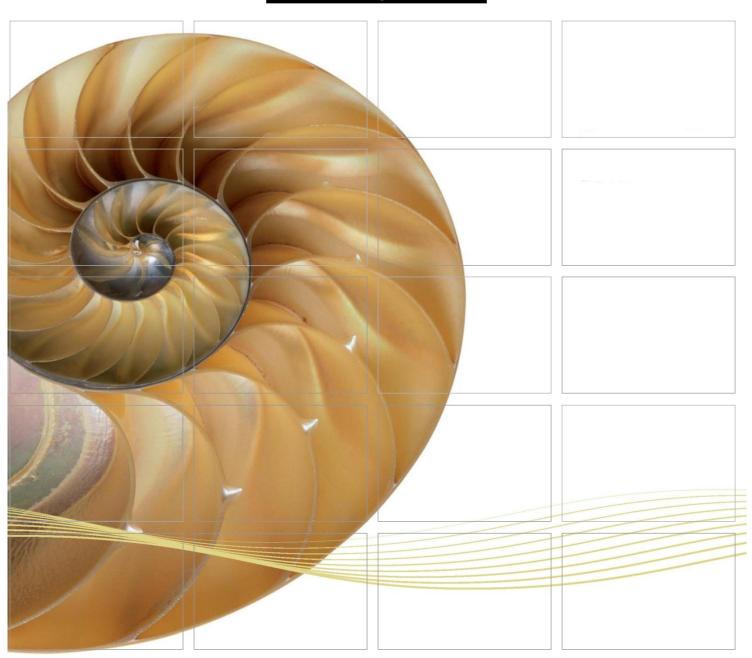
REPORT





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

8th Weekly Coral Impact Monitoring Survey Report

8 March 2016

Environmental Resources Management 16/F Berkshire House 25 Westlands Road Quarry Bay, Hong Kong

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

8th Weekly Coral Impact Monitoring Survey Report

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Environmental Resources Management

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Date: 8 March 2016 Approved by: Terence Fong Partner						
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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: Eighth Weekly Coral Impact Monitoring Survey Report

Date of Report: 8 March 2016

Date prepared by Environmental Team: 8 March 2016

Date received by IC: 8 March 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: 8 March 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.

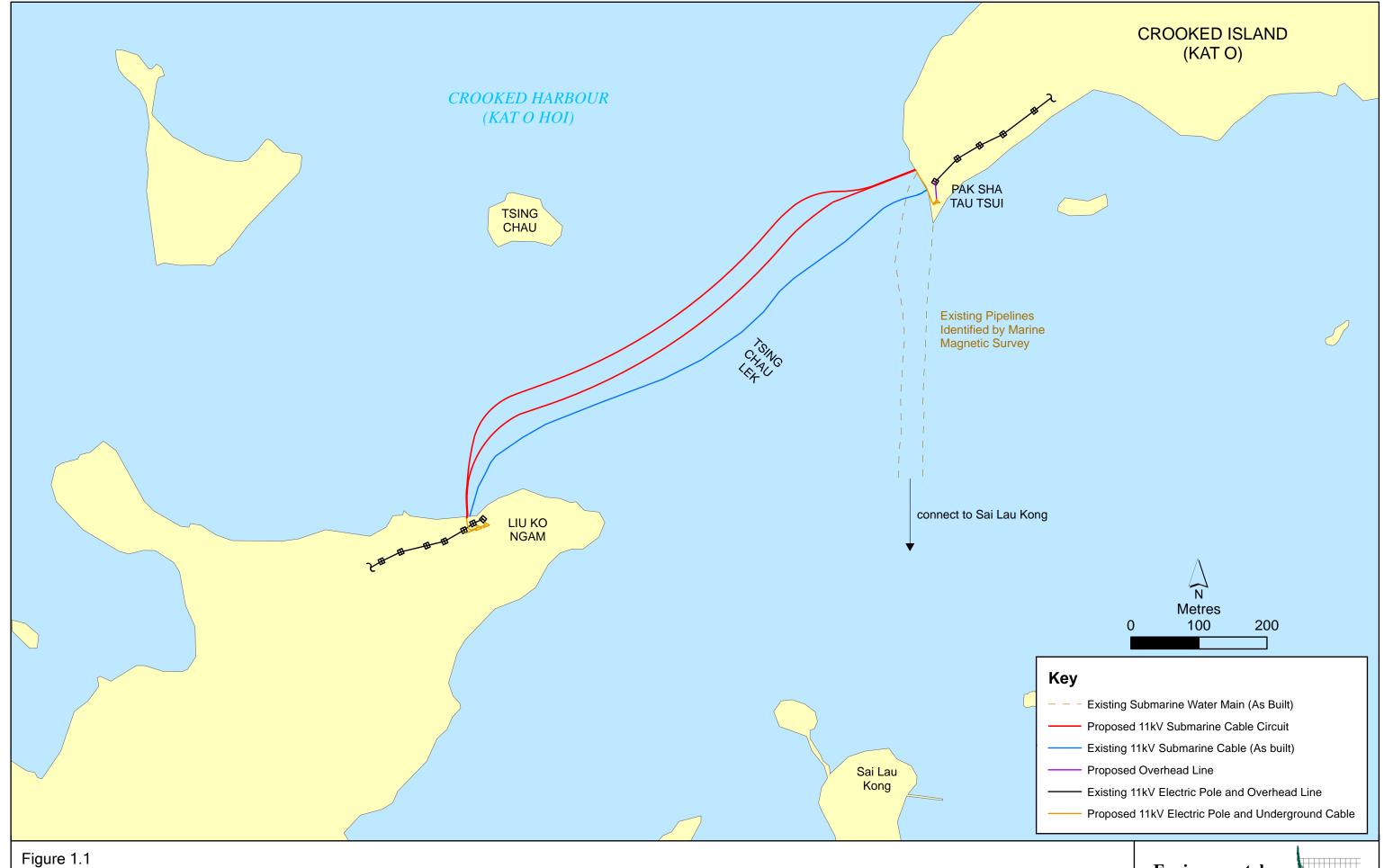
Environmental assessment for the Project has been carried out as part of the Project Profile (Register No.: PP-489/2013) required under the *Environmental Impact Assessment Ordinance (EIAO)*. An Environmental Permit (EP) has been issued by Environmental Protection Department (EPD) on 27 Aug 2013 for 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 8th Weekly Coral Impact Monitoring Survey Report is to report findings of the 8th weekly coral impact monitoring surveys 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. Additionally, one weekly monitoring survey was conducted on 29 February 2016 during the reporting period from 29 February to 6 March 2016 and the results were reported together in this report. 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 8th weekly coral impact monitoring surveys were conducted on 22, 25 and 29 February 2016 when land works were conducted at the landing site of Pak Sha Tau Tsui and Liu Ko Ngam. 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 8th weekly coral impact monitoring surveys were conducted on 22, 25 and 29 February 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 situated to the north/ east of Tsing Chau (*Figure 2.1*).

Weather conditions were cloudy on 22 and 25 February and was sunny on 29 February 2016 with calm conditions. Underwater visibility at Pak Sha Tau Tsui, Liu Ko Ngam and Tsing Chau were around 0.5 to 2 m during the surveys. Algal bloom was observed at Liu Ko Ngam on 25 February 2016 and at Tsing Chau on 29 February 2016, in line with red tide occurrence information reported by the AFCD (2016) website. (1).

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 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 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*).

 AFCD (2016) Hong Kong Red Tide Information Network https://www.afcd.gov.hk/english/fisheries/hkredtide/redtide.html [Accessed on 8 March 2016]

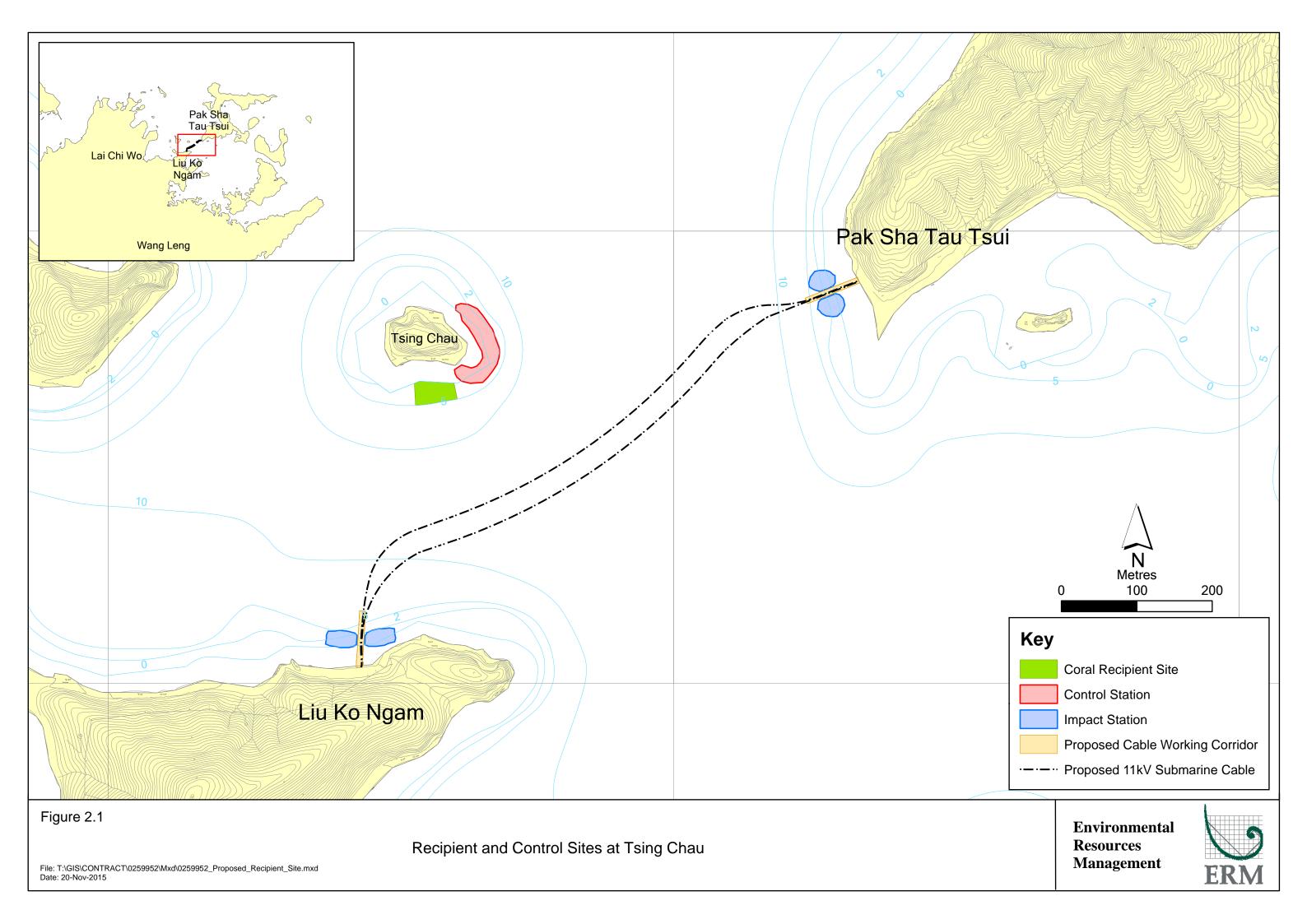


Table 2.1 Action and Limit Levels for Coral Monitoring

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 28 tagged coral colonies were located at Pak Sha Tau Tsui and Liu Ko Ngam, respectively, and 29 tagged coral colonies were located at Tsing Chau during the 8th weekly coral impact monitoring surveys (same as 7th weekly coral impact monitoring except additionally PSTT21, PSTT27 and PSTT30 at Pak Sha Tau Tsui were located). Inability to locate certain tagged corals during the dive surveys was caused by the loss of tags. 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 re-visited 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 during the translocation works) or due to the loss of the tags.

Findings of the 8th weekly coral impact monitoring surveys revealed none of the tagged coral colonies recorded an increase in sediment cover of more than 15% on 22, 25 and 29 February 2016 which indicated that the Action Levels or Limit Levels for coral monitoring were not exceeded (*Table 2.1*). 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								
PSTT2	Favites flexuosa	<10	<1	<1	<1	N/A	<1	N/A	N/A
PSTT3	Favites flexuosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT4	Dipsastraea rotumana	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT5	Favites chinensis	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT6	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT7	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT8	Goniastrea aspera	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT9	Cyphastrea serailia	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT10	Leptastrea pruinosa	>50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT11	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT12	Goniastrea aspera	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT13	Leptastrea pruinosa	<10	<1	<1	<1	N/A	<1	N/A	N/A
PSTT14	Dipsastraea rotumana	<10	<1	<1	<1	N/A	<1	N/A	N/A
PSTT15	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT16	Leptastrea purpurea	>50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT18	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSST19	Leptastrea pruinosa	<10	<1	<1	<1	N/A	<1	N/A	N/A
PSTT20	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT21	Porites sp.	10-50	5	<1	<1	N/A	<1	N/A	N/A
PSTT22	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT23	Porites sp.	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT24	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT25	Leptastrea purpurea	>50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT27	Porites sp.	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT26	Favites chinensis	>50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT28	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT29	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
PSTT30	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
Impact Mon	itoring on 22 February 2016								
PSTT2	Favites flexuosa	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT3	Favites flexuosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT4	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT5	Favites chinensis	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT7	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT8	Goniastrea aspera	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
PSTT9	Cyphastrea serailia	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT10	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT11	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT12	Goniastrea aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT13	Leptastrea pruinosa	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT14	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT15	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT16	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT18	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSST19	Leptastrea pruinosa	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT20	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT21	Porites sp.	10-50	5	50	<1	0	<1	N/A	N/A
PSTT22	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT23	Porites sp.	10-50	<1	100	<1	0	<1	N/A	N/A
PSTT24	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT25	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT27	Porites sp.	10-50	<1	50	<1	0	<1	N/A	N/A
PSTT26	Favites chinensis	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT28	Leptastrea pruinosa	10-50	1	<1	<1	0	<1	N/A	N/A
PSTT29	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT30	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
Impact Mon	nitoring on 25 February 2016								
PSTT2	Favites flexuosa	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT3	Favites flexuosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT4	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT5	Favites chinensis	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT7	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT8	Goniastrea aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT9	Cyphastrea serailia	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT10	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT11	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT12	Goniastrea aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT13	Leptastrea pruinosa	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT14	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT15	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT16	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT18	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSST19	Leptastrea pruinosa	<10	<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
PSTT20	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT21	Porites sp.	10-50	5	50	<1	0	<1	N/A	N/A
PSTT22	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT23	Porites sp.	10-50	<1	100	<1	0	<1	N/A	N/A
PSTT24	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT25	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT27	Porites sp.	10-50	<1	50	<1	0	<1	N/A	N/A
PSTT26	Favites chinensis	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT28	Leptastrea pruinosa	10-50	1	<1	<1	0	<1	N/A	N/A
PSTT29	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT30	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
Impact Mon	nitoring on 29 February 2016								
PSTT2	Favites flexuosa	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT3	Favites flexuosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT4	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT5	Favites chinensis	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT7	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT8	Goniastrea aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT9	Cyphastrea serailia	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT10	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT11	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT12	Goniastrea aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT13	Leptastrea pruinosa	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT14	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT15	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT16	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT18	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSST19	Leptastrea pruinosa	<10	<1	<1	<1	0	<1	N/A	N/A
PSTT20	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT21	Porites sp.	10-50	5	50	<1	0	<1	N/A	N/A
PSTT22	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT23	Porites sp.	10-50	<1	100	<1	0	<1	N/A	N/A
PSTT24	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
PSTT25	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT27	Porites sp.	10-50	<1	50	<1	0	<1	N/A	N/A
PSTT26	Favites chinensis	>50	<1	<1	<1	0	<1	N/A	N/A
PSTT28	Leptastrea pruinosa	10-50	1	<1	<1	0	<1	N/A	N/A
PSTT29	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A

Tag no.	Species	Size range (<10, 10-50;	Partial Mortality (%)	Bleaching (%)	Sediment cover (%)	Percentage increase in	Sediment Thickness (<1mm; 1mm;	Sediment Type (Mud/	Sediment Color
		>50cm)				sediment cover (%)	>1mm)	Sand)	
PSTT30	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A

Note: PSTT1 and PSTT17 could not be located during the monitoring survey and the results are not presented in the table.

Table 2.4 Species, Size, Partial Mortality, Bleaching and Sediment Cover of Tagged Coral Colonies (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	Ionitoring on 30 October 2015								
LKN1	Dipsastraea rotumana	<10	<1	<1	<1	N/A	<1	N/A	N/A
LKN2	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN3	Cyphastrea japonica	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN4	Favites pentagona	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN5	Dipsastraea rotumana	<10	<1	<1	<1	N/A	<1	N/A	N/A
LKN6	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN8	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN9	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN11	Echinophyllia aspera	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN12	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN13	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN14	Dipsastraea rotumana	<10	<1	<1	<1	N/A	<1	N/A	N/A
LKN15	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN16	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN17	Leptastrea pruinosa	'10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN18	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN19	Platygyra acuta	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN20	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN21	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN22	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN23	Leptastrea purpurea	>50	<1	<1	<1	N/A	<1	N/A	N/A
LKN24	Porites sp.	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN25	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN26	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN27	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN28	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN29	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
LKN30	Dipsastraea rotumana	<10	<1	<1	<1	N/A	<1	N/A	N/A
Impact Mo	nitoring on 22 February 2016								
LKN1	Dipsastraea rotumana	<10	5	<1	<1	0	<1	N/A	N/A
LKN2	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN3	Cyphastrea japonica	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN4	Favites pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN5	Dipsastraea rotumana	<10	<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
LKN6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN8	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN9	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN11	Echinophyllia aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN12	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN13	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN14	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
LKN15	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN16	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN17	Leptastrea pruinosa	'10-50	<1	<1	<1	0	<1	N/A	N/A
LKN18	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN19	Platygyra acuta	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN20	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN21	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN22	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN23	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
LKN24	Porites sp.	10-50	<1	100	<1	0	<1	N/A	N/A
LKN25	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN26	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN27	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN28	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN29	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN30	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
Impact Mor	nitoring on 25 February 2016								· · · · · · · · · · · · · · · · · · ·
LKN1	Dipsastraea rotumana	<10	5	<1	<1	0	<1	N/A	N/A
LKN2	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN3	Cyphastrea japonica	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN4	Favites pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN5	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
LKN6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN8	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN9	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN11	Echinophyllia aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN12	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN13	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN14	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
LKN15	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN16	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
LKN17	Leptastrea pruinosa	'10-50	<1	<1	<1	0	<1	N/A	N/A
LKN18	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN19	Platygyra acuta	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN20	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN21	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN22	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN23	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
LKN24	Porites sp.	10-50	<1	100	<1	0	<1	N/A	N/A
LKN25	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN26	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN27	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN28	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN29	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN30	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
Impact Mo	nitoring on 29 February 2016								
LKN1	Dipsastraea rotumana	<10	5	<1	<1	0	<1	N/A	N/A
LKN2	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN3	Cyphastrea japonica	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN4	Favites pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN5	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
LKN6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN8	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN9	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN11	Echinophyllia aspera	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN12	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN13	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN14	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A
LKN15	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN16	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN17	Leptastrea pruinosa	'10-50	<1	<1	<1	0	<1	N/A	N/A
LKN18	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN19	Platygyra acuta	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN20	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN21	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN22	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN23	Leptastrea purpurea	>50	<1	<1	<1	0	<1	N/A	N/A
LKN24	Porites sp.	10-50	<1	100	<1	0	<1	N/A	N/A
LKN25	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
LKN26	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN27	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN28	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN29	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
LKN30	Dipsastraea rotumana	<10	<1	<1	<1	0	<1	N/A	N/A

Note: LKN7 and LKN10 could not be located during the monitoring survey 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								
TC1	Dipsastraea rotumana	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC2	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC3	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC5	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC6	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC7	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC8	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC9	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC10	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC11	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC12	Dipsastraea rotumana	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC13	Favities pentagona	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC14	Lithophyllon undulatum	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC15	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC16	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC17	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC18	Porities sp.	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC19	Dipsastraea rotumana	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC20	Lithophyllon undulatum	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC21	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC22	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC23	Leptastrea purpurea	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC24	Cyphastrea japonica	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC25	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC26	Leptastrea pruinosa	>50	<1	<1	<1	N/A	<1	N/A	N/A
TC27	Leptastrea pruinosa	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC28	Favities pentagona	10-50	<1	<1	<1	N/A	<1	N/A	N/A
TC29	Leptastrea pruinosa	>50	<1	<1	<1	N/A	<1	N/A	N/A
TC30	Leptastrea pruinosa	>50	<1	<1	<1	N/A	<1	N/A	N/A
	onitoring on 22 February 2016								-,
TC1	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC2	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC3	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
TC5	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC6	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
TC7	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC8	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC9	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC10	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC11	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC12	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC13	Favities pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
TC14	Lithophyllon undulatum	10-50	<1	<1	<1	0	<1	N/A	N/A
TC15	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC16	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC17	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC18	Porities sp.	10-50	<1	100	<1	0	<1	N/A	N/A
TC19	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC20	Lithophyllon undulatum	10-50	<1	<1	<1	0	<1	N/A	N/A
TC21	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC22	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC23	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
TC24	Cyphastrea japonica	10-50	<1	<1	<1	0	<1	N/A	N/A
TC25	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC26	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
TC27	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC28	Favities pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
TC29	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
TC30	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
Impact M	onitoring on 25 February 2016								
TC1	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC2	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC3	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
TC5	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC7	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC8	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC9	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC10	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC11	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC12	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC13	Favities pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
TC14	Lithophyllon undulatum	10-50	<1	<1	<1	0	<1	N/A	N/A
TC15	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
TC16	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC17	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC18	Porities sp.	10-50	<1	100	<1	0	<1	N/A	N/A
TC19	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC20	Lithophyllon undulatum	10-50	<1	<1	<1	0	<1	N/A	N/A
TC21	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC22	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC23	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
TC24	Cyphastrea japonica	10-50	<1	<1	<1	0	<1	N/A	N/A
TC25	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC26	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
TC27	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC28	Favities pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
TC29	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
TC30	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
Impact M	onitoring on 29 February 2016								
TC1	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC2	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC3	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
TC5	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC6	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC7	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC8	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC9	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC10	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC11	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC12	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC13	Favities pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
TC14	Lithophyllon undulatum	10-50	<1	<1	<1	0	<1	N/A	N/A
TC15	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC16	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC17	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC18	Porities sp.	10-50	<1	100	<1	0	<1	N/A	N/A
TC19	Dipsastraea rotumana	10-50	<1	<1	<1	0	<1	N/A	N/A
TC20	Lithophyllon undulatum	10-50	<1	<1	<1	0	<1	N/A	N/A
TC21	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC22	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC23	Leptastrea purpurea	10-50	<1	<1	<1	0	<1	N/A	N/A
TC24	Cyphastrea japonica	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
TC25	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC26	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
TC27	Leptastrea pruinosa	10-50	<1	<1	<1	0	<1	N/A	N/A
TC28	Favities pentagona	10-50	<1	<1	<1	0	<1	N/A	N/A
TC29	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A
TC30	Leptastrea pruinosa	>50	<1	<1	<1	0	<1	N/A	N/A

Notes: TC4 could not be located during the monitoring survey and the results are not presented in the table.

2.3.2 Rapid Ecological Assessment (REA) Survey

Baseline REA surveys were conduct 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 22, 25 and 29 February 2016 to determine any observable impacts to coral assemblages due to the cable installation works. 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 8th weekly coral impact monitoring surveys on 22, 25 and 29 February 2016 were noted to be similar except that turf algae and macroalgae were recorded at both of the impact and control stations during the impact monitoring. At Pak Sha Tau Tsui, the seabed was predominately composed of hard substrates of small boulders (<50 cm) and rubble while Liu Ko Ngam was predominately composed of small boulders (<50cm). Cover of hard corals ranged from 6 to 10% at both impact stations. Ten (10) and fourteen (14) 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 survey.

Overall, the REA results showed that the general health and condition of the coral assemblages are similar between the baseline and the 8th weekly monitoring.

3 CONCLUSION

The 8th Weekly Coral Impact Monitoring Surveys were carried out on 22, 25 and 29 February 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 were identified during the 8th weekly coral impact monitoring survey on 22, 25 and 29 February 2016. There thus 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 at the landing sites. Results of REA surveys also indicated no observable impact to the coral assemblages.

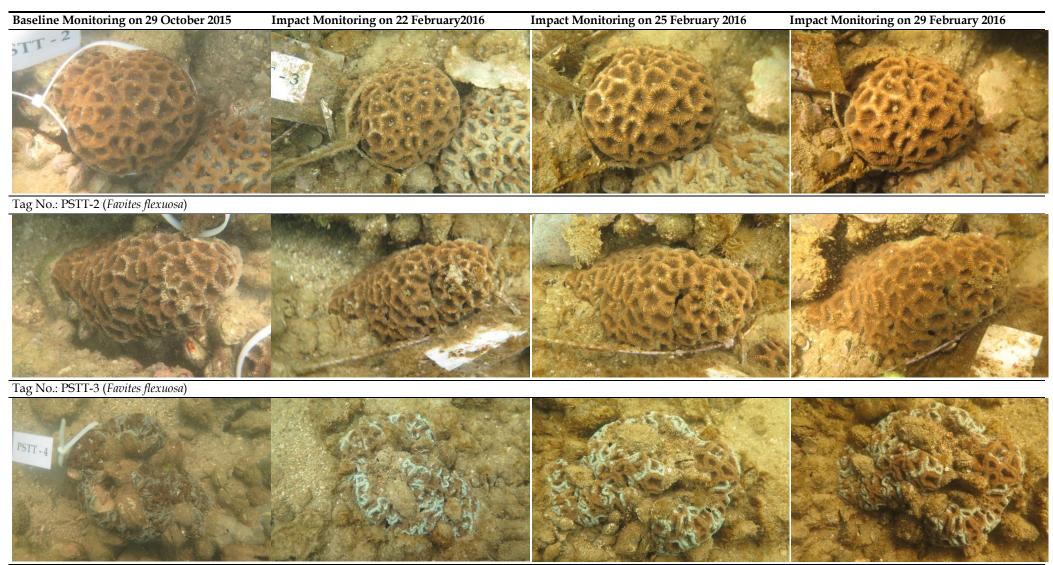
Coral impact monitoring surveys will be conducted twice weekly during any process of the cable installation, including landing site preparation, cable laying and landing works, and backfilling. Findings of further coral impact monitoring surveys will be presented in subsequent *Weekly Coral Impact Monitoring 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*.

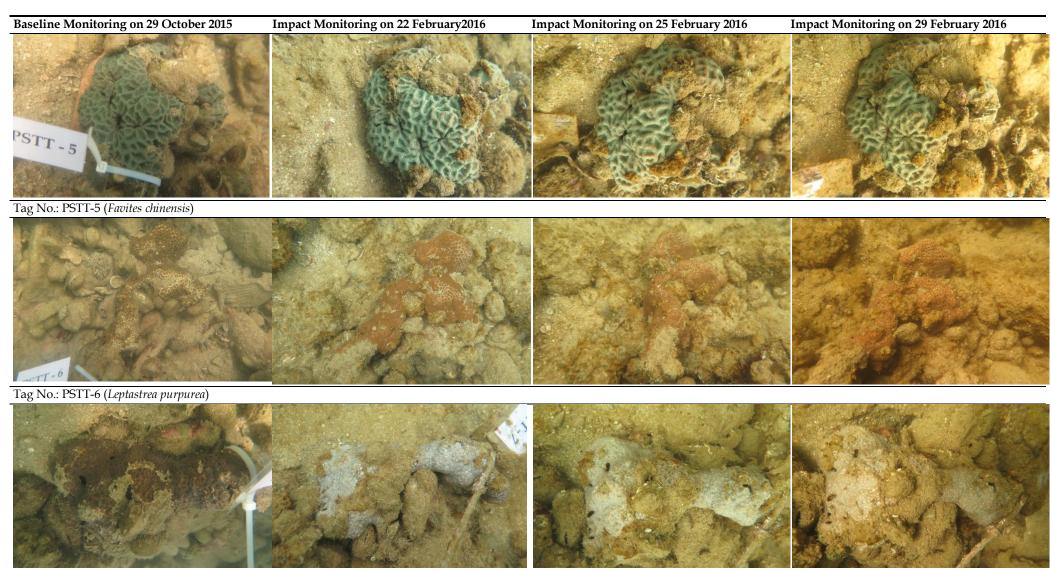
Annex A

Photographic Record of Tagged Coral Colonies

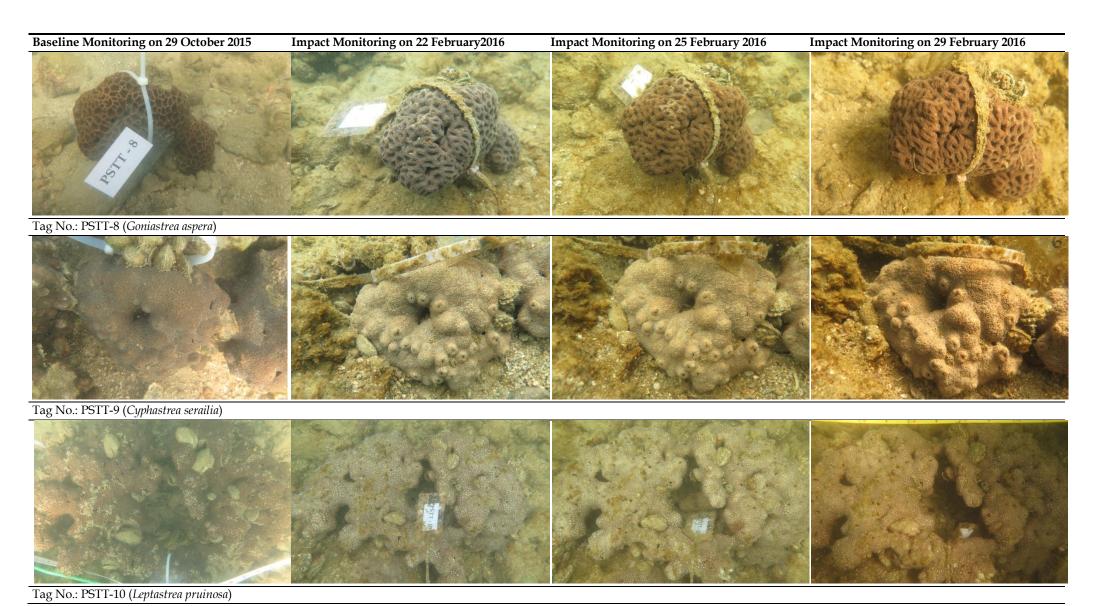
Annex A1 - Corals Tagged at Pak Sha Tau Tsui

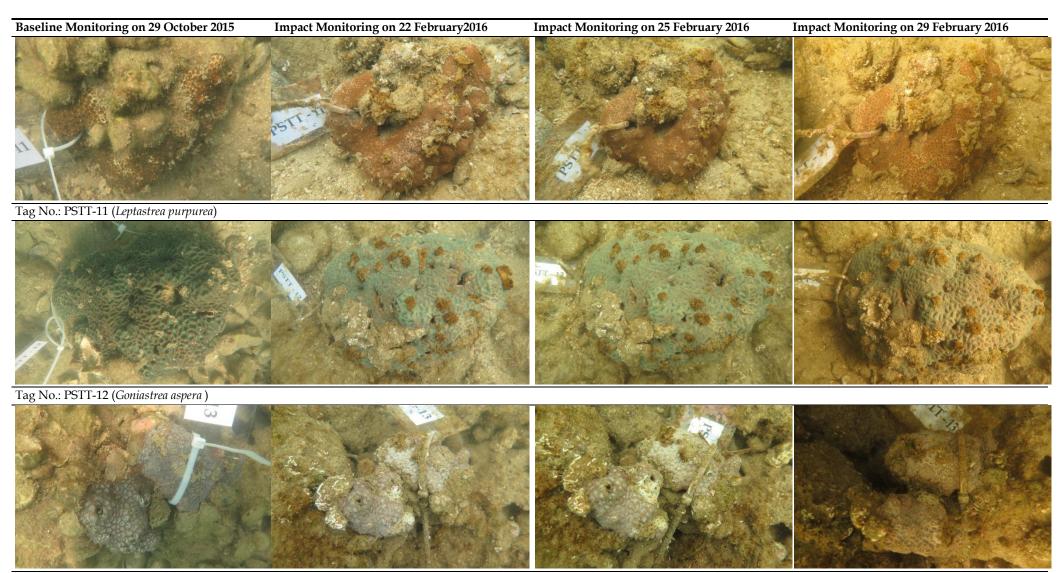


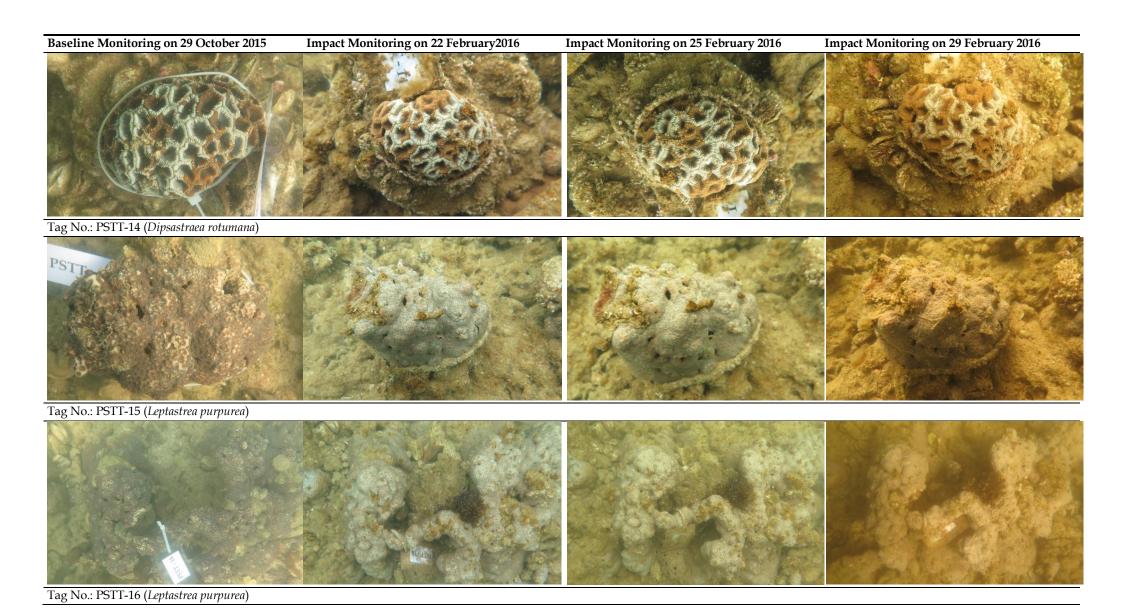
Tag No.: PSTT-4 (Dipsastraea rotumana)



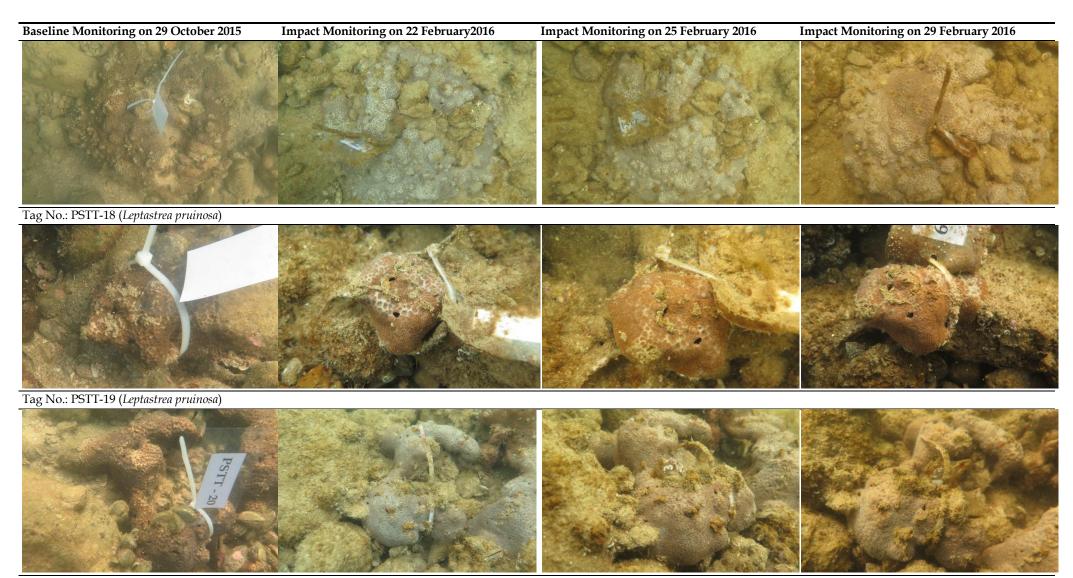
Tag No.: PSTT-7 (Leptastrea pruinosa)



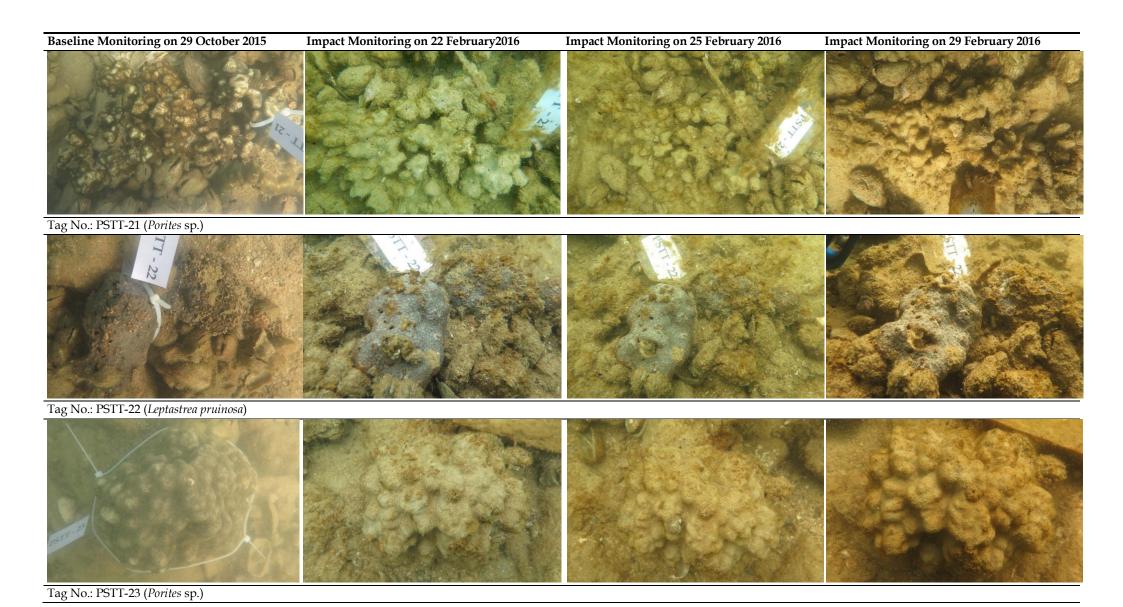


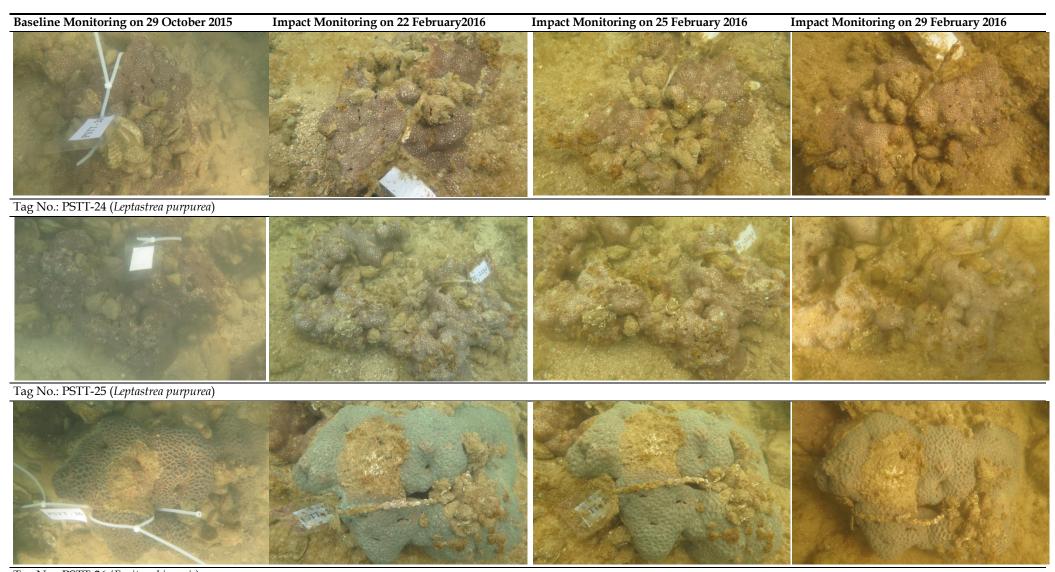


A5

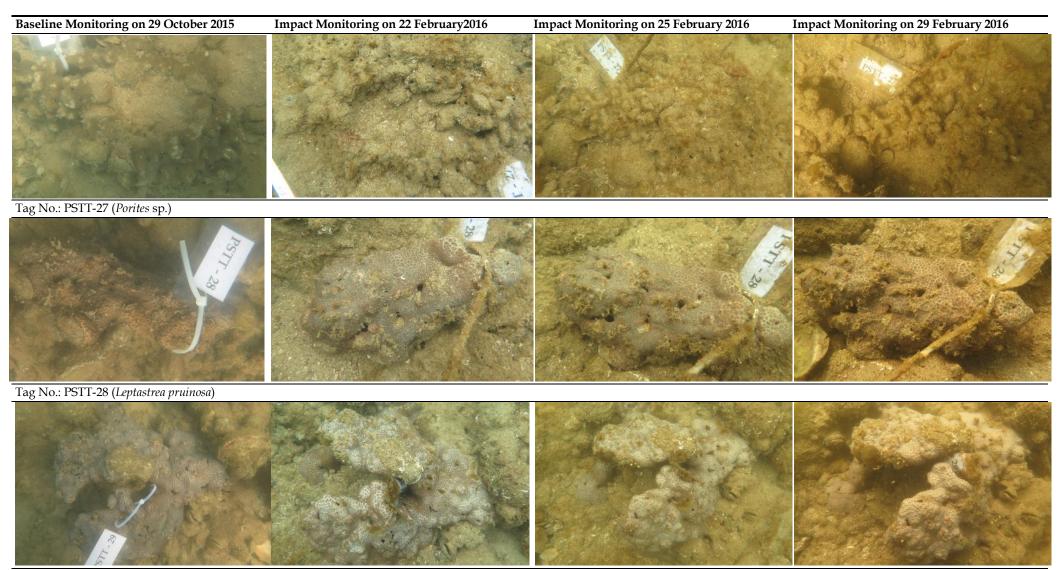


Tag No.: PSTT-20 (Leptastrea pruinosa)

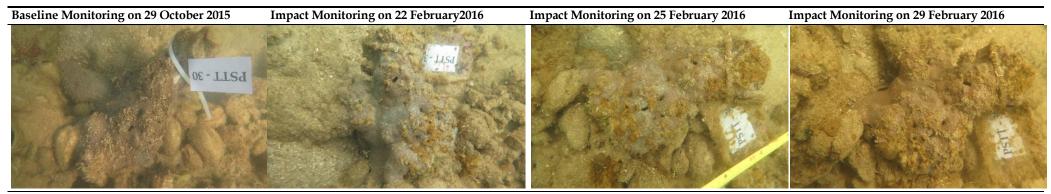




Tag No.: PSTT-26 (Favites chinensis)

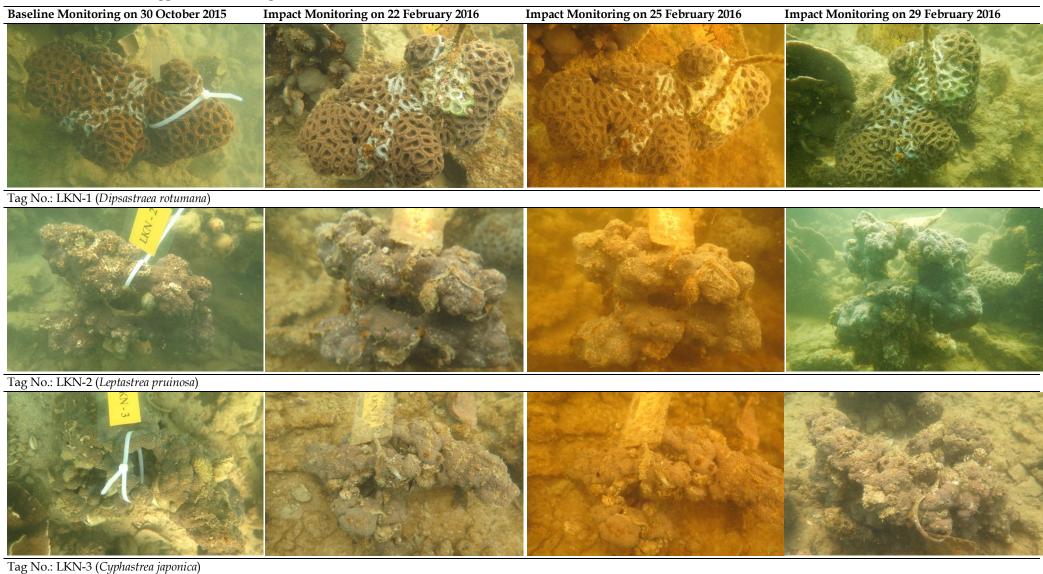


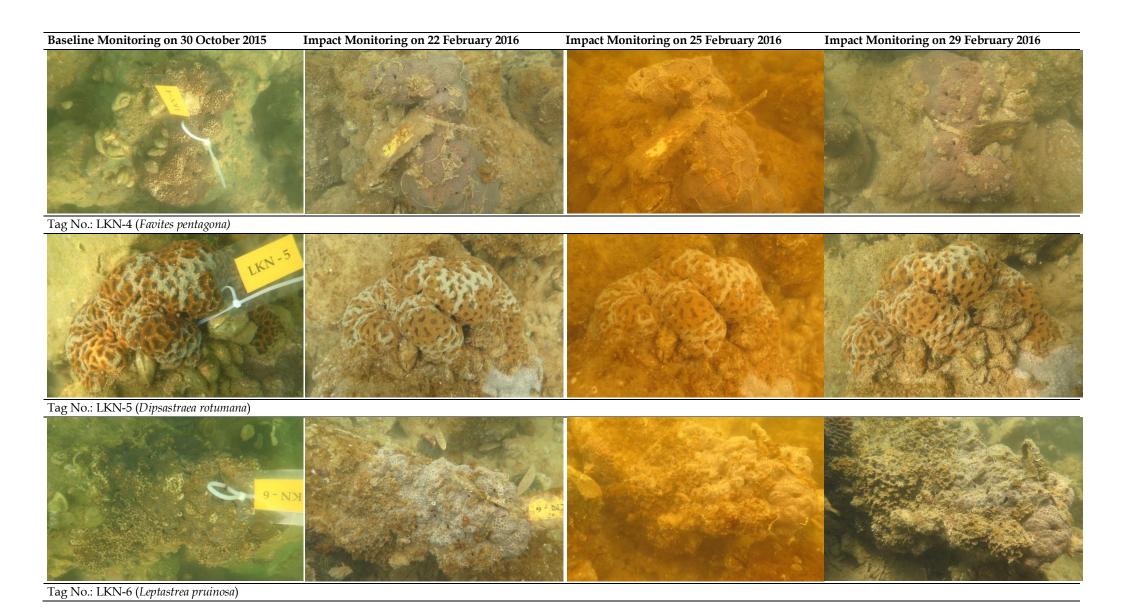
Tag No.: PSTT-29 (Leptastrea purpurea)

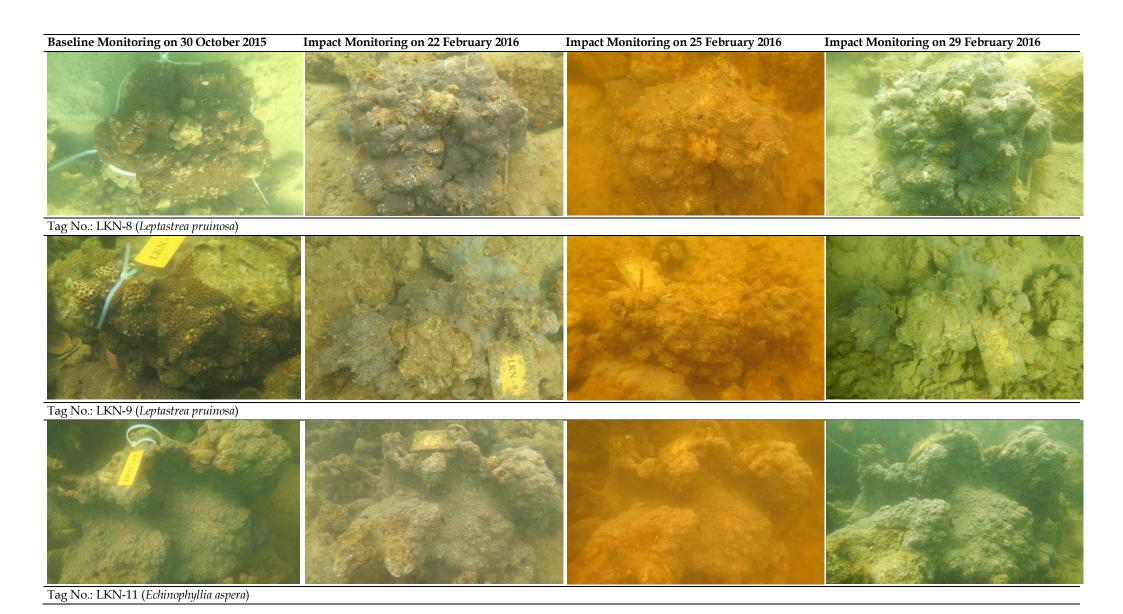


Tag No.: PSTT-30 (Leptastrea purpurea)

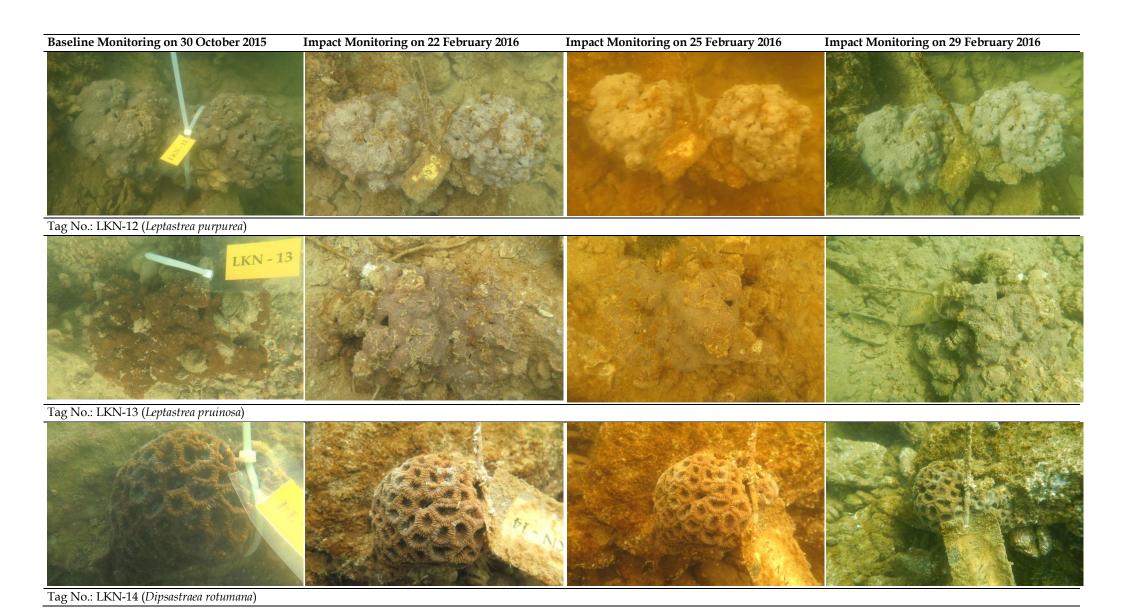
Annex A2 - Corals Tagged at Liu Ko Ngam

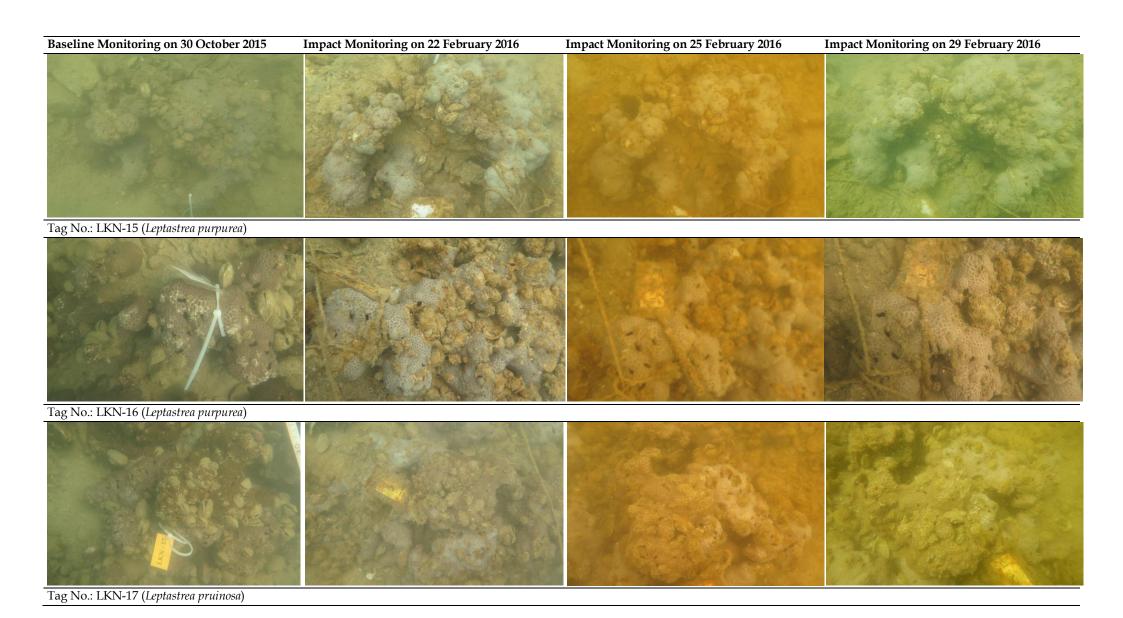


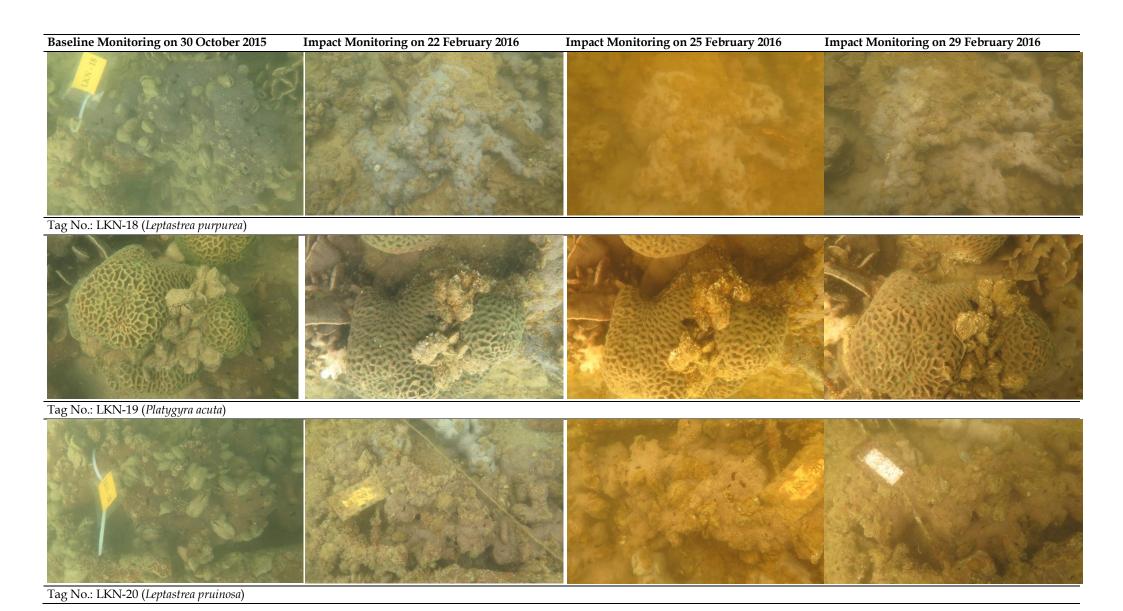


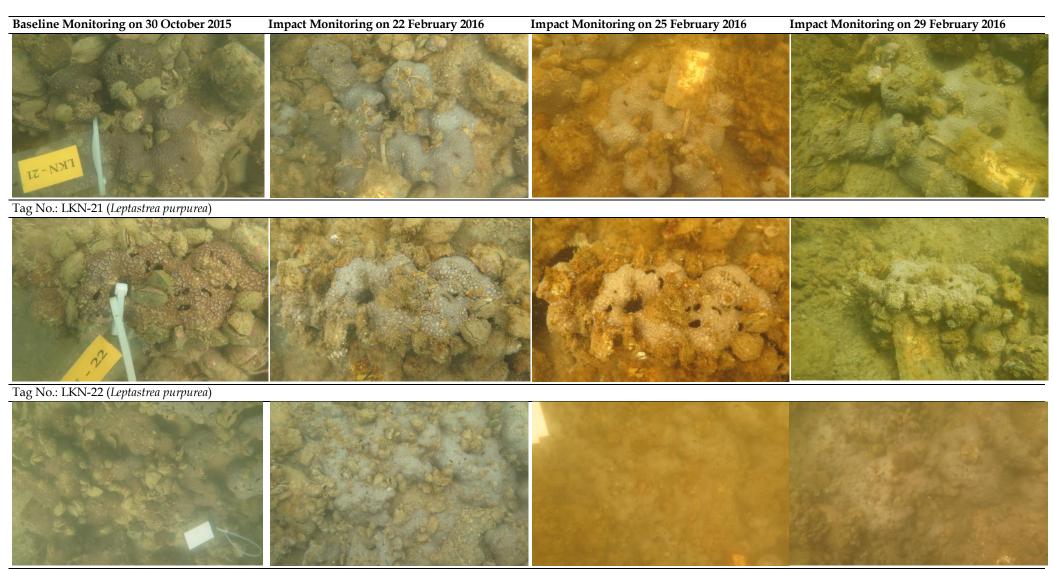


A13

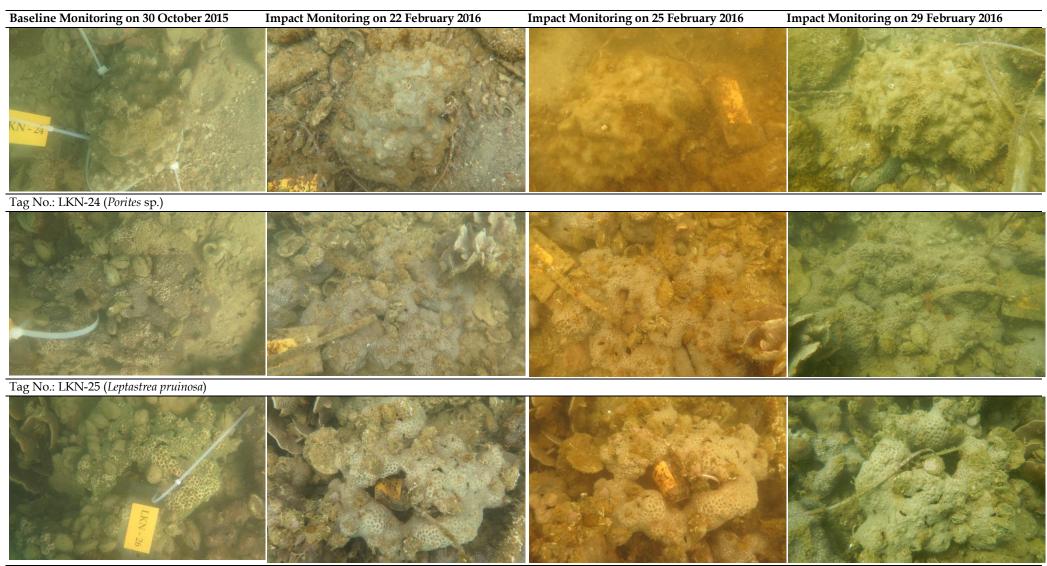




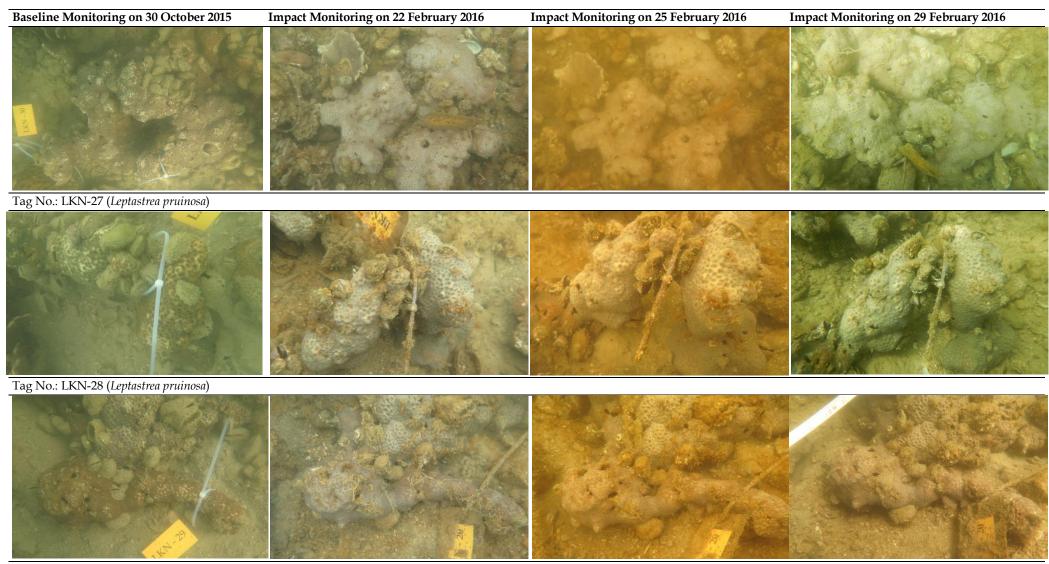




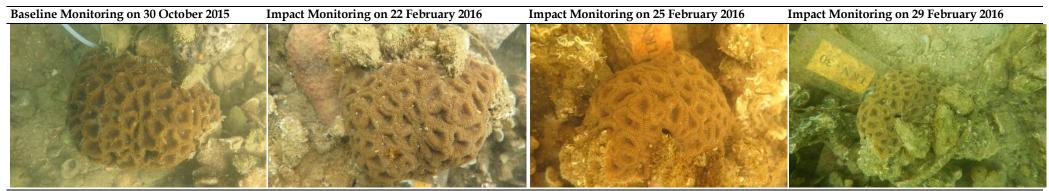
Tag No.: LKN-23 (Leptastrea purpurea)



Tag No.: LKN-26 (Leptastrea pruinosa)

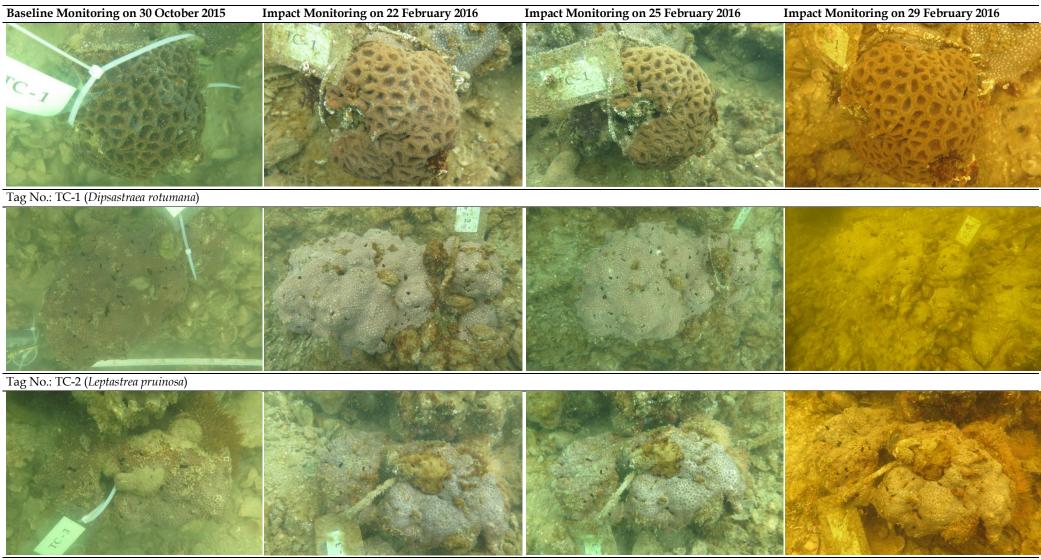


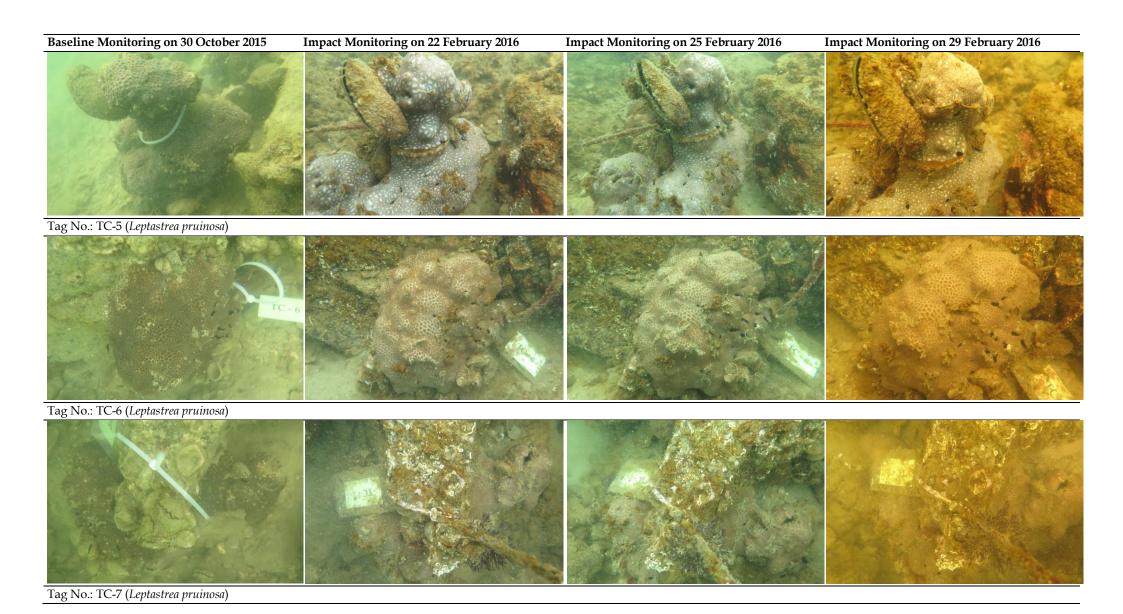
Tag No.: LKN-29 (Leptastrea pruinosa)

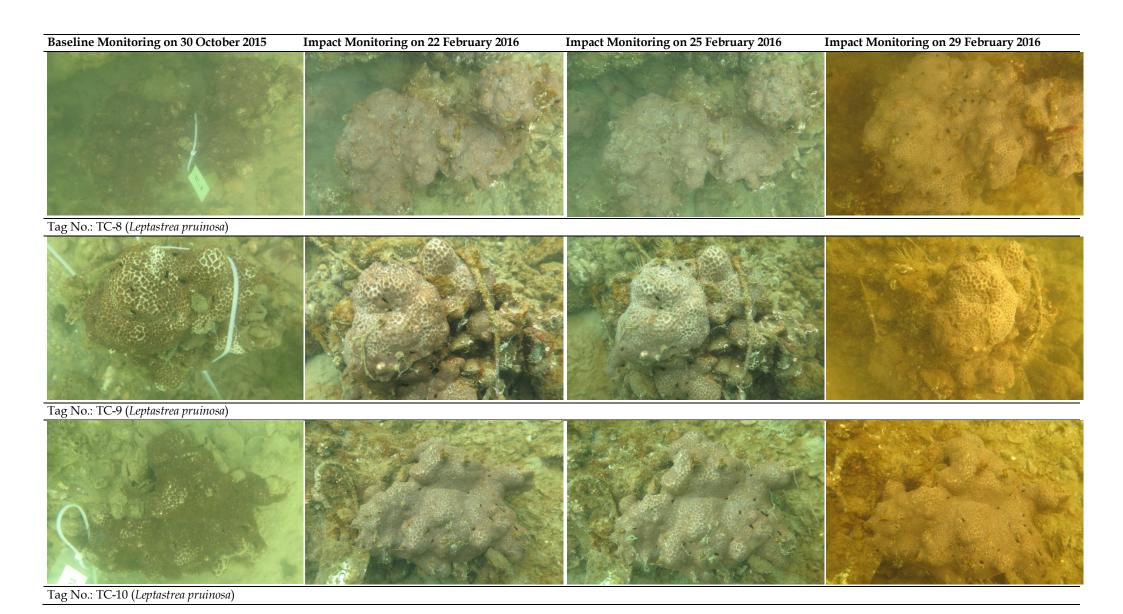


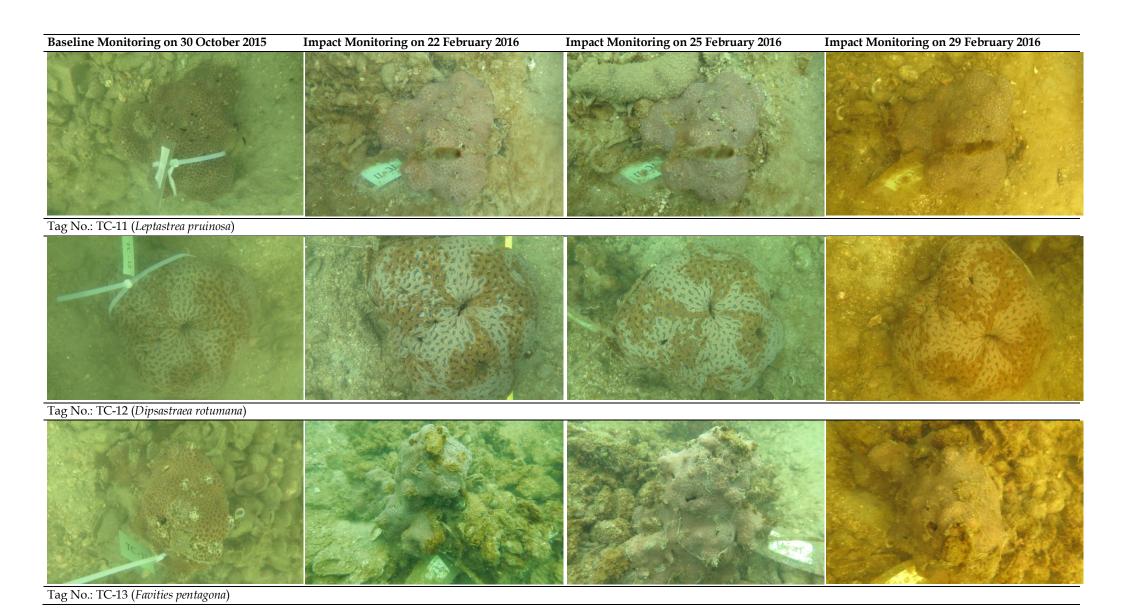
Tag No.: LKN-30 (Dipsastraea rotumana)

Annex A3 - Corals Tagged at Tsing Chau

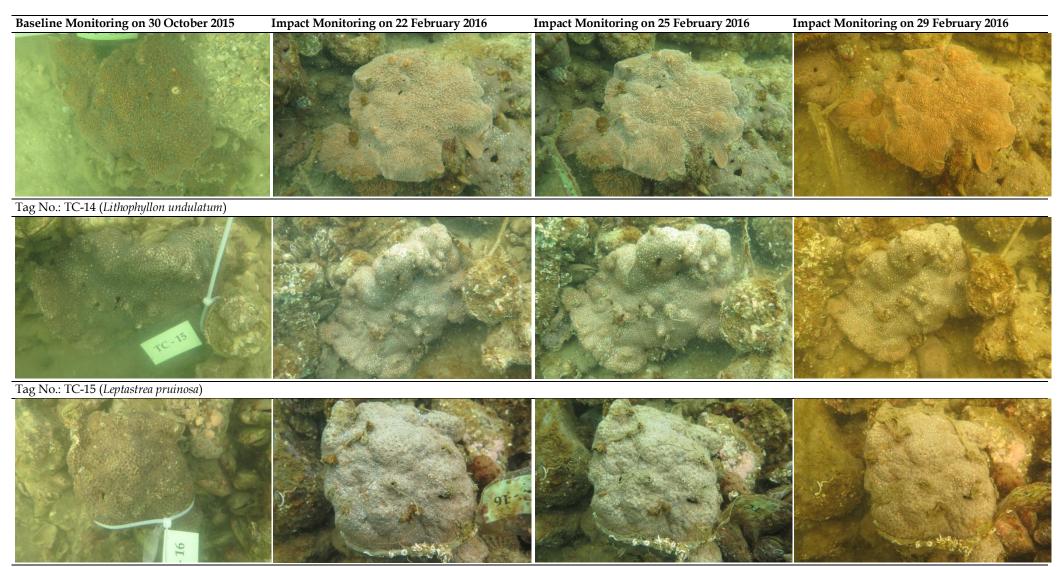




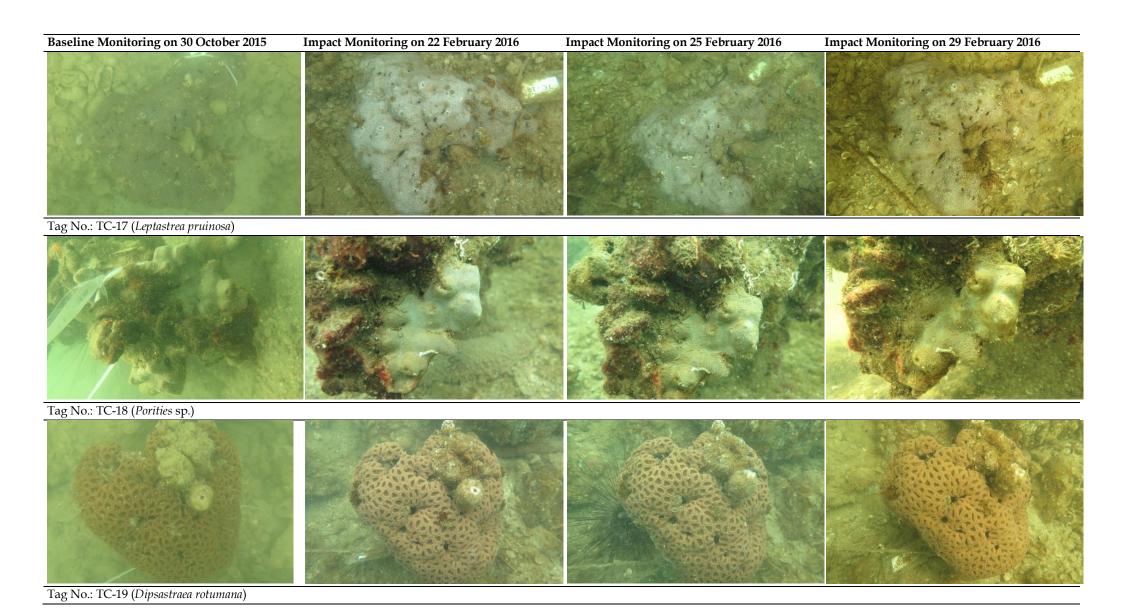




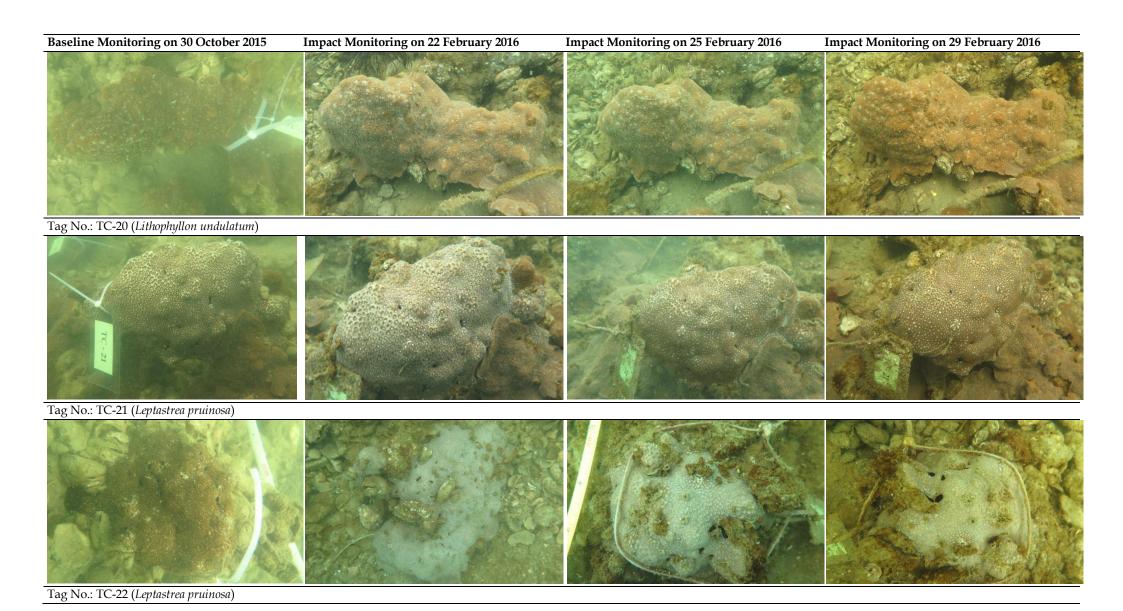
A24



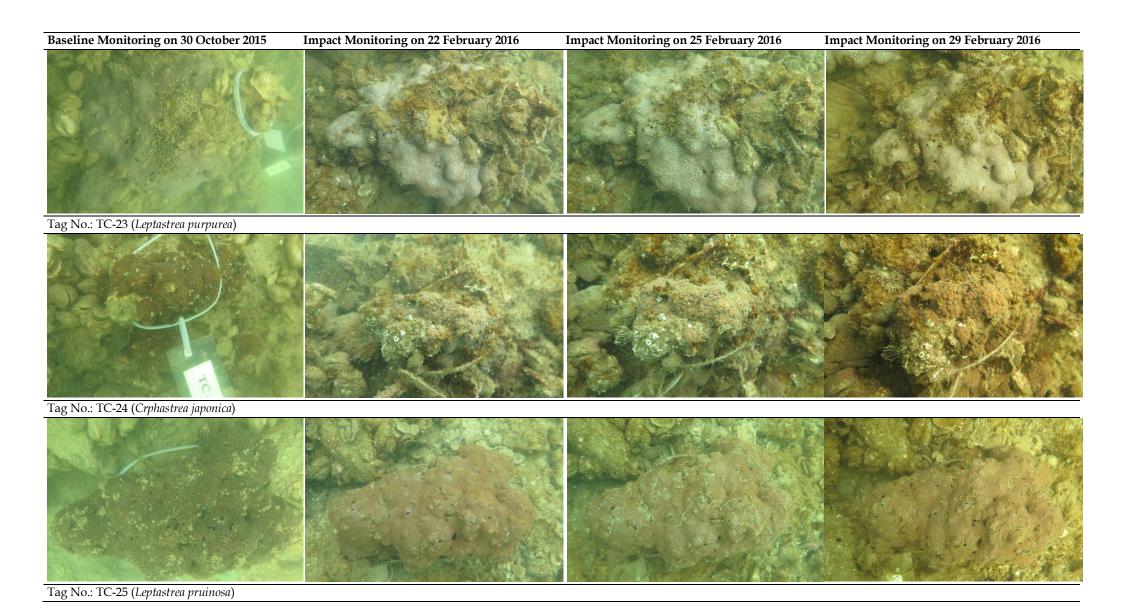
Tag No.: TC-16 (Leptastrea pruinosa)

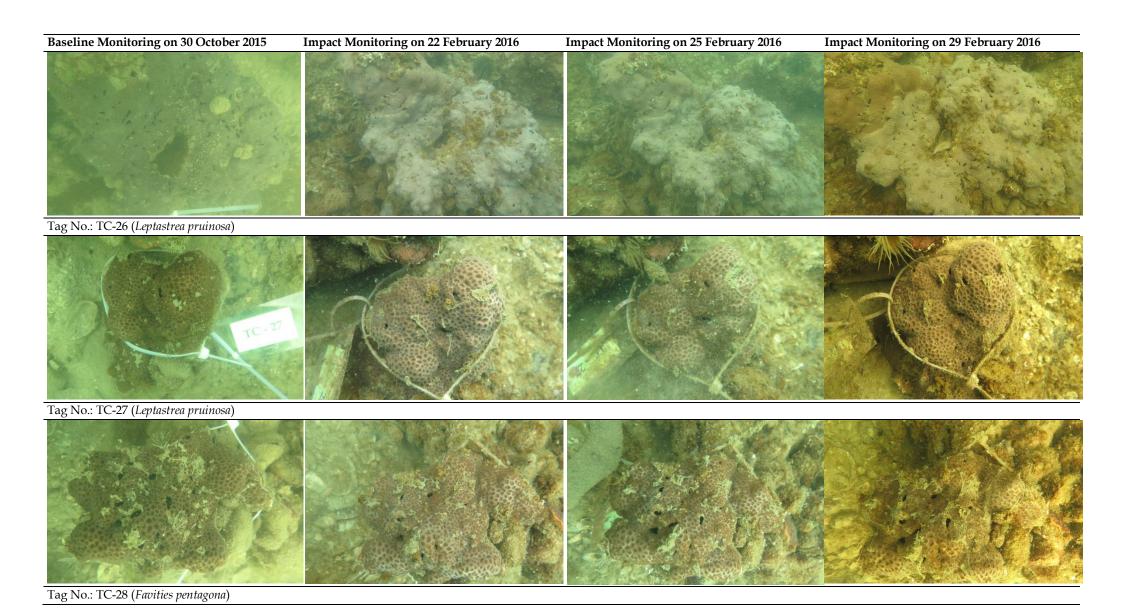


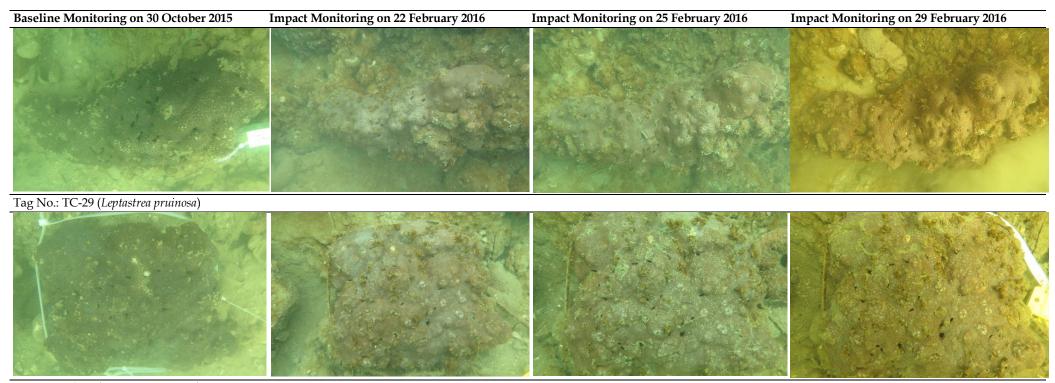
A26



A27







Tag No.: TC-30 (Leptastrea pruinosa)

Annex B

Results of REA Surveys

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

Date	Site	Hard	Dead	Soft	Black Coral	Macroalgae	Turf Algae
		Coral	Coral	Coral			
Baseline on	PSTT	2	2	0	0	0	0
29-30/10/15	LKN	2	3	0	0	0	0
	TC	2	2	0	0	0	0
Impact	PSTT	2	2	0	0	1	2
monitoring	LKN	2	3	0	0	1	2
on 22/2/16	TC	2	2	0	0	1	1
Impact	PSTT	2	2	0	0	1	2
monitoring	LKN	2	3	0	0	1	2
on 25/2/16	TC	2	2	0	0	1	1
Impact	PSTT	2	2	0	0	1	2
monitoring	LKN	2	3	0	0	1	2
on 29/2/16	TC	2	2	0	0	1	1

Note: PSTT = Pak Sha Tau Tsui, LKN = Liu Ko Ngam & TC = Tsing Chau.

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

		Hard Substrata					Soft Substrata			
Date	Site	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 22/2/16	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 25/2/16	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 29/2/16	TC	0	0	4	4	3	0	2	2	0

Note: 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
Immaat	Cyphastrea japonica	0	2	1
Impact	Cyphastrea serailia			
monitoring on		1	2	0
22/2/16	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
Impact	Cyphastrea japonica	0	2	1
monitoring on	Cyphastrea serailia	1	2	0
25/2/16	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

Impact	Cyphastrea japonica	0	2	1
monitoring on	Cyphastrea serailia	1	2	0
29/2/16	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

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
22/2/16	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
25/2/16	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
29/2/16	Zoanthids	2	0	0
	Tunicates	1	2	0
	Molluscs	4	4	3
	Total Species	4	4	3

Annex C

Tentative Survey Schedule

Coral Impact Monitoring Schedule Dec 2015 - Mar 2016

Public Holiday Future Working	(No Works carried out) g Day					
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Dec	02-Dec	03-Dec	04-Dec	05-Dec
06-Dec	07-Dec	08-Dec	09-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 Impact Monitoring at	24-Dec	25-Dec	26-Dec
			PSTT, LKN and TC			
			, ,			
07.0	00 Dag	00 D	00 Da	04 Das	04 las	00.1
27-Dec	28-Dec Impact Monitoring at	29-Dec	30-Dec	31-Dec Impact Monitoring at	01-Jan	02-Jar
	PSTT, LKN and TC			PSTT, LKN and TC		
	·			·		
00 1	04 lan	05 lan	00 lan	07 100	00 las	00 1
03-Jan	04-Jan Impact Monitoring at	05-Jan	06-Jan	07-Jan Impact Monitoring at	08-Jan	09-Jar
	PSTT, LKN and TC			PSTT, LKN and TC		
	·					
10-Jan	11-Jan	10 lon	42 lon	14-Jan	15 lon	16 los
10-Jan	Impact Monitoring at	12-Jan	13-Jan	Impact Monitoring at	15-Jan	16-Jar
	PSTT, LKN and TC			PSTT, LKN and TC		
17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jar
17-3411	Impact Monitoring at	19-5411	20-3411	Impact Monitoring at	22-Jaii	25-Jai
	PSTT, LKN and TC			PSTT, LKN and TC		
24-Jan	No Works 25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jar
210411	20 0011	20 0411	27 0011	20 0011	20 0411	00 001
	No cont	truction works are sch	eduled. Therefore. no c	oral impact monitoring s	urvevs are planned in p	arallel.
			,	3		
31-Jan	01-Feb	02-Feb	03-Feb	04-Feb	05-Feb	06-Feb
	Impact Monitoring at					
	PSTT, LKN and TC	No contruction wo	rks are scheduled. The	refore, no coral impact n	nonitoring surveys are p	olanned in parallel.
07-Feb	08-Feb	09-Feb	10-Feb	11-Feb	12-Feb	13-Feb
				No continuation would	and askedulad Thouse	
					s are scheduled. Therefo g surveys are planned in	- · · · · · · · · · · · · · · · · · · ·
					g our veys are planned in	, paranon
14-Feb	15-Feb	16-Feb	17-Feb		19-Feb	20-Feb
	No contraction works	are cahedulad. There	fore no corel impost	Impact Monitoring at		
		s are scheduled. There g surveys are planned i	-	PSTT, LKN and TC		
		, , ,				
21-Feb		23-Feb	24-Feb		26-Feb	27-Feb
	Impact Monitoring at PSTT, LKN and TC			Impact Monitoring at PSTT, LKN and TC		
	PSTT, ERN and TC			PS11, LKN and 1C		
28-Feb		01-Mar	02-Mar	03-Mar	04-Mar	05-Ma
	Impact Monitoring at PSTT, LKN and TC			_		
	1 011, Elavana 10	No marine work	s are scheduled. Theref	fore, no coral impact mo	nitoring surveys are pla	nned in parallel.
06-Mar	07-Mar	08-Mar	09-Mar	10-Mar	11-Mar	12-Ma
			Sched	ule TBC		
40.14	44.54	45.14	40.14	47.1	40.14	40.14
13-Mar	14-Mar	15-Mar	16-Mar	17-Mar	18-Mar	19-Mai
			Calcal	ulo TPC		
			Sched	ule TBC		
o. (1) The cohedule	of coral maniforing is sub-	oot to change damaged	a on the weether senditi-	on and the work programm	o of the coble installation	works
e uu uue schedule (or corar monitoring is subt	eccio change dependino	TOT THE WESTBEL CODUITO	ur auci ine work brodramm	e or the cable installation.	WULKS

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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