Forestry P loss and Smap issues for discussion

Land TAG 26/5/2016

OVERSEER P losses from trees

	Pines (kg/ha/y)	Native (kg/ha/y)
OVERSEER 5.4	0.1	0.12
OVERSEER 6.2	0.12	0.1

- Losses predicted from a block to boundary of a second order stream

- Adjustable variables are rainfall and distance from coast- no effect on P loss

- Predicts total P from runoff

- Losses are based on Taupō evidence (but existed prior to the variation 5 hearings)

P loss studies

Source	Forestry TP loss (kg/ha/y)		Bush TP loss (kg/ha/y)	
	Range	Median	Range	Median
Wilcock (1986)	0.07-0.2	.1	0.04-0.68	.2
Cooper and Thomsen (1988)	0.07-0.12	.1	0.06-0.18	0.12

Cooper and Thomsen study
- Nested catchment study almost always referred to
- In stream measurements
- Doesn't appear to capture harvest losses...

Questions

- What's the significance of forestry operations on water quality in the Rotorua lakes

- Are OVERSEER predications correct?

- Are long term annual average predictions of P loss a suitable measure when there is a potential for large spikes over large areas?
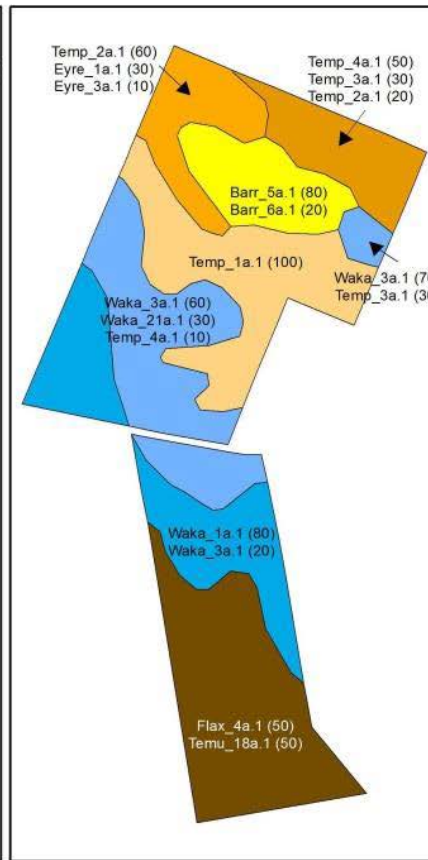
- What work is being done in this area?

S-map

- S-map based on legacy surveys digitised into S-map

- 2 issues…

1. the reinterpreting of the legacy information

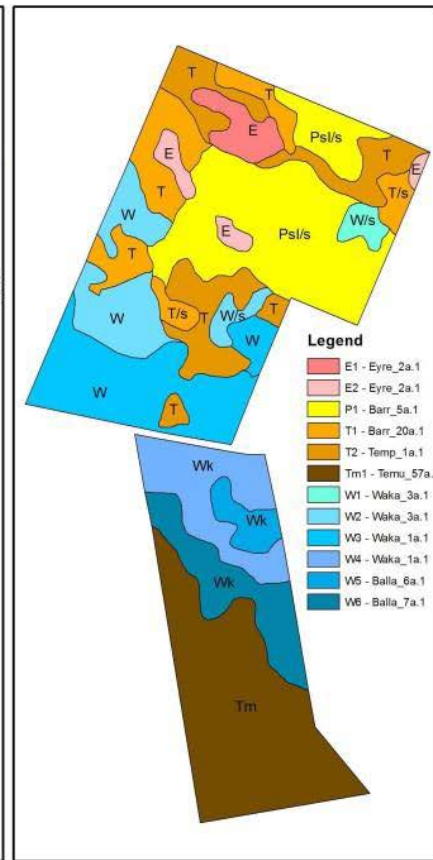2. Quality of the line work (poor alignment between DEM and s-map

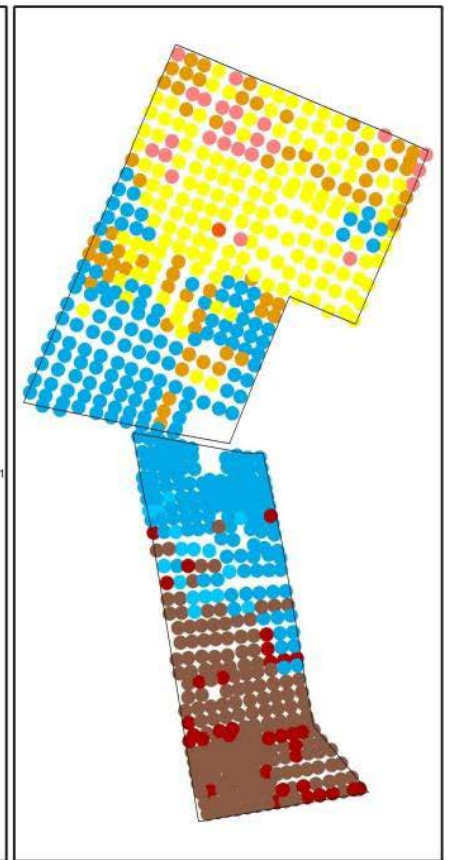# What difference does soil information mapping make?
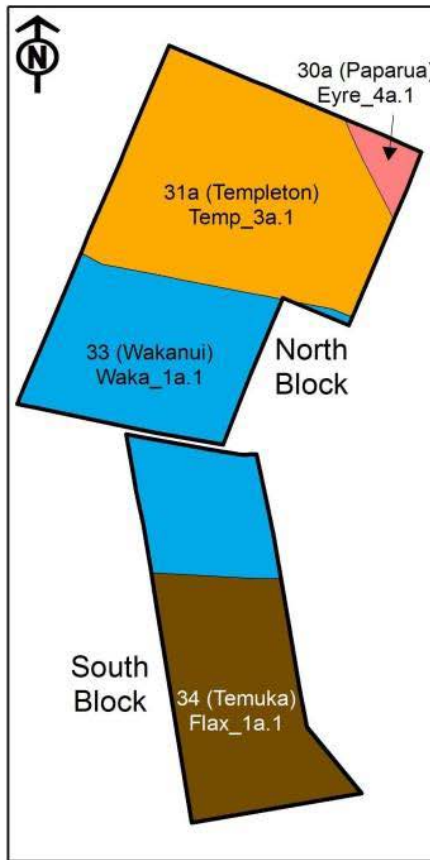
FSL   S-map   farm scale   auger

....results, conclusions, questions

	FSL	S-map	Farm map	Auger survey
Whole farm	36.9 (4408)	34.7 (4145)	33.8 (4037)	31.9 (3810)
North Block	40.7 (3134)	39.4 (3034)	39.1 (3011)	38.8 (2988)
South Block	30.1 (1277)	26.1 (1108)	24.1 (1023)	24.3 (1031)

- Highly variable soils and mapping but because PAW was similar across soils, so were OVERSEER N predictions. BUT site specific....

Questions

- Do we need to do improve s-map?
- What other efforts can we leverage off?