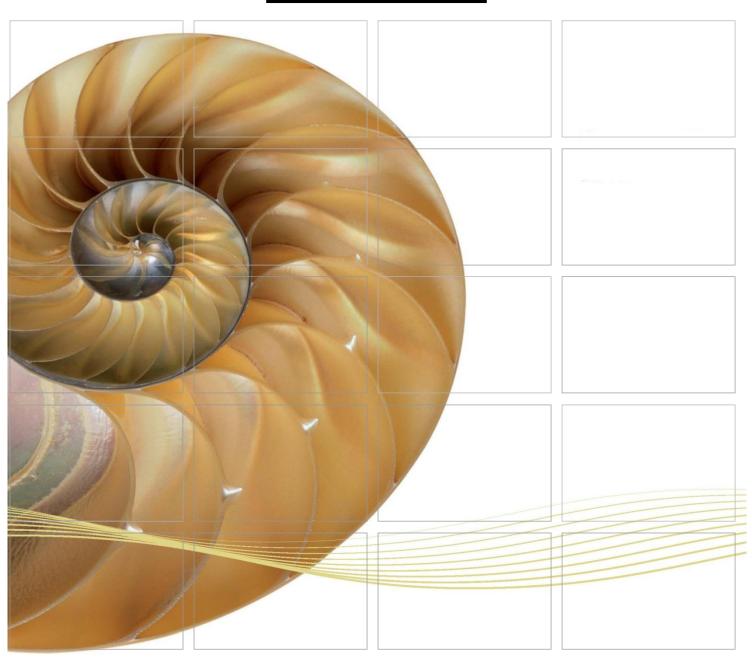
REPORT





Proposed 11kV Submarine Cables Replacement Connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O

11th Weekly Coral Impact Monitoring Survey Report

18 May 2016

Environmental Resources Management

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Proposed 11kV Submarine Cables Replacement Connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O

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Client:		Project N	0:		
CLP Pov	wer Hong Kong Limited (CLP)	025995	2		
Survey R	ument presents the 11 th Weekly Coral Impact Monitoring Report for the proposed 11kV Submarine Cables nent Connecting Liu Ko Ngam and Pak Sha Tau Tsui at	Date: 18 May Approved IIII Terence Partner	by:		
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Revision	Description	Ву	Checked	Approved	Date
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Proposed 11kV Submarine Cables Replacement Connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O - Environmental Monitoring & Audit Environmental Certification Sheet EP-461/2013

Reference Document/Plan

Document/Plan-to be Certified/ Verified: Eleventh Weekly Coral Impact Monitoring Survey Report

Date of Report: 18 May 2016

Date prepared by Environmental Team: 18 May 2016

Date received by IC: 18 May 2016

Reference Project Profile Annex E EM&A Requirement and EP Requirement

EM&A Requirement: Project Profile, Annex E EM&A Requirements, Section E2

Content: Coral Monitoring Plan

- E.2.3 "The focus of the impact monitoring will be to determine if the corals are impacted during cable installation works and if such impact is a result of cable laying works. The results of the coral monitoring will be reviewed in association with the water quality monitoring results. Impact monitoring shall be undertaken during any process of the cable installation, including landing site preparation, cable laying and landing works, and backfilling. Similar information to be obtained during the Baseline Survey shall be obtained during each impact monitoring event, including information on: the health status of the corals, condition of their environment survey date, time, atmospheric, sea and tidal conditions during the survey and sediment cover in terms of percentage of coverage and approximate thickness. Each coral colony shall also be photographed."
- E.2.5 "Letter reports shall be provided to AFCD, which shall include the monitoring results in addition to the operating practices of the dredging works and cable burial machine during sampling (including position, cable burial depth, etc.) and an interpretation of monitoring results in regard to cable laying works and coral conditions."

"Each Impact Monitoring Report will be provided within one week of the completion of the weekly monitoring surveys."

EP Condition: Condition No. 2.1

2.1 All measures described in the Project Profile (No. PP-489/2013) submitted by the applicant on 30 May 2013 shall be fully implemented.

IC Verification

I hereby verify that the above referenced document/plan complies with the above referenced condition of EP-461/2013.

Terence Fong, Date: 18 May 2016

Independent Checker

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1 INTRODUCTION

1.1 BACKGROUND

CLP Power Hong Kong Limited (CLP) is replacing the existing 11 kV submarine cable connecting Liu Ko Ngam to Pak Sha Tau Tsui, Kat O in order to ensure continuous electricity supply on the island ("the Project" with location shown in *Figure 1.1*).

The Project involves the installation of an 11kV cable circuit consisting of two individual cables, with an intended burial depth up to 5 m for the submarine cable section and about 1 m for the land section. The two submarine cables (except the shore end sections which will be of only about 1 m separation and joining into a single cable trench at each landing site) will be 30 m away from each other and running parallel along the alignment. In areas (especially near the landing site) where the cable burial depth does not meet the requirements due to seabed geotechnical constraints, a protective cover such as a concrete slab will be adopted. The total length of the proposed cable alignment is approximately 880 m.

The cable installation process will only require minor works within the marine environment. Only small scale construction works are required onshore at each of the cable landing sites, i.e. Liu Ko Ngam and Pak Sha Tau Tsui, for connecting the submarine cable with existing overhead land cable systems.

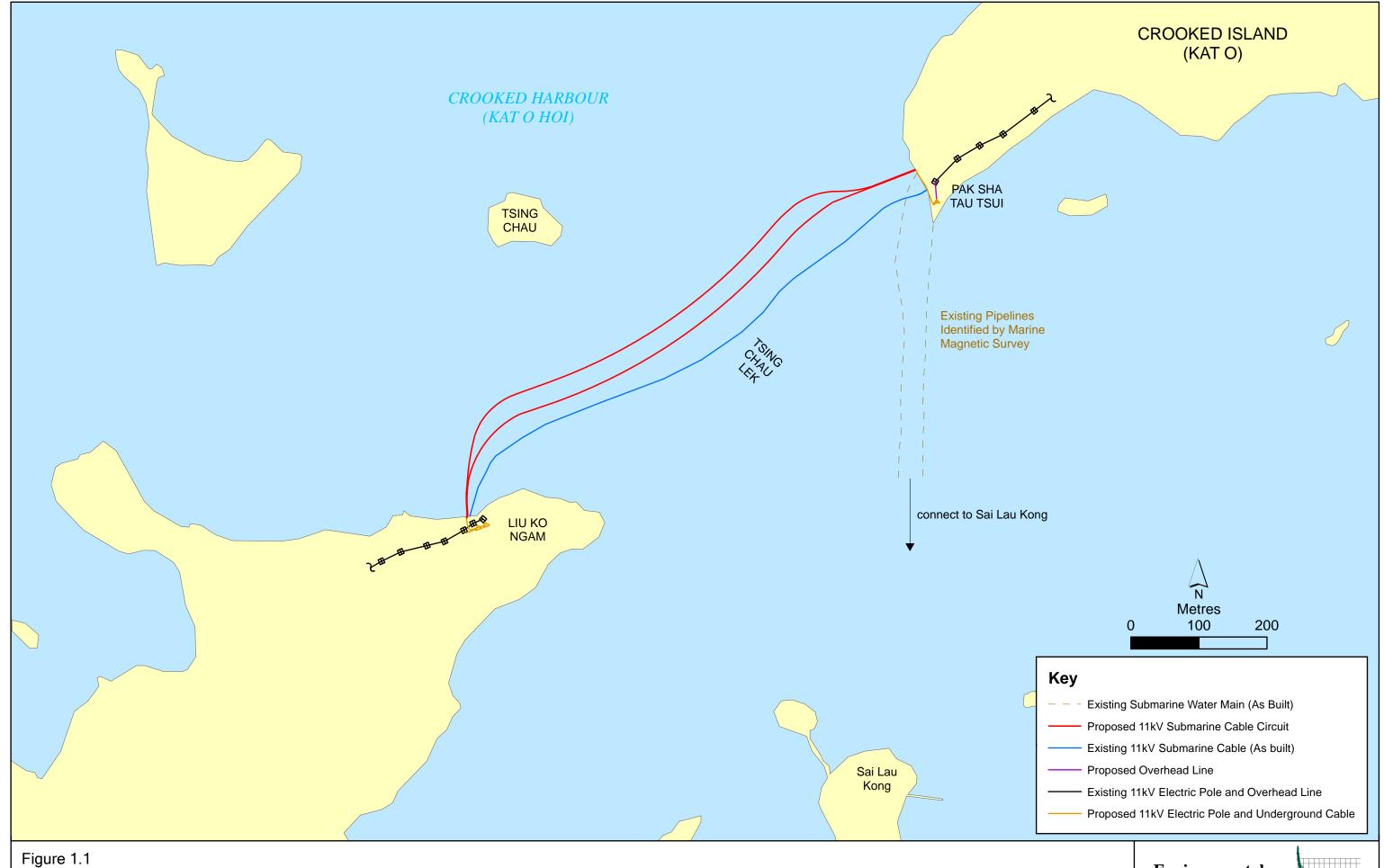
Environmental assessment for the Project has been carried out as part of the Project Profile (Register No.: PP-489/2013) required under the *Environmental Impact Assessment Ordinance (EIAO)*. An Environmental Permit (EP) has been issued by Environmental Protection Department (EPD) on 27 Aug 2013 for the Project (EP-461/2013) (1), which links directly to the Environmental Monitoring and Audit (EM&A) programme as well as the mitigation measures set out and agreed in the approved Project Profile (PP-489/2013) (2).

Construction of the Project commenced on 22 December 2015.

1.2 OBJECTIVES OF THE CORAL MONITORING PROGRAMME

Under the EM&A programme of the Project, a Coral Monitoring Programme is required to be implemented to verify the Project Profile ⁽³⁾ prediction that no unacceptable residual impacts to coral assemblages will occur provided that suitable mitigation measures, including the placement of a 5 m wide silt

- Environmental Permit No. EP-461/2013. Available at: http://www.epd.gov.hk/eia/register/permit/latest/ep4612013.htm
- (2) ERM (2013) Replacement of the Existing 11KV Submarine Cable Circuit Connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O – Project Profile submitted for Applications for Permission to Apply Directly for an Environmental Permit (PP-489/2013). Available at http://www.epd.gov.hk/eia/register/profile/latest/dir229/dir229.pdf
- (3) ERM (2013) Replacement of the Existing 11KV Submarine Cable Circuit Connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O Project Profile submitted for Applications for Permission to Apply Directly for an Environmental Permit (PP-489/2013). Available at http://www.epd.gov.hk/eia/register/profile/latest/dir229/dir229.pdf



Alignment of the Proposed 11kV Submarine Cable Circuit from Liu Ko Ngam to Pak Sha Tau Tsui

Environmental Resources Management



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curtain for protecting the coral communities during dredging works, were implemented. In the event that significant adverse impacts are identified as a consequence of the works, monitoring would also allow for implementation of appropriate remedial actions to reduce such impacts. The Coral Monitoring Programme comprises Baseline, Impact and Post-Project monitoring before, during and after the Project construction, respectively.

1.3 PURPOSE OF THIS REPORT

The purpose of this 11th Weekly Coral Impact Monitoring Survey Report is to report findings of the 11th weekly coral impact monitoring surveys conducted during the period of 28 April to 5 May 2016 and investigate any observable impact due to the Project on coral colonies near the cable landing sites at Pak Sha Tau Tsui and Liu Ko Ngam. Baseline Coral Monitoring Surveys were conducted on 29 and 30 October 2015 which provided baseline data prior to the commencement of the cable installation works. This report presents the 11th weekly coral impact monitoring surveys conducted on 28 April before the commencement of backfilling works and on 5 May 2016 during backfilling works. Coral conditions recorded during impact monitoring are compared with the baseline conditions in order to identify any observable impacts on corals due to the Project.

1.4 STRUCTURE OF THE REPORT

The remainder of the report is structured as follows:

- Section 2: Coral Monitoring Details the coral monitoring locations and frequency, monitoring methodology and impact coral monitoring results, and the compliance with the Action and Limit Levels in accordance with the approved Coral Translocation and Monitoring Plan (1).
- *Section 3:* Conclusion Concludes the representativeness of the impact coral monitoring results for the Project compared to baseline.

⁽¹⁾ ERM (2014) Replacement of the Existing 11KV Submarine Cable Circuit Connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O. Coral Translocation and Monitoring Plan

2 CORAL MONITORING

2.1 Introduction

Construction of the Project commenced on 22 December 2015.

The 11th weekly coral impact monitoring surveys were conducted on 28 April and 5 May 2016 at two impact stations at Liu Ko Ngam and Pak Sha Tau Tsui (outside and on either side of the working corridor) and at the control station at Tsing Chau (*Figure 2.1*). Weather conditions were cloudy on 28 April and sunny on 5 May 2016, both with calm conditions. Underwater visibility at Pak Sha Tau Tsui, Liu Ko Ngam and Tsing Chau were around 2 m during the surveys.

2.1.1 Monitoring Methodology

A total of 30 healthy coral colonies were tagged and surveyed at each of the impact and control stations on 29 and 30 October 2015 during the baseline monitoring surveys. These tagged colonies were re-visited and monitored during the impact monitoring to investigate any observable impact of the cable installation works on coral colonies near the cable landing sites. The coral monitoring results were evaluated against the Action and Limit Levels based on the conditions of the corals recorded during impact monitoring as well as change in sediment cover on corals prior to and during cable installation works (please refer to *Table 2.1* for the Action and Limit Levels and *Table 2.2* for actions proposed to be undertaken in case of exceedance of the levels).

Photographic records of each coral colony tagged in the Baseline Survey were collected from an angle that best represents the entire colony, and photographs maintaining the same aspect and orientation were taken in the Impact Monitoring Surveys (see *Annex A*). Adoption of the same monitoring method allows for direct comparison of baseline data with the impact monitoring data in order to determine any changes in conditions of corals after commencement of the cable installation works. Should impacts caused by the cable installation process to corals be identified, appropriate remedial action can be implemented to reduce such impacts (*Table 2.2*).

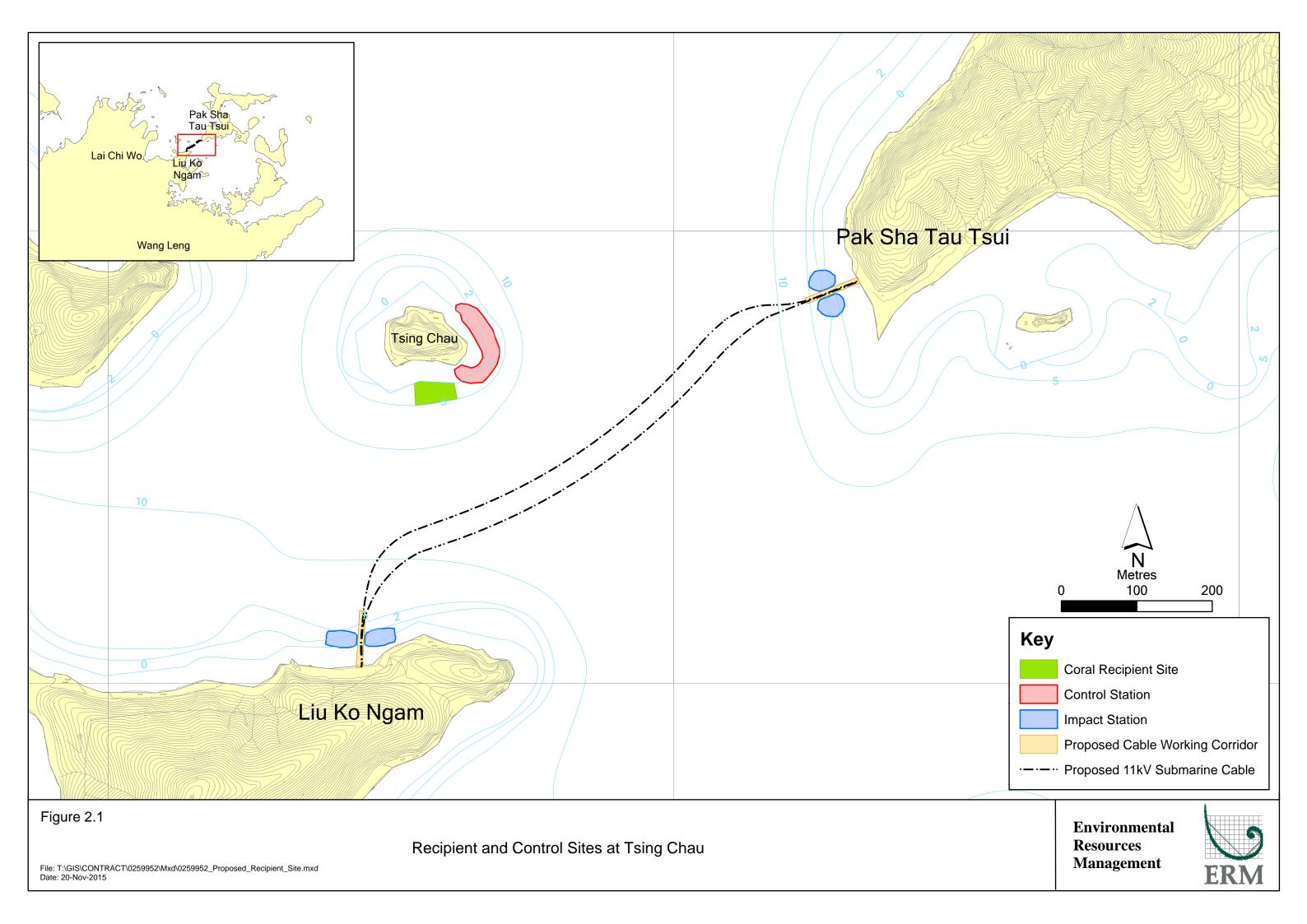


Table 2.1 Action and Limit Levels for Coral Monitoring

Level	Descriptions
Action Level	If during the Impact Monitoring a 15% increase in the percentage of sedimentation on the corals occurs at more than 20% of the tagged coral colonies at the Impact Monitoring Station, which is not recorded at the Control Monitoring Station, then the Action Level is exceeded.
Limit Level	If during the Impact Monitoring a 25% increase in the percentage of sedimentation on the corals occurs at more than 20% of the tagged coral colonies at the Impact Monitoring Station, which is not recorded at the Control Monitoring Station, then the Limit Level is exceeded.

Table 2.2 Action for Action / Limit Level Exceedance for Coral Monitoring

Event	Contractor
Action Level Exceedance	Step 1 - compare results with water quality monitoring results and repeat coral sampling event within two days, if Action Level is still exceeded notify AFCD.
	Step 2 - discuss with cable installation contractor the most appropriate method of reducing suspended solids during cable installation (e.g. reduce cable laying speed/volume of water used during installation, increase effectiveness of silt curtain).
	Step 3 - repeat survey after implementation of mitigation for confirmation of compliance.
	Step 4 - if non compliance continues - increase measures in Step 2 and repeat measurements in Step 3. If non compliance occurs a third time, suspend cable installation operations.
Limit Level Exceedance	Undertake Steps 1-3 immediately, if further non compliance continues at the Limit Level, suspend cable installation operations until an effective solution is identified.

2.2 IMPACT MONITORING RESULTS

2.2.1 Comparison against Action and Limit Levels

The species, size range, partial mortality, bleaching and sediment cover (sediment thickness, type and colour) of the tagged coral colonies were recorded and summarized in *Tables 2.3* to 2.5 for the three monitoring stations. Photographic records of the tagged coral colonies are shown in *Annex A*.

A total of 27 and 22 tagged coral colonies were found at Pak Sha Tau Tsui on 28 April and 5 May 2016, respectively. The number of tagged coral colonies found at Pak Sha Tau Tsui on 28 April 2016 was the same as the 10th weekly monitoring survey. On 5 May 2016, due to extreme low tide condition (0.6 m) it was not possible to access some of the tagged coral colonies in the shallow water region. As such, only 22 tagged coral colonies were found which is less than the previous impact monitoring survey. At Liu Ko Ngam and Tsing Chau, a total of 28 and 29 tagged coral colonies were found, respectively, during the 11th weekly coral impact monitoring surveys (same as 10th weekly coral impact monitoring). According to the approved *Coral Translocation and Monitoring Plan*, a minimum of 20 coral colonies are required

to be tagged for monitoring at each station. As a precautionary approach, a total of 30 coral colonies were tagged at each station to ensure that an adequate number of tagged colonies (i.e. not less than 20 colonies) can be revisited to reveal any observable impacts to corals, in particular when difficulty of relocating the tagged corals is encountered at these stations with typical low underwater visibility (i.e. visibility of 0.5 to 1 m recorded) or due to the loss of the tags.

Amongst the 22 tagged colonies at Pak Sha Tau Tsui, a total of two colonies (PSTT-5 and PSTT-10) were observed to have physical damage (see *Annex A*). An investigation is being undertaken to confirm the cause of damage and will be documented in the next monitoring report. Only the 20 tagged and undamaged coral colonies monitored at Pak Sha Tau Tsui on 5 May 2016 were included in the evaluation against the Action and Limit Levels. Findings of the 11th weekly coral impact monitoring surveys revealed that none of the tagged coral colonies recorded an increase in sediment cover of more than 15% on 28 April 2016 while 10% of the tagged coral colonies (2 colonies) at Pak Sha Tau Tsui recorded an increase in sediment cover of more than 15% on 5 May 2016. This indicated that the Action Levels or Limit Levels for coral monitoring were not exceeded (Table 2.1). Different levels of partial mortality (ranging from 10 to 60%) were recorded in the Porites sp. colonies tagged at the impact and control stations, which were overgrown by barnacles when the colonies were bleached during the winter months. Bleaching is the loss of symbiotic dinoflagellates in corals which may be caused by low sea water Low levels (10 - 25%) of partial mortality were also temperatures (1). recorded in a few colonies of other species at the impact stations. However, colony PSTT-7 was recorded with 100% mortality on 28 April 2016 compared to 5% recorded in the 10th weekly impact monitoring. Since the Action or Limit Level for coral monitoring were not exceeded and partial mortality of corals was recorded at both the impact and control stations which may be caused by bleaching due to low seawater temperature in winter, there did not appear to be any observable signs of impacts or deterioration in the general health and condition of the tagged coral colonies as a result of the Project.

Table 2.3 Species, Size, Partial Mortality, Bleaching and Sediment Cover of Tagged Coral Colonies at Pak Sha Tau Tsui (Impact Site)

Tag no.	Species	Size range (<10, 10-50; >50cm)	Partial Mortality (%)	Bleaching (%)	Sediment cover (%)	Percentage increase in sediment cover (%)	Sediment Thickness (<1mm; 1mm; >1mm)	Sediment Type (Mud/ Sand)	Sediment Color
Baseline Mo	onitoring on 29 October 2015								
PSTT-2	Favites flexuosa	<10	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-4	Dipsastraea rotumana	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-5	Favites chinensis	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-6	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-7	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-8	Goniastrea aspera	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-9	Cyphastrea serailia	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-10	Leptastrea pruinosa	>50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-11	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-12	Goniastrea aspera	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-13	Leptastrea pruinosa	<10	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-14	Dipsastraea rotumana	<10	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-15	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-16	Leptastrea purpurea	>50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-18	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSST-19	Leptastrea pruinosa	<10	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-20	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-21	Porites sp.	10-50	5	<1	<1	N/A	<1	N/A	N/A
PSTT-22	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-23	Porites sp.	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-24	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-25	Leptastrea purpurea	>50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-27	Porites sp.	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-26	Favites chinensis	>50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-28	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-29	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT-30	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
	itoring on 28 April 2016								
PSTT-2	Favites flexuosa	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT-4	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-5	Favites chinensis	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-7	Leptastrea pruinosa	10-50	100	<1	<1	0	<1	N/A	N/A
PSTT-8	Goniastrea aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-9	Cyphastrea serailia	10-50	<1	<1	<1	0	<1	N/A	N/A

Tag no.	Species	Size range (<10, 10-50; >50cm)	Partial Mortality (%)	Bleaching (%)	Sediment cover (%)	Percentage increase in sediment cover (%)	Sediment Thickness (<1mm; 1mm; >1mm)	Sediment Type (Mud/ Sand)	Sediment Color
PSTT-10	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT-11	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-12	Goniastrea aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-13	Leptastrea pruinosa	<10	10	<1	<1	0	<1	N/A	N/A
PSTT-14	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT-15	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-16	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT-18	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSST-19	Leptastrea pruinosa	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT-20	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-21	Porites sp.	10-50	40	60	<1	0	<1	N/A	N/A
PSTT-22	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-23	Porites sp.	10-50	30	70	<1	0	<1	N/A	N/A
PSTT-24	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-25	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT-27	Porites sp.	10-50	60	40	<1	0	<1	N/A	N/A
PSTT-26	Favites chinensis	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT-28	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-29	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-30	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
Impact Mon	itoring on 5 May 2016							<u> </u>	,
PSTT-8	Goniastrea aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-9	Cyphastrea serailia	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-11	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-13	Leptastrea pruinosa	<10	10	<1	<1	0	<1	N/A	N/A
PSTT-14	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT-15	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-16	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT-18	Leptastrea pruinosa	10-50	<1	<1	30	30	1	Mud	Light Brown
PSST-19	Leptastrea pruinosa	<10	<1	<1	5	5	1	Mud	Light Brown
PSTT-20	Leptastrea pruinosa	10-50	<1	<1	5	5	1	Mud	Light Brown
PSTT-21	Porites sp.	10-50	40	60	<1	0	<1	N/A	N/A
PSTT-22	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-23	Porites sp.	10-50	30	70	<1	0	<1	N/A	N/A
PSTT-24	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-25	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT-27	Porites sp.	10-50	60	40	<1	0	<1	N/A	N/A
PSTT-26	Favites chinensis	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT-28	Leptastrea pruinosa	10-50	<1	<1	20	20	1	Mud	Light Brown

Tag no.	Species	Size range (<10, 10-50; >50cm)	Partial Mortality (%)	Bleaching (%)	Sediment cover (%)	Percentage increase in sediment cover (%)	Sediment Thickness (<1mm; 1mm; >1mm)	Sediment Type (Mud/ Sand)	Sediment Color
PSTT-29	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT-30	Leptastrea purpurea	10-50	<1	<1	10	10	1	Mud	Light Brown

Note: PSTT-1, PSTT-3 and PSTT-17 could not be located during both of the monitoring surveys while PSTT-2, PSTT-4, PSTT-6, PSTT-7 and PSTT-12 could not be located during the monitoring survey on 5 May 2016 and the results are not presented in the table. Also, the monitoring results of PSTT-5 and PSTT-10 were not included due to the observed physical damage of these two colonies. A detailed investigation is being undertaken to confirm the cause of damage and will be documented in the next monitoring report.

Table 2.4 Species, Size, Partial Mortality, Bleaching and Sediment Cover of Tagged Coral Colonies at Liu Ko Ngam (Impact Site)

Tag no.	Species	Size range (<10, 10-50; >50cm)	Partial Mortality (%)	Bleaching (%)	Sediment cover (%)	Percentage increase in sediment cover (%)	Sediment Thickness (<1mm; 1mm; >1mm)	Sediment Type (Mud/ Sand)	Sediment Color
Baseline M	onitoring on 30 October 2015								
LKN-1	Dipsastraea rotumana	<10	<1	<1	<1	N/A	<1	N/A	N/A
LKN-2	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-3	Cyphastrea japonica	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-4	Favites pentagona	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-5	Dipsastraea rotumana	<10	<1	<1	<1	N/A	<1	N/A	N/A
LKN-6	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-8	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-9	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-11	Echinophyllia aspera	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-12	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-13	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-14	Dipsastraea rotumana	<10	<1	<1	<1	N/A	<1	N/A	N/A
LKN-15	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-16	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-17	Leptastrea pruinosa	'10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-18	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-19	Platygyra acuta	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-20	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-21	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-22	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-23	Leptastrea purpurea	>50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-24	Porites sp.	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-25	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-26	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-27	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-28	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-29	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN-30	Dipsastraea rotumana	<10	<1	<1	<1	N/A	<1	N/A	N/A
Impact Moi	nitoring on 28 April 2016					,			· ·
LKN-1	Dipsastraea rotumana	<10	25	<1	<1	0	<1	N/A	N/A
LKN-2	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-3	Cyphastrea japonica	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-4	Favites pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-5	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
LKN-6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A

Tag no.	Species	Size range (<10, 10-50; >50cm)	Partial Mortality (%)	Bleaching (%)	Sediment cover (%)	Percentage increase in sediment cover (%)	Sediment Thickness (<1mm; 1mm; >1mm)	Sediment Type (Mud/ Sand)	Sediment Color
LKN-8	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-9	Leptastrea pruinosa	10-50	<1	<1	5	5	1	Mud	Light brown
LKN-11	Echinophyllia aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-12	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-13	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-14	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
LKN-15	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-16	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-17	Leptastrea pruinosa	'10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-18	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-19	Platygyra acuta	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-20	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-21	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-22	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	B #5	B#5
LKN-23	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
LKN-24	Porites sp.	10-50	10	90	<1	0	<1	N/A	N/A
LKN-25	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-26	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-27	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-28	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-29	Leptastrea pruinosa	10-50	20	<1	<1	0	<1	N/A	N/A
LKN-30	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
Impact Mo	nitoring on 5 May 2016								
LKN-1	Dipsastraea rotumana	<10	25	<1	<1	0	<1	N/A	N/A
LKN-2	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-3	Cyphastrea japonica	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-4	Favites pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-5	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
LKN-6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-8	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-9	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-11	Echinophyllia aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-12	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-13	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-14	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
LKN-15	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-16	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-17	Leptastrea pruinosa	'10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-18	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A

Tag no.	Species	Size range (<10, 10-50; >50cm)	Partial Mortality (%)	Bleaching (%)	Sediment cover (%)	Percentage increase in sediment cover (%)	Sediment Thickness (<1mm; 1mm; >1mm)	Sediment Type (Mud/ Sand)	Sediment Color
LKN-19	Platygyra acuta	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-20	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-21	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-22	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-23	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
LKN-24	Porites sp.	10-50	10	90	<1	0	<1	N/A	N/A
LKN-25	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-26	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-27	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-28	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN-29	Leptastrea pruinosa	10-50	20	<1	<1	0	<1	N/A	N/A
LKN-30	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A

Note: LKN-7 and LKN-10 could not be located during the monitoring surveys and the results are not presented in the table.

Table 2.5 Species, Size, Partial Mortality, Bleaching and Sediment Cover of Tagged Coral Colonies at Tsing Chau (Control Site)

Tag no.	Species	Size range (<10, 10-50; >50cm)	Partial Mortality (%)	Bleaching (%)	Sediment cover (%)	Percentage increase in sediment cover (%)	Sediment Thickness (<1mm; 1mm; >1mm)	Sediment Type (Mud/ Sand)	Sediment Color
Baseline N	Monitoring on 30 October 2015	,					,	,	
TC-1	Dipsastraea rotumana	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-2	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-3	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-5	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-6	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-7	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-8	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-9	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-10	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-11	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-12	Dipsastraea rotumana	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-13	Favities pentagona	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-14	Lithophyllon undulatum	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-15	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-16	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-17	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-18	Porities sp.	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-19	Dipsastraea rotumana	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-20	Lithophyllon undulatum	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-21	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-22	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-23	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-24	Cyphastrea japonica	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-25	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-26	Leptastrea pruinosa	>50	<1	<1	<1	N/A	<1	N/A	N/A
TC-27	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-28	Favities pentagona	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC-29	Leptastrea pruinosa	>50	<1	<1	<1	N/A	<1	N/A	N/A
TC-30	Leptastrea pruinosa	>50	<1	<1	<1	N/A	<1	N/A	N/A
Impact Mo	onitoring on 28 April 2016								
TC-1	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-2	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-3	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-5	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A

Tag no.	Species	Size range (<10, 10-50; >50cm)	Partial Mortality (%)	Bleaching (%)	Sediment cover (%)	Percentage increase in sediment cover (%)	Sediment Thickness (<1mm; 1mm; >1mm)	Sediment Type (Mud/ Sand)	Sediment Color
TC-7	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-8	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-9	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-10	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-11	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-12	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-13	Favities pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-14	Lithophyllon undulatum	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-15	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-16	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-17	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-18	Porities sp.	10-50	50	50	<1	0	<1	N/A	N/A
TC-19	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-20	Lithophyllon undulatum	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-21	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-22	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-23	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-24	Cyphastrea japonica	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-25	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-26	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
TC-27	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-28	Favities pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-29	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
TC-30	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
Impact M	onitoring on 5 May 2016								
TC-1	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-2	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-3	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-5	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-7	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-8	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-9	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-10	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-11	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-12	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-13	Favities pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-14	Lithophyllon undulatum	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-15	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A

Tag no.	Species	Size range (<10, 10-50; >50cm)	Partial Mortality (%)	Bleaching (%)	Sediment cover (%)	Percentage increase in sediment cover (%)	Sediment Thickness (<1mm; 1mm; >1mm)	Sediment Type (Mud/ Sand)	Sediment Color
TC-16	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-17	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-18	Porities sp.	10-50	50	50	<1	0	<1	N/A	N/A
TC-19	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-20	Lithophyllon undulatum	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-21	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-22	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-23	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-24	Cyphastrea japonica	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-25	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-26	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
TC-27	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-28	Favities pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
TC-29	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
TC-30	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A

Notes: TC-4 could not be located during the monitoring surveys and the results are not presented in the table.

2.2.2 Rapid Ecological Assessment (REA) Survey

Baseline REA surveys were conducted on 29 and 30 October 2015 at the two impact and one control stations on the subtidal marine conditions according to the methodology presented in the *Coral Translocation and Baseline Monitoring Survey Report*. REA surveys were conducted during the impact monitoring surveys on 28 April prior to the commencement of backfilling works and on 5 May 2016 during the backfilling works to determine any observable impacts to coral assemblages. However, REA survey was not conducted at Pak Sha Tau Tsui on 5 May 2016 due to the extreme low tide during the time of the monitoring (1). Pak Sha Tau Tsui will be revisit during the impact monitoring of the following week to confirm if there are any changes of general health and condition of the coral assemblages. Data collected during the REA surveys are presented in *Annex B*.

Results obtained during the REA surveys in the baseline surveys in October 2015 and the 11th weekly coral impact monitoring surveys on 28 April and 5 May 2016 were noted to be similar at both of the impact and control stations. At Pak Sha Tau Tsui (survey undertaken only on 28 April 2016) and Liu Ko Ngam (survey undertaken on both 28 April and 5 May 2016), both sites were predominately composed of small boulders (<50 cm). Cover of hard corals ranged from 6 to 10% at both impact stations. Ten (10) and twelve (12) species of hard corals were recorded at Pak Sha Tau Tsui and Liu Ko Ngam, respectively. At the control station at Tsing Chau, the seabed was predominately composed of hard substrates of small boulders (<50 cm), rubble and rock (<26 cm). Cover of hard corals was similar to the impact stations which range from 6 to 10%. A total of eight (8) hard coral species were recorded at Tsing Chau during the surveys.

Overall, the REA results showed that the general health and condition of the coral assemblages are similar between the baseline and the 11th weekly monitoring.

Coral monitoring at Pak Sha Tau can only be conducted during noontime on 5th May 2016 due to health and safety concern.

3 CONCLUSION

The 11th weekly coral impact monitoring surveys were carried out on 28 April and 5 May 2016 at two impact stations and one control station in accordance with the EM&A Requirements in the *Project Profile* and the *Coral Translocation and Monitoring Plan*. During the impact monitoring, the tagged coral colonies were re-visited and monitored at each station. The conditions of the tagged coral colonies during the Coral Impact Monitoring Surveys are compared with the baseline conditions which were recorded prior to the commencement of the cable installation works.

No exceedances of the Action and Limit Levels (in terms of percentage of sedimentation) were identified during the 11th weekly coral impact monitoring surveys on 28 April and 5 May 2016, based on the available information. During the impact monitoring survey conducted on 5 May 2016, two tagged coral colonies were observed to have physical damage at Pak Sha Tau Tsui. The cause and extent of damage could not be identified due to the extreme low tide during the time of the monitoring which made the shallow water area inaccessible, however, localized damage is suspected and it is uncertain whether the damage was due to the Project. An investigation is being undertaken to examine the extent of damage in the next weekly impact monitoring surveys and to confirm the cause of damage. Findings will be documented in the next monitoring report.

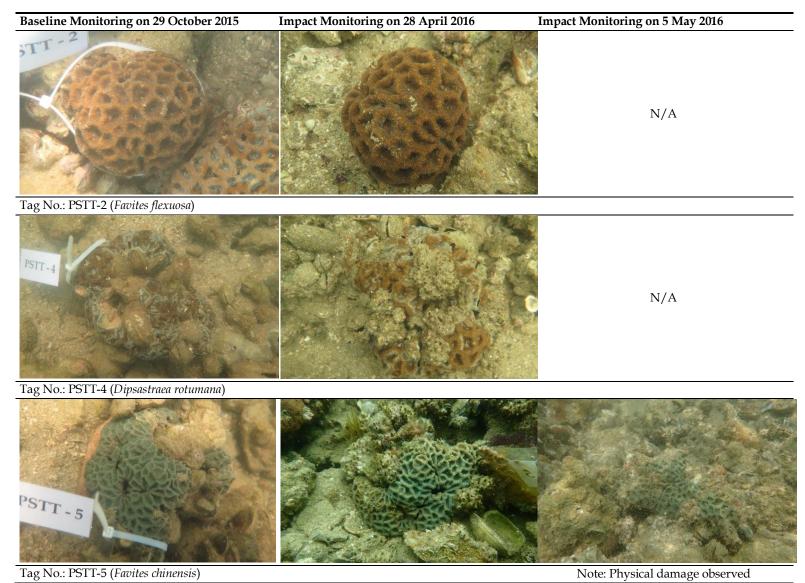
Coral impact monitoring surveys will be conducted twice weekly during any process of the cable installation, including landing site preparation, cable laying and landing works, and backfilling. Findings of further coral impact monitoring surveys will be presented in subsequent *Weekly Coral Impact Monitoring Survey Reports* in order to determine any observable impacts to the tagged corals as well as the coral assemblages as a result of the cable installation process. In the event that significant adverse impacts are identified as a consequence of the works, monitoring would also allow for implementation of appropriate remedial actions to reduce such impacts.

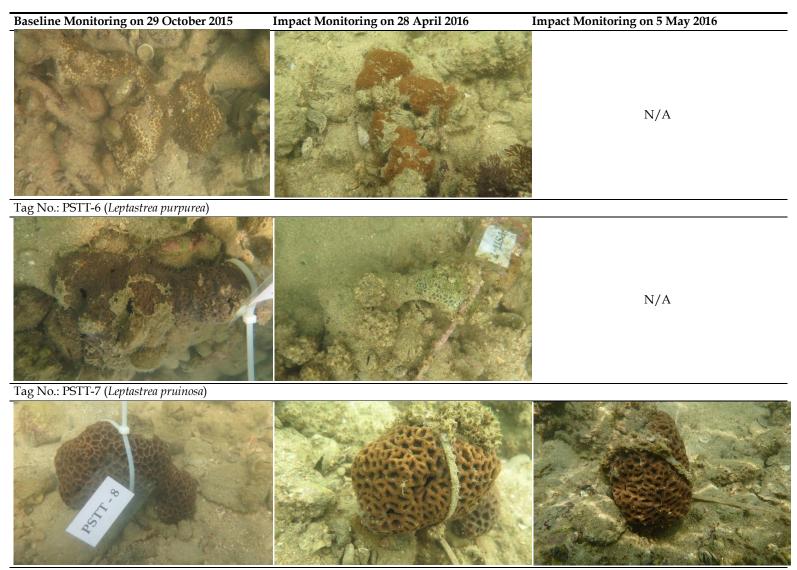
The current monitoring schedule is presented in *Annex C*.

Annex A

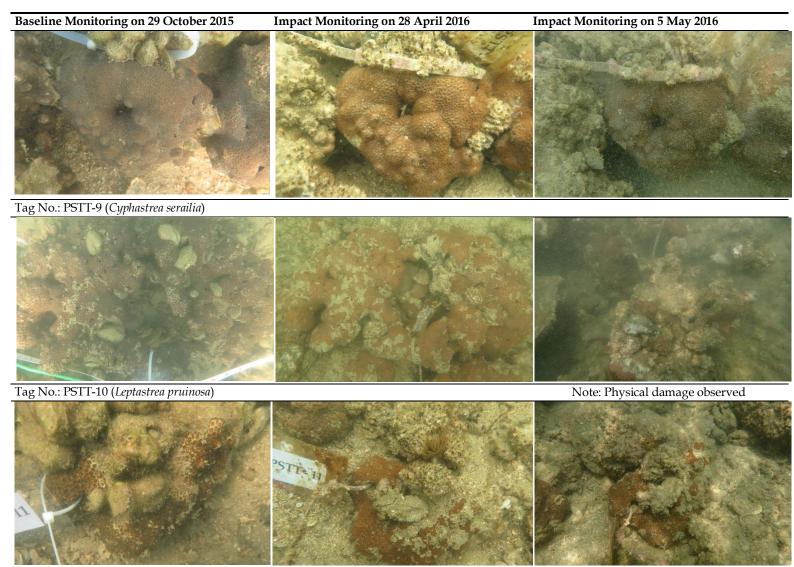
Photographic Record of Tagged Coral Colonies

Annex A1 - Corals Tagged at Pak Sha Tau Tsui

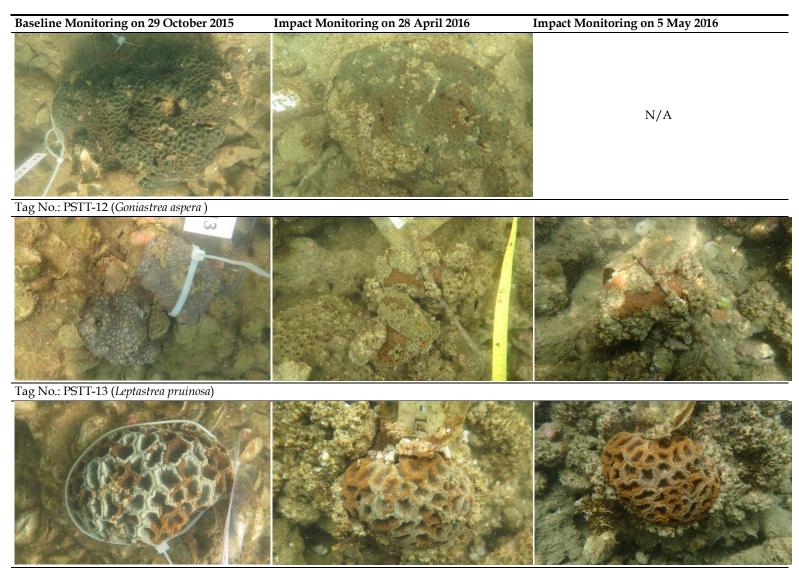




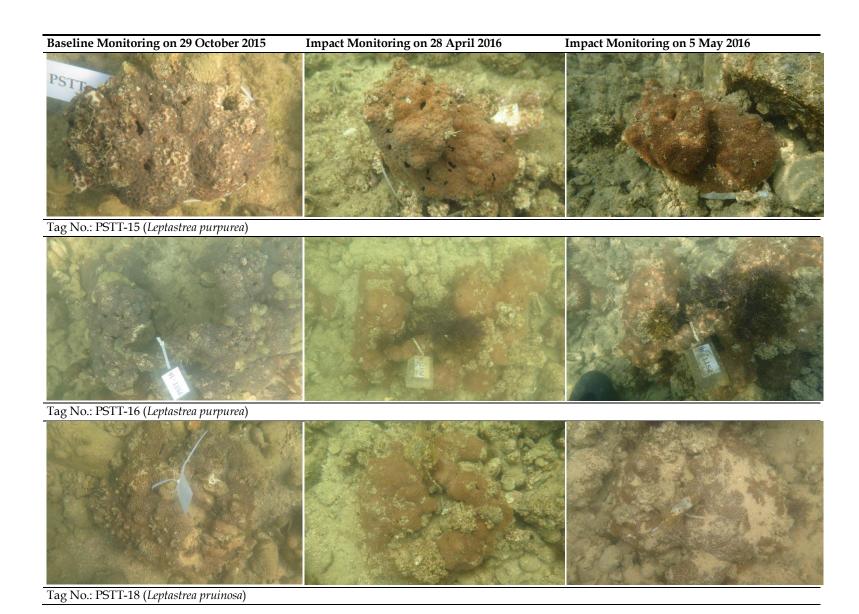
Tag No.: PSTT-8 (Goniastrea aspera)

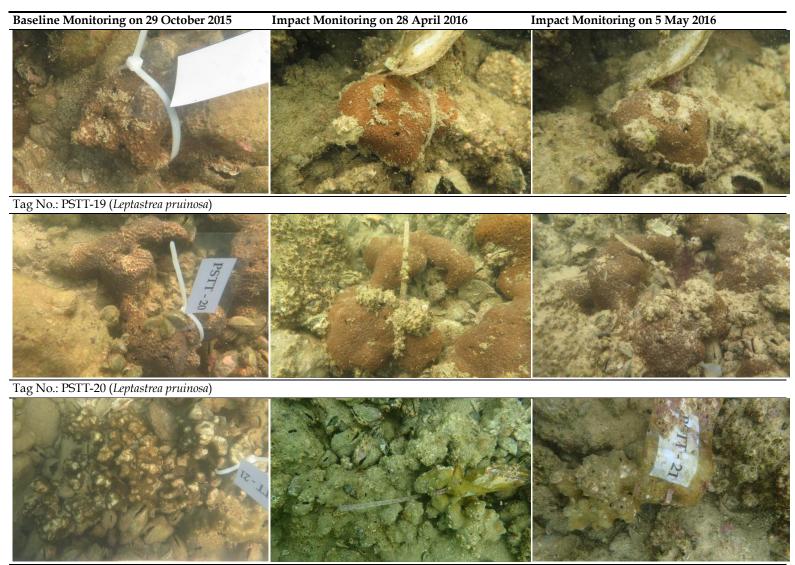


Tag No.: PSTT-11 (Leptastrea purpurea)

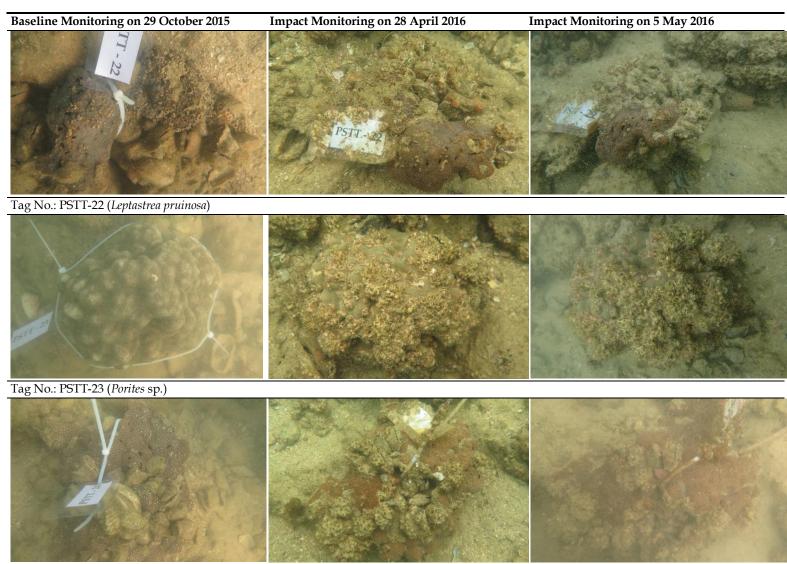


Tag No.: PSTT-14 (Dipsastraea rotumana)

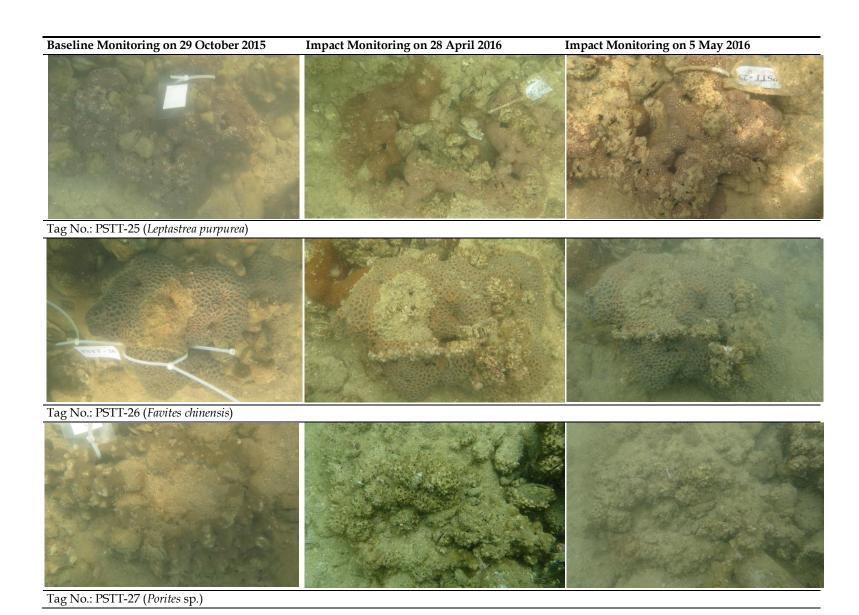


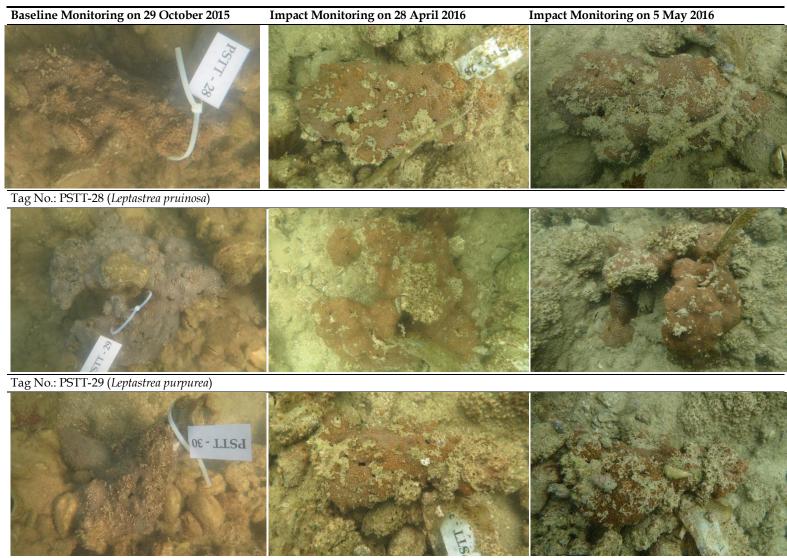


Tag No.: PSTT-21 (Porites sp.)



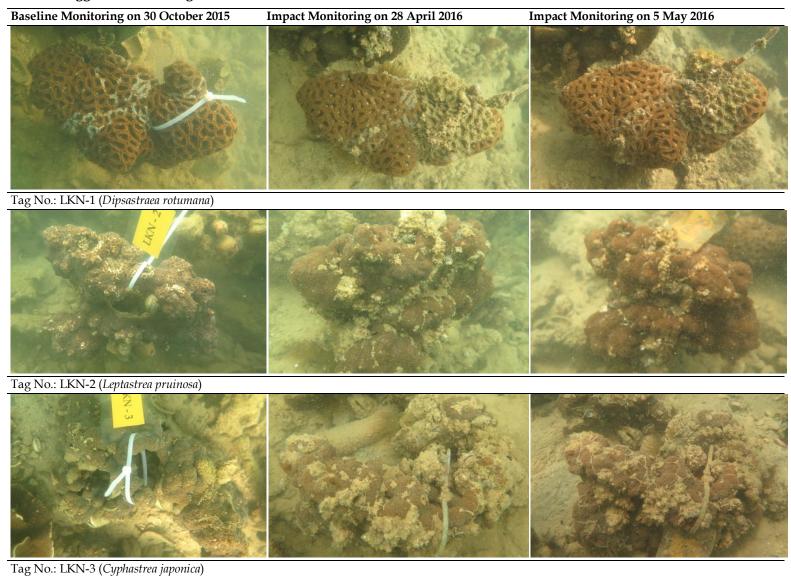
Tag No.: PSTT-24 (Leptastrea purpurea)

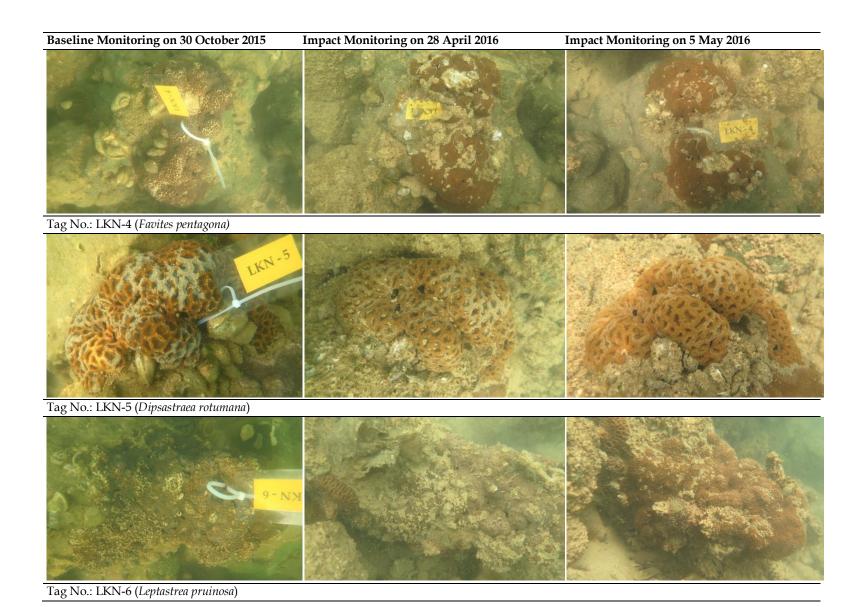


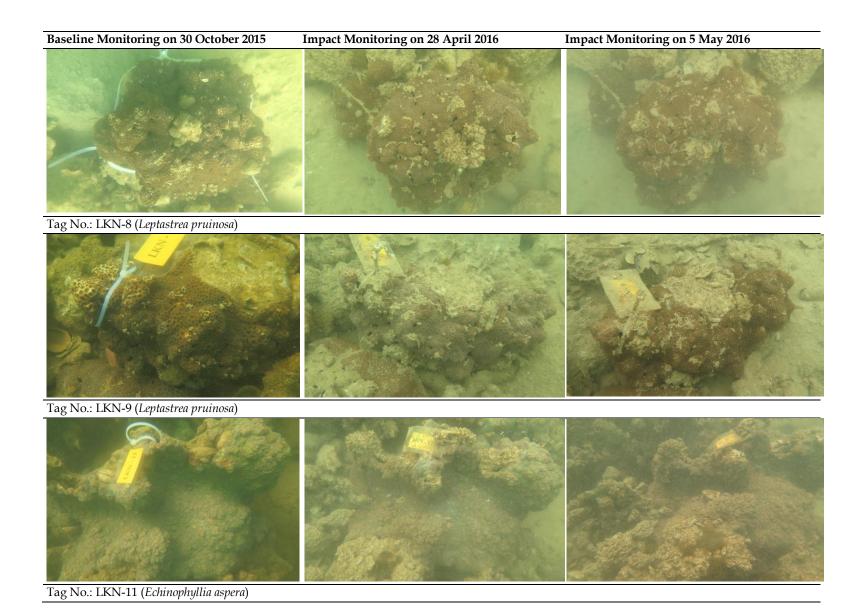


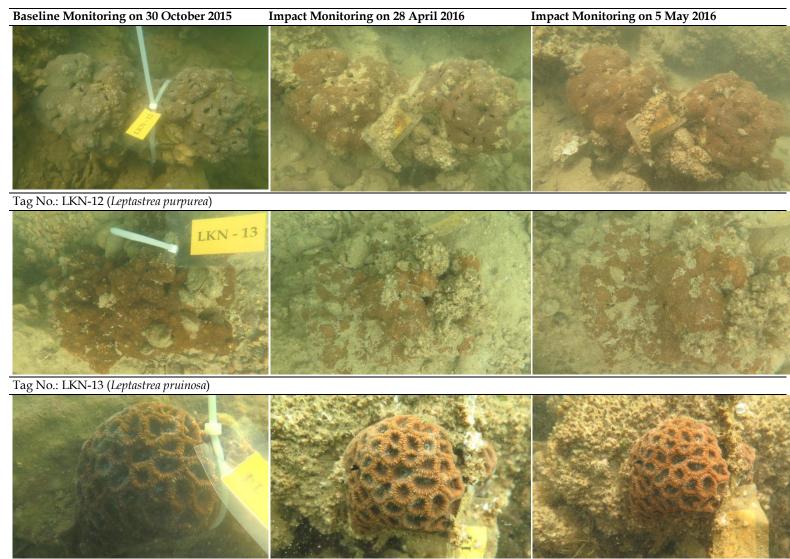
Tag No.: PSTT-30 (Leptastrea purpurea)

Annex A2 - Corals Tagged at Liu Ko Ngam

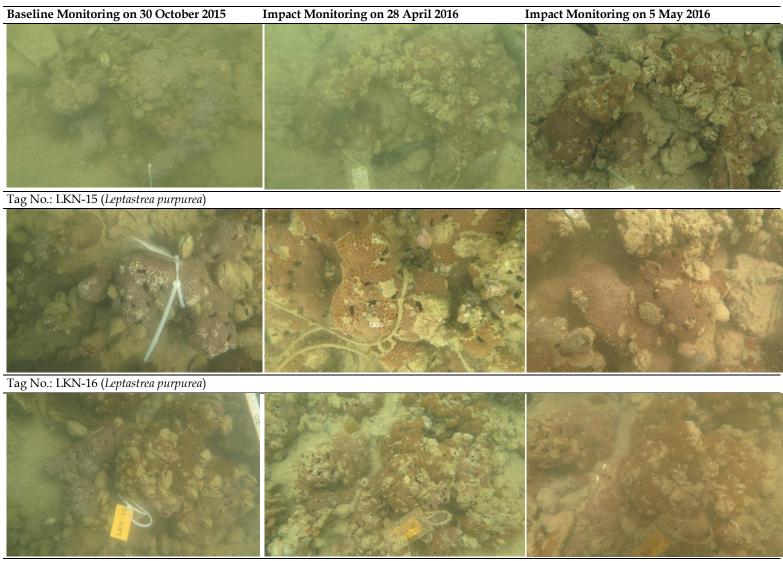




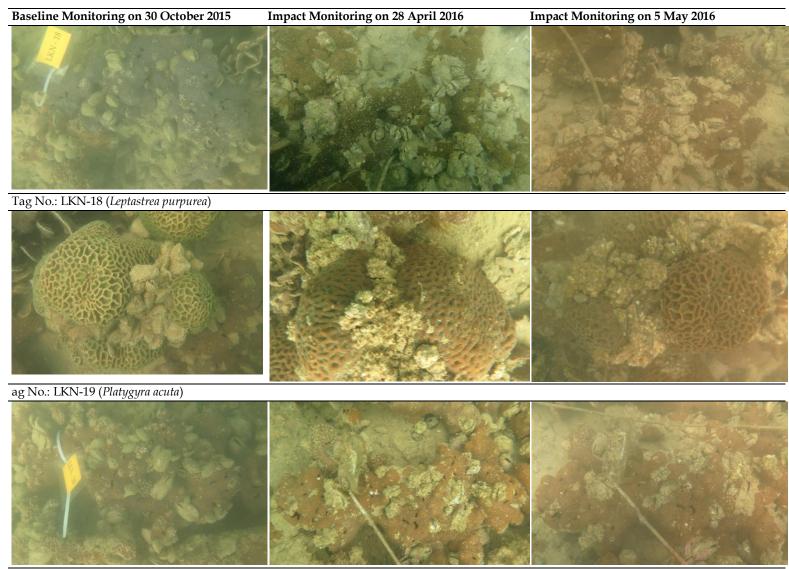


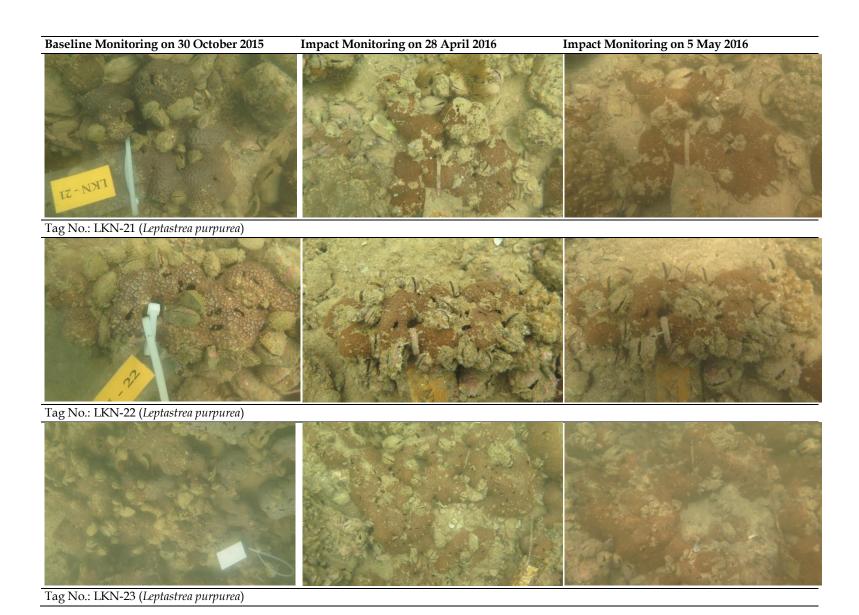


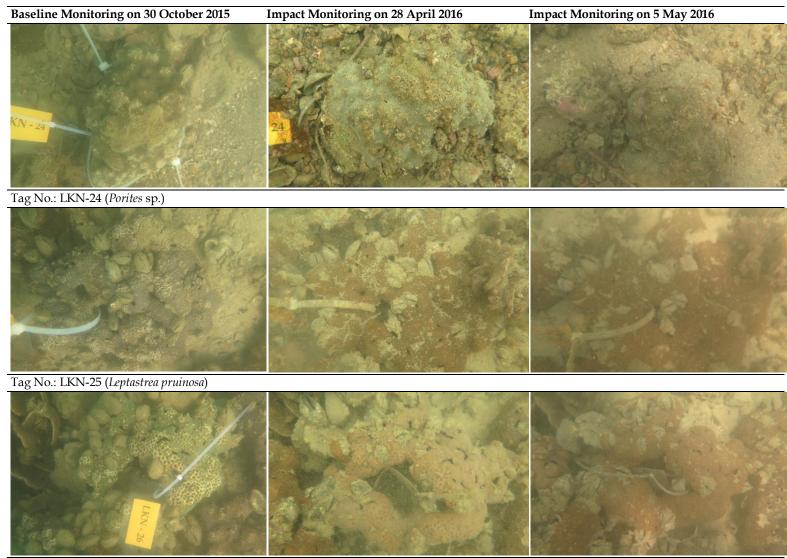
Tag No.: LKN-14 (Dipsastraea rotumana)



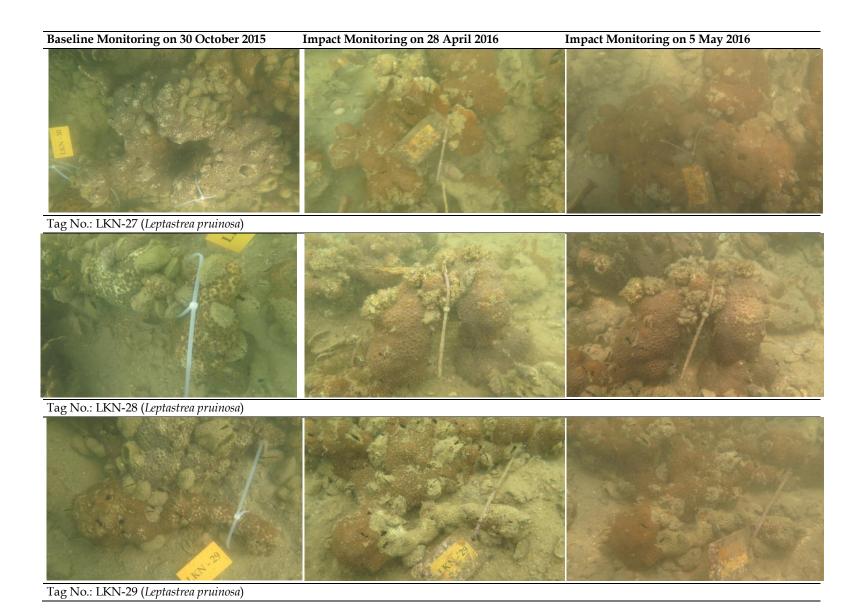
Tag No.: LKN-17 (Leptastrea pruinosa)







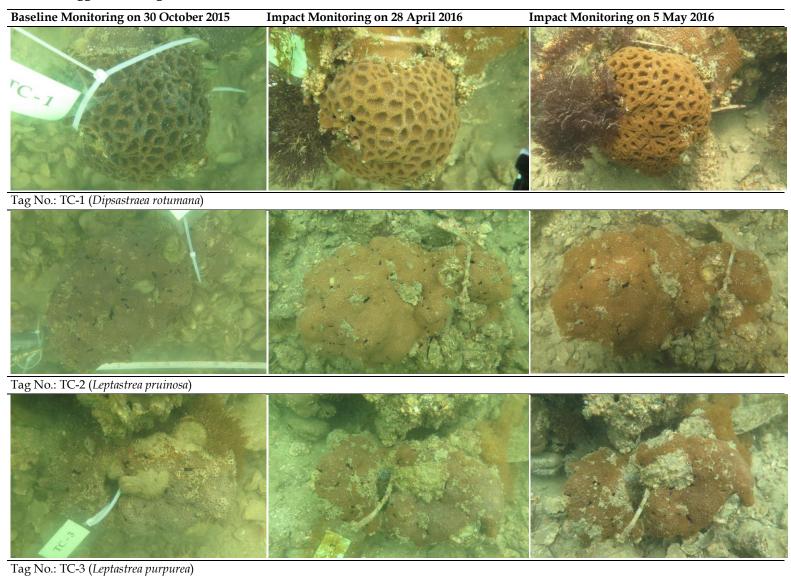
Tag No.: LKN-26 (Leptastrea pruinosa)





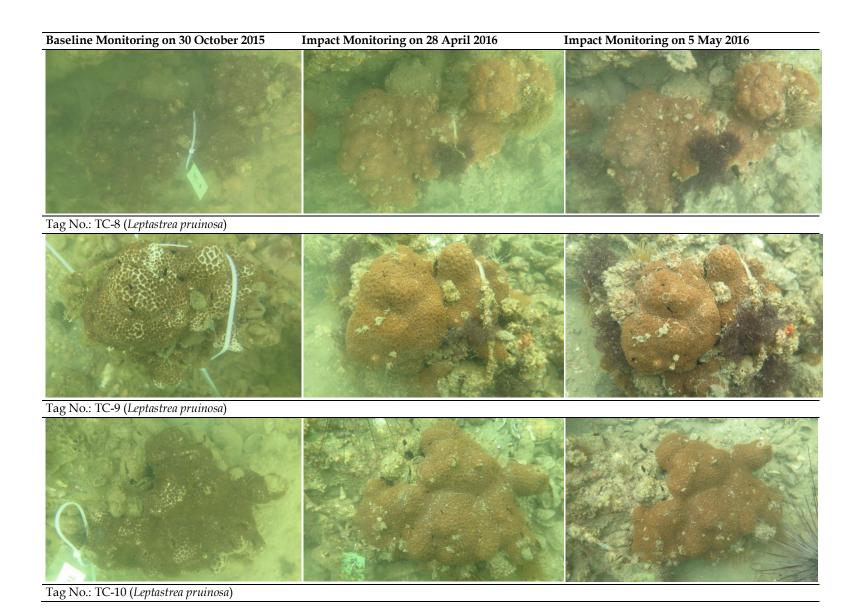
Tag No.: LKN-30 (Dipsastraea rotumana)

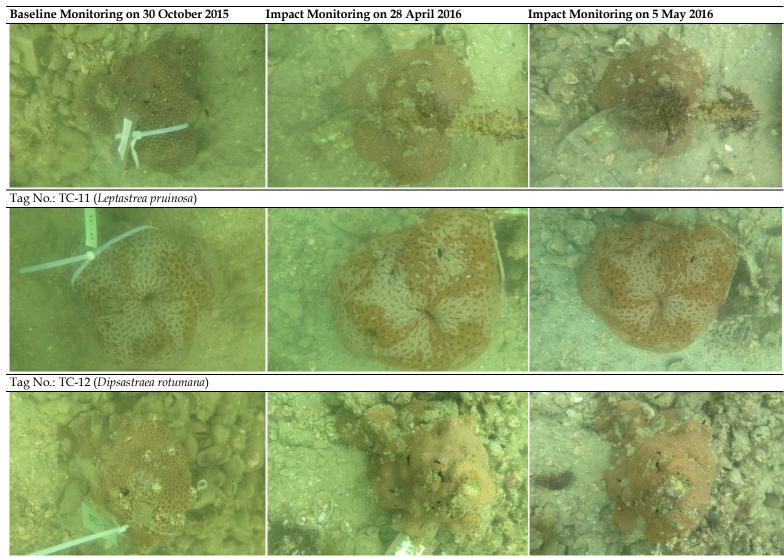
Annex A3 - Corals Tagged at Tsing Chau



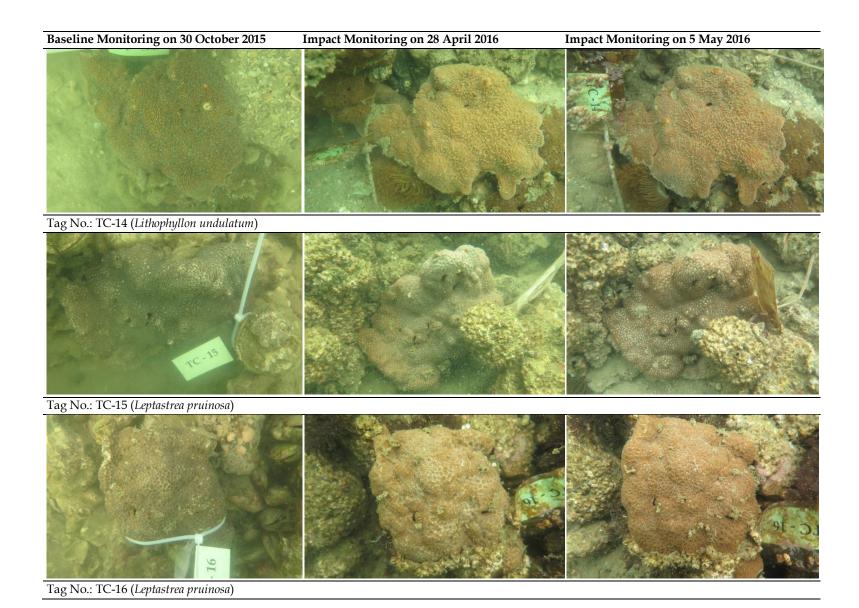


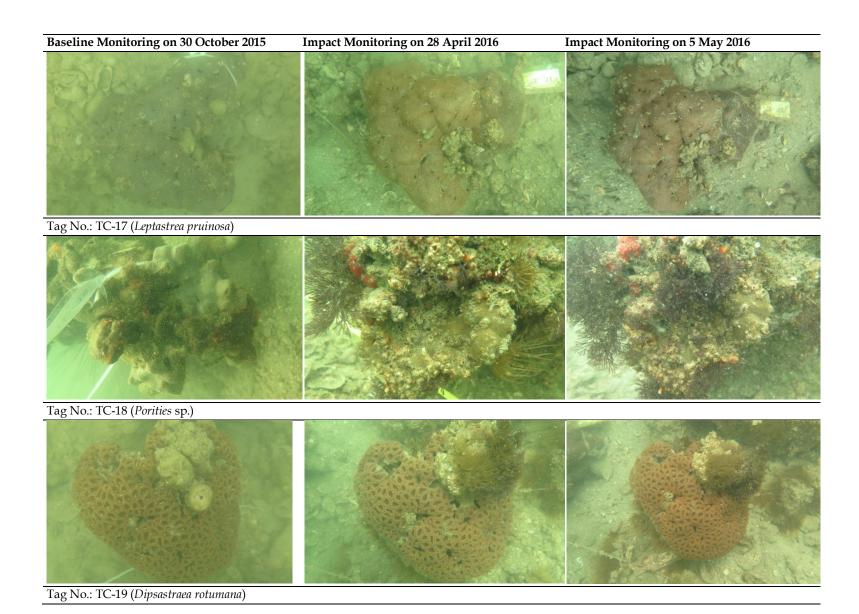
A21

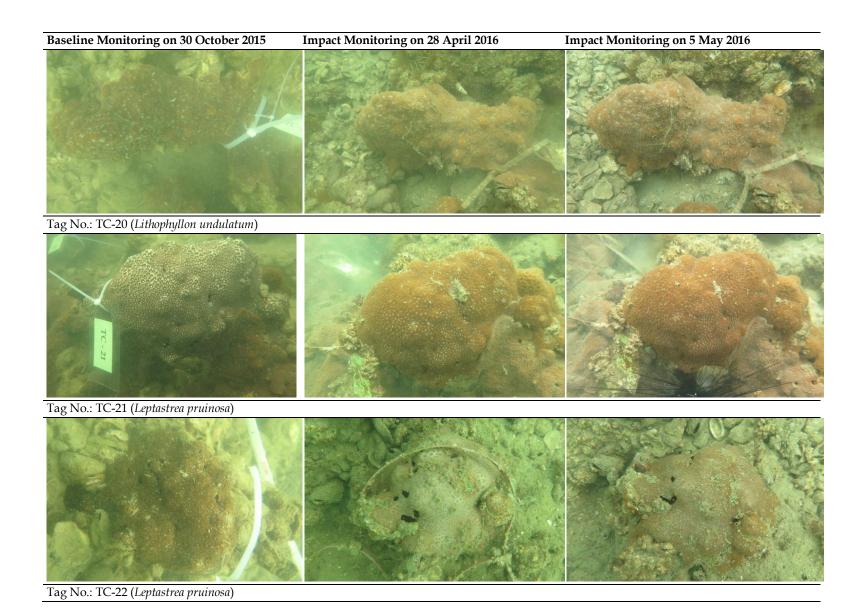


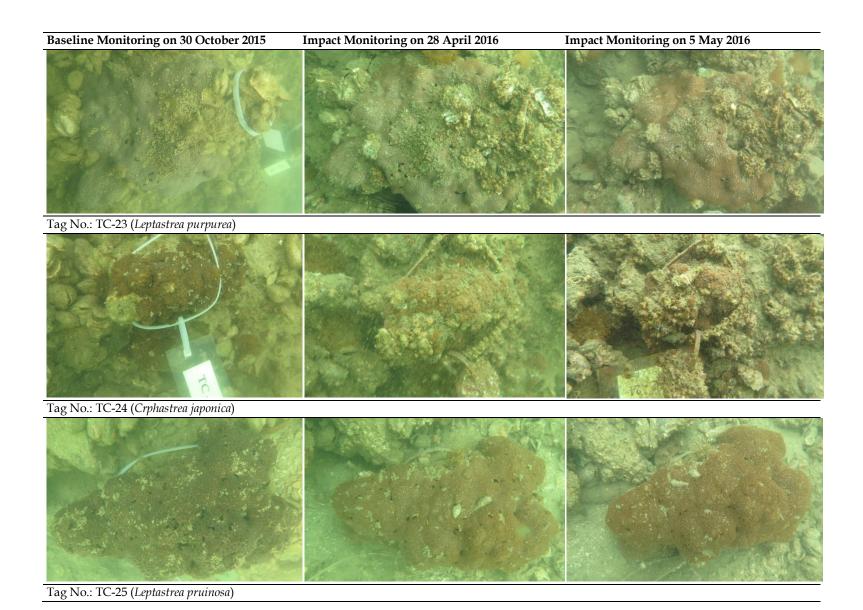


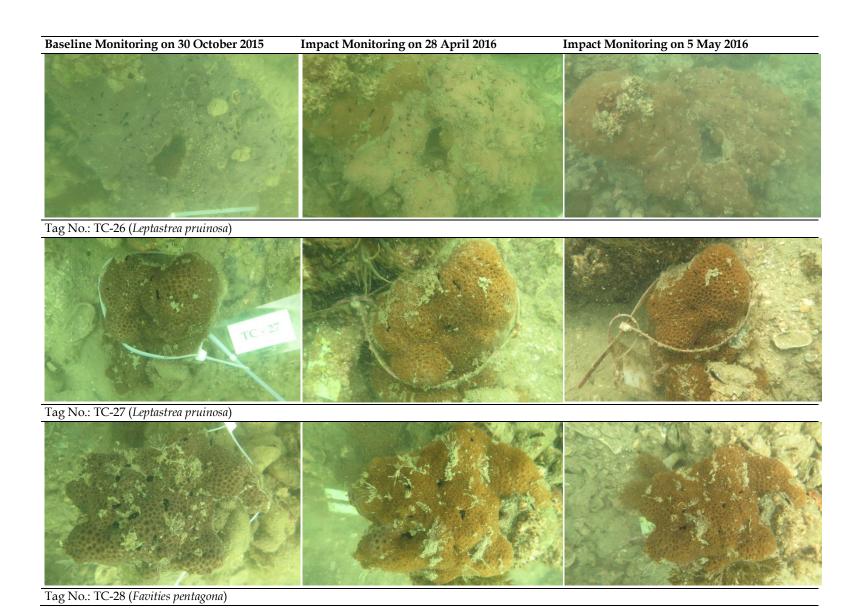
Tag No.: TC-13 (Favities pentagona)

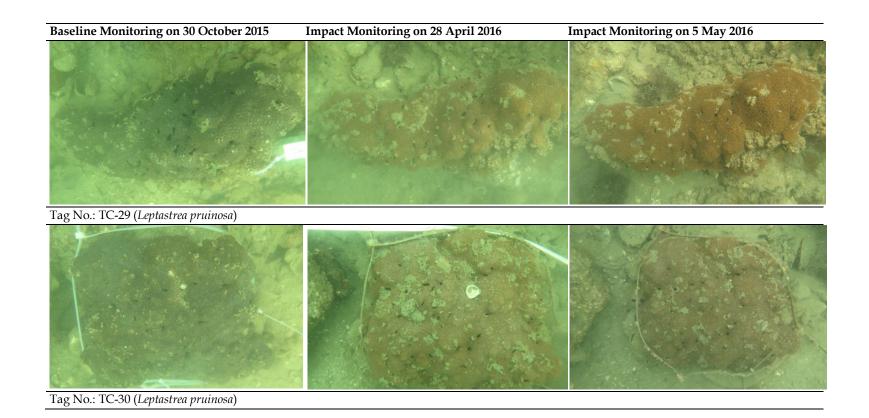












Annex B

Results of REA Surveys

Table B1 Rank of Ecological Seabed Attributes along the REA Survey Transects (1)

Date	Site (2)	Hard	Dead	Soft	Black Coral	Macroalgae	Turf Algae
		Coral	Coral	Coral			
Baseline on 29-	PSTT	2	2	0	0	0	0
30/10/15	LKN	2	3	0	0	0	0
	TC	2	2	0	0	0	0
Impact	PSTT	2	2	0	0	0	0
monitoring on	LKN	2	3	0	0	0	0
28/4/16	TC	2	2	0	0	0	0
Impact	PSTT	-	-	-	-	-	-
monitoring on	LKN	2	3	0	0	0	0
5/5/16	TC	2	2	0	0	0	0

Note: (1) Rank: 0 = none recorded, 1 = 1-5%, 2= 6-10%, 3= 11-30%, 4=31-50%, 5=51-75% and 6=76-100%

(2) PSTT = Pak Sha Tau Tsui, LKN = Liu Ko Ngam & TC = Tsing Chau.

Table B2 Rank of Physical Seabed Attributes along the REA Survey Transects (1)

		Hard Substrata						Soft Substrata		
Date	Site(2)	Bedrock/	Boulder	Boulder	Rubble	Rock	Other	Sand	Mud/Silt	Mud
		continuous	Blocks (>	Blocks (<		(< 26				
		pavement	50 cm)	50 cm)		cm)				
Baseline on	PSTT	0	1	4	3	2	0	1	1	0
29 -30/10/15	LKN	0	1	5	3	3	0	1	1	0
	TC	0	0	4	4	3	0	2	2	0
Impact	PSTT	0	1	4	3	2	0	1	1	0
monitoring	LKN	0	1	5	3	3	0	1	1	0
on 28/4/16	TC	0	0	4	4	3	0	2	2	0
Impact	PSTT	-	-	-	-	-	-	-	-	-
monitoring	LKN	0	1	5	3	3	0	1	1	0
on 5/5/16	TC	0	0	4	4	3	0	2	2	0

Note: (1) Rank: 0 = none recorded, 1 = 1-5%, 2= 6-10%, 3= 11-30%, 4=31-50%, 5=51-75% and 6=76-100%

⁽²⁾ PSTT = Pak Sha Tau Tsui, LKN = Liu Ko Ngam & TC = Tsing Chau.

 $Table\ B3\ Relative\ Abundance\ of\ Hard\ Coral\ Species\ Recorded\ during\ the\ REA\ Survey$

Date	Species	Pak Sha Tau Tsui	Liu Ko Ngam	Tsing Chau
Baseline on 29 -	Cyphastrea japonica	0	2	1
30/10/15	Cyphastrea serailia	1	2	0
	Echinophyllia aspera	0	1	3
	Dipsastraea rotumana	3	3	0
	Favites acuticollis	0	2	0
	Favites chinensis	2	0	0
	Favites flexuosa	2	2	0
	Favites pentagona	0	2	1
	Goniastrea aspera	2	0	0
	Leprastrea priunosa	4	4	4
	Leptastrea purpurea	3	3	4
	Lithophyllon undulatum	0	0	2
	Oulastrea cripsata	1	0	0
	Pavona decussata	3	4	4
	Platygyra acuta	0	1	0
	Porites sp.	3	2	2
	Total Species	10	12	8
Immact	Cyphastrea japonica	0	2	1
Impact	Cyphastrea serailia		2	0
monitoring on	Echinophyllia aspera	1 0	1	
28/4/16				3
	Dipsastraea rotumana Favites acuticollis	3	3	0
		0	2	0
	Favites chinensis	2	0	0
	Favites flexuosa	2	2	0
	Favites pentagona	0	2	1
	Goniastrea aspera	2	0	0
	Leprastrea priunosa	4	4	4
	Leptastrea purpurea	3	3	4
	Lithophyllon undulatum	0	0	2
	Oulastrea cripsata	1	0	0
	Pavona decussata	3	4	4
	Platygyra acuta	0	1	0
	Porites sp.	3	2	2
	Total Species	10	12	8
Impact	Cyphastrea japonica	-	2	1
monitoring on	Cyphastrea serailia	-	2	0
5/5/16	Echinophyllia aspera	-	1	3
	Dipsastraea rotumana	-	3	0
	Favites acuticollis	-	2	0
	Favites chinensis	-	0	0
	Favites flexuosa	-	2	0
	Favites pentagona	-	2	1
	Goniastrea aspera	-	0	0
	Leprastrea priunosa	-	4	4
	Leptastrea purpurea	-	3	4
	Lithophyllon undulatum	-	0	2
	Oulastrea cripsata	-	0	0
	Pavona decussata	-	4	4
	Platygyra acuta	_	1	0
	Porites sp.	_	2	2
	Total Species	<u>-</u>	12	8
	rotar species	-	14	O

Note: Rank: 0=absent, 1 = rare, 2= uncommon, 3= common, 4 = abundant and 5 = dominant.

Table B4 Relative Abundance of Species (excluding Hard Coral) Recorded during the REA Survey

Date	Genus	Pak Sha Tau Tsui	Liu Ko Ngam	Tsing Chau
Baseline on 29-	Sponge	2	3	1
30/10/15	Sea anemones	0	1	1
	Zoanthids	2	0	0
	Tunicates	1	2	0
	Molluscs	4	4	3
	Total Species	4	4	3
Impact	Sponge	2	3	1
monitoring on	Sea anemones	0	1	1
28/4/16	Zoanthids	2	0	0
	Tunicates	1	2	0
	Molluscs	4	4	3
	Total Species	4	4	3
Impact	Sponge	-	3	1
monitoring on	Sea anemones	-	1	1
5/5/16	Zoanthids	-	0	0
	Tunicates	-	2	0
	Molluscs	-	4	3
	Total Species	-	4	3

Note: Rank: 0=absent, 1 = rare, 2= uncommon, 3= common, 4 = abundant and 5 = dominant.

Annex C

Tentative Survey Schedule

Coral Impact Monitoring Schedule Dec 2015 - May 2016

Public Holiday (No Works carried out)

Future Working	(No Works carried out) g Day					
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Dec	2-Dec	3-Dec	4-Dec	5-Dec
6-Dec	7-Dec	8-Dec	9-Dec	10-Dec	11-Dec	12-Dec
13-Dec	14-Dec	15-Dec	16-Dec	17-Dec	18-Dec	19-Dec
20-Dec	21-Dec	22-Dec	23-Dec	24-Dec	25-Dec	26-Dec
			Impact Monitoring at			
			PSTT, LKN and TC			
27-Dec	28-Dec	29-Dec	30-Dec	31-Dec	1-Jan	2-Jan
	Impact Monitoring at			Impact Monitoring at		
	PSTT, LKN and TC			PSTT, LKN and TC		
3-Jan	4-Jan	5-Jan	6-Jan	7-Jan	8-Jan	9-Jan
o dan	Impact Monitoring at	o dan	o dan	Impact Monitoring at	O dan	o dan
	PSTT, LKN and TC			PSTT, LKN and TC		
					1- 1	
10-Jan	11-Jan Impact Monitoring at	12-Jan	13-Jan	14-Jan Impact Monitoring at	15-Jan	16-Jan
	PSTT, LKN and TC			PSTT, LKN and TC		
	1 orr, Erar and 10			i orr, Erar and ro		
17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan
	Impact Monitoring at			Impact Monitoring at		
	PSTT, LKN and TC			PSTT, LKN and TC		
	No Works					
24-Jan	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan
	No cont	ruction works are sch	eduled. Therefore, no c	oral impact monitoring	surveys are planned in p	parallel.
31-Jan	1-Feb	2-Feb	3-Feb	4-Feb	5-Feb	6-Feb
	Impact Monitoring at		0.00		0.00	
	PSTT, LKN and TC	No contruction wo	rks are scheduled. The	refere no coral impact	monitoring surveys are	nlanned in narallel
		No contraction wo	iks are scheduled. The	refore, no corai impact	momorning surveys are	planned in paranel.
7 Fab	0 Feb	0 Fab	10 Fab	11 Fab	12 Feb	12 Fab
7-Feb	8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	13-Feb
				No contruction work	s are scheduled. Theref	ore, no coral impact
				monitorin	ng surveys are planned i	n parallel.
14-Feb	15-Feb	16-Feb	17-Feb	18-Feb Impact Monitoring at	19-Feb	20-Feb
	No contruction works	are scheduled. There	fore no coral impact	PSTT, LKN and TC		
		surveys are planned i		1 011, Elavana 10		
			• • • •			
21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb
	Impact Monitoring at			Impact Monitoring at		
	PSTT, LKN and TC			PSTT, LKN and TC		
28-Feb	29-Feb	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar
	Impact Monitoring at				•	
	PSTT, LKN and TC	No marine work	s are scheduled. Therei	fore, no coral impact me	onitoring surveys are pla	anned in parallel.
6-Mar	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar
U-iviai	i -iviai	O-IVIAI	9-iviai	10-iviai	i i-iviai	12-iviai
	No		ulad Thansford as som	-1 :		-allal
	No ma	arme works are sched	uleu. Triererore, no cora	ai iiiipaci iiionitoring su	rveys are planned in par	anel.
10.11			40	4= 6	40.1	10
13-Mar	14-Mar	15-Mar	16-Mar	17-Mar Impact Monitoring at	18-Mar Impact Monitoring at	19-Mar
	No marine works are s			LKN and TC	PSTT, LKN and TC	
	no coral impact mon	•			,	
	planned in	раганен.				
						

Coral Impact Monitoring Schedule Dec 2015 - May 2016

Public Holiday (No Works carried out)

Future Working	g Day					
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar
		Impact Monitoring at		Impact Monitoring at		
		PSTT, LKN and TC		PSTT, LKN and TC		
27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	1-Apr	2-Apr
		Impact Monitoring at				
		PSTT, LKN and TC	Cabla lauda			:11:
			Cable laying	g completed, Wonttoring	g will resume once backf	illing starts.
3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	8-Apr	9-Apr
			Cable laying completed	I. Monitoring will resum	e once backfilling starts	
10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr
						·
		Cable laving	r completed Monitoring	g will resume once back	cfilling starts	
		Oubic laying	g completed: morntoring	y will resultie offee back	tilling starts.	
47 4	40 4	10 4	OO A	04 4	00 4	22 4
17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr
		Cable laying	g completed. Monitoring	g will resume once bacl	cfilling starts.	
24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr
					'	
	Cable laving comple	ted. Monitoring will res	ume once hackfilling	Impact Monitoring at		
	Cubic laying comple	starts.	unic once backining	PSTT, LKN and TC		
		otal to:				
1-May	2-May	3-May	4-May	5-May	6-May	7-May
I-iviay	Z-iviay	3-iviay	4-iviay	Impact Monitoring at	6-May	7-IVIAY
				PSTT, LKN and TC		
8-May	9-May	10-May			13-May	14-May
			Impact Monitoring at			
			PSTT, LKN and TC	PSTT, LKN and TC		

Note: (1) The schedule of coral monitoring is subject to change depending on the weather condition and the work programme of the cable installation works.

(2) PSTT = Pak Sha Tau Tsui; LKN = Liu Ko Ngam; TC = Tsing Chau

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