

Appendix 9.6 Intertidal Species Recorded at Sampling Locations in the Assessment Area in the Quantitative Survey
 Results from Quantitative Survey - Intertidal Survey Location IS 1-5 (Dry Season)

Sampling location	IS1			IS2					IS3			IS4			IS5		
	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3
Level	High -----> Low			High -----> Low					High -----> Low			High -----> Low			High -----> Low		
Algae																	
<i>Corallina</i> sp.																	
<i>Gelidium</i> sp.											5%			10%			
<i>Harveyllithon</i> sp.											5%	10%			5%		
<i>Hildenbrandia</i> sp.											10%	15%		15%	20%		
<i>Neoralgalia expansa</i>																	
<i>Ulva</i> sp.											30%	40%		20%	20%		
Barnacles																	
<i>Amphibalanus amphitrite</i>																	
<i>Captulum mitella</i>			10%										5%				5%
<i>Tetraclita japonica</i>			5%								20%			60%			
<i>Tetraclita squamosa</i>										20%				20%			1%
Bivalves																	
<i>Barbatia virescens</i>														5%			1
<i>Isognomon isognomonum</i>																	2
<i>Saccostrea cucullata</i>											25%		10%	10%		10%	
<i>Mytilisepta virgata</i>		10%									5%	40%	10%	10%			
<i>Perna viridis</i>												5%					5%
Snail																	
<i>Drupella margariticola</i>																	1
<i>Echinolittorina radiata</i>	16	8								13			18		25	6	1
<i>Echinolittorina malaccana</i>	29	6	1							22			25		14	2	
<i>Littoraria articulata</i>																	
<i>Lunella coronata</i>												8		2			1
<i>Monodonta labio</i>											7	13		3	4		1
<i>Monodonta neritoides</i>								26									
<i>Nerita albicilla</i>																	1
<i>Nerita chamaeleon</i>											5			1			
<i>Planaxis sulcatus</i>																8	5
<i>Reishia clavigera</i>											4	11		4		1	1
<i>Reishia luteostoma</i>																	
Crab																	
<i>Eriphia sebana</i>			1														
<i>Gaetice</i> sp.																	1
<i>Grapsus albolineatus</i>														1			
<i>Metopograpsus frontalis</i>											3						
Chiton																	
<i>Acanthopleura japonica</i>			1								2	4		1			
Limpets/False Limpets																	
<i>Cellana grata</i>											3			4			
<i>Cellana toreuma</i>											4	11		8	23		
<i>Nipponacmea concinna</i>								1			7			4			
<i>Patelloida pygmaea</i>											1						
<i>Patelloida saccharina</i>											3			1			
<i>Siphonaria laciniosa</i>											4			4			
Polychaete																	
<i>Hydroides</i> sp.								1%			15%			5%			
<i>Spirorbis</i> sp.										10%	10%			5%			
Others																	
<i>Anthopleura dixoniana</i>											5			4			
<i>Diadumene lineata</i>											2						
<i>Ligia exotica</i>									3								
<i>Salmacis sphaeroides</i>														3			

Note:
 Quadrat 1: High tide; Quadrat 4: Low tide.

Appendix 9.6 Intertidal Species Recorded at Sampling Locations in the Assessment Area in the Quantitative Survey
 Results from Quantitative Survey - Intertidal Survey Location IS 6-11 (Dry Season)

Sampling location Species/Distance on transect	IS6			IS7			IS8			IS9			IS10			IS11		
	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3
Level	High -----> Low			High -----> Low			High -----> Low			High -----> Low			High -----> Low			High -----> Low		
Algae																		
<i>Corallina</i> sp.						40%			60%									
<i>Neoralfsia expansa</i>												60%			50%			40%
<i>Ulva</i> sp.			5%															
Barnacles																		
<i>Amphibalanus amphitrite</i>	1%	1%																1%
<i>Captiulum mitella</i>	5%	5%																
<i>Tetraclita japonica</i>				80%	60%		25%	50%										
<i>Tetraclita squamosa</i>		5%	5%												10%			5%
Bivalves																		
<i>Barbata virescens</i>		1																
<i>Saccostrea cucullata</i>		80%										80%			80%			10%
<i>Mytilisepta virgata</i>			5%		1%	1%												
Snail																		
<i>Echinolittorina radiata</i>	58																	
<i>Echinolittorina malaccana</i>	24							2										
<i>Littoraria articulata</i>												20						
<i>Monodonta labio</i>					1												1	3
<i>Monodonta neritoides</i>	1																	
<i>Planaxis sulcatus</i>		3																
<i>Reishia clavigera</i>		1	1						1									1
<i>Reishia luteostoma</i>						2												
Chiton																		
<i>Liolophura japonica</i>					3	2		2	1			2			2			7
Limpets/False Limpets																		
<i>Cellana grata</i>	1	1	2		3		6		4									2
<i>Cellana toreuma</i>		3										1						5
<i>Nipponacmea concinna</i>	1	8	32		2													10
<i>Patelloida saccharina</i>		1							1									
<i>Siphonaria laciniosa</i>									1			3						
Others																		
<i>Anthopleura dixoniana</i>									5			4						
<i>Diadumene lineata</i>									2									
<i>Ligia exotica</i>							3											
<i>Salmacis sphaeroides</i>												3						

Note:
 Quadrat 1: High tide; Quadrat 4: Low tide.

Appendix 9.6 Intertidal Species Recorded at Sampling Locations in the Assessment Area in the Quantitative Survey
 Results from Quantitative Survey - Location IS 12-16 (Dry Season)

Sampling location	IS12				IS13				IS14				IS15				IS16			
	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4
Level	High -----> Low				High -----> Low				High -----> Low				High -----> Low				High -----> Low			
Algae																				
<i>Kyrtuthrix maculans</i>	5%	10%			15%	10%			15%	5%			10%	15%			15%	10%		
<i>Hildenbrandia rubra</i>	10%	15%			10%	10%			10%	10%			15%	15%			5%	5%		
<i>Corallina</i> sp.				30%											2%	10%				
<i>Gelidium pusillum</i>			2%				2%	5%			2%	5%			2%	5%				5%
<i>Ulva</i> sp.				5%								5%				10%				
Barnacles																				
<i>Capitulum mitella</i>		1%	2%			1%	3%			1%	2%	5%		1%	5%				5%	2%
<i>Tetraclita japonica</i>			5%	5%							5%			2%	5%			1%	5%	
<i>Tetraclita squamosa</i>			15%	10%				1%			5%	10%			5%	15%				15%
Bivalves																				
<i>Saccostrea cucullata</i>			5%	5%			5%	10%			10%	15%			10%	15%			15%	15%
<i>Septifer virgatus</i>			5%	15%												5%				
Snail																				
<i>Echinolittorina malaccana</i>	15	11			9	6			6	11			14	12			11	8		
<i>Echinolittorina radiata</i>	10	13			5	7			8	13			15	12			9	10		
<i>Echinolittorina vidua</i>			2	6										1	4					
<i>Monodonta labio</i>			3	2							5	2			4	2			2	5
<i>Thais clavigera</i>		2	4								4	3			4	3			3	6
<i>Morula musiva</i>			3	1																
<i>Littoraria articulata</i>			3												6					
Chiton																				
<i>Acanthopleura japonica</i>			3	5			4	3			4	5			9	11			2	2
Limpets/False Limpets																				
<i>Cellana grata</i>	1	2			2	3				3			2	5			1	3		
<i>Cellana toreuma</i>		4	5				3	2		5	4			5	8		3	1		
<i>Patelloida saccharina</i>			7	5			4	6			8	2			6	9			6	9
<i>Patelloida pygmaea</i>			5	5			6	5			5	4			3	10			4	7
<i>Siphonaria japonica</i>			3											1						
Polychaete																				
<i>Hydroides</i> sp.											15%					5%				
<i>Spirorbis</i> sp.										10%		10%				5%				
Others																				
<i>Ligia exotica</i>		3			3	4									3					

Note:
 Quadrat 1: High tide; Quadrat 4: Low tide.

Appendix 9.6 Intertidal Species Recorded at Sampling Locations in the Assessment Area in the Quantitative Survey

Results from Quantitative Survey - Intertidal Survey Location IS 1-5 (Wet Season)

Sampling location Species/Distance on transect	IS1			IS2				IS3				IS4				IS5				
	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Quadrat 1	Quadrat 2	Quadrat 3
Level	High -----> Low			High -----> Low				High -----> Low				High -----> Low				High -----> Low				
Algae																				
<i>Corallina</i> sp.											95%									30%
<i>Harveyolithon</i> sp.															10%	20%		5%	10%	
<i>Hildenbrandia</i> sp.																			10%	
<i>Kyrtuthrix maculans</i>																		20%		
<i>Jania</i> sp.														80%	70%					40%
<i>Pterocladia</i> sp.																				
<i>Ulva</i> sp.																				
Barnacles																				
<i>Balanus amphitrite</i>			1%		40%					1%										
<i>Captulum mitella</i>	1%								9%	1%			5%					20%	5%	
<i>Tetraclita japonica</i>																		10%		
<i>Tetraclita squamosa</i>		90%	10%							5%	1%		70%	10%				5%	5%	5%
<i>Megabalanus volcano</i>																				
Bivalves																				
<i>Barbatia virescens</i>											2									
<i>Saccostrea cucullata</i>	1%										80%									
<i>Septifer virgatus</i>			5%							10%	5%			70%						
<i>Perna viridis</i>		1									1							60%		
Snail																				
<i>Chlorostoma argyrostoma</i>												1								3
<i>Echinolittorina radiata</i>	21	3							14											
<i>Echinolittorina malaccana</i>	105								67											
<i>Littoraria articulata</i>																				
<i>Lunella coronata</i>											1				8	2				
<i>Monodonta labio</i>		1			1		19			1	1	2			3	4	2			
<i>Planaxis sulcatus</i>	2																			
<i>Tectus Pyramis</i>												2			1	1				
<i>Thais clavigera</i>			1								1			2	3		4			
Crab																				
<i>Gaetice</i> sp.								5												
<i>Grapsus albolineatus</i>																	1			
<i>Nanosesarma minutum</i>														14	7		6			
Chiton																				
<i>Liolophura japonica</i>			8							1	4		1	4	2	1	6			
Limpet/false limpet																				
<i>Cellana grata</i>		1										2	3		1	2	1			
<i>Cellana toreuma</i>												2	1	4		4	2			3
<i>Lottia luchuana</i>																				
<i>Nipponacmea concinna</i>																				
<i>Patelloida pygmaea</i>														1	4			13		
<i>Patelloida saccharina</i>		1	1		18		7			1			1	2						1
<i>Siphonaria laciniosa</i>																3				2
<i>Siphonaria japonica</i>																3				
Polychaete																				
<i>Hydroides</i> sp.								1%					5%	5%	5%	5%	5%			10%
<i>Spirorbis</i> sp.													5%	5%	5%	5%	10%			5%
<i>Serpulorbis imbricatus</i>													5%		5%					
Other																				
<i>Helocidaris crassispina</i>												1			1					
<i>Anthopleura</i> sp.			1														1			
<i>Diadumene lineata</i>																		7	6	
<i>Ligia exotica</i>			3								1		8	2						
Sponges																				
Amphipod																				

Note:
 Quadrat 1: High tide; Quadrat 4: Low tide.

Appendix 9.6 Intertidal Species Recorded at Sampling Locations in the Assessment Area in the Quantitative Survey
 Results from Quantitative Survey - Intertidal Survey Location IS 6-11 (Wet Season)

Sampling location Species/Distance on transect	IS6			IS7				IS8			IS9			IS10			IS11		
	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 1	Quadrat 2	Quadrat 3
Level	High -----> Low			High -----> Low				High -----> Low			High -----> Low			High -----> Low			High -----> Low		
Algae																			
<i>Corallina</i> sp.			20%							5%									
<i>Harveyllithon</i> sp.		20%			30%	20%	15%												
<i>Hildenbrandia</i> sp.		10%			10%							70%	20%			50%	60%		10%
<i>Jania</i> sp.		5%	80%			40%	80%												
<i>Pterocladia</i> sp.																			10%
<i>Ulva</i> sp.																			10%
Barnacles																			
<i>Balanus amphitrite</i>												15%	50%					80%	20%
<i>Capitulum mitella</i>					5%			5%											60%
<i>Tetraclita japonica</i>					50%	10%													
<i>Tetraclita squamosa</i>	50%	10%						20	90	70%									2%
<i>Megabalanus volcano</i>		2%																	
Bivalves																			
<i>Saccostrea cucullata</i>		50%						20%			20%	95%	10%	20%	80%	70%	1%	60%	5%
<i>Septifer virgatus</i>	7%	4%	2%		20%	20%				1%		2%							
<i>Perna viridis</i>																6%			
Snail																			
<i>Chlorostoma argyrostoma</i>										1									
<i>Littoraria articulata</i>											1			2	1				
<i>Lunella coronata</i>																			
<i>Monodonta labio</i>				15			2		3	8									
<i>Thais clavigera</i>		14		3	20	3				3									
Crab																			
<i>Nanosesarma minutum</i>		1				2	7									3			
Chiton																			
<i>Liolophura japonica</i>	5	8		5		2			1	6					6			2	
Limpets/False Limpets																			
<i>Cellana grata</i>					5	4			1										
<i>Cellana toreuma</i>	6	5			7	5	2				1			1					
<i>Lottia luchuana</i>						2													
<i>Nipponacmea concinna</i>					5														15
<i>Patelloida pygmaea</i>		1								2									1
<i>Patelloida saccharina</i>	5	7		10	25		7			3									1
<i>Siphonaria laciniosa</i>		2		1		1			1										
Polychaete																			
<i>Hydroides</i> sp.						10%	15%			1%			10%						
<i>Serpulorbis imbricatus</i>			20%										10%			10%			
Others																			
<i>Anthopleura</i> sp.										1									
<i>Diadumene lineata</i>		8					2												
<i>Ligia exotica</i>				1				1		1				2					
Sponges													4						
Amphipod									1										

Note:
 Quadrat 1: High tide; Quadrat 4: Low tide.

Appendix 9.6 Intertidal Species Recorded at Sampling Locations in the Assessment Area in the Quantitative Survey
 Results from Quantitative Survey - Location IS 12-16 (Wet Season)

Sampling location Species/Distance on transect Level	IS12				IS13				IS14				IS15				IS16			
	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4
	High -----> Low				High -----> Low				High -----> Low				High -----> Low				High -----> Low			
Algae																				
<i>Kyrtuthrix maculans</i>	10%	10%			10%	10%			10%	5%			15%	20%			10%	5%		
<i>Hildenbrandia rubra</i>	15%	20%			10%	5%			5%	5%			20%	10%			5%	5%		
<i>Corallina</i> sp.				25%												10%				
<i>Gelidium pusillum</i>			1%					2%				5%				5%				1%
Barnacles																				
<i>Capitulum mitella</i>		1%	5%				5%			2%	2%			5%					5%	2%
<i>Tetracitla japonica</i>			5%							5%				5%	10%				5%	
<i>Tetracitla squamosa</i>		5%	15%					1%				15%			5%	15%				15%
Bivalves																				
<i>Saccostrea cucullata</i>			5%	10%			5%	20%			5%	10%			10%	25%			10%	20%
<i>Septifer virgatus</i>			5%	25%												10%				
Snail																				
<i>Echinolittorina malaccana</i>	19	20			16	8			7	14			18	14			10	11		
<i>Echinolittorina radiata</i>	12	17			4	9							15	14			9	13		
<i>Echinolittorina vidua</i>			5	8											4					
<i>Monodonta labio</i>		2	3												5	4			3	6
<i>Thais clavigera</i>		1	5							4	3			4	2	4			2	4
<i>Morula musiva</i>			4	2						4	3									
<i>Littoraria articulata</i>		2													5					
Crab																				
<i>Grapsus albolineatus</i>										2				2				1	2	
Chiton																				
<i>Acanthopleura japonica</i>			4	8			2	4			3	6			9	12			3	5
Limpets/False Limpets																				
<i>Cellana grata</i>	2	3			3	5			2	4			4	4			4	1		
<i>Cellana toreuma</i>		8	5				2	2		5	7			6	8		2	4		
<i>Patelloida saccharina</i>			9	8			1	10			10	4			9	7			6	12
<i>Patelloida pygmaea</i>			7	4			5	4			5	2			6	8			3	7
<i>Siphonaria japonica</i>			2						2					2						
Others																				
<i>Ligia exotica</i>	2	5			5	1			3					5						

Note:
 Quadrat 1: High tide; Quadrat 4: Low tide.