

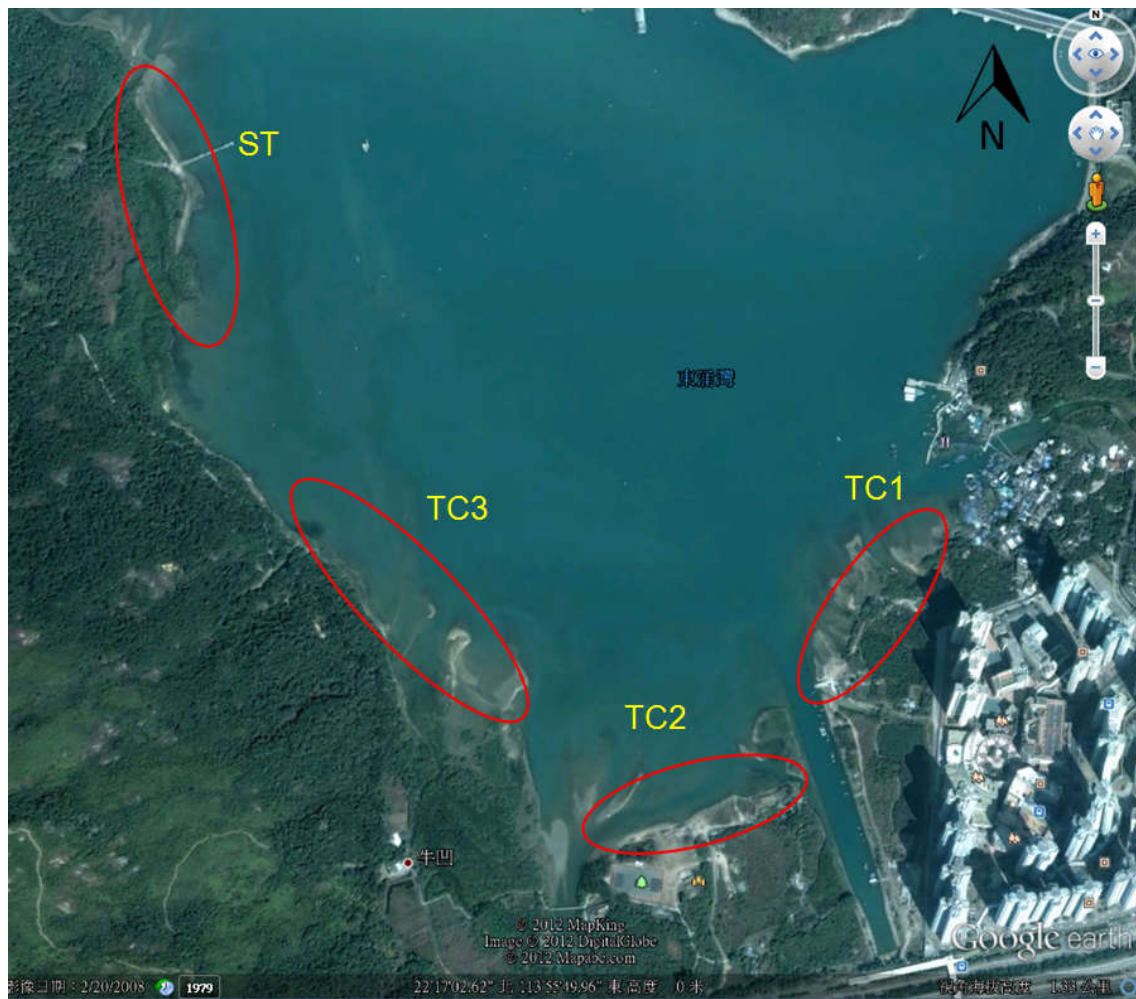


Figure 2.1. *Locations of sampling zones. The study site was divided into three sampling zones (TC1, TC2, TC3) in Tung Chung Bay and one zone in San Tau (ST) (map generated from Google Map).*

TC1



TC2



TC3



ST



Figure 2.2 *Photographic record of the environment in every sampling zone. (September 2020)*

TC1



Plastic waste



Trash gill net

TC3



Boat wreckage

ST



Trash gill net and hand trolley



A tangled horseshoe crab on a trash net
(record in June 2017)

Figure 2.3 Examples of photographic record of the big trashes found on the mudflat.

ST *Carcinoscorpius rotundicauda*



ST *Tachypleus tridentatus*



Figure 3.1 *Examples of photographic records of horseshoe crab (September 2020)*

Table 3.1. *Summary of juvenile horseshoe crab survey in every sampling zone*

	TC1	TC2	TC3	ST
Search duration (hr)	2	2	3	3
<i>Carcinoscorpius rotundicauda</i>				
No. of individuals	0	0	0	39
Mean prosomal width (mm)	\	\	\	49.59
Max..prosomal width (mm)	\	\	\	78.17
Min. prosomal width (mm)	\	\	\	32.36
Search record (ind. hr-1 person-1)	0.00	0.00	0.00	6.50
<i>Tachypleus tridentatus</i>				
No. of individuals	0	0	0	28
Mean prosomal width (mm)	\	\	\	54.60
Max..prosomal width (mm)	\	\	\	79.61
Min. prosomal width (mm)	\	\	\	35.43
Search record (ind. hr-1 person-1)	0.00	0.00	0.00	4.67

March 2015 - ST



June 2017 – TC2



(Female)



(Male)

June 2017 – TC3



Figure 3.2 Photographic records of mating pairs of horseshoe crab

December 2017 – TC3



June 2018 – TC3



(Female)



(Male)

Figure 3.2(Cont'd) *Photographic records of mating pair of horseshoe crab*

March 2019 – TC2



June 2019 – TC3



March 2020 – TC1



Figure 3.2 (Cont'd). *Photographic records of mating pair of horseshoe crab*

TC1



TC2



Figure 3.3 *Photographic records of newly hatched individuals of horseshoe crab (September 2018)*

Carcinoscorpius rotundicauda

June 2017



December 2017



March 2019



December 2018



Figure 3.4 *Photographic records of large individuals (>100 mm) of horseshoe crabs records were excluded from data analysis*

Tachypleus tridentatus

September 2017



June 2019



March 2020



Figure 3.4 (Cont'd) *Photographic records of large individuals (>100 mm) of horseshoe crabs records were excluded from data analysis*

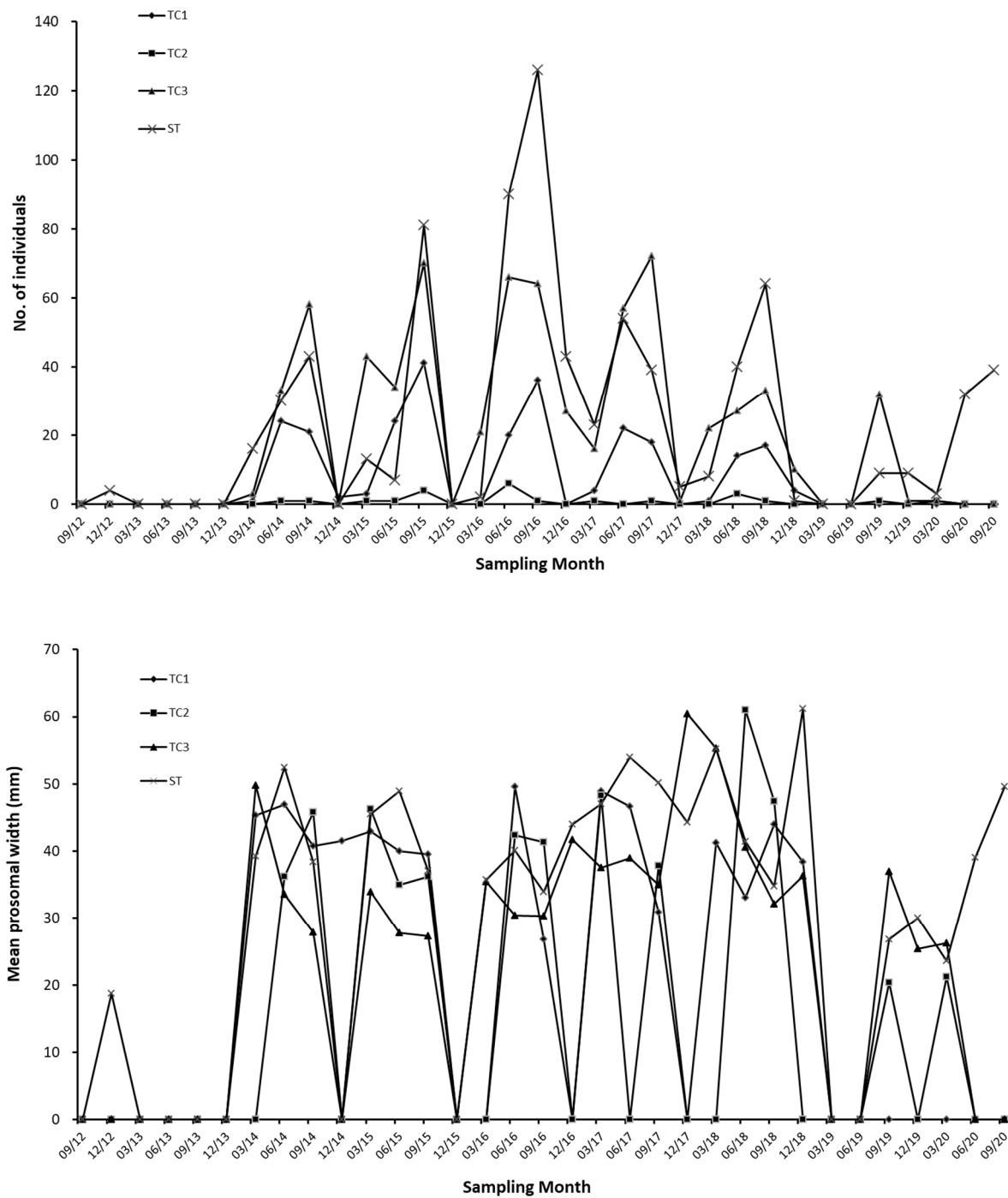


Figure 3.5 Changes of number of individuals mean prosomal width and search record of horseshoe crab *Carcinoscorpius rotundicauda* in every sampling zone along the sampling months

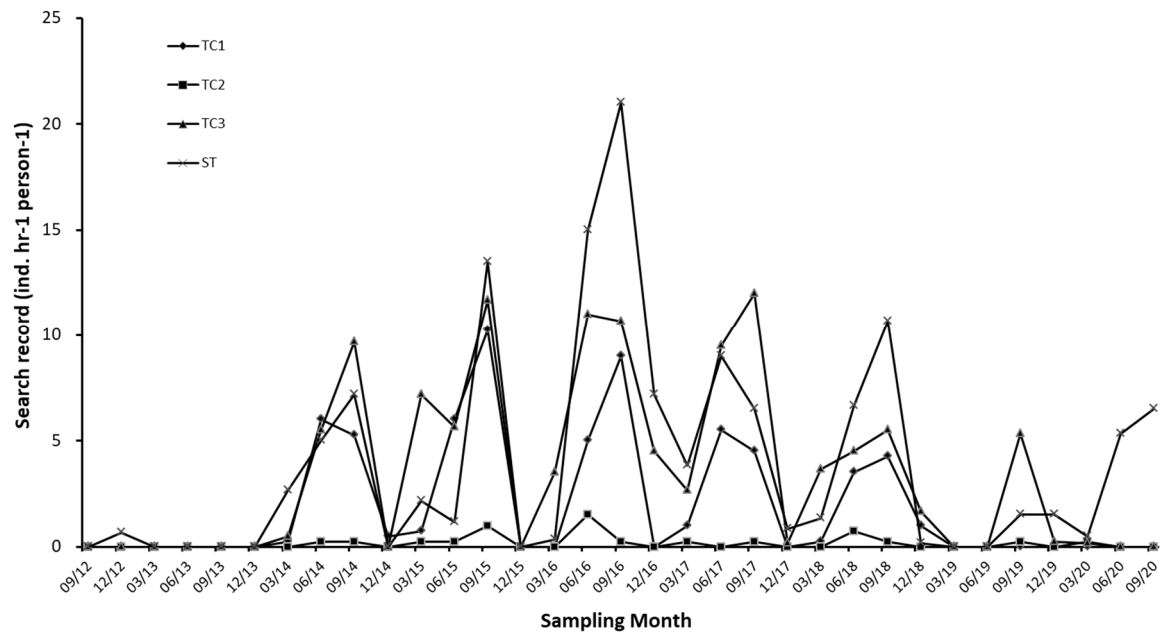


Figure 3.5 (Cont'd) Changes of number of individuals mean prosomal width and search record of horseshoe crab *Carcinoscorpius rotundicauda* in every sampling zone along the sampling months

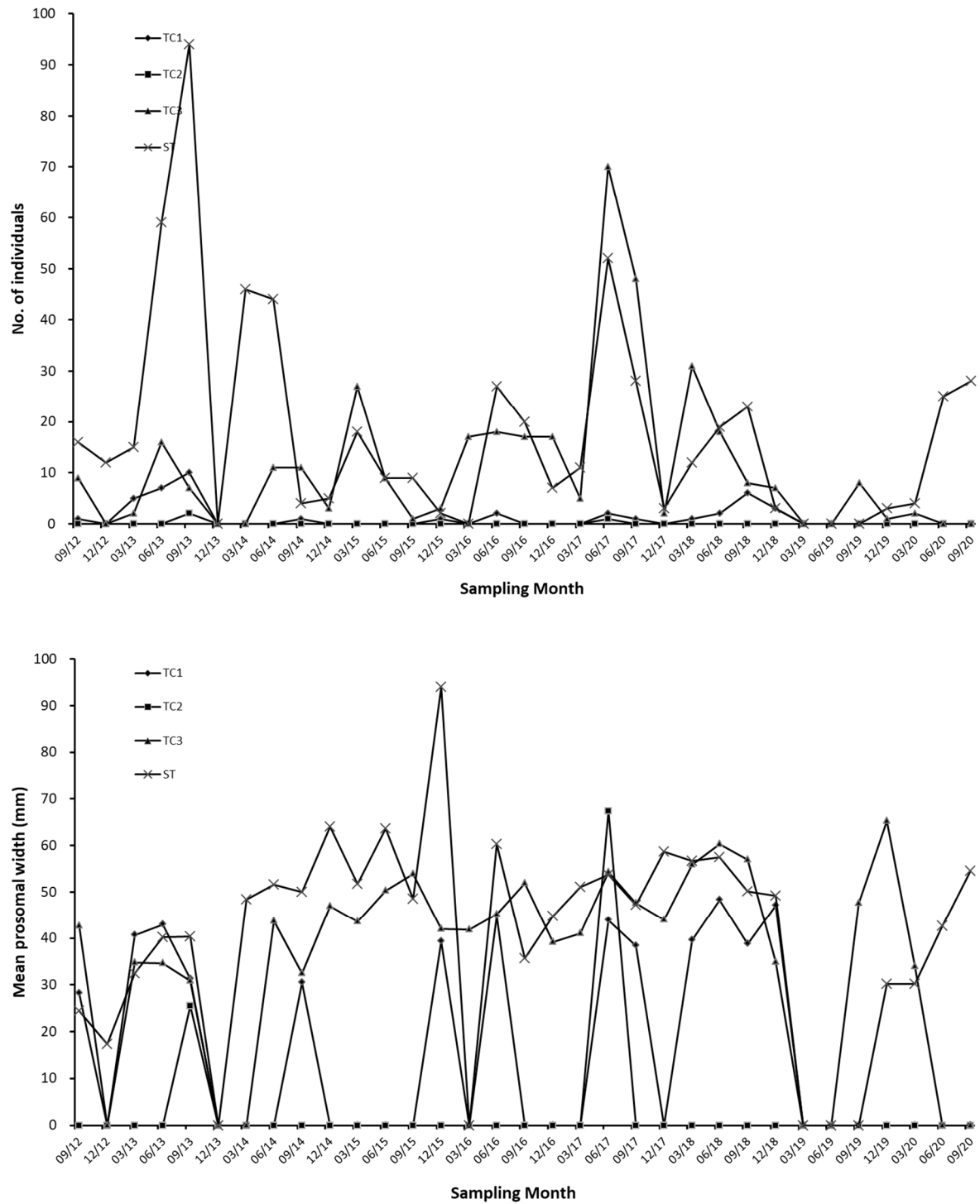


Figure 3.6 Changes of number of individuals mean prosomal width and search record of horseshoe crab *Tachypleus tridentatus* in every sampling zone along the sampling months

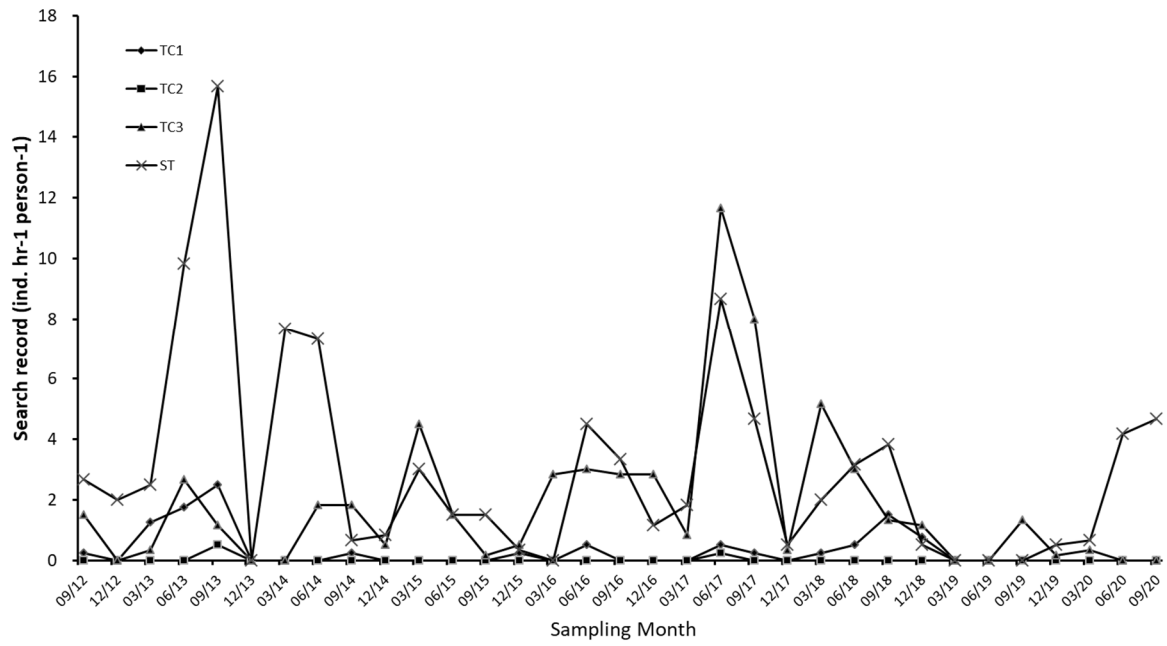


Figure 3.6 (Cont'd) Changes of number of individuals mean prosomal width and search record of horseshoe crab *Tachypleus tridentatus* in every sampling zone along the sampling months

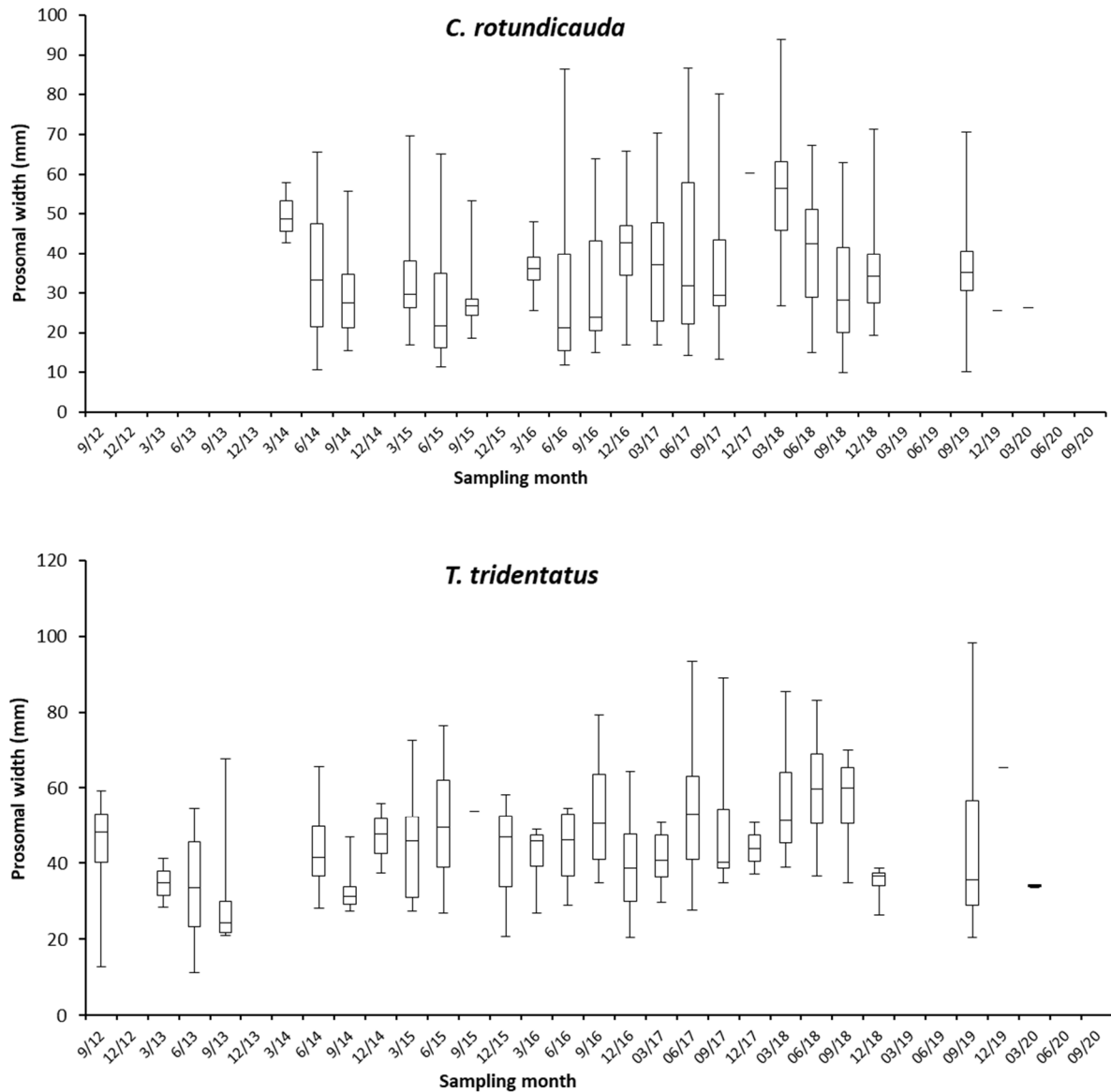


Figure 3.7 Box plot of prosomal width of horseshoe crab in the sampling zone TC3 along the sampling months. (The box represents 50% of the sample (upper to lower quartile) with a middle line showing the median value. The upper whisker and lower whisker showed the 25% of sample above upper quartile and below the lower quartile respectively)

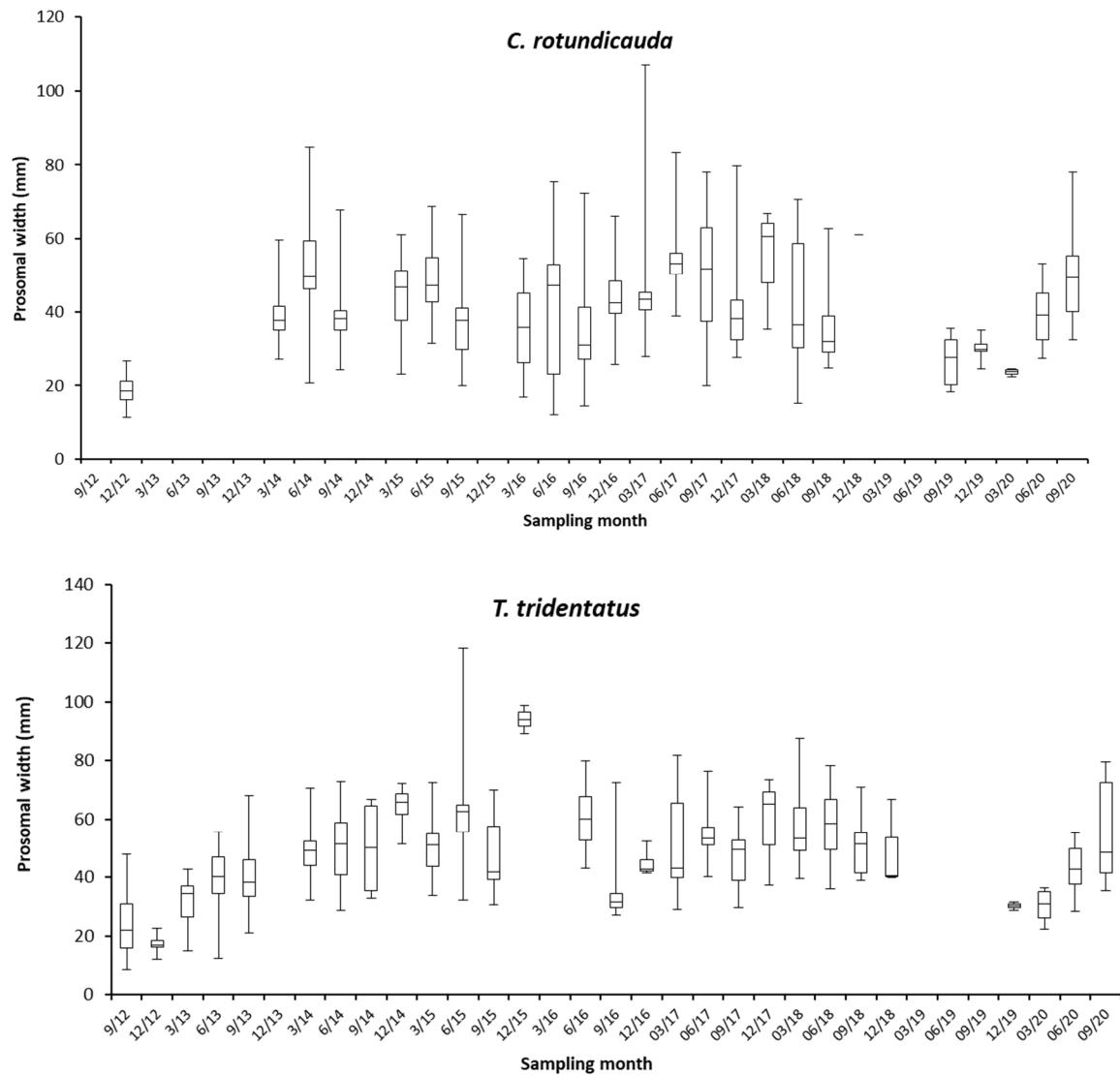


Figure 3.8 Box plot of prosomal width of horseshoe crab in the sampling zone ST along the sampling months. (The box represents 50% of the sample (upper to lower quartile) with a middle line showing the median value. The upper whisker and lower whisker showed the 25% of sample above upper quartile and below the lower quartile respectively.)

***Halophila ovalis* in TC3**



Figure 3.9 *Photographic record of seagrass beds in present survey.*

***Halophila ovalis* in ST**



Figure 3.9 (Cont'd) *Photographic record of seagrass beds in present survey.*

TC3



Single patch of *Halophila ovalis*

TC3 - ST



Extensive patch of *Halophila ovalis*



ST



Medium, horizontal patch of *Zostera japonica*

Figure 3.10 Examples of photographic records of seagrass beds (record in June 2017)

Table 3.2. *Summary of seagrassbeds survey*

Sampling zone	TC3	ST
	<i>Halophila ovalis</i>	<i>Halophila ovalis</i>
Number of patches	3	3
Total area (m ²)	70	970
Average area (m ²)	23.3	323.3

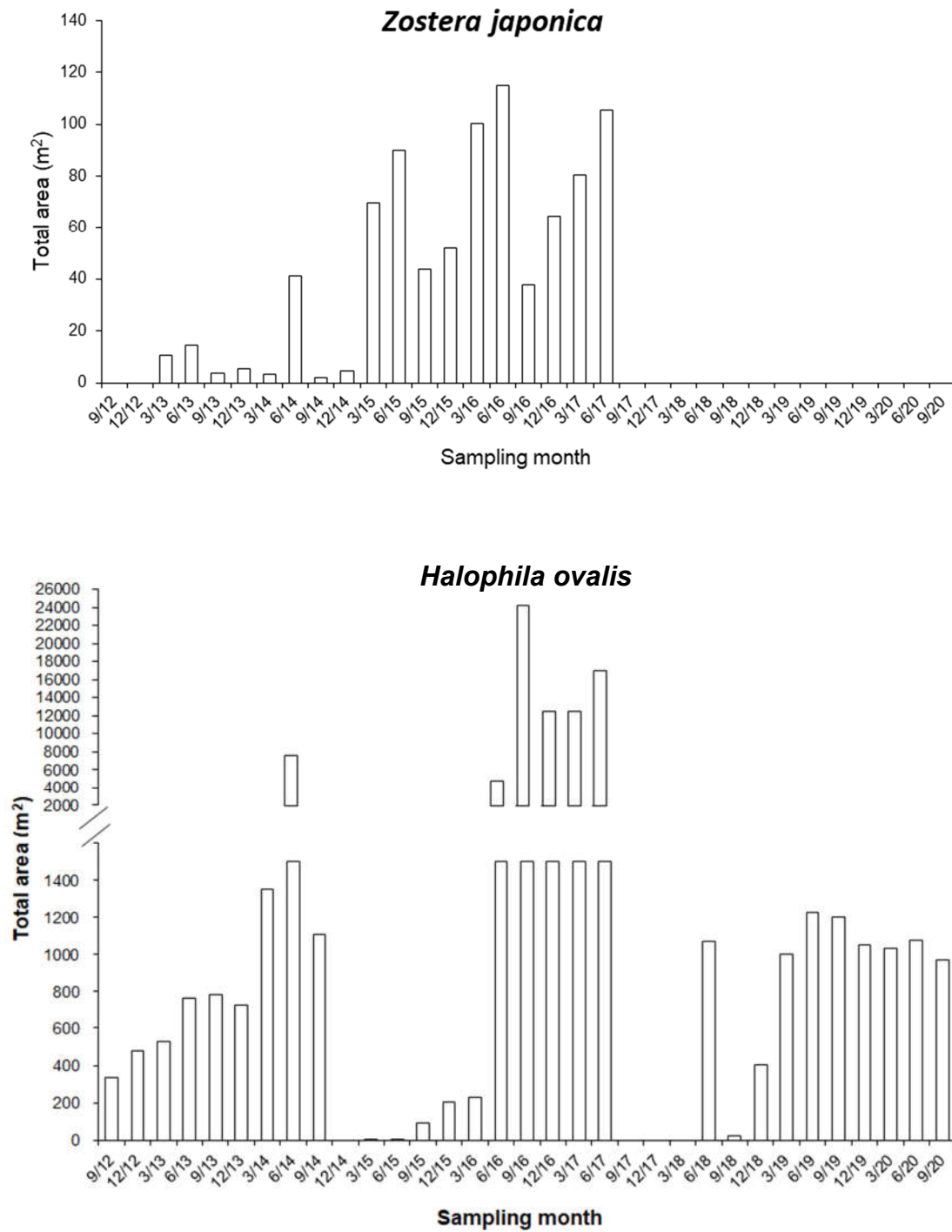


Figure 3.11 Temporal changes of estimated total area of seagrass beds in ST

June 2014



December 2014 (no seagrass)



September 2015



June 2017



September 2017-March 2018 (no seagrass)



September 2018



Figure 3.12 Comparison of pictures taken in different sampling months shows the successive disappearance and recolonization of seagrass beds. The picture of December 2018 was lacking due to night-dawn survey time.

March 2019



June 2019



September 2019



December 2019



March 2020



June 2020



September 2020



Figure 3.12 (Cont'd) *Comparison of pictures taken in different sampling months shows the successive disappearance and recolonization of seagrass beds. The picture of December 2018 was lacking due to night-dawn survey time.*

Table 3.3.*Relative distribution (%) of types of substratum along the horizontal transect at every tidal level and in every sampling zone.*

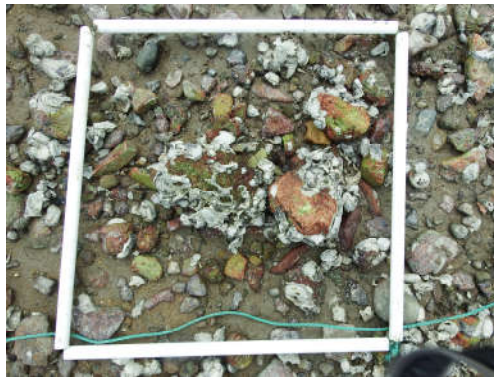
Sampling zone	Tidal level	Percentage		
		Gravels and Boulders	Sands	Soft mud
TC1	H	70	30	
	M	70	20	10
	L	40		60
TC2	H	70	30	
	M	60		40
	L	40	10	50
TC3	H	60	30	10
	M	60	30	10
	L	70	20	10
ST	H	90	10	
	M	60	40	
	L	50	10	40

H: 2.0 m above C.D.; M: 1.5 m above C.D.; L: 1.0 m above C.D.

TC1 H



TC1 L



15/9/2020

TC2 H



TC2 L



16/9/2020

TC3 H



TC3 L



23/9/2020

Figure 3.13 *Examples of photographic records of quadrat for intertidal soft shore community survey (H: 2.0 m above C.D.; M: 1.5 m above C.D.; L: 1.0 m above C.D.)*

ST H



ST L



14/9/2020

Figure 3.13.(Cont'd) *Examples of photographic records of quadrat for intertidal soft shore community survey (H: 2.0 m above C.D.; M: 1.5 m above C.D.; L: 1.0 m above C.D.)*

Table 3.4 *Total abundance, density and number of taxon of every phylum*

Phylum	Total Abundance	%	Density (ind. m ⁻²)	Number of Taxon
<u>September 2020</u>				
Mollusca	10214	92.2	340	34
Arthropoda	665	6.0	22	9
Annelida	72	0.7	2	3
Sipuncula	85	0.8	3	2
Nemertea	23	0.2	1	1
Cnidaria	10	0.1	0	1
Platyhelminthes	4	0.0	0	1
Total	11073			

0.0 %: Total abundance of the phylum is less than 0.1% of relative abundance.

0 ind. m⁻²: Density of the phylum is less than 1 ind. m⁻².

Table 3.5 *The number of individuals, relative abundance (percentage) and density of each phylum in every sampling zone*

Phylum	TC1	%	Density (ind. m ⁻²)	TC2	%	Density (ind. m ⁻²)	TC3	%	Density (ind. m ⁻²)	ST	%	Density (ind. m ⁻²)
Mollusca	2931	95	391	2663	89	355	2168	91	289	2452	94	327
Arthropoda	104	3	14	289	10	39	183	8	24	89	3	12
Annelida	19	1	3	4	0	1	25	1	3	24	1	3
Sipuncula	30	1	4	24	1	3	10	0	1	21	1	3
Nemertea	0	0	0	7	0	1	0	0	0	16	1	2
Cnidaria	2	0	0	0	0	0	2	0	0	6	0	1
Platyhelminthes	0	0	0	0	0	0	4	0	1	0	0	0
Sub-total	3086			2987			2392			2608		

0.0 %: Total abundance of the phylum is less than 0.1% of relative abundance of the sampling zone.

0 ind. m⁻²: Density of the phylum is less than 1 ind. m⁻² of the sampling zone.

Table 3.6 *The abundant species (relative abundance >10%) in every sampling zone*

Sampling zone TC1	Group	Species	Mean density (ind. m ⁻²)	Relative abundance (%)	Cumulative relative abundance (%)
High	Bi	<i>Saccostrea cucullata</i>	104	26	5
	G	<i>Monodonta labio</i>	126	32	6
Mid	Bi	<i>Saccostrea cucullata</i>	101	27	18
	G	<i>Monodonta labio</i>	68	18	30
Low	Bi	<i>Saccostrea cucullata</i>	132	28	33
	G	<i>Monodonta labio</i>	144	31	58

Bi = Bivalve, G = Gastropod

Table 3.6(Cont'd) *The abundant species (relative abundance >10%) in every sampling zone*

Sampling zone TC2	Group	Species	Mean density (ind. m ⁻²)	Relative abundance (%)	Cumulative relative abundance (%)
High	Bi	<i>Saccostrea cucullata</i>	74	17	43
	G	<i>Batillaria multiformis</i>	99	23	76
	G	<i>Monodonta labio</i>	101	24	5
Mid	Bi	<i>Saccostrea cucullata</i>	97	26	34
	G	<i>Batillaria zonalis</i>	54	14	55
	G	<i>Monodonta labio</i>	76	20	8
Low	Bi	<i>Saccostrea cucullata</i>	85	22	47
	G	<i>Monodonta labio</i>	135	34	7

Bi = Bivalve, G = Gastropod

Table 3.6(Cont'd) *The abundant species (relative abundance >10%) in every sampling zone*

Sampling zone TC3	Group	Species	Mean density (ind. m ⁻²)	Relative abundance (%)	Cumulative relative abundance (%)
High	Bi	<i>Saccostrea cucullata</i>	154	51	4
Mid	Bi	<i>Saccostrea cucullata</i>	132	36	6
	G	<i>Batillaria multiformis</i>	56	15	77
	G	<i>Monodonta labio</i>	35	10	3
Low	Bi	<i>Saccostrea cucullata</i>	120	42	37

Bi = Bivalve, G = Gastropod

Table 3.6(Cont'd) *The abundant species (relative abundance >10%) in every sampling zone*

Sampling zone ST	Group	Species	Mean density (ind. m ⁻²)	Relative abundance (%)	Cumulative relative abundance (%)
High	Bi	<i>Saccostrea cucullata</i>	174	42	12
	G	<i>Batillaria multiformis</i>	21	5	24
	G	<i>Monodonta labio</i>	74	18	41
Mid	Bi	<i>Saccostrea cucullata</i>	133	30	27
	G	<i>Monodonta labio</i>	61	14	49
Low	Bi	<i>Saccostrea cucullata</i>	39	22	24
	G	<i>Monodonta labio</i>	42	24	41

Bi = Bivalve, G = Gastropod

Table 3.7 Mean values of species number, density, Shannon-Weaver Diversity Index (H') and Pielou's Species Evenness (J) at every tidal level and in every sampling zone

Samling zone	Tidal	Mean species number (spp. 0.25m ⁻²)	Mean species number across tidal levels	Mean density (ind. m ⁻²)	Mean density across tidal levels	Mean H'	Mean H' across tidal levels	Mean J	Mean J across tidal levels
TC1	H	12		391		2.2		0.9	
	M	13	12	375	411	2.1	2.03	0.8	0.80
	L	12		467		1.8		0.7	
TC2	H	12		428		1.9		0.8	
	M	11	11	374	398	1.9	1.87	0.8	0.80
	L	11		392		1.8		0.8	
TC3	H	11		304		1.7		0.7	
	M	10	11	367	319	1.7	1.70	0.8	0.73
	L	11		286		1.7		0.7	
ST	H	13		416		1.8		0.7	
	M	14	12	449	348	2.1	1.83	0.8	0.77
	L	8		178		1.6		0.8	

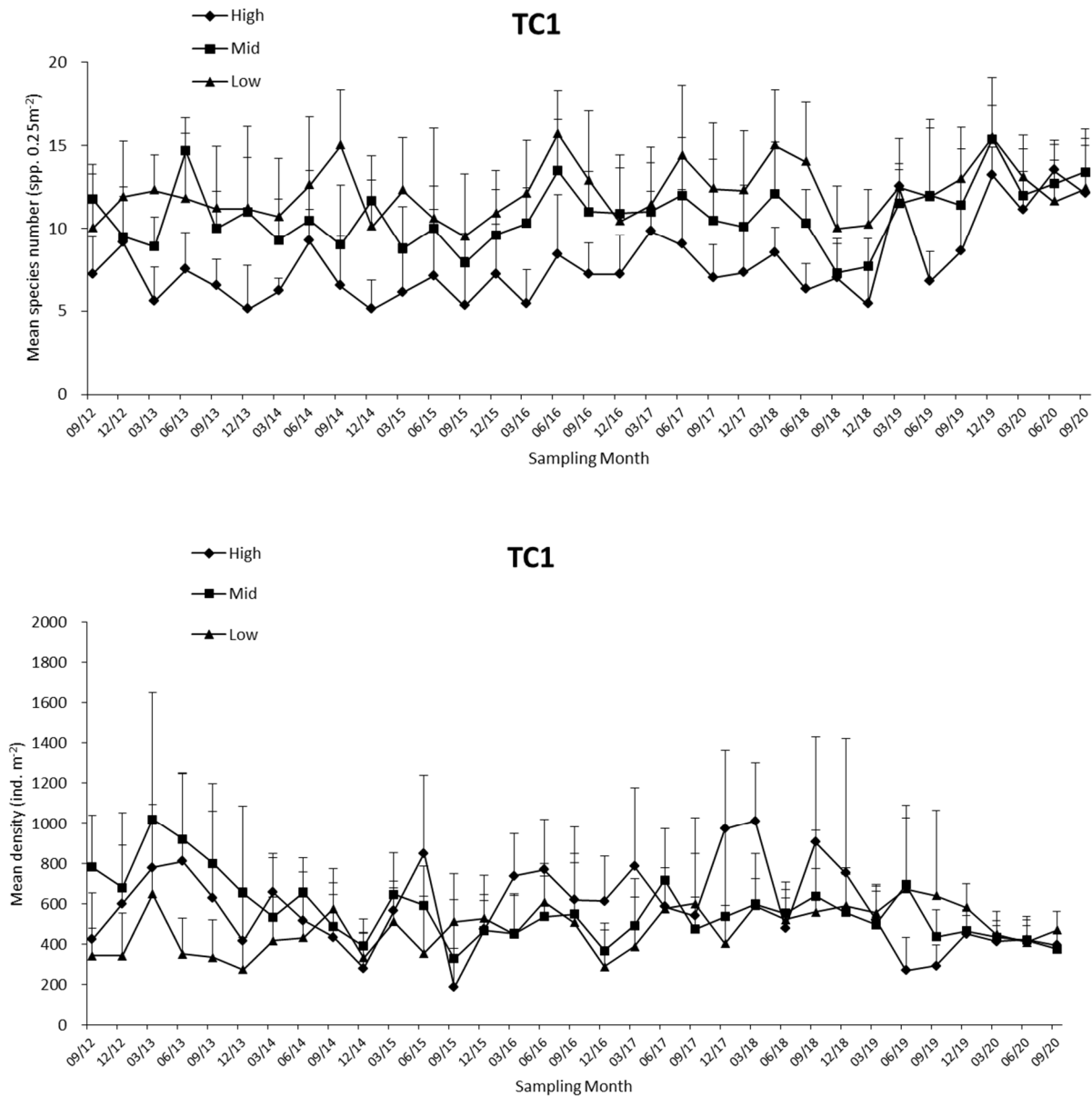


Figure 3.14 Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index (H') and Pielou's Species Evenness (J) (mean + SD) at every tidal level in sampling zone TC1

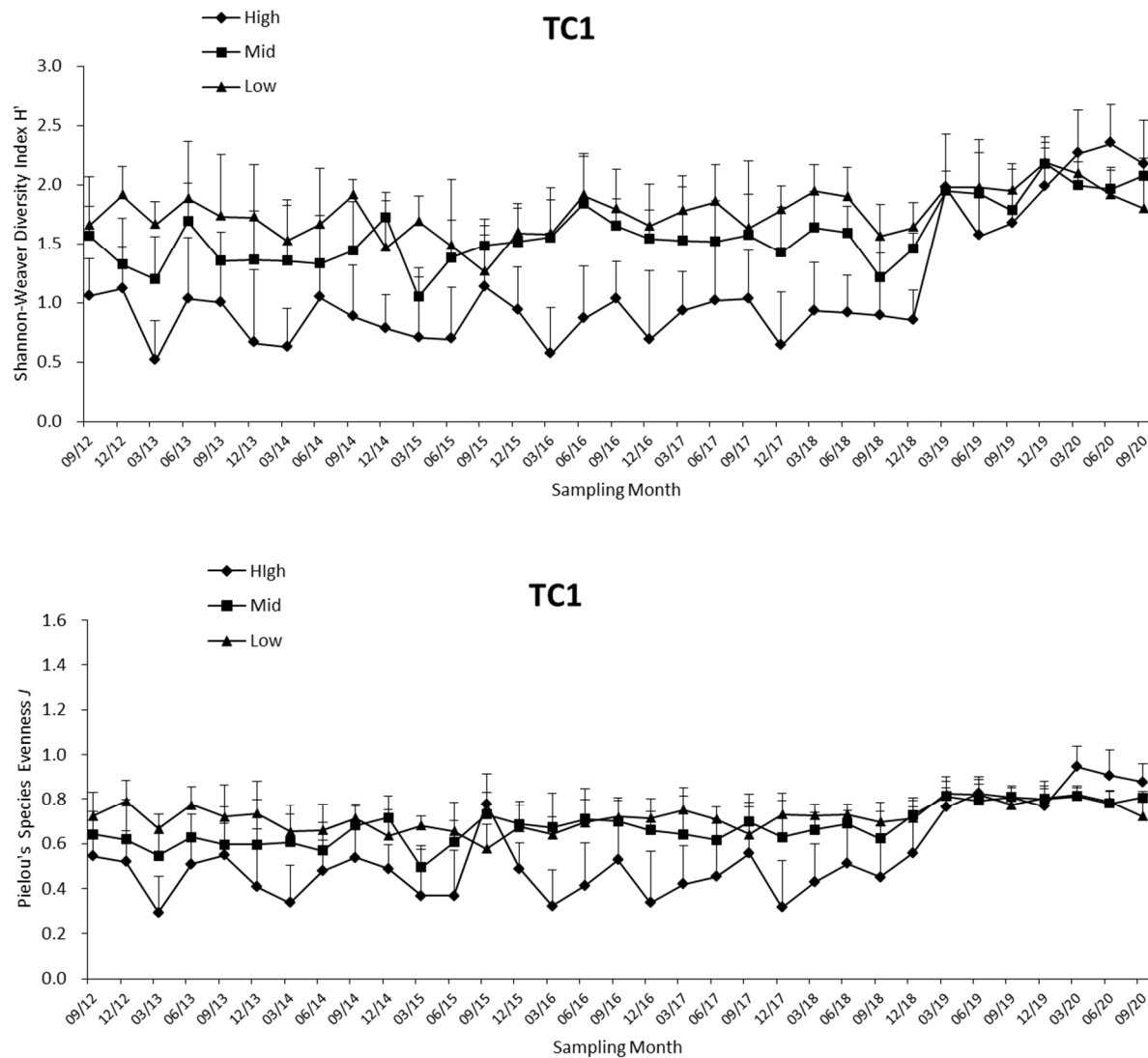


Figure 3.14(Cont'd) Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index (H') and Pielou's Species Evenness (J) (mean + SD) at every tidal level in sampling zone TC1

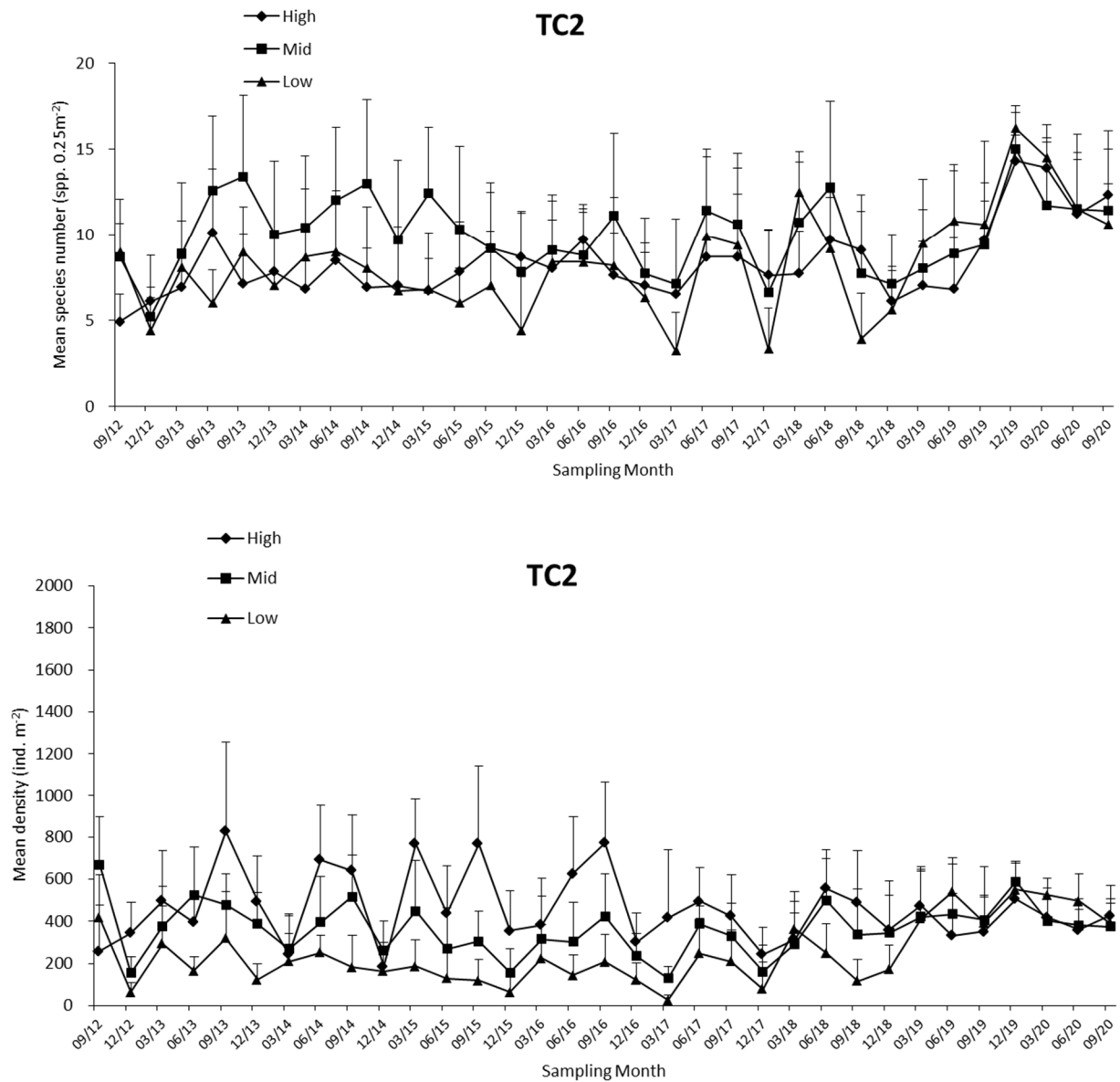


Figure 3.15 Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index (H') and Pielou's Species Evenness (J) (mean + SD) at every tidal level in sampling zone TC2

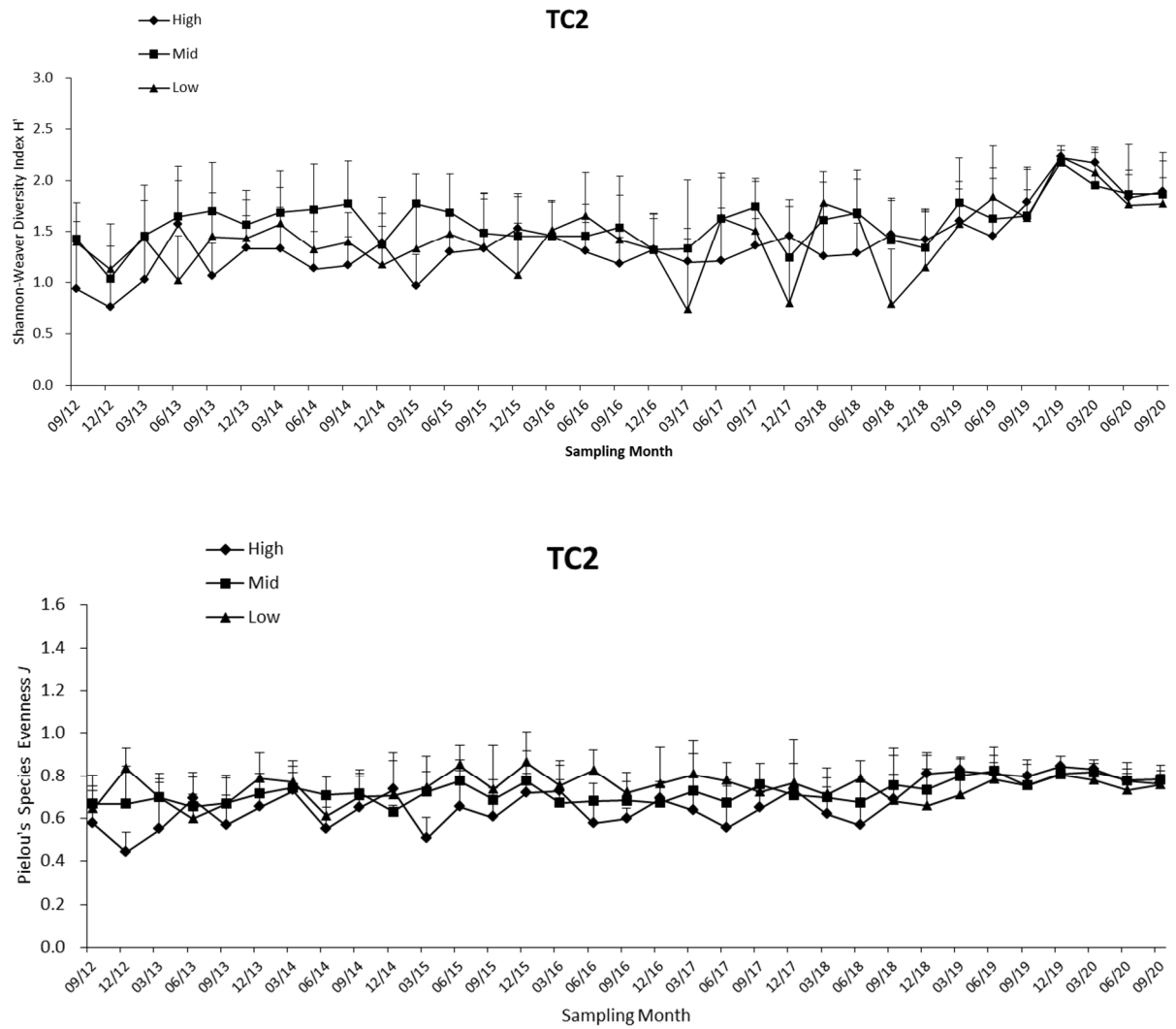


Figure3.15(Cont'd) Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index (H') and Pielou's Species Evenness (J) (mean + SD) at every tidal level in sampling zone TC2

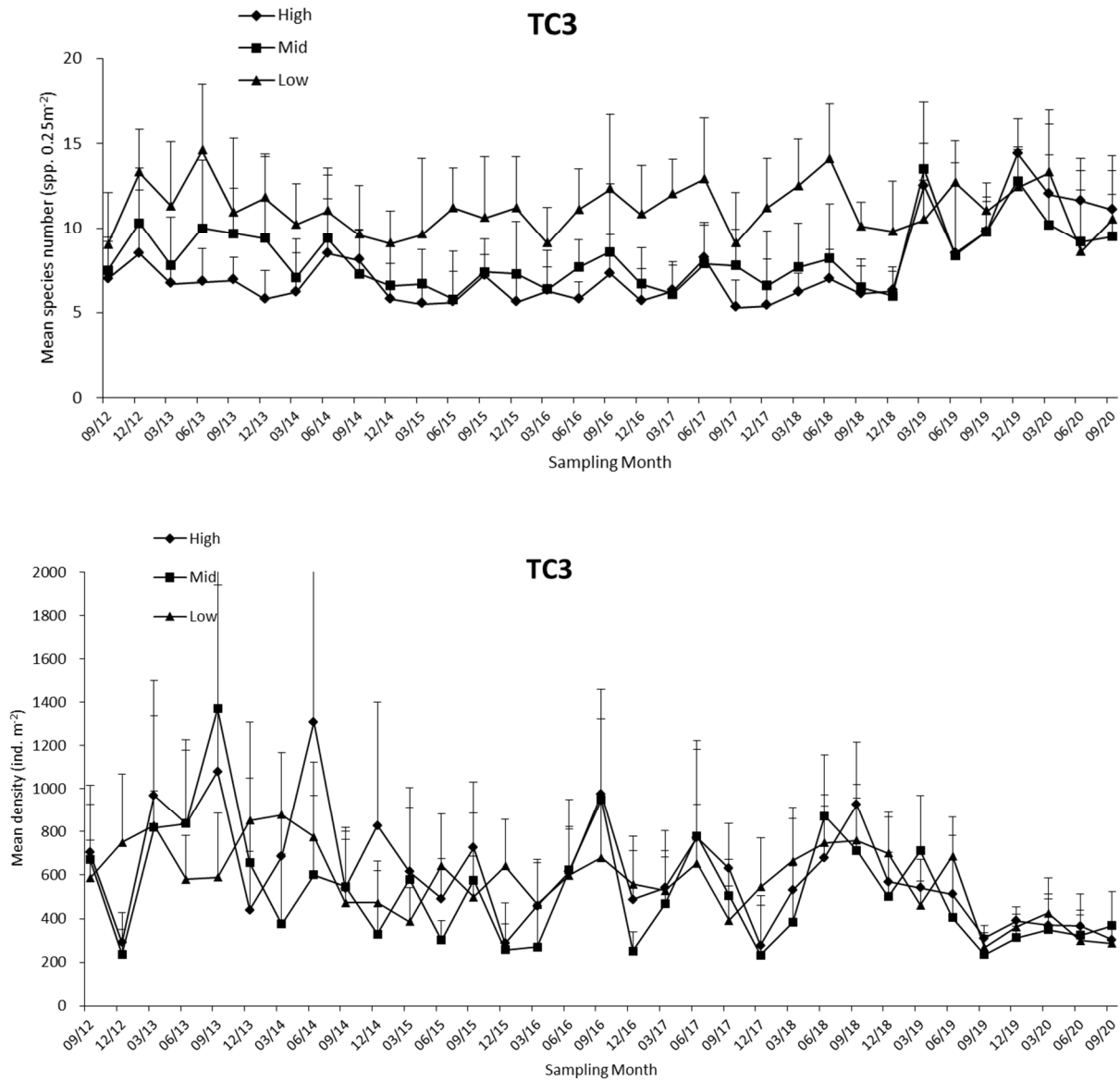


Figure 3.16 Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index (H') and Pielou's Species Evenness (J) (mean + SD) at every tidal level in sampling zone TC3

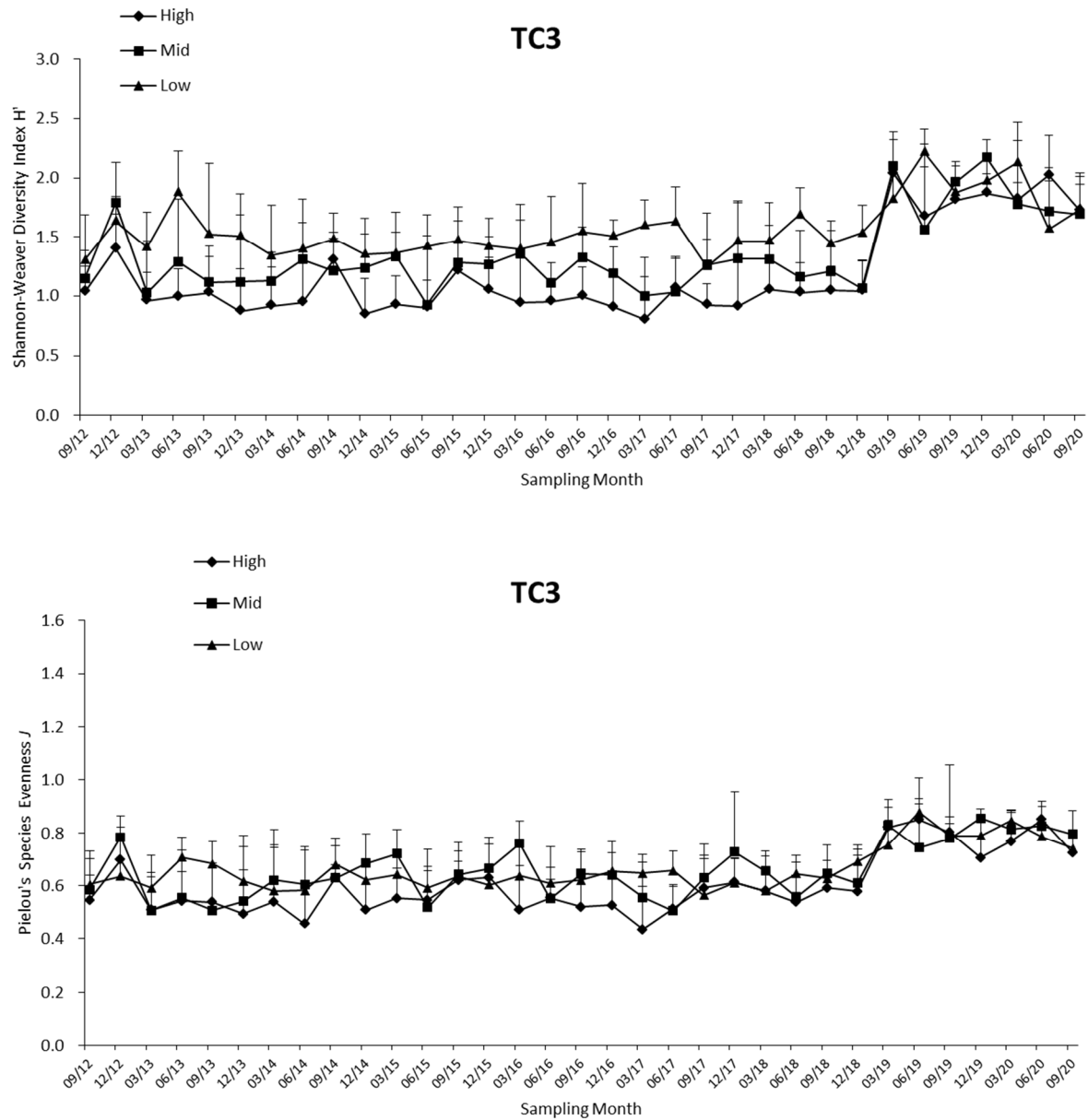


Figure 3.16(Cont'd) Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index (H') and Pielou's Species Evenness (J) (mean + SD) at every tidal level in sampling zone TC3

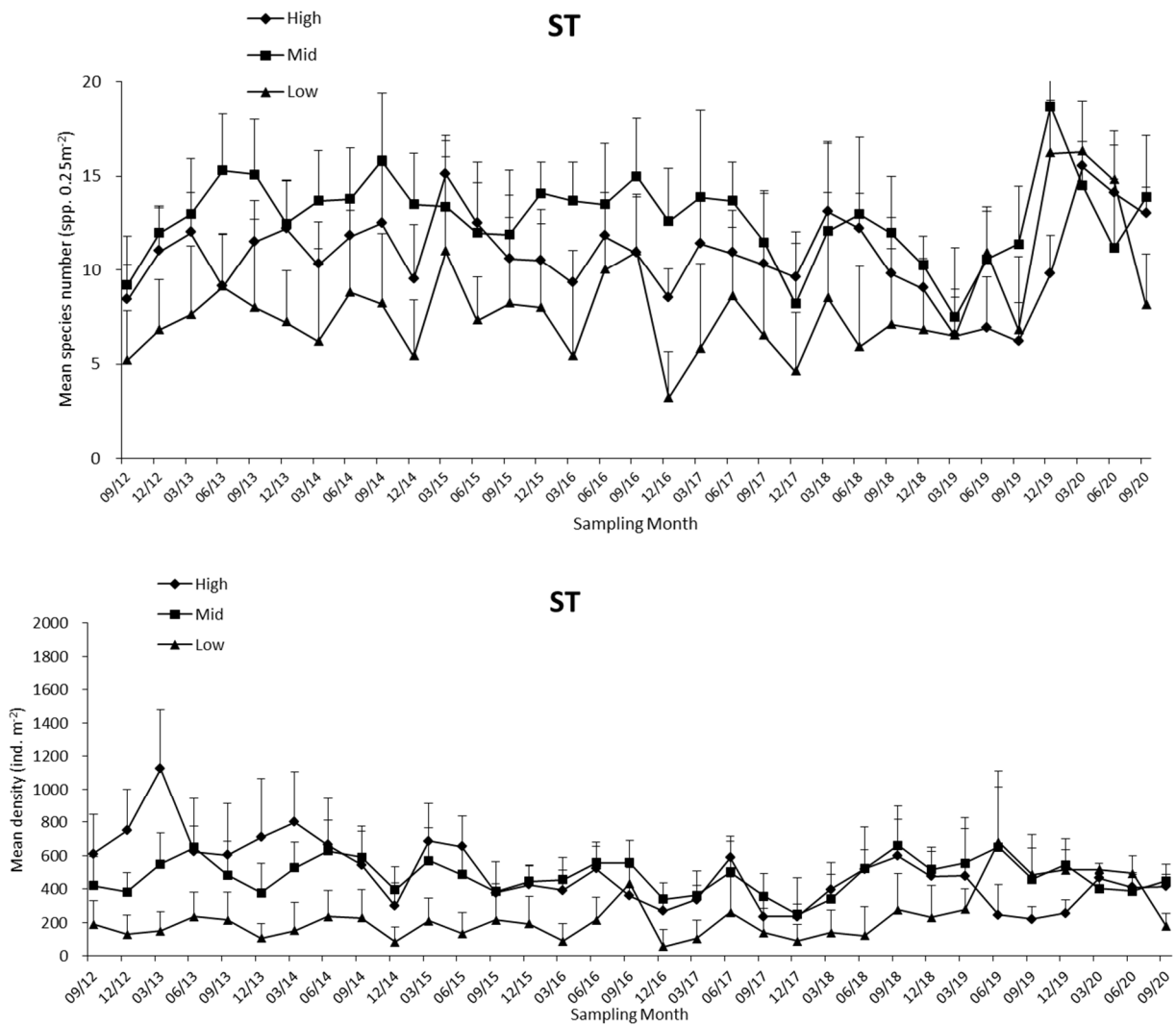


Figure 3.17 Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index (H') and Pielou's Species Evenness (J) (mean + SD) at every tidal level in sampling zone S

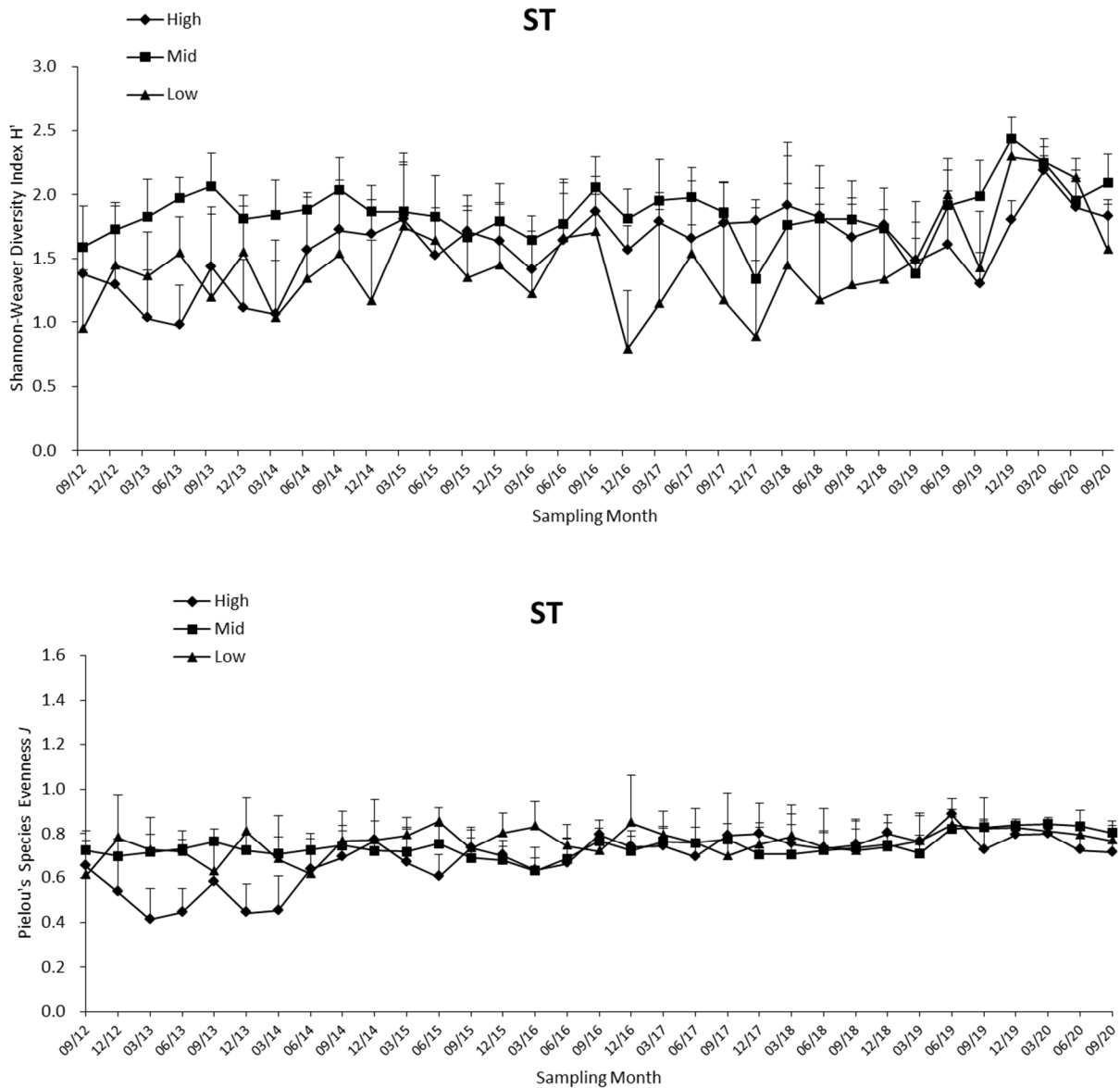
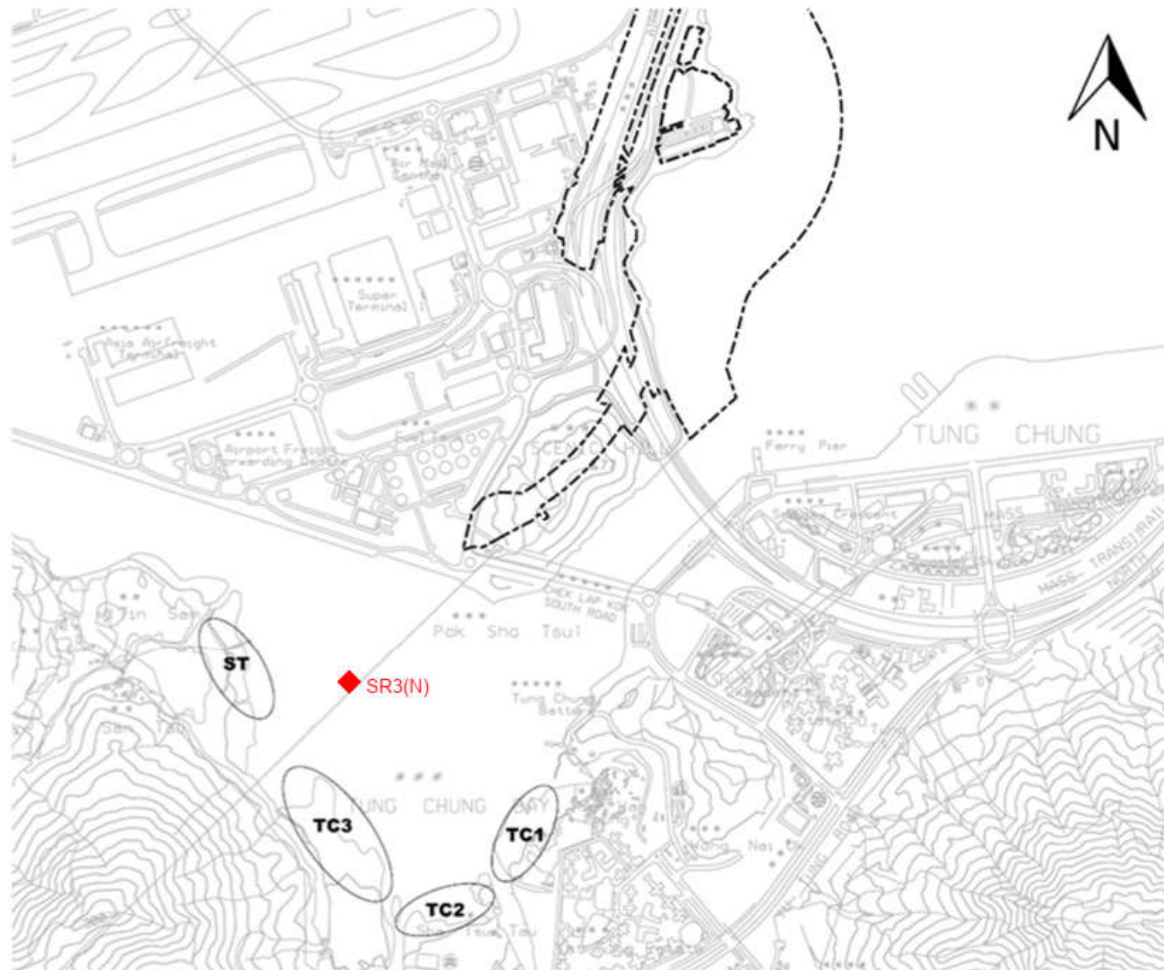


Figure 3.17(Cont'd) Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index (H') and Pielou's Species Evenness (J) (mean + SD) at every tidal level in sampling zone ST

Annex I. Location of sampling zones (map from ATKINS China Ltd.)



Annex II Record of horseshoe crab survey in every sampling zone.

No.	Sub.	GPS coordinate	Record of prosomal width (mm)	
<u>Sampling site TC1</u> (Search hour = 2 hrs)			<i>Carcinoscorpius rotundicauda</i>	<i>Tachypleus tridentatus</i>
No record				
No. of ind.			0	0
<u>Sampling site TC2</u> (Search hour = 2 hrs)			<i>Carcinoscorpius rotundicauda</i>	<i>Tachypleus tridentatus</i>
No record				
No. of ind.			0	0
<u>Sampling site TC3</u> (Search hour = 3 hrs)			<i>Carcinoscorpius rotundicauda</i>	<i>Tachypleus tridentatus</i>
No record				
No. of ind.			0	0

Ind. #: number of Individuals (individuals in a group are shown at the same row)

Underlined: size of mating pair or large individual (excluded from data analysis)

Sub.: Substratum type; G = Gravel and Boulders, M = Soft mud, S = Sand

Annex II (Cont'd) Record of horseshoe crab survey in every sampling zone.

No.	Sub.	GPS coordinate		Record of prosomal width (mm)									
Sampling site ST (Search hour = 3 hrs)				<i>Carcinoscorpius rotundicauda</i>					<i>Tachypleus tridentatus</i>				
1	S	22°17'020"N	113°55'029"E						58.06	40.73	76.03		
2	S	22°17'020"N	113°55'030"E	56.34	52.40	34.43	49.71						
3	S	22°17'020"N	113°55'031"E	54.12	54.96	44.79			60.69	79.61			
4	M	22°17'020"N	113°55'032"E						76.22	36.56			
5	S	22°17'020"N	113°55'033"E	39.62	35.43	78.17			41.70				
6	S	22°17'019"N	113°55'033"E	41.37					35.43	44.64	75.23	41.53	60.89
7	M	22°17'018"N	113°55'033"E	55.03	74.20								
8	S	22°17'018"N	113°55'032"E	42.27	76.43	47.81			39.00	58.13			
9	S	22°17'018"N	113°55'031"E	56.24	51.90								
10	S	22°17'018"N	113°55'030"E	52.62	49.64	48.81	42.24	36.34	39.63	40.47	44.30		
11	S	22°17'017"N	113°55'030"E	36.73	38.85	40.46	42.90			38.82	76.89	46.94	
12	S	22°17'016"N	113°55'032"E	40.28	37.90								
13	S	22°17'016"N	113°55'031"E						74.71	47.21			
14	S	22°17'016"N	113°55'030"E	32.36	33.98								
15	S	22°17'014"N	113°55'031"E						47.06				
16	S	22°17'014"N	113°55'030"E	77.17	49.45				41.30	73.20			
17	S	22°17'013"N	113°55'029"E	55.49	62.74	53.40	57.01	60.67	72.43	49.93	51.16		
No. of ind.				39					28				

Ind. #: number of Individuals (individuals in a group are shown at the same row)

Underlined: size of mating pair or large individual (excluded from data analysis)

Sub.: Substratum type; G = Gravel and Boulders, M = Soft mud, S = Sand

Annex III Record of seagrass beds survey in every sampling zone

Estimated area (m²)	Estimated coverage (%)		GPS coordinate		Remark
TC1& TC2 (search hour = 2 hrs)					
No record					
TC3 <i>Halophila ovalis</i> (search hour = 3 hrs)					
20	50	horizontal line	22°17'004"N	113°55'036"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 1.5m above C.D.
			22°17'004"N	113°55'036"E	
20	90-100	horizontal line	22°17'001"N	113°55'038"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 2.0 m above C.D.
			22°17'001"N	113°55'038"E	
30	90-100	horizontal line	22°17'001"N	113°55'038"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 2.0 m above C.D.
			22°17'001"N	113°55'038"E	
ST <i>Halophila ovalis</i> (search hour = 3 hrs)					
4	20	horizontal line	22°17'017"N	113°55'030"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 1.5 m above C.D.
			22°17'017"N	113°55'030"E	
36	90-100	horizontal line	22°17'014"N	113°55'030"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 1.5 m above C.D.
			22°17'014"N	113°55'030"E	
930	90-100	horizontal line	22°17'013"N	113°55'029"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 1.5 m above C.D.
			22°17'014"N	113°55'029"E	

Annex IV. Taxonomic resolution of every recorded species of intertidal soft shore community survey

Kingdom	Phylum	Class	Order	Family	Species
Animalia	Annelida	Polycheata	Phyllodocida	Nereidae	<i>Perinereis</i> sp.
Animalia	Annelida	Polycheata	Phyllodocida	Nereididae	<i>Nereididae</i> spp.
Animalia	Annelida	Polycheata	Sabellida	Sabellidae	<i>Sabellidae imbricatus</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Grapsidae	<i>Gaetice depressus</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Grapsidae	<i>Metopograpsus latifrons</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Grapsidae	<i>Metopograpsus quadridentatus</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Ocypodidae	<i>Uca lactea</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Paguridae	<i>Pagurus dubius</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Sesarmidae	<i>Parasesarma bidens</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Varuniae	<i>Hemigrapsus penicillatus</i>
Animalia	Arthropoda	Maxillopoda	Sessilia	Balanidae	<i>Balanus amphitrite</i>
Animalia	Cnidaria	Anthozoa	Actiniaria	Diadumenidae	<i>Diadumene lineata</i>
Animalia	Mollusca	Bivalvia	Arcoidea	Arcidae	<i>Barbatia virescens</i>
Animalia	Mollusca	Bivalvia	Mytioida	Mytilidae	<i>Brachidontes variabilis</i>
Animalia	Mollusca	Bivalvia	Mytioida	Mytilidae	<i>Xenostrobus atratus</i>
Animalia	Mollusca	Bivalvia	Ostreoida	Ostreidae	<i>Saccostrea cucullata</i>
Animalia	Mollusca	Bivalvia	Pterioidea	Pteriidae	<i>Isognomon isognomum</i>
Animalia	Mollusca	Bivalvia	Venerida	Cyrenidae	<i>Geloina erosa</i>
Animalia	Mollusca	Bivalvia	Venerida	Glauconomidae	<i>Glaucanome chinensis</i>
Animalia	Mollusca	Bivalvia	Venerida	Veneridae	<i>Anomalocardia squamosa</i>
Animalia	Mollusca	Bivalvia	Venerida	Veneridae	<i>Marcia japonica</i>
Animalia	Mollusca	Bivalvia	Venerida	Veneridae	<i>Ruditapes philippinarum</i>
Animalia	Mollusca	Gastropoda	Archaeogastropoda	Nacellidae	<i>Cellana toreuma</i>
Animalia	Mollusca	Gastropoda	Archaeogastropoda	Trochidae	<i>Monodonta labio</i>
Animalia	Mollusca	Gastropoda	Archaeogastropoda	Turbinidae	<i>Lunella coronata</i>
Animalia	Mollusca	Gastropoda	Archaeogastropoda	Turbinidae	<i>Lunella granulata</i>
Animalia	Mollusca	Gastropoda	Caenogastropoda	Batillariidae	<i>Batillaria multiformis</i>
Animalia	Mollusca	Gastropoda	Caenogastropoda	Batillariidae	<i>Batillaria zonalis</i>
Animalia	Mollusca	Gastropoda	Caenogastropoda	Potamididae	<i>Pirenella asiatica</i>
Animalia	Mollusca	Gastropoda	Caenogastropoda	Potamididae	<i>Pirenella incisa</i>

Kingdom	Phylum	Class	Order	Family	Species
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Clithon faba</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Clithon oualaniensis</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Clithon retropictus</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Nerita chamaeleon</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Nerita lineata</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Nerita polita</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Nerita squamulata</i>
Animalia	Mollusca	Gastropoda	Littorinimorpha	Littorinidae	<i>Littoraria articulata</i>
Animalia	Mollusca	Gastropoda	Neogastropoda	Muricidae	<i>Thais clavigera</i>
Animalia	Mollusca	Gastropoda	Neotaenioglossa	Cerithiidae	<i>Clypeomorus moniliferum</i>
Animalia	Mollusca	Gastropoda	Neotaenioglossa	Littorinidae	<i>Nodilittorina radiata</i>
Animalia	Mollusca	Gastropoda	Patellogastropoda	Lottiidae	<i>Lottia dorsuosa</i>
Animalia	Mollusca	Gastropoda	Patellogastropoda	Lottiidae	<i>Lottia luchuana</i>
Animalia	Mollusca	Gastropoda	Patellogastropoda	Lottiidae	<i>Nipponacmea concinna</i>
Animalia	Mollusca	Gastropoda	Trochida	Tegulidae	<i>Chlorostoma argyrostomum</i>
Animalia	Mollusca	Gastropoda		Lottiidae	<i>Patelloida pygmaea</i>
Animalia	Mollusca	Polyplocophora	Chitonida	Ischnochitonidae	<i>Lepidozona</i> spp.
Animalia	Nemertea				<i>Nemertea</i> spp.
Animalia	Platyhelminthes				<i>Platyhelminthes</i> sp.
Animalia	Sipuncula	Sipunculidae	Golfingiida	Sipunculidae	<i>Siphonosoma</i> sp.
Animalia	Sipuncula	Sipunculidae	Golfingiida	Sipunculidae	<i>Sipunculus nudus</i>

Annex V. List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC1	High tidal level (2.0 m above C.D.)																					
		1		2		3		4		5		6		7		8		9		10			
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total	
Ba	<i>Balanus amphitrite</i>					5												5		2		12	
Bi	<i>Barbatia virescens</i>			2										4								6	
Bi	<i>Brachidontes variabilis</i>			2				1				2		2		3		1		1		12	
Bi	<i>Glaucanome chinensis</i>			1		2		2		4		3		2		1		3		2		20	
Bi	<i>Saccostrea cucullata</i>	12				25		28		30		32		48		26		30		28		259	
Bi	<i>Xenostrobus atratus</i>	4		6				6		4		2		4		6		4		8		44	
C	<i>Gaetice depressus</i>	1		1						1				1								4	
C	<i>Hemigrapsus penicillatus</i>			2						2												4	
G	<i>Batillaria multiformis</i>	8		7	2	5		7		14		9		8		10		11		11		92	
G	<i>Batillaria zonalis</i>	9		8		8		11		12		10		5		6		8		10		87	
G	<i>Cellana toreuma</i>			1										1								2	
G	<i>Chlorostoma argyrostomum</i>									2												2	
G	<i>Clithon faba</i>					1																1	
G	<i>Littoraria articulata</i>	2		4		2		4		3		6		2		1		3		1		28	
G	<i>Lottia dorsuosa</i>			6				3		3						2		4				18	
G	<i>Lunella coronata</i>			1										4								5	
G	<i>Lunella granulata</i>			5						8				7		6		5		11		42	
G	<i>Monodonta labio</i>	25		38		35		39		25		35		30		28		25		34		314	
G	<i>Nipponacmea concinna</i>			4						2												6	

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC1	High tidal level (2.0 m above C.D.)																					
		1		2		3		4		5		6		7		8		9		10			
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total	
G	<i>Nodilittorina radiata</i>			2																		2	
G	<i>Patelloida pygmaea</i>													1								1	
G	<i>Pirenella asiatica</i>			1								2					1					4	
P	<i>Sabellidae imbricatus</i>	3									1											4	
Po	<i>Lepidozона spp.</i>													1		2						3	
Sp	<i>Siphonosoma sp.</i>					2		1			1			1		1		1				7	
Sp	<i>Sipunculus nudus</i>							1													1	2	
Total																						981	

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC1	Mid tidal level (1.5 m above C.D.)																					
		1		2		3		4		5		6		7		8		9		10			
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total	
Bi	<i>Barbatia virescens</i>	3		3				3		13		2		4		2		3		1		34	
Bi	<i>Brachidontes variabilis</i>															1				2		3	
Bi	<i>Glaucanome chinensis</i>							3								1		2		2		8	
Bi	<i>Saccostrea cucullata</i>	29		31		12		30		14		24		28		32		34		19		253	
Bi	<i>Xenostrobus atratus</i>	8		10		6		7		3		7		10		8		4				63	
C	<i>Gaetice depressus</i>	1		3		1		1						2		1		2				11	
C	<i>Hemigrapsus penicillatus</i>	1				2		3						1		1				1		9	
C	<i>Metopograpsus latifrons</i>	1		2				1		1		2								2		9	
G	<i>Batillaria multiformis</i>	10		9		8		8		6		10		10		14		7		6		88	
G	<i>Batillaria zonalis</i>	2		5				8		15		2		14		16		10		5		77	
G	<i>Chlorostoma argyrostomum</i>																	2				2	
G	<i>Clithon faba</i>											1		1		1						3	
G	<i>Clithon retropictus</i>											2		5		2		6				15	
G	<i>Littoraria articulata</i>	11		18		18		14		1		4		5		2		2		3		78	
G	<i>Lottia dorsuosa</i>													8		5		3				16	
G	<i>Lunella coronata</i>			4										1		3		2				10	
G	<i>Lunella granulata</i>	6				4		2		4		4		5		11		7		6		49	
G	<i>Monodonta labio</i>	22		19		15		26		8				23				30		27		170	
G	<i>Nerita squamulata</i>											6						2				8	

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC1	Mid tidal level (1.5 m above C.D.)																					
		1		2		3		4		5		6		7		8		9		10			
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total	
G	<i>Nipponacmea concinna</i>	1		1		1				1		3										7	
G	<i>Nodilittorina radiata</i>											3				8						11	
G	<i>Patelloida pygmaea</i>															2						2	
P	<i>Nereididae</i> spp.					1								1								2	
Po	<i>Lepidozonia</i> spp.													1				1				2	
Sp	<i>Siphonosoma</i> sp.	1		1				1									1			1	1	6	
Sp	<i>Sipunculus nudus</i>													1								1	
Total																						937	

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC1	Low tidal level (0.5 m above C.D.)																					
		1		2		3		4		5		6		7		8		9		10			
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total	
Ba	<i>Balanus amphitrite</i>							21		12		4								2		39	
Bi	<i>Barbatia virescens</i>	15		7		3				3										2		30	
Bi	<i>Brachidontes variabilis</i>					2								1								3	
Bi	<i>Glauconome chinensis</i>											3		2		2		4		3		14	
Bi	<i>Saccostrea cucullata</i>	52		38		12		30		27		48		26		34		30		32		329	
Bi	<i>Xenostrobus atratus</i>	11		7				4		4		8								2		36	
C	<i>Gaetice depressus</i>	2				1		1		3				1								8	
C	<i>Hemigrapsus penicillatus</i>									1		1								1		3	
C	<i>Metopograpsus latifrons</i>	1		1				1		1												4	
C	<i>Pagurus dubius</i>							1														1	
Cn	<i>Diadumene lineata</i>			1								1										2	
G	<i>Batillaria multiformis</i>	4		9		16				19		14		15		7		10		12		106	
G	<i>Batillaria zonalis</i>			10		15				5				11		6		10				57	
G	<i>Clithon retropictus</i>					2								6		2		6		4		20	
G	<i>Lottia dorsuosa</i>													4		2				5		11	
G	<i>Lottia luchuana</i>	5										2										7	
G	<i>Lunella coronata</i>	3						2												2		7	
G	<i>Lunella granulata</i>	5		6		6		20		4										8		49	
G	<i>Monodonta labio</i>	32		72		6		30		28		42		38		39		35		38		360	

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC1	Low tidal level (0.5 m above C.D.)																					
		1		2		3		4		5		6		7		8		9		10			
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total	
G	<i>Nerita lineata</i>													1						1		2	
G	<i>Nerita polita</i>					2								2		1				2		7	
G	<i>Nerita squamulata</i>																			2		2	
G	<i>Nipponacmea concinna</i>	3		1						3				3		2				3		15	
G	<i>Nodilittorina radiata</i>									10				2						4		16	
G	<i>Patelloida pygmaea</i>					2				6		2								2		12	
P	<i>Nereididae spp.</i>							2	1	1		1		1								6	
P	<i>Perinereis sp.</i>									1						2				1		4	
P	<i>Sabellidae imbricatus</i>	2				1																3	
Po	<i>Lepidozona spp.</i>							1														1	
Sp	<i>Siphonosoma sp.</i>			1				6		2							1	2		1		13	
Sp	<i>Sipunculus nudus</i>																		1			1	
Total																						1168	

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC2	High tidal level (2.0 m above C.D.)																					
		1		2		3		4		5		6		7		8		9		10			
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total	
Ba	<i>Balanus amphitrite</i>			1				1				10		13		14		12		10		61	
Bi	<i>Barbatia virescens</i>											2				1						3	
Bi	<i>Brachidontes variabilis</i>											2				2				1		5	
Bi	<i>Glaucanome chinensis</i>															1				1		2	
Bi	<i>Saccostrea cucullata</i>	2		6		6		11		16		20		40		23		36		24		184	
Bi	<i>Xenostrobus atratus</i>			6		4		8				10		11				6		9		54	
C	<i>Gaetice depressus</i>	2		2		4		3		1		2		3								17	
C	<i>Hemigrapsus penicillatus</i>					2		2		2						1				1		8	
C	<i>Metopograpsus latifrons</i>	1				2																3	
C	<i>Parasesarma bidens</i>			1		2		1						1				2		1		8	
G	<i>Batillaria multiformis</i>	10		24		12		26		44		38		28		20		10		35		247	
G	<i>Batillaria zonalis</i>			9		7		8		9		10		12		6		8		18		87	
G	<i>Clithon retropictus</i>			4						9		3		8		5		3		4		36	
G	<i>Littoraria articulata</i>							11												2		13	
G	<i>Lottia dorsuosa</i>			2						5				2		1		6		3		19	
G	<i>Lunella coronata</i>			3										2						5		10	
G	<i>Lunella granulata</i>											5		2		4				10		21	
G	<i>Monodonta labio</i>	28		25		40		44		3		26		28		13		18		27		252	

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC2	High tidal level (2.0 m above C.D.)																				
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total
G	<i>Nerita squamulata</i>															2						2
G	<i>Nipponacmea concinna</i>			4										4								8
G	<i>Nodilittorina radiata</i>			2										3				4				9
G	<i>Patelloida pygmaea</i>									1				2				1				4
G	<i>Pirenella asiatica</i>			1															1	1		3
G	<i>Pirenella incisa</i>															1				1		2
G	<i>Thais clavigera</i>													1								1
Ne	<i>Nemertea sp.</i>							5														5
Po	<i>Lepidozona spp.</i>																	1				1
Sp	<i>Siphonosoma sp.</i>			2	1					1				1	1							6
Total																						1071

Key for faunal groups (Gp):

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P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020 Sampling Zone TC2		Mid tidal level (1.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>			10						2		5		14		27		13		12		83
Bi	<i>Barbatia virescens</i>	2		5				2				2				4						15
Bi	<i>Brachidontes variabilis</i>											3						4				7
Bi	<i>Glauconome chinensis</i>							3						2		2				2		9
Bi	<i>Saccostrea cucullata</i>	18		14				30		43		36				46		22		33		242
Bi	<i>Xenostrobus atratus</i>	2		5								4		6				11				28
C	<i>Gaetice depressus</i>	1				1		1				1				1				3		8
C	<i>Hemigrapsus penicillatus</i>			3				1						1								5
C	<i>Metopograpsus latifrons</i>	2						1						2								5
G	<i>Batillaria multiformis</i>	2		8		12		7		9		13		10	6	5		8		8		88
G	<i>Batillaria zonalis</i>			6		10		15		13		20		12	5	14		16		23		134
G	<i>Clithon retropictus</i>	1						3				3		2		2						11
G	<i>Littoraria articulata</i>							1						2				3				6
G	<i>Lottia dorsuosa</i>											3								6		9
G	<i>Lunella coronata</i>	5		3				2												4		14
G	<i>Lunella granulata</i>	5		4		3		4		2				8				6		4		36
G	<i>Monodonta labio</i>	22		28				12				40		34		32		23				191
G	<i>Nipponacmea concinna</i>							2								4						6
G	<i>Nodilittorina radiata</i>			1				1						4		3						9

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020 Sampling Zone TC2		Mid tidal level (1.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
G	<i>Patelloida pygmaea</i>	3				4						2		2		3						14
G	<i>Pirenella asiatica</i>																			1	1	2
G	<i>Pirenella incisa</i>									1								1				2
Ne	<i>Nemertea spp.</i>					1												1				2
Po	<i>Lepidozona spp.</i>							2												1		3
Sp	<i>Siphonosoma sp.</i>									2	1	2				1						6
Sp	<i>Sipunculus nudus</i>																			1		1
																					Total	936

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020 Sampling Zone TC2		Low tidal level (0.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>					10		12		14		7		8		10		10				71
Bi	<i>Anomalocardia squamosa</i>					1																1
Bi	<i>Barbatia virescens</i>					6				3				4				6				19
Bi	<i>Brachidontes variabilis</i>											2				3						5
Bi	<i>Glaucanome chinensis</i>			1										2						1		4
Bi	<i>Isognomon isognomum</i>	1														2						3
Bi	<i>Saccostrea cucullata</i>	21		20		48		12		15						36		47		14		213
Bi	<i>Xenostrobus atratus</i>	2		1				2				2								2		9
C	<i>Gaetice depressus</i>	2								2		2								1		7
C	<i>Hemigrapsus penicillatus</i>			5		2						1		1								9
C	<i>Metopograpsus latifrons</i>													1								1
C	<i>Pagurus dubius</i>																	2				2
C	<i>Uca lactea</i>	1																				1
G	<i>Batillaria multiformis</i>	7		8		9		10		9		13		9		8		8		6		87
G	<i>Batillaria zonalis</i>	18						10				23		14				12				77
G	<i>Clithon retropictus</i>							1				2		2								5
G	<i>Littoraria articulata</i>																	4				4
G	<i>Lottia dorsuosa</i>																	4				4
G	<i>Lunella coronata</i>	2		18				5				6				8						39

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC2	Low tidal level (0.5 m above C.D.)																				
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total
G	<i>Lunella granulata</i>					8		3						8				10				29
G	<i>Monodonta labio</i>	32		42		37		33		38		41		25		27		32		30		337
G	<i>Nipponacmea concinna</i>	3		3		3						4		5								18
G	<i>Patelloida pygmaea</i>					2		3		4				2		2						13
G	<i>Pirenella incisa</i>				2	1				1		3										7
P	<i>Sabellidae imbricatus</i>							1								1			2			4
Sp	<i>Siphonosoma sp.</i>	2		1		3								2						1		9
Sp	<i>Sipunculus nudus</i>									1						1						2
Total																						980

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020 Sampling Zone TC3		High tidal level (2.0 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>			6										5		2				3		16
Bi	<i>Barbatia virescens</i>			3										2		5				2		12
Bi	<i>Brachidontes variabilis</i>			2				5						4		5		5				21
Bi	<i>Saccostrea cucullata</i>	35		48		22		32		35		30		36		52		48		48		386
C	<i>Gaetice depressus</i>	3		8				6										3				20
C	<i>Metopograpsus latifrons</i>							1						2								3
C	<i>Metopograpsus quadridentatus</i>	2						2														4
C	<i>Pagurus dubius</i>	5						2		1		2										10
Cn	<i>Diadumene lineata</i>							2														2
G	<i>Batillaria multiformis</i>	10		5		3		10				2		4				4		8		46
G	<i>Batillaria zonalis</i>	2						2		5						5		4				18
G	<i>Chlorostoma argyrostomum</i>	5								2												7
G	<i>Clithon oualaniensis</i>					5				3		2		5				5				20
G	<i>Clithon retropictus</i>																	2				2
G	<i>Littoraria articulata</i>			4								4		2		2						12
G	<i>Lunella coronata</i>																			5		5
G	<i>Lunella granulata</i>											3								3		6
G	<i>Monodonta labio</i>	7		8		10		5		8		8		8		5		4		5		68
G	<i>Nerita chamaeleon</i>							4								4						8

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC3	High tidal level (2.0 m above C.D.)																				
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total
G	<i>Nerita lineata</i>	5																				5
G	<i>Nerita polita</i>							2														2
G	<i>Nerita squamulata</i>							2				2								2		6
G	<i>Nodilittorina radiata</i>	8		2		5		2				3								3		23
G	<i>Patelloida pygmaea</i>					2																2
G	<i>Pirenella asiatica</i>	1						5		10						8				2		26
G	<i>Pirenella incisa</i>	3										5				2						10
G	<i>Thais clavigera</i>			1										1								2
P	<i>Nereididae spp.</i>					1		2				1			1					1		6
P	<i>Perinereis sp.</i>				1					1				1							1	4
P	<i>Sabellidae imbricatus</i>							2						3						2		7
Pl	<i>Platyhelminthes</i>							1														1
Total																						760

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC3	Mid tidal level (1.5 m above C.D.)																				
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total
Ba	<i>Balanus amphitrite</i>							8		3												11
Bi	<i>Barbatia virescens</i>									5						7				5		17
Bi	<i>Brachidontes variabilis</i>	5								10						8						23
Bi	<i>Glaucanome chinensis</i>									2						3						5
Bi	<i>Saccostrea cucullata</i>	47		35				62		43				24		56		29		35		331
Bi	<i>Xenostrobus atratus</i>	6								17						6						29
C	<i>Gaetice depressus</i>							8		5						5				5		23
C	<i>Metopograpsus latifrons</i>							2								2						4
C	<i>Metopograpsus quadridentatus</i>							2								3		2				7
G	<i>Batillaria multiformis</i>			21				8		17		22		18		19		15		20		140
G	<i>Batillaria zonalis</i>			10				5		5		5		7		7		10		5		54
G	<i>Clithon oualaniensis</i>							3														3
G	<i>Clithon retropictus</i>																			1		1
G	<i>Littoraria articulata</i>							5								5		1				11
G	<i>Lunella coronata</i>									2				5		7		2				16
G	<i>Lunella granulata</i>	5		5						5				2		2		5				24
G	<i>Monodonta labio</i>					8				1		15		18		25		20		1		88
G	<i>Nerita polita</i>											2										2
G	<i>Nipponacmea concinna</i>	3														1		8				12

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC3	Mid tidal level (1.5 m above C.D.)																				
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total
G	<i>Nodilittorina radiata</i>	10		6		5				8		5		4		8		2		8		56
G	<i>Patelloida pygmaea</i>							12				4										16
G	<i>Pirenella asiatica</i>			7		10		6						4				3		2		32
G	<i>Pirenella incisa</i>			5																		5
Pl	<i>Platyhelminthes</i>	1															1			1		3
Po	<i>Lepidozona spp.</i>													1				1				2
Sp	<i>Siphonosoma sp.</i>	2										1										3
G	<i>Nodilittorina radiata</i>	10		6		5				8		5		4		8		2		8		56
																					Total	918

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC3	Low tidal level (0.5 m above C.D.)																					
		1		2		3		4		5		6		7		8		9		10			
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total	
Ba	<i>Balanus amphitrite</i>	10		8		5		6												8		37	
Ba	<i>Geloina erosa</i>			2										1								3	
Bi	<i>Barbatia virescens</i>									3						2				3		8	
Bi	<i>Brachidontes variabilis</i>	5		6				8		1				4		3		2		4		33	
Bi	<i>Glaucanome chinensis</i>									2				3								5	
Bi	<i>Saccostrea cucullata</i>	37		36		33		30		23		35		28		24		22		33		301	
Bi	<i>Xenostrobus atratus</i>	10		3		4		14		10		10				3				7		61	
C	<i>Gaetice depressus</i>	4		4		4																12	
C	<i>Hemigrapsus penicillatus</i>			2		2		4				1		1		2		2		2		16	
C	<i>Metopograpsus latifrons</i>	2						2				2		2		1				2		11	
C	<i>Pagurus dubius</i>	6																				6	
G	<i>Batillaria multiformis</i>							2		2				3						6		13	
G	<i>Batillaria zonalis</i>					2				2				1						6		11	
G	<i>Littoraria articulata</i>	2										3						2				7	
G	<i>Lottia dorsuosa</i>																					0	
G	<i>Lunella coronata</i>	5				2		3				2				3						15	
G	<i>Lunella granulata</i>	8				7		5				3				3		7		17		50	
G	<i>Monodonta labio</i>					15		10		12						10						47	
G	<i>Nerita lineata</i>			5										2								7	

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone TC3	Low tidal level (0.5 m above C.D.)																					
		1		2		3		4		5		6		7		8		9		10			
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total	
G	<i>Nerita chamaeleon</i>			7						3												10	
G	<i>Nipponacmea concinna</i>	3																2				5	
G	<i>Nodilittorina radiata</i>					5		3				2				4				4		18	
G	<i>Patelloida pygmaea</i>			5		3		2				1						2		3		16	
G	<i>Pirenella asiatica</i>															2						2	
G	<i>Pirenella incisa</i>					3												2				5	
P	<i>Sabellidae imbricatus</i>	3				2		2				1										8	
Sp	<i>Siphonosoma sp.</i>									1								2	1			4	
Sp	<i>Sipunculus nudus</i>																			3		3	
Total																						714	

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone ST	High tidal level (2.0 m above C.D.)																					
		1		2		3		4		5		6		7		8		9		10			
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total	
Ba	<i>Balanus amphitrite</i>															4				2		6	
Bi	<i>Barbatia virescens</i>					6		5				2				3						16	
Bi	<i>Brachidontes variabilis</i>					2				2				5		5						14	
Bi	<i>Glauconome chinensis</i>							4		8		5				4						21	
Bi	<i>Saccostrea cucullata</i>	45		40		54		32		44		46		40		48		45		42		436	
Bi	<i>Xenostrobus atratus</i>			4										4		8						16	
C	<i>Metopograpsus latifrons</i>																	2				2	
C	<i>Pagurus dubius</i>											2						3				5	
Cn	<i>Diadumene lineata</i>											1						5				6	
G	<i>Batillaria multiformis</i>	5		4		5		8		2		4		10				9		6		53	
G	<i>Batillaria zonalis</i>					1		1				1		2								5	
G	<i>Cellana toreuma</i>	2		4										4						1		11	
G	<i>Clithon faba</i>									2		1						1				4	
G	<i>Clithon oualaniense</i>	4		2		4				3								1		5		19	
G	<i>Clithon retropictus</i>	4						2		4												10	
G	<i>Clypeomorus moniliferum</i>			2										1						1		4	
G	<i>Littoraria articulata</i>	2		3								2		3				1				11	
G	<i>Lottia dorsuosa</i>					4		1														5	

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone ST	High tidal level (2.0 m above C.D.)																				
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total
G	<i>Lunella coronata</i>					2		2								5		5				14
G	<i>Lunella granulata</i>			9		2		2						3		6		8				30
G	<i>Monodonta labio</i>	18		25		29		15				15		19		22		19		22		184
G	<i>Nerita chamaeleon</i>	2				5				8		4								4		23
G	<i>Nerita polita</i>									20								6				26
G	<i>Nerita squamulata</i>					4				4										2		10
G	<i>Nipponacmea concinna</i>			2										1		2				2		7
G	<i>Nodilittorina radiata</i>	10		10						5		2		5		15		5		2		54
G	<i>Patelloida pygmaea</i>			2				1						1								4
G	<i>Pirenella asiatica</i>			1						3				2								6
G	<i>Pirenella incisa</i>			5		4								5		8		4				26
P	<i>Sabellidae imbricatus</i>	3																				3
Po	<i>Lepidozona spp.</i>			1																1		2
Sp	<i>Siphonosoma sp.</i>															2		1	1		2	6
Sp	<i>Sipunculus nudus</i>											1										1
																					Total	1040

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone ST	Mid tidal level (1.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>			3										2		2		5		2		14
Bi	<i>Barbatia virescens</i>									1		5		5								11
Bi	<i>Brachidontes variabilis</i>									5		5								2		12
Bi	<i>Glaucanome chinensis</i>																			4		4
Bi	<i>Saccostrea cucullata</i>	15		25		34		45		35		42		34		25		36		42		333
Bi	<i>Xenostrobus atratus</i>							10		7		9										26
C	<i>Gaetice depressus</i>													2						3		5
C	<i>Metopograpsus latifrons</i>											2		1						1		4
C	<i>Pagurus dubius</i>									2				2						4		8
G	<i>Batillaria multiformis</i>	32		35						2		15				12		6		2		104
G	<i>Batillaria zonalis</i>	12		13								8						5				38
G	<i>Chlorostoma argyrostomum</i>					4		5						5								14
G	<i>Clithon faba</i>							1		7								4				12
G	<i>Clithon oualaniense</i>					3		5		23				5		4		1				41
G	<i>Clithon retropictus</i>							8						8						3		19
G	<i>Littoraria articulata</i>			2												2		2				6
G	<i>Lottia dorsuosa</i>							2												2		4

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone ST	Mid tidal level (1.5 m above C.D.)																				
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total
G	<i>Lunella coronata</i>					8				4		5				2						19
G	<i>Lunella granulata</i>					10						12				5		6		4		37
G	<i>Monodonta labio</i>			15		5		25				27		25		19		16		20		152
G	<i>Nerita chamaeleon</i>					2				5				3		4		15		6		35
G	<i>Nerita lineata</i>	2		1				2		8		12		2		1		5		2		35
G	<i>Nerita polita</i>			1		8																9
G	<i>Nerita squamulata</i>	1		2		7												4		1		15
G	<i>Nipponacmea concinna</i>							4												5		9
G	<i>Nodilittorina radiata</i>					2		10				5		8		5		5				35
G	<i>Patelloida pygmaea</i>															2				2		4
G	<i>Pirenella asiatica</i>	10		15				2		7		7										41
G	<i>Pirenella incisa</i>	5		12				10		15		5		4				2				53
Ne	<i>Nemertea spp.</i>			1				1						2	5						1	10
P	<i>Sabellidae imbricatus</i>															2		2				4
Po	<i>Lepidozona spp.</i>					2										1				1		4
Sp	<i>Siphonosoma sp.</i>									2		1										3
Sp	<i>Sipunculus nudus</i>									1		1										2
Total																						1122

Annex V (Cont'd) *List of recorded fauna of intertidal soft shore community survey in every sampling zone*

Sep 2020	Sampling Zone ST	Mid tidal level (1.5 m above C.D.)																				
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone ST	Low tidal level (0.5 m above C.D.)																		
		1	2	3	4	5	6	7	8	9	10									
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total
Ba	<i>Balanus amphitrite</i>				6				1											7
Bi	<i>Anomalocardia squamosa</i>							1												1
Bi	<i>Barbatia virescens</i>							1					1							2
Bi	<i>Brachidontes variabilis</i>							2					2							4
Bi	<i>Glaucanome chinensis</i>								2											2
Bi	<i>Saccostrea cucullata</i>	15			23			32	8	5		15								98
Bi	<i>Xenostrobus atratus</i>														2					2
C	<i>Gaetice depressus</i>	2			5			5			5									17
C	<i>Hemigrapsus penicillatus</i>							1					1							2
C	<i>Metopograpsus latifrons</i>							1			1		1							3
C	<i>Metopograpsus quadridentatus</i>	1									1				5					7
C	<i>Pagurus dubius</i>	5													4					9
G	<i>Batillaria multiformis</i>			1			4		5			2		5		4				21
G	<i>Batillaria zonalis</i>	1		4	5		5		14					6		5				40
G	<i>Chlorostoma argyrostomum</i>														1					1
G	<i>Clithon faba</i>							4							1					5
G	<i>Lottia dorsuosa</i>				4															4
G	<i>Lunella granulata</i>	5			10			2												17

Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone

Sep 2020	Sampling Zone ST	Low tidal level (0.5 m above C.D.)																				
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Sub-total
G	<i>Monodonta labio</i>	4		12		4		18				22						14		32		106
G	<i>Nerita chamaeleon</i>									5						4		3				12
G	<i>Nerita lineata</i>	5								5												10
G	<i>Nerita squamulata</i>	8				4																12
G	<i>Nipponacmea concinna</i>	1						1														2
G	<i>Nodilittorina radiata</i>	5																				5
G	<i>Patelloida pygmaea</i>	4																				4
G	<i>Pirenella incisa</i>			2		2						1						5		10		20
Ne	<i>Nemertea spp.</i>							5								1						6
P	<i>Sabellidae imbricatus</i>									15				2								17
Po	<i>Lepidozona spp.</i>													1								1
Sp	<i>Siphonosoma sp.</i>							2				2										4
Sp	<i>Sipunculus nudus</i>							2	1											2		5
Total																						446