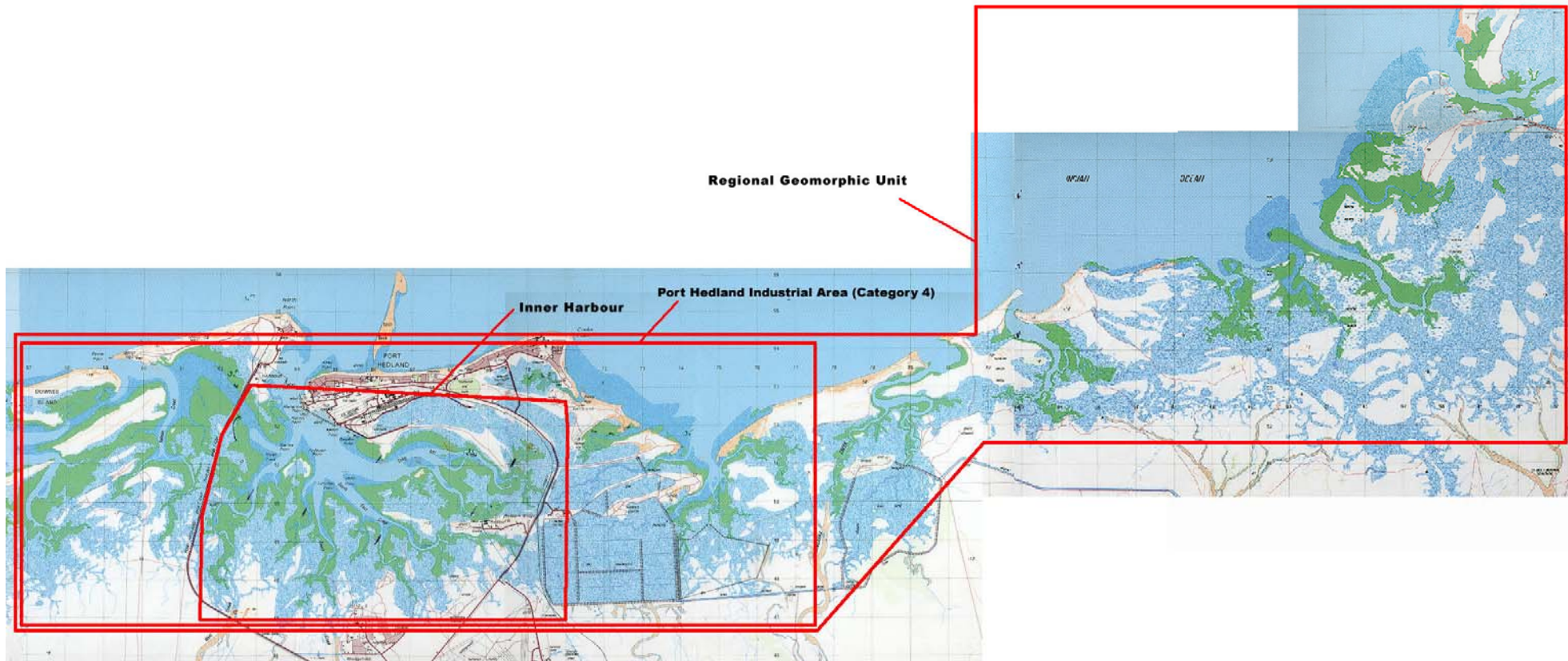


**Appendix 3: Mangrove BPPH Management Unit and Cumulative Loss Calculations for the Revised FMG Port design (Based on Figure 1).**



Current Mangrove Areas in each Management Unit	
Inner harbour total:	1,108 ha -> ~Management unit total size = 56 km <sup>2</sup>
Port Hedland Industrial Area total:	2,334 ha -> ~Management unit total size = 161 km <sup>2</sup>
Regional Geomorphic Unit total:	3,869 ha -> ~Management unit total size = 326 km <sup>2</sup>

1960 Mangrove Extent	
Inner harbour:	1,263 ha
Port Hedland Industrial Area Unit:	2,676 ha
Regional Geomorphic total:	4,211 ha

<b>Historical Losses</b>		<b>Total BPPH loss</b>	
BHP E Creek et al:	155 ha	Inner harbour:	244 ha
Hope Downs:	89 ha	Local geomorphic unit:	342 ha
Cargill Salt condensers:	86 ha	Regional geomorphic unit:	342 ha
Cargill Salt crystallisers:	12 ha		
	<b>342 ha</b>		

<b>-&gt; Cumulative loss % to date</b>	
Inner harbour:	19.3%
Port Hedland Industrial Area:	12.8%
Regional Geomorphic unit:	8.1%

**Additional clearing presented by FMG proposal - Revised Spoil Basin Design**

Considering loss of true mangrove BPPH (associations 1-5; which includes the open canopy' mangrove cover (association 5)), additional clearing of mangrove associations totals:

14.8 ha

**FMG proposal cumulative loss - Revised Spoil Basin Design**

Considering loss of true mangrove BPPH (associations 1-5; which includes the open canopy' mangrove cover (association 5)), total cumulative loss would be:

Inner harbour: 258.8 ha  
 Port Hedland Industrial Area: 356.8 ha  
 Regional geomorphic unit: 356.8 ha

Inner harbour: 20.5%  
 Port Hedland Industrial Area: 13.3%  
 Regional geomorphic unit: 8.5%