



# Perth hills under fire

In January this year, the forests of the Perth hills experienced what was to become the single biggest bushfire in the northern jarrah forest since the conflagrations around Dwellingup almost 45 years ago.



The fires had a major impact on the entire metropolitan area, enveloping most of Perth in dense smoke. The blaze, and its consequences, were captured by Perth photographers.

by Nigel Higgs

**I**n the evening of a mid-January Saturday earlier this year, Department of Conservation and Land Management (CALM) fire crews and local volunteer bushfire brigades were called out to three deliberately-lit fires near Mt Dale, south-east of Perth. Later that night, three more ignitions were detected to the west, nearer to the communities of Pickering Brook and Karragullen. It soon became clear that the fires were burning out of control in heavy fuels and under severe weather conditions, not too far from hills communities and major water sources, so the priority for firefighters became protection of life and property.

*Previous page*

**Main** Sparks fly as the crowns of jarrah trees explode in the intense heat.

*Photo – Leigh Sage/CALM*

**Inset** Two hundred fire trucks and command vehicles were deployed during fire suppression operations.

**Below** South Mole at Fremantle provided a vantage point from which to view the enormous smoke cloud that engulfed much of the metropolitan area.

*Photos – Ron D'Raine*



**Above left and above** Clouds formed as the heat and smoke mixed with cooler air. *Photos – Craig Barendrecht (above left) and Emma Rose (above)*

As the clock ticked past midnight, the fire continued to escalate. CALM, in association with the Fire and Emergency Services Authority (FESA), began mobilising the biggest bushfire fighting deployment seen in Western Australia. CALM personnel and resources were brought in from throughout the State—from Karratha in the north to Kalgoorlie in the south coast. FESA volunteers from as far away as Geraldton and many parts of the Wheatbelt were contacted, ready to come to Perth to relieve their metropolitan mates.

By the Sunday morning, two of the original fires had joined and more than 4000 hectares had been burnt. Strong easterly winds drove the fire towards

Pickering Brook and Karragullen. Wind shifts—generally backing around to the north-east before coming from the south-west—combined with localised wind effects in gullies, and caused the fire to spread south and then to the east. The southern spread of the fire was halted by recent prescribed burns immediately south of Brookton Highway. Without these low fuel areas,





**Above** Easterly winds in the morning pushed smoke over most parts of the metropolitan area.

*Photo – CALM*

**Right** Imagery from the MODIS satellite shows the smoke trajectory as it curls back over Dongara, 300 kilometres by air to the north of the fire.

*Satellite image – Department of Land Information, Satellite Remote Sensing Services*

the residential communities at Araluen and Roleystone would have been severely impacted. Other low fuel areas were to prove significant in controlling the fire elsewhere. A lightning strike, five kilometres to the south-east of the main fire, began another blaze on the Monday, which spread quickly, considerably increasing the overall size of the fire.

By Tuesday morning, the fire had crossed the Darkin River on the southern end of Mundaring Weir. Later in the day, south-east winds pushed it along the northern bank of the reservoir, through the Beraking pine plantation and over the Helena River.

Later that evening, there was a real risk that the running fire driven by hot dry south-easterly winds could not be contained. This headfire was heading directly towards the Mundaring Weir community, and ultimately the hills suburbs of Mundaring and Mahogany Creek. CALM's incident control centre at the department's district office at Mundaring Weir was in the direct path of the fire. At CALM's request, FESA prepared an intensive asset protection strategy for communities along the Great



**Right** The sun struggled for many days to penetrate the thick smoke.

*Photo – Ron D'Raine*



Eastern Highway to the north. In the early hours of the Wednesday, a decision was made to relocate the control centre to the WA Police Communications Complex in Midland. Relocation of a control centre is a drastic step virtually unheard-of in recent history. Soon after the Incident Control Team packed up and established themselves at Midland, a 20-kilometre drive west, fire crews reported that they had held the running headfire at a small inlet on the northern side of the weir—just four kilometres from CALM's district office.

The fire had burnt for 100 hours through almost 28,000 hectares on a perimeter of around 160 kilometres. The mop up was to take a further six days. For almost seven days, Perth was blanketed in smoke, as shifting winds pushed an enormous pall backwards and forwards over the metropolitan area. On the Wednesday, air quality monitoring stations measured Perth's highest incidence of smoke pollution on record.

**Top left** Volunteers from the State Emergency Service assisted CALM fire crews and FESA and volunteer bushfire brigades.

**Centre left** CALM sector commanders and crew leaders review tactics.

**Left** Bulldozers clear burning trees as a safety measure during mopping up.  
Photos – Ron D'Raine

## The logistics of the fire tell the story

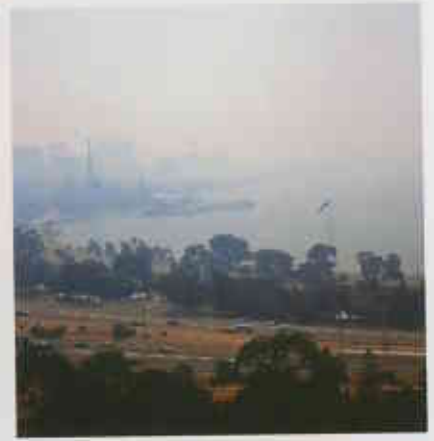
- 670** CALM staff
- 63** Forest Products Commission staff
- 750** FESA staff and volunteers
- 80** contractors
- 8** fixed-wing water bombers dropped 1.8 million litres of water (including 50,000 litres of retardant)
- 4** rotary-wing helitacs dropped 400,000 litres of water
- 3** aerial attack supervisory helicopters
- 1** spotter plane
- 1** plane fitted with line-scanning thermal imaging technology
- 50** charter flights to ferry more than 250 personnel
- 25** bulldozers and front end loaders
- 200** fire trucks and command vehicles
- 150** 'crew days' to mop up the perimeter



**Top (clockwise from top left)** Local volunteer bushfire brigades provided invaluable support; the Resources Unit within the incident control structure kept tabs on the deployment of personnel and equipment; CALM Operations Officer George Watson from CALM's Karratha office briefs incoming crews; CALM's Anthony O'Neill (left) and Tom Powell (right) from Busselton; the mop up continues; sparks fly from the crowns of jarrah trees; 25 bulldozers and front end loaders were deployed and played an essential role in creating firebreaks and containment lines. Photos – Tony Ashby, Ron D'Raine and Leigh Sage

**Above** Crew leaders assess the progress of the mopping up.

**Right** Fire intensity drops and the flames burn out as they enter areas of lower fuel. Photos – Ron D'Raine



**Above (clockwise from top left)** Smoke and haze from the Perth hills bushfires on 21 January 2005; Perth city and the Swan River and Narrows Bridge viewed from Kings Park; the Swan River looking across to South Perth; and looking across the Swan River towards Applecross.  
*Photos – David Bettini*



Unlike Dwellingup in 1960-61, when that township was all but destroyed, not one house was lost in the Perth hills fire. Property damage was restricted to orchards, fencing and several farm buildings and severe scorching of pine plantations. Extensive sections of the Bibbulmun Track and the Munda Biddi bike trail were burnt, and several campsites and facilities destroyed.




The environmental impacts of the fire are still to be determined. Thermal imaging used during the fire indicated there were few unburnt pockets of bush. Consequently, recolonisation of the burnt area largely will hinge on the movement of native animals from the surrounding areas. CALM already has increased baiting of the area to control foxes and hence protect surviving animal populations. CALM has also identified areas that require rehabilitation and restoration and has begun recovery work. There will be

**Left** Fire crews can use direct attack with hoses where the fire is burning less intensely in low fuel areas.

**Below left:** Maps were continually updated and sent to the operations point using a broadband internet connection via satellite.  
*Photos – Ron D'Raine*

many lessons to be learnt from the fire, lessons that will provide valuable information for fire management strategies elsewhere.



Nigel Higgs is CALM's Principal Media Liaison Officer. He worked extensively on media and community communications during the fire period. He can be contacted on (08) 9389 8644 or by email ([nigelh@calm.wa.gov.au](mailto:nigelh@calm.wa.gov.au)).

- 40 Return to Mondrain  
What would scientists find on Mondrain Island, offshore from Esperance, two-and-a-half years after a huge fire burnt through most of the island?
- 45 Solving the hammer orchid puzzle  
How did bizarre-looking hammer orchids evolve into their amazing shape?
- 54 Burning rocks  
How did the Mount Cooke fire, one of the largest wildfires recorded in the northern jarrah forest, affect the plants and animals of the area?

## Regulars

- 17 Bookmarks  
The Mark of the Wagarl  
Coastal Plants: Perth and the South-West Region  
Roads and Tracks Western Australia
- 25 Endangered  
Hughan's featherflower
- 52 Feature park  
Stirling Range National Park
- 62 Urban antics  
A fish tale

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