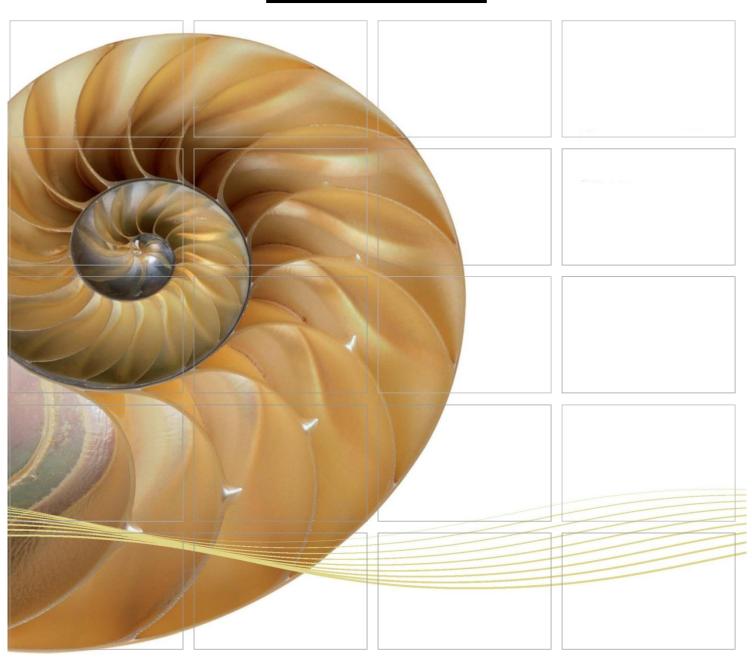
REPORT





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

12th Weekly Coral Impact Monitoring Survey Report

23 May 2016

Environmental Resources Management

16/F Berkshire House 25 Westlands Road Quarry Bay, Hong Kong Telephone 2271 3000 Facsimile 2723 5660





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

12th Weekly Coral Impact Monitoring Survey Report

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Environmental Resources Management

16/F Berkshire House 25 Westlands Road Quarry Bay, Hong Kong Telephone: (852) 2271 3000 Facsimile: (852) 2723 5660 E-mail: post.hk@erm.com http://www.erm.com

Client:		Project N	0:				
CLP Po	wer Hong Kong Limited (CLP)	0259952					
Survey F	: ument presents the 12 th Weekly Coral Impact Monitoring Report for the proposed 11kV Submarine Cables ment Connecting Liu Ko Ngam and Pak Sha Tau Tsui at	Date: 23 May Approved Terence Partner	by:				
v0	12 th Weekly Coral Impact Monitoring Survey Report	CY	JT	TF	23/5/16		
Revision	Description	Ву	Checked	Approved	Date		
of 'ERM Hor the Contract and taking a We disclaim scope of the This report is to third parti	has been prepared by Environmental Resources Management the trading name ng-Kong, Limited', with all reasonable skill, care and diligence within the terms of twith the client, incorporating our General Terms and Conditions of Business account of the resources devoted to it by agreement with the client. In any responsibility to the client and others in respect of any matters outside the above. It is confidential to the client and we accept no responsibility of whatsoever nature est owhom this report, or any part thereof, is made known. Any such party relies that their own risk.	— ⊠ Pul	ernal	Certificate	S 18001:2007 No. OHS 515956 BS1 50001:2008 & No. FS 32515		





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: Twelfth Weekly Coral Impact Monitoring Survey Report

Date of Report: 23 May 2016

Date prepared by Environmental Team: 23 May 2016

Date received by IC: 23 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/ $\frac{1}{plan}$ complies with the above referenced condition of EP-461/2013.

Terence Fong, Date: 23 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.

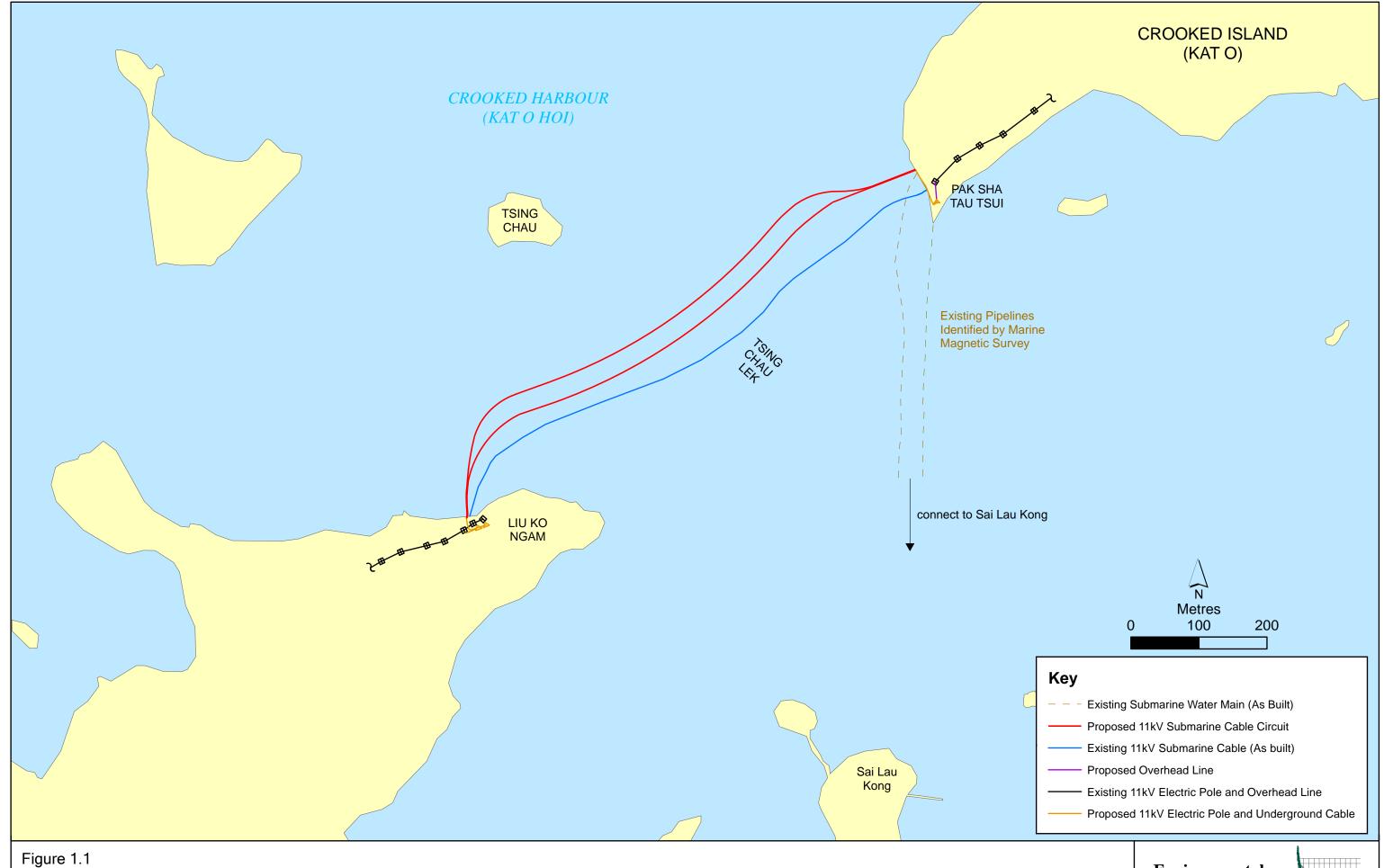
Environmental assessment for the Project has been carried out as part of the Project Profile (Register No.: PP-489/2013) required under the *Environmental Impact Assessment Ordinance (EIAO)*. An Environmental Permit (EP) has been issued by Environmental Protection Department (EPD) on 27 Aug 2013 for 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



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 12th Weekly Coral Impact Monitoring Survey Report is to report findings of the 12th weekly coral impact monitoring surveys conducted during the period of 6 May to 12 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. The 12th weekly coral impact monitoring surveys were conducted on 11 May 2016 (which was originally scheduled on 10 May 2016 and cancelled due to the Red Rainstorm Warning in force) after the completion of backfilling works and on 12 May 2016 during the placement of precast concrete slab over the cables, respectively. 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 12th weekly coral impact monitoring surveys were conducted on 11 and 12 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 sunny on 11 and 12 May 2016 with calm conditions. Underwater visibility at Pak Sha Tau Tsui, Liu Ko Ngam and Tsing Chau were around 1-2 m during the surveys.

2.2 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*).

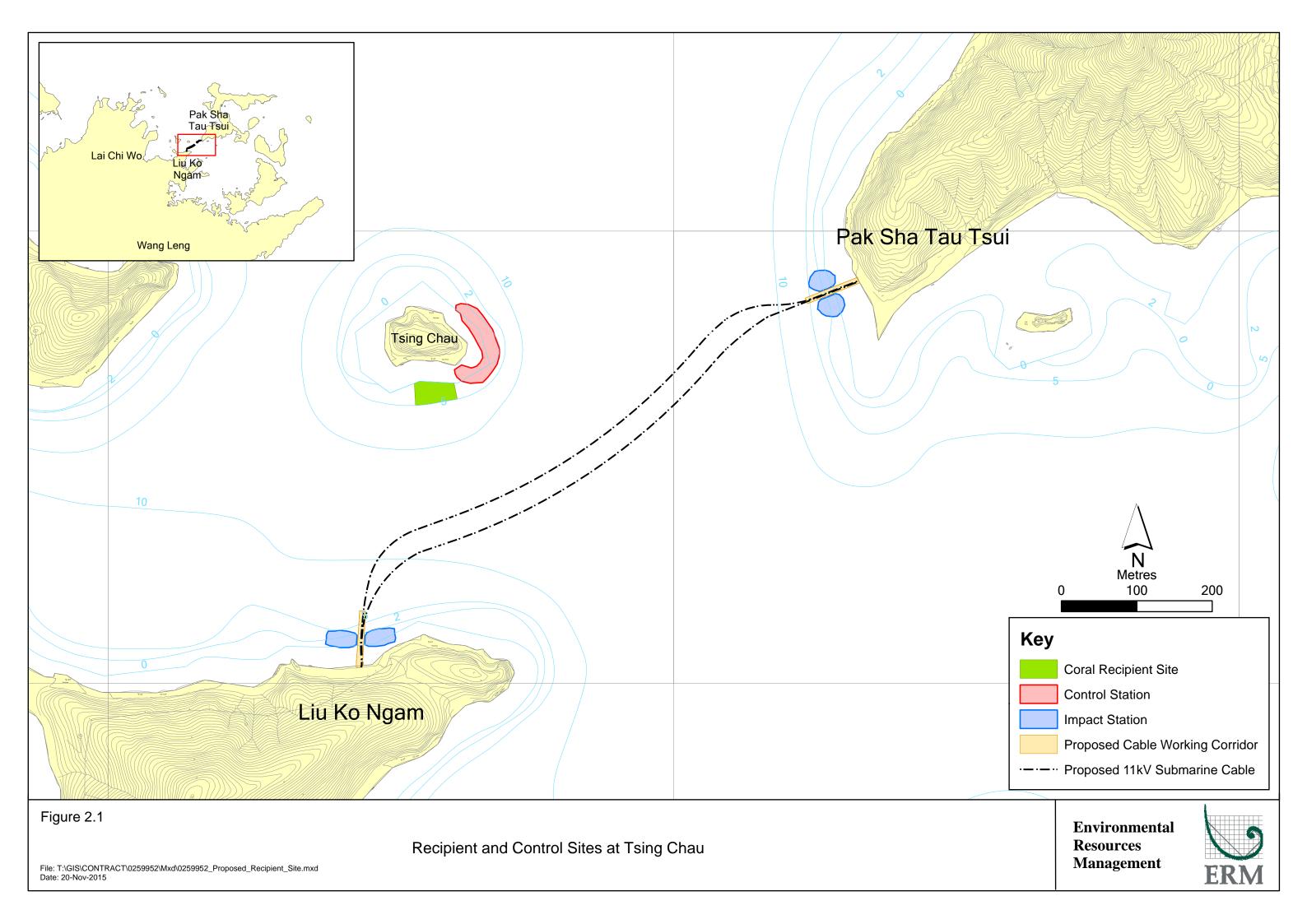


Table 2.1 Action and Limit Levels for Coral Monitoring

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.

2.3 IMPACT MONITORING RESULTS

2.3.1 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 26 tagged coral colonies were found at Pak Sha Tau Tsui during the 12th weekly monitoring survey. At Liu Ko Ngam and Tsing Chau, a total of 28 and 29 tagged coral colonies were found, respectively, during the 12th weekly coral impact monitoring surveys. 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) could 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 26 tagged coral colonies at Pak Sha Tau Tsui, a total of five coral colonies (PSTT-4, PSTT-5, PSTT-7, PSTT-10 and PSTT-12) were observed to have physical damage and one coral colony (PSTT-2) was observed to be overturned (see Annex A). A coral colony, PSTT-6, located near these damaged and overturned colonies was also observed to be missing since the last weekly survey on 5 May 2015. An investigation is being undertaken to identify the cause of physical damage and overturned of corals and to recommend appropriate remedial actions. The investigation results will be presented in a standalone incident report under a separate cover once available. Only the 20 tagged and undamaged coral colonies monitored at Pak Sha Tau Tsui are included in the evaluation against the Action and Limit Levels. Findings of the 12th weekly coral impact monitoring surveys revealed that none of the tagged coral colonies at impact or control stations recorded an increase in sediment cover of more than 15% on 11 and 12 May 2016. This indicated that the Action Levels or Limit Levels for coral monitoring were not exceeded (Table 2.1). The levels of partial mortality recorded in tagged colonies at both the control and impact stations were similar to the 11th weekly impact monitoring surveys, in which bleaching due to low seawater temperature in winter was suspected to be the cause of the mortality (1).

Action or Limit Level for coral monitoring were not observed to be exceeded during the monitoring surveys 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.

ERM (2016) Proposed 11kV Submarine Cables Replacement Connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O. 11th Weekly Coral Impact Monitoring Survey Report.

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
Impact Mon	itoring on 11 May 2016								
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	5	5	1	Mud	Light Brown
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

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-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	<1	<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	<1	<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	<1	<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 12 May 2016								
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	<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	<1	<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	<1	<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	<1	<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	5	5	1	Mud	Light Brown

Note: PSTT-1, PSTT-3, PSST-6 and PSTT-17 could not be located during both of the monitoring surveys and the results are not presented in the table. The monitoring results of PSTT-2, PSTT-4, PSTT-5, PSTT-7, PSTT-10 and PSTT-12 were not included due to the observed physical damage / overturn of these coral colonies for which separate Incident Report will be submitted.

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 11 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

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	<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	5	5	1	Mud	Light Brown
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	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	<1	<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 12 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	5	5	1	Mud	Light Brown
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	<1	<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 11 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

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	<1	<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 Mo	onitoring on 12 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	<1	<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.

2.3.2 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 11 May 2016 after the completion of the backfilling works and on 12 May 2016 during the placement of precast concrete slab over the cables, to determine any observable impacts to coral assemblages. Data collected during the REA surveys are presented in *Annex B*.

During the REA survey at Pak Sha Tau Tsui, broken pieces of small boulders (<50 cm) and fragmented coral colonies were observed within an area of approximately 3 m x 7 m. About 30 coral colonies were observed to be physically damaged or overturned in the affected area. An investigation is being undertaken to identify the cause of such physical damage and overturning, and to recommend appropriate remedial actions. The investigation results will be presented in a standalone incident report under a separate cover once available. Results obtained during the REA surveys in the baseline surveys in October 2015 and the 12th weekly coral impact monitoring surveys on 11 and 12 May 2016 were noted to be similar at both of the impact and control stations. At Pak Sha Tau Tsui and Liu Ko Ngam, 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. The broken boulders and fragmented coral colonies at Pak Sha Tau Tsui did not contribute to any change in the general rank of the physical and ecological seabed attributes as the percentage range for a particular ranking in the REA survey is wide. In addition, most of the fragmented corals survived the damage and there was thus no change in estimated coral cover along the transect. 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 did not indicate any observable change of the generate health and condition of the coral assemblages between the baseline and the 12^{th} weekly monitoring. However, within an area of approximately 3 m x 7 m at Pak Sha Tau Tsui, some disturbance to the corals was observed.

3 CONCLUSION

The 12th weekly coral impact monitoring surveys were carried out on 11 and 12 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 12th weekly coral impact monitoring surveys on 11 and 12 May 2016, based on the available information. In addition, the REA results did not indicate any observable change of the generate health and condition of the coral assemblages between the baseline and the 12th weekly monitoring. However, some tagged corals within a localised area of approximately 3 m x 7 m at Pak Sha Tau Tsui was observed to have been disturbed, with further investigation ongoing, as noted below. Broken pieces of small boulders (<50 cm) and fragmented coral colonies (other than the tagged coral colonies) were observed during the REA surveys at Pak Sha Tau Tsui during the 12th weekly monitoring. An investigation is being undertaken to identify the cause of such disturbance and to recommend appropriate remedial actions. The investigation results will be presented in a standalone incident report under a separate cover once available.

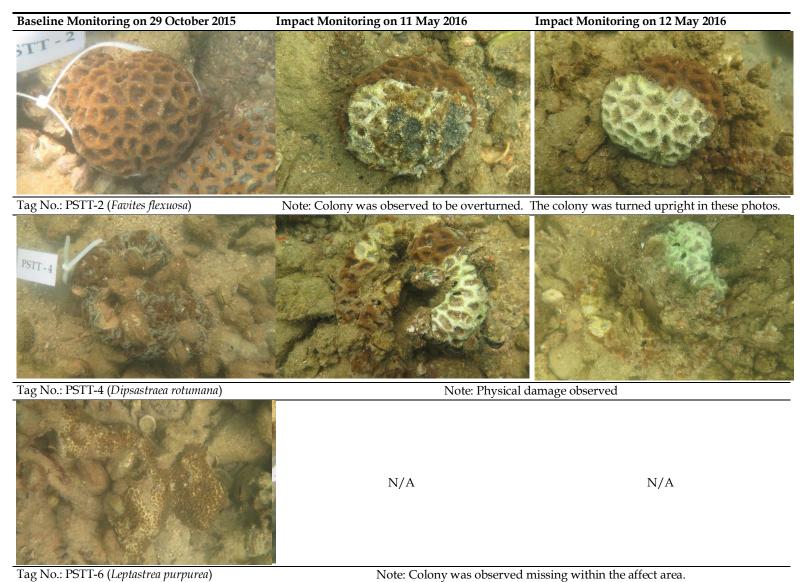
Marine works were completed on 19 May 2016 and post project monitoring surveys will be conducted within two weeks to determine any observable impacts to the tagged corals as well as the coral assemblages as a result of the cable installation process and to assess the conditions of the translocated corals. Findings of the post project monitoring surveys will be presented in *Post Project Coral Monitoring Survey Report*.

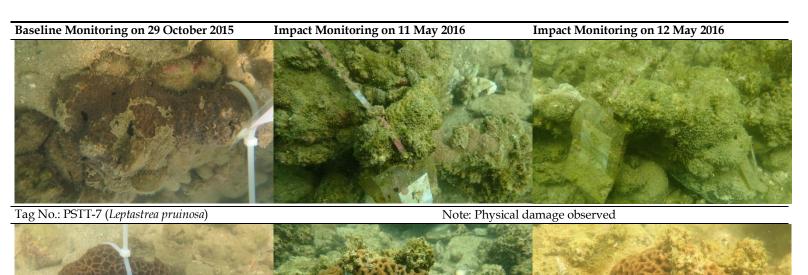
The monitoring schedule is presented in *Annex C*.

Annex A

Photographic Record of Tagged Coral Colonies

Annex A1 - Corals Tagged at Pak Sha Tau Tsui



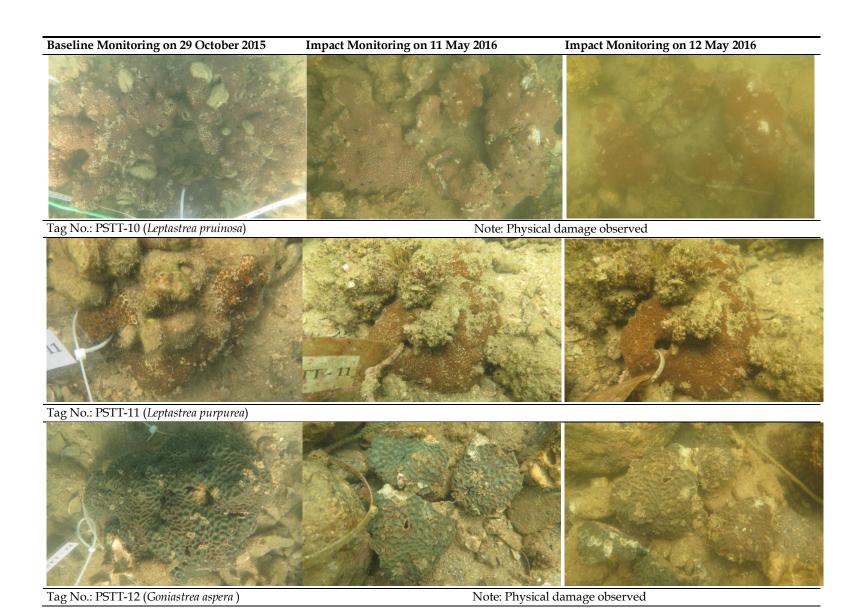




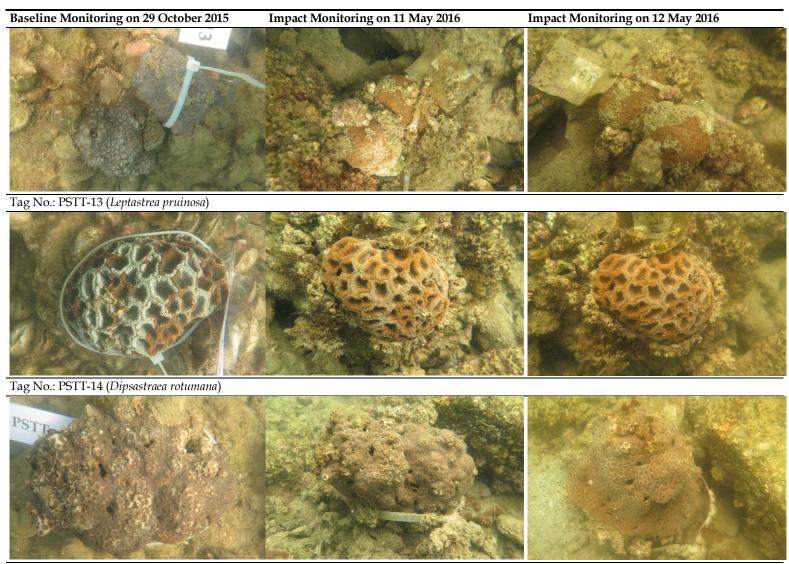
Tag No.: PSTT-8 (Goniastrea aspera)



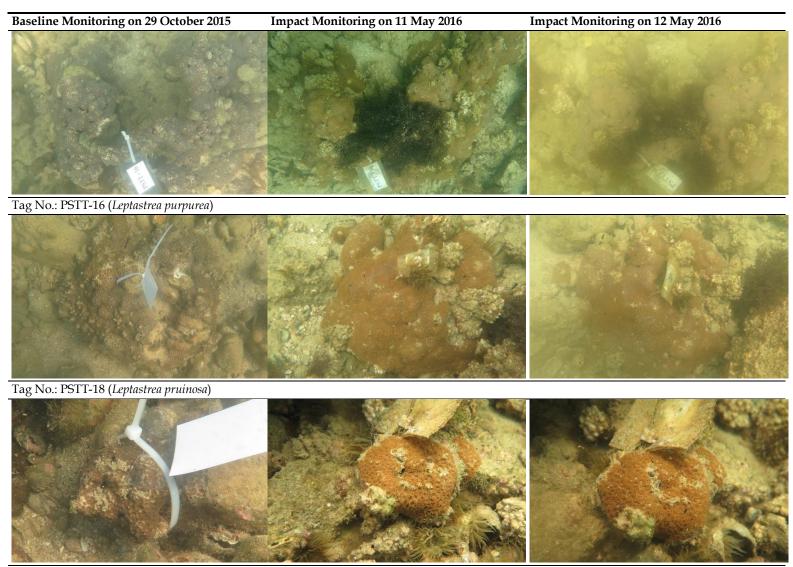
Tag No.: PSTT-9 (Cyphastrea serailia)



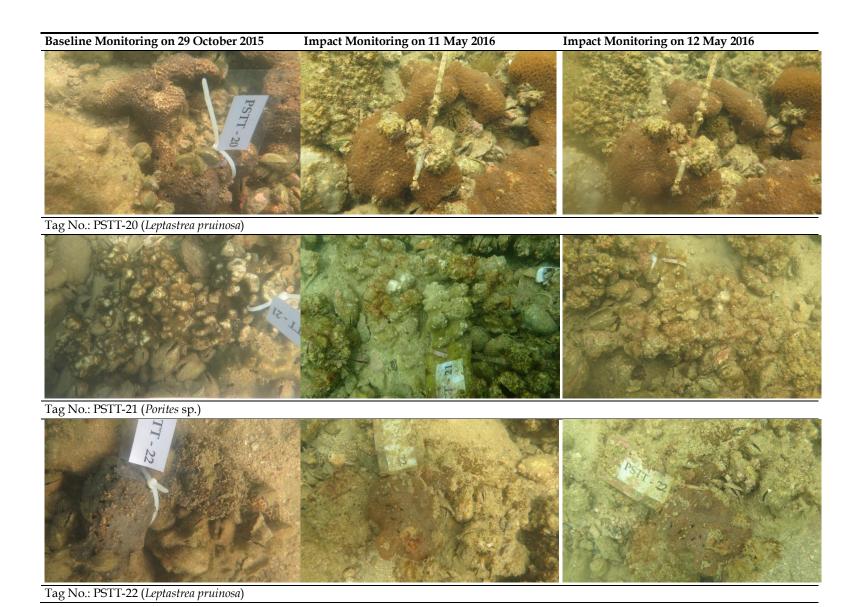
A3

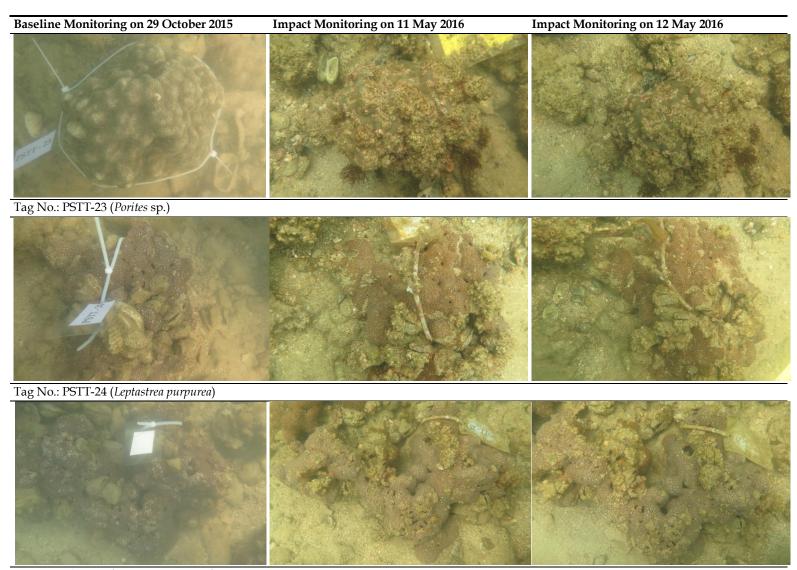


Tag No.: PSTT-15 (Leptastrea purpurea)

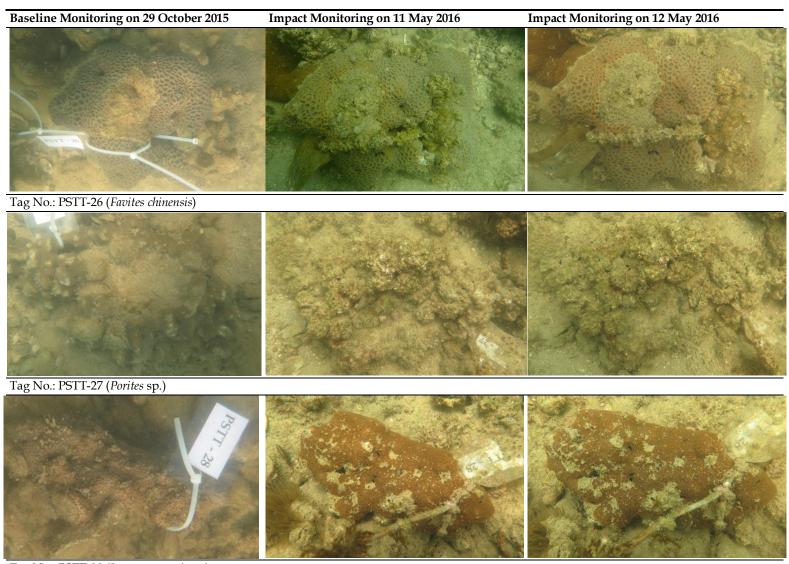


Tag No.: PSTT-19 (Leptastrea pruinosa)

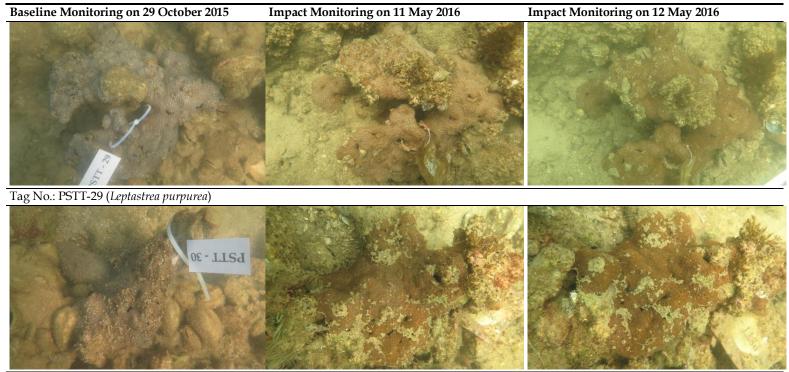




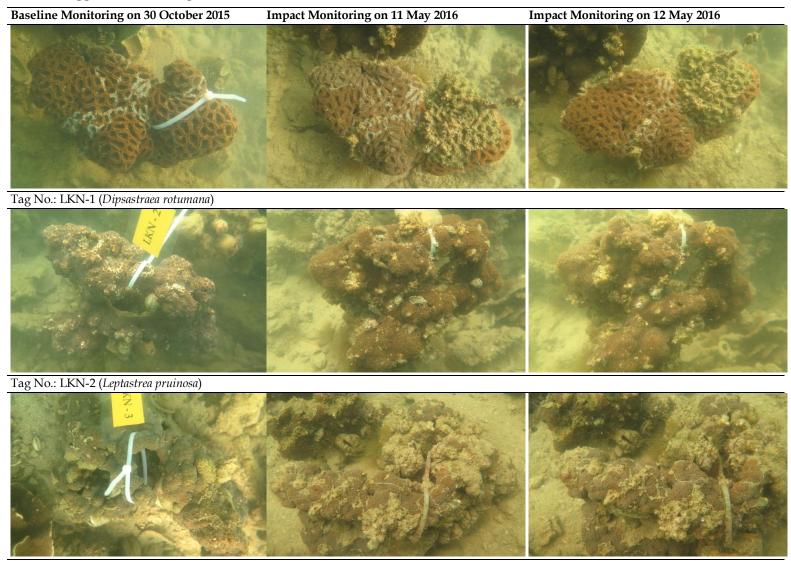
Tag No.: PSTT-25 (Leptastrea purpurea)



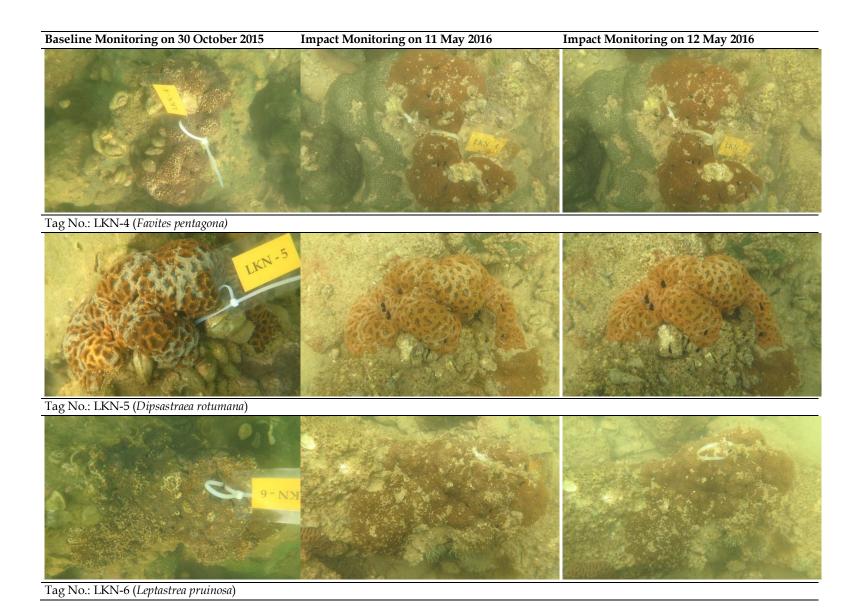
Tag No.: PSTT-28 (Leptastrea pruinosa)

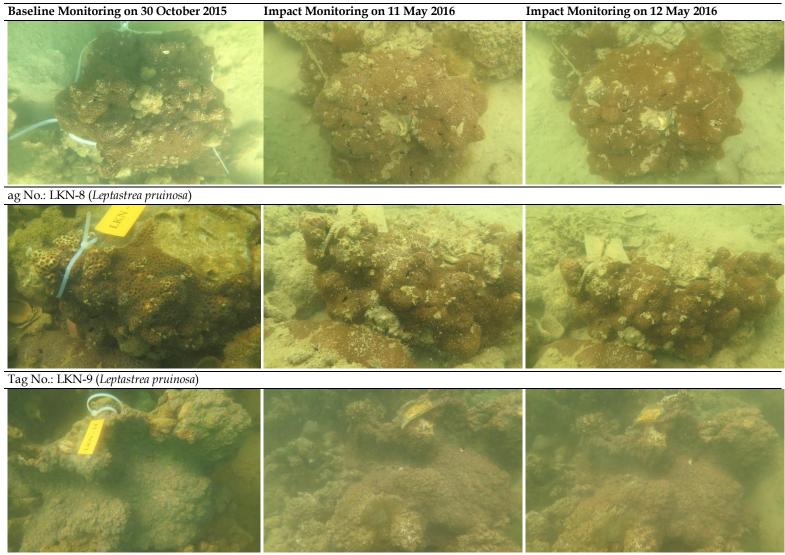


Annex A2 - Corals Tagged at Liu Ko Ngam

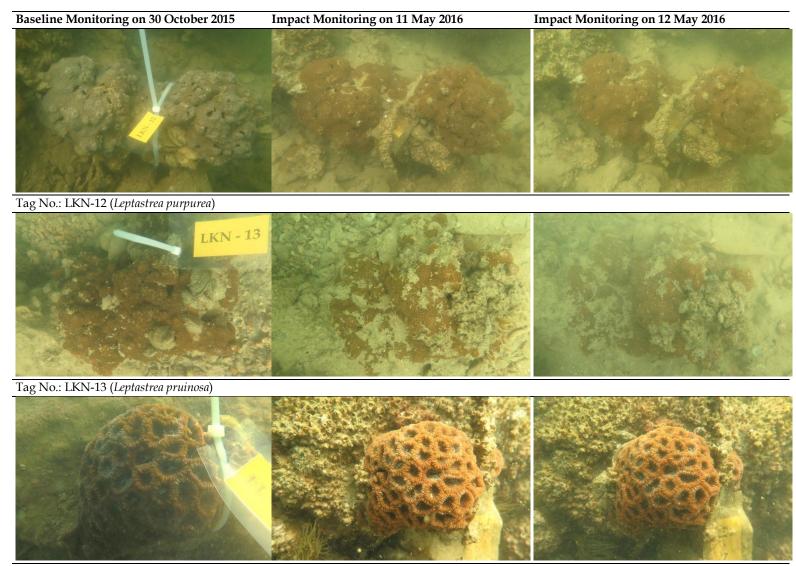


Tag No.: LKN-3 (Cyphastrea japonica)

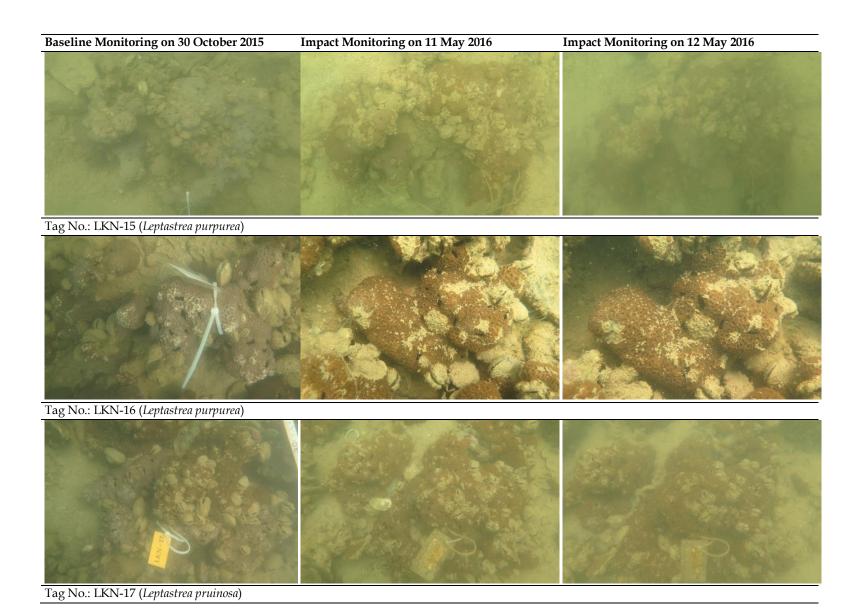


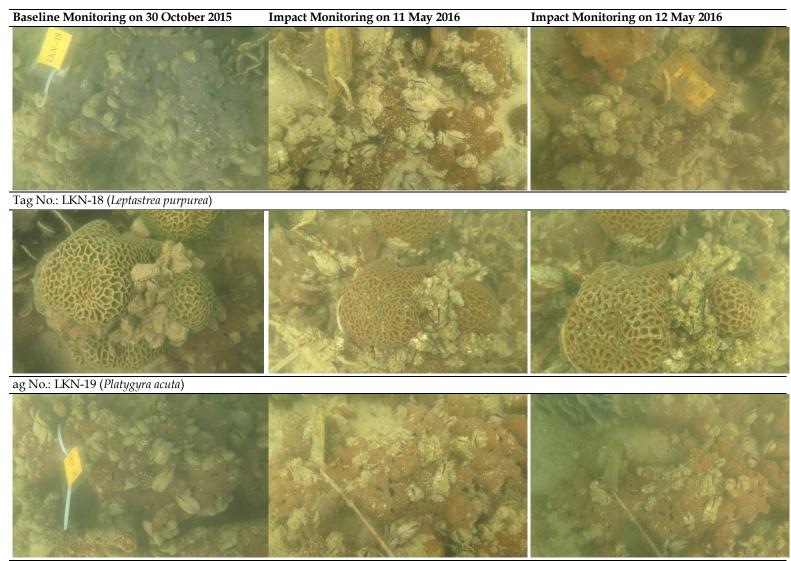


Tag No.: LKN-11 (Echinophyllia aspera)

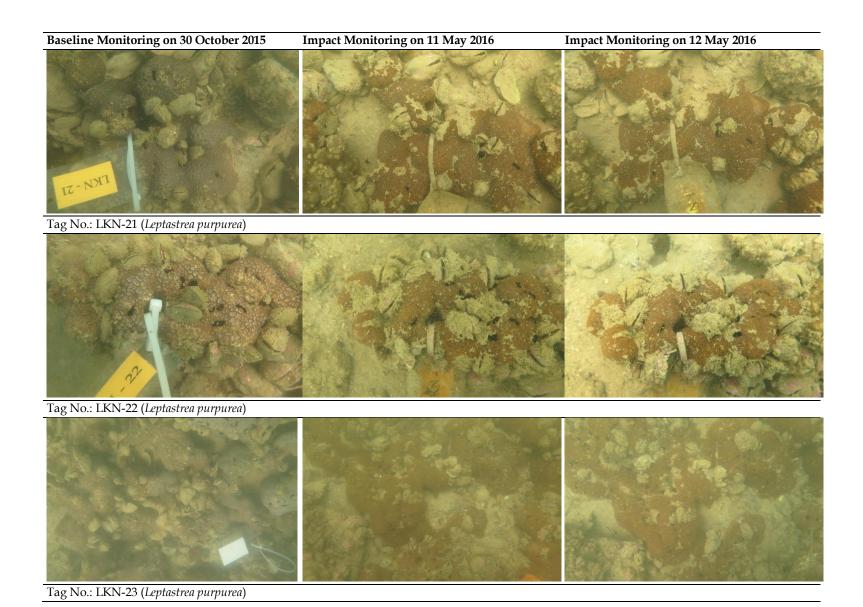


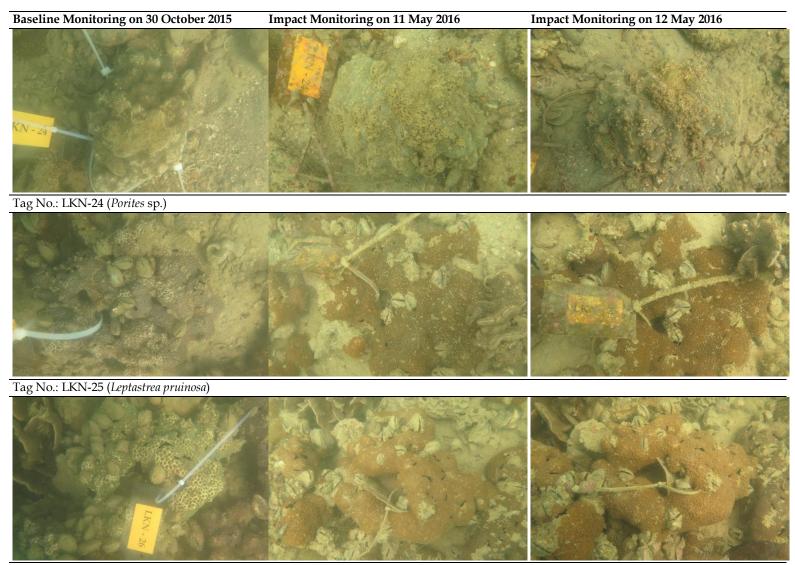
Tag No.: LKN-14 (Dipsastraea rotumana)



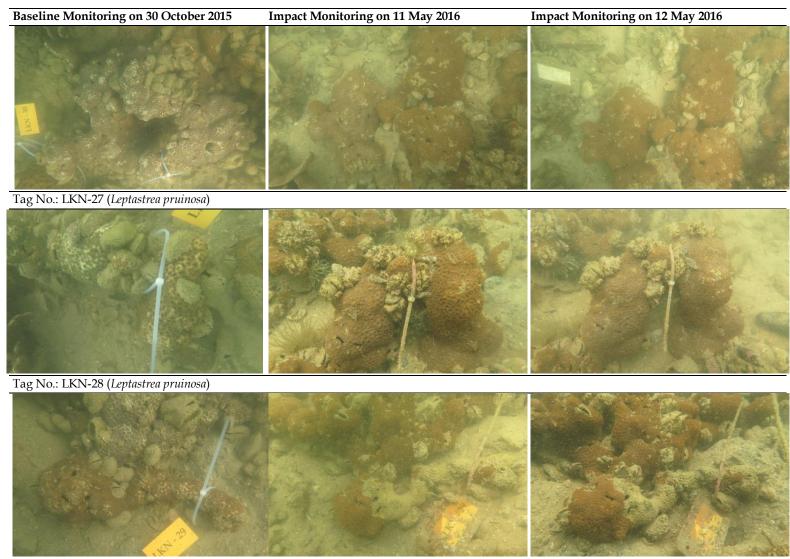


Tag No.: LKN-20 (Leptastrea pruinosa)

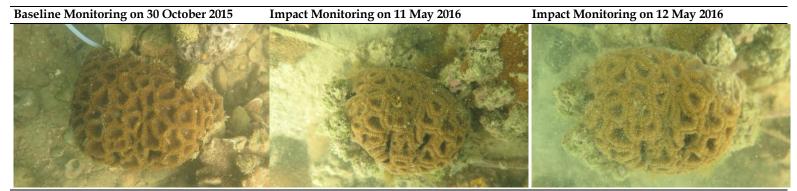




Tag No.: LKN-26 (Leptastrea pruinosa)

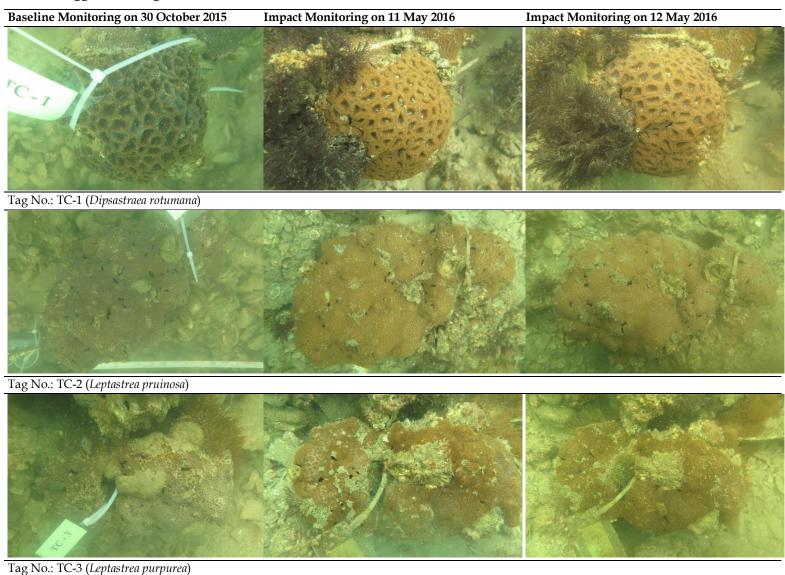


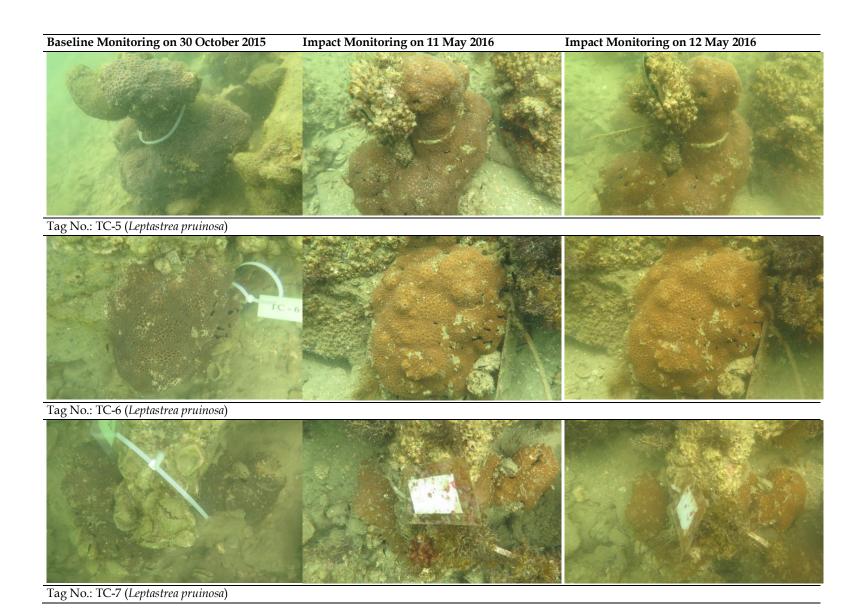
Tag No.: LKN-29 (Leptastrea pruinosa)

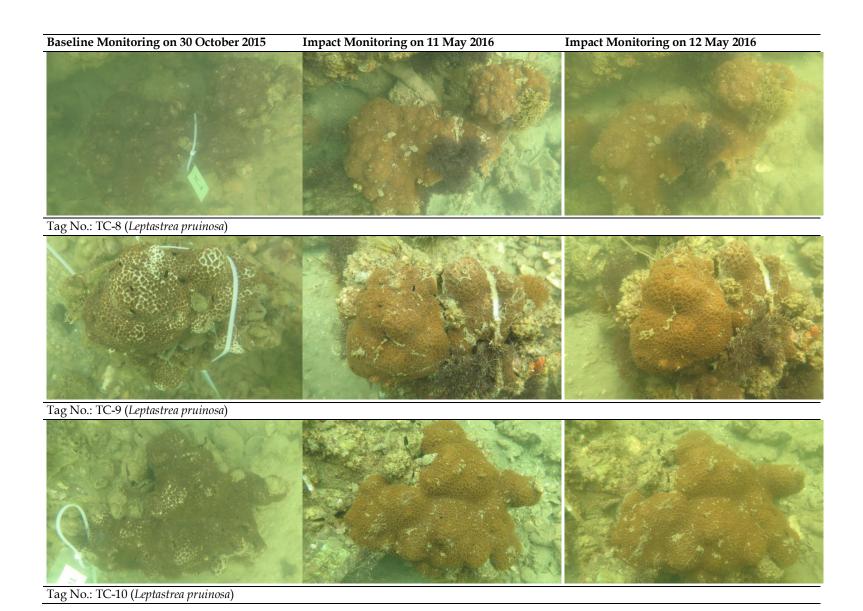


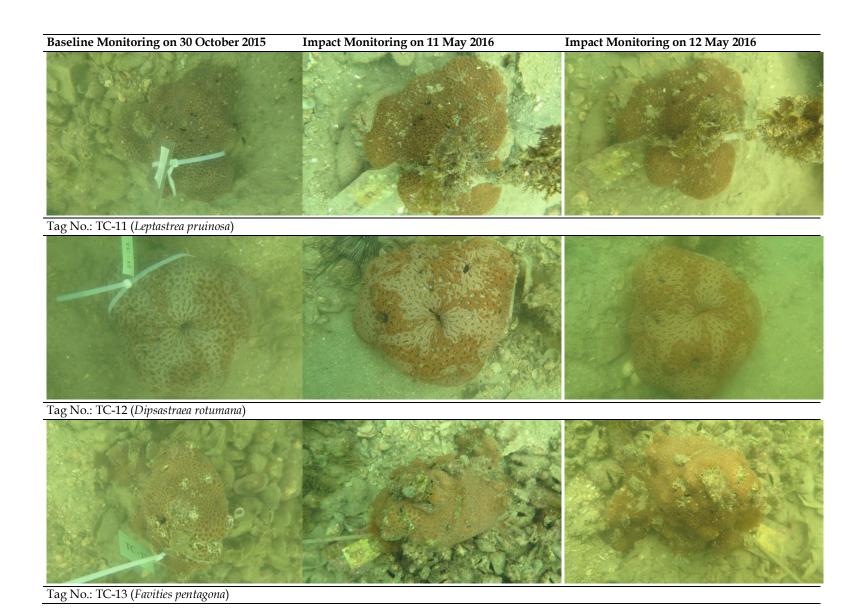
Tag No.: LKN-30 (Dipsastraea rotumana)

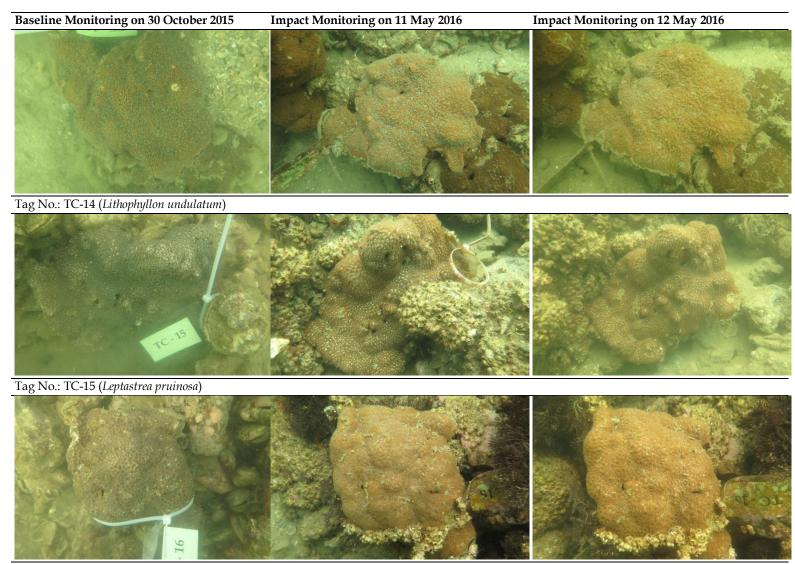
Annex A3 - Corals Tagged at Tsing Chau



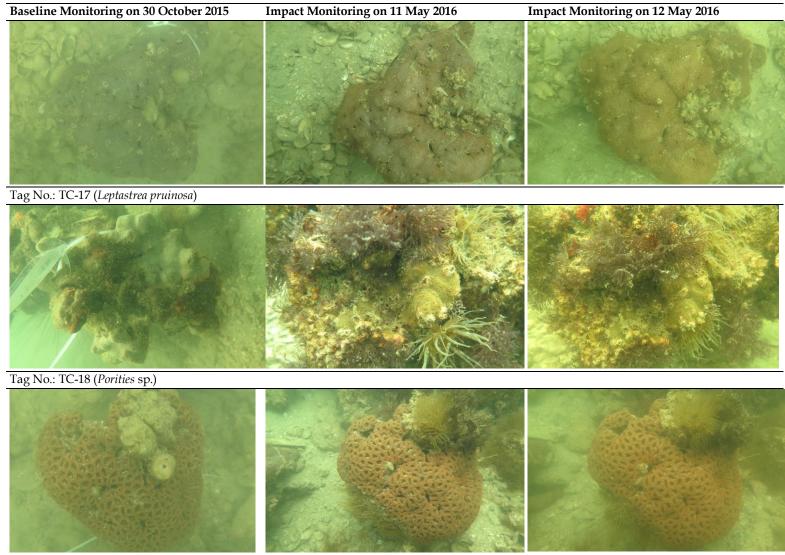




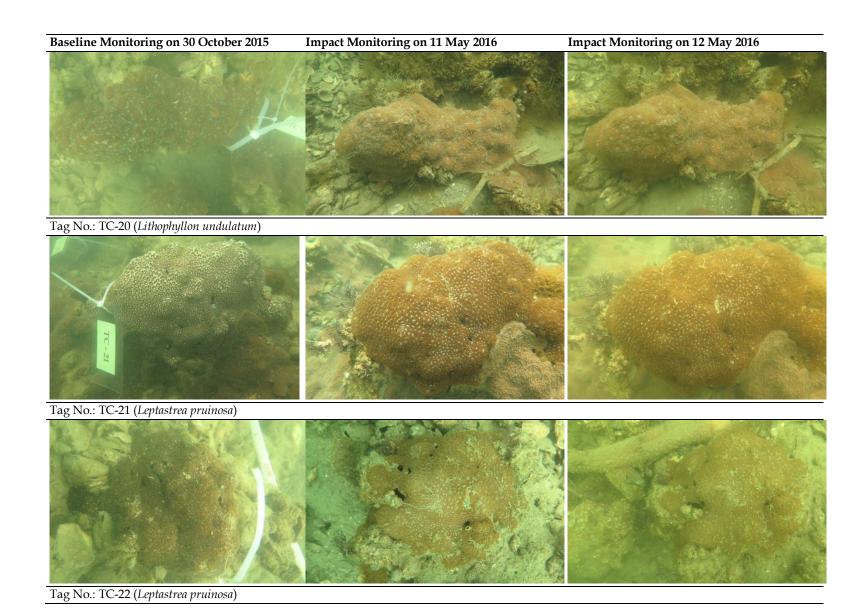


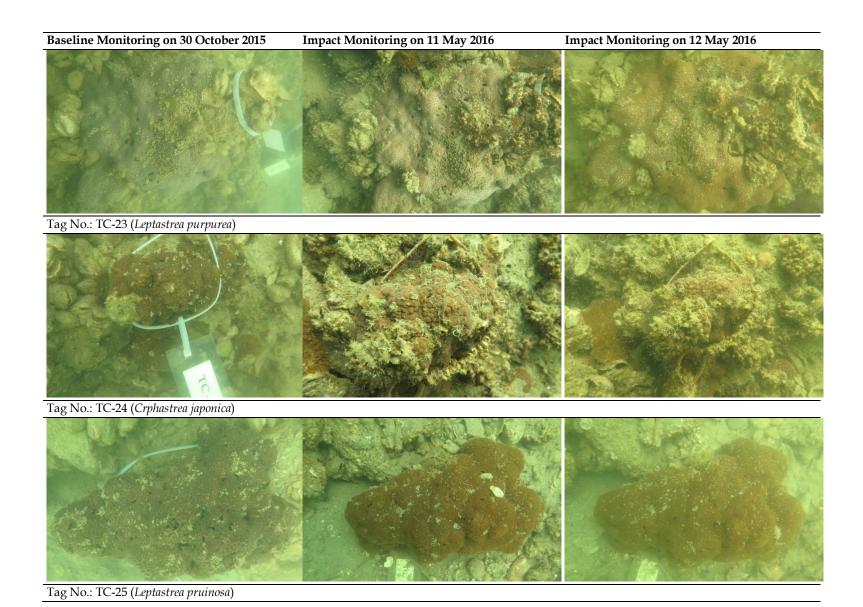


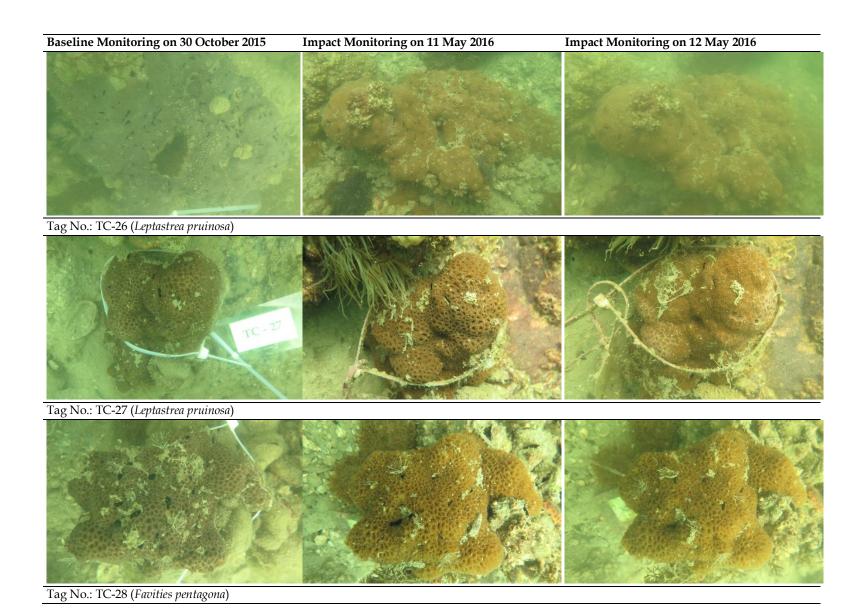
Tag No.: TC-16 (Leptastrea pruinosa)

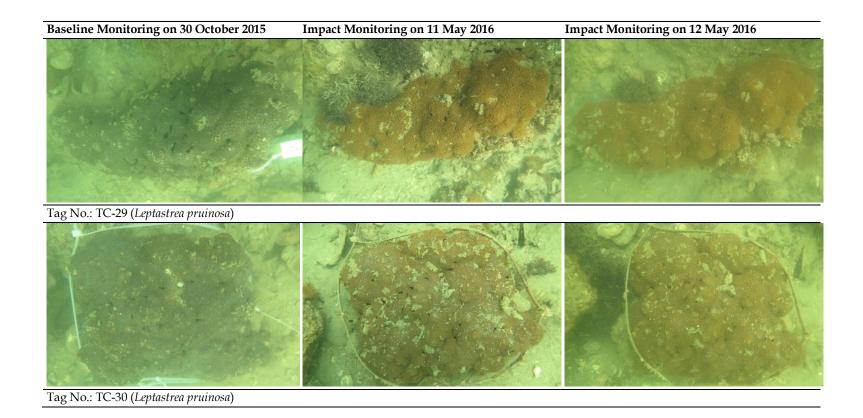


Tag No.: TC-19 (Dipsastraea rotumana)









Annex B

Results of REA Surveys

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

Date	Site (2)	Hard Coral	Dead Coral	Soft Coral	Black Coral	Macroalgae	Turf Algae
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
11/5/16	TC	2	2	0	0	0	0
Impact	PSTT	2	2	0	0	0	0
monitoring on	LKN	2	3	0	0	0	0
12/5/16	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/	Small	Large	Rubble	Rock	Other	Sand	Mud/Silt	Mud
		continuous	Boulders	Boulders		(< 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 11/5/16	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 12/5/16	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
Impact	Cyphastrea japonica	0	2	1
monitoring on	Cyphastrea serailia	1	2	0
11/5/16	Echinophyllia aspera	0	1	3
11/0/10	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			
	Leprastrea priunosa	2 4	0	0
			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	0	2	1
monitoring on	Cyphastrea serailia	1	2	0
12/5/16	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

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
11/5/16	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
12/5/16	Zoanthids	2	0	0
	Tunicates	1	2	0
	Molluscs	4	4	3
	Total Species	4	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			
			F311, EKN and 10			
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
0 00.11	Impact Monitoring at	0 00.11	0 00.11	Impact Monitoring at	o dan	0 00.11
	PSTT, LKN and TC			PSTT, LKN and TC		
40 lan	44 1	40 lan	40 lan	44 1	45 lan	40 lan
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		
	', ', ', ', ', ', ', ', ', ', ', ', ',			,		
17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan
	Impact Monitoring at PSTT, LKN and TC			Impact Monitoring at PSTT, LKN and TC		
	F311, LKN allu 10			F311, ERN allu 10		
	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					
	PSTT, LKN and TC	No contruction wo	rks are scheduled. The	refore, no coral impact	monitoring surveys are	planned in parallel.
				,	33	
7-Feb	8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	13-Feb
7 1 0 0	0100	0100	10 1 05	11100	12 1 05	10 1 00
					s are scheduled. Theref	
				monitorin	ng surveys are planned i	n parallel.
14 Fab	15 Fab	16 Fab	17-Feb	18-Feb	19-Feb	20-Feb
14-Feb	15-Feb	16-Feb	17-Feb	Impact Monitoring at	19-Feb	20-Feb
	No contruction works	are scheduled. There	fore, no coral impact	PSTT, LKN and TC		
	monitoring	surveys are planned i	n parallel.			
21-Feb	22-Feb Impact Monitoring at	23-Feb	24-Feb	25-Feb Impact Monitoring at	26-Feb	27-Feb
	PSTT, LKN and TC			PSTT, LKN and TC		
28-Feb		1-Mar	2-Mar	3-Mar	4-Mar	5-Mar
	Impact Monitoring at					
	PSTT, LKN and TC	No marine works	s are scheduled. Theref	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
					•	
	No ma	arine works are sched	uled. Therefore, no cora	al impact monitoring su	rveys are planned in par	rallel.
					,, a m a piamioa in pui	- =
13-Mar	14-Mar	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
13-IVIdI			IO-IVIAI	Impact Monitoring at	Impact Monitoring at	19-IVIdI
	No marine works are s no coral impact mon	· ·		LKN and TC	PSTT, LKN and TC	
	planned in	•				
	p.a34 III	F				

Coral Impact Monitoring Schedule Dec 2015 - May 2016

Public Holiday (No Works carried out)

Future Working D)ay					
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Ma
		Impact Monitoring at		Impact Monitoring at		
		PSTT, LKN and TC		PSTT, LKN and TC		
27-Mar	28-Mar	29-Mar Impact Monitoring at	30-Mar	31-Mar	1-Apr	2-A
		PSTT, LKN and TC	Cable laving	completed. Monitoring	will resume once backfill	ling starts.
			0	, compressed memoring	,	9
3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	8-Apr	9-A
		1	Cable laying completed	l. Monitoring will resum	e once backfilling starts.	
10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16 A
TU-Apr	TI-Apr	12-Apr	13-Арг	14-Арг	15-Арг	16-A
17-Apr	18-Apr	19-Apr		g will resume once back	22-Apr	23-A
		Cable laying	g completed. Monitoring	g will resume once back	filling starts.	
24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-A
				Import Monitoring of		
	Cable laying comple	ted. Monitoring will res	ume once backfilling	Impact Monitoring at PSTT, LKN and TC		
		starts.		TOTT, Elite and TO		
1-May	2-May	3-May	4-May	5-May	6-May	7-M
		•		Impact Monitoring at		
				PSTT, LKN and TC		
8-May	9-May	10-May	11-May	12-May	13-May	14-M
			Impact Monitoring at			
			PSTT, LKN and TC	PSTT, LKN and TC		

Note: PSTT = Pak Sha Tau Tsui; LKN = Liu Ko Ngam; TC = Tsing Chau

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T: 2271 3000 F: 2723 5660

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