

Monitoring rainforest restoration outcomes with lidar and spatial modelling

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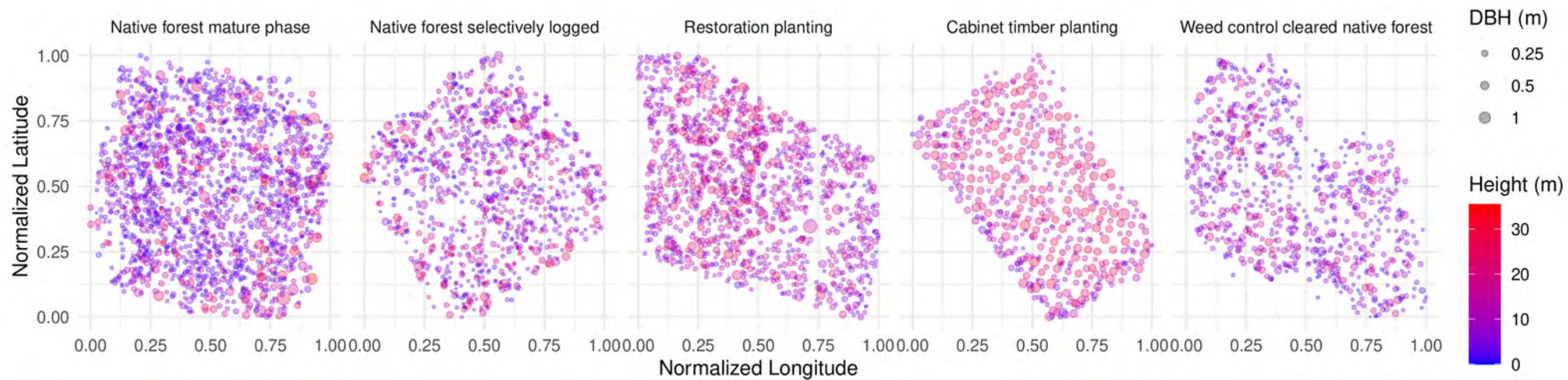
Structure is a strong indicator of ecosystem development and condition¹



¹Eyre, TJ et al. *BioCondition: A condition assessment framework for terrestrial biodiversity in Queensland* (2015).

Question: Can **terrestrial laser scanning (TLS)** contribute to assessment of restoration outcomes by characterising forest structural diversity?

Expectation: Mature phase forest structure equates with more niche diversity, or more **complex structure** in relation to life forms and size class distributions, which are key indicators of ecological restoration performance.



Border Ranges



Rocky Ck Dam



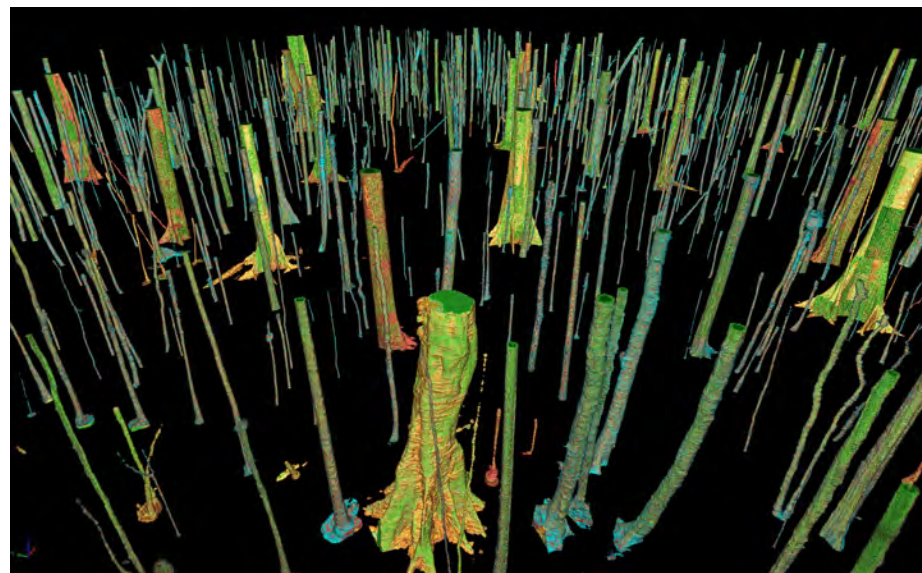
Binna Burra



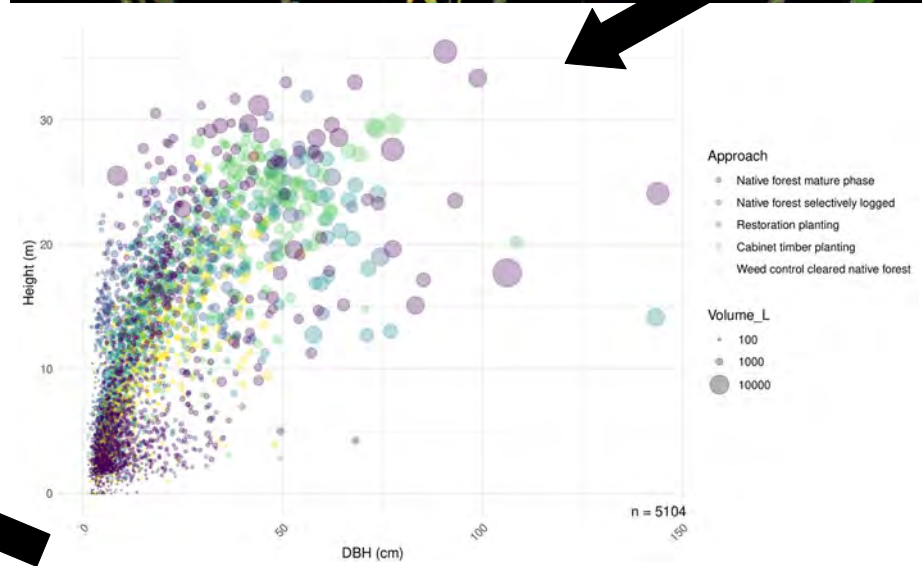
Rocky Ck Dam



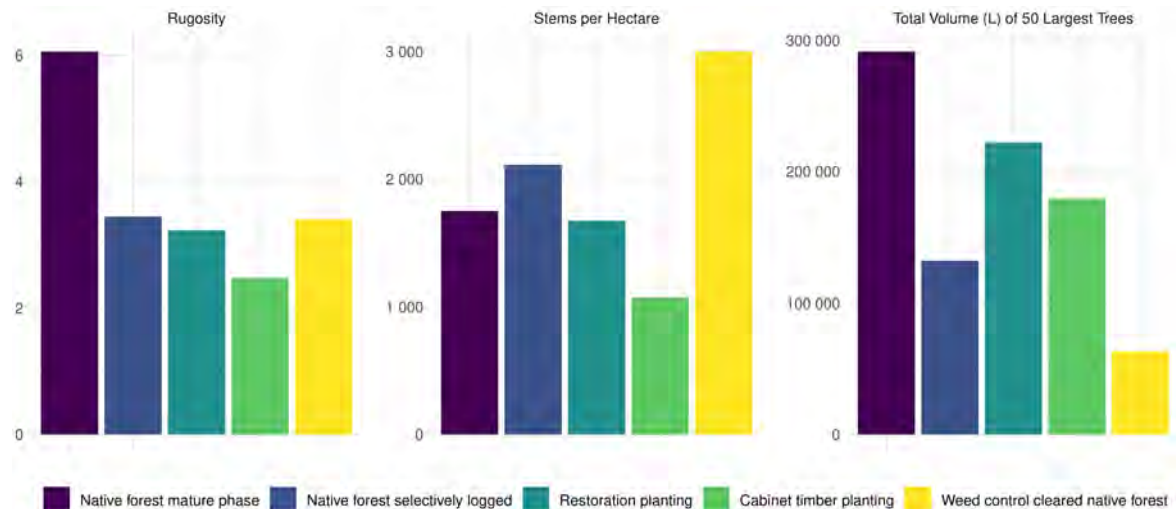
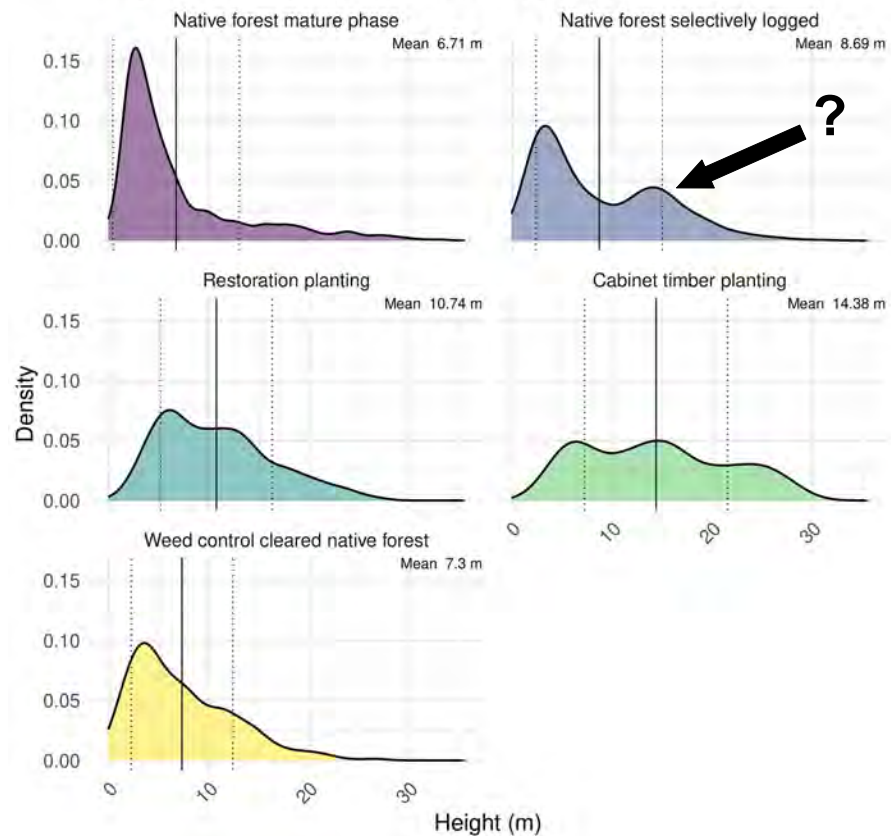
Rocky Ck Dam




TreeID	Volume_L	DBH_cm	Height_m	Lat	Long	Elevation	Approach_full
1 AM4_230920_Rocky_ck_BS_213.0680	8677.95508	74.464506	19.026993	-28.63861	153.3323	223.3890	Native forest selectively logged
2 AM4_230920_Rocky_ck_BS_213.1738	8256.71875	62.283194	25.422638	-28.63840	153.3322	221.6551	Native forest selectively logged
3 AM4_230920_Rocky_ck_BS_213.0729	6777.44434	52.003705	22.359055	-28.63879	153.3323	225.2001	Native forest selectively logged
4 AM4_230920_Rocky_ck_BS_213.2850	5789.06787	53.334624	26.699081	-28.63875	153.3324	223.9879	Native forest selectively logged
5 AM4_230920_Rocky_ck_BS_213.1367	4615.63135	48.295152	19.815811	-28.63852	153.3320	223.0931	Native forest selectively logged
6 AM4_230920_Rocky_ck_BS_213.1420	4215.04150	59.902787	14.416960	-28.63879	153.3324	224.9474	Native forest selectively logged



Height Distribution by Restoration Approach



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- > TLS can be used to **monitor differences in forest structure** to assess ecological restoration performance
 - > Standardised, efficient, comprehensive
 - > Funding for restoration should prioritise robust monitoring

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NSW National Parks and Wildlife Service
Tony Parkes
Ralph Woodford

Our wonderful team!

