



Fire, Forestry & Roads

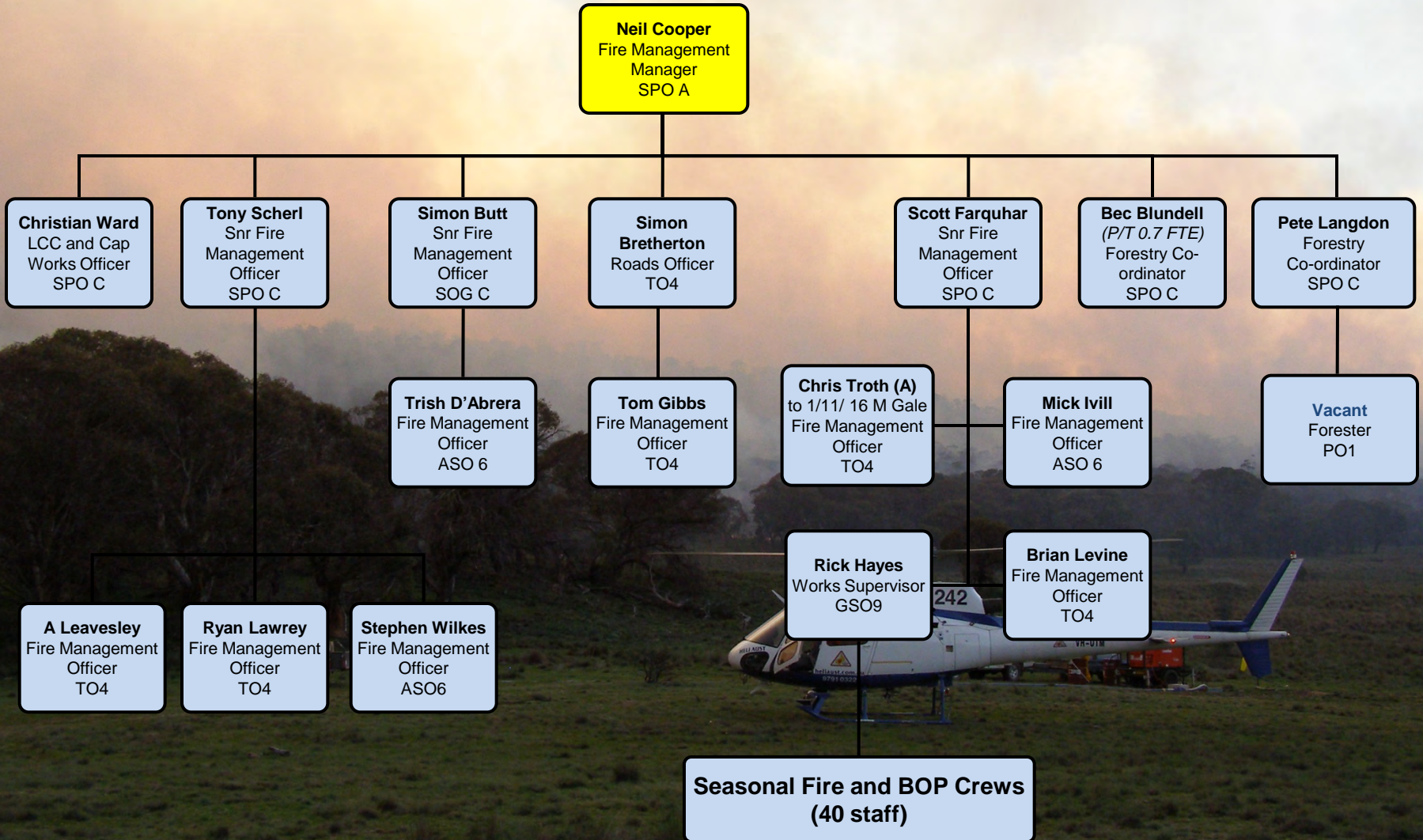
Brian Levine

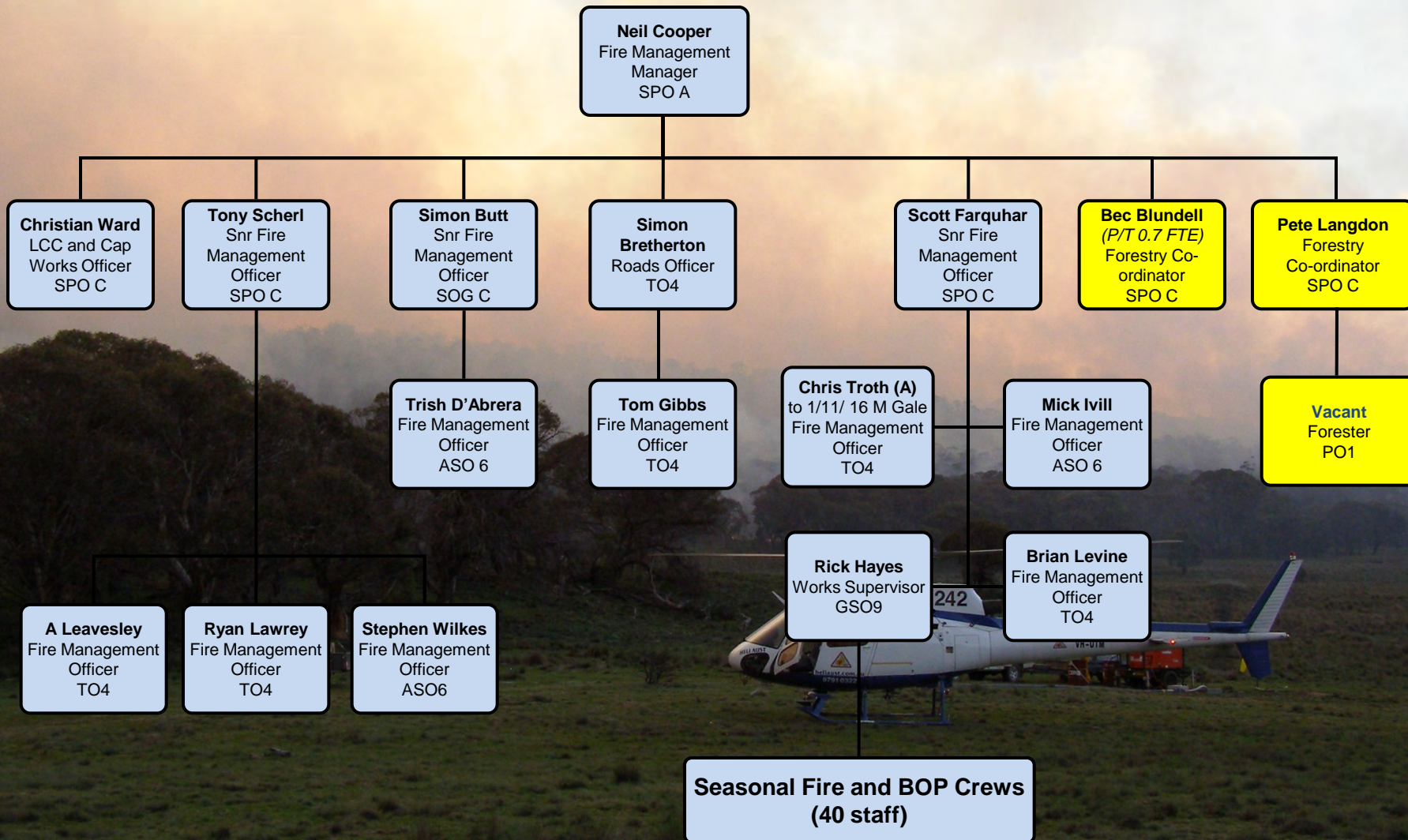


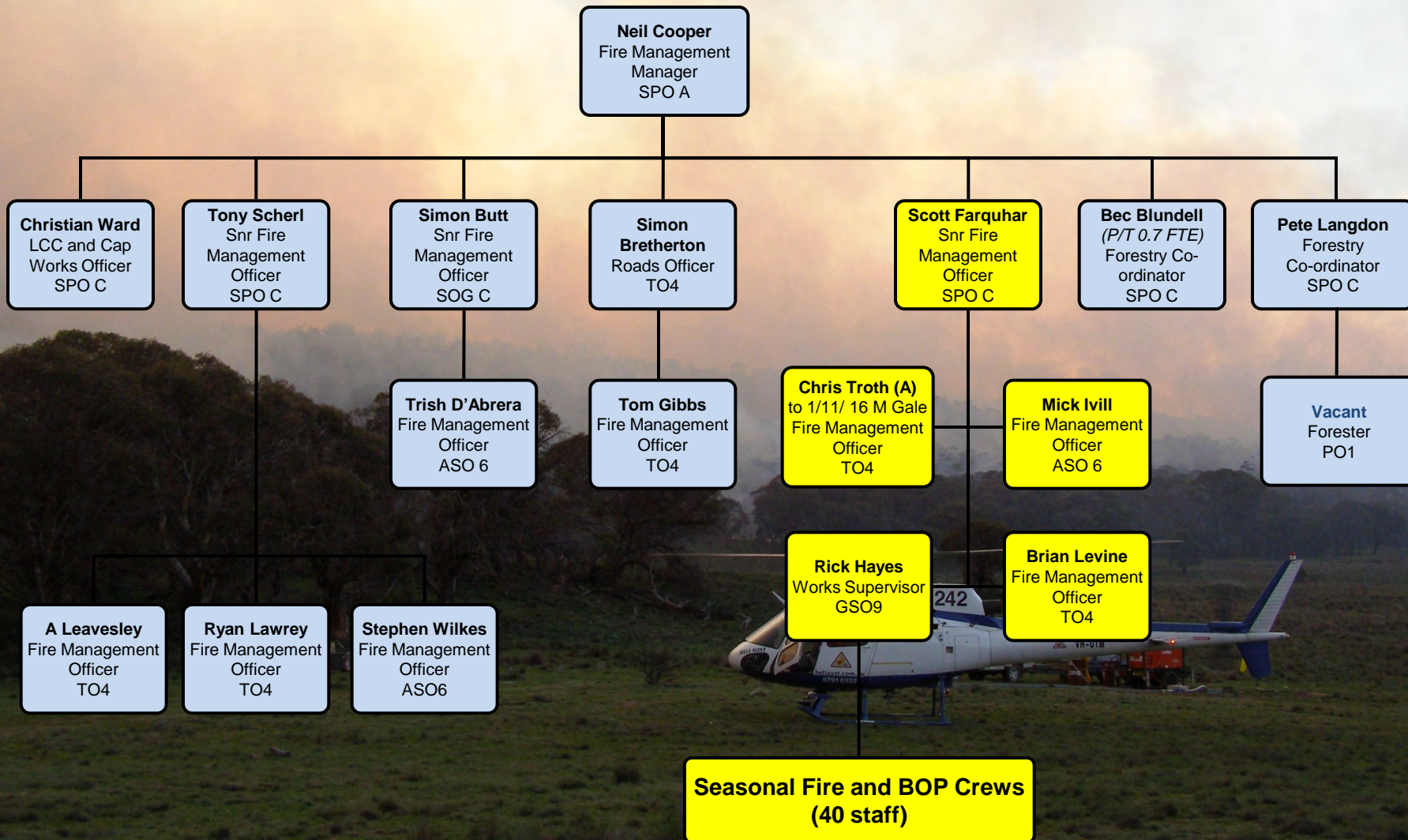
ACT
Government

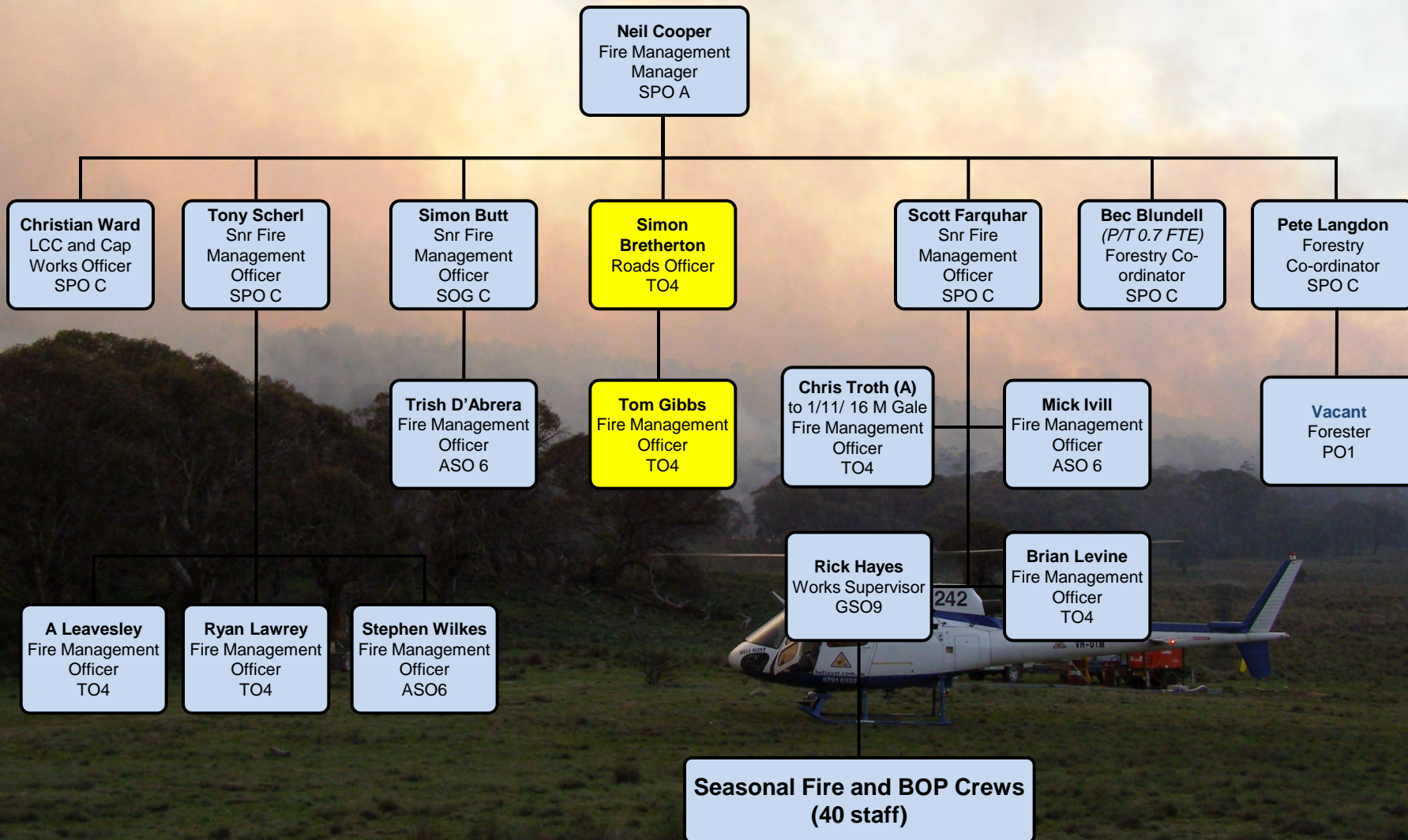


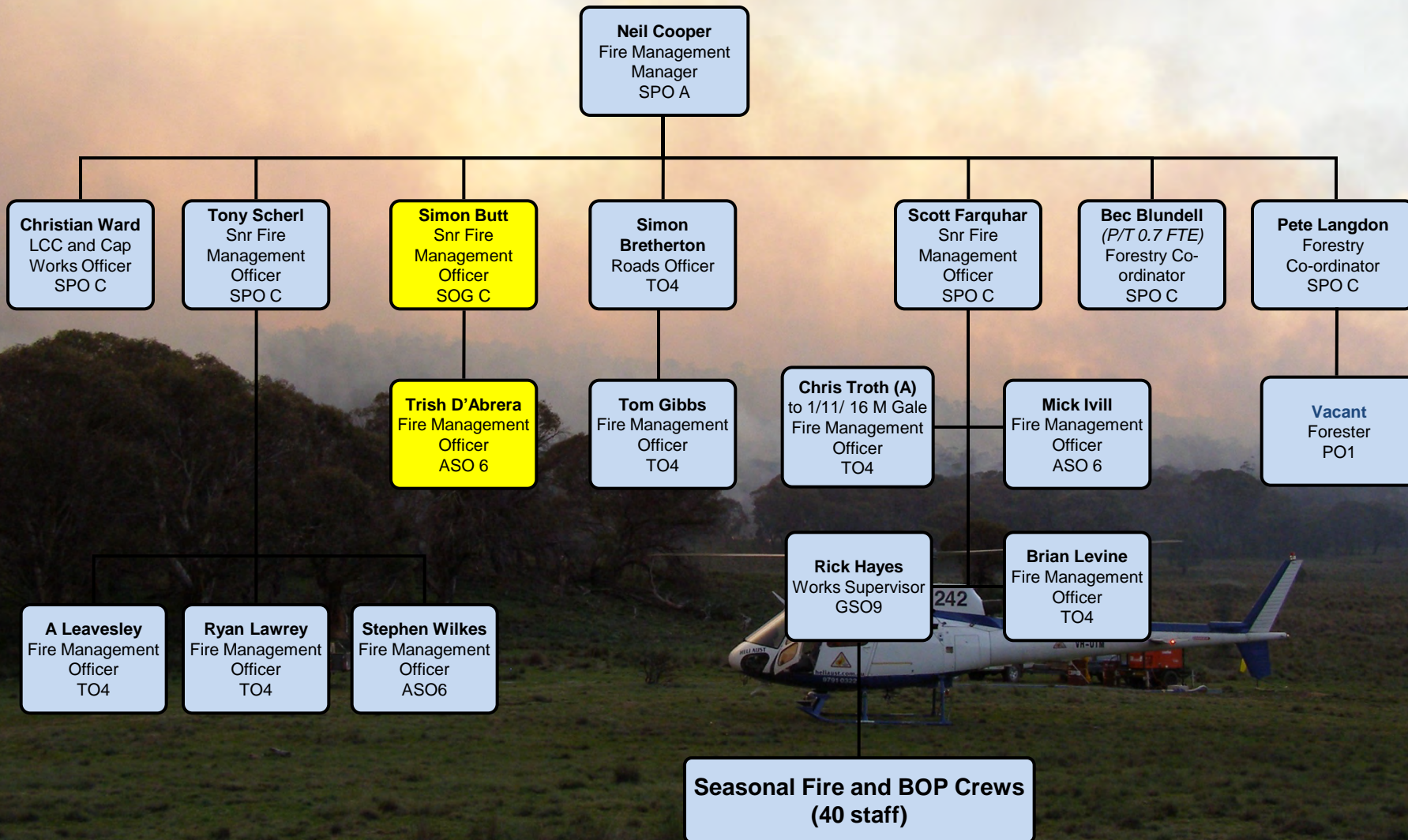


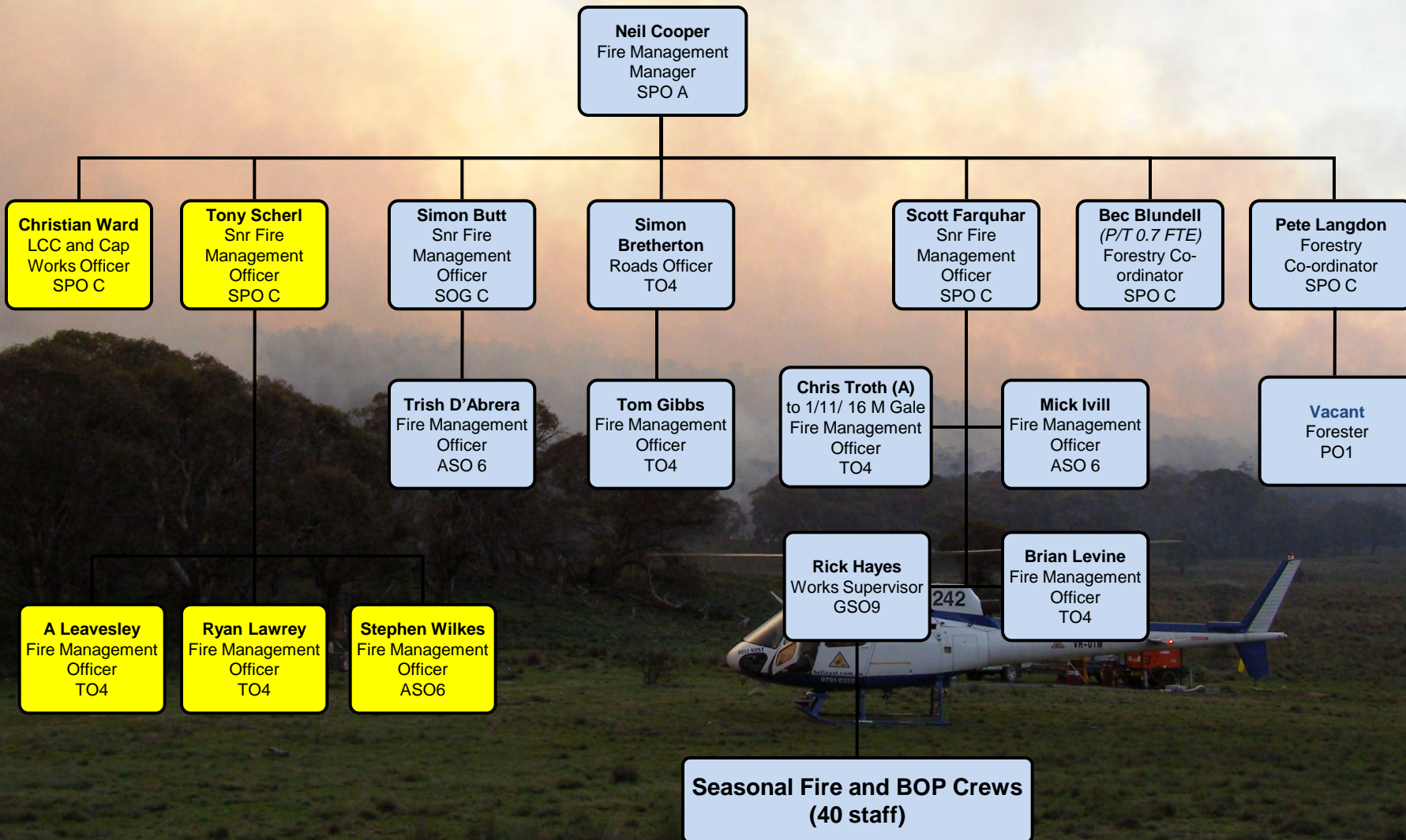






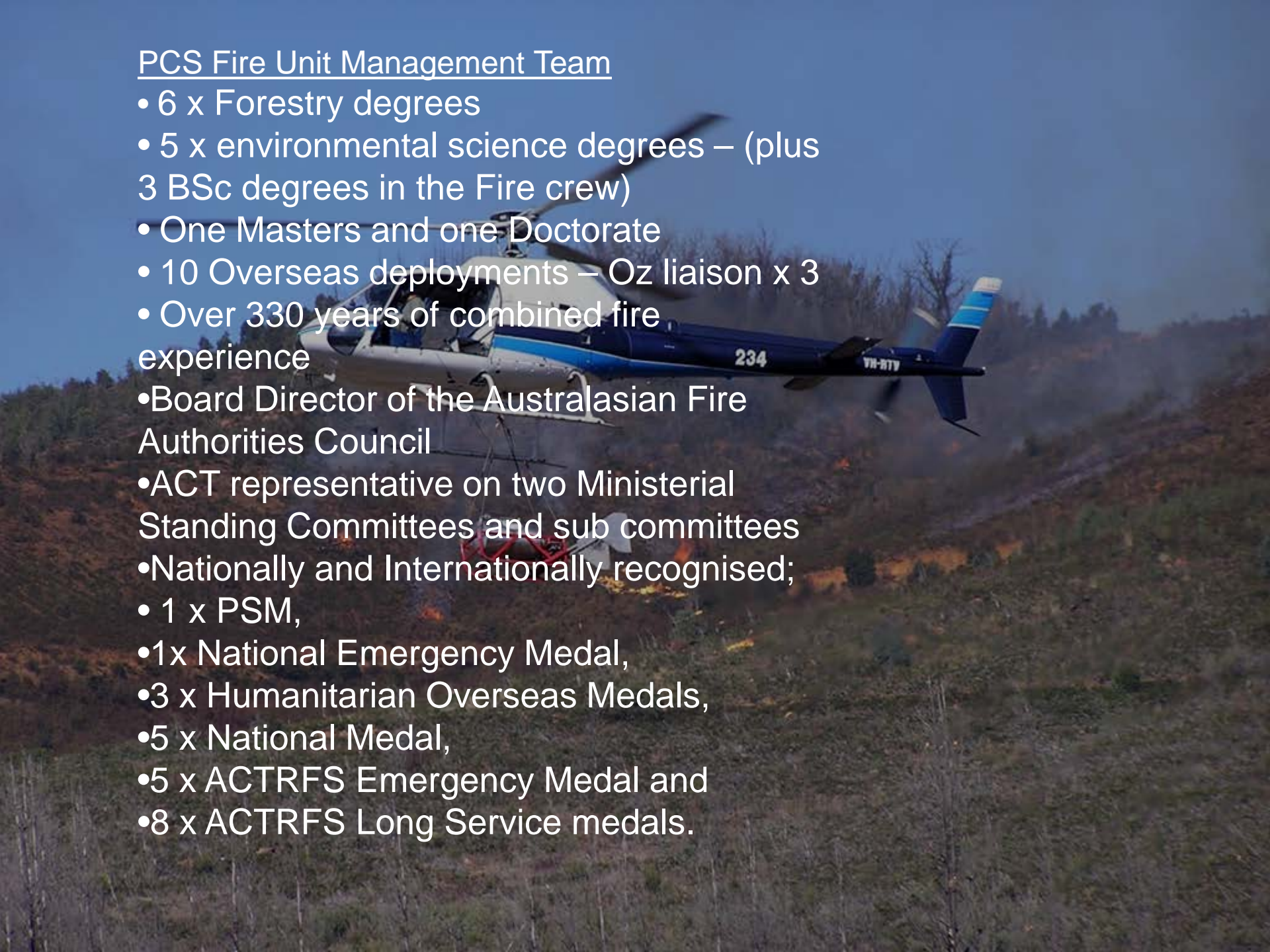






PCS Fire Unit Management Team

- 6 x Forestry degrees
- 5 x environmental science degrees – (plus 3 BSc degrees in the Fire crew)
- One Masters and one Doctorate
- 10 Overseas deployments – Oz liaison x 3
- Over 330 years of combined fire experience
- Board Director of the Australasian Fire Authorities Council
- ACT representative on two Ministerial Standing Committees and sub committees
- Nationally and Internationally recognised;
- 1 x PSM,
- 1x National Emergency Medal,
- 3 x Humanitarian Overseas Medals,
- 5 x National Medal,
- 5 x ACTRFS Emergency Medal and
- 8 x ACTRFS Long Service medals.



Fire is a significant risk – to EPSDD, staff and the Territory



ACT GOVERNMENT



TERRITORY WIDE RISK ASSESSMENT REPORT

Developed by Echelon Australia (June 2012)

Version 2 – July 2014

The three Extreme hazards as rated by the TWRA Working Group.

- **RA14 – Bushfire:**

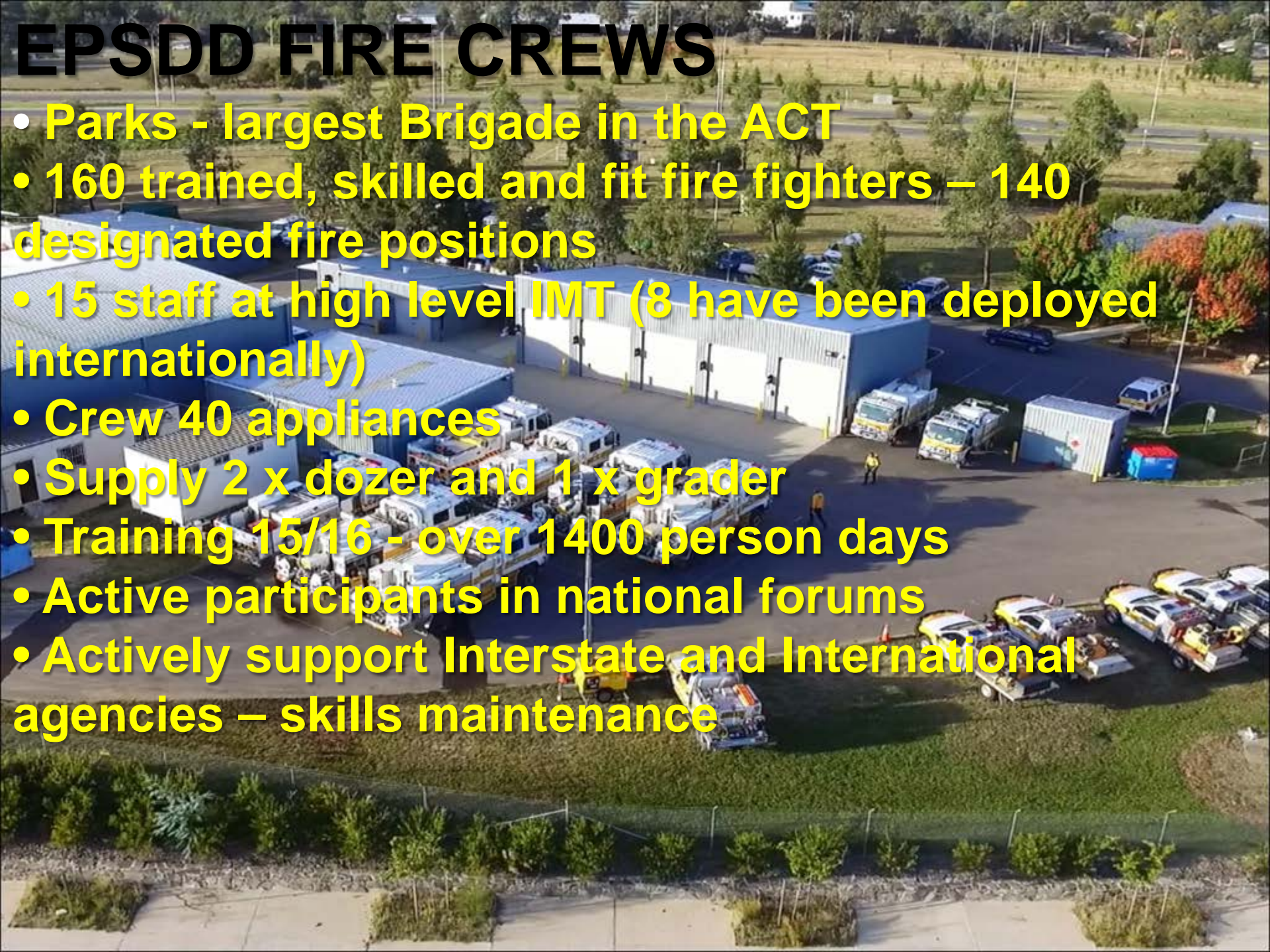
It was considered by the TWRA Working Group that significant bushfire event in the ACT could result in property damage, potential fatalities potential casualties, loss of infrastructure and utilities, environmental impact, impact on local businesses, disruption to transport, closure of roads, impact on local community, economic impact, possible evacuation, impact on livestock, impact of cultural assets, impact on water supply, exclusion zones, impact on Commonwealth assets.

- **RA19 – Extreme Heat:**

- **RA22 – Severe Storm:**

EPSDD FIRE CREWS

- Parks - largest Brigade in the ACT
- 160 trained, skilled and fit fire fighters – 140 designated fire positions
- 15 staff at high level IMT (8 have been deployed internationally)
- Crew 40 appliances
- Supply 2 x dozer and 1 x grader
- Training 15/16 - over 1400 person days
- Active participants in national forums
- Actively support Interstate and International agencies – skills maintenance



Standby and Rosters 16-17

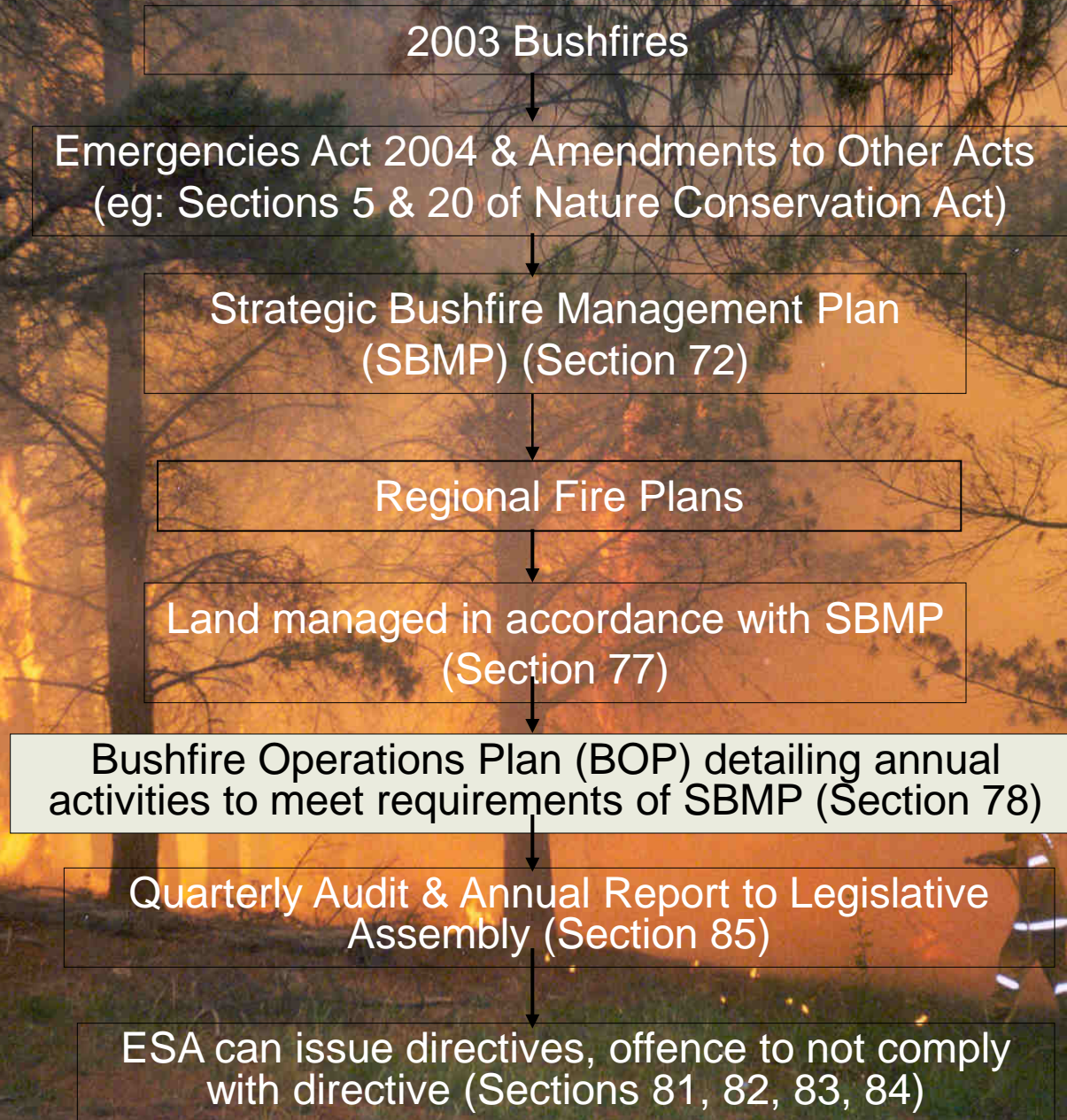
Readiness Level	Level 1	Level 2 (51 people)		Level 3		Level 4 & 5	
FDI	0-11	12-24		25-49		>50	
Zones		Units	Mobile In zone	Units	Mobile In zone	Units	At designated standby point
North	Available for callout via PCS Duty Co-ordinator	Tanker (P11)		Tanker (P11)		Tanker (P11)	
		Tanker (P12)		Tanker (P12)		Tanker (P12)	
		CAFS (P15C)		CAFS (P15C)		CAFS (P15C)	
		Light (P21)		Light (P21)		Light (P21)	
		Light (P20)		Light (P20)		Light (P20)	
		1 Officer		1 Officer		1 Officer	
South	Available for callout via PCS Duty Co-ordinator	Tanker (P10)		Tanker (P10)		Tanker (P10)	
		Tanker (P14)		Tanker (P14)		Tanker (P14)	
		Tanker (P16)		Tanker (P16)		Tanker (P16)	
		Tanker (P17)		Tanker (P17)		Tanker (P17)	
		Light (P22)		Light (P22)		Light (P22)	
		Light (P25)		Light (P25)		Light (P25)	
		1 Officer		1 Officer		1 Officer	
Rural	Available for callout via PCS Duty Co-ordinator	Med (P30) - Googong		Med (P30) - Googong		Med (P30) - Googong	
		Light (P24)		Light (P24)		Light (P24)	
		Light (P26)		Light (P26)		Light (P26)	
		Light (P27)		Light (P27)		Light (P27)	
		Medium (P31)		Medium (P31)		Medium (P31)	
		2 Officers		2 Officers		2 Officers	
Times	N/A	1200 - 1800		1100 - 1900		1000 - 2000	

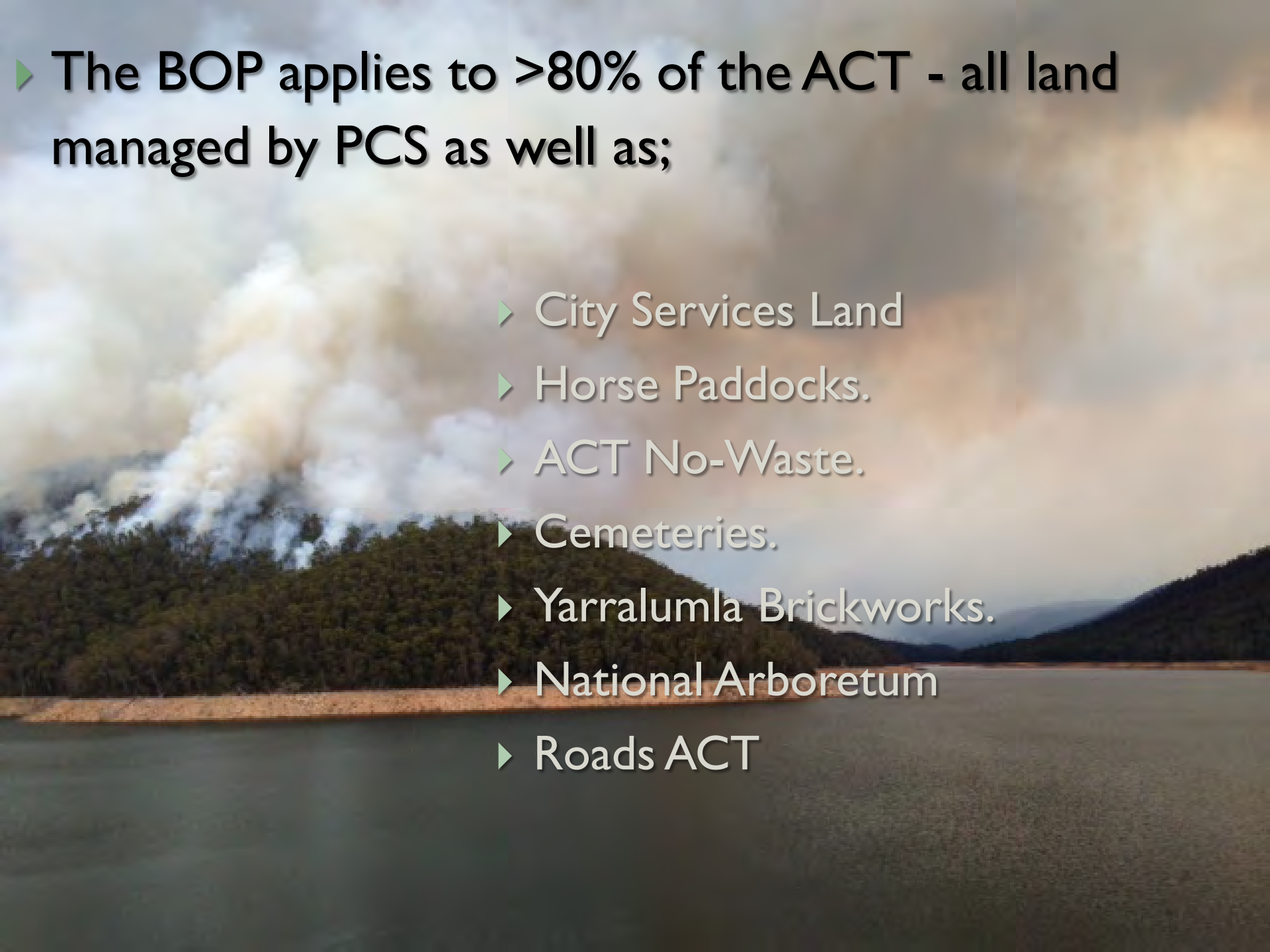
A photograph showing a forest fire in progress. In the foreground, a sign for Black Mountain Nature Reserve is visible. The sign is green and white, with the text 'Black Mountain Nature Reserve' and 'CANBERRA NATURE PARK'. Below the text is a logo of a possum. At the bottom of the sign are the logos for the ACT Government and the Department of Environment and Conservation. The background shows a dense forest of trees, with smoke rising from the fire. The fire is burning brightly in the lower left and middle ground, with flames reaching up into the trees.

▶ EPSDD has a legal obligation under the Emergencies Act 2004 to manage fuel on, and limit the spread of fire from our estate – BOP.

▶ 100% of all major fires in the ACT will occur on/come from EPSDD land!

What is the BOP ?





▶ The BOP applies to >80% of the ACT - all land managed by PCS as well as;

- ▶ City Services Land
- ▶ Horse Paddocks.
- ▶ ACT No-Waste.
- ▶ Cemeteries.
- ▶ Yarralumla Brickworks.
- ▶ National Arboretum
- ▶ Roads ACT

BOP approval

- **Not approved by EPSDD**
- **Endorsed by Bushfire Council (Legislated).**
- **Approved by Commissioner for Emergency Services (Legislated).**

BOP Budget 16/17

GPO	\$10,886,214
Capital Radios	\$ 1,000,000
Capital SBMP v3	\$ 847,180
NDRP	\$ 195,000
Total	\$12,928,394

•REPORTED TO CABINET

•PUBLICLY AVAILABLE ON THE WEB

Fire on EPSDD web

- ▶ http://www.environment.act.gov.au/parks-conservation/bushfire_management



Bushfire Operations Plan 2016-2017

DIRECTION
225 deg(T)

55H FA 7683 7434

ACCURACY 5 m
DATUM WGS84



Paul SE
IOS

Gibraltar

1/04/2016
12:29:52

BOP Overview and Comparison

	2015-16			2016-17		
	Count	Km	Ha	Count	Km	Ha
Access Construction	2	5				
Access Maintenance	31	252		60	270	
Access Upgrade	5	73		2	2	
Access Vegetation	30	249		26	202	
Chemical	33	56	381	35	257	153
Grazing	74		6041	72		6041
Slashing	252		5511	246		4733
Physical Removal	54		468	58		549
Prescribed Burns	54		6,781	19		7,343
Prescribed Burns (RFS)	8		148	6		106
Cultural Burn				2		20
Ecological Burn				16		252
Grand Total	543	635	19,330	542	731	19,200



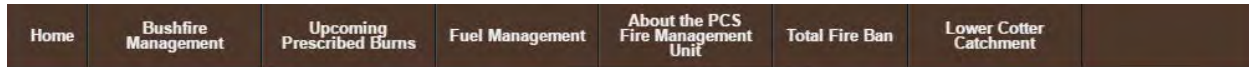
2016-2017 BOP

Developments

- **Incorporates the Lower Cotter Catchment (including Blue Range) work**
- **Continuation of Auditor-General Recommendations (Bushfire & LCC)**
- **Increased focus on chemical treatment of re-growth following trittering**
- **Includes the Murumbung Rangers initiative.**
- **Advertising of burns**



Community Engagement



Seasonal fire fighter recruitment

Updated webpages with improved content

Bushfire

The overall responsibility for the suppression primarily with the ACT Rural Fire Service (ACT please refer to the ACT Emergency Services Agency for unplanned fire incidents)



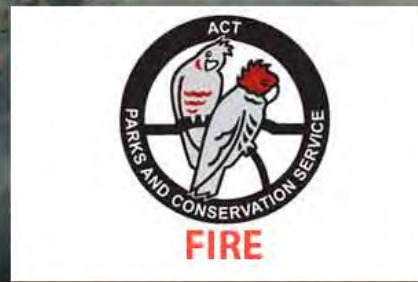
Upcoming Prescribed Burns



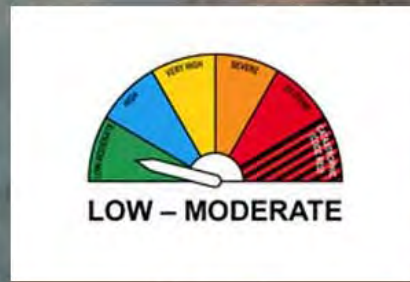
Notification form



Fuel Management



PCS Fire Management Unit



Total Fire Ban



Lower Cotter Catchment

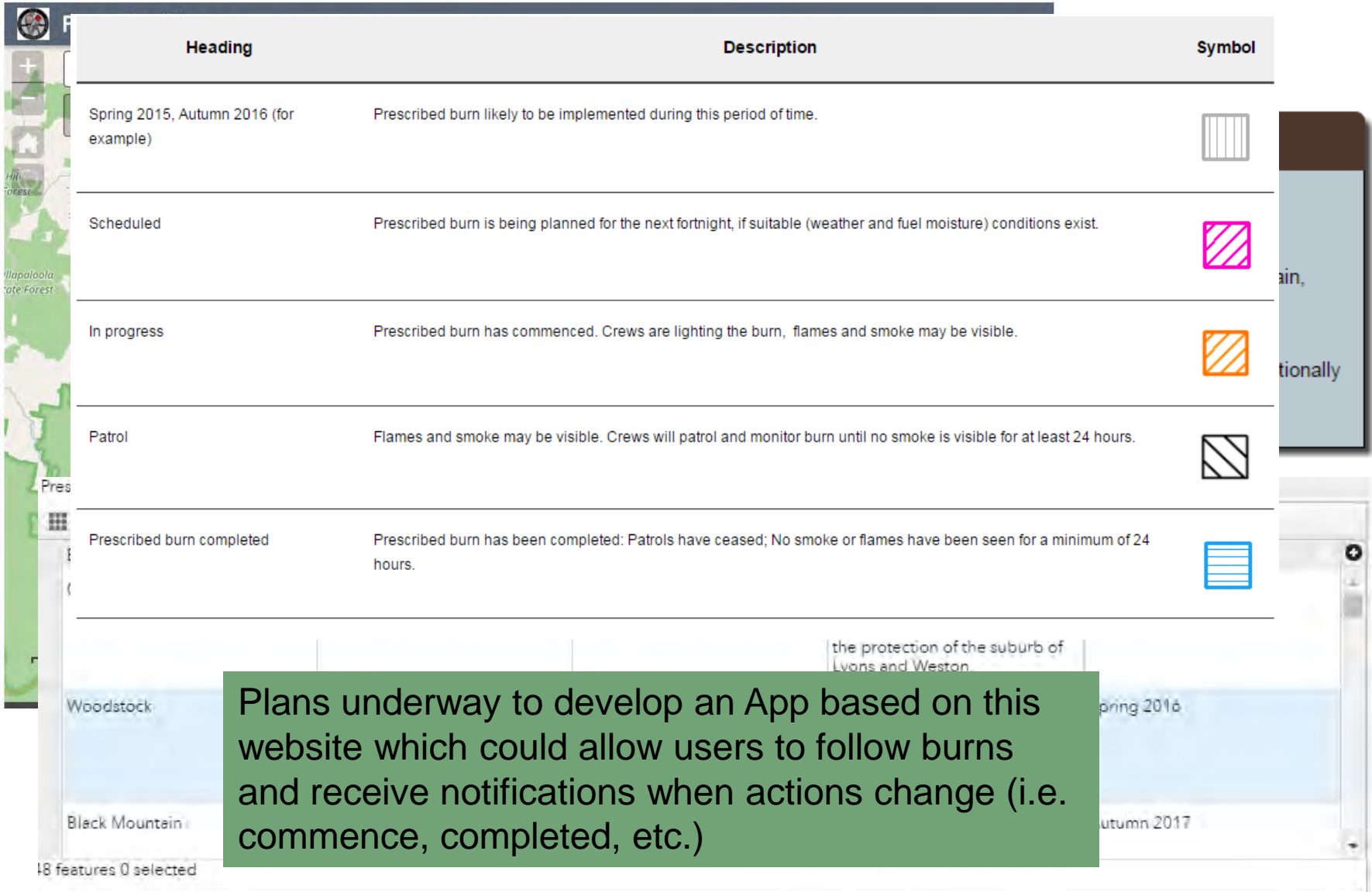
Community Engagement

The Twitter logo, featuring the word "twitter" in a white, lowercase, sans-serif font next to a white bird icon, all set against a solid blue rectangular background.The Facebook logo, consisting of the word "facebook" in a white, lowercase, sans-serif font centered within a solid dark blue rectangular background.






- ACT Parks is launching a 3-prong attack on social media to engage with the public
- Fire Mgt Unit also presents fire management education sessions to Year 5/6 students



Community Engagement



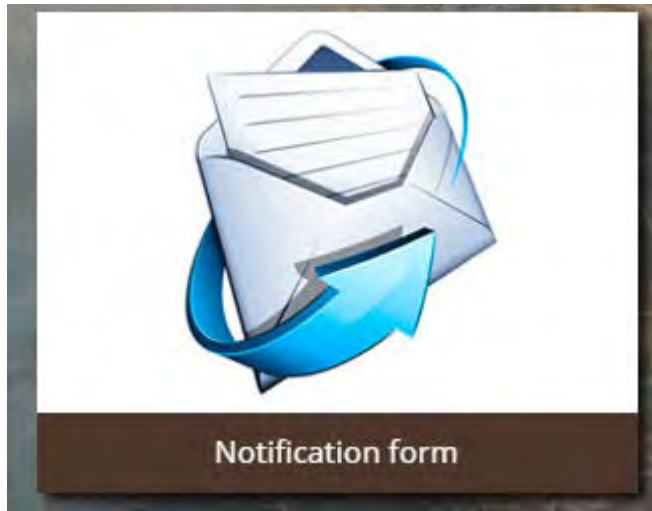
The screenshot shows a web application interface. On the left is a map with various locations labeled, including 'Hill Forest', 'Makapalaola Forest', and 'Woodstock'. A table with three columns is overlaid on the map. The columns are 'Heading', 'Description', and 'Symbol'. The table lists five burn status categories. A green text box is overlaid on the bottom right of the table, containing text about developing an app.

Heading	Description	Symbol
Spring 2015, Autumn 2016 (for example)	Prescribed burn likely to be implemented during this period of time.	
Scheduled	Prescribed burn is being planned for the next fortnight, if suitable (weather and fuel moisture) conditions exist.	
In progress	Prescribed burn has commenced. Crews are lighting the burn, flames and smoke may be visible.	
Patrol	Flames and smoke may be visible. Crews will patrol and monitor burn until no smoke is visible for at least 24 hours.	
Prescribed burn completed	Prescribed burn has been completed: Patrols have ceased; No smoke or flames have been seen for a minimum of 24 hours.	

Plans underway to develop an App based on this website which could allow users to follow burns and receive notifications when actions change (i.e. commence, completed, etc.)

Community Engagement

- ▶ **Smart Form**



- ▶ **Public can sign up and receive email updates**



Community Engagement

- ▶ Established partnership with Asthma Australia



- ▶ Sharing of information and knowledge
- ▶ <https://www.asthmaaustralia.org.au/act/about-asthma/manage-your-asthma>



Community Engagement

► Created Asthma and Bushfire Smoke Brochure:

WHY BURNS ARE NEEDED

Smoke from prescribed burning activities can be a major trigger for people with asthma and other respiratory conditions. It's important to be prepared and know how to respond if you are exposed to smoke.

Prescribed burning occurs across the ACT by the ACT Parks and Conservation Service and the ACT Rural Fire Service. Smoke from prescribed burns in surrounding NSW can also enter the ACT.

Prescribed burns reduce fuel hazard and help protect assets, our rural landscape and our water supply. They can promote ecological diversity and improve fire fighter safety by reducing fuel loads.

The burns generally occur in spring or autumn but can take place in other parts of the year if suitable conditions exist. Every effort is made to conduct burns in weather conditions that will minimise the impact of smoke on residents. Fire managers constantly monitor weather to ensure burns will not adversely affect the community.

KEEP INFORMED

Keep up-to-date on the ACT's prescribed burn schedule at www.environment.act.gov.au/parks-conservation/bushfire_management/prescribed-burns. The website allows you to sign up to receive notification emails about planned burns.

WHAT DO I DO?

Tips to stay safe and well if there is bushfire smoke in your area:

- » Stay indoors when there is smoke (unless you are advised to evacuate).
- » Close all windows and doors and block air vents.
- » If you have an air conditioner, use it – set it to recycle at home and in the car.
- » Avoid doing physical activity outdoors while smoke is around.
- » Continue using your asthma preventer medication as prescribed by your doctor.
- » Always have your asthma reliever medication (blue/grey puffer) with you. Use it as soon as you get symptoms to prevent them getting worse. If available, use a spacer as it helps get more medication into your lungs.
- » If your asthma reliever medication isn't working, or is needed 2–3 times hourly or more, seek urgent medical advice by calling 000 for an ambulance.
- » Older people, children and those working at the fire front are most at risk, so be aware and if you notice someone having trouble access help fast.
- » If you don't have an Asthma Action Plan, or are unsure what to do in an asthma emergency, follow the Asthma First Aid procedure.



Community Engagement

- ▶ Information about our program and direct link to our website is now on their website and vice-versa

Asthma & Bushfire Smoke

Bushfire smoke and smoke from prescribed burning activities trigger for people with asthma and other respiratory conditions. It is important to be prepared and know how to respond if you are exposed to smoke.

Prescribed burning occurs across the ACT by ACT Parks and Conservation Service and the ACT Rural Fire Service. Prescribed burns reduce fuel hazard, assist in the protection of assets (natural, cultural, and/or built), our rural landscape and our water supply. They can promote ecological diversity, and improve fire fighter safety by reducing fuels in strategic areas.

Prescribed burns generally occur in spring or autumn but can occur in other parts of the year if suitable conditions exist. Every effort will be made to conduct the burn in weather conditions that will minimise the impact of smoke on residents. Fire managers are constantly monitoring the weather to ensure that burns will not adversely affect the community.

Keep up-to-date on the prescribed burn schedule [here](#)

Sign up to receive notification emails [here](#)

What do I do?

Tips to stay safe and well if there is bushfire smoke in your area:



Community Engagement

How does ACT Parks and Conservation Service determine if it is suitable to implement a prescribed burn on a given day?

PCS uses a decision support tool called the Prescribed Burn Decision Support Tool. Using *ISO 31000 Risk Management – Principles and guidelines*, the tool provides a risk framework for consistent and quantifiable decision-making for prescribed burns. The decision support tool is utilised prior to each prescribed burn to assist fire managers in determining whether it is suitable to implement a burn on any given day. This process is repeated each day if the burn is scheduled to continue. The tool takes into consideration current and predicted weather, long-term conditions, fuel loads, control lines, proximity to populations, and the vulnerability of built, natural and cultural

Current activities

Last updated: Thursday 17 November 2016

- The Gilmore burn (6 ha) and Stromlo Forest Park burn (35 ha) have been completed.
- Fire Managers will continue planning prescribed burns, however the exact time frames of implementation will depend on subsequent rain, drying of proposed burn areas, and sufficient grass curing.
- For detailed information of all burns, please check the interactive map below by clicking on a specific burn area.
- Follow [ACT Parks](#) on Twitter to learn about Parks activities and upcoming burns (real-time updates provided during burns, when operationally feasible).

prescribed burn scheduling. There are a number of ways to stay informed; you can subscribe to regular updates by emailing [✉ communityengagement@act.gov.au](mailto:communityengagement@act.gov.au), subscribe to the [RSS Feed](#) or follow us on [Twitter](#).

ACT Parks and Conservation Service works closely with the Asthma Foundation and we recommend people follow their tips on preparing for smoke in your area.

If I see smoke what should I do?

It is common for flame and smoke to be visible following the completion of the burn, which can be caused by stumps and heavy logs in the interior of the burn. It is important to continue to allow fuels to be consumed in order for the fire hazard to be reduced, and this may include when burns appear to be unattended. Prior to leaving a prescribed burn, PCS undertakes a full risk assessment to determine whether it is appropriate to leave the burn unattended. For this to occur, the burn is required to be extinguished up to 20 metres around the perimeter to reduce the risk of escape. Fire managers within PCS will revisit the site to monitor the burn until no smoke is visible for 24 hours. If something looks out of the ordinary, please call Triple Zero (000).

Prescribed Burn and Fire Intelligence

McArthur Mark 5

MAXIMUM values in three periods from 16-Nov-16 10:00

	First 12 hours	12 - 24 hours	24 - 72 hours
Rate of Spread (m/hr)			
Head fire	81	13	189
Flank fire	73	10	123
Back fire	65	9	83
Fire Intensity (kW/m)			
Head fire	300	0	700
Flank fire	200	0	500
Back fire	200	0	300
Flame Height (m)			
Head fire	1.9	1.1	3.3
Flank fire	1.8	1.0	2.5
Back fire	1.7	1.0	2.0

Enter Prescription in table:

	Min	Max
Temp	5	30
RH	30	65
Windspeed	0	10
FFDI	5	15

Note: All stats correspond to the proposed starting date and time of proposed burn.

Leaflet 80 tables (left): Displayed are max values for the three time periods which correspond to the Likelihood tables (Step 2).

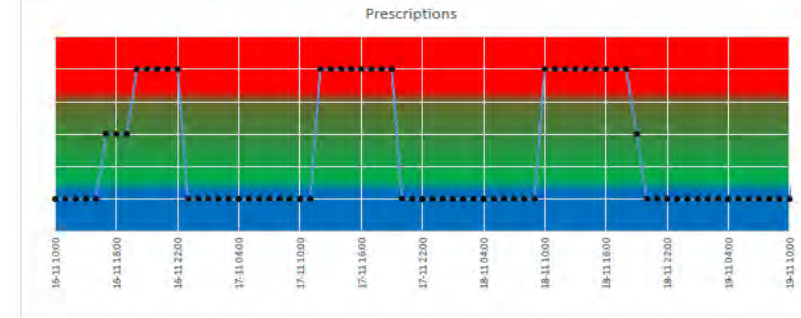
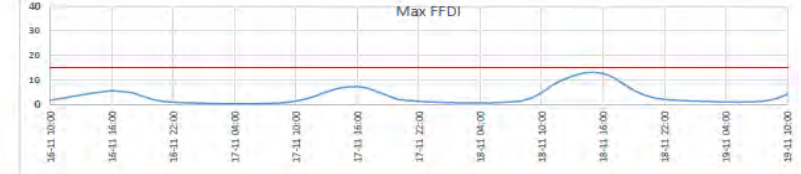
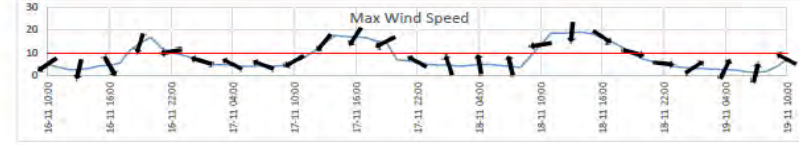
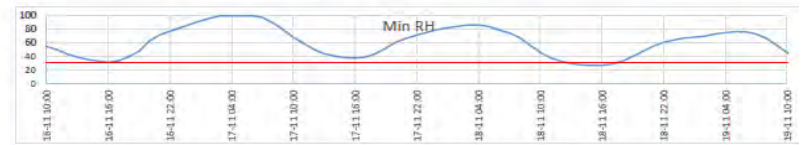
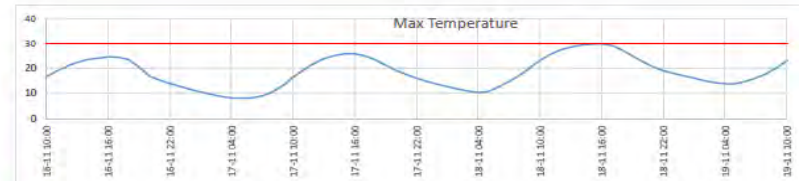
Prescription Table (above): You can change the specifications in the table. The points on the chart to the right will automatically update based on these changes.

Prescription Summary (bottom left): Average fire behaviour for times within and over prescriptions.

Prescription Chart (bottom Right): Points in the GREEN area are within specifications. Points in the RED area are above specs (temp to high, wind speed to great etc.). Points in the BLUE area are below specs.

Prescription Summary

Date	Hours OVER FFDI	Hours WITHIN Prescription	Average Flame ht WITHIN	Average ROS WITHIN	Hours OVER Prescription	Average Flame ht OVER	Average ROS OVER
			Prescription - BACKING (m)	Prescription - BACKING (m/hr)		Prescription - BACKING (m)	Prescription - BACKING (m/hr)
Wednesday 16/Nov/2016	0	3	1.7	61.6	5	1.1	19.4
Thursday 17/Nov/2016	0	0	-	-	8	1.4	38.5
Friday 18/Nov/2016	0	1	1.6	53.0	9	1.7	66.2
Saturday 19/Nov/2016	0	1	1.6	56.4	7	1.8	71.5
Sunday 20/Nov/2016	0	2	1.6	52.9	6	1.9	75.1
Monday 21/Nov/2016	0	3	1.9	82.2	6	1.8	74.1
Tuesday 22/Nov/2016	0	0	-	-	12	1.8	69.3



IC signature & date	16-Nov-16 07:00 AM	8	86	161.5	5.2	3.7	10	10.3	5.8	6	0
	16-Nov-16 08:00 AM	10.9	85.7	152	5.2	3.7	10	9	8.6	6	0

CHALLENGES

An aerial photograph of a forest fire. Thick, white and grey smoke billows upwards from a dense forest of green trees. The smoke is dense and fills much of the upper half of the frame. The trees below are dark green, and some small orange flames are visible through the canopy. The overall scene is dramatic and highlights the scale of the fire.

- Changing nature of fire management – culture, conservation burns, research adaptation, structure
- Smoke management
- Greater than 10 years since 2003 fires

Planning Act regulations

- ACT educated public – high expectations
- BOP data systems
- Completely controlled by weather
- Climate change