

**Table 3 The remotely sensed variable Mangrove COVER TYPE**

and the listing of data types, processing requirements and costs for mapping and monitoring this variable using several suitable types of remotely sensed data. MMU: Minimum mapping unit; GRE: Ground resolution element

	<b>DATA OPTION 1: Landsat ETM</b>	<b>DATA OPTION 2: Radarsat</b>
<b><i>Spatial Dimensions</i></b>		
<b>Area to cover</b>	185km x 185km per scene	Up to 3600km <sup>2</sup>
<b>Mapping unit</b>	15m panchromatic 30m multi-spectral	5m -60mm
<b>Positional accuracy</b>	Depends on level of georeferencing	Dependent on Georeferencing process
<b><i>Temporal Dimensions</i></b>		
<b>When</b>	Approx 9.45am	User defined
<b>How often</b>	every 16 days	User defined (can be < 1 day)
<b>Variable to map</b>	Mangrove cover.	Mangrove cover
<b>Environmental Restrictions</b>	For mangrove vegetation which covers several areas. Cloud cover Mangrove fringe can be narrow, smaller then pixel size	For mangrove vegetation which covers several areas.  Strong winds Mangrove fringe can be narrow, smaller then pixel size
<b>Processing technique (Output)</b>	Image classification or feature detection  (Vegetation type map and target features) Note: The ability to map specific targets will depend on their growth form and extent.	Image classification or feature detection  (Vegetation type map and target features) Note: The ability to map specific targets will depend on their growth form and extent.
<b>Resources – Hardware and Software</b>	PC Image processing software GIS with image classification module (e.g. Arc-View Image Analyst)	PC Image processing software with radar image analysis capabilities, including sub-pixel mapping techniques.
<b>Resource – Personnel</b>	Trained in image classification Experience with Landsat data	Trained in radardata processing. Knowledge of area to be mapped

	Knowledge of area to be mapped	
<b>Estimated task and times</b>	<p>Image pre-processing (1 day)</p> <p>Image classification to Mangrove cover (15 days per scene)</p> <p>Field/Photo verification for a select number of sample sites: (8 days)</p> <p>Map output production: (2 days)</p> <p>Total = 26 days per scene</p>	<p>Image pre-processing (2 day)</p> <p>Image classification mapping to Mangrove Types (10 days per site)</p> <p>Field/Photo verification for a select number of sample sites: (4 days)</p> <p>Map output production: (2 days)</p> <p>Total = 18days per site (several 100 sites make up landsat scene)</p>
<b>Estimated Cost</b>  Note that these are estimates are flexible	<p>Data acquisition:            Image data = \$1950            Aerial Photos (10) = \$90/frame to acquire or less to hire from Dept. of Natural Resources            Ancillary data (topo sheets)= \$200</p> <p>Processing = 28 days of technical officer @ \$875/day= \$24500</p> <p>Total = \$26650</p> <p>Note: This assumes software have been purchased</p>	<p>Data acquisition:            Image data = \$8000</p> <p>Processing = 18 days of technical officer @ \$875/day= \$??</p> <p>Total = \$15750</p> <p>Note: This assumes software have been purchased</p>