

**Table 32 Riparian - Vegetation height**

	<b>DATA OPTION 1: Airborne Laser Scanning</b>	<b>DATA OPTION 2: Satellite or Radar</b>
<b><i>Spatial Dimensions</i></b>		
<b>Area to cover</b>	Can be up to 1000km <sup>2</sup> or more	Can be up to 10 <sup>6</sup> km <sup>2</sup> or more
<b>Mapping unit</b>	0.5m to 10m	5 m to 20 m
<b>Positional accuracy</b>	Within 5m or less dependent on GPS base station used	Within 5m or less dependent on GPS base station used
<b><i>Temporal Dimensions</i></b>		
<b>When</b>	User controlled	7-10 days
<b>How often</b>	User controlled	User controlled
<b>Variable to map</b>	Vegetation height	Vegetation height
<b>Environmental Restrictions</b>	Cloud cover	Surface standing water
<b>Processing technique</b>  <b>(Output)</b>	Riparian zone classification then Ground and canopy return extraction, interpolation and ground and canopy mapping.  Raster or image surface of vegetation height	Riparian zone classification then 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
<b>Resources – Hardware and Software</b>	PC Image processing software GIS with image analysis capabilities.	PC Image processing software GIS with radar image analysis capabilities.
<b>Resource – Personnel</b>	Trained and experienced in ALS mapping. Knowledge of area to be mapped	Trained and experienced with radar mapping. Knowledge of the area to be mapped
<b>References:</b> Note these are some example references	Arroyo et al. (2010)	Baltzer (2001)

Arroyo, L. A., Johansen, K., Armston, J. and Phinn, S. (2010). "Integration of LiDAR and QuickBird imagery for mapping riparian biophysical parameters and land cover types in Australian tropical savannas." Forest Ecology and Management, 259(3), 598-606.

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