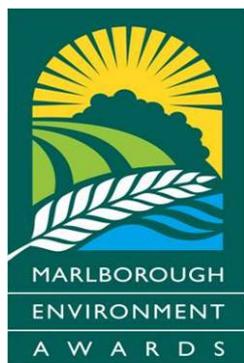


# Marlborough Environment Awards Judges' Feedback, Forestry

Sound environmental management is good business



**Project name** Marlborough Harvesting Limited, Greenslaw Stream, Briggs Block, Onamalutu

**Owner/Person interviewed** Richard Marden

**Date** 20 December 2012

**Judges** Chas Perry, Don Miller and Heather Arnold

**Award category** Forestry

## Summary

Marlborough Harvesting Limited (MHL) is a cable logging crew who has harvested 39.5 ha of plantation forest around the Greenslaw Stream Significant Natural Area (SNA) which was identified by the Marlborough District Council several years ago. MHL contract to Nelson Forests Limited. The successful harvesting of this was a big challenge for the following reasons:

1. Very steep terrain, with intermediate ridges, bluffs, rock outcrops and blind areas.
2. Wind thrown slopes.
3. Greenslaw Stream SNA site – irregular shaped, sited in the gully floor, along the length of the catchment, and extending in small fingers up small gullies from the main channel.
4. No setback between the SNA site and the plantation forest



The Greenslaw Stream SNA site is located in the Nutmeg Creek catchment, in the headwaters of the Onamalutu River. MHL is a fully mechanised logging crew (except for the fallers). An Acme motorised clamping carriage was used to harvest the SNA catchment, the crew also runs a Falcon Claw, and log making is via a Warratah processing head.

Harvest planning this operation was a long considered process. MHL was involved early in the planning and were able to work with the Harvest Planner to extract over 98% of the plantation forest on the slopes surrounding the SNA. Success was measured on the following:

1. safety maintained while working in windthrow, and on steep slopes, bluffs and rock outcrops
2. minimal damage to the SNA, preserving its integrity

3. minimal soil disturbance
4. the extraction of the greatest volume of plantation forest to give the best return on investment to the forest owner.

## **Background and General Information**

The Briggs block is one of several plantation forests areas that make up the Wairau North Crown Forest. It was planted by the NZ Forest Service. The presence of the Greenslaw Stream SNA is the result of the area not being planted, and allowed to grow undisturbed over the last 30 years. The SNA is ranked as L-M. Harvesting of the SNA catchment commenced at the beginning of June 2012 and was completed on 20 November 2012. No environmental incidents were recorded during the operation.

Area: 39.5 hectares of plantation forest

Terrain: steep  
Rainfall: 1400 mm per annum  
Soil type: fissile schists  
Ownership: Crown Forest Licence – managed by Nelson Forests Ltd  
Planted: 1981

## **Environmental Impacts**

### **1. Soil Impacts**

The Briggs block was established on very steep, eroding, unproductive farming hill country. The trees have changed the low production farming hills into a sustainable plantation forest. One of the harvesting challenges was to minimise soil disturbance. The logging area had already experienced wind throw, the landform was dissected in nature which required MHL to blind haul behind intermediate ridges.

MHL purchased an Acme motorised clamping carriage for this logging operation. It enabled MHL to harvest around the SNA by:

- pulling wider corridors (therefore having less rope shifts and able to increase bridling, and less corridors through/over the SNA),
- clamping onto the skyline and pull blind areas
- having good control on break out – more uplift and drag control

Where ever practicable, full lift and suspension was achieved, thereby keeping soil disturbance to a minimum. The crew also tried to get as many trees and logs as possible off the slopes, to avoid future issues (such as slash being carried downhill on future slope failures). The achievement of full lift and good suspension is very evident, with little soil disturbance present.

When working in the windthrow areas, the whole tree was extracted, including the root ball, which resulted in the following:

- Hazards were eliminated. Tree fallers did not have to butt of the tree (potentially dangerous as the trees are under tension which can release unexpectedly as the root ball is cut off) and the risk to breaker outs of the root balls being dislodged during extraction operations was eliminated (as they were removed from the slopes).
- The hills slopes were left in a better state to cope with storm events as the removal of the root balls lessened the potential for small midslope failures. It was thought that the rootballs could trap rain water, resulting in isolated super-saturation of the soil which could contribute to slope failure.

### **2. Water Impacts**

The Greenslaw Stream SNA contains a permanently flowing water course. This has been afforded a great deal of attention as MHL extracted trees away from it and over it, at all times minimising damage to the SNA. High stumps were left adjacent to the SNA to act as a final barrier if any logs were swept towards it during extraction. Full suspension over the stream was also achieved.

The use of the Acme carriage enabled MHL to control the trees around the edge of the SNA and to avoid trees entering the watercourse. There are some pinus radiate trees in the stream bed, however, these entered the stream as a result of storm damage.

The removal of the windthrow stumps from the hill faces also has the added positive effect of them not being able to roll down into the stream and cause blockages.

Throughout the harvesting operation, care was taken around culverts and flumes to ensure that they remained in place and were working as designed. Good water controls were also evident on the slash benches.

### **2.1. Waste Management**

Waste products were present on site, but well managed by being collected and stored in dedicated places. Waste oil is collected and also removed off-site

All of the fuel tanks meet HASNO requirements and it was noted that they were sited in "safe" areas – away from streams and water tables. Spill kits are held on site and there are procedures for incidents and near hits.

Slash is managed by the use of slash benches beneath landings. At completion of the use of each landing, the weight of the slash over the side of the landing is lessened by pulling it back onto the landing, pulled back onto the landing (when it is at risk of failing and moving downslope), thereby reducing the weight of slash below the landing. The extracted rootballs have been stacked in safe areas, where they cannot fall back onto the slopes. It was very noticeable that there was no merchantable timber in the slash piles, which results in lighter bird's nests and less requirement for slash management.

Waste is also managed through monthly audits that MHL submits to Nelson Forests Limited, and there is also a sign off process in place as each setting is completed.

## **3. Biodiversity Values**

### **3.1. Indigenous biodiversity**

The Greenslaw Stream SNA has been described as a representative area of riparian gully habitat, consisting of secondary forest, predominantly kanuka and broadleaved species but also supporting hinau, kamahi and many fern species typical of the area.

The care taken around the SNA vegetation is evident through clear boundaries, and little or no disturbance of the indigenous edge. This was achieved through a suite of techniques, including: full suspension over intermediate ridges and the SNA where ever possible, back pulling, directional felling edge trees and the use of high stumps.

Prior to harvesting the area, an ecologist was employed by Nelson Forests Limited to provide more detail about the SNA, than that provided in the original report. Armed with this knowledge, MHL was able to give careful consideration to the location of the corridors through the SNA to avoid damage to areas of high value. The SNA was also walked through before harvesting commenced by the crew foreman/owner to reconcile the information contained in the ecologists report with what was in-situ. This process identified a stand of kahikatea trees which MHL then took care not to disturb. MHL demonstrated good knowledge and understanding of the values of the SNA and what was to be protected.

As not all of the SNA could be protected, even using the range of techniques available to the crew, resource consent was therefore obtained for the removal of indigenous vegetation, where required, prior to the logging commencing.

Rare, threatened and endangered species are recorded by MHL and reported to Nelson Forests Limited. The site was also assessed for historic sites, but none were present in the Greenslaw Stream SNA.

**3.2. Non-indigenous biodiversity**

The pinus radiata provides a range of biodiversity values and provides an enhanced habitat to that which was present before the forest was established.

**4. Community Values/responsibility/sustainability**

**4.1. Strategies for minimising activities impinging on communities, workers and family**

Team meetings are held regularly and tail gate meetings daily (the day's instructions and any issues are discussed). Safety awareness and a desire to ensure that every one on site and visitors were safe was evident – from clear signage and thorough visitor safety inductions to the site, to decisions affecting the purchase of equipment and how wind thrown logs and root balls were handled. The harvesting operation was supported by documentation, readily available to everyone in the crew.

The crew had fire fighting water and equipment on site, appropriate to the scale of their operation.

**5. Awareness/compliance**

MHL demonstrated clear knowledge of the conditions of consent and a very good understanding of compliance matters, as well as the requirements of Nelson Forests Ltd's internal standards.

Very good awareness of the potential impact of the operation on Marlborough's natural environment was also shown, with MHL managing its operations to lessen the potential for adverse effects (eg; ensuring slash is stable, water controls are protected and knowledge of the impacts of natural storm events on downstream neighbouring properties).

**Comments**

The location of the Greenslaw SNA within a productive plantation forest, grouped with the steep nature of the land, the presence of rocky outcrops, blind areas and wind throw presented a large challenge to the successful harvesting of the catchment.

MHL rose to the challenge and have undertaken a very professional, environmentally acceptable and sustainable operation. It is a credit to MHL to have thought and acted outside of traditional harvesting systems to achieve a very good result.