

NZIF Report on the February 2019 Pigeon Valley Wildfire, Nelson

Murray Dudfield, Chair, NZIF Forest Fire Committee, on behalf of the NZIF, joined the NZFOA/FFA Forest Fire Committee meeting and Pigeon Valley wildfire site visit, 9-10 April, 2019. This summary provides highlights, issues and recommended actions described in more detail in the full NZIF report, which is available [here](#).

In early February 2019 Fire and Emergency NZ (FENZ) advised the public in the Nelson region that extreme fire risk conditions were highly likely in the following days. The 5th of February 2019 was forecasted as a “bad fire day”. Given this Nelson Pine Forest Company activated the voluntary Forest Operations Fire Risk Management Code Purple. This required all in forest machinery to stop working from 1300, increased preparedness and intensified fire patrols.

About 2pm, 5th February 2019 near Wakefield, 30km SW of Nelson, a fire is alleged to have started by a farm contractor cultivating farmland in the Pigeon Valley. In the elevated fire danger conditions, the fire spread quickly from farmland to forest lands, burning about 1,000 ha in day 1, a further 600 ha in day 2 and 700 ha in Day 3. With reduced fire danger conditions from Day 2 the established containment lines remained largely intact and the management focus moved to establishing a secure perimeter. When finally contained in Day 3 the wildfire had burned 2,300 ha of primarily planted forests ranging across all age classes, owned by the private sector (corporate and smallholder), and destroyed one dwelling. The level of resourcing deployed on the first day of the fire (23 helicopters, 2 fixed wing aircraft, 150 fire fighters, 23 excavators and bulldozers and 47 Incident Management Team staff) was maintained for more than a week. As the largest deployment of aircraft resources in NZ’s history, the total direct fire suppression costs (excluding the civil defence emergency evacuations) are estimated to exceed \$28 million (in excess of \$12,000/hectare). As a comparison, between the fire seasons 2009/10 to 2017/18, wildfires burnt an estimated 6,593 hectares of planted forests at an average suppression cost of \$1,910/hectare.

The wildfire risk and impacts of this wildfire caused the Tasman District Council to trigger their Civil Defence Powers to evacuate residents from areas potentially threatened by the wildfire. This escalated the scale, complexity, logistics and cost to manage and suppress the wildfire as well as to relocate and cater for more than 3000 evacuees with extra personnel from Local Government, NZ Police and the NZ Defence Force.

There are many similarities between the Pigeon Valley wildfire event that ignited on 5th February 2019, and the Hira wildfire event that ignited on 5th February 1981 within the Nelson City forests and escalated rapidly in elevated fire conditions into the Hira State Forest that burnt 2,142 hectares and one dwelling. As simultaneous fires also broke out in the Aorere River Valley, Waahi Taekaro and Redwood Valley, the Conservator of Forests at that time declared a Nelson Regional Fire Emergency under Section 39 of the Forest and Rural Fires Act 1977. For the 1981 Hira and Redwood Valley wildfires, 29 large bulldozers and 9 helicopters were deployed to suppress the wildfires. The estimated cost to the NZ Forest Service and Nelson City Council for suppression for these wildfires was estimated at less than \$1 million (inflation adjusted). Although additional costs would have been incurred by the NZ Fire Service for protecting community structures the average cost would have been about \$500/hectare (inflation adjusted).

Key issues and recommended actions raised during the Pigeon Valley wildfire event include:

Problems in radio interoperability in the Incident Ground Communication between FENZ and rural fire stakeholders, forest owners and other partners. Recommended Action: FENZ and partners to urgently resolve the Incident Ground Communication radio interoperability.

Excessive use of aircraft in extended wildfire events and reduced deployment of experienced rural fire fighters providing support on the ground compared to similar events in NZ in the past and in

Australia, Canada and USA at present. An associated excessive increase in suppression costs for wildfire suppression compared to similar events in the past. Recommended Actions: Undertake an independent review on the use of aircraft and ground crews at plantation wildfires in NZ and partner countries and their associated suppression costs.

The role and maintenance of firebreaks on forest and non-forest lands during the Pigeon Valley wildfire events in the context of changing weather conditions and the wildfire behaviour indicators. Recommended Action: Undertake an independent review on lessons learned and revised actions in the role and maintenance of fire breaks on forest and non-forest lands during wildfire events.

Institutional complexity in event strategy, coordination and communication when FENZ (wildfire suppression) and the Tasman District Council, Civil Defence, Police, Defence Forces and the Ministry of Primary Industries (evacuation emergency) established their different Incident Controllers and Incident Management Teams to manage this event. Recommended Action: Undertake an independent review on lessons learned and revised actions to the Coordinated Incident Management System, Incident Controller and Incident Management Team for future complex emergency events.

Appropriateness of the assessment of fire risk and community vulnerability that triggered the Civil Defence mandatory evacuation of over 3,000 people, particularly after Day 1. Recommended Action: Include in the independent review on lessons learned and revised guidelines to trigger a Civil Defence emergency, taking into account: wildfire risk, community vulnerability, likely impacts and anticipated costs.

The NZIF Forest Fire Committee welcomes feedback on your experiences or opinions related to the Pigeon Valley or similar wildfire events and the issues and recommended actions raised. Please direct your feedback to Murray Dudfield, e-mail murrayd@supermail.co.nz

