Drift Decks: an answer to temporary logging stub roads in small catchments with regular flooding

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Westdome Forest (New Zealand)

- Serpentine affected forest (ultramafic soils)
  - small piece size
  - low volumes per hectare
  - quality post and pole wood

- Harvest roading rates are particularly high against stand returns because of the low volume returns per hectare and high harvesting cost

- Being in the rain shadow of the Fiordlands, the streams within this forest are prone to rise very quickly during a rainfall event.

- This means that culverts need to be large, or bridges are to be installed.

- What about temporary drift decks?
Existing Drift deck within Westdome Forest
Prefabricated components of drift deck
**RatsCastle Stream**

- 5 km² catchment area
- Culvert Analysis: 3m diameter culvert

Large culvert ? Ford ? Drift Deck ?

- 2 lengths of 1.6m diameter concrete pipes = $18,887.76

- Ford: not an option for amount of vehicle passes

- Original drift deck concept = approx. $40k

Can we install a drift deck for a cheaper price?
First prototype to be installed

- Fish passage unhindered
- Designed to overtop in high flow
- Easy install (7 components)
- Can be removed and installed at another site

Installation completed in half a day

- Hardware cost = $14,282 NZD
- Installation cost = $4,638 NZD
- total cost = <$20,000 NZD
Second Trial: A failure

- Used single unit only
- Immediately began to undermine
- Became a hazard to log traffic
- Can run the risk of the structure cracking and fracturing due to uneven load
- Stream too steep ??
Is this concept ideal for crossing the high storm flow streams to access the serpentine in West Dome??

• Low cost to reduce roading expense into a low return stand where large culverts or a bridge would be required

• Can be installed for duration of harvest then removed once complete
Thankyou for your attention

Any questions?