Far Fields Commissioners Hearing 8th July 2019

This submission is about the farming business partnership owned by my wife Anna and I. The original 314 ha was purchased in 1973 which has since been expanded to the current 670 ha.

For the past 36 years I have been involved with off farm activities and have developed a low input farming system that has enabled me to be away for considerable periods with the help of one full time employee. We have a higher than average sheep to cattle ratio and a less intensive farming system with larger paddocks and more set stocking. Our aim is to farm according to the land use capability by having permanent pasture supporting the appropriate stock classes with no till, cropping or artificial fertilizer.

A conservation project we have put much effort into is the planting of thousands of poplar and willow poles 30 years ago. This was part of the then Waikato Valley Authority subsidised programme. These trees have done an impressive job of stabilising erosion prone hill country, drying out our swampy areas, and providing shade and shelter for livestock. The Waikaretu Stream which runs 4 km through our farm always had willows stabilising the banks. We have left these old willows in place. To remove them would risk increased sedimentation from a more rapid water flow especially in flood events. I am a Trustee of the NZ Poplar and Willow Research Trust. The Trust has established a trial on the farm. We have retired three native bush areas including a significant stand of kauri in Q E 2 Covenants.

We have never applied nitrogen, our clover dominant original pastures provide the N for us. Our fertilizer programme for the past five years has only involved Hautuma Dicalcic spread by air.

I remain convinced that low input-cost, more extensive 'keep it simple' farming policies are net income positive and less stressful; for the farmer, livestock and the environment. I offer the following in support. Our farm was a Meat and Wool Boards Economic service monitor farm for 25 years. I still benchmark our farm against the Beef and Lamb NZ Economic Service data from the Northland/Waikato/BOP – Class 4 North Island Hill Country Quintile Analysis. This information is available on the Beef and Lamb NZ website. The average farm for the most recent comparison 2016/17 has a stock unit carrying capacity of 9.5 su/ha comprising 40% sheep - 60% cattle. Our farm carries 10 su/ha with 54% sheep – 46% cattle. Our farm has a Quintile 4 Gross Farm Income/ha but with lower expenditure achieves the same Economic Farm Surplus as the Quintile 5 high performing group of $500/ha and a 3% Rate of Return on capital, compared with the survey average EFS of $150/ha at 1% ROR.

When I was deputy Chairman of the New Zealand Wool Board I had the good fortune to work with

Maori farmers in connection with the Meat and Wool Boards' on farm extension programme in the Gisborne District (part of the Northern North Island Ward which I was elected to represent). I was involved with the re-launching of the Ahuwhenua Trophy Maori Excellence in Farming Award in 2003. Maori are intergenerational farmers. The Ahuwhenua Trophy has been a major factor in lifting the profile and perception of Maori Agribusiness. The deep, almost spiritual, connection to their land and its long term sustainability for the benefit of future generations, is an inspiring example for all other farming sectors.

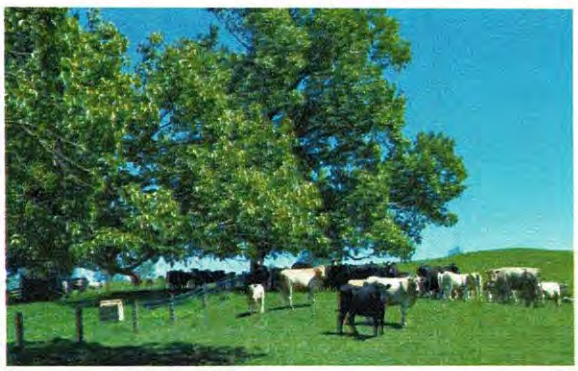
Tom Mandeno

THE NEW ZEALAND
POPLAR & WILLOW RESEARCH TRUST

- The Trust formed in 2011 is committed to the development and commercial release of new versatile Poplar and Willow cultivars.
- The Trust, initially supported by a Crown grant, is now primarily funded by Regional Councils and other sponsors with an interest in sustainable hill country pastoral farming.

ARE POPLARS AND WILLOWS IN YOUR FARM PLAN?

Poplar and willow trees are our **"Hill Country Heroes"** securing New Zealand's pastoral hill country.



Soil

- Poplars and willows are the pre-eminent trees for slope, gully, stream and river protection
- Once established they reduce slips on hill country by 95%
- Poplars and willow root systems bind more soil than any other tree used on our farms
- They improve drainage and slow runoff
- Stabilized soils accumulate soil structure, nutrients and organic matter

Pasture

- Well managed space planted poplars and willows allow ~ 90% of maximum pasture growth
- Appropriate tree planting allows greater management focus on remaining pasture land often offsetting pasture lost from tree planting

Stock

- Poplar and willow are suitable trees for farm shelter and shade.
- Bees collect pollen from willows, propolis and wax from poplars

Other environmental services

- They absorb nutrients, particularly nitrogen from groundwater - at deeper levels than pasture
- They bring deep nutrients to the soil surface layers
- Poplar and willow trees absorb CO_2, moderate the temperature and moisture microclimate

Extra benefits

- Trees can be managed for timber and wood products
- Large poplars can supply farm posts, battens and rails
- Both poplars and willows can be pollarded to keep their size down
- Both will grow new trees from protected stumps
- Erosion control/spaced P+W plantings can be eligible to enter the Emissions Trading Scheme

POPLAR RESEARCH TRIAL on 'Far Fields', 1386 Waikaretu Valley Road.

Slope moderate to steep LUC Class 6e, Soil Dunmore silt loam

Mean Rainfall 1450 mm Mean temp 14.5°C Soil Moisture Deficit 10-20 days

Figure 1. Landscape within which the 2014 and 2015 trials are sited (photos Anna Mandeno).

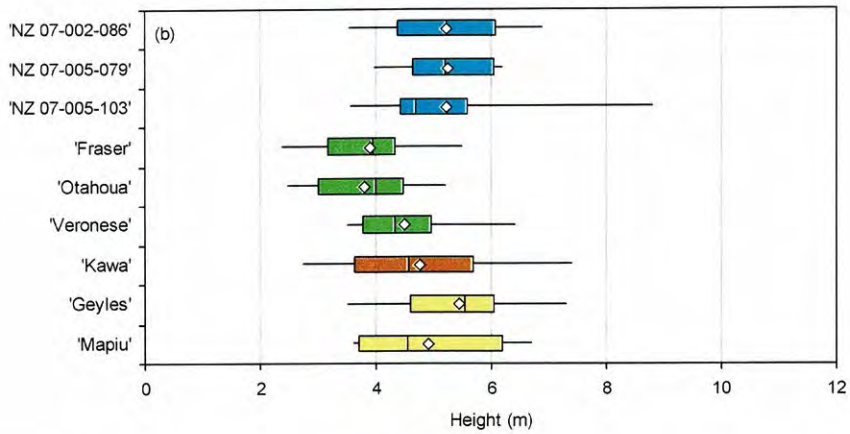


Figure 2. The height of the poplar clones in 2015 poplar trial as measured in 2018. The top three are experimental poplar varieties

This trial is solving two questions

A. **Will the experimental poplar varieties perform better than commercial varieties?**

B. **Of the poplars in the trial, which is the 'Right Tree' to stabilise soil reduce sediment in this coastal climate?**