

**Table 6 Harmful Algal Blooms % Cover (e.g. *Lyngbya majuscula*)**

	<b>DATA OPTION 1: Quickbird 2</b>	<b>DATA OPTION 2: Landsat ETM</b>
<b><i>Spatial Dimensions</i></b>		
<b>Area to cover</b>	12 km x 12 km per scene	185 km x 185 km per scene Example 250 km <sup>2</sup>
<b>Mapping unit</b>	068m panchromatic 4.0 m multi-spectral	15 m panchromatic 30 m multi-spectral
<b>Positional accuracy</b>	Dependent on georeferencing process	Dependent on Georeferencing process
<b><i>Temporal Dimensions</i></b>		
<b>When</b>	Approx 10.45 am	Approx 9.45 am
<b>How often</b>	Minimum every 4 days	every 16 days
<b>Variable to map</b>	Harmful algal bloom, benthic form. (Presence/absence, % Cover)cover	Harmful algal bloom, benthic form (Presence/absence, % Cover)
<b>Environmental / Sensor Restrictions</b>	For sub-tidal vegetation to depth limited by water clarity. Inter-tidal and supra-tidal vegetation can have water on top.  Not possible for turbid water  Clouds, strong winds and breaking waves. % cover of <i>Lyngbya</i> should be higher than 40 %	For sub-tidal vegetation to depth limited by water clarity. Inter-tidal and supra-tidal vegetation can have water on top.  Not possible for turbid water  Clouds, strong winds and breaking waves. % cover of <i>Lyngbya</i> should be higher than 40 %
<b>Processing technique (Output)</b>	Supervised Image classification  (Vegetation type map and target features) Note: The ability to map specific targets will depend on their growth form, percent cover, substrate colour and extent.	Supervised Image classification  (Vegetation type map and target features) Note: The ability to map specific targets will depend on their growth form, percent cover, substrate colour and extent.
<b>Resources – Hardware and Software</b>	PC Image processing software GIS with image classification module (e.g. ARCGIS Image	PC Image processing software GIS with image classification module (e.g. ARCGIS Image

	Analyst)	Analyst)
<b>Resource – Personnel</b>	Trained in image classification Experience with high spatial resolution data Knowledge of area to be mapped	Trained in image classification Experience with Landsat data Knowledge of area to be mapped
<b>References:</b> Note these are some example references	not tested but expected that possible and higher detail as it is operational with multi spectral sensor with moderate resolution pixels see (Roelfsema et al., 2006)	(Roelfsema et al., 2006)

Roelfsema, C. M., S. R. Phinn, W. C. Dennison, A. G. Dekker and V. E. Brando (2006). "Monitoring toxic cyanobacteria *Lyngbya majuscula* (Gomont) in Moreton Bay, Australia by integrating satellite image data and field mapping." *Harmful Algae* 5(1): 45-56.