

Inquiry into the long term sustainability and future of the timber and forest products industry

Portfolio Committee No.4 visit to FCNSW Nursery 8 February 2022

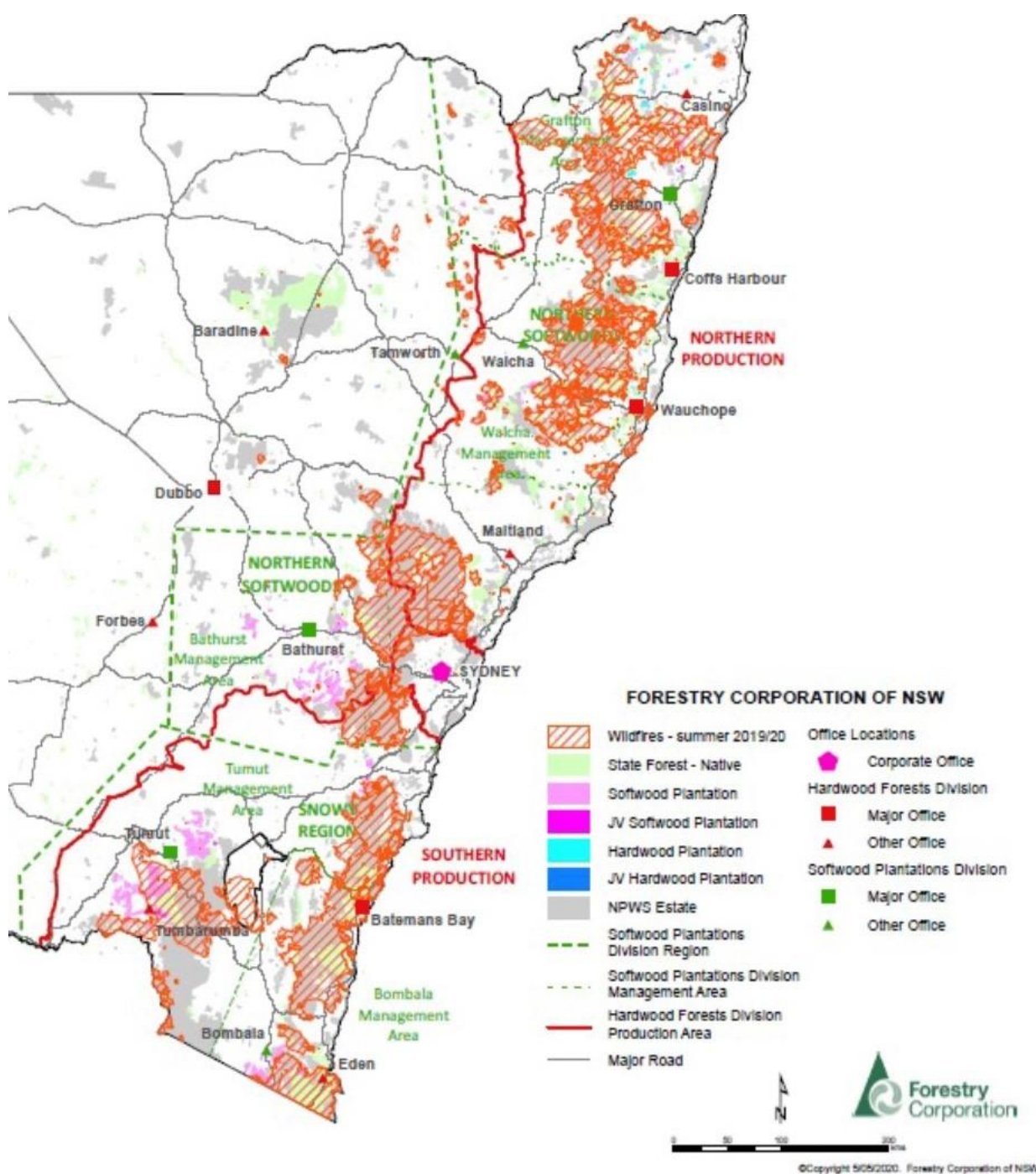
Location of FCNSW Administrative Boundaries and the Extent of Black Summer Fires

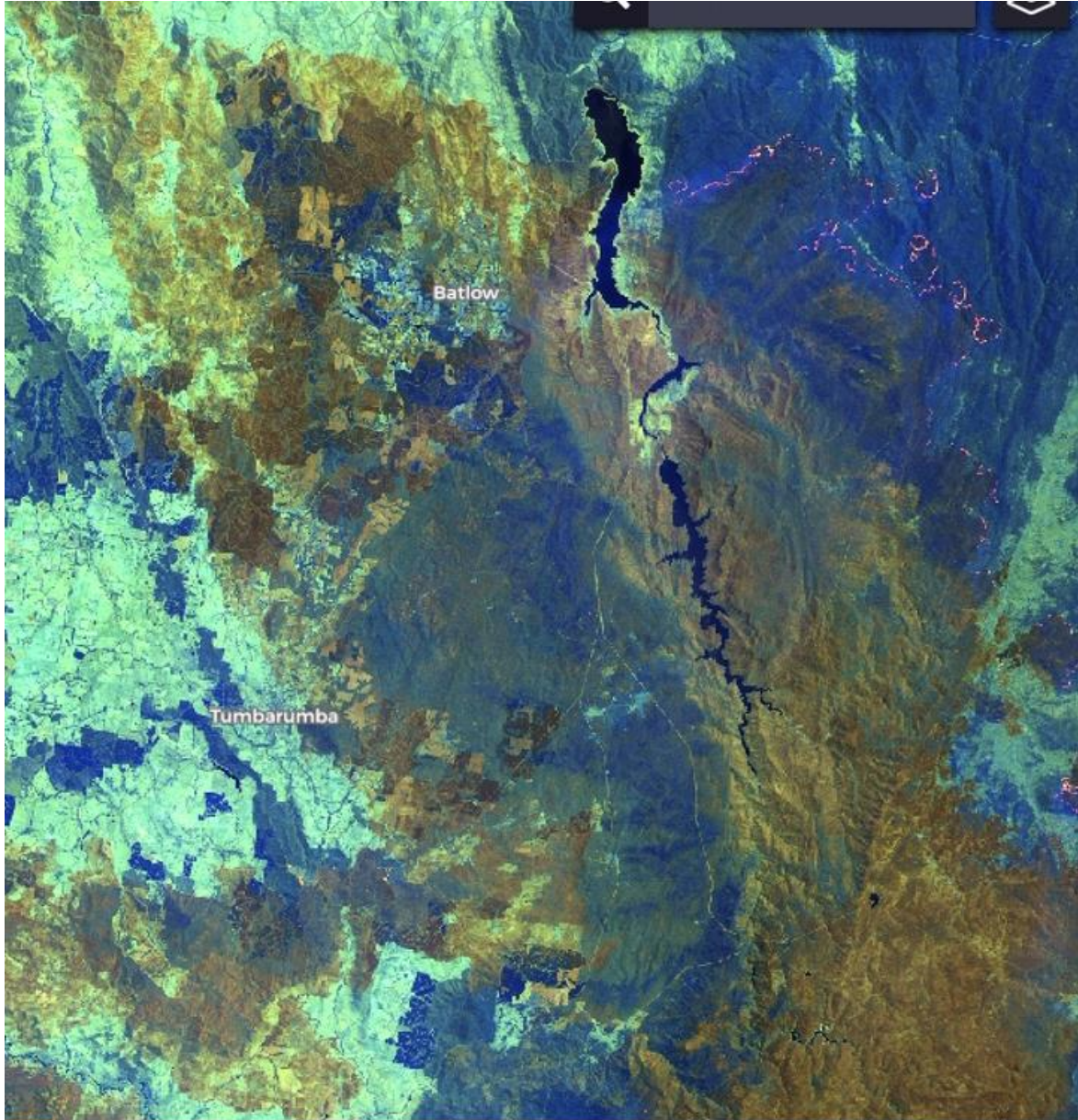
Note:

- FCNSW had been attending fires from mid July 2019 (after about a 6 week respite from the 2018/19 fire season).
- By 8th November 2019 there was an unprecedented 17 fires at Emergency Warning
- FCNSW had been deploying crews from all over the state to fires on the North Coast, Blue Mountains and to the East of the ACT. FCNSW had also drawn on crews from One Forty One in the Green Triangle to work alongside our people and help fill roles in IMTs.
- Snowy Region located to the South of NSW sent its first deployment away August 2019 to the North Coast and our last deployed crew returned to Tumut 26 December 2019 from The Blue Mountains.

Prior to Christmas Snowy Region had known threats:

- A fire to the South of the Bombala Pine Estate in Victoria (looking like a similar scenario as 1983)
- A fire to the East of the Southern Highland Plantations

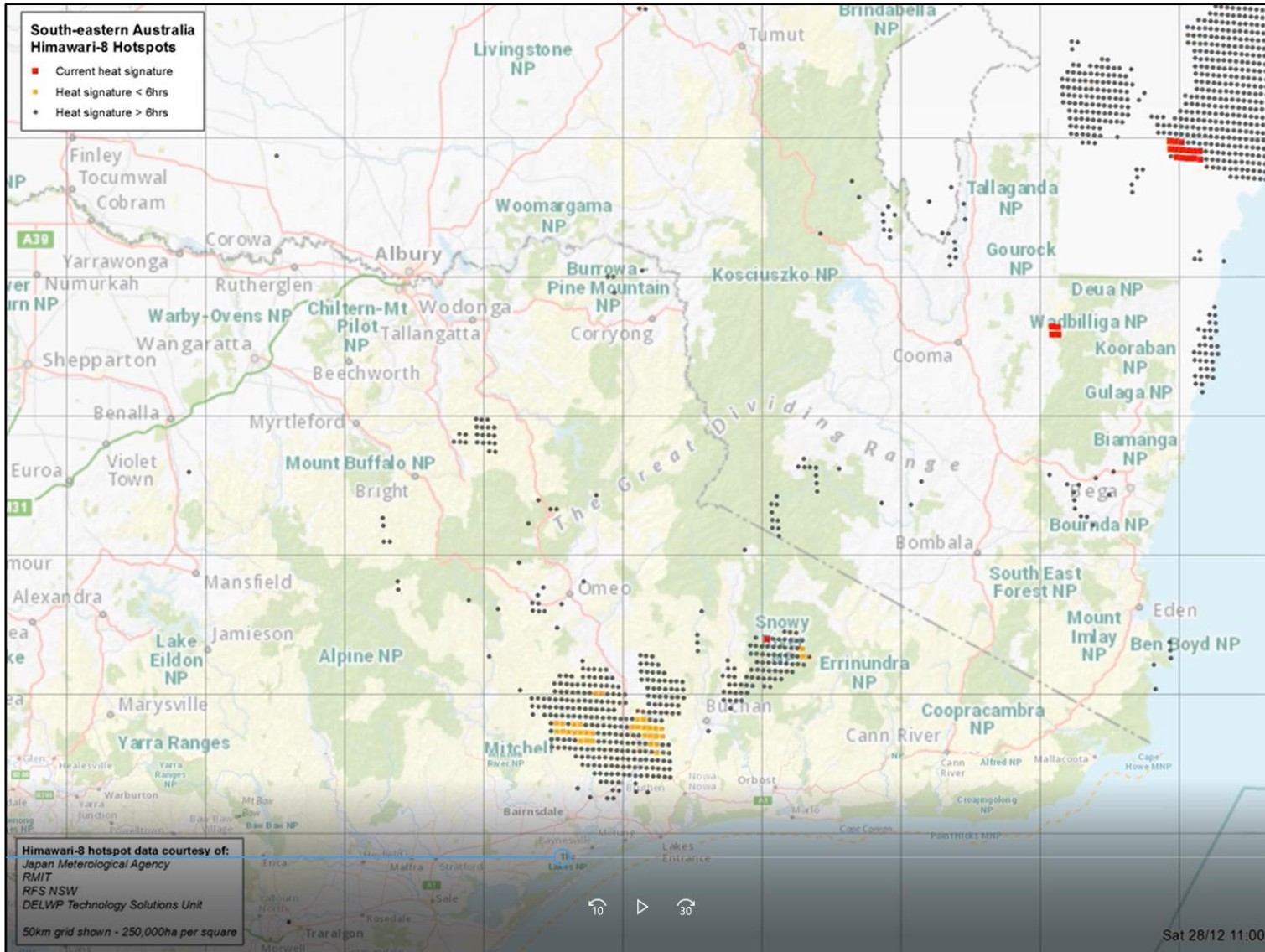




A Closer look at Fires that Impacted the Communities and Plantations in the South East of NSW

- The next few pages track the progression of fires in the South East of NSW from 28 December 2019 to 11 January 2020, which is about the time of the satellite image to the left.
- The fire progress was tracked by the Japanese Meteorological Agencies Himawari-8 Satellites through mapping heat signatures. This can be found at the following website:
<https://www.youtube.com/watch?v=ClNoxYxTgnU&feature=youtu.be>
- The image to left is predominantly the Dunn's Road fire. To the South of Tumbarumba is the East Ournie fire that links Dunn's Road and Green Valley fires.
- The two large dark masses towards the middle of the image are Blowering Dam to the North and Talbingo Dam to the South. The Dunn's Road fire jumped both of these. Something to remember when considering any comments about fire breaks.
- The darker green areas tend to be pine plantations, the lighter green open pasture and the shades in between Eucalypt forests. Under the conditions experienced all vegetation types and all tenures did not alter the fires run until weather conditions abated.
- The shades of brown are burnt areas and the orange glow the fire edge.

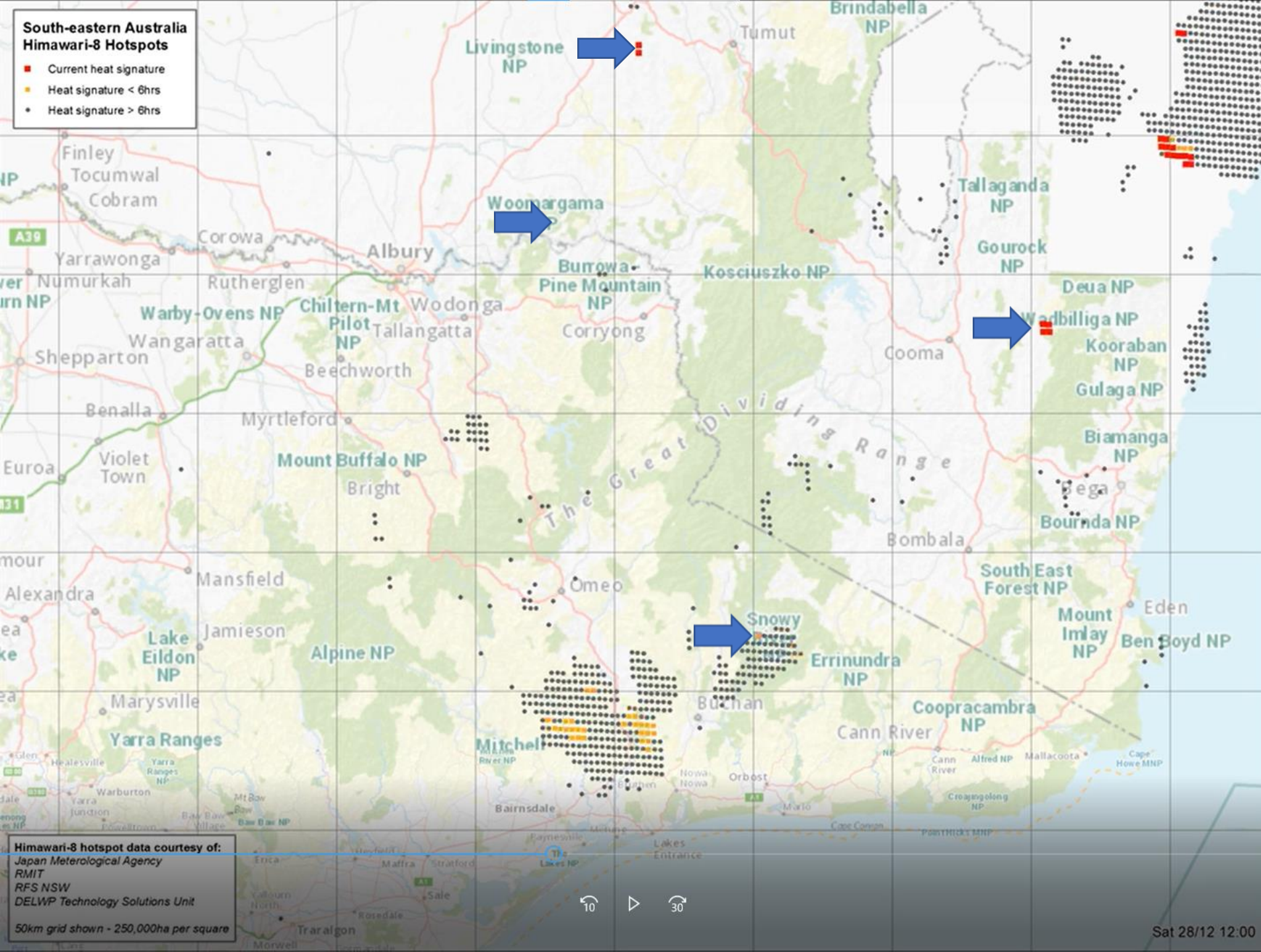
11:00am Saturday 28 December 2019



- The image shows there are NO active fires detected near FCNSW plantations.
- A lightning storm passed through the Snowy Valley's the night before.
- FCNSW have patrols searching for lightning strikes in the Snowy Valley area as visibility from the fire towers in the morning is less than 3km.
- The air is clearer to our South East and FCNSW send their contracted Fire Fighting helicopter to a NPWS fire.
- FCNSW continue to put the finishing touches on Victorian Border breaks South of FCNSW Bombala plantations.
- The extent of the fire that threatened our Tallaganda plantations prior to Christmas is visible to the east of the ACT

**South-eastern Australia
Himawari-8 Hotspots**

- Current heat signature
- Heat signature < 6hrs
- Heat signature > 6hrs



**12:00 noon
Saturday
28 December 2019**
(One hour later)

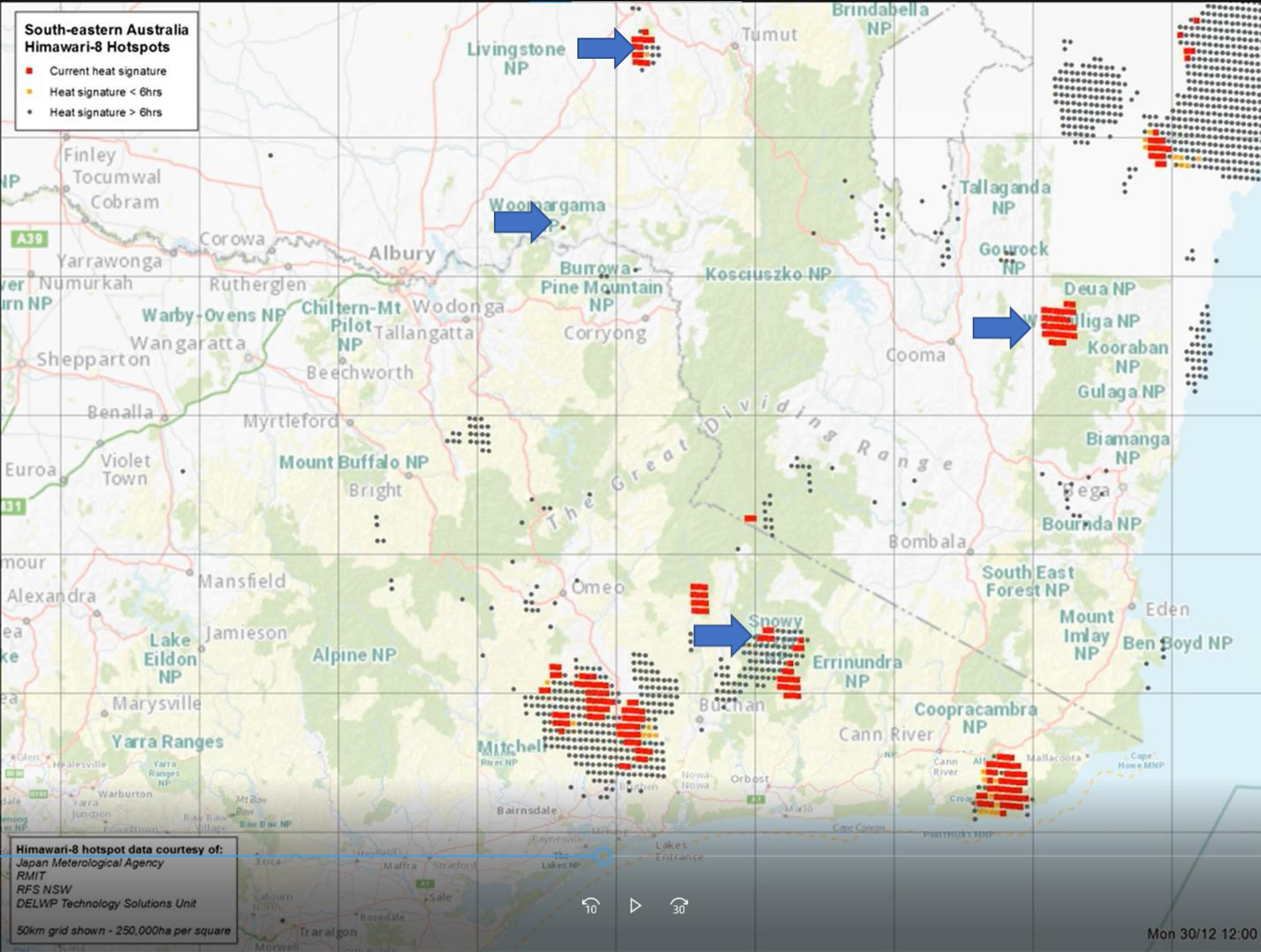
Notes:

- Still looking for Lightning Strikes
- Fire detected in Hume Forests' Ellerslie Plantation on Dunn's Road. (Top Blue Arrow)
- FCNSW assisting RFS and Hume Forests with their fire.
- Deployed FCNSW helicopter to Dunn's Road fire.
- Providing the multi-agency Incident Management Team (IMT) with FCNSW personnel.
- Blue arrows provide reference points for the next series of images. Being the fire origins as of noon 28 December 2019.

Himawari-8 hotspot data courtesy of:
Japan Meteorological Agency
RMIT
RFS NSW
DELWP Technology Solutions Unit
50km grid shown - 250,000ha per square

**South-eastern Australia
Himawari-8 Hotspots**

- Current heat signature
- Heat signature < 6hrs
- Heat signature > 6hrs



**12:00 noon
Monday
30 December 2019**
(2 days from when Dunn's Rd detected)

Notes:

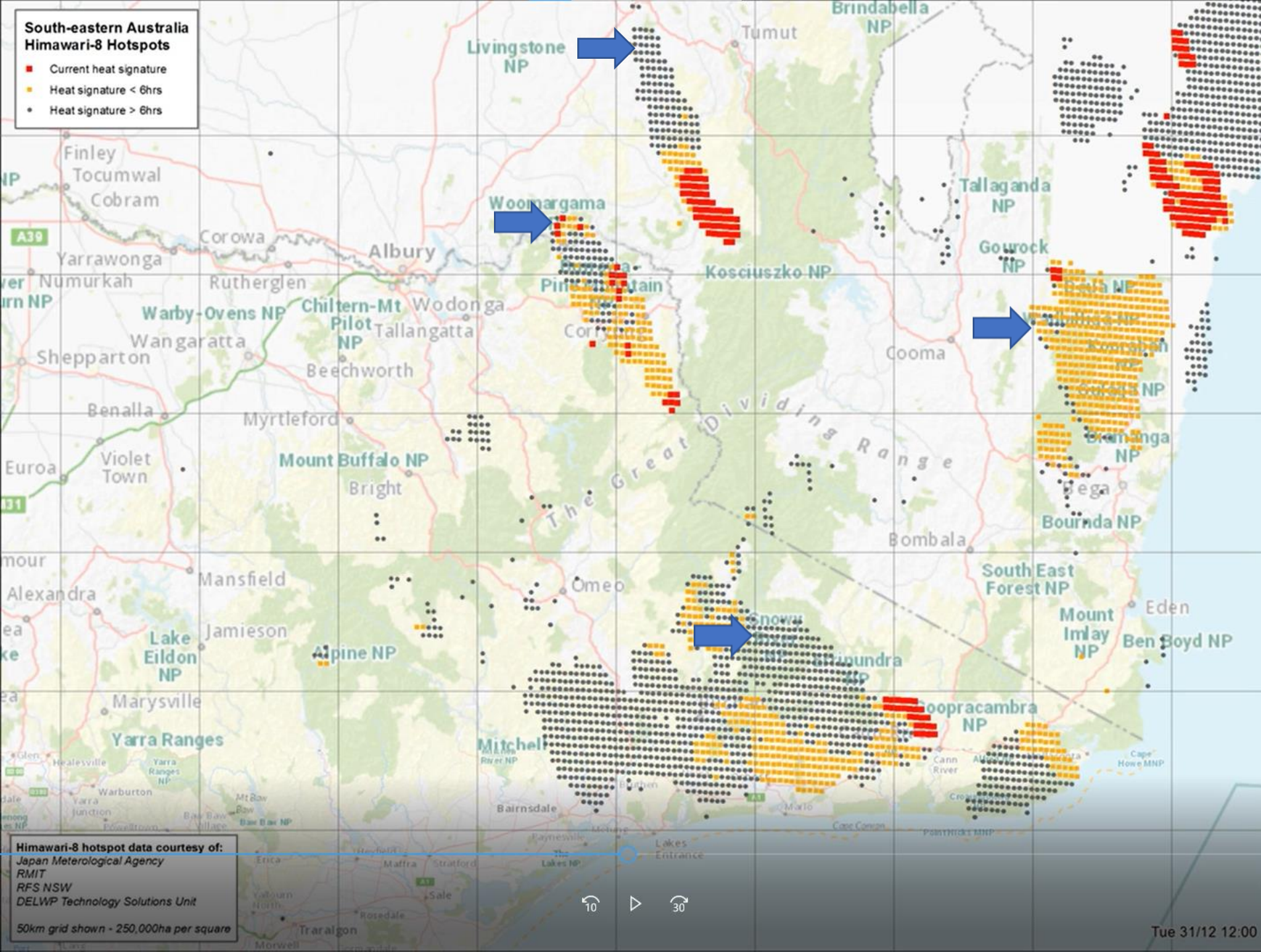
- Fires in Snowy Valleys Council area declared Sec44 Emergency.
- All resources now fully under control of the Rural Fire Service.
- With this image please note size of Green Valley fire near Woomargama National Park and then compare the run it makes with the Dunn's Road fire to the North and the fire near Deua NP to the East on the next page.

Himawari-8 hotspot data courtesy of:
Japan Meteorological Agency
RMIT
RFS NSW
DELWP Technology Solutions Unit

50km grid shown - 250,000ha per square

**South-eastern Australia
Himawari-8 Hotspots**

- Current heat signature
- Heat signature < 6hrs
- Heat signature > 6hrs



**12:00 noon
Tuesday
31 December 2019**
(3 days after detection)

Notes:

- Over night the Dunn’s Rd and Green Valley fires had each travelled nearly 100km.
- Fire behaviour conditions did not abate overnight.
- Note each square is 50 x 50km (= 250,000 ha)

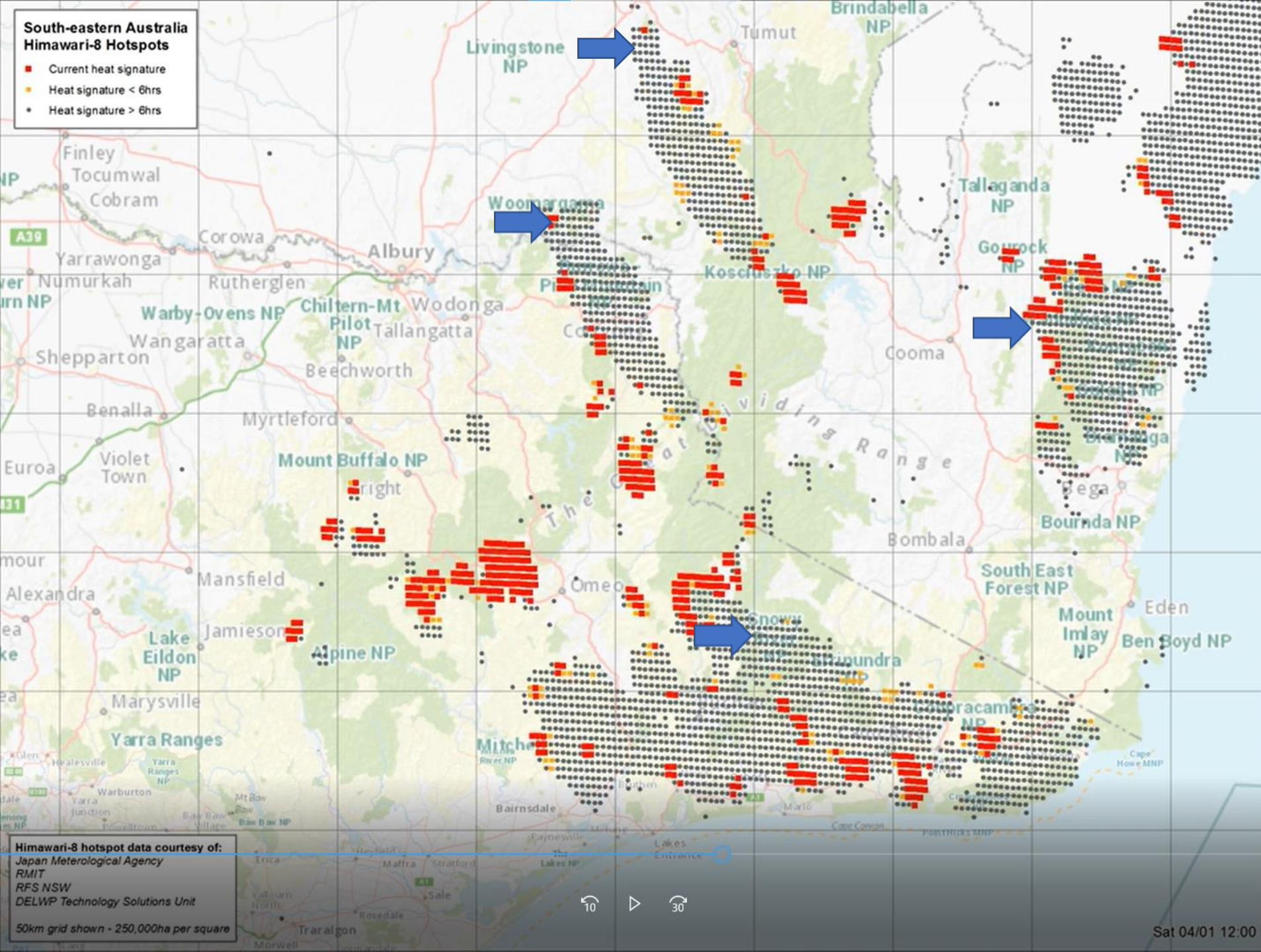
Himawari-8 hotspot data courtesy of:
Japan Meteorological Agency
RMIT
RFS NSW
DELWP Technology Solutions Unit

50km grid shown - 250,000ha per square



South-eastern Australia Himawari-8 Hotspots

- Current heat signature
- Heat signature < 6hrs
- Heat signature > 6hrs



12:00 noon
Saturday
4 January 2020
(7 days after detection)

Notes:

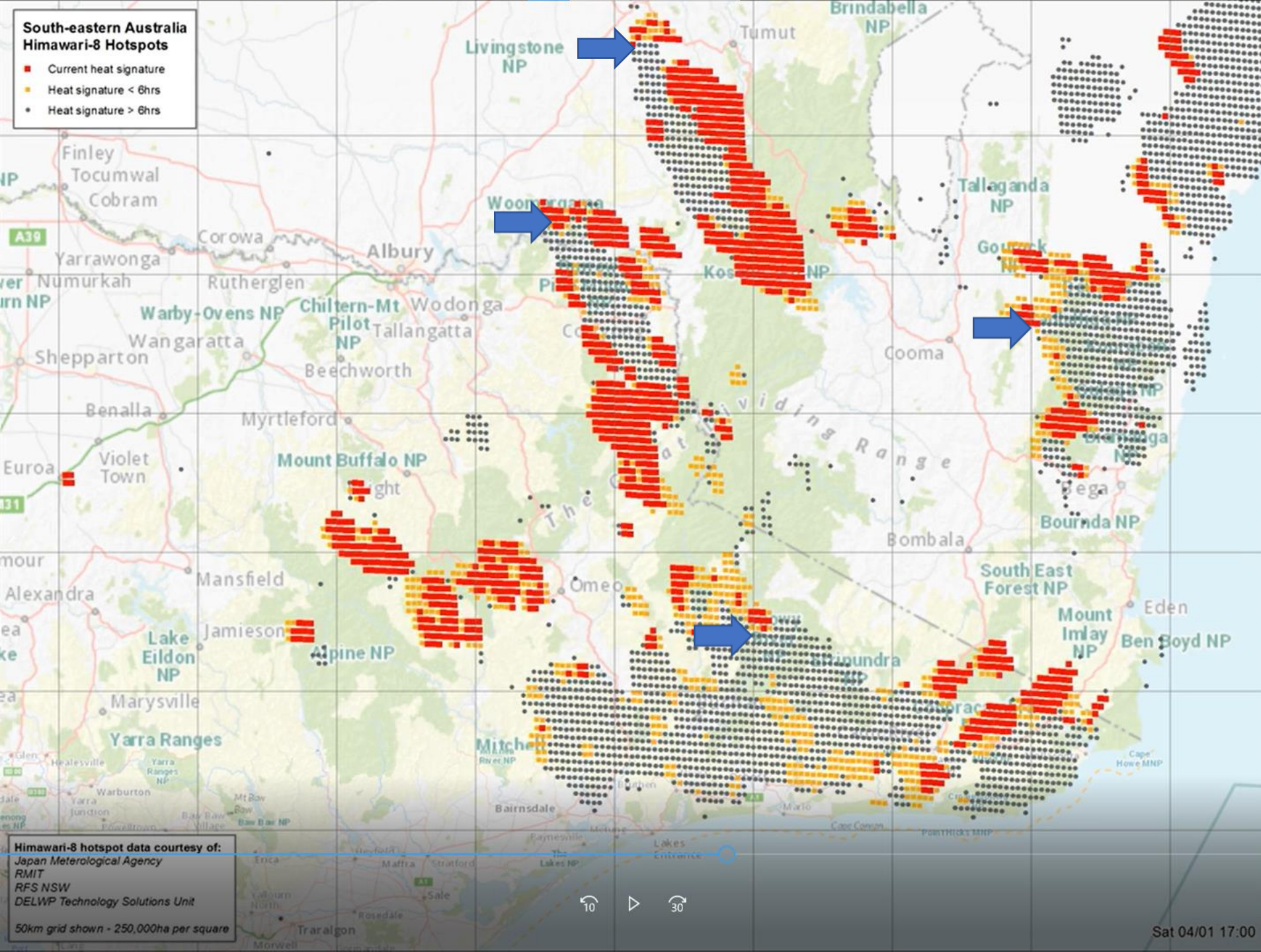
- 4 days after the big run in a South by South East direction there is a general thickening of the fire ground but no solid containment given the enormous length of perimeter and terrain and vegetation covered.
- While concentrating on the fire fighting start putting thoughts to what next, how can we minimise impact on community and customers:
 - Talking with other Growers about coordinated response to Salvage,
 - Reviewing Age Class affected and potential salvage yields,
 - Thinking about storage, and
 - Discussions with Visy about accessing water for storage

Himawari-8 hotspot data courtesy of:
Japan Meteorological Agency
RMIT
RFS NSW
DELWP Technology Solutions Unit

50km grid shown - 250,000ha per square

**South-eastern Australia
Himawari-8 Hotspots**

- Current heat signature
- Heat signature < 6hrs
- Heat signature > 6hrs



**17:00
Saturday
4 January 2020**
(7 days and five hours after detection)

Notes:

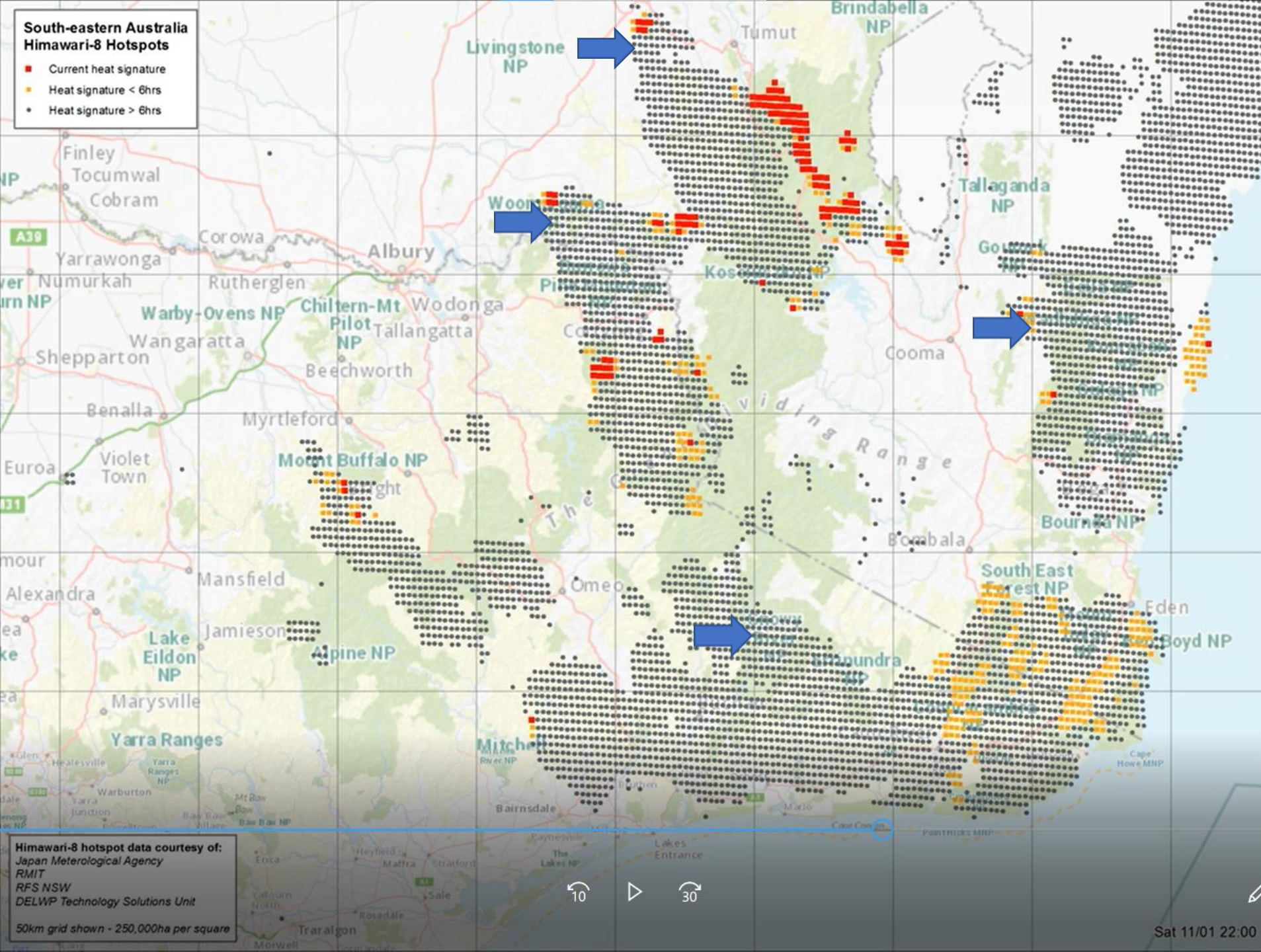
- 4 days after the major wind event another occurs. This time more Westerly followed by a strong Southerly on the Coast.
- Victorian fires cross border into Bombala Plantations.
- The town of Batlow is enveloped.
- Under strong Westerlies embers take fire across Blowering dam.

Himawari-8 hotspot data courtesy of:
Japan Meteorological Agency
RMIT
RFS NSW
DELWP Technology Solutions Unit
50km grid shown - 250,000ha per square



**South-eastern Australia
Himawari-8 Hotspots**

- Current heat signature
- Heat signature < 6hrs
- Heat signature > 6hrs



**22:00
Saturday
11 January 2020**

(Two weeks after Dunn’s Rd Started and One week after fires crossed Vic border into Bombala)

Notes:

- To help understand the scale – One fire – the Dunn’s Road fire which started with a lightning strike 27 December 2019 and not found until midday 28 December remained a bush fire emergency until 15 February 2020.
- When the Sec 44 Bushfire Emergency was officially lifted the Dunn’s Road fire had burnt about 3 and half thousand square kilometres – 350,000 ha – being 1 and half times the size of the ACT.
- The Bombala bushfire emergency remained in place until 27 February 2020

Himawari-8 hotspot data courtesy of:
Japan Meteorological Agency
RMIT
RFS NSW
DELWP Technology Solutions Unit

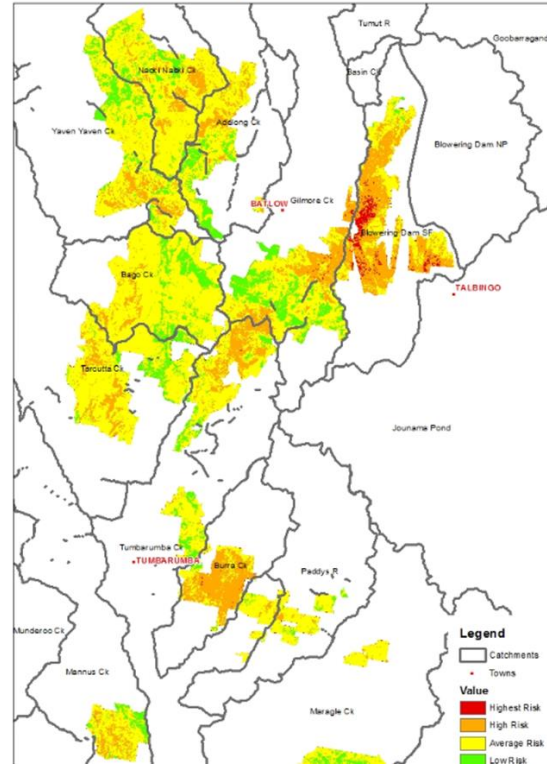
50km grid shown - 250,000ha per square

Sat 11/01 22:00

Environmental Impact of Fires



Catchment risk analysis Dunn's Road fire area



Notes:

- Catchment Analysis to Prioritise road rehabilitation and sediment controls based on:
 - Drainage density
 - Groundcover (burn severity)
 - Slope
 - Soils
- Aerial seeded High Risk areas with Pasture Grasses
- Strong focus on the Blowering Dam catchment. Rehabilitating sediment traps, fixing roads and crossings.
- Important for local communities to gain access to the dam for recreation.

Environmental Impact of Fires

Note: Past reference material for the dam construction was used in considering environmental management forward. NSW Water informed.

Post-Fire Erosion and Rehabilitation Work in the State Forests in the Blowering Dam Catchment following the 2019/2020 Black Summer Bushfires



Prepared by:
Dr Peter Walsh | Soil and Water Specialist
 Forestry Corporation of NSW | Hardwood Forests Division
 30 Park Avenue | Coffs Harbour NSW 2450
 M: 0427 247 837 | E: peter.walsh@forns.com.au | W: www.forestrycorporation.com.au

Lisa Davies | Harvest Coordinator
 Softwood Plantations Division | Forestry Corporation of NSW
 75 | Copper St | PO Box 2911 | Tumut NSW 2720
 M: 0428 113 362 | E: lisa.davies@forns.com.au | W: www.forestrycorporation.com.au



Safety at Forestry

WHS Tool / Resource

4.4.5

Naturally Occurring Asbestos Site Specific Management Plan

Where naturally occurring asbestos (NOA) has been identified or the area has a medium or high potential in accordance with mapped areas of NOA, the manager, supervisor or person responsible for the site, is responsible for implementing a site specific asbestos management plan (AMP). This site specific plan will be in accordance with the managed in accordance with the site Plan.

Review of Environmental Factors (REF)



Bago State Forest – Blowering Section

1. Introduction

The 2019/2020 fire season has seen large wildfires occur across the Northern and Southern parts of NSW. On the 27th December 2019 the Duns Road fire ignited from a lightning strike in Ellerslie Private Plantation approximately 10 km northwest of Adelong. By the time the fire was declared out on the 15th February 2020 it had burnt through 333 940 ha of forest and grassland, destroyed 182 houses and claimed one life. The area burnt by Tenure was 125 881 ha of National Park, 113 829 ha of private land, 92 241 ha of State Forest and 1 988 ha declared as other, Figure 1.

In the Blowering Dam catchment, which is the focus of this report, 100 % (13 556 ha) of the State forests were burnt. A large proportion of the catchment was burnt severely by crowning fire during a period of extreme fire weather resulting in the complete loss of tree canopies and the complete removal of groundcover and soil organic matter over large areas of the catchment. Following the fires, significant storms and a series of large rainfall events in Bago State forest have caused widespread erosion on the slopes triggering debris flows which have caused massive sedimentation of the dam network and major damage to the road and trail network in the catchment. COVID 19 emergency also occurred changing the business and community environment. Governments and FCNSW have responded with a stimulus package to repair damaged infrastructure and are working towards making forests safe for the community, workers and stimulate the local economy suffering from the economic downturn associated with COVID 19 and the bushfires.

In the fire emergency, substantial lengths of road and trails in the State forest burnt in the fire conditions causing significant numbers of trees to fall over roads or become unsafe and require their removal. In addition, significant lengths of road and trails were established as fire containment lines where trees were pushed or felled to prevent backburning operations could be conducted. Damage to trees along the roads is extensive and many dangerous trees occur along roadsides that require removal to make safe for public access and forest management. The fires also resulted in significant damage to forest infrastructure such as recreation areas, bridges, culverts and roads. Subsequent heavy rainfall events both inside and outside fire affected areas have damaged roads and have also caused localised erosion to road surfaces.

Sandy Cr Road, Blowering

swelling, drainage structure fail dangerous trees on road

processes and procedures as

Review date	1/04/20
Review by	
Review status	
Review notes	

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MANAGEMENT AND PROTECTION OF BLOWERING FORESHORES

BY

J. C. GOARD, Soil Conservationist,
Blowering Foreshores

The Journal of the SOIL CONSERVATION SERVICE of New South Wales



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Number 3

largely determined by tectonic uplift. The ridges have a marked and clearly defined foreshores.

At Blowering, volcanic ash overlying mantle soil causing heat effect in soil has resulted in debris flows and bordering

900 ft to 1,200 ft above sea level, while the ridges in the foreshores ex-

posed, and in parts of the catchment exceeding 50 feet between 25 and 35 feet of the Snubba Range. The western foreshores of the catchment streams running down the face of the range, narrow catchment upper sections but in the lower sections there is an area where these are steep. Figure 1 is a plan of this area.

In the area, the geology, in a west section, under a low plateau with its very gradual reduction trend. These are shown under the Facies (Goode 1971). In

Size of the Forestry Corporation of NSW Softwood Plantation Estate (as of January 2022)

Management Area	Net Plantable Area (NPA) (ha)	NPA Fire Affected Black Summer (ha)	% of NPA Burnt	Net Stocked Area (NSA) as of 1 Jan 2022 (ha)	% of NPA Stocked	Gross Area Managed (ha)
Tumut	92,389	34,111	37%	67,095	73%	150,085
Moss Vale & Tallaganda	4,945	969	20%	3,940	80%	12,161
Bombala	32,873	11,200	34%	26,549	81%	43,407
Snowy Total	130,207	46,281	36%	97,584	75%	205,653
Bathurst	70,687	457	1%	64,562	91%	152,887
Grafton/Walcha	26,609	8,900	33%	18,651	70%	40,210
Northern Total	97,296	9,357	10%	83,213	86%	193,097
SPD Total	227,503	55,638	24%	180,797	79%	398,750

Net Plantable Area (NPA): is the area that is suitable for growing trees, may or may not currently have trees planted on it.

Net Stocked Area (NSA): is the area that currently has trees growing on it. (Target to have 95% of NPA stocked)

Gross Area: This is NPA plus fire breaks, roads, trails, depots, fire towers, stream reserves and retained native forest.

FCNSW Road & Trail Network within the Softwood Plantation Estate (as of January 2022)

Management Area	Total (km)	Road Intensity (m/NPA ha)	Sealed Roads (km)	Main Gravel Access Roads (km)	Other Roads (km)	Fire Trails (km)
Tumut	5,791	63	89	1,437	2,834	1,430
Moss Vale & Queanbeyan	418	85	1	35	180	203
Bombala	2,237	68	3	311	799	1,124
Snowy Total	8,445	65	93	1,782	3,813	2,757
Northern	6,730	69	4	1,388	3,612	1,727
SPD Total	15,175	67	97	3,170	7,425	4,484

To provide an indication of scale:

- Snowy Valleys Council (SVC) has **1,194** km of roads to maintain.
- Tumut MA (predominantly within the SVC) has **4,360 km** of roads plus 1,430km of trails to maintain.

The Impact of the Black Summer Fires on Harvest Activity

	Annual Cut FY2019 (last full year before Black Summer)					Average of Planned Annual Cut for FY2023 to FY2032					Change in:	
Management Area	Area (ha)	Structural Sawlog (gmt)	Other Logs (gmt)	Pulp (gmt)	Total (gmt)	Area (ha)	Structural Sawlog (gmt)	Other Logs (gmt)	Pulp (gmt)	Total (gmt)	Area Harvested	Volume Harvested
Tumut	6,735	956,587	21,046	737,813	1,715,446	5,467	499,816	-	490,620	990,436	-19%	-42%
Moss Vale/ Tallaganda	434	51,766	3,979	35,026	90,771	305	30,971	-	29,734	60,705	-30%	-33%
Bombala	1,494	305,589	66,845	248,843	621,277	1,833	260,536	36,739	241,410	538,685	23%	-13%
Total for Snowy	8,663	1,313,942	91,870	1,021,682	2,427,494	7,605	791,323	36,739	761,764	1,589,826	-12%	-35%
Total for Northern	4,522	859,201	155,116	562,028	1,576,345	4,827	783,677	51,297	580,783	1,415,757	7%	-10%
Total for SPD	13,185	2,173,143	246,986	1,583,710	4,003,839	12,432	1,575,000	88,036	1,342,547	3,005,583	-6%	-25%

Note: In Tumut the volume being harvested has decreased by 42%, but the area harvested has only dropped 19%. This is because there has been no decrease in the area to be thinned, all the reduction (1,600 ha) in harvesting activity is in the area clearfelled.

Key Impacts on Softwood Harvest and Haul in Snowy Valleys (Tumut MA)

tpa = tonnes per annum	Pre - Fire	Salvage	Post-Fire
Sales Volume Estimates	1.71M tpa	2.4M tpa	0.99M tpa
No. of Harvest Crews	24	37 (50 at the height of activity)	14
No. of trucks	23	45	14

This equates to at about 30 less people directly employed in harvest and haul activity. That does not account for less machine maintenance.

The number of trucks located in the South West Slopes maybe greater than indicated above as a recent FCNSW tender for hauling timber from either the Bathurst or Bombala area to the Visy mill has indicated that some of the fleet will be placed near Tumut.

Tumut MA Re-Planting Program

The expansion of the *Pinus radiata* nursery at Blowering has lifted seedling production from about 7 million to 9 million Out The Gate (OTG) and contracts have been let for other nurseries to supply extra seedlings. At least 6.1M will be required for the Tumut Management Area for the next 5 planting seasons.

FCNSW are doubling the replanting effort for what would be considered normal for a 92,390 ha estate (3,000 ha per annum (30 + 1 years)) to 6,100 ha per annum. This will have the replanting program back in balance (only needing to plant the same area as clearfelled) in about 6 years from the fires.

Calculation Outline	
Area of Plantation Burnt	- 34,111 ha
Burnt area replanted already (4,500ha 2020 AC + 6,500 ha 2021 AC)	+ 11,000ha
Net Stocked Area as of January 2022	67,095 ha
Area harvested next 4.75 years till end of September 2026 (about 1,590 ha per annum)	- 7,550 ha
Five Years of elevated Planting (5 x 6,100 ha per annum)	+ 30,500 ha
Net Stocked Area estimate for End of September 2026 (being Net Plantable Area (92,390 ha) less 18 months clearfall (2,385 ha))	90,045 ha

There will be a number of challenges such as:

- Maintaining a large enough workforce for the planting program, especially in a COVID constrained environment
- Clearing the sites that were not able to be harvested (Contractors undertaking different options now; such as chaining and chopper rolling)
- Maintaining control of weeds, especially Blackberry (Holding sprays being undertaken at present and will continue)
- Managing erosion, putting pasture cover crops in identified risk areas