

Table 33 Riparian - Number of Large Trees

	DATA OPTION 1: Airborne Laser Scanning	DATA OPTION 2: Airborne and Satellite Radar
<i>Spatial Dimensions</i>		
Area to cover	Can be up to 1000km ² or more	Can be up to 10 ⁶ km ² or more
Mapping unit	0.5m to 10m	5 m - 20 m
Positional accuracy	Within 5m or less dependent on GPS base station used	Within 5m or less dependent on GPS base station used
<i>Temporal Dimensions</i>		
When	User controlled	User controlled
How often	User controlled	User controlled
Variable to map	Vegetation height	Vegetation height
Environmental Restrictions	Cloud cover	Standing surface water
Processing technique	Riparian zone classification Set tree-height threshold	Riparian zone classification Set tree-height threshold
(Output)	Ground and canopy return extraction, interpolation and ground and canopy mapping. Raster or image surface of vegetation height	Backscattering modelling Extraction of height by either: Ground and canopy return differences OR difference between the phase-scattering centres as a function of wavelength OR canopy return and DEM differences Raster or image surface of vegetation height
Resources – Hardware and Software	PC Image processing software GIS with image analysis capabilities.	PC Image processing software GIS with radar image analysis capabilities.
Resource – Personnel	Trained and experienced in ALS mapping. Knowledge of area to be	Trained and experienced with radar mapping. Knowledge of the area to be mapped
References: Note these are some example references	Johansen et al. (2010)	Baltzer (2001)

Johansen, K., Arroyo, L. A., Armston, J., Phinn, S. and Witte, C. (2010). "Mapping riparian condition indicators in a sub-tropical savanna environment from discrete return LiDAR data using object-based image analysis." Ecological Indicators, 10(4), 796-807.

Baltzer, H. (2001). "Forest mapping and monitoring with interferometric synthetic aperture radar (InSAR)." Progress in Physical Geography, 25(2), 159-177.