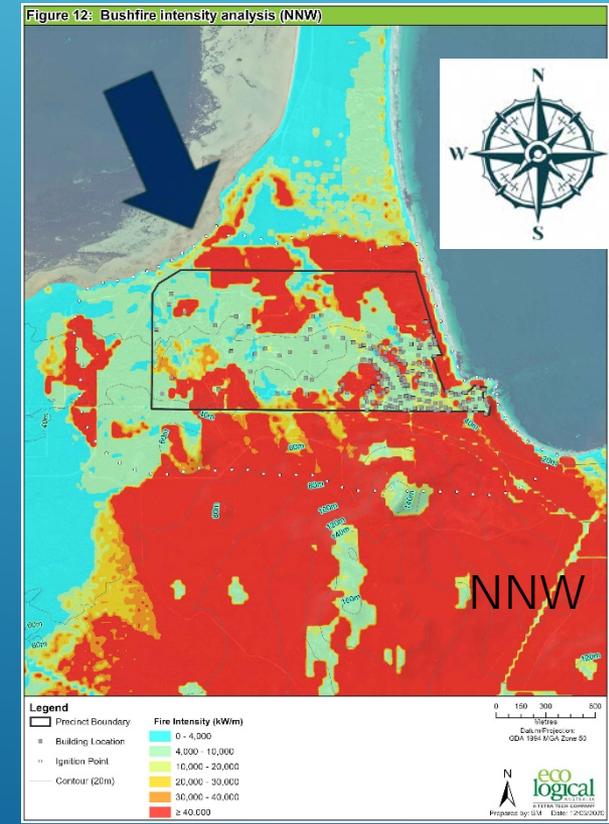
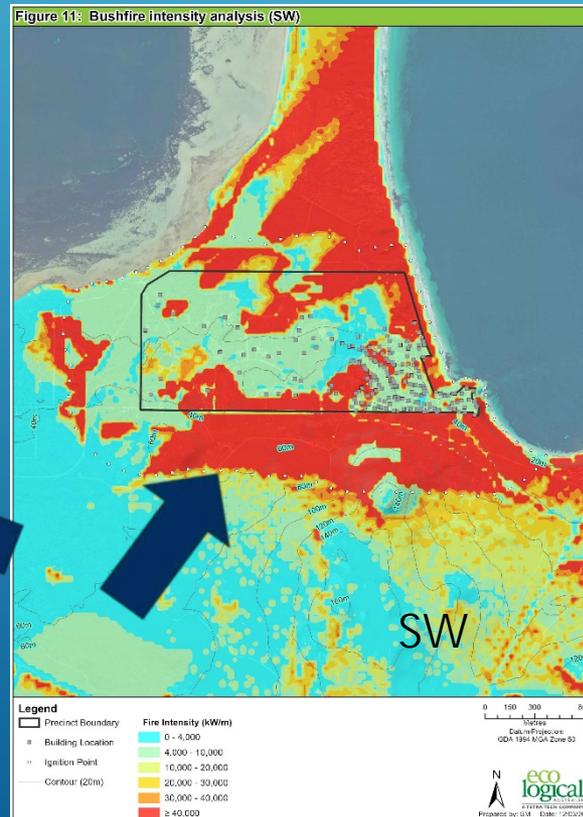
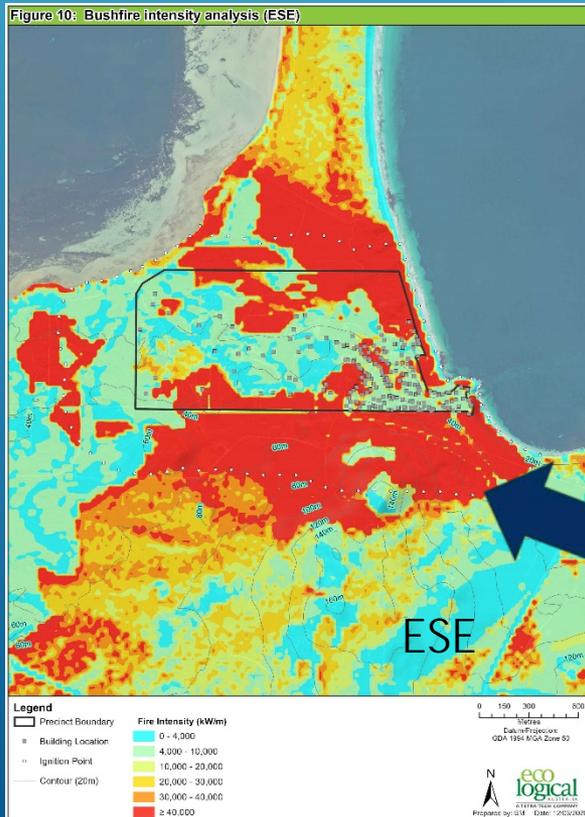


Figure 9: Bushfire rate of spread analysis (NNW)



Locality risk for the Precinct – Bushfire intensity

- To assess the quantity and degree of bushfire hazard in the immediate locality of the buildings associated with the precinct as a measure of the increased potential for more severe bushfire attack.
- Bushfire intensity is a function of the heat yield of fuel, rate of spread and fuel load.
- Fires spreading under a SW wind are modelled to potentially expose buildings within the precinct to the highest bushfire intensity (on average). and this result is attributable to the patterning of vegetation to the southwest of the precinct which comprises large areas of grassland vegetation abutting the precinct (fast rate of spread and moderate fuels).
- Potential bushfire intensity from bushfire spreading under NNW wind also has high bushfire intensity, including in the area immediately prior to the precinct, indicating the potential for more severe bushfire attack to be experienced at the interface.
- In general terms, the results indicate that more intense bushfire is possible in the areas immediately north and south of the precinct, therefore indicating the possibilities of severe bushfire attack at the interfaces of the precinct.



Building risk assessment

- The majority of buildings within the precinct (approx. 94%) occur within areas potentially subject to BAL-FZ (i.e. flame zone) and no buildings were rated as BAL-LOW attributable to the large amount of forest vegetation within and surrounding the precinct
- Regular maintenance of vegetation on private properties as per requirements of all private property owners under the Fire Management Notice (CoA 2019), particularly the requirement for all buildings to be surrounded by an Asset Protection Zone would likely lead to a major reduction in building risk.
- Fuel reduction along road reserves would likely result in a reduction of building risk.

BAL Rating	Number of buildings	% of Buildings
BAL-FZ	179	94%
BAL-40	2	1%
BAL-29	6	3%
BAL-19	3	2%
BAL-12.5	0	0%
BAL-LOW	0	0
BAL-LOW (100-300 m from hazard)	0	0
Grand Total	190	100%



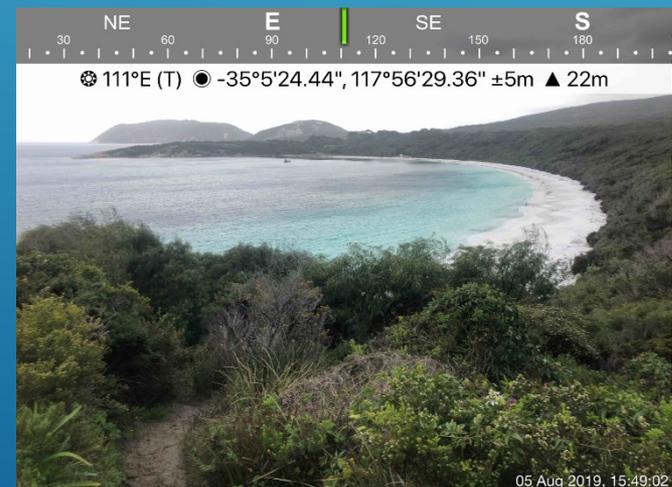
Analysis of evacuation and refuge options

- Early evacuation from Goode Beach to the Albany town site is likely to be the safest option currently available to residents and visitors. However, given the distance from the precinct to Albany is approximately 22 km travelling west on Frenchman Bay Road, through heavily vegetated areas, an alternative off-precinct evacuation option should be investigated.
- The Whaling Station is located approximately 3.6 km southeast of the precinct. remnant vegetation may be able to be cleared/managed to provide greater shelter from bushfire impacts.
- Travel time by road to Whale world is expected to take approximately 6 minutes with minimal traffic
- Further, consideration should be given to advising residents and visitors to pre-emptively relocate from the precinct during Extreme or Catastrophic Fire Danger Ratings (FDRs) or if there is an out of control bushfire within 50 km on a Severe or Very High FDR day.
- Majority of houses within the precinct are old housing stock, and not built to AS3959-2018 (or previous versions). As such, the safety of an on-site sheltering option is not deemed to be high, in most instances. However, sheltering on-site in a well-prepared and defensible property is preferable to being caught out in the open.

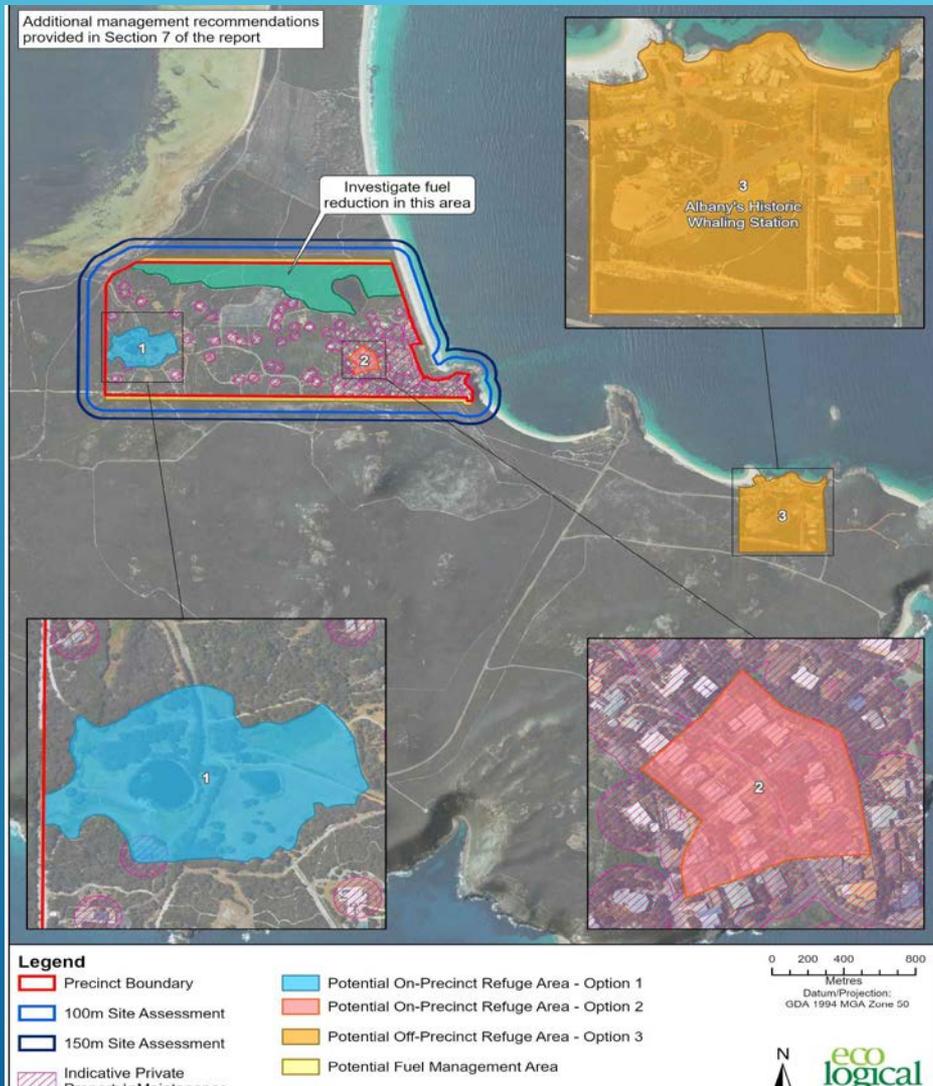


Analysis of evacuation and refuge options

- **Early** evacuation from Goode Beach to the Albany town site is likely to be the safest option currently available to residents and visitors. Given the distance to Albany is approximately 22 km travelling west on Frenchman Bay Road, through heavily vegetated areas, an **alternative** off-precinct evacuation option should be investigated.
- The Whaling Station is located approximately 3.6 km southeast of the precinct. remnant vegetation may be able to be cleared/managed to provide greater shelter from bushfire impacts.
- Travel time by road to Whale world is expected to take approximately 6 minutes with minimal traffic
- Consideration should be given to advising residents and visitors to pre-emptively relocate during Extreme or Catastrophic Fire Danger Ratings (FDRs) or if there is an out of control bushfire within **50 km** on a Severe or Very High FDR day.
- Majority of houses within the precinct are old housing stock, and not built to AS3959-2018 (or previous versions). The safety of an on-site sheltering option is not high, in most instances. However, sheltering on-site in a well-prepared and defensible property is preferable to being caught out in the open.



Analysis of evacuation and refuge options



Three possible refuge locations

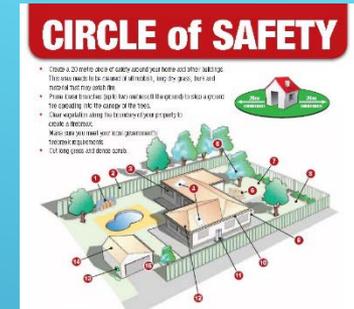
1. Private land within the precinct that may be able to be acquired to develop a refuge building or open space area;

2. Private properties within the precinct that may be able to be acquired to use as a refuge building

3. The Albany Historical Whaling Station (Whale World) could be designated as an alternative off-precinct refuge to avoid having evacuees travelling a considerable distance along Frenchman Bay Road to Albany through bushfire hazards for off-precinct evacuation.

On-precinct evacuation

- The analysis of safer place refuge options did not identify any areas of a suitable size within the precinct that could currently be used as a refuge based on the radiant heat flux thresholds.
- The two possible refuge locations : 1. Land in a public reserve that could be developed into a refuge building if appropriate vegetation clearing within the location and surrounds can be undertaken; and
- 2. Private land that may be able to be acquired to develop a refuge building.
- Early evacuation to Albany CBD, well in advance of a bushfire is strongly recommended.
- Houses not built to AS3959 are not considered a safe sheltering option.
- Homeowners need awareness of the bushfire risk they are exposed to and comply with the City of Albany 2019/2020 FMN
- Residents should be encouraged to prepare their own bushfire survival plan.



FIRST AND FINAL NOTICE IS HEREBY SERVED TO ALL LAND OWNERS AND OCCUPIERS IN THE CITY OF ALBANY

These are your legal requirements. Please read carefully and retain for future reference.

This Notice constitutes the City of Albany Fire Management Notice and is issued under Section 33 of the Bush Fires Act 1954.

You are required to prepare your property for the fire season. This includes installing and maintaining fire breaks and reducing fuel loads on your property. This Notice sets out the actions you must take.

All fire mitigation measures must remain in place for the following periods:

NORTH EAST SECTOR
1 October 2019 to 30 April 2020
SOUTH WEST SECTOR
1 November 2019 - 14 May 2020

These dates are subject to change. Any changes will be published in local newspapers and on the City of Albany website at www.albany.wa.gov.au



1 CHOOSE YOUR BUSHFIRE PLAN

Fill out our quick questionnaire to help you decide whether you want to leave early or stay and defend in the event of a bushfire.

Answer yes, no or unsure to each question.

Q1 Who am I putting in danger? Will any children, guests, dependents, elderly or sick household members leave early and be cared for?

NO

UNSURE

YES

Cost

- Community cost post fire: Trauma, Re-establishment costs and time to rebuild.

"Canberra suffered not just economic loss but significant social devastation. The first person to suffer from the smoke was a 61-year old man in Duffy. He died of asphyxiation fighting the fire in his backyard. Tragically there were also three more to follow, among them an 83-year-old woman and a 37-year-old woman. Many people were affected by depression, particularly those who had lost their homes in the fires. The community began to question the lack of preparation for the fires and the total confusion at the time."

- LGA recovery cost: rebuilding, cost to government.
- Personal cost: trauma and rebuilding.



The red indicates the families and homes destroyed in Duffy



Stakeholder assistance..

Priority and ranking No	Implementation Action	Agency
1	Assist with funding options to private landowners to retrofitting dwellings to BAL and AS3959.	DFES/SEMC & DoHA (fed)
2	Assist with funding options/mechanism through provision of advice to the LGA and private landowners to undertake individual BAL assessments on dwellings to install a compliant APZ associated with BAL-29 or less (where able to achieve) and AS3959 setbacks/APZ area.	DFES
3	Investigate extension of the Mitigation Activities Funding arrangements (MAF) onto private property (priority areas only) to link the public road network as outlined in Table 3.	DFES
4	Assist land owners, LGA and other agencies as identified through provision of advice on retrofitting to BAL and AS3959, consideration to updating the DFES Homeowner's Bushfire Survival Manual (DFES 2014) to assist with current public available information.	DFES
5	Assist with provision of guiding policy to the LGA on "open space refuge areas" and "community refuge buildings" to assist in development of these areas within the precinct by the LGA/LEMC.	DFES/LEMC
6	LEMC to assist with Investigation of options for the construction or designation of an off-precinct community refuge (or safer place) building and associated vegetation management.	LEMC
7	WCWA assist the LGA by providing baseline mapping of water supply infrastructure to the precinct to assist with planning, mitigation, suppression and recovery activities.	WCWA
8	Continue to undertake vegetation management to 20m APZ (low fuel) around all water infrastructure within the precinct as shown on Figure 8. Seek adjacent neighbour compliance to meet 20m protection zone where applicable.	WCWA
9	DPAW continue to assist with management of low fuel buffers adjacent to the precinct to enable bushfire mitigation measures.	DBCA
10	Assist with low fuel areas around WCWA infrastructure to meet 20m APZ where structures on DPAW managed land.	DBCA
11	Upgrading and/or maintaining access to a minimum of trafficable standards (Table 4) and ensuring turnaround areas are provided on crown reserves.	DBCA
12	DPLH assist through provisions of advice to the LGA with planning strategies and schemes to ensure that SPP3.7 and recommendations are applied in future reviews and applied consistently throughout the precinct.	DPLH

Building bushfire resilience in communities – National strategy for disaster resilience

- “State governments and municipal councils to adopt increased or improved protective management, emergency management and advisory roles.”
- Strive to recognize and understand the risks disasters pose to their own and their communities interests.
- Leaders drive development of partnerships and networks to build resilience at government, business, neighborhood and community levels.
- We have local, state and federal government listening....
- This is your community/precinct and the bushfire risks affect you....



Where to from here..

- How to establish Asset Protection Zones and biological values – talks with the community.
- Stakeholder working groups – from established BRIGS group.
- Bushfire ready group developed.
- Mitigation Activities funding priorities.
- Fire control notice review.
- Continue engaging with community/precinct.



Photo: R.Hedderwick, 2020



Where to from here...lets talk about it its your community..

- Questions
- Suggestions
- Funding options
- Bushfire ready groups
- Stakeholders not considered?
- Next steps from City of Albany
- Next fire season 2020/21 preparations
- Feedback on the project

