

WINDTHROW RECOVERY OPERATIONS AT TARAWERA FOREST

Discussion paper for LIRA Windthrow Seminar, 10 November 1982

V.F. DONOVAN
TASMAN NORTHERN

This paper covers operations in both Tarawera and Rangitaiki Forests of Tasman Forestry which are administered by the Northern Region from Kawerau.

1. ASSESSMENT AND PLANNING

Immediately following the Eastern storms, aerial reconnaissance was carried out over all production forests in the region. The worst affected areas were located and aerial photographs taken. The areas were transcribed onto maps with estimates of total area and volume needing recovery. This information was available within one week of the windthrow. A total of 120 hectares was completely flattened with a further 30 hectares suffering marginal damage.

In Rangitaiki Forest most damage occurred in 1961, 1967 and 1969 age classes whereas 1973 age class was the worst hit in Tarawera Forest. Damage mostly occurred on faces and gully systems exposed to the south. This led to long narrow strips of windthrow with ridge systems between mostly undamaged. However, to re-establish areas the islands of remaining stands will need to be cleaned up.

Opening of roads after the Eastern storm was carried out by logging contractors using rubber-tyred loaders, particularly at Rangitaiki. No additional equipment was brought in for this purpose. Clean-up on a small scale commenced immediately by logging contractors working adjacent to affected areas.

A decision was made to first clean-up areas which had less than 200 s/ha standing and then clean-up the windthrow in the stands where a crop could be maintained. No squaring up of blocks has yet been carried out.

2. LOGGING

Contract thinning gangs with windthrow logging experience were scheduled into recovery operations. Other crews from Tauhara and K.L.C. who had been working in Northern Region's Forests were immediately returned to their home forests to log windthrow. Decisions on other crews transferring to other forests to help the recovery operations were assessed and co-ordinated by a Tasman Forestry group who handled the overall wood-flows during the salvage period.

2.1 Logging Methods

No significant changes to logging methods were required to handle the windthrow. Tree size ranged between 0.163 m³ in the 1973 age class to 0.227 in the 1969 and 0.347 in 1967 age class. The slightly different methods adopted depended

on manning levels and equipment. Four 4 man skidder crews with CR664 and JD440 skidders and a 6 man crew using a CR666 and 513 Payloader operated in windthrow.

The 4 man gangs used three cutters preparing the logs at the stump. A partial trim was completed depending on the lie of the log and whether the log was under tension. The cutter assisted the skidder operator break-out and a final trim was completed when the logs were safely on the skid track.

The 6 man crew used 3 men in the bush where a lower standard of trim was carried out than the 4 man crews. The rough trimmed logs were pulled directly out to the landing where a skiddy and loader driver did a final trim before fleeting with the loader. The 6 man method had the advantage of fast cycle times and the cutters were not trimming in amongst the tangled logs.

All logs were butt-pulled and in most cases to existing skids. Two additional landings were constructed at Rangitaiki Forest plus some roading to improve access for load-outs.

2.2 Production

A 17% reduction in gang output occurred compared to thinning. No comparison was done between windthrow recovery and clearfelling production in similar age classes.

The reduced production was more evident with the 4 man crews rather than the 6 man crews as the greatest delays occurred with the retrimming after break-out. To date 16 800 tonnes of windthrow has been logged and clean-up of isolated pockets is continuing with the 6 man crew and one 4 man crew.

3. COSTS

Production decreases increased actual logging costs between \$3.50 and \$4.00 per tonne. In addition a daily windthrow allowance was paid to the cutters and extra costs were incurred in shifting crews to salvage areas and the payment of additional travel time. Two skids cost \$750 to form and the roading amounted to an additional \$10 250.

4. SAFETY

Four minor accidents occurred in the windthrow. Two of these were bruised legs from spring-backs; one a chainsaw cut to the leg and one a bent over tree uprooting and striking a worker. This latter incident was potentially the most serious and the worker was very fortunate that he did not suffer more than a couple of days off work for a bruised back.

5. DISCUSSION

Following severe wind damage in Tarawera Forest two years previously where 9 - 10 year old stands that had just had a selection thinning (to 450 s/ha) were blown over, a decision was made to change to a 1 & 3 outrow thinning at age 9 in an attempt to give the remaining two rows a chance of developing windfirmness. The remaining two rows are rethinned 18 - 24 months after the initial 1 & 3 thinning. It was interesting to note that very little damage occurred in the stands given a 1 & 3 outrow thinning just prior to the Easter storm. Rows planted across the wind direction were affected slightly more than rows planted with the wind. There could be lessons here regarding future establishment where terrain permits a choice on planting direction.