

Marianas Expedition Wildlife Surveys 2010



Bandeera Bay, July 2010 (photograph by N. Sukhraj)

**Marine Resource Surveys of Pagan,
Commonwealth of the Northern Mariana Islands**
(Volume II of II)

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Marine Resource Surveys of Pagan,
Commonwealth of the Northern Mariana Islands
(Volume II)

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United States Marine Corps

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Table of Contents – Volume II

1.0 Introduction.....	1
Appendix E, Selected survey site photographs.....	2
Appendix F, Laguna Bay, Map C.....	21
Table F.1. Benthic Algal Quadrats: Relative Cover	
Table F.2. Coral Belt Transects: Colony Counts	
Table F.3. Coral Belt Transects: Colony Size	
Table F.4. Fish Belt Transects: Fish Density	
Table F.5. SPC Surveys: Fish Density	
Table F.6. Fish Belt Transects: Fish Biomass	
Table F.7. SPC Surveys: Fish Biomass	
Table F.8. Non-coral Invertebrate Transects: Individual Counts	
Appendix G, Bandeera Bay, Map D.....	106
Table G.1. Benthic Algal Quadrats: Relative Cover	
Table G.2. Coral Belt Transects: Colony Counts	
Table G.3. Coral Belt Transects: Colony Size	
Table G.4. Fish Belt Transects: Fish Density	
Table G.5. SPC Surveys: Fish Density	
Table G.6. Fish Belt Transects: Fish Biomass	
Table G.7. SPC Surveys: Fish Biomass	
Table G.8. Non-coral Invertebrate Transects: Individual Counts	
Appendix H, Western coast of Sount Point, Map E.....	182
Table H.1. Benthic Algal Quadrats: Relative Cover	
Table H.2. Coral Belt Transects: Colony Counts	
Table H.3. Coral Belt Transects: Colony Size	
Table H.4. Fish Belt Transects: Fish Density	
Table H.5. SPC Surveys: Fish Density	
Table H.6. Fish Belt Transects: Fish Biomass	
Table H.7. SPC Surveys: Fish Biomass	
Table H.8. Non-coral Invertebrate Transects: Individual Counts	
Appendix I, Katchu Bay, Map X.....	233
Table I.1. Benthic Algal Quadrats: Relative Cover	
Table I.2. Coral Belt Transects: Colony Counts	
Table I.3. Coral Belt Transects: Colony Size	
Table I.4. Fish Belt Transects: Fish Density	
Table I.5. SPC Surveys: Fish Density	
Table I.6. Fish Belt Transects: Fish Biomass	
Table I.7. SPC Surveys: Fish Biomass	
Table I.8. Non-coral Invertebrate Transects: Individual Counts	
Appendix J.....	294
Table J.1. Fish Presence by Site for all 4 Regions	
Table J.2. Non-coral Mobile Invertebrate Presence by Site for all 4 Regions	

1.0 Introduction

Volume II of the Marine Resource Surveys of Pagan, Commonwealth of the Northern Mariana Islands contains Appendices E-J. These appendices consist of survey site photographs, all raw data used to generate this report, and marine mammal photographs. Additional data collected but not used for the generation of this report are included as part of the raw data files that accompany this report. Appendices A-D are contained in Volume I of this report

Appendices E-J include:

- Appendix E. Selected survey site photographs. Full collection of site photos, habitat photos, and photoquadrats are contained on accompanying data CD.
- Appendix F. Data: Map C, Laguna Bay
- Appendix G. Data: Map D, Bandeera Bay
- Appendix H. Data: Map E, West coast of South Point
- Appendix I. Data: Map X, Katchu Bay
- Appendix J. Species Presence Tables for all 4 Regions

Appendix E.

Selected survey site photographs.

Full collection of site photos, habitat photos, and photoquadrats are contained on accompanying data CD.

Marine Resource Surveys of Pagan



Figure E.1. The sand bottom at C001. (photographs by N. Sukhraj, FWS (left) and S. Kolinski, NOAA (right))

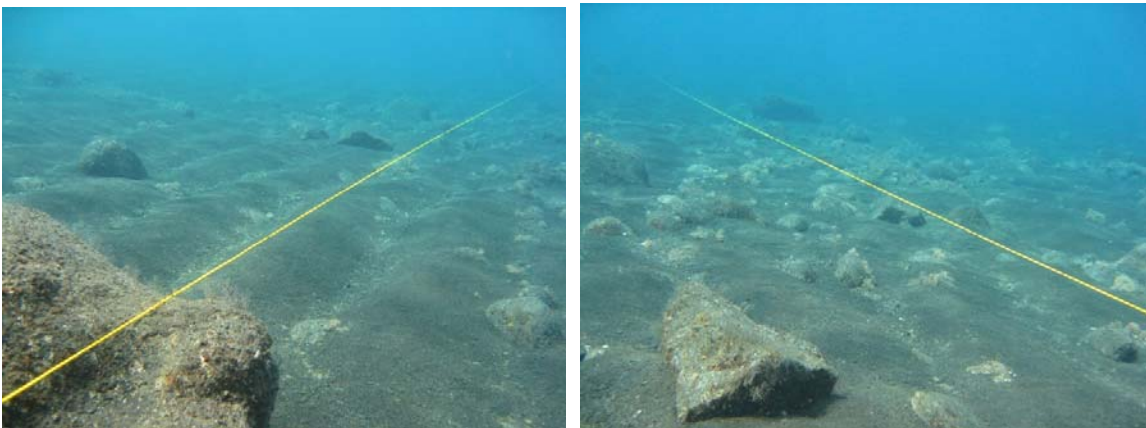


Figure E.2. The sand and boulder reef at C002. (photographs by S. Kolinski, NOAA)



Figure E.3. The sand flat and nudibranchs at C003. (photographs by N. Sukhraj, FWS)

Marine Resource Surveys of Pagan

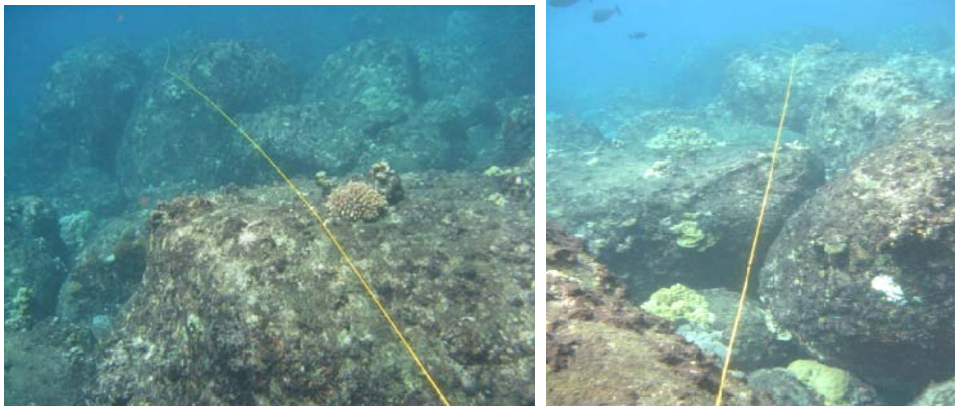


Figure E.4. The reef habitat at C005. (photographs by S. Kolinski, NOAA)

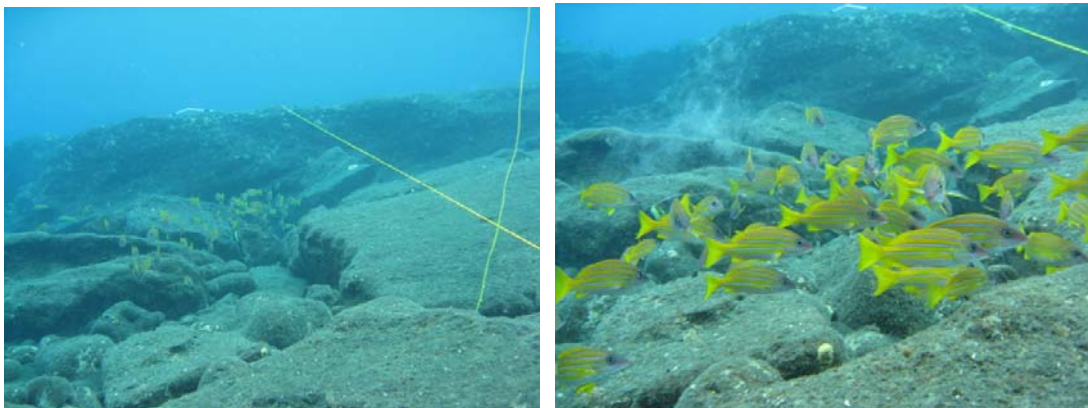


Figure E.5. The reef habitat at C006 and blue lined snapper. (photographs by S. Kolinski, NOAA)

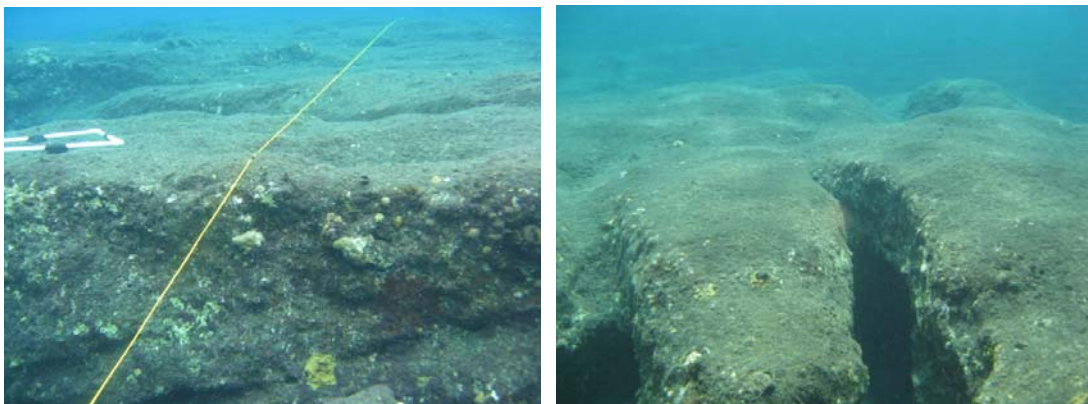


Figure E.6. The reef habitat at C006. (photographs by S. Kolinski, NOAA (left) and S. McKagan, NOAA (right))

Marine Resource Surveys of Pagan



Figure E. 7. Sand flat with boulders and small coral heads at C007. (photographs by S. McKagan, NOAA)

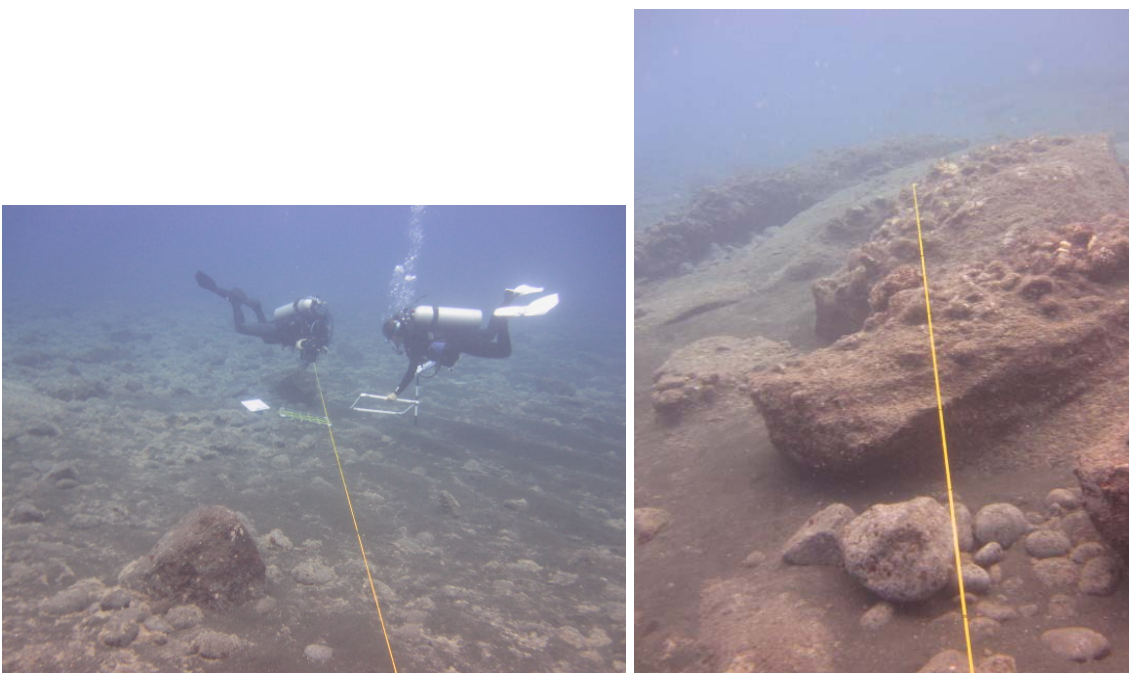


Figure. E. 8. The reef habitat at C009. (photographs by N. Sukhraj, FWS)

Marine Resource Surveys of Pagan

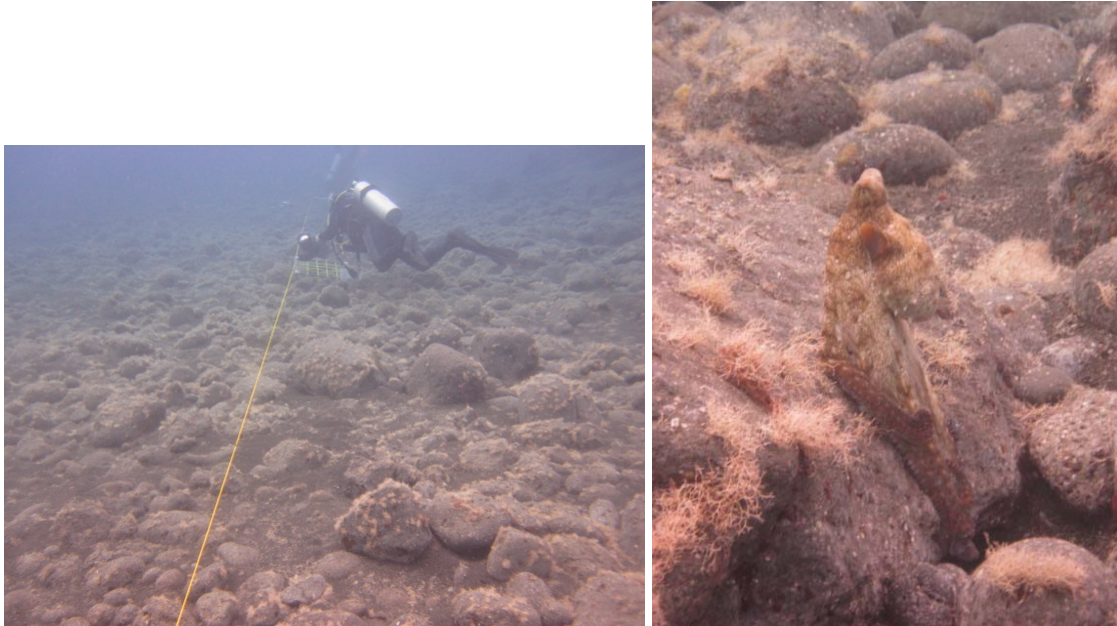


Figure E.9. The reef habitat and an octopus at C011. (photographs by N. Sukhraj, FWS)

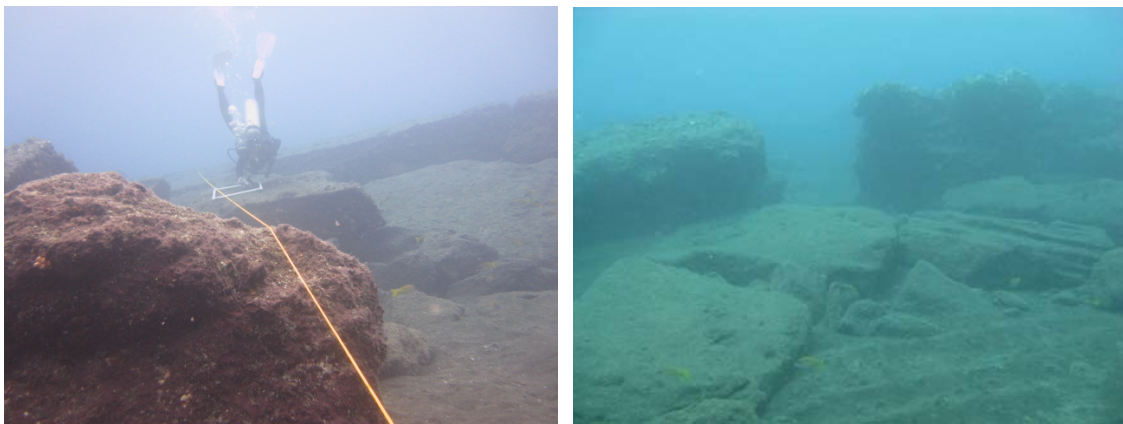


Figure E. 10. The reef habitat at C014. (photographs by N. Sukhraj, FWS)

Marine Resource Surveys of Pagan

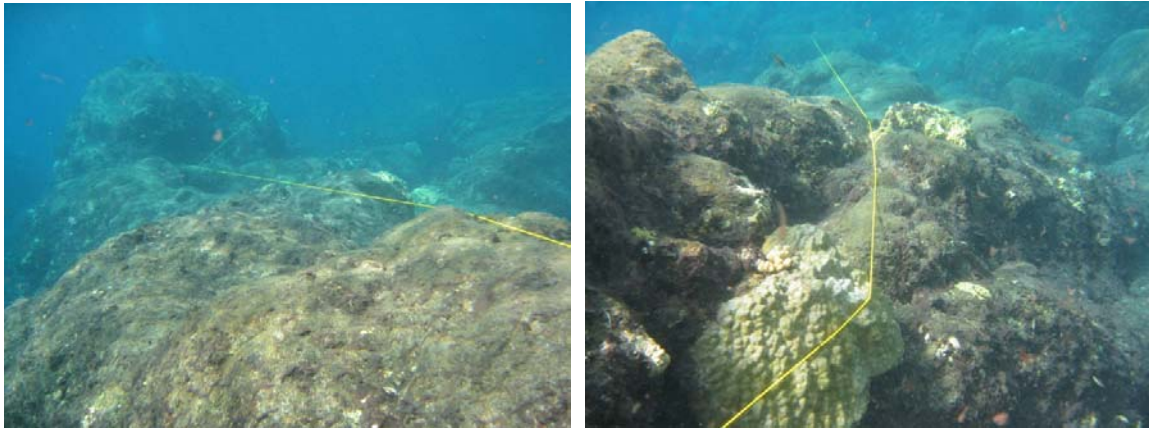


Figure E.11. The reef habitat at C023. (photographs by S. Kolinski, NOAA)

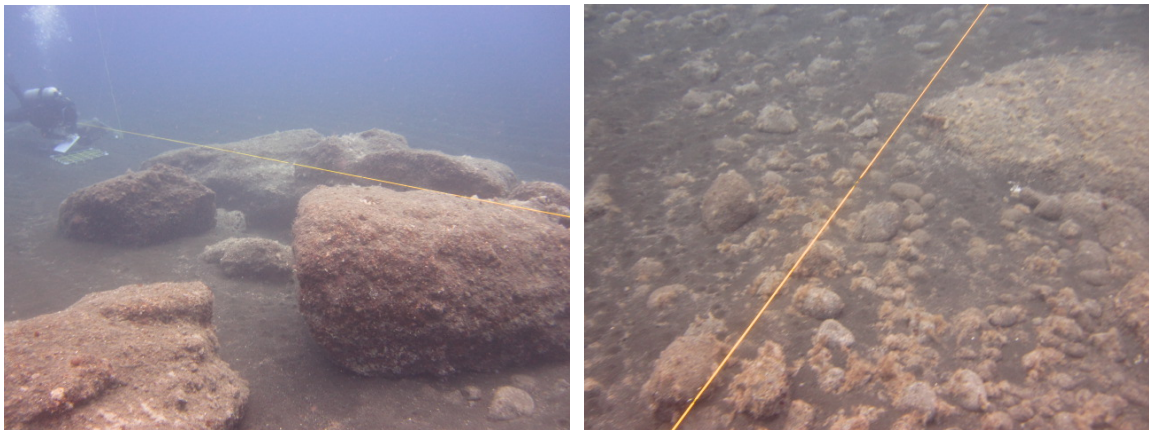


Figure E. 12. The reef habitat at C024. (photographs by N. Sukhraj, FWS)

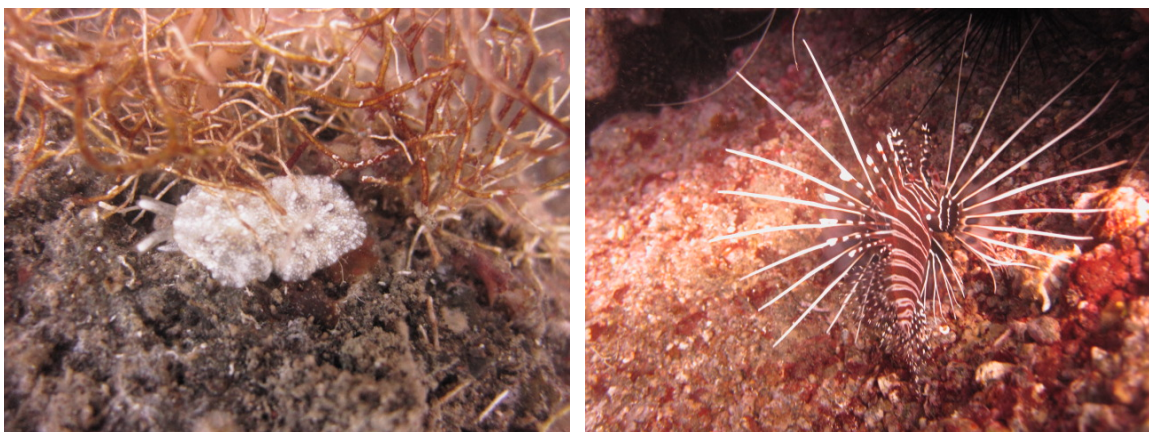


Figure E. 13. A nudibranch and lionfish at C024 (photographs by N. Sukhraj, FWS)

Marine Resource Surveys of Pagan

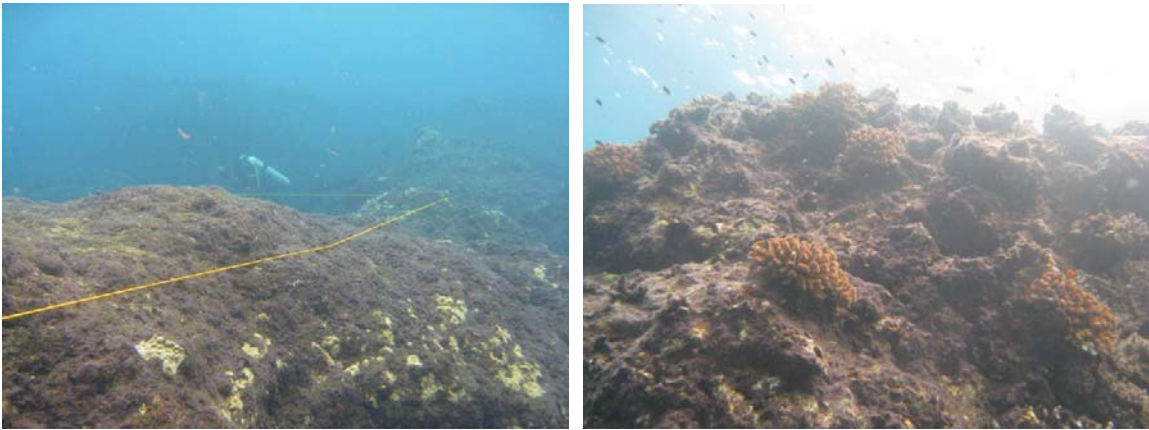


Figure E. 14. The reef habitat at C043. (photographs by S. Kolinski, NOAA (left) and S. McKagan, NOAA (right))

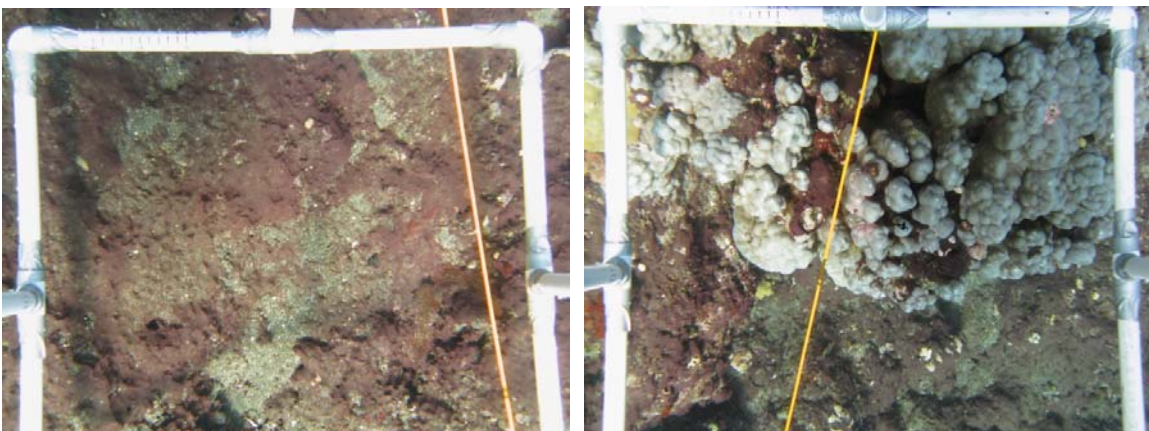


Figure E. 15. The reef bottom at C057. (photographs by S. McKagan, NOAA)

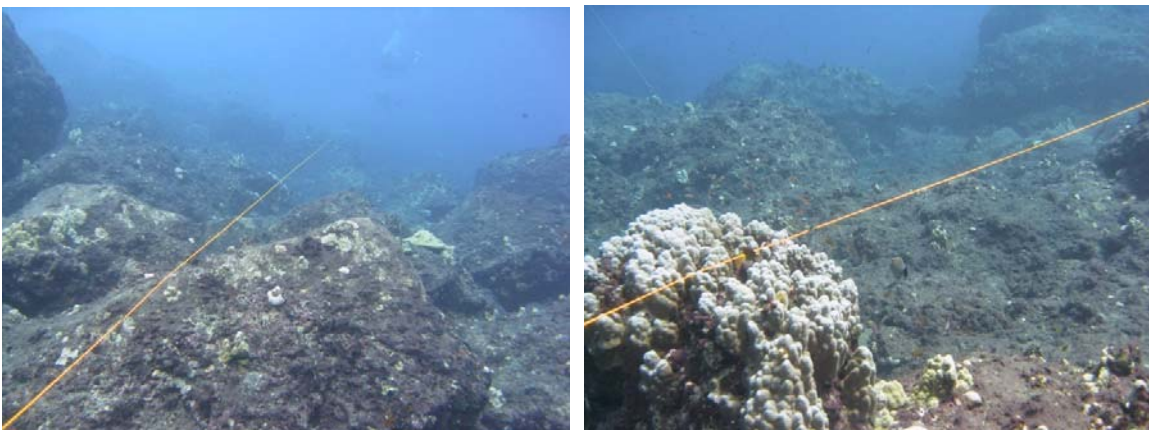


Figure E. 16. The reef habitat at C091. (photographs by S. Kolinski, NOAA)

Marine Resource Surveys of Pagan

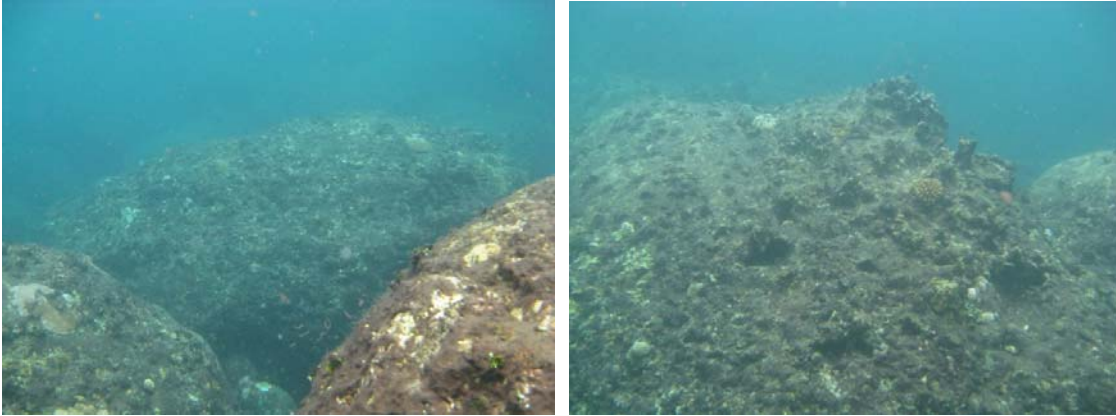


Figure E. 17. The reef habitat at D001. (photographs by McKagan, NOAA)

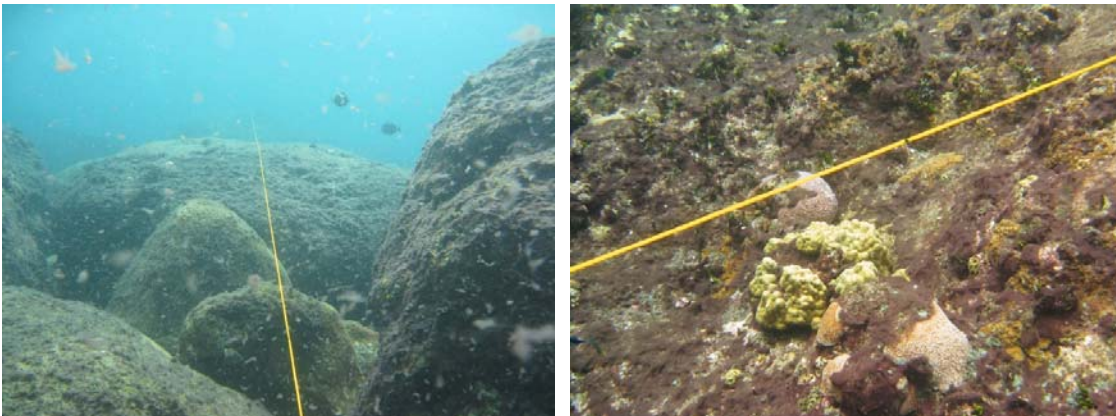


Figure E. 18. The reef habitat at D002. (photographs by S. Kolinski, NOAA)



Figure E. 19. The sand bottom at D004. (photographs by McKagan, NOAA)

Marine Resource Surveys of Pagan



Figure E. 20. The reef habitat at D005. (photographs by McKagan, NOAA)

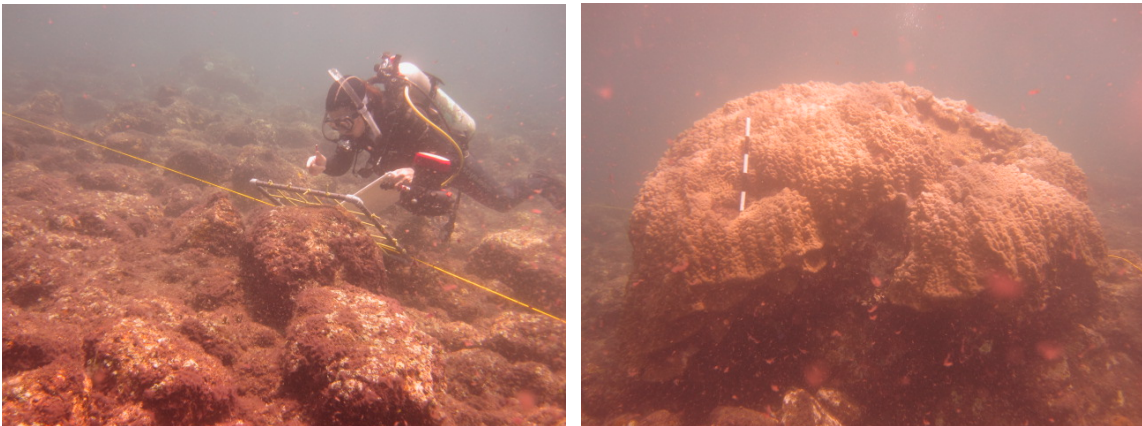


Figure E. 21. The reef habitat and a large Porites coral head at D009. (photographs by N. Sukhraj, FWS)

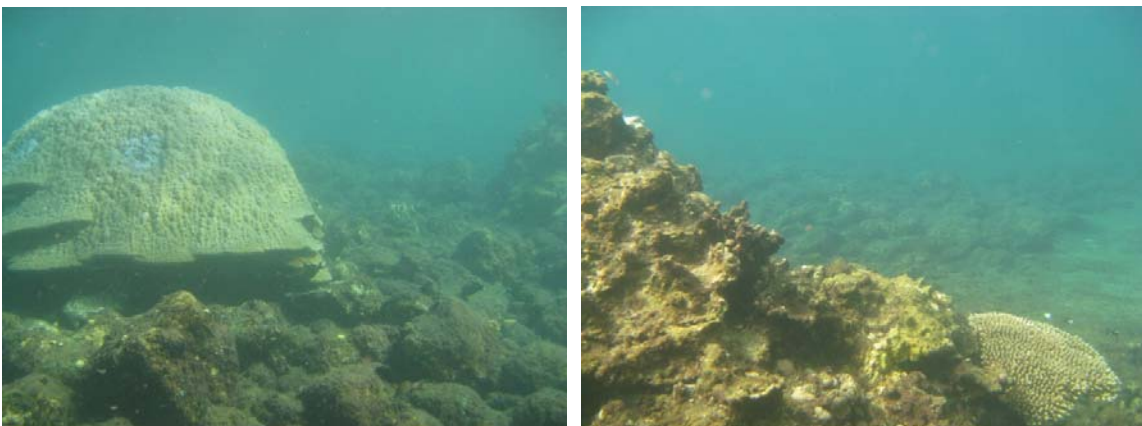


Figure E. 22. The reef habitat at D010. (photographs by S. McKagan, NOAA)

Marine Resource Surveys of Pagan

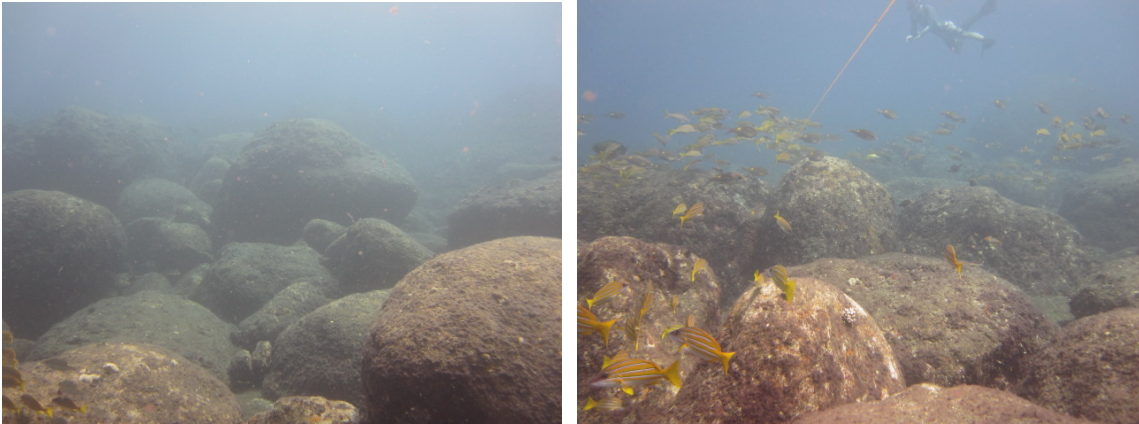


Figure E. 23. The boulder field at D014 (photographs by N. Sukhraj, FWS)

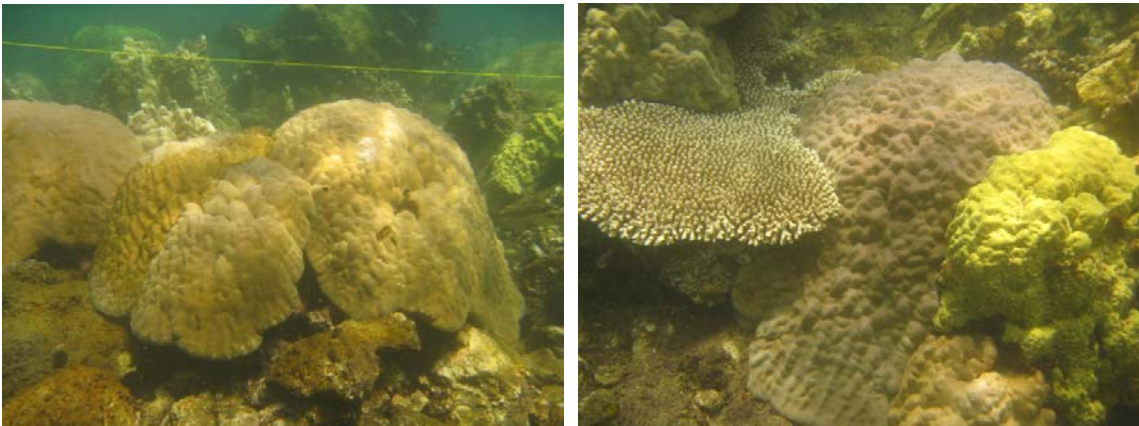


Figure E. 24. Corals colonies at D036 (photographs by S. Kolinski, NOAA)

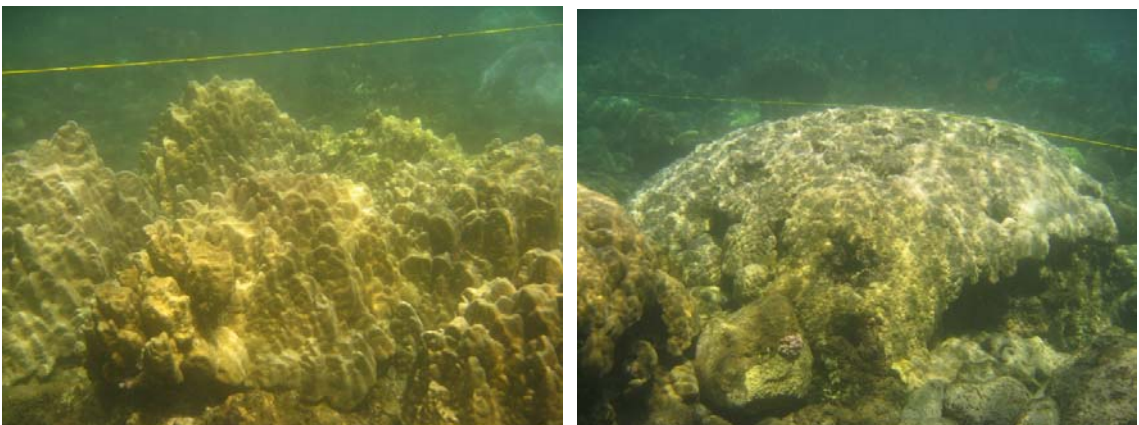


Figure E. 25. Coral colonies at D037. (photographs by S. Kolinski, NOAA)

Marine Resource Surveys of Pagan

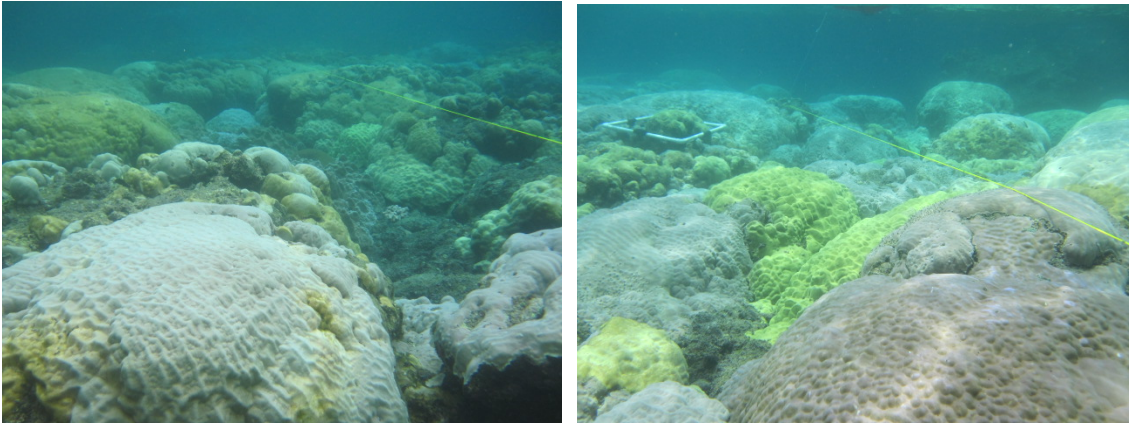


Figure E. 26. The reef habitat at D040. (photographs by N. Sukhraj, FWS)



Figure E. 27. The reef habitat at D041. (photographs by N. Sukhraj, FWS)

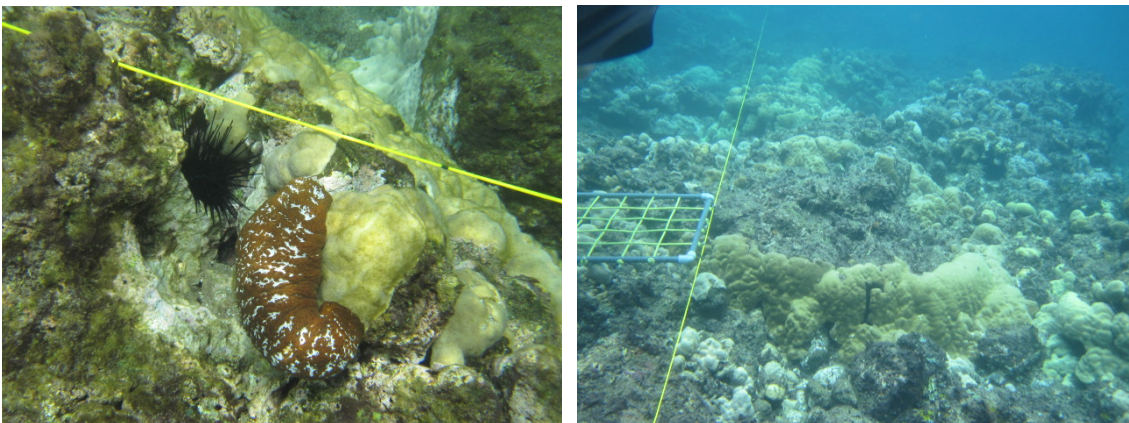


Figure E. 28. Various echinoderms and the reef slope at D041. (photographs by N. Sukhraj, FWS)

Marine Resource Surveys of Pagan

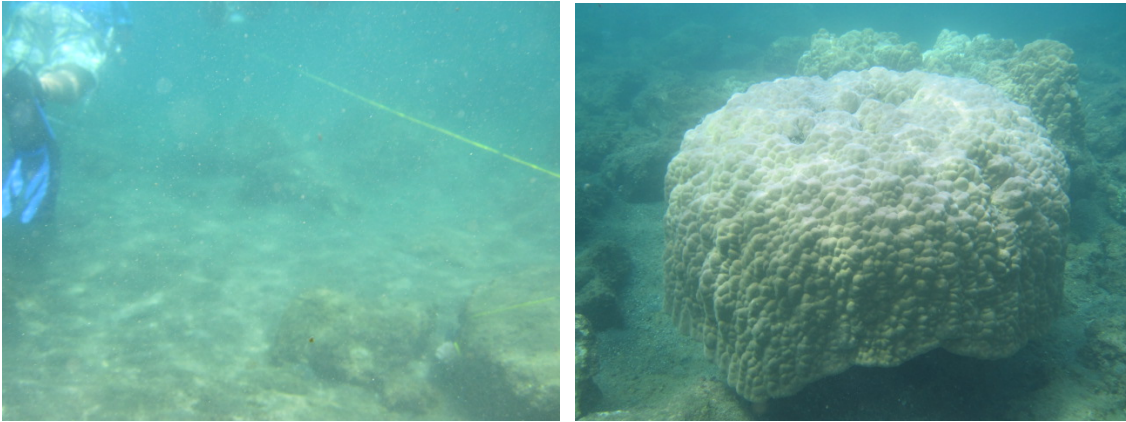


Figure E. 29. The reef habitat at D043. (photographs by N. Sukhraj, FWS)



Figure E. 30. The reef habitat at D044. (photographs by N. Sukhraj, FWS)

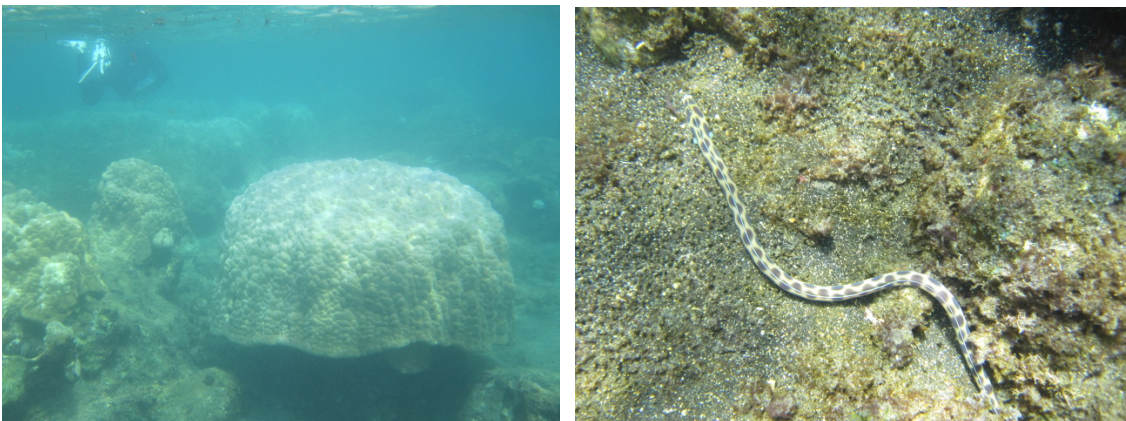


Figure E. 31. The reef habitat and an eel at D044. (photographs by N. Sukhraj, FWS)

Marine Resource Surveys of Pagan



Figure E. 32. The boulder field at E008. (photographs by N. Sukhraj, FWS (left) and S. Kolinski, NOAA (right))



Figure E. 33. The reef habitat at E009. (photographs by N. Sukhraj, FWS (left) and S. Kolinski, NOAA (right))

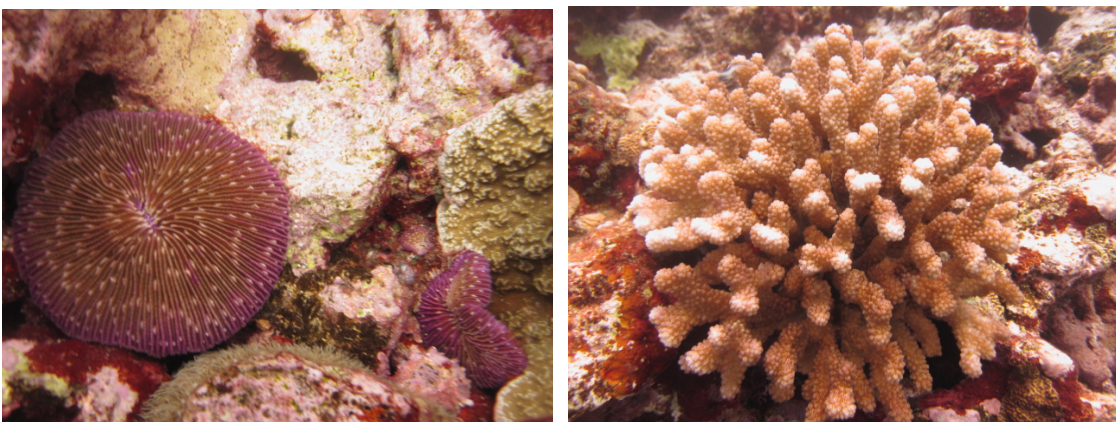


Figure E. 34. Various corals observed at E009. (photographs by N. Sukhraj, FWS)

Marine Resource Surveys of Pagan

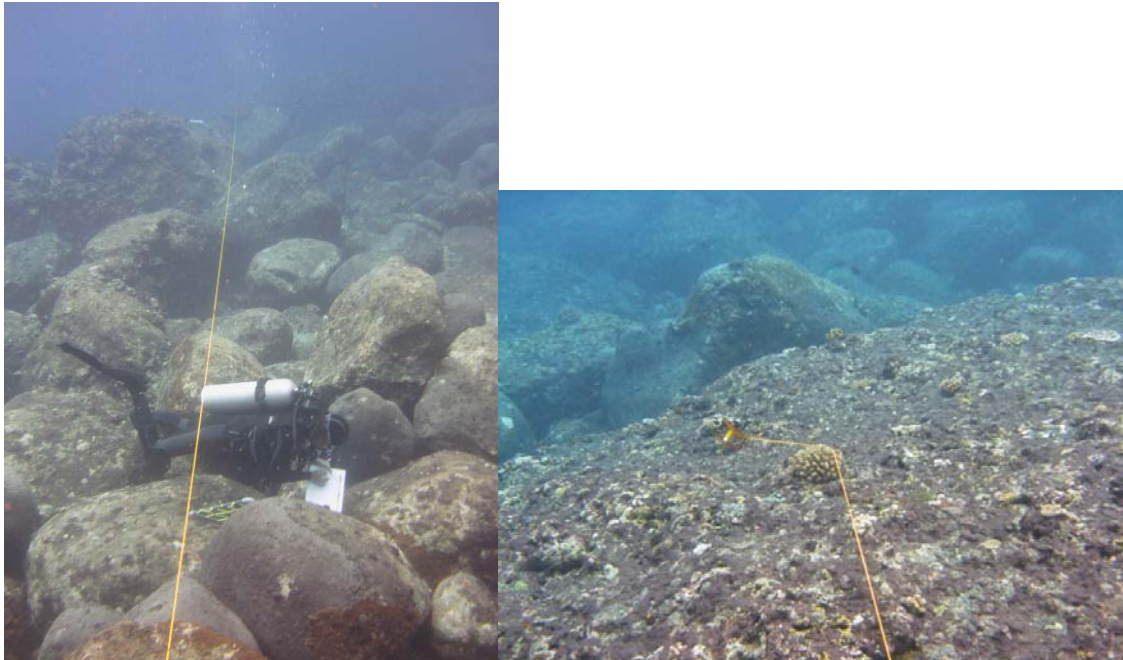


Figure E. 35. The reef habitat at E012. (photographs by N. Sukhraj, FWS (left) and S. Kolinski, NOAA (right))



Figure E. 36. Marine life observed at E012. (photographs by N. Sukhraj, FWS)

Marine Resource Surveys of Pagan

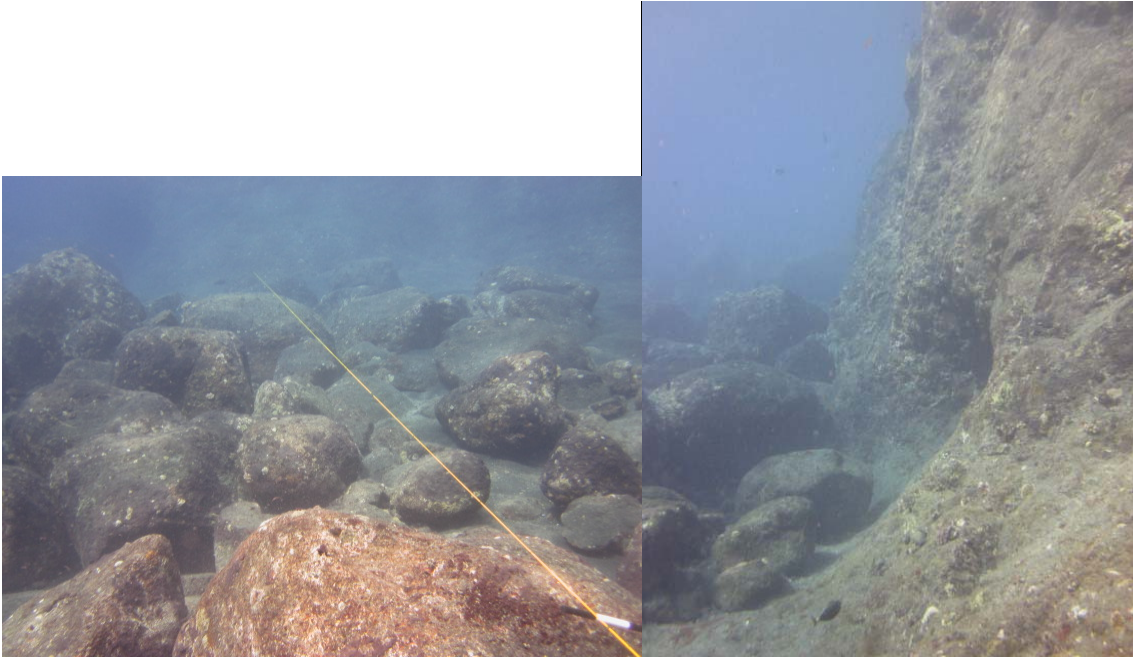


Figure E. 36. The reef habitat at E018. (photographs by N. Sukhraj, FWS)

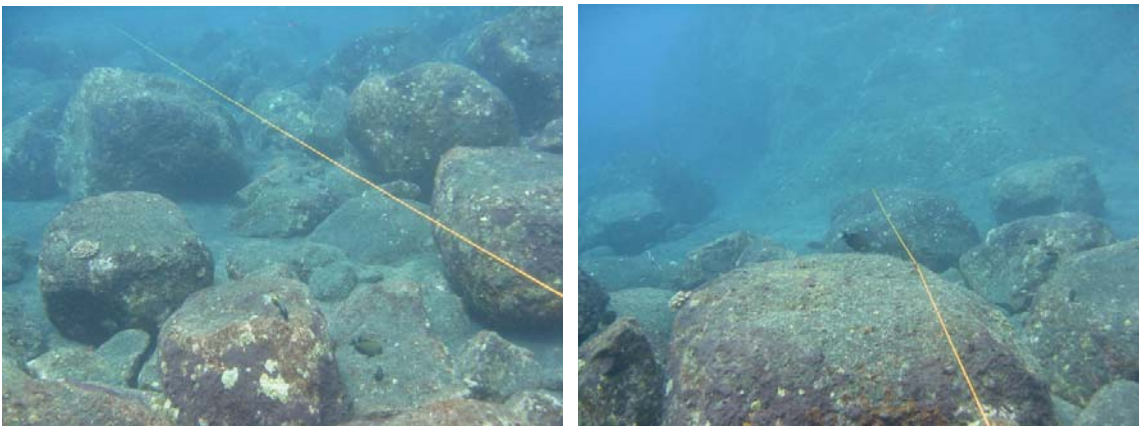


Figure E. 37. The reef habitat at E023. (photographs by S. Kolinski, NOAA)

Marine Resource Surveys of Pagan

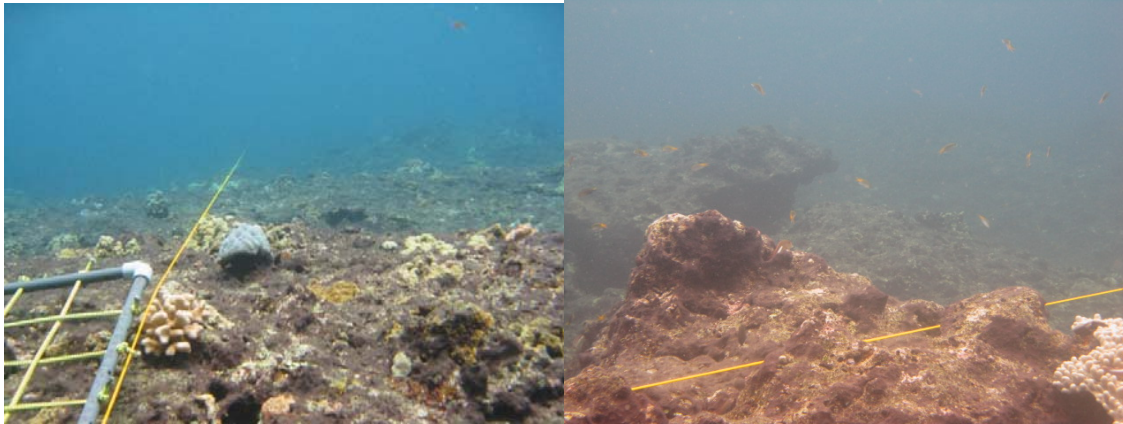


Figure E. 38. The reef habitat at X001. (photographs by S. Kolinski, NOAA (left) and N. Sukhraj, FWS (right))

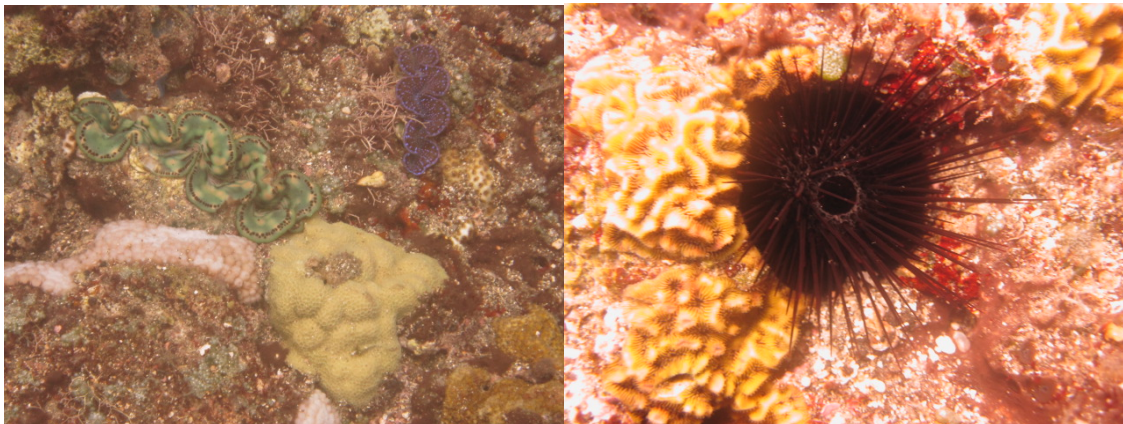


Figure E. 39. Benthic organisms observed at X001. (photographs by N. Sukhraj, FWS)

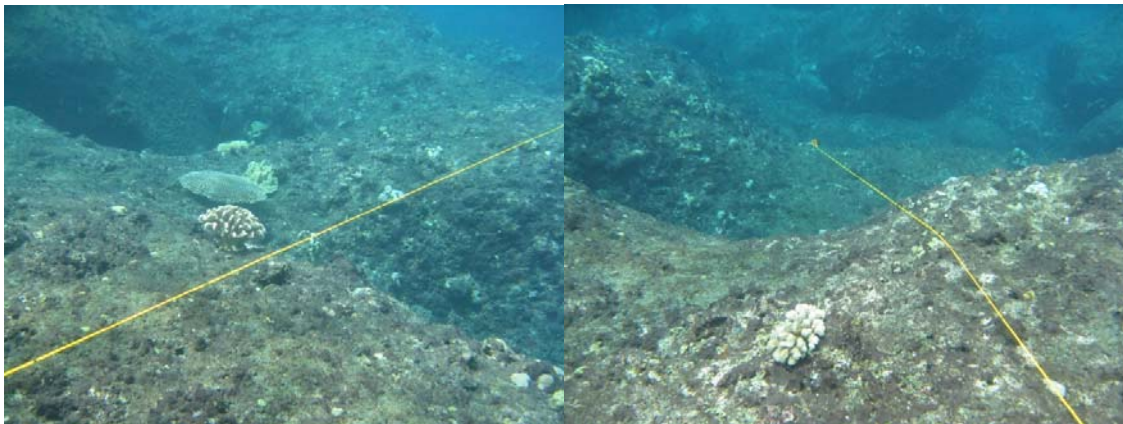


Figure E. 40. The reef slope at X003. (photographs by S. Kolinski, NOAA)

Marine Resource Surveys of Pagan



Figure E. 41. The boulder field at X005. (photographs by N. Sukhraj (left) and S. McKagan, NOAA (right))

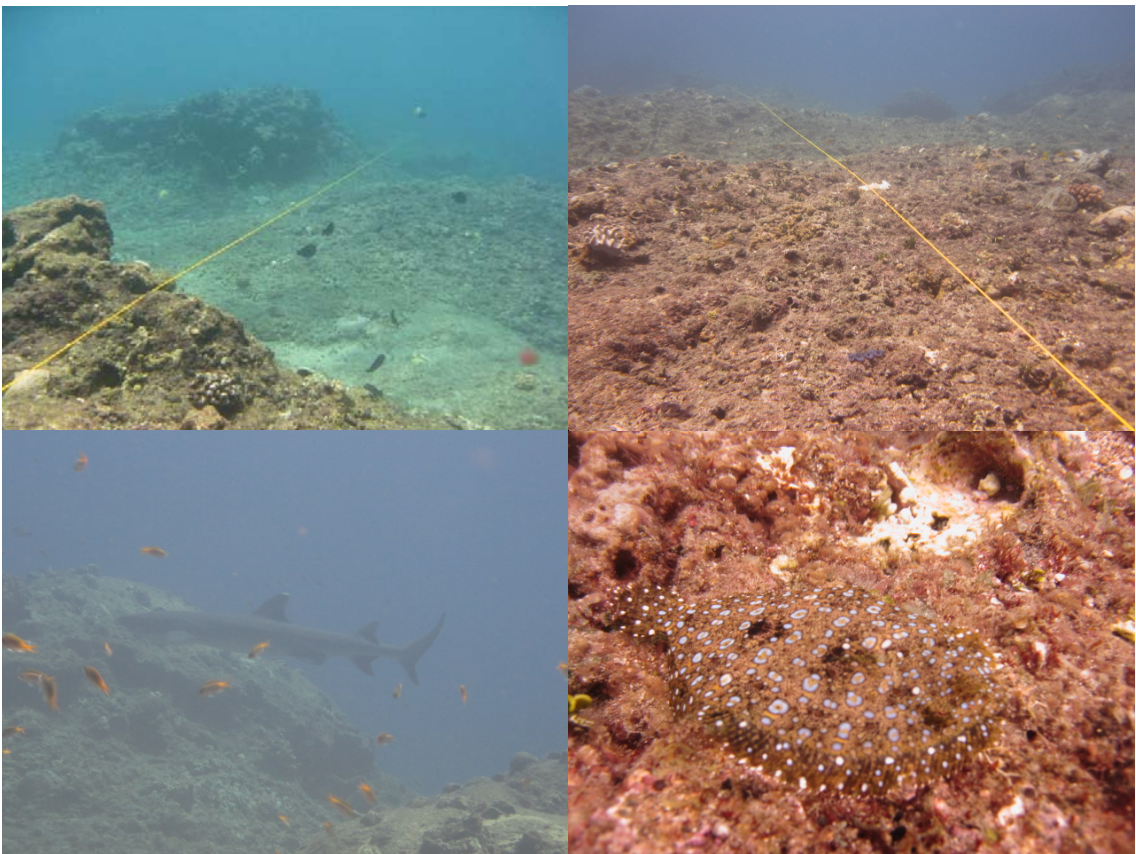


Figure E. 42. The reef habitat at X006. (photographs by S. Kolinski, NOAA, and N. Sukhraj, FWS)

Marine Resource Surveys of Pagan

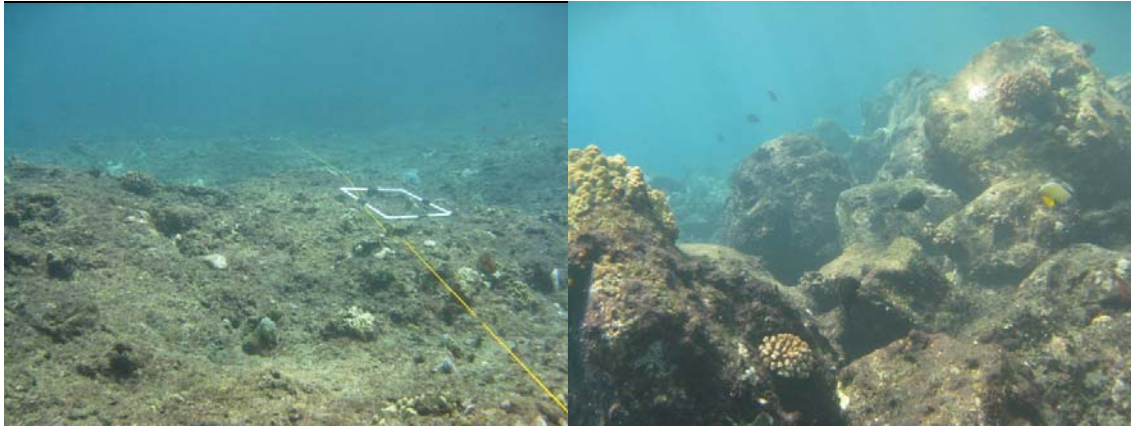


Figure E. 43. The reef habitat at X008. (photographs by S. Kolinski, NOAA)

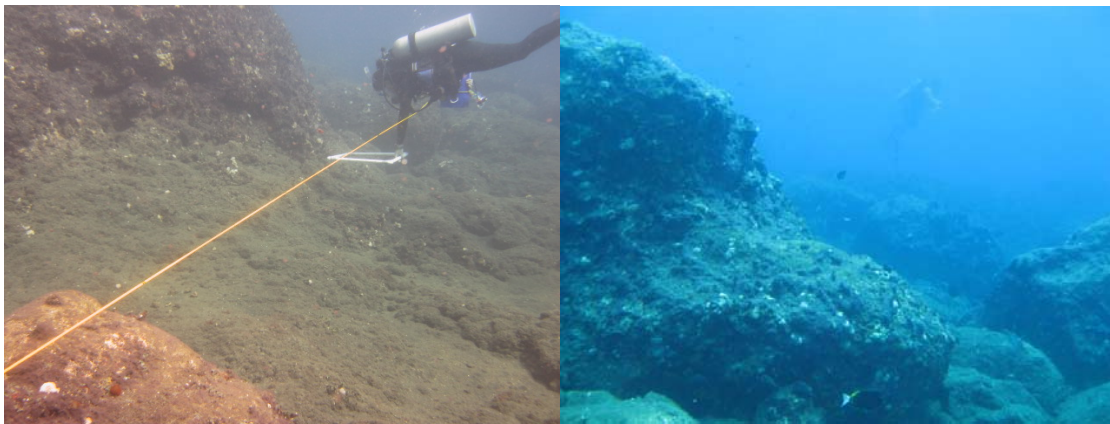


Figure E. 44. The reef habitat at X016. (photographs by N. Sukhraj, FWS (left) and S. McKagan, NOAA (right))

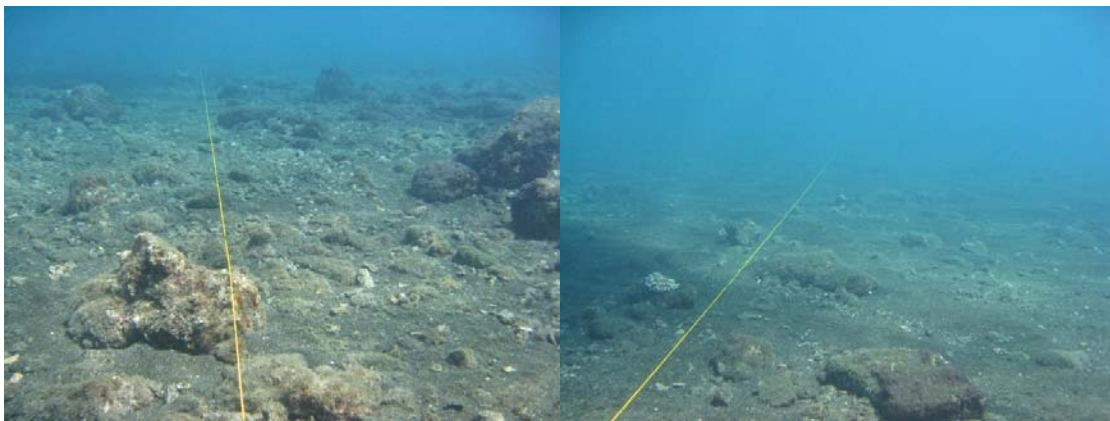


Figure E. 45. The reef habitat at X022. (photographs by S. Kolinski, NOAA)

Marine Resource Surveys of Pagan

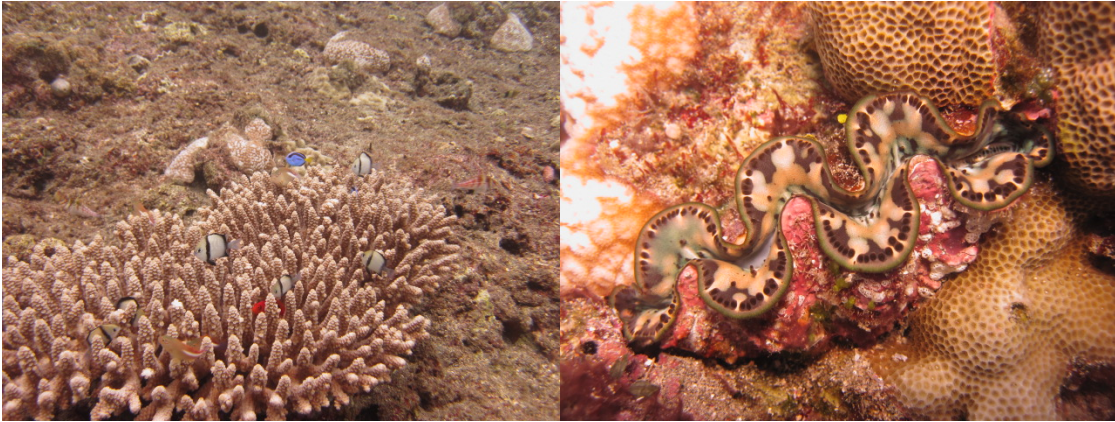


Figure E. 47. Marine life observed at X022. (photographs by N. Sukhraj, FWS)



Figure E. 48. The reef habitat at X039. (photographs by N. Sukhraj, FWS)

Appendix F.

Data: Laguna Bay, Map C

Table F.1. Benthic Algal Quadrats: Relative Cover

Table F.2. Coral Belt Transects: Colony Counts

Table F.3. Coral Belt Transects: Colony Size

Table F.4. Fish Belt Transects: Fish Density

Table F.5. SPC Surveys: Fish Density

Table F.6. Fish Belt Transects: Fish Biomass

Table F.7. SPC Surveys: Fish Biomass

Table F.8. Non-coral Invertebrate Transects: Individual Counts

Table F.1. Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map C. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats			Percent Cover										
			Map C										
Taxon	Family	Taxon Name	C1	C2	C3	C6	C9	C11	C14	C23	C24	C43	
Prokaryota	Cyanobacteria	Calothrix sp.		0.2									
		Cyanobacterium green tuft											
		Cyanobacterium sp.											
		Hormothamnion enteromorphioides				3.2	1.7	0.5		11.5	14.5		20.3
		Hydrocoleum coccineum					0.8	0.2					
		Hydrocoleum sp.									0.3		
		Lyngbya bouillonii						2.7				0.7	
		Lyngbya penicilliformis											
		Lyngbya polychroa					0.2				0.2		
		Lyngbya semiplena			0.3								
		Phormidium cf. dimorphum			0.2								
		Schizothrix mexicana									0.2	0.2	
		Schizothrix sp.			0.2								
Symploca hydnoidea									0.2				
Prokaryota	Total		0.8	3.2	2.7	3.3			11.7	15.2	0.8	20.3	
Chlorophyta	Bryopsidaceae	Bryopsis pennata											
		Caulerpaceae							0.2				
		Caulerpa antoensis											
		Caulerpa elongata											
		Caulerpa nummularia											
	Dasycladaceae	Caulerpa serrulata											
		Caulerpa taxifolia											
		Bornetella nitida								0.5			
		Bornetella sphaerica										0.2	
	Palmellopsidaceae	Neomeris annulata					0.2	0.2	0.3	0.3		0.5	
		Neomeris vanbosseae											
Polyphysaceae	Palmophyllum crassa												
	Polyphysaceae	Parvocaulis parvula							0.2				

Table F.1 (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map C. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map C										
Taxon	Family	Taxon Name	C1	C2	C3	C6	C9	C11	C14	C23	C24	C43	
Chlorophyta (cont.)	Siphonocladales Clade 1	Boergesenia forbesii											
	Clade 2,3,4,5 & outgroup	Cladophora sericea		0.2	0.5								
	Clade 5	Anadyomene wrightii											
	Clade 6	Valonia ventricosa		0.2		0.2			0.2	0.2		0.7	
	Clade 7	Dictyosphaeria cavernosa							0.2				
		Dictyosphaeria intermedia							0.5	0.3		0.5	
		Dictyosphaeria versluysii							0.3	0.3			
	Clade 8	Valoniopsis pachynema							0.2			0.2	
	Clade 9	Boodlea composita											
		Boodlea vanbosseae											
	Udoteaceae		Halimeda discoidea										0.3
			Halimeda gracilis										0.2
			Halimeda lacunalis/taenicola										
			Rhipidosiphon javensis				0.3						0.2
		Tydemanina expeditionis								0.2			
Chlorophyta Total				0.3	0.5	2.1	0.2	0.2	2.5	1.3		2.7	
Ochrophyta	Chnoosporaceae	Chnoospora minima										0.3	
		Chnoospora pannosa	0.3	0.3								0.2	
	Cutleriaceae	Cutleria sp.					0.5	0.3		0.3			
		Dictyotaceae	Dictyopteris repens										0.2
	Dictyota adnata					0.3		0.2	0.7			0.8	
	Dictyota bartayresiana												
	Dictyota ceylanica							0.2		0.3	0.2	0.2	0.2
	Dictyota friabilis									0.0		0.3	
	Lobophora variegata			2.5		4.6	5.7	1.0	2.2	0.9	0.8	3.3	
Padina sanctae-crucis					0.5	0.5		0.5		0.2			

Table F.1 (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map C. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map C																
Taxon	Family	Taxon Name	C1	C2	C3	C6	C9	C11	C14	C23	C24	C43							
Chlorophyta (cont.)	Sarcinochrysidaceae	Chrysocystis fragilis	0.7	0.5				0.7	0.3		0.3								
		Chrysonephos sp.																	
	Sarcinochrysis marina																		
	Sargassaceae	Sargassum polycystum											0.5						
Ochrophyta Total			1.0	3.3	0.0	5.4	7.5	1.8	3.7	1.3	1.9	5.3							
Diatom		Diatom																	
Diatom Total																			
Rhodophyta	Bonnemaisoniaceae	Asparagopsis taxiformis	0.2																
		Ceramiales																	
	Ceramiales																		
	Champiaceae	Champia parvula																	
	Corallinaceae	Amphiroa beauvoisii																	
		Amphiroa fragilissima																	
		Hydrolithon farinosum																	
		Hydrolithon gardineri																	
		Hydrolithon onkodes											6.2	0.3	0.2	2.3	1.7	0.2	0.5
		Hydrolithon rupestre																	
		Jania adhaerens											0.3						
		Jania pumila											0.5	0.2	0.0	0.2	0.5	0.5	0.3
		Jania sp.															0.7	0.2	
		Jania spectabile																	
		Lithophyllum kotschyanum																	
		Lithophyllum okamurae																	
		Mesophyllum simulans														0.3	0.2	0.7	
		Neogoniolithon rugulosum															0.7		
		Pneophyllum conicum															0.8	0.6	
Galaxauraceae		Actinotrichia fragilis	0.3																

Table F.1 (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map C. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map C											
Taxon	Family	Taxon Name	C1	C2	C3	C6	C9	C11	C14	C23	C24	C43		
Cnidaria	Acroporidae	Acropora digitifera												
		Acropora humilis												
		Astreopora listeri				0.5								
		Astreopora myriophthalma				0.3			0.2	0.2				
		Montipora floweri												
		Montipora foveolata												
		Montipora sp.												
		Montipora tuberculosa												
		Agariciidae	Leptoseris mycetoseroides											
			Pavona sp.											
	Pavona varians					0.3					0.8			
	Alcyoniidae	Sinularia sp.												
	Astrocoeniidae	Stylocoeniella armata												
	Dendrophylliidae	Turbinaria stellulata											0.3	
	Faviidae	Cyphastrea agassizi				1.2				0.8				
		Cyphastrea microphthalma												
		Cyphastrea sp.									0.5		3.4	
		Favia fавus												
		Favia mathaei				0.5			0.3					
		Favia pallida									0.2		0.3	
		Favia sp.												
		Favia stelligera									0.2			
		Favites russelli									0.7			
Favites sp.					0.2									
Goniastrea edwardsi	Goniastrea edwardsi													
Goniastrea pectinata	Goniastrea pectinata											0.2		
Goniastrea retiformis	Goniastrea retiformis									0.2				
Leptastrea bottae	Leptastrea bottae									0.2		0.3		

Table F.2. Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Laguna Bay, Map C.

Coral Counts Belt Transects		Number of Colonies		Map C				
Genus	Taxa	C 001	C 002	C003	C005	C 006	C 009	C 011
<i>Acanthastrea</i>	<i>Acanthastrea echinata</i>				6			
	<i>Acanthastrea brevis</i>				1			
	<i>Acanthastrea</i> spp.							
<i>Acropora</i>	<i>Acropora abrotanoides</i>							
	<i>Acropora azurea</i>							
	<i>Acropora digitifera</i>							
	<i>Acropora humilis</i> (complex)							
	<i>Acropora loripes</i>							
	<i>Acropora monticulosa</i>							
	<i>Acropora nasuta</i>							
	<i>Acropora quelchi</i>							
	<i>Acropora robusta</i>							
	<i>Acropora secale</i>							
	<i>Acropora</i> spp.							
	<i>Acropora surculosa</i>							
	<i>Acropora tenuis</i>							
	<i>Acropora valida</i>							
<i>Acropora vauhani</i>								
<i>Acropora verweyi</i>								
<i>Astreopora</i>	<i>Astreopora listeri</i>				1			
	<i>Astreopora myriophthalma</i>				3	3		
	<i>Astreopora randalli</i>							
<i>Coscinaraea</i>	<i>Coscinaraea columna</i>							
	<i>Coscinaraea ramose</i>							

Table F.2. (continued). Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Laguna Bay, Map C.

Coral Counts Belt Transects		Number of Colonies		Map C				
Genus	Taxa	C 001	C 002	C003	C005	C 006	C 009	C 011
<i>Cyphastrea</i>	<i>Cyphastrea agassizi</i>		2		1	32		
	<i>Cyphastrea chalcidicum</i>					1		
	<i>Cyphastrea ocellina</i>							
	<i>Cyphastrea serailia</i>				1			
	<i>Cyphastrea</i> spp.							
<i>Echinophyllia</i>	<i>Echinophyllia echinata</i>							
<i>Echinopora</i>	<i>Echinopora lamellosa</i>							
<i>Favia</i>	<i>Favia matthaii</i> (complex)		1		44	30		
	<i>Favia speciosa</i>							
	<i>Favia</i> spp.							
	<i>Favia stelligera</i>							
<i>Favites</i>	<i>Favites abdita</i>							
	<i>Favites pentagona</i>							
	<i>Favites</i> sp.1							
	<i>Favites</i> sp.2							
<i>Galaxea</i>	<i>Galaxea fascicularis</i>				10			
<i>Goniastrea</i>	<i>Goniastrea edwardsi</i>				4			
	<i>Goniastrea retiformis</i>							
<i>Goniopora</i>	<i>Goniopora somaliensis</i>							
<i>Heliopora</i>	<i>Heliopora coerulea</i>							
<i>Hydnophora</i>	<i>Hydnophora microconos</i>							
<i>Leptastrea</i>	<i>Leptastrea purpurea</i>				10	22		
	<i>Leptastrea transversa</i>							

Table F.2. (continued). Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Laguna Bay, Map C.

Coral Counts Belt Transects		Number of Colonies		Map C				
Genus	Taxa	C 001	C 002	C003	C005	C 006	C 009	C 011
<i>Leptoria</i>	<i>Leptoria phrygia</i>							
<i>Lobophyllia</i>	<i>Lobophyllia hemprichii</i>							
<i>Merulina</i>	<i>Merulina ampliata</i>							
<i>Montastrea</i>	<i>Montastrea curta</i>				1	6		
	<i>Montastrea valenciennesi</i>							
<i>Montipora</i>	<i>Montipora efflorescens</i>							
	<i>Montipora ehrenbergii</i>							
	<i>Montipora grisea</i>							
	<i>Montipora hoffmeisteri</i>							
	<i>Montipora informis</i>							
	<i>Montipora lobulata</i>							
	<i>Montipora monasteriata</i>							
	<i>Montipora</i> sp.1							
	<i>Montipora</i> sp.2 (Randall 2003)							
	<i>Montipora tuberculosa</i>							
<i>Montipora turgescens</i>								
<i>Oxypora</i>	<i>Oxypora lacera</i>							
<i>Pavona</i>	<i>Pavona duerdeni</i>							
	<i>Pavona varians</i>				19	1		
<i>Platygyra</i>	<i>Platygyra pini</i>							
	<i>Platygyra sinensis</i>							

Table F.2. (continued). Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Laguna Bay, Map C.

Coral Counts Belt Transects		Number of Colonies							Map C	
Genus	Taxa	C 001	C 002	C003	C005	C 006	C 009	C 011		
<i>Pocillopora</i>	<i>Pocillopora ankei</i>									
	<i>Pocillopora damicornis</i>									
	<i>Pocillopora elegans</i>									
	<i>Pocillopora eydouxi</i>									
	<i>Pocillopora meandrina</i>									
	<i>Pocillopora setchelli</i>									
	<i>Pocillopora</i> spp. (juv)		12							12
	<i>Pocillopora verrucosa</i>					18				
<i>Porites</i>	<i>Porites lobata</i>				24					
	<i>Porites lutea</i>				4	20				
	<i>Porites massive</i>									
	<i>Porites rus</i>				7					
	<i>Porites</i> spp.									
<i>Psammocora</i>	<i>Psammocora digitata</i>									
	<i>Psammocora haimeana</i>		5		5	1				
	<i>Psammocora nierstraszi</i>									
<i>Scolymia</i>	<i>Scolymia australis</i>				1					
<i>Sinularia</i>	<i>Sinularia</i> spp.									
<i>Stylocoeniella</i>	<i>Stylocoeniella armata</i>									
<i>Stylophora</i>	<i>Stylophora mordax</i>									
<i>Turbinaria</i>	<i>Turbinaria irregularis</i>									
TOTAL COLONIES		0	20	0	160	116	0	12		

Table F.2. (continued). Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Laguna Bay, Map C.

Coral Counts Belt Transects		Number of Colonies					Map C				
Genus	Taxa	C 014	C 023	C 024	C 043	C 091					
<i>Acanthastrea</i>	<i>Acanthastrea echinata</i>					5					
	<i>Acanthastrea</i> spp.										
<i>Acropora</i>	<i>Acropora abrotanoides</i>										
	<i>Acropora azurea</i>										
	<i>Acropora digitifera</i>										
	<i>Acropora humilis</i> (complex)										
	<i>Acropora loripes</i>										
	<i>Acropora monticulosa</i>										
	<i>Acropora nasuta</i>										
	<i>Acropora quelchi</i>										
	<i>Acropora robusta</i>										
	<i>Acropora secale</i>										
	<i>Acropora</i> spp.										
	<i>Acropora surculosa</i>										
	<i>Acropora tenuis</i>		1	1							
	<i>Acropora valida</i>										
<i>Acropora vauhani</i>											
<i>Acropora verweyi</i>											
<i>Astreopora</i>	<i>Astreopora listeri</i>										
	<i>Astreopora myriophthalma</i>	3	12		2	58					
	<i>Astreopora randalli</i>										
<i>Coscinaraea</i>	<i>Coscinaraea columna</i>										
	<i>Coscinaraea ramose</i>										

Table F.2. (continued). Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Laguna Bay, Map C.

Coral Counts Belt Transects		Number of Colonies					Map C				
Genus	Taxa	C 014	C 023	C 024	C 043	C 091					
<i>Cyphastrea</i>	<i>Cyphastrea agassizi</i>	31	7		51						
	<i>Cyphastrea chalcidicum</i>					8					
	<i>Cyphastrea ocellina</i>										
	<i>Cyphastrea serailia</i>	1	7			8					
	<i>Cyphastrea</i> spp.										
<i>Echinophyllia</i>	<i>Echinophyllia echinata</i>										
<i>Echinopora</i>	<i>Echinopora lamellosa</i>										
<i>Favia</i>	<i>Favia matthaii</i> (complex)	7	22		21	36					
	<i>Favia rotumana</i>	1				2					
	<i>Favia speciosa</i>										
	<i>Favia</i> spp.										
	<i>Favia stelligera</i>		1								
<i>Favites</i>	<i>Favites abdita</i>										
	<i>Favites pentagona</i>										
	<i>Favites</i> sp.1										
	<i>Favites</i> sp.2										
<i>Galaxea</i>	<i>Galaxea fascicularis</i>		2			7					
<i>Gardineroseris</i>	<i>Gardineroseris planulata</i>										
<i>Goniastrea</i>	<i>Goniastrea edwardsi</i>	2									
	<i>Goniastrea retiformis</i>		1								
<i>Goniopora</i>	<i>Goniopora minor</i>					13					
	<i>Goniopora somaliensis</i>										
	<i>Goniopora</i> spp.					1					

Table F.2. (continued). Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Laguna Bay, Map C.

Coral Counts Belt Transects		Number of Colonies					Map C				
Genus	Taxa	C 014	C 023	C 024	C 043	C 091					
<i>Heliopora</i>	<i>Heliopora coerulea</i>					1					
<i>Hydnophora</i>	<i>Hydnophora microconos</i>										
<i>Leptastrea</i>	<i>Leptastrea purpurea</i>	2	35		21	44					
	<i>Leptastrea transversa</i>					1					
<i>Leptoria</i>	<i>Leptoria phrygia</i>										
<i>Leptoseris</i>	<i>Leptoseris explanata</i>										
	<i>Leptoseris</i> spp.					4					
<i>Lobophyllia</i>	<i>Lobophyllia hemprichii</i>										
<i>Merulina</i>	<i>Merulina ampliata</i>										
<i>Montastrea</i>	<i>Montastrea curta</i>										
	<i>Montastrea valenciennesi</i>										
<i>Montipora</i>	<i>Montipora caliculata</i>					2					
	<i>Montipora efflorescens</i>										
	<i>Montipora ehrenbergii</i>										
	<i>Montipora grisea</i>										
	<i>Montipora hoffmeisteri</i>		5			1					
	<i>Montipora informis</i>										
	<i>Montipora lobulata</i>										
	<i>Montipora monasteriata</i>										
	<i>Montipora</i> sp.1			2			2				
	<i>Montipora</i> sp.2 (Randall 2003)										
	<i>Montipora tuberculosa</i>										
	<i>Montipora turgescens</i>										
<i>Montipora verrucosa</i>		1									

Table F.2. (continued). Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Laguna Bay, Map C.

Coral Counts Belt Transects		Number of Colonies					Map C				
Genus	Taxa	C 014	C 023	C 024	C 043	C 091					
<i>Oxypora</i>	<i>Oxypora lacera</i>					4					
<i>Pavona</i>	<i>Pavona duerdeni</i>										
	<i>Pavona varians</i>	4	21		1	23					
<i>Platygyra</i>	<i>Platygyra pini</i>		1								
	<i>Platygyra sinensis</i>										
<i>Plesiastrea</i>	<i>Plesiastrea verispora</i>					1					
<i>Pocillopora</i>	<i>Pocillopora ankei</i>										
	<i>Pocillopora damicornis</i>										
	<i>Pocillopora elegans</i>										
	<i>Pocillopora eydouxi</i>		9		1						
	<i>Pocillopora meandrina</i>										
	<i>Pocillopora setchelli</i>										
	<i>Pocillopora</i> spp. (juv)		11	1	16	11	1				
<i>Porites</i>	<i>Pocillopora verrucosa</i>	1									
	<i>Porites lobata</i>		27		76	20					
	<i>Porites lutea</i>		7								
	<i>Porites massive</i>										
	<i>Porites rus</i>					5					
<i>Porites</i> spp.		19		1							
<i>Psammocora</i>	<i>Psammocora digitata</i>										
	<i>Psammocora haimeana</i>	18	8		2	65					
	<i>Psammocora nierstraszi</i>										

Table F.2. (continued). Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Laguna Bay, Map C.

Coral Counts Belt Transects		Map C						
Genus	Taxa	C 014	C 023	C 024	C 043	C 091		
<i>Scolymia</i>	<i>Scolymia australis</i>					5		
<i>Sinularia</i>	<i>Sinularia</i> spp.							
<i>Stylocoeniella</i>	<i>Stylocoeniella armata</i>	1	1			5		
<i>Turbinaria</i>	<i>Turbinaria irregularis</i>							
	<i>Turbinaria stellulata</i>		1					
TOTAL COLONIES		103	171	17	186	322	0	0

Table F.3. (continued) Number of coral colonies in each size class observed at survey sites within Laguna Bay, Map C. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies	Map C						
Genus	Taxa		>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Cyphastrea</i>	<i>Cyphastrea agassizi</i>	74	32	15	2	1			
	<i>Cyphastrea chalcidicum</i>	5	2	2					
	<i>Cyphastrea ocellina</i>								
	<i>Cyphastrea serailia</i>	9	6	2					
	<i>Cyphastrea</i> spp.								
<i>Echinophyllia</i>	<i>Echinophyllia echinata</i>								
<i>Echinopora</i>	<i>Echinopora lamellosa</i>								
<i>Favia</i>	<i>Favia matthaii</i> (complex)	152	4	2	1				
	<i>Favia rotumana</i>		3						
	<i>Favia speciosa</i>								
	<i>Favia</i> spp.								
	<i>Favia stelligera</i>		1						
<i>Favites</i>	<i>Favites abdita</i>								
	<i>Favites pentagona</i>								
	<i>Favites</i> sp.1								
	<i>Favites</i> sp.2								
<i>Galaxea</i>	<i>Galaxea fascicularis</i>	2	6	11					
<i>Gardineroseris</i>	<i>Gardineroseris planulata</i>	1							
<i>Goniastrea</i>	<i>Goniastrea edwardsi</i>	5	1						
	<i>Goniastrea retiformis</i>	1							
<i>Goniopora</i>	<i>Goniopora minor</i>	9	3	1					
	<i>Goniopora somaliensis</i>								
	<i>Goniopora</i> spp.	1							

Table F.3. (continued) Number of coral colonies in each size class observed at survey sites within Laguna Bay, Map C. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies		Map C		All Sites			
Genus	Taxa	>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm	
<i>Oxypora</i>	<i>Oxypora lacera</i>								
<i>Pavona</i>	<i>Pavona duerdeni</i>								
	<i>Pavona varians</i>	37	23	7	2				
<i>Platygyra</i>	<i>Platygyra pini</i>	1							
	<i>Platygyra sinensis</i>								
<i>Plesiastrea</i>	<i>Plesiastrea verispora</i>		1						
<i>Pocillopora</i>	<i>Pocillopora ankei</i>								
	<i>Pocillopora damicornis</i>								
	<i>Pocillopora elegans</i>								
	<i>Pocillopora eydouxi</i>	8		1	1				
	<i>Pocillopora meandrina</i>								
	<i>Pocillopora setchelli</i>								
	<i>Pocillopora</i> spp. (juv)	61	2						
	<i>Pocillopora verrucosa</i>	1		2	2				
	<i>Pocillopora verrucosa/ankei</i>	15	1	1	2				
<i>Porites</i>	<i>Porites lobata</i>	105	19	8	9	5	1		
	<i>Porites lutea</i>	20	1	3	3	2	3		
	<i>Porites massive</i>								
	<i>Porites rus</i>	3	2	3	4				
	<i>Porites</i> spp.	14	5	2					

Table F.3. (continued) Number of coral colonies in each size class observed at survey sites within Laguna Bay, Map C. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies	Map C All Sites					
Genus	Taxa	>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Psammocora</i>	<i>Psammocora digitata</i>							
	<i>Psammocora haimeana</i>	92	10	3				
	<i>Psammocora nierstraszi</i>							
<i>Scolymia</i>	<i>Scolymia australis</i>	6						
<i>Sinularia</i>	<i>Sinularia</i> spp.							
<i>Stylocoeniella</i>	<i>Stylocoeniella armata</i>	7	5					
<i>Stylophora</i>	<i>Stylophora mordax</i>							
<i>Turbinaria</i>	<i>Turbinaria irregularis</i>							
	<i>Turbinaria stellulata</i>			1				
TOTAL		805	184	82	29	10	5	0

% colony size class	72.2	16.5	7.4	2.6	0.9	0.4	0.0
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Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Carangidae	Carangoides ferdau	1.00	2.00					
	Carangoides orthogrammus		2.00					
	Caranx ignobilis							
	Caranx lugubris							
	Scomberoides lysan	0.50						
Carangidae Total		1.50	4.00					
Carcharhinidae	Trienodon obesus				0.50			
Carcharhinidae Total					0.50			
Chaetodontidae	Chaetodon auriga							
	Chaetodon ephippium							
	Chaetodon lunula							
	Chaetodon ornatissimus							
	Chaetodon punctatofasciatus							
	Chaetodon quadrimaculatus		4.00			2.00	8.00	
	Chaetodon unimaculatus					2.00		
Heniochus chrysostomus				4.00				
Chaetodontidae Total			4.00		4.00	4.00	8.00	
Cirrhitidae	Cirrhichthys falco							
	Cirrhitops fasciatus							
	Cirrhites pinnulatus							
	Neocirrhites armatus							
	Paracirrhites arcatus				6.00			
	Paracirrhites forsteri				2.00			
Cirrhitidae Total					8.00			
Fistulariidae	Fistularia commersonii							
Fistulariidae Total								

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Gobiidae	Amblyeleotris fasciatus							
	Eviota sp.							
	Gobiid sp.	200.00		200.00		10.00	8.00	
	Valenciennea strigata							4.00
Gobiidae Total	200.00		200.00			10.00	8.00	4.00
Hemiramphidae	Hemiramphus lutkei							
Hemiramphidae Total								
Holocentridae	Myripristis amaena							
	Myripristis berndti				0.50			
	Sargocentron tiere					0.50		
Holocentridae Total				0.50	0.50			
Kyphosidae	Kyphosus bigibbus				4.50	0.50		
	Kyphosus cinerascens					1.00		
	Kyphosus vaigiensis							
Kyphosidae Total				4.50	1.50			
Labridae	Anampses caeruleopunctatus							
	Cirrhilabrus katherinae				2.00		12.00	4.00
	Coris aygula					2.00	1.00	
	Coris dorsomacula							6.00
	Coris gaimard					3.00		
	Gomphosus varius							
	Halichoeres biocellatus					2.00		2.00
	Halichoeres hortulanus					2.00		
	Halichoeres margaritaceus							
	Halichoeres marginatus							
Halichoeres ornatissimus				14.00	8.00	40.00	24.00	

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C							
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009	
Labridae (cont.)	Hemigymnus melapterus	20.00							
	Hologymnosus annulatus								
	Hologymnosus doliatus								
	Iniistius celebicus								
	Labrid sp.								
	Labroides bicolor								
	Labroides dimidiatus					6.00	4.00	16.00	2.00
	Labropsis xanthonota								
	Macropharyngodon meleagris							4.00	
	Novaculichthys taeniourus								
	Oxycheilinus unifasciatus								
	Pseudocheilinus octotaenia							8.00	
	Pseudojuloides atavai							4.00	
	Stethojulis bandanensis								
	Stethojulis strigiventer								
	Thalassoma amblycephalum				10.00		2.00		
Thalassoma lutescens			2.00				12.00	6.00	
Thalassoma quinquevittatum					2.00				
Thalassoma trilobatum									
Xyrichtys halsteadii		4.00							
Labridae Total		24.00	12.00		26.00	21.00	97.00	44.00	
Lethrinidae	Gnathodentex aureolineatus				2.50				
	Monotaxis grandoculis				0.50				
Lethrinidae Total					3.00				

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Lutjanidae	Aphareus furca						5.00	
	Aprion virescens							
	Lutjanus bohar							
	Lutjanus fulvus		4.00			1.50		2.00
	Lutjanus gibbus							
	Lutjanus kasmira		8.00		20.00	110.00		22.00
	Lutjanus monostigma							
	Macolor macularis							
	Macolor niger							
Lutjanidae Total			12.00		20.00	111.50	5.00	24.00
Malacanthidae	Malacanthus latovittatus							
Malacanthidae Total								
Microdesmidae	Microdesmid sp.							
	Nemateleotris magnifica						4.00	
	Ptereleotris evides							
	Ptereleotris microlepis							
	Ptereleotris zebra							
Microdesmidae Total							4.00	
Monacanthidae	Cantherhines dumerilii							
Monacanthidae Total								
Mullidae	Mulloidichthys flavolineatus							
	Mulloidichthys vanicolensis				22.00			
	Parupeneus barberinus		4.00		4.00			
	Parupeneus cyclostomus							
	Parupeneus insularis				2.00			
	Parupeneus multifasciatus						8.00	4.00
Mullidae Total			4.00		28.00		8.00	4.00

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Muraenidae	Gymnothorax javanicus						1.00	
Muraenidae Total							1.00	
Ostraciidae	Ostracion meleagris							
Ostraciidae Total								
Pempheridae	Pempheris oualensis							
Pempheridae Total								
Pinguipedidae	Parapercis clathrata							
	Parapercis millepunctata							4.00
	Parapercis multiplicata							
Pinguipedidae Total								4.00
Pomacanthidae	Apolemichthys trimaculatus							
	Centropyge flavissima				2.00			
	Centropyge shepardi							
	Pomacanthus imperator						4.00	
	Pygoplites diacanthus							
Pomacanthidae Total					2.00		4.00	
Pomacentridae	Abudefduf septemfasciatus							
	Abudefduf vaigiensis							
	Chromis acares				250.00		40.00	
	Chromis agilis				18.00		8.00	
	Chromis margaritifer					4.00	8.00	
	Chromis vanderbilti					4.00		
	Chromis xanthura							
	Chrysiptera biocellata							
	Chrysiptera brownriggii		2.00			2.00		
	Chrysiptera traceyi				4.00			
	Dascyllus trimaculatus		4.00				4.00	2.00

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
	Plectroglyphidodon imparipennis							
	Plectroglyphidodon johnstonianus							
	Plectroglyphidodon lacrymatus							
	Plectroglyphidodon leucozona							
	Pomacentrus vaiuli				6.00		12.00	
	Pomachromis guamensis						16.00	12.00
	Stegastes albifasciatus							
	Stegastes fasciolatus				2.00			2.00
Pomacentridae Total			6.00		280.00	10.00	88.00	16.00
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total								
Scaridae	Calotomus carolinus							2.00
	Chlorurus microrhinos							
	Scarus altipinnis				2.00			
	Scarus forsteni							
	Scarus globiceps							
	Scarus oviceps							
	Scarus rubroviolaceus				1.00			
	Scarus sp.							
Scaridae Total					3.00			2.00
Scorpaenidae	Pterois antennata							
	Pterois volitans						4.00	
Scorpaenidae Total							4.00	
Serranidae	Cephalopholis argus				2.50			
	Cephalopholis sonnerati					2.00		
	Cephalopholis urodeta							

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Serranidae (cont.)	Epinephelus hexagonatus					3.00		0.50
	Epinephelus maculatus		2.00					
	Epinephelus merra							
	Epinephelus socialis							
	Grammistes sexlineatus							
	Variola louti							
Serranidae Total			2.00		2.50	5.00		0.50
Sphyraenidae	Sphyraena sp.							
Sphyraenidae Total								
Synodontidae	Saurida gracilis							
	Synodus binotatus							
	Synodus dermatogenys							
Synodontidae Total								
Tetraodontidae	Arothron nigropunctatus							
Tetraodontidae Total								
Zanclidae	Zanclus cornutus					2.00		2.00
Zanclidae Total						2.00		2.00
SITE TOTAL		225.50	56.00	200.00	402.00	182.50	298.00	125.00

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Apogonidae	Apogon fraenatus							
	Apogon novemfasciatus				6.00			
	Apogon sp.				4.00			
	Cheilodipterus quinquelineatus							
	Cheilodipterus sp.							
Apogonidae Total					10.00			
Atherinidae	Atherinid sp.							
Atherinidae Total								
Balistidae	Balistapus undulatus					0.50		
	Melichthys niger							
	Melichthys vidua							
	Rhinecanthus rectangulus							
	Sufflamen bursa							
	Sufflamen chrysopterum							2.00
Balistidae Total						0.50		2.00
Belonidae	Tylosurus crocodilus						0.50	
Belonidae Total							0.50	
Blenniidae	Aspidontus taeniatus							
	Blenniella chrysospilos					2.00		
	Blenniid sp.							
	Cirripectes variolosus							
	Ecsenius opsifrontalis			2.00				
	Meiacanthus atrodorsalis							
	Plagiotremus tapeinosoma				8.00			
Blenniidae Total				10.00		2.00		
Caesionidae	Caesio teres		1.50					
Caesionidae Total			1.50					

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Carangidae	Carangoides ferdau	1.00						
	Carangoides orthogrammus							
	Caranx ignobilis							
	Caranx lugubris							
	Scomberoides lysan							
Carangidae Total		1.00						
Carcharhinidae	Triaenodon obesus							
Carcharhinidae Total								
Chaetodontidae	Chaetodon auriga	2.00						
	Chaetodon ephippium							
	Chaetodon lunula							
	Chaetodon ornatissimus							
	Chaetodon punctatofasciatus							
	Chaetodon quadrimaculatus		4.00					
	Chaetodon unimaculatus							
Heniochus chrysostomus								
Chaetodontidae Total		2.00					4.00	
Cirrhitidae	Cirrhitichthys falco	2.00						
	Cirrhitops fasciatus							
	Cirrhites pinnulatus							
	Neocirrhites armatus							
	Paracirrhites arcatus		2.00					
	Paracirrhites forsteri							
Cirrhitidae Total				2.00		2.00		
Fistulariidae	Fistularia commersonii	2.00						
Fistulariidae Total		2.00						

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Gobiidae	Amblyeleotris fasciatus				4.00			
	Eviota sp.				2.00	4.00		
	Gobiid sp.	2.00						
	Valenciennea strigata			6.00		16.00		2.00
Gobiidae Total	2.00		6.00	6.00	20.00			2.00
Hemiramphidae	Hemiramphus lutkei							
Hemiramphidae Total								
Holocentridae	Myripristis amaena							
	Myripristis berndti		1.50	0.50				1.00
	Sargocentron tiere							
Holocentridae Total		1.50	0.50					1.00
Kyphosidae	Kyphosus bigibbus							
	Kyphosus cinerascens		0.50				2.00	
	Kyphosus vaigiensis							1.50
Kyphosidae Total		0.50					2.00	1.50
Labridae	Anampses caeruleopunctatus			1.00				
	Cirrhilabrus katherinae	2.00		2.00	2.00			
	Coris aygula							
	Coris dorsomacula	12.00			2.00			
	Coris gaimard		0.50	2.00				
	Gomphosus varius							2.00
	Halichoeres biocellatus			8.00	2.00	6.00		
	Halichoeres hortulanus					0.50	4.00	
	Halichoeres margaritaceus						12.00	
	Halichoeres marginatus							
	Halichoeres ornatissimus	12.00	12.00	16.00	4.00	34.00	4.00	6.00

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Labridae (cont.)	Hemigymnus melapterus							
	Hologymnosus annulatus					2.00		8.00
	Hologymnosus doliatus							
	Iniistius celebicus							
	Labrid sp.							
	Labroides bicolor							
	Labroides dimidiatus					4.00		2.00
	Labropsis xanthonota							
	Macropharyngodon meleagris			2.00				
	Novaculichthys taeniourus							
	Oxycheilinus unifasciatus							
	Pseudocheilinus octotaenia							
	Pseudojuloides atavai							
	Stethojulis bandanensis							
	Stethojulis strigiventer						2.00	
Thalassoma amblycephalum	4.00	16.00		10.00				12.00
Thalassoma lutescens	4.00	4.00		2.00		6.00		6.00
Thalassoma quinquevittatum								
Thalassoma trilobatum				0.50				
Xyrichtys halsteadii								
Labridae Total		34.00	32.50	31.50	22.00	54.50	20.00	36.00
Lethrinidae	Gnathodentex aureolineatus		0.50					0.50
	Monotaxis grandoculis					6.00		
Lethrinidae Total			0.50			6.00		0.50

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Lutjanidae	Aphareus furca							
	Aprion virescens							
	Lutjanus bohar		1.00					1.00
	Lutjanus fulvus	6.00	6.00	1.00				4.00
	Lutjanus gibbus	4.00	1.00		0.50			
	Lutjanus kasmira	42.00	58.50					0.50
	Lutjanus monostigma							0.50
	Macolor macularis		0.50					1.00
	Macolor niger		1.00					
Lutjanidae Total		52.00	68.00	1.00	0.50			7.00
Malacanthidae	Malacanthus latovittatus							
Malacanthidae Total								
Microdesmidae	Microdesmid sp.							
	Nemateleotris magnifica					2.00		26.00
	Ptereleotris evides							10.00
	Ptereleotris microlepis							6.00
	Ptereleotris zebra	4.00	2.00					
Microdesmidae Total		4.00	2.00			2.00		42.00
Monacanthidae	Cantherhines dumerilii							
Monacanthidae Total								
Mullidae	Mulloidichthys flavolineatus							
	Mulloidichthys vanicolensis							
	Parupeneus barberinus							
	Parupeneus cyclostomus							
	Parupeneus insularis		0.50		2.50			10.50
	Parupeneus multifasciatus	6.00	2.00	0.50		4.00	18.00	4.00
Mullidae Total		6.00	2.50	0.50	2.50	4.00	28.50	4.00

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Muraenidae	Gymnothorax javanicus							
Muraenidae Total								
Ostraciidae	Ostracion meleagris							
Ostraciidae Total								
Pempheridae	Pempheris oualensis							
Pempheridae Total								
Pinguipedidae	Parapercis clathrata							
	Parapercis millepunctata							
	Parapercis multiplicata	6.00						
Pinguipedidae Total		6.00						
Pomacanthidae	Apolemichthys trimaculatus							
	Centropyge flavissima							2.00
	Centropyge shepardi							
	Pomacanthus imperator							0.50
	Pygoplites diacanthus							
Pomacanthidae Total								2.50
Pomacentridae	Abudefduf septemfasciatus							
	Abudefduf vaigiensis							
	Chromis acares							460.00
	Chromis agilis							44.00
	Chromis margaritifer							6.00
	Chromis vanderbilti		10.00			2.00		
	Chromis xanthura					4.00		18.00
	Chrysiptera biocellata							
	Chrysiptera brownriggii			16.00		14.00	16.00	
	Chrysiptera traceyi							
	Dascyllus trimaculatus				2.00			

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Pomacentridae (cont.)	Plectroglyphidodon imparipennis							
	Plectroglyphidodon johnstonianus							
	Plectroglyphidodon lacrymatus							
	Plectroglyphidodon leucozona							
	Pomacentrus vaiuli						4.00	4.00
	Pomachromis guamensis							6.00
	Stegastes albifasciatus							
	Stegastes fasciolatus			6.00		6.00	4.00	
Pomacentridae Total			10.00	22.00	2.00	26.00	24.00	538.00
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total								
Scaridae	Calotomus carolinus							
	Chlorurus microrhinos							
	Scarus altipinnis			2.00			4.00	
	Scarus forsteni							
	Scarus globiceps							
	Scarus oviceps							
	Scarus rubroviolaceus					0.50		2.00
	Scarus sp.							
Scaridae Total				2.00		0.50	4.00	2.00
Scorpaenidae	Pterois antennata				2.00			
	Pterois volitans							
Scorpaenidae Total				2.00				
Serranidae	Cephalopholis argus			0.50			4.00	
	Cephalopholis sonnerati				2.00			
	Cephalopholis urodeta		4.00	2.00		0.50		8.00
	Epinephelus hexagonatus		1.00				0.50	

Table F.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Serranidae (cont.)	Epinephelus maculatus	2.00			1.00			
	Epinephelus merra							
	Epinephelus socialis							
	Grammistes sexlineatus				2.00			
	Variola louti						0.50	0.50
Serranidae Total		2.00	5.00	2.50	5.00	0.50	5.00	8.50
Sphyraenidae	Sphyraena sp.							
Sphyraenidae Total								
Synodontidae	Saurida gracilis							
	Synodus binotatus	2.00						
	Synodus dermatogenys							
Synodontidae Total		2.00						
Tetraodontidae	Arothron nigropunctatus					0.50		
Tetraodontidae Total						0.50		
Zanclidae	Zanclus cornutus		2.00					
Zanclidae Total			2.00					
SITE TOTAL		115.00	131.00	95.00	56.00	133.00	122.00	650.50

Table F.5. Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map C						
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Acanthuridae	Acanthurus guttatus							
	Acanthurus leucopareius							
	Acanthurus lineatus							
	Acanthurus nigricauda							
	Acanthurus nigrofuscus							
	Acanthurus olivaceus						2.23	
	Acanthurus pyroferus				0.32			
	Acanthurus triostegus							
	Acanthurus xanthopterus							
	Ctenochaetus hawaiiensis							
	Ctenochaetus striatus							
	Naso hexacanthus					2.55		
Naso lituratus					2.23			
Naso unicornis								
Acanthuridae Total					5.09		2.23	
Balistidae	Melichthys vidua							
	Rhinecanthus rectangulus							
	Sufflamen bursa							
Balistidae Total								
Caesionidae	Caesio teres					0.32		
	Pterocaesio tile				7.32			
Caesionidae Total					7.32	0.32		
Carangidae	Carangid sp.							
	Carangoides ferdau		0.64					
	Carangoides orthogrammus		0.64					0.95
	Caranx melampygus				0.32			
	Decapterus macarellus	4.14						
Carangidae Total	4.14	1.27		0.32				0.95

Table F.5. (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map C						
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Carcharhinidae	Carcharhinus amblyrhynchos Triaenodon obesus							
Carcharhinidae Total								
Holocentridae	Myripristis berndti Sargocentron caudimaculatum Sargocentron tiera							
Holocentridae Total								
Kyphosidae	Kyphosus bigibbus Kyphosus cinerascens Kyphosus vaigiensis							
Kyphosidae Total								
Labridae	Anampses caeruleopunctatus Cheilinus trilobatus Coris aygula Coris gaimard Halichoeres hortulanus Hemigymnus fasciatus Oxycheilinus unifasciatus Pseudodax moluccanus Thalassoma trilobatum				0.64			
Labridae Total					0.64			
Lethrinidae	Gnathodentex aureolineatus Monotaxis grandoculis				0.32			
Lethrinidae Total					0.32			

Table F.5. (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map C						
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Scaridae	Calotomus carolinus							
	Chlorurus microrhinos							
	Scarus forsteni							
	Scarus oviceps							
	Scarus rubroviolaceus					2.23		
Scaridae Total					2.23			
Serranidae	Cephalopholis argus				0.32			
	Cephalopholis urodeta							
	Epinephelus fasciatus							
	Epinephelus hexagonatus					0.32		
	Variola louti							
Serranidae Total					0.32	0.32		
Tetraodontidae	Arothron meleagris							
	Arothron nigropunctatus			0.32				
Tetraodontidae Total				0.32				
SITE TOTAL		4.14	1.27	0.32	20.05	4.14	2.23	1.27

Table F.5. (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Acanthuridae	Acanthurus guttatus						0.64	
	Acanthurus leucopareius						2.55	
	Acanthurus lineatus					1.27	0.32	
	Acanthurus nigricauda							
	Acanthurus nigrofuscus							
	Acanthurus olivaceus		0.32			1.27	2.23	
	Acanthurus pyroferus					0.32		2.86
	Acanthurus triostegus						5.73	
	Acanthurus xanthopterus		0.95					
	Ctenochaetus hawaiiensis					2.86	0.32	
	Ctenochaetus striatus		0.64	0.95		0.64		
	Naso hexacanthus							2.86
Naso lituratus		1.91	9.87			0.95	7.00	1.91
Naso unicornis								
Acanthuridae Total			3.82	10.82		7.32	18.78	7.64
Balistidae	Melichthys vidua					1.91		
	Rhinecanthus rectangulus							
	Sufflamen bursa							
Balistidae Total					1.91			
Caesionidae	Caesio teres		1.91					
	Pterocaesio tile							
Caesionidae Total			1.91					
Carangidae	Carangid sp.							
	Carangoides ferdau							
	Carangoides orthogrammus				0.32			
	Caranx melampygus						0.32	
	Decapterus macarellus							
Carangidae Total				0.32		0.32		

Table F.5. (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Carcharhinidae	Carcharhinus amblyrhynchos							0.32
	Trienodon obesus							
Carcharhinidae Total								0.32
Holocentridae	Myripristis berndti		0.95	0.32				
	Sargocentron caudimaculatum							
	Sargocentron tiere					0.32		
Holocentridae Total		0.95	0.32			0.32		
Kyphosidae	Kyphosus bigibbus							
	Kyphosus cinerascens		0.32				0.32	
	Kyphosus vaigiensis							
Kyphosidae Total		0.32					0.32	
Labridae	Anampses caeruleopunctatus							
	Cheilinus trilobatus							
	Coris aygula			0.95		0.32	1.59	
	Coris gaimard		1.91	0.32			0.95	
	Halichoeres hortulanus		0.95			0.64		0.32
	Hemigymnus fasciatus							
	Oxycheilinus unifasciatus							
	Pseudodax moluccanus							
Thalassoma trilobatum								
Labridae Total		2.86	1.27			0.95	2.55	0.32
Lethrinidae	Gnathodentex aureolineatus		1.27					0.95
	Monotaxis grandoculis		0.64				0.32	
Lethrinidae Total		1.91					0.32	0.95

Table F.5. (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Lutjanidae	Aphareus furca			0.32				
	Aprion virescens							
	Lutjanus bohar		0.32	0.64			0.32	
	Lutjanus fulvus		0.95	0.64			0.32	
	Lutjanus gibbus		5.73	0.32			0.64	0.32
	Lutjanus kasmira		33.42	3.18				7.00
	Lutjanus monostigma							
	Macolor macularis		0.64					
	Macolor niger			0.32				
Lutjanidae Total			41.06	5.41			1.27	7.32
Mugilidae	Ellochelon vaigiensis							
Mugilidae Total								
Mullidae	Mulloidichthys flavolineatus							
	Parupeneus barberinus							
	Parupeneus cyclostomus							
	Parupeneus insularis		1.27	1.59				
	Parupeneus multifasciatus							
Mullidae Total			1.27	1.59				
NoFish	no individuals seen	0.00						
NoFish Total		0.00						
Pomacanthidae	Apolemichthys trimaculatus					0.95		
	Pomacanthus imperator						0.64	
	Pygoplites diacanthus							
Pomacanthidae Total						0.95	0.64	
Pomacentridae	Abudefduf septemfasciatus							
Pomacentridae Total								

Table F.5. (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map C						
Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Scaridae	Calotomus carolinus							
	Chlorurus microrhinos							
	Scarus forsteni					1.27		0.32
	Scarus oviceps							
	Scarus rubroviolaceus			1.91		0.64	0.32	1.91
Scarid Total				1.91		1.91	0.32	2.23
Serranidae	Cephalopholis argus		0.64	1.59		0.64	0.32	0.64
	Cephalopholis urodeta			0.64				0.32
	Epinephelus fasciatus						0.32	
	Epinephelus hexagonatus		0.32					
	Gracila albomarginata							
	Variola louti					0.32		
Serranidae Total			0.95	2.23		0.95	0.64	0.95
Tetraodontidae	Arothron meleagris							
	Arothron nigropunctatus							
Tetraodontidae Total								
SITE TOTAL		0.00	55.07	23.55	0.32	14.32	25.15	19.74

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Apogonidae	Apogon fraenatus					0.015	0.032	
	Apogon novemfasciatus		0.003			0.065	0.129	0.054
	Apogon sp.							
	Cheilodipterus quinquelineatus							
	Cheilodipterus sp.							0.000
Apogonidae Total			0.003			0.080	0.161	0.055
Atherinidae	Atherinid sp.							
Atherinidae Total								
Balistidae	Balistapus undulatus						0.629	
	Melichthys niger							
	Melichthys vidua							
	Rhinecanthus rectangulus							
	Sufflamen bursa		0.106					
Sufflamen chrysopterum								
Balistidae Total			0.106				0.629	
Belonidae	Tylosurus crocodilus							
Belonidae Total								
Blenniidae	Aspidontus taeniatus						0.034	
	Blenniella chrysospilos							
	Blenniid sp.							
	Cirripectes variolosus							
	Ecsenius opsifrontalis							0.015
	Meiacanthus atrodorsalis							
Plagiotremus tapeinosoma						0.002		
Blenniidae Total						0.002	0.034	0.015

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Caesionidae	Caesio teres							
Caesionidae Total								
Carangidae	Carangoides ferdau	0.838	2.019					
	Carangoides orthogrammus		0.766					
	Caranx ignobilis							
	Caranx lugubris							
	Scomberoides lysan	0.406						
Carangidae Total		1.244	2.785					
Carcharhinidae	Triaenodon obesus				11.282			
Carcharhinidae Total					11.282			
Chaetodontidae	Chaetodon auriga							
	Chaetodon ephippium							
	Chaetodon lunula							
	Chaetodon ornatissimus							
	Chaetodon punctatofasciatus							
	Chaetodon quadrimaculatus		0.008			0.016	0.034	
	Chaetodon unimaculatus					0.063		
Heniochus chrysostomus				0.157				
Chaetodontidae Total			0.008		0.157	0.079	0.034	
Cirrhitidae	Cirrhitichthys falco							
	Cirrhitops fasciatus							
	Cirrhites pinnulatus							
	Neocirrhites armatus							
	Paracirrhites arcatus				0.006			
	Paracirrhites forsteri				0.051			
Cirrhitidae Total					0.057			

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Fistulariidae	Fistularia commersonii							
Fistulariidae Total								
Gobiidae	Amblyeleotris fasciatus							
	Eviota sp.							
	Gobiid sp.	0.000		0.000		0.035	0.035	
	Valenciennea strigata							0.042
Gobiidae Total		0.000		0.000		0.035	0.035	0.042
Hemiramphidae	Hemiramphus lutkei							
Hemiramphidae Total								
Holocentridae	Myripristis amaena							
	Myripristis berndti				0.159			
	Sargocentron tere					0.218		
Holocentridae Total					0.159	0.218		
Kyphosidae	Kyphosus bigibbus				1.514	0.115		
	Kyphosus cinerascens					0.182		
	Kyphosus vaigiensis							
Kyphosidae Total					1.514	0.297		
Labridae	Anampses caeruleopunctatus							
	Cirrhilabrus katherinae				0.008		0.015	0.020
	Coris aygula					0.076	0.100	
	Coris dorsomacula							0.089
	Coris gaimard					0.521		
	Gomphosus varius							
	Halichoeres biocellatus					0.001		0.045
	Halichoeres hortulanus					0.069		
	Halichoeres margaritaceus							
	Halichoeres marginatus							

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Labridae (continued)	Halichoeres ornatissimus				0.144	0.050	0.149	0.118
	Hemigymnus melapterus							
	Hologymnosus annulatus							
	Hologymnosus doliatus							
	Iniistius celebicus	0.027						
	Labrid sp.							
	Labroides bicolor							
	Labroides dimidiatus				0.013	0.011	0.029	0.005
	Labropsis xanthonota							
	Macropharyngodon meleagris						0.035	
	Novaculichthys taeniourus							
	Oxycheilinus unifasciatus							
	Pseudocheilinus octotaenia						0.044	
	Pseudojuloides atavai						0.026	
	Stethojulis bandanensis							
	Stethojulis strigiventer							
	Thalassoma amblycephalum			0.003		0.012		
	Thalassoma lutescens			0.003				0.088
Thalassoma quinquevittatum					0.068			
Thalassoma trilobatum								
Xyrichtys halsteadi		0.013						
Labridae Total		0.040	0.005		0.245	0.728	0.485	0.319
Lethrinidae	Gnathodentex aureolineatus				0.120			
	Monotaxis grandoculis				0.605			
Lethrinidae Total					0.725			

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Lutjanidae	Aphareus furca						0.683	
	Aprion virescens							
	Lutjanus bohar							
	Lutjanus fulvus		0.018			1.023		0.011
	Lutjanus gibbus							
	Lutjanus kasmira		0.012		0.103	2.102		0.167
	Lutjanus monostigma							
	Macolor macularis							
	Macolor niger							
Lutjanidae Total			0.029		0.103	3.125	0.683	0.178
Malacanthidae	Malacanthus latovittatus							
Malacanthidae Total								
Microdesmidae	Microdesmid sp.							
	Nemateleotris magnifica						0.010	
	Ptereleotris evides							
	Ptereleotris microlepis							
	Ptereleotris zebra							
Microdesmidae Total						0.010		
Monacanthidae	Cantherhines dumerilii							
Monacanthidae Total								
Mullidae	Mulloidichthys flavolineatus							
	Mulloidichthys vanicolensis				0.127			
	Parupeneus barberinus		0.014		0.005			
	Parupeneus cyclostomus							
	Parupeneus insularis				0.048			
	Parupeneus multifasciatus						0.726	0.074
Mullidae Total			0.014		0.181		0.726	0.074

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Muraenidae	Gymnothorax javanicus						2.190	
Muraenidae Total							2.190	
Ostraciidae	Ostracion meleagris							
Ostraciidae Total								
Pempheridae	Pempheris oualensis							
Pempheridae Total								
Pinguipedidae	Parapercis clathrata Parapercis millepunctata Parapercis multiplicata							0.143
Pinguipedidae Total								0.143
Pomacanthidae	Apolemichthys trimaculatus Centropyge flavissima Centropyge shepardi Pomacanthus imperator Pygoplites diacanthus				0.059		0.699	
Pomacanthidae Total					0.059		0.699	
Pomacentridae	Abudefduf septemfasciatus Abudefduf vaigiensis Chromis acares Chromis agilis Chromis margaritifer Chromis vanderbilti Chromis xanthura Chrysiptera biocellata Chrysiptera brownriggii Chrysiptera traceyi Dascyllus trimaculatus				0.008 0.006	0.009 0.002	0.002 0.001 0.046	
			0.001		0.008	0.002		
		0.007					0.022	0.001

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish>20cm)		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
	Plectroglyphidodon imparipennis							
	Plectroglyphidodon johnstonianus							
	Plectroglyphidodon lacrymatus							
	Plectroglyphidodon leucozona							
	Pomacentrus vaiuli				0.028		0.018	
	Pomachromis guamensis						0.029	0.057
	Stegastes albifasciatus							
	Stegastes fasciolatus				0.049			0.035
Pomacentridae Total			0.008		0.098	0.013	0.119	0.093
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total								
Scaridae	Calotomus carolinus							0.093
	Chlorurus microrhinos							
	Scarus altipinnis				0.006			
	Scarus forsteni							
	Scarus globiceps							
	Scarus oviceps							
	Scarus rubroviolaceus				1.377			
	Scarus sp.							
Scaridae Total					1.383			0.093
Scorpaenidae	Pterois antennata							
	Pterois volitans						0.418	
Scorpaenidae Total							0.418	
Serranidae	Cephalopholis argus				0.632			
	Cephalopholis sonnerati					0.084		
	Cephalopholis urodeta							
	Epinephelus hexagonatus					0.335		0.053

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
	Epinephelus maculatus Epinephelus merra Epinephelus socialis Grammistes sexlineatus Variola louti		0.097					
Serranidae Total			0.097		0.632	0.419		0.053
Sphyraenidae	Sphyraena sp.							
Sphyraenidae Total								
Synodontidae	Saurida gracilis Synodus binotatus Synodus dermatogenys							
Synodontidae Total								
Tetraodontidae	Arothron nigropunctatus							
Tetraodontidae Total								
Zanclidae	Zanclus cornutus					0.189		0.189
Zanclidae Total						0.189		0.189
SITE TOTAL		1.285	3.082	0.000	18.263	5.619	10.468	1.705

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Apogonidae	Apogon fraenatus				0.010			
	Apogon novemfasciatus				0.002			
	Apogon sp.							
	Cheilodipterus quinquelineatus							
	Cheilodipterus sp.							
Apogonidae Total		0.012						
Atherinidae	Atherinid sp.							
Atherinidae Total								
Balistidae	Balistapus undulatus					0.332		
	Melichthys niger							
	Melichthys vidua							
	Rhinecanthus rectangulus							
	Sufflamen bursa							
	Sufflamen chrysopterum							0.002
Balistidae Total		0.332						
Belonidae	Tylosurus crocodilus						0.032	
Belonidae Total		0.032						
Blenniidae	Aspidontus taeniatus							
	Blenniella chrysospilos					0.024		
	Blenniid sp.							
	Cirripectes variolosus							
	Ecsenius opsifrontalis				0.015			
	Meiacanthus atrodorsalis							
	Plagiotremus tapeinosoma				0.024			
Blenniidae Total		0.039						
		0.024						

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Caesionidae	Caesio teres		0.505					
Caesionidae Total			0.505					
Carangidae	Carangoides ferdau	0.772						
	Carangoides orthogrammus							
	Caranx ignobilis							
	Caranx lugubris							
	Scomberoides lysan							
Carangidae Total		0.772						
Carcharhinidae	Triaenodon obesus							
Carcharhinidae Total								
Chaetodontidae	Chaetodon auriga	0.010						
	Chaetodon ephippium							
	Chaetodon lunula							
	Chaetodon ornatissimus							
	Chaetodon punctatofasciatus							
	Chaetodon quadrimaculatus			0.051				
	Chaetodon unimaculatus							
	Heniochus chrysostomus							
Chaetodontidae Total		0.010					0.051	
Cirrhitidae	Cirrhichthys falco							
	Cirrhitops fasciatus							
	Cirrhites pinnulatus			0.014				
	Neocirrhites armatus							
	Paracirrhites arcatus					0.011		
	Paracirrhites forsteri							
Cirrhitidae Total				0.014		0.011		

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Fistulariidae	Fistularia commersonii	0.003						
Fistulariidae Total		0.003						
Gobiidae	Amblyeleotris fasciatus				0.000			
	Eviota sp.				0.007	0.019		
	Gobiid sp.	0.010						
	Valenciennea strigata			0.090		0.062		0.032
Gobiidae Total		0.010		0.090	0.008	0.081		0.032
Hemiramphidae	Hemiramphus lutkei							
Hemiramphidae Total								
Holocentridae	Myripristis amaena							
	Myripristis berndti		0.870	0.261				0.321
	Sargocentron tiere							
Holocentridae Total			0.870	0.261				0.321
Kyphosidae	Kyphosus bigibbus							
	Kyphosus cinerascens		0.180				0.829	
	Kyphosus vaigiensis							0.400
Kyphosidae Total			0.180				0.829	0.400
Labridae	Anampses caeruleopunctatus			0.175				
	Cirrhilabrus katherinae	0.012		0.012	0.005			
	Coris aygula							
	Coris dorsomacula	0.196			0.025			
	Coris gaimard		0.224	0.033				
	Gomphosus varius							0.036
	Halichoeres biocellatus			0.078	0.012	0.070		
	Halichoeres hortulanus					0.053	0.078	
	Halichoeres margaritaceus						0.101	
	Halichoeres marginatus							

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Labridae (continued)	Halichoeres ornatissimus	0.097	0.123	0.086	0.042	0.105	0.034	0.068
	Hemigymnus melapterus							
	Hologymnosus annulatus					0.107		0.071
	Hologymnosus doliatus							
	Iniistius celebicus							
	Labrid sp.							
	Labroides bicolor							
	Labroides dimidiatus					0.013		0.003
	Labropsis xanthonota							
	Macropharyngodon meleagris			0.007				
	Novaculichthys taeniourus							
	Oxycheilinus unifasciatus							
	Pseudocheilinus octotaenia							
	Pseudojuloides atavai							
	Stethojulis bandanensis							
	Stethojulis strigiventer						0.043	
	Thalassoma amblycephalum	0.051	0.154		0.015			0.018
	Thalassoma lutescens	0.008	0.061		0.000	0.186		0.116
Thalassoma quinquevittatum								
Thalassoma trilobatum			0.247					
Xyrichtys halsteadii								
Labridae Total		0.363	0.562	0.638	0.100	0.578	0.213	0.312
Lethrinidae	Gnathodentex aureolineatus		0.162					0.120
	Monotaxis grandoculis					0.235		
Lethrinidae Total			0.162			0.235		0.120

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Lutjanidae	Aphareus furca							
	Aprion virescens							
	Lutjanus bohar		6.675					1.090
	Lutjanus fulvus	0.067	0.971	0.593				0.266
	Lutjanus gibbus	0.098	0.705		0.073			
	Lutjanus kasmira	0.180	1.467					0.414
	Lutjanus monostigma							0.394
	Macolor macularis		0.447					0.355
	Macolor niger		1.295					
Lutjanidae Total		0.344	11.561	0.593	0.073			2.520
Malacanthidae	Malacanthus latovittatus							
Malacanthidae Total								
Microdesmidae	Microdesmid sp.							
	Nemateleotris magnifica					0.001		0.032
	Ptereleotris evides							0.019
	Ptereleotris microlepis							0.029
	Ptereleotris zebra	0.021	0.021					
Microdesmidae Total		0.021	0.021			0.001		0.079
Monacanthidae	Cantherhines dumerilii							
Monacanthidae Total								
Mullidae	Mulloidichthys flavolineatus							
	Mulloidichthys vanicolensis							
	Parupeneus barberinus							
	Parupeneus cyclostomus							
	Parupeneus insularis		0.384		0.207			0.323
	Parupeneus multifasciatus	0.074	0.076	0.211		0.209	0.208	0.031
Mullidae Total		0.074	0.459	0.211	0.207	0.209	0.531	0.031

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Muraenidae	Gymnothorax javanicus							
Muraenidae Total								
Ostraciidae	Ostracion meleagris							
Ostraciidae Total								
Pempheridae	Pempheris oualensis							
Pempheridae Total								
Pinguipedidae	Parapercis clathrata							
	Parapercis millepunctata							
	Parapercis multiplicata	0.080						
Pinguipedidae Total		0.080						
Pomacanthidae	Apolemichthys trimaculatus							
	Centropyge flavissima							0.018
	Centropyge shepardi							
	Pomacanthus imperator							0.203
	Pygoplites diacanthus							
Pomacanthidae Total								
Pomacentridae	Abudefduf septemfasciatus							
	Abudefduf vaigiensis							
	Chromis acares							0.011
	Chromis agilis							0.006
	Chromis margaritifer							0.013
	Chromis vanderbilti		0.073			0.014		
	Chromis xanthura					0.001		0.025
	Chrysiptera biocellata							
	Chrysiptera brownriggii			0.046		0.060	0.027	
	Chrysiptera traceyi							
	Dascyllus trimaculatus				0.006			

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Pomacentridae (cont.)	Plectroglyphidodon imparipennis							
	Plectroglyphidodon johnstonianus							
	Plectroglyphidodon lacrymatus							
	Plectroglyphidodon leucozona							
	Pomacentrus vaiuli						0.001	0.036
	Pomachromis guamensis							0.042
	Stegastes albifasciatus							
	Stegastes fasciolatus			0.074		0.145	0.027	
Pomacentridae Total			0.073	0.120	0.006	0.221	0.056	0.133
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total								
Scaridae	Calotomus carolinus							
	Chlorurus microrhinos							
	Scarus altipinnis			0.034			0.058	
	Scarus forsteni							
	Scarus globiceps							
	Scarus oviceps							
	Scarus rubroviolaceus					0.124		1.680
	Scarus sp.							
Scaridae Total				0.034		0.124	0.058	1.680
Scorpaenidae	Pterois antennata				0.059			
	Pterois volitans							
Scorpaenidae Total				0.059				
Serranidae	Cephalopholis argus			0.329			0.211	
	Cephalopholis sonnerati				0.067			
	Cephalopholis urodeta		0.152	0.128		0.070		0.269
	Epinephelus hexagonatus		0.124				0.081	

Table F.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map C.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Serranidae (cont.)	Epinephelus maculatus	0.168			0.199			
	Epinephelus merra							
	Epinephelus socialis							
	Grammistes sexlineatus				0.047			
	Variola louti						0.331	0.629
Serranidae Total		0.168	0.276	0.457	0.313	0.070	0.623	0.898
Sphyraenidae	Sphyraena sp.							
Sphyraenidae Total								
Synodontidae	Saurida gracilis							
	Synodus binotatus	0.005						
	Synodus dermatogenys							
Synodontidae Total		0.005						
Tetraodontidae	Arothron nigropunctatus					0.173		
Tetraodontidae Total						0.173		
Zanclidae	Zanclus cornutus		0.302					
Zanclidae Total			0.302					
SITE TOTAL		1.925	17.952	5.100	1.013	3.131	5.821	7.377

Table F.7. Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Acanthuridae	Acanthurus guttatus							
	Acanthurus leucopareius							
	Acanthurus lineatus							
	Acanthurus nigricauda							
	Acanthurus nigrofuscus							
	Acanthurus olivaceus						0.378	
	Acanthurus pyroferus				0.084			
	Acanthurus triostegus							
	Acanthurus xanthopterus							
	Ctenochaetus hawaiiensis							
	Ctenochaetus striatus							
	Naso hexacanthus				1.470			
Naso lituratus				0.139				
Naso unicornis								
Acanthuridae Total					1.694		0.378	
Balistidae	Melichthys vidua							
	Rhinecanthus rectangulus							
	Sufflamen bursa							
Balistidae Total								
Caesionidae	Caesio teres					0.166		
	Pterocaesio tile				0.052			
Caesionidae Total					0.052	0.166		
Carangidae	Carangid sp.							
	Carangoides ferdau		0.284					
	Carangoides orthogrammus		0.223					0.362
	Caranx melampygus				0.656			
	Decapterus macarellus	0.102						
Carangidae Total		0.102	0.507		0.656			0.362

Table F.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Carcharhinidae	Carcharhinus amblyrhynchos							
	Triaenodon obesus							
Carcharhinidae Total								
Holocentridae	Myripristis berndti							
	Sargocentron caudimaculatum							
	Sargocentron tiere							
Holocentridae Total								
Kyphosidae	Kyphosus bigibbus							
	Kyphosus cinerascens							
	Kyphosus vaigiensis							
Kyphosidae Total								
Labridae	Anampses caeruleopunctatus							
	Cheilinus trilobatus							
	Coris aygula							
	Coris gaimard							
	Halichoeres hortulanus				0.068			
	Hemigymnus fasciatus							
	Oxycheilinus unifasciatus							
	Pseudodax moluccanus							
Thalassoma trilobatum								
Labridae Total					0.068			
Lethrinidae	Gnathodentex aureolineatus							
	Monotaxis grandoculis				0.325			
Lethrinidae Total					0.325			
Lutjanidae	Aphareus furca							
	Aprion virescens							0.569
	Lutjanus bohar							
	Lutjanus fulvus				0.158			

Table F.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Lutjanidae (cont.)	Lutjanus gibbus				0.170	0.142		
	Lutjanus kasmira				0.159			
	Lutjanus monostigma				0.347			
	Macolor macularis							
	Macolor niger							
Lutjanidae Total					0.677	0.299		0.569
Mugilidae	Ellochelon vaigiensis							
Mugilidae Total								
Mullidae	Mulloidichthys flavolineatus							
	Parupeneus barberinus							
	Parupeneus cyclostomus				0.101			
	Parupeneus insularis							
	Parupeneus multifasciatus							
Mullidae Total					0.101			
NoFish	no individuals seen							
NoFish Total								
Pomacanthidae	Apolemichthys trimaculatus							
	Pomacanthus imperator				0.361			
	Pygoplites diacanthus							
Pomacanthidae Total					0.361			
Pomacentridae	Abudefduf septemfasciatus							
Pomacentridae Total								
Scaridae	Calotomus carolinus							
	Chlorurus microrhinos							
	Scarus forsteni							
	Scarus oviceps							
	Scarus rubroviolaceus				0.821			
Scaridae Total					0.821			

Table F.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area C						
Family	TaxonName	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Serranidae	Cephalopholis argus				0.230			
	Cephalopholis urodeta							
	Epinephelus fasciatus							
	Epinephelus hexagonatus					0.034		
	Variola louti							
Serranidae Total				0.230	0.034			
Tetraodontidae	Arothron meleagris							
	Arothron nigropunctatus			0.348				
Tetraodontidae Total				0.348				
SITE TOTAL		0.102	0.507	0.348	4.984	0.499	0.378	0.931

Table F.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area C						
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Acanthuridae	Acanthurus guttatus						0.007	
	Acanthurus leucopareius						0.007	
	Acanthurus lineatus					0.119	0.119	
	Acanthurus nigricauda							
	Acanthurus nigrofuscus							
	Acanthurus olivaceus		0.378			0.592	0.592	
	Acanthurus pyroferus					0.084		0.084
	Acanthurus triostegus						0.055	
	Acanthurus xanthopterus		1.295					
	Ctenochaetus hawaiiensis					0.079	0.138	
	Ctenochaetus striatus		0.133	0.133		0.133		
	Naso hexacanthus							
Naso lituratus		0.139	0.139			0.139	0.139	0.139
Naso unicornis								
Acanthuridae Total			1.944	0.272		1.146	1.057	1.264
Balistidae	Melichthys vidua					0.160		
	Rhinecanthus rectangulus							
	Sufflamen bursa							
Balistidae Total					0.160			
Caesionidae	Caesio teres		0.166					
	Pterocaesio tile							
Caesionidae Total			0.166					
Carangidae	Carangid sp.							
	Carangoides ferdau							
	Carangoides orthogrammus				0.223			
	Caranx melampygus						0.229	
	Decapterus macarellus							
Carangidae Total				0.223		0.229		

Table F.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area C						
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Carcharhinidae	Carcharhinus amblyrhynchos Triaenodon obesus							30.334
Carcharhinidae Total								30.334
Holocentridae	Myripristis berndti Sargocentron caudimaculatum Sargocentron tiere		0.131	0.229			0.110	
Holocentridae Total			0.131	0.229		0.110		
Kyphosidae	Kyphosus bigibbus Kyphosus cinerascens Kyphosus vaigiensis		0.219				0.140	
Kyphosidae Total			0.219				0.140	
Labridae	Anampses caeruleopunctatus Cheilinus trilobatus Coris aygula Coris gaimard Halichoeres hortulanus Hemigymnus fasciatus Oxycheilinus unifasciatus Pseudodax moluccanus Thalassoma trilobatum			0.196		0.114	0.310	
			0.115	0.089			0.089	
			0.121			0.068		0.068
Labridae Total			0.236	0.285		0.182	0.399	0.068
Lethrinidae	Gnathodentex aureolineatus Monotaxis grandoculis		0.154				0.202	0.077
			0.527					
Lethrinidae Total			0.681				0.202	0.077
Lutjanidae	Aphareus furca Aprion virescens Lutjanus bohar Lutjanus fulvus			0.137				
			0.380	0.156			0.156	
			0.409	0.091			0.158	

Table F.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area C						
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Lutjanidae (cont.)	Lutjanus gibbus		0.544	0.170			0.374	0.170
	Lutjanus kasmira		0.200	0.087				0.087
	Lutjanus monostigma							
	Macolor macularis		0.967					
	Macolor niger			0.118				
Lutjanidae Total			2.500	0.760			0.687	0.257
Mugilidae	Ellochelon vaigiensis							
Mugilidae Total								
Mullidae	Mulloidichthys flavolineatus							
	Parupeneus barberinus							
	Parupeneus cyclostomus							
	Parupeneus insularis		0.217	0.217				
	Parupeneus multifasciatus							
Mullidae Total			0.217	0.217				
NoFish	no individuals seen	0.000						
NoFish Total		0.000						
Pomacanthidae	Apolemichthys trimaculatus					0.130		
	Pomacanthus imperator						0.355	
	Pygoplites diacanthus							
Pomacanthidae Total					0.130	0.355		
Pomacentridae	Abudefduf septemfasciatus							
Pomacentridae Total								
Scaridae	Calotomus carolinus							
	Chlorurus microrhinos							
	Scarus forsteni					0.463		0.177
	Scarus oviceps							
	Scarus rubroviolaceus			0.838		0.559	0.261	1.237
Scaridae Total			0.838		1.022	0.261	1.414	

Table F.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map C.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area C						
Family	TaxonName	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Serranidae	Cephalopholis argus		0.078	0.510		0.217	0.140	0.230
	Cephalopholis urodeta			0.074				0.039
	Epinephelus fasciatus						0.074	
	Epinephelus hexagonatus		0.066					
	Gracila albomarginata							
	Variola louti					0.211		
Serranidae Total			0.144	0.584		0.428	0.214	0.269
Tetraodontidae	Arothron meleagris							
	Arothron nigropunctatus							
Tetraodontidae Total								
SITE TOTAL		0.000	6.237	3.184	0.223	3.177	3.543	33.683

Table F.8. Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
Family	Taxon Name	Map C					
		C 001	C 002	C 003	C 005	C 006	C 009
Alpheidae	<i>Alpheus deuteropus</i>						
Diogenidae	<i>Calcinus</i> spp.		6		1		3
	<i>Dardanus</i> spp.						
Eriphiidae	<i>Eriphia sebana</i>						
Palinuridae	<i>Panulirus penicillatus</i>					3	
Plagusiidae/Grapsidae	<i>Percnon planissimum</i>						3
Porcellanidae	<i>Petrolisthes coccineus</i>						
Portunidae	<i>Thalamita pseudopelsarti</i>						
Stenopodidae	<i>Stenopus hispidus</i>	2	8			3	4
Trapeziidae	<i>Trapezia flavopunctata</i>						
	<i>Trapezia intermedia</i>						
	<i>Trapezia</i> spp.						
Xanthidae	<i>Pilodius areolatus</i>						
PHYLUM CRUSTACEA TOTAL		2	14	0	1	6	10

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals						
Belt transects 25m x 4m	(Number/100 m ²)	Map C					
Family	Taxon Name	C 001	C 002	C 003	C 005	C 006	C 009
Acanthasteridae	<i>Acanthaster planci</i>				2		
Ophidiasteridae	<i>Linckia multifora</i>						
Oreasteridae	<i>Culcita novaeguineae</i>						
Ophiocomidae	<i>Ophiocoma scolopendrina</i>				7	4	
Diadematidae	<i>Echinothrix calamaris</i>		1			20	8
	<i>Echinothrix diadema</i>	1	6			41	7
Echinometridae	<i>Echinometra mathaei</i> (complex)					13	
	<i>Echinostrephus aciculatus</i>		2			57	
Holothuriidae	<i>Actinopyga mauritiana</i>						
	<i>Holothuria atra</i>						
	<i>Holothuria whitmaei</i>						
Stichopodidae	<i>Stichopus chloronotus</i>						
Comasteridae	<i>Comaster schlegelii</i>						
	<i>Crinoid sp. E</i> (Guam)						
PHYLUM ECHINODERMATA TOTAL		1	9	0	9	135	15

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals						
Belt transects 25m x 4m	(Number/100m ²)	Map C					
Family	Taxon Name	C 001	C 002	C 003	C 005	C 006	C 009
Octopodidae	<i>Octopus cyanea</i>						1
	<i>Octopus sp. A</i> (Guam)						
Tridacnidae	<i>Tridacna crocea</i>				5		
	<i>Tridacna gigas</i>						
Bursidae	<i>Bursa granularis</i>						
Cerithiidae	<i>Cerithium zebrum</i>				7		
	<i>Cerithium spp.</i>						
	<i>Rhinoclavis articulata</i>						
Conidae	<i>Conus ebraeus</i>						
	<i>Conus flavidus</i>		7		2	22	12
	<i>Conus imperialis</i>						
	<i>Conus lividus</i>				5	20	
	<i>Conus marmoreus</i>						
	<i>Conus miles</i>		1				
	<i>Conus pennaceus</i>						
	<i>Conus pulicarius</i>						
Costellariidae	<i>Vexillum spp.</i>						6

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals						
Belt transects 25m x 4m	(Number/100m ²)	Map C					
Family	Taxon Name	C 001	C 002	C 003	C 005	C 006	C 009
Cypraeidae	<i>Cypraea caputserpentis</i>	1				2	
	<i>Cypraea lynx</i>						
	<i>Cypraea maculifera</i>						
	<i>Cypraea moneta</i>						
	<i>Cypraea tigris</i>						
Fasciariidae	<i>Latirus nodatus</i>						
Mitridae	<i>Mitra stictica</i>						
Modulidae	<i>Modulus tectum</i>						
Muricidae	<i>Drupa morum</i>					28	
	<i>Drupa ricinus</i>						
	<i>Morula funiculata</i>						
	<i>Morula granulata</i>						
	<i>Morula uva</i>						
	<i>Pascula ochrostoma</i>						
Nassariidae	<i>Nassarius papillosus</i>						

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals						
Belt transects 25m x 4m	(Number/100m ²)	Map C					
Family	Taxon Name	C 001	C 002	C 003	C 005	C 006	C 009
Ranellidae	<i>Charonia tritonis</i>					1	
	<i>Cymatium nicobaricum</i>						
Strombidae	<i>Lambis lambis</i>					3	
	<i>Lambis</i> spp.				1	4	
	<i>Strombus</i> spp.						
Terebridae	<i>Terebra dimidiata</i>						
	<i>Terebra subulata</i>						
Trochidae	<i>Trochus niloticus</i>						
	<i>Trochus</i> spp.		2		7	12	1
Turbinidae	<i>Turbo</i> spp.		3			11	
Lottiidae	<i>Notoacmea persona</i>					1000	
Nacellidae	<i>Cellana</i> spp.		12				
Aglajidae	<i>Chelidonura hirundinina</i>						
	<i>Chelidonura inornata</i>						
	<i>Philinopsis gardineri</i>						

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates Belt transects 25m x 4m	Number of Individuals (Number/100m ²)	Map C						
		Family	Taxon Name	C 001	C 002	C 003	C 005	C 006
Aplysiidae	<i>Petalifera cf. lafonti</i>							
	<i>Stylocheilus striatus</i>	1	11				7	
Chromodorididae	<i>Chromodoris vibrata</i>							
	<i>Noumea angustolutea</i>							
Haminoeidae	<i>Atys semistriata</i>			18,290				
Glaucidae	<i>Pteraeolidia ianthina</i>							1
Phyllidiidae	<i>Phyllidia elegans</i>							
	<i>Phyllidiella pustulosa</i>						2	
	<i>Phyllidiella</i> spp.							
Plakobrachidae	<i>Plakobranthus</i> spp.							
Polyceridae	<i>Nembrotha livingstonei</i>							
	<i>Roboastra gracilis</i>							
Tergipedidae	<i>Phestilla melanobranchia</i>							
PHYLUM MOLLUSCA TOTAL		1	31	18290	19	79	20	
TOTAL ALL PHYLA		5	59	18290	37	1253	46	

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
		Map C					
Family	Taxon Name	C 011	C 014	C 023	C 024	C 043	C 091
Alpheidae	<i>Alpheus deuteropus</i>						
Diogenidae	<i>Calcinus</i> spp.		22	12			3
	<i>Dardanus</i> spp.					7	
Eriphiidae	<i>Eriphia sebana</i>						
Palinuridae	<i>Panulirus penicillatus</i>			3			
Plagusiidae/Grapsidae	<i>Percnon planissimum</i>			12		7	
Porcellanidae	<i>Petrolisthes coccineus</i>						
Portunidae	<i>Thalamita pseudopelsarti</i>						
Stenopodidae	<i>Stenopus hispidus</i>	2		6	4		
Trapeziidae	<i>Trapezia flavopunctata</i>						
	<i>Trapezia intermedia</i>						
	<i>Trapezia</i> spp.					2	
Xanthidae	<i>Pilodius areolatus</i>						
PHYLUM CRUSTACEA TOTAL		2	22	33	4	16	3

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
		Map C					
Family	Taxon Name	C 011	C 014	C 023	C 024	C 043	C 091
Acanthasteridae	<i>Acanthaster planci</i>						
Ophidiasteridae	<i>Linckia multifora</i>					15	
Oreasteridae	<i>Culcita novaeguineae</i>						
Ophiocomidae	<i>Ophiocoma scolopendrina</i>						
Diadematidae	<i>Echinothrix calamaris</i>	6	13		53		
	<i>Echinothrix diadema</i>	2		4	7	3	5
Echinometridae	<i>Echinometra mathaei</i> (complex)			3			
	<i>Echinostrephus aciculatus</i>		19	7		17	7
Holothuriidae	<i>Actinopyga mauritiana</i>		2	4			
	<i>Holothuria atra</i>		2				
	<i>Holothuria whitmaei</i>						
Stichopodidae	<i>Stichopus chloronotus</i>						
Comasteridae	<i>Comaster schlegelii</i>						
	<i>Crinoid sp. E</i> (Guam)						
PHYLUM ECHINODERMATA TOTAL		8	36	18	60	35	12

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
		Map C					
Family	Taxon Name	C 011	C 014	C 023	C 024	C 043	C 091
Octopodidae	<i>Octopus cyanea</i>	1		1		1	
	<i>Octopus sp. A</i> (Guam)					1	
Tridacnidae	<i>Tridacna crocea</i>		2	1		2	2
	<i>Tridacna gigas</i>			1			
Bursidae	<i>Bursa granularis</i>						
Cerithiidae	<i>Cerithium zebrum</i>						
	<i>Cerithium spp.</i>						
	<i>Rhinoclavis articulata</i>						
Conidae	<i>Conus ebraeus</i>						
	<i>Conus flavidus</i>	12	47	24	22	20	2
	<i>Conus imperialis</i>			3			
	<i>Conus lividus</i>		3	11	1	5	
	<i>Conus marmoreus</i>					8	
	<i>Conus miles</i>		6				
	<i>Conus pennaceus</i>						
	<i>Conus pulicarius</i>						
Costellariidae	<i>Vexillum spp.</i>		28				

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
		Map C					
Family	Taxon Name	C 011	C 014	C 023	C 024	C 043	C 091
Cypraeidae	<i>Cypraea caputserpentis</i>		2			1	
	<i>Cypraea lynx</i>						
	<i>Cypraea maculifera</i>			2			
	<i>Cypraea moneta</i>						
	<i>Cypraea tigris</i>					1	
Fascioliariidae	<i>Latirus nodatus</i>						
Mitridae	<i>Mitra stictica</i>						
Modulidae	<i>Modulus tectum</i>						
Muricidae	<i>Drupa morum</i>	16		4		3	
	<i>Drupa ricinus</i>		13	5	8		
	<i>Morula funiculata</i>		7				
	<i>Morula granulata</i>					20	
	<i>Morula uva</i>						
	<i>Pascula ochrostoma</i>						
Nassariidae	<i>Nassarius papillosus</i>						
Ranellidae	<i>Charonia tritonis</i>						
	<i>Cymatium nicobaricum</i>						

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
		Map C					
Family	Taxon Name	C 011	C 014	C 023	C 024	C 043	C 091
Strombidae	<i>Lambis lambis</i>			1		1	1
	<i>Lambis</i> spp.		4	6	1	3	6
	<i>Strombus</i> spp.		3	8		4	
Terebridae	<i>Terebra dimidiata</i>						
	<i>Terebra subulata</i>						
Trochidae	<i>Trochus niloticus</i>						2
	<i>Trochus</i> spp.		1	3		2	4
Turbinidae	<i>Turbo</i> spp.			1		1	15
Lottiidae	<i>Notoacmea persona</i>						
Nacellidae	<i>Cellana</i> spp.						
Aglajidae	<i>Chelidonura hirundinina</i>					1	
	<i>Chelidonura inornata</i>						
	<i>Philinopsis gardineri</i>		7		2		
Aplysiidae	<i>Petalifera cf. lafonti</i>						
	<i>Stylocheilus striatus</i>	17	8	7			

Table F.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites at Map C. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
		Map C					
Family	Taxon Name	C 011	C 014	C 023	C 024	C 043	C 091
Chromodorididae	<i>Chromodoris vibrata</i>						
	<i>Noumea angustolutea</i>						
Haminoeidae	<i>Atya semistriata</i>		16		16		
Glaucidae	<i>Pteraeolidia ianthina</i>						
Gymnodorididae	<i>Gymnodoris</i> spp.		1				
Phyllidiidae	<i>Phyllidia elegans</i>						2
	<i>Phyllidiella pustulosa</i>						
	<i>Phyllidiella</i> spp.						
Plakobrachidae	<i>Plakobrachus</i> spp.	1			1		
Polyceridae	<i>Nembrotha livingstonei</i>						
	<i>Roboastra gracilis</i>					2	
Tergipedidae	<i>Phestilla melanobrachia</i>						
PHYLUM MOLLUSCA							
TOTAL		47	148	78	51	76	34
TOTAL ALL PHYLA		57	206	129	115	127	49

Appendix G.

Data: Bandeera Bay, Map D

Table G.1. Benthic Algal Quadrats: Relative Cover

Table G.2. Coral Belt Transects: Colony Counts

Table G.3. Coral Belt Transects: Colony Size

Table G.4. Fish Belt Transects: Fish Density

Table G.5. SPC Surveys: Fish Density

Table G.6. Fish Belt Transects: Fish Biomass

Table G.7. SPC Surveys: Fish Biomass

Table G.8. Non-coral Invertebrate Transects: Individual Counts

Table G.1. Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map D. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats			Percent Cover							Map D	
Taxon	Family	Taxon Name	D1	D9	D36	D37	D38	D39	D40	D41	
Prokaryota	Cyanobacteria	Calothrix sp.				2.3		0.2	0.3	2.7	
		Cyanobacterium green tuft									
		Cyanobacterium sp.					1.0				
		Hormothamnion enteromorphioides	24.8	25.7	3.8	2.3	6.5	4.5	3.8	7.5	
		Hydrocoleum coccineum				0.2					
		Hydrocoleum sp.	0.3								
		Lyngbya bouillonii	0.2								
		Lyngbya penicilliformis					0.2	0.2	0.3	0.8	
		Lyngbya polychroa		0.5							
		Lyngbya semiplena									
		Phormidium cf. dimorphum									
		Schizothrix mexicana	0.2		0.2						0.3
		Schizothrix sp.									
Symploca hydnoidea				0.3			0.2				
Prokaryota Total			25.5	26.5	4.0	4.8	7.8	4.8	4.4	11.2	
Chlorophyta	Bryopsidaceae	Bryopsis pennata							0.2		
		Caulerpaceae									
			Caulerpa antoensis								
			Caulerpa elongata								
			Caulerpa nummularia			0.2					
			Caulerpa serrulata							0.5	
			Caulerpa taxifolia								
	Dasycladaceae	Bornetella nitida						0.2			
		Bornetella sphaerica									

Table G.1 (continued) Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map D. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats			Map D							
Taxon	Family	Taxon Name	D1	D9	D36	D37	D38	D39	D40	D41
Chlorophyta (cont.)	Dasycladaceae (cont.)	Neomeris annulata	0.7	0.3	0.7	0.3	0.3	0.5	0.2	0.3
		Neomeris vanbosseae								
	Palmellopsidaceae	Palmophyllum crassa								
		Polyphysaceae	Parvocaulis parvula	0.3				0.2		
	Siphonocladales Clade 1	Boergesenia forbesii						0.3		
	Siphonocladales Clade 2,3,4,5 & outgroup	Cladophora sericea								
		Siphonocladales Clade 5	Anadyomene wrightii							
	Siphonocladales Clade 6	Valonia ventricosa	0.3						0.2	
	Siphonocladales Clade 7	Dictyosphaeria cavernosa								
		Dictyosphaeria intermedia	1.0	5.8	0.3	0.5	0.3	0.7	0.2	0.7
		Dictyosphaeria versluysii	0.5						0.3	0.5
	Siphonocladales Clade 8	Valoniopsis pachynema		0.3						
	Siphonocladales Clade 9	Boodlea composita	0.2			0.5	0.2	0.5		
		Boodlea vanbosseae	0.5	0.2						
	Udoteaceae	Halimeda discoidea			0.2					
		Halimeda gracilis								
		Halimeda lacunalis/taenicola	0.7							
		Rhipidosiphon javensis					0.2			
		Tydemanina expeditionis	0.7	0.2						
Chlorophyta Total			4.8	6.9	1.0	1.5	1.2	2.2	1.0	2.3

Table G.1 (continued) Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map D. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map D								
Taxon	Family	Taxon Name	D1	D9	D36	D37	D38	D39	D40	D41	
Ochrophyta	Chnoosporaceae	Chnoospora minima									
		Chnoospora pannosa									
	Cutleriaceae	Cutleria sp.								0.2	
		Dictyotaceae	Dictyopteris repens								
	Dictyota adnata		0.7	0.2	0.3	0.3	0.2	0.5			
	Dictyota bartayresiana										
	Dictyota ceylanica				0.2	0.2	0.2				
	Dictyota friabilis								0.2	0.9	0.6
	Lobophora variegata		0.7	3.2			0.2				
	Padina sanctae-crucis										
	Sarcinochrysidaceae	Chrysocystis fragilis									
		Chrysonephos sp.									
		Sarcinochrysis marina									
Sargassaceae	Sargassum polycystum										
Ochrophyta Total			1.3	3.3	0.5	0.5	0.5	0.7	1.1	0.6	
Diatom		Diatom					0.8	0.2			
Diatom Total							0.8	0.2			
Rhodophyta	Bonnemaisoniaceae	Asparagopsis taxiformis				0.3		1.2			
	Ceramiaceae	Ceramium sp.									
		Wrangelia argus			0.8	0.5	0.3	1.2	0.2	0.9	
Champiaceae	Champia parvula		0.2								

Table G.1 (continued) Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map D. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map D							
Taxon	Family	Taxon Name	D1	D9	D36	D37	D38	D39	D40	D41
Rhodophyta (cont.)	Corallinaceae	Amphiroa beauvoisii								
		Amphiroa fragilissima	0.7							
		Hydrolithon farinosum								
		Hydrolithon gardineri	0.2		0.3		0.2			
		Hydrolithon onkodes	10.8	4.0	7.3	5.8	26.8	2.9	12.3	5.5
		Hydrolithon rupestre								
		Jania adhaerens	0.7	0.2	0.7	1.5	0.5	6.2	2.2	1.0
		Jania pumila	0.7	0.3					0.2	1.0
		Jania sp.								
		Jania spectabile								
		Lithophyllum kotschyanum								
		Lithophyllum okamurae	1.7	0.7						
		Mesophyllum simulans	3.2	2.7	0.2				0.3	0.3
		Neogoniolithon rugulosum								
		Pneophyllum conicum	2.2	0.2	0.5	0.2	0.2		0.3	0.8
		Galaxauraceae	Actinotrichia fragilis		0.3	0.2	0.2	0.2	0.7	
	Gelidiaceae	Gelidium pusillum	0.5	0.5					0.2	
	Hypneaceae	Hypnea spinella								
	Liagoraceae	Liagora sp.								
	Lomentariaceae	Gelidiopsis intricata			0.5					0.2
Gelidiopsis variabilis										
Peyssonneliaceae	Peyssonnelia boergesenii	6.0	3.4	0.2	0.7	2.2	0.3	0.8	0.4	
	Peyssonnelia rubra	3.2	1.5	0.7	0.3	1.8	0.8	0.5	0.7	

Table G.1 (continued) Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map D. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map D								
Taxon	Family	Taxon Name	D1	D9	D36	D37	D38	D39	D40	D41	
Rhodophyta (cont.)	Rhizophyllidaceae	Portieria hornemannii		0.2							
	Rhodomelaceae	Chondria sp.									
		Chondrophycus papillosus									
		Chondrophycus parvipapillatus			0.2						
		Laurencia mariannensis									
		Palisada papillosa			13.2				0.3		
	Rhodymeniaceae	Tolypiocladia glomerulata				1.0			4.5		0.2
		Botryocladia skottsbergii									
		Coelothrix irregularis									
Sporolithaceae	Sporolithon sp.										
Wrangeliaceae	Pleonosporium sp.						0.2				
Rhodophyta Total			29.7	27.9	11.8	9.5	32.2	18.3	17.2	11.2	
Turf algae Total			32.0	13.3	22.2	23.7	20.7	42.5	8.2	26.3	
Porifera	Petrosiidae	Xestospongia exigua									
	Porifera	Porifera sp.									
	Suberitidae	Terpios hoshinota						10.8			
Porifera Total							10.8				
Cnidaria	Acroporidae	Acropora digitifera			12.3						
		Acropora humilis									
		Astreopora listeri									
		Astreopora myriophthalma		1.5							

Table G.1 (continued) Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map D. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map D								
Taxon	Family	Taxon Name	D1	D9	D36	D37	D38	D39	D40	D41	
Cnidaria (cont.)	Acroporidae (cont.)	Montipora floweri									
		Montipora foveolata									
		Montipora sp.									
		Montipora tuberculosa									
	Agariciidae	Leptoseris mycetoseroides									
		Pavona sp.	0.5								
		Pavona varians		0.3	1.5	3.8					
	Alcyoniidae	Sinularia sp.									
	Astrocoeniidae	Stylocoeniella armata									
	Dendrophylliidae	Turbinaria stellulata									
	Faviidae	Cyphastrea agassizi			1.8		0.4				
		Cyphastrea microphthalma									
		Cyphastrea sp.	1.5								
		Favia fавus	0.5								
		Favia mathaei	0.2	0.3		0.7		0.3	0.3		
		Favia pallida	0.2					0.2			
		Favia sp.									
		Favia stelligera	0.2		0.2						
		Favites russelli									
		Favites sp.									
Goniastrea edwardsi											
Goniastrea pectinata											
Goniastrea retiformis			0.3				0.2				

Table G.1 (continued) Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map D. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map D							
Taxon	Family	Taxon Name	D1	D9	D36	D37	D38	D39	D40	D41
Cnidaria (cont.)	Faviidae (cont.)	Leptastrea bottae	0.5		0.2					0.5
		Leptastrea purpurea	0.7	0.2						
		Leptoria phrygia					2.0			
		Montastrea curta					0.2			
		Montastrea sp.								
		Montastrea valenciennesi								0.2
	Fungiidae	Fungia sp.								
	Mussidae	Acanthastrea echinata				1.5	0.2			
		Acanthastrea hillae							1.0	
		Homophyllia/Scolymia sp.								
		Lobophyllia sp.								
	Oculinidae	Scolymia australis								
		Galaxea fascicularis	0.3		0.5					
	Pocilloporidae	Pocillopora damicornis								
		Pocillopora meandrina								
		Pocillopora setchelli								
		Pocillopora sp.	0.2							
	Poritidae	Goniopora sp.					1.7			
		Porites australiensis	1.5							0.7
		Porites lichen								
Porites lutea		0.2	6.2	30.1	26.5	20.2	15.0	59.3	37.2	
		Porites rus								

Table G.2. Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Bandeera Bay, Map D.

Coral Counts Belt Transects		Number of Colonies		Map D			
Genus	Taxa	D 001	D 009	D 036	D 037	D 038	D 039
<i>Acanthastrea</i>	<i>Acanthastrea echinata</i>	1	1				
	<i>Acanthastrea</i> spp.						
<i>Acropora</i>	<i>Acropora abrotanoides</i>						
	<i>Acropora azurea</i>						
	<i>Acropora digitifera</i>						
	<i>Acropora humilis</i> (complex)						
	<i>Acropora loripes</i>						
	<i>Acropora monticulosa</i>						
	<i>Acropora nasuta</i>						
	<i>Acropora quelchi</i>						
	<i>Acropora robusta</i>						
	<i>Acropora secale</i>						
	<i>Acropora</i> spp.						
	<i>Acropora surculosa</i>						
	<i>Acropora tenuis</i>		1				
	<i>Acropora valida</i>						
<i>Acropora vaughani</i>							
<i>Acropora verweyi</i>							
<i>Astreopora</i>	<i>Astreopora listeri</i>						
	<i>Astreopora myriophthalma</i>		4				
	<i>Astreopora randalli</i>						
<i>Coscinaraea</i>	<i>Coscinaraea columna</i>						
	<i>Coscinaraea ramose</i>						

Table G.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Bandeira Bay, Map D.

Coral Counts Belt Transects		Number of Colonies		Map D			
Genus	Taxa	D 001	D 009	D 036	D 037	D 038	D 039
<i>Cyphastrea</i>	<i>Cyphastrea agassizi</i>	3	8				
	<i>Cyphastrea chalcidicum</i>						
	<i>Cyphastrea haimeana</i>		1				
	<i>Cyphastrea ocellina</i>						
	<i>Cyphastrea serailia</i>						
	<i>Cyphastrea</i> spp.	6					
<i>Echinophyllia</i>	<i>Echinophyllia echinata</i>						
<i>Echinopora</i>	<i>Echinopora lamellosa</i>						
<i>Favia</i>	<i>Favia matthaii</i> (complex)	25	8				
	<i>Favia speciosa</i>						
	<i>Favia</i> spp.						
	<i>Favia stelligera</i>	1					
<i>Favites</i>	<i>Favites abdita</i>						
	<i>Favites pentagona</i>						
	<i>Favites</i> sp.1						
	<i>Favites</i> sp.2						
<i>Galaxea</i>	<i>Galaxea fascicularis</i>						
<i>Goniastrea</i>	<i>Goniastrea edwardsi</i>	1	2				
	<i>Goniastrea retiformis</i>	1					
<i>Goniopora</i>	<i>Goniopora somaliensis</i>						

Table G.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Bandeera Bay, Map D.

Coral Counts Belt Transects		Number of Colonies		Map D			
Genus	Taxa	D 001	D 009	D 036	D 037	D 038	D 039
<i>Heliopora</i>	<i>Heliopora coerulea</i>						
<i>Hydnophora</i>	<i>Hydnophora microconos</i>						
<i>Leptastrea</i>	<i>Leptastrea purpurea</i>	16	1				
	<i>Leptastrea transversa</i>						
<i>Leptoria</i>	<i>Leptoria phrygia</i>						
<i>Lobophyllia</i>	<i>Lobophyllia hemprichii</i>						
<i>Merulina</i>	<i>Merulina ampliata</i>						
<i>Montastrea</i>	<i>Montastrea curta</i>	1					
	<i>Montastrea valenciennesi</i>						
<i>Montipora</i>	<i>Montipora efflorescens</i>						
	<i>Montipora ehrenbergii</i>						
	<i>Montipora grisea</i>						
	<i>Montipora hoffmeisteri</i>						
	<i>Montipora informis</i>						
	<i>Montipora lobulata</i>						
	<i>Montipora monasteriata</i>						
	<i>Montipora</i> sp.1			1			
	<i>Montipora</i> sp.2 (Randall 2003)						
	<i>Montipora tuberculosa</i>						
<i>Montipora turgescens</i>							

Table G.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Bandeera Bay, Map D.

Coral Counts Belt Transects		Number of Colonies		Map D			
Genus	Taxa	D 001	D 009	D 036	D 037	D 038	D 039
<i>Oxypora</i>	<i>Oxypora lacera</i>						
<i>Pavona</i>	<i>Pavona duerdeni</i>						
	<i>Pavona varians</i>	17	2				
<i>Platygyra</i>	<i>Platygyra pini</i>						
	<i>Platygyra sinensis</i>						
<i>Pocillopora</i>	<i>Pocillopora ankei</i>						
	<i>Pocillopora damicornis</i>						
	<i>Pocillopora elegans</i>						
	<i>Pocillopora eydouxi</i>	4					
	<i>Pocillopora meandrina</i>						
	<i>Pocillopora setchelli</i>						
	<i>Pocillopora</i> spp. (juv)		1				
<i>Porites</i>	<i>Pocillopora verrucosa</i>						
	<i>Porites lobata</i>	6					
	<i>Porites lutea</i>	4	1				
	<i>Porites massive</i>						
	<i>Porites rus</i>						
<i>Psammocora</i>	<i>Porites sp.</i>						
	<i>Psammocora digitata</i>						
	<i>Psammocora haimeana</i>	1	1				

	<i>Psammocora nierstraszi</i>	
<i>Sarcophytum</i>	<i>Sarcophytum sp.</i>	1
<i>Scolymia</i>	<i>Scolymia australis</i>	1

Table G.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites at Bandeera Bay, Map D.

Coral Counts Belt Transects		Number of Colonies						Map D					
Genus	Taxa	D 001	D 009	D 036	D 037	D 038	D 039						
<i>Sinularia</i>	<i>Sinularia spp.</i>												
<i>Stylocoeniella</i>	<i>Stylocoeniella armata</i>												
<i>Stylophora</i>	<i>Stylophora mordax</i>												
<i>Turbinaria</i>	<i>Turbinaria irregularis</i>												
	<i>Turbinaria stellulata</i>												
TOTAL COLONIES		94	27	0	0	0	0						

Table G.3. (continued) Number of coral colonies in each size class observed at survey sites within Bandeira Bay, Map D. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size	Number of Colonies	Map D						All Sites	
		>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm	
<i>Cyphastrea</i>	<i>Cyphastrea agassizi</i>	1	5	3	2				
	<i>Cyphastrea chalcidicum</i>								
	<i>Cyphastrea ocellina</i>								
	<i>Cyphastrea serailia</i>								
	<i>Cyphastrea</i> spp.		6						
<i>Echinophyllia</i>	<i>Echinophyllia echinata</i>								
<i>Echinopora</i>	<i>Echinopora lamellosa</i>								
<i>Favia</i>	<i>Favia matthaii</i> (complex)	25	7	1					
	<i>Favia speciosa</i>								
	<i>Favia</i> spp.								
	<i>Favia stelligera</i>	1							
<i>Favites</i>	<i>Favites abdita</i>								
	<i>Favites pentagona</i>								
	<i>Favites</i> sp.1								
	<i>Favites</i> sp.2								
<i>Galaxea</i>	<i>Galaxea fascicularis</i>								
<i>Goniastrea</i>	<i>Goniastrea edwardsi</i>		1	2					
	<i>Goniastrea retiformis</i>	1							
<i>Goniopora</i>	<i>Goniopora somaliensis</i>								
<i>Heliopora</i>	<i>Heliopora coerulea</i>								
<i>Hydnophora</i>	<i>Hydnophora microconos</i>								

Table G.3. (continued) Number of coral colonies in each size class observed at survey sites within Bandeira Bay, Map D. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies	Map D						
Genus	Taxa		>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Leptastrea</i>	<i>Leptastrea purpurea</i>		10	2	2	2	1		
	<i>Leptastrea transversa</i>								
<i>Leptoria</i>	<i>Leptoria phrygia</i>								
<i>Lobophyllia</i>	<i>Lobophyllia hemprichii</i>								
<i>Merulina</i>	<i>Merulina ampliata</i>								
<i>Montastrea</i>	<i>Montastrea curta</i>		1						
	<i>Montastrea valenciennesi</i>								
<i>Montipora</i>	<i>Montipora efflorescens</i>								
	<i>Montipora ehrenbergii</i>								
	<i>Montipora grisea</i>								
	<i>Montipora hoffmeisteri</i>								
	<i>Montipora informis</i>								
	<i>Montipora lobulata</i>								
	<i>Montipora monasteriata</i>								
	<i>Montipora</i> sp.1								
	<i>Montipora</i> sp.2 (Randall 2003)								
	<i>Montipora</i> spp.					1			
	<i>Montipora tuberculosa</i>								
<i>Montipora turgescens</i>									
<i>Oxypora</i>	<i>Oxypora lacera</i>								
<i>Pavona</i>	<i>Pavona duerdeni</i>								
	<i>Pavona varians</i>		3	7	7	2			

Table G.3. (continued) Number of coral colonies in each size class observed at survey sites within Bandeira Bay, Map D. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies	Map D		All Sites				
Genus	Taxa		>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Platygyra</i>	<i>Platygyra pini</i>								
	<i>Platygyra sinensis</i>								
<i>Pocillopora</i>	<i>Pocillopora ankei</i>								
	<i>Pocillopora damicornis</i>								
	<i>Pocillopora elegans</i>								
	<i>Pocillopora eydouxi</i>		3	1					
	<i>Pocillopora meandrina</i>								
	<i>Pocillopora setchelli</i>								
	<i>Pocillopora</i> spp. (juv)				1				
<i>Porites</i>	<i>Porites lobata</i>		6						
	<i>Porites lutea</i>		4						1
	<i>Porites massive</i>								
	<i>Porites rus</i>								
	<i>Porites</i> spp.								
<i>Psammocora</i>	<i>Psammocora digitata</i>								
	<i>Psammocora haimeana</i>		1	2					
	<i>Psammocora nierstraszi</i>								
<i>Sarcophytum</i>	<i>Sarcophytum</i> spp.		1						
<i>Scolymia</i>	<i>Scolymia australis</i>		1						
<i>Turbinaria</i>	<i>Turbinaria irregularis</i>								
	<i>Turbinaria stellulata</i>				1				
TOTAL			61	36	16	7	1		1
% colony size class			50.0	29.5	13.1	5.7	0.8	0.0	0.8

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area D						
Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Carangidae	Carangoides ferdau							
	Carangoides orthogrammus							
	Caranx ignobilis							
	Caranx lugubris							
	Scomberoides lysan							
Carangidae Total								
Carcharhinidae	Trienodon obesus						0.50	
Carcharhinidae Total							0.50	
Chaetodontidae	Chaetodon auriga							
	Chaetodon ephippium							
	Chaetodon lunula						2.00	
	Chaetodon ornatissimus							
	Chaetodon punctatofasciatus						2.00	
	Chaetodon quadrimaculatus							
	Chaetodon unimaculatus							
Heniochus chrysostomus								
Chaetodontidae Total							4.00	
Cirrhitidae	Cirrhichthys falco	2.00						
	Cirrhitops fasciatus							
	Cirrhites pinnulatus							
	Neocirrhites armatus							
	Paracirrhites arcatus	2.00						
	Paracirrhites forsteri							
Cirrhitidae Total		4.00						
Fistulariidae	Fistularia commersonii							
Fistulariidae Total								

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish>20cm)		Area D						
Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Gobiidae	Amblyeleotris fasciatus							4.00
	Eviota sp.							
	Gobiid sp.		2.00					14.00
	Valenciennea strigata						2.00	2.00
Gobiidae Total			2.00				2.00	20.00
Hemiramphidae	Hemiramphus lutkei						4.00	
Hemiramphidae Total				4.00				
Holocentridae	Myripristis amaena							
	Myripristis berndti	2.00	0.50				0.50	
	Sargocentron tiere	0.50				0.50		
Holocentridae Total		2.50	0.50			0.50	0.50	
Kyphosidae	Kyphosus bigibbus							
	Kyphosus cinerascens		1.00					
	Kyphosus vaigiensis		1.00					
Kyphosidae Total			2.00					
Labridae	Anampses caeruleopunctatus	2.00					4.00	
	Cirrhilabrus katherinae							2.00
	Coris aygula	4.50	2.00					
	Coris dorsomacula							
	Coris gaimard	2.50					2.00	2.00
	Gomphosus varius							
	Halichoeres biocellatus		2.00					
	Halichoeres hortulanus	8.50	4.00				0.50	
	Halichoeres margaritaceus				4.00	2.00	4.00	
	Halichoeres marginatus							
Halichoeres ornatissimus	16.00	10.00		2.00	20.00		20.00	

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area D						
Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Labridae (cont.)	Hemigymnus melapterus							
	Hologymnosus annulatus	1.00						
	Hologymnosus doliatus							
	Iniistius celebicus							
	Labrid sp.							
	Labroides bicolor							
	Labroides dimidiatus	10.00	4.00			2.00		4.00
	Labropsis xanthonota							
	Macropharyngodon meleagris							
	Novaculichthys taeniourus					2.00		
	Oxycheilinus unifasciatus							
	Pseudocheilinus octotaenia							
	Pseudojuloides atavai	2.00						
	Stethojulis bandanensis					2.00	4.00	
	Stethojulis strigiventer	4.00						
	Thalassoma amblycephalum	8.00					2.00	
Thalassoma lutescens	4.00	2.00				2.00	8.00	
Thalassoma quinquevittatum	2.00			8.00	4.00	6.00	2.00	
Thalassoma trilobatum								
Xyrichtys halsteadii								
Labridae Total		64.50	24.00		14.00	32.00	24.50	38.00
Lethrinidae	Gnathodentex aureolineatus	11.50						27.00
	Monotaxis grandoculis	0.50	0.50			4.00		3.00
Lethrinidae Total		12.00	0.50			4.00		30.00

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area D						
Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Lutjanidae	Aphareus furca	0.50						
	Aprion virescens							
	Lutjanus bohar	0.50						0.50
	Lutjanus fulvus							
	Lutjanus gibbus	20.50						
	Lutjanus kasmira	54.00	13.00					94.00
	Lutjanus monostigma							
	Macolor macularis							0.50
	Macolor niger							
Lutjanidae Total		75.50	13.00					95.00
Malacanthidae	Malacanthus latovittatus							
Malacanthidae Total								
Microdesmidae	Microdesmid sp.						2.00	
	Nemateleotris magnifica							
	Ptereleotris evides	18.00				26.00	12.00	
	Ptereleotris microlepis							
	Ptereleotris zebra							
Microdesmidae Total		18.00				26.00	14.00	
Monacanthidae	Cantherhines dumerilii							
Monacanthidae Total								
Mullidae	Mulloidichthys flavolineatus					2.00	2.00	
	Mulloidichthys vanicolensis	2.50						
	Parupeneus barberinus	0.50					2.00	
	Parupeneus cyclostomus							
	Parupeneus insularis	3.00	2.00			10.00	3.00	
	Parupeneus multifasciatus	4.00				10.00		
Mullidae Total		10.00	2.00			22.00	7.00	

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area D						
Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Muraenidae	Gymnothorax javanicus							
Muraenidae Total								
Ostraciidae	Ostracion meleagris							
Ostraciidae Total								
Pempheridae	Pempheris oualensis							
Pempheridae Total								
Pinguipedidae	Parapercis clathrata Parapercis millepunctata Parapercis multiplicata							
Pinguipedidae Total								
Pomacanthidae	Apolemichthys trimaculatus	2.00						
	Centropyge flavissima	2.00						2.00
	Centropyge shepardi							
	Pomacanthus imperator	0.50	2.00			2.50		0.50
	Pygoplites diacanthus							
Pomacanthidae Total		4.50	2.00			2.50		2.50
Pomacentridae	Abudefduf septemfasciatus							
	Abudefduf vaigiensis							
	Chromis acares							
	Chromis agilis							
	Chromis margaritifer							
	Chromis vanderbilti	8.00						
	Chromis xanthura							
	Chrysiptera biocellata							
	Chrysiptera brownriggii	2.00			6.00	6.00	6.00	2.00
	Chrysiptera traceyi							
Dascyllus trimaculatus								

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area D						
Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Pomacentridae (cont.)	Plectroglyphidodon imparipennis							
	Plectroglyphidodon johnstonianus							
	Plectroglyphidodon lacrymatus						2.00	
	Plectroglyphidodon leucozona							
	Pomacentrus vaiuli							4.00
	Pomachromis guamensis	126.00						
	Stegastes albifasciatus							
	Stegastes fasciolatus	14.00			2.00	4.00	4.00	
Pomacentridae Total		150.00			8.00	10.00	12.00	6.00
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total								
Scaridae	Calotomus carolinus							
	Chlorurus microrhinos	0.50					6.00	2.00
	Scarus altipinnis							
	Scarus forsteni	5.00						
	Scarus globiceps					2.00		0.50
	Scarus oviceps							
	Scarus rubroviolaceus	1.50	0.50					0.50
	Scarus sp.							
Scaridae Total		7.00	0.50			2.00	6.00	3.00
Scorpaenidae	Pterois antennata							
	Pterois volitans							
Scorpaenidae Total								
Serranidae	Cephalopholis argus					2.00		0.50
	Cephalopholis sonnerati							
	Cephalopholis urodeta	2.00						
	Epinephelus hexagonatus	3.00					0.50	

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish>20cm)		Area D						
Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Serranidae (cont.)	Epinephelus maculatus							
	Epinephelus merra					2.00		
	Epinephelus socialis							
	Grammistes sexlineatus							
	Variola louti							
Serranidae Total		5.00				4.00	0.50	0.50
Sphyraenidae	Sphyraena sp.							
Sphyraenidae Total								
Synodontidae	Saurida gracilis							
	Synodus binotatus							
	Synodus dermatogenys							
Synodontidae Total								
Tetraodontidae	Arothron nigropunctatus							
Tetraodontidae Total								
Zanclidae	Zanclus cornutus							
Zanclid Total								
SITE TOTAL		374.00	63.50	4.00	44.00	131.50	104.50	210.50

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area D						
Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Carangidae	Carangoides ferdau							
	Carangoides orthogrammus							
	Caranx ignobilis							
	Caranx lugubris							
	Scomberoides lysan							
Carangidae Total								
Carcharhinidae	Triaenodon obesus							
Carcharhinidae Total								
Chaetodontidae	Chaetodon auriga							
	Chaetodon ephippium							4.00
	Chaetodon lunula							
	Chaetodon ornatissimus							
	Chaetodon punctatofasciatus							
	Chaetodon quadrimaculatus		2.00					
	Chaetodon unimaculatus							
Heniochus chrysostomus								
Chaetodontidae Total			2.00					4.00
Cirrhitidae	Cirrhichthys falco							
	Cirrhitops fasciatus							
	Cirrhites pinnulatus	2.00						
	Neocirrhites armatus							
	Paracirrhites arcatus						2.00	2.00
	Paracirrhites forsteri							
Cirrhitidae Total		2.00					2.00	2.00
Fistulariidae	Fistularia commersonii							
Fistulariidae Total								

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area D						
Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Gobiidae	Amblyeleotris fasciatus Eviota sp. Gobiid sp. Valenciennea strigata							
Gobiidae Total								
Hemiramphidae	Hemiramphus lutkei							
Hemiramphidae Total								
Holocentridae	Myripristis amaena Myripristis berndti Sargocentron tiere							
Holocentridae Total								
Kyphosidae	Kyphosus bigibbus Kyphosus cinerascens Kyphosus vaigiensis							
Kyphosidae Total								
Labridae	Anampses caeruleopunctatus Cirrhilabrus katherinae Coris aygula Coris dorsomacula Coris gaimard Gomphosus varius Halichoeres biocellatus Halichoeres hortulanus Halichoeres margaritaceus Halichoeres marginatus Halichoeres ornatissimus			4.00				0.50
			4.00	4.00	2.00			
								2.00
		2.00	2.00	2.00	0.50		10.50	
		22.00	14.00	4.00	2.00	14.00	2.00	
		2.00						
		18.00	2.00	2.00	2.00	2.00	4.00	2.00

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish>20cm)		Area D						
Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Lutjanidae	Aphareus furca							
	Aprion virescens							
	Lutjanus bohar							
	Lutjanus fulvus							
	Lutjanus gibbus							
	Lutjanus kasmira							
	Lutjanus monostigma							
	Macolor macularis							
	Macolor niger							4.00
Lutjanidae Total								4.00
Malacanthidae	Malacanthus latovittatus							
Malacanthidae Total								
Microdesmidae	Microdesmid sp.							
	Nemateleotris magnifica							
	Ptereleotris evides							
	Ptereleotris microlepis							
	Ptereleotris zebra							
Microdesmidae Total								
Monacanthidae	Cantherhines dumerilii							
Monacanthidae Total								
Mullidae	Mulloidichthys flavolineatus							
	Mulloidichthys vanicolensis							
	Parupeneus barberinus							
	Parupeneus cyclostomus							2.00
	Parupeneus insularis	14.00	14.00			6.00	2.00	6.50
	Parupeneus multifasciatus				0.50			2.00
Mullidae Total		14.00	14.00		0.50	6.00	4.00	8.50

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area D						
Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Muraenidae	Gymnothorax javanicus							
Muraenidae Total								
Ostraciidae	Ostracion meleagris							
Ostraciidae Total								
Pempheridae	Pempheris oualensis							
Pempheridae Total								
Pinguipedidae	Parapercis clathrata Parapercis millepunctata Parapercis multiplicata							
Pinguipedidae Total								
Pomacanthidae	Apolemichthys trimaculatus Centropyge flavissima Centropyge shepardi Pomacanthus imperator Pygoplites diacanthus						2.00	2.00
Pomacanthidae Total							2.00	2.00
Pomacentridae	Abudefduf septemfasciatus Abudefduf vaigiensis Chromis acares Chromis agilis Chromis margaritifer Chromis vanderbilti Chromis xanthura Chrysiptera biocellata Chrysiptera brownriggii Chrysiptera traceyi Dascyllus trimaculatus		14.00			2.00		
		32.00	38.00	50.00	10.00	26.00	10.00	18.00

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area D						
Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Pomacentridae (cont.)	Plectroglyphidodon imparipennis	2.00	4.00					
	Plectroglyphidodon johnstonianus							
	Plectroglyphidodon lacrymatus			10.00		6.00	12.00	4.00
	Plectroglyphidodon leucozona		4.00	2.00	6.00	10.00		
	Pomacentrus vaiuli							
	Pomachromis guamensis							
	Stegastes albifasciatus	24.00	24.00			18.00	16.00	
	Stegastes fasciolatus			2.00				12.00
Pomacentridae Total		58.00	90.00	64.00	16.00	62.00	38.00	34.00
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total								
Scaridae	Calotomus carolinus		4.00	12.00		4.00		
	Chlorurus microrhinos							
	Scarus altipinnis							
	Scarus forsteni							
	Scarus globiceps							
	Scarus oviceps							
	Scarus rubroviolaceus				0.50	1.50	1.50	1.50
	Scarus sp.							
Scaridae Total			4.00	12.00	0.50	5.50	1.50	1.50
Scorpaenidae	Pterois antennata							
	Pterois volitans							
Scorpaenidae Total								
Serranidae	Cephalopholis argus							
	Cephalopholis sonnerati							
	Cephalopholis urodeta							
	Epinephelus hexagonatus			0.50				1.00

Table G.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area D						
Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Serranidae (cont.)	Epinephelus maculatus Epinephelus merra Epinephelus socialis Grammistes sexlineatus Variola louti							
Serranidae Total				0.50				1.00
Sphyraenidae	Sphyraena sp.					6.50		
Sphyraenidae Total						6.50		
Synodontidae	Saurida gracilis Synodus binotatus Synodus dermatogenys							
Synodontidae Total								
Tetraodontidae	Arothron nigropunctatus							
Tetraodontidae Total								
Zanclidae	Zanclus cornutus							1.50
Zanclidae Total								1.50
SITE TOTAL		174.00	194.50	158.50	45.50	137.50	112.50	112.00

Table G.5 (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map D						
Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Carcharhinidae	Carcharhinus amblyrhynchos							
	Triaenodon obesus	0.32						
Carcharhinidae Total		0.32						
Holocentridae	Myripristis berndti	0.32						0.32
	Sargocentron caudimaculatum							
	Sargocentron tiere							
Holocentridae Total		0.32						0.32
Kyphosidae	Kyphosus bigibbus							
	Kyphosus cinerascens							
	Kyphosus vaigiensis		0.32					
Kyphosidae Total			0.32					
Labridae	Anampses caeruleopunctatus							
	Cheilinus trilobatus		0.32					
	Coris aygula	1.27						
	Coris gaimard							
	Halichoeres hortulanus	0.64	0.32			0.95		
	Hemigymnus fasciatus							
	Oxycheilinus unifasciatus							
	Pseudodax moluccanus							
Thalassoma trilobatum								
Labridae Total		1.91	0.64			0.95		
Lethrinidae	Gnathodentex aureolineatus	5.73	2.23					
	Monotaxis grandoculis	1.59	2.86					
Lethrinidae Total		7.32	5.09					

Table G.5 (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map D						
Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Scaridae	Calotomus carolinus							
	Chlorurus microrhinos							
	Scarus forsteni							
	Scarus oviceps							0.32
	Scarus rubroviolaceus		0.64					
Scaridae Total			0.64					0.32
Serranidae	Cephalopholis argus	0.32			0.32			
	Cephalopholis urodeta	0.32	0.32					
	Epinephelus fasciatus							
	Epinephelus hexagonatus							
	Gracila albomarginata							
	Variola louti							
Serranid Total		0.64	0.32		0.32			
Tetraodontidae	Arothron meleagris							
	Arothron nigropunctatus							
Tetraodontidae Total								
SITE TOTAL		36.29	22.60	0.00	7.00	2.23	0.00	9.23

Table G.5 (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map D						
Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Carcharhinidae	Carcharhinus amblyrhynchos							
	Triaenodon obesus							
Carcharhinidae Total								
Holocentridae	Myripristis berndti							
	Sargocentron caudimaculatum							
	Sargocentron tiere							
Holocentridae Total								
Kyphosidae	Kyphosus bigibbus							
	Kyphosus cinerascens							
	Kyphosus vaigiensis							
Kyphosidae Total								
Labridae	Anampses caeruleopunctatus							
	Cheilinus trilobatus					0.32		
	Coris aygula							
	Coris gaimard							
	Halichoeres hortulanus			0.32		0.64	0.32	
	Hemigymnus fasciatus							
	Oxycheilinus unifasciatus							
	Pseudodax moluccanus							
Thalassoma trilobatum	0.32							
Labridae Total		0.32		0.32		0.95	0.32	
Lethrinidae	Gnathodentex aureolineatus							
	Monotaxis grandoculis							
Lethrinidae Total								

Table G.5 (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map D						
Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Lutjanidae	Aphareus furca							
	Aprion virescens							
	Lutjanus bohar							
	Lutjanus fulvus							
	Lutjanus gibbus							
	Lutjanus kasmira							
	Lutjanus monostigma							
	Macolor macularis							
	Macolor niger							
Lutjanidae Total								
Mugilidae	Ellochelon vaigiensis				1.59			
Mugilidae Total					1.59			
Mullidae	Mulloidichthys flavolineatus							
	Parupeneus barberinus							
	Parupeneus cyclostomus							
	Parupeneus insularis					0.64		
	Parupeneus multifasciatus					0.32		
Mullidae Total						0.95		
NoFish	no individuals seen							
NoFish Total								
Pomacanthidae	Apolemichthys trimaculatus							
	Pomacanthus imperator							
	Pygoplites diacanthus							
Pomacanthidae Total								
Pomacentridae	Abudefduf septemfasciatus	0.64						
Pomacentridae Total		0.64						

Table G.5 (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map D						
Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Scaridae	Calotomus carolinus					0.32		
	Chlorurus microrhinos							
	Scarus forsteni							
	Scarus oviceps							
	Scarus rubroviolaceus		1.27			1.27	1.27	
Scaridae Total			1.27			1.59	1.27	
Serranidae	Cephalopholis argus			0.32				
	Cephalopholis urodeta							
	Epinephelus fasciatus							
	Epinephelus hexagonatus			0.32				
	Gracila albomarginata							
Variola louti								
Serranidae Total				0.64				
Tetraodontidae	Arothron meleagris		0.32					0.32
	Arothron nigropunctatus							
Tetraodontidae Total			0.32					0.32
SITE TOTAL		22.28	1.59	2.55	13.05	15.60	8.28	4.77

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Apogonidae	Apogon fraenatus Apogon novemfasciatus Apogon sp. Cheilodipterus quinquelineatus Cheilodipterus sp.							
Apogonidae Total								
Atherinidae	Atherinid sp.							
Atherinidae Total								
Balistidae	Balistapus undulatus Melichthys niger Melichthys vidua Rhinecanthus rectangulus Sufflamen bursa Sufflamen chrysopterum							
Balistidae Total								
Belonidae	Tylosurus crocodilus							
Belonidae Total								
Blenniidae	Aspidontus taeniatus Blenniella chrysospilos Blenniid sp. Cirripectes variolosus Ecsenius opsifrontalis Meiacanthus atrodorsalis Plagiotremus tapeinosoma	0.003	0.005					0.010
Blenniidae Total		0.003	0.005					0.010

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Caesionidae	Caesio teres							
Caesionidae Total								
Carangidae	Carangoides ferdau Carangoides orthogrammus Caranx ignobilis Caranx lugubris Scomberoides lysan							
Carangidae Total								
Carcharhinidae	Triaenodon obesus						11.282	
Carcharhinidae Total		11.282						
Chaetodontidae	Chaetodon auriga Chaetodon ephippium Chaetodon lunula Chaetodon ornatissimus Chaetodon punctatofasciatus Chaetodon quadrimaculatus Chaetodon unimaculatus Heniochus chrysostomus						0.175 0.036	
Chaetodontidae Total		0.211						
Cirrhitidae	Cirrhitichthys falco Cirrhitops fasciatus Cirrhitus pinnulatus Neocirrhites armatus Paracirrhites arcatus Paracirrhites forsteri	0.006						
Cirrhitidae Total		0.023						

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Fistulariidae	Fistularia commersonii							
Fistulariidae Total								
Gobiidae	Amblyeleotris fasciatus							0.025
	Eviota sp.							
	Gobiid sp.		0.005					0.037
	Valenciennea strigata						0.024	0.013
Gobiidae Total			0.005				0.024	0.074
Hemiramphidae	Hemiramphus lutkei			0.020				
Hemiramphidae Total				0.020				
Holocentridae	Myripristis amaena							
	Myripristis berndti	0.251	0.261				0.182	
	Sargocentron tiere	0.194				0.116		
Holocentridae Total		0.445	0.261			0.116	0.182	
Kyphosidae	Kyphosus bigibbus							
	Kyphosus cinerascens		0.987					
	Kyphosus vaigiensis		0.500					
Kyphosidae Total			1.488					
Labridae	Anampses caeruleopunctatus	0.013					0.057	
	Cirrhilabrus katherinae							0.003
	Coris aygula	0.386	0.027					
	Coris dorsomacula							
	Coris gaimard	0.116					0.019	0.019
	Gomphosus varius							
	Halichoeres biocellatus		0.045					
	Halichoeres hortulanus	0.332	0.066					0.062
	Halichoeres margaritaceus				0.074	0.065		0.041
	Halichoeres marginatus							

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Labridae (cont.)	Halichoeres ornatissimus	0.103	0.058		0.011	0.098		0.093
	Hemigymnus melapterus							
	Hologymnosus annulatus	0.459						
	Hologymnosus doliatus							
	Iniistius celebicus							
	Labrid sp.							
	Labroides bicolor							
	Labroides dimidiatus	0.039	0.012			0.005		0.008
	Labropsis xanthonota							
	Macropharyngodon meleagris							
	Novaculichthys taeniourus					0.032		
	Oxycheilinus unifasciatus							
	Pseudocheilinus octotaenia							
	Pseudojuloides atavai	0.019						
	Stethojulis bandanensis					0.033	0.048	
	Stethojulis strigiventer	0.067						
	Thalassoma amblycephalum	0.058						0.029
Thalassoma lutescens	0.068	0.056					0.071	
Thalassoma quinquevittatum	0.017			0.073	0.111	0.041	0.012	
Thalassoma trilobatum								
Xyrichtys halstedii								
Labridae Total		1.677	0.263		0.158	0.343	0.369	0.207
Lethrinidae	Gnathodentex aureolineatus	0.876						0.543
	Monotaxis grandoculis	0.467	0.467			0.055		1.871
Lethrinidae Total		1.343	0.467			0.055		2.414

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Lutjanidae	Aphareus furca	0.164						
	Aprion virescens							
	Lutjanus bohar	0.080						0.431
	Lutjanus fulvus							
	Lutjanus gibbus	0.836						
	Lutjanus kasmira	0.944	1.568					0.509
	Lutjanus monostigma							
	Macolor macularis							0.518
Macolor niger								
Lutjanidae Total		2.025	1.568					1.458
Malacanthidae	Malacanthus latovittatus							
Malacanthidae Total								
Microdesmidae	Microdesmid sp.						0.021	
	Nemateleotris magnifica							
	Ptereleotris evides	0.011				0.005	0.011	
	Ptereleotris microlepis							
	Ptereleotris zebra							
Microdesmidae Total		0.011				0.005	0.032	
Monacanthidae	Cantherhines dumerilii							
Monacanthidae Total								
Mullidae	Mulloidichthys flavolineatus					0.040	0.017	
	Mulloidichthys vanicolensis	0.134						
	Parupeneus barberinus	0.312					0.054	
	Parupeneus cyclostomus							
	Parupeneus insularis	0.686	0.208			0.395	0.228	
	Parupeneus multifasciatus	0.218				0.176		
Mullidae Total		1.349	0.208			0.612	0.299	

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Muraenidae	Gymnothorax javanicus							
Muraenidae Total								
Ostraciidae	Ostracion meleagris							
Ostraciidae Total								
Pempheridae	Pempheris oualensis							
Pempheridae Total								
Pinguipedidae	Parapercis clathrata Parapercis millepunctata Parapercis multiplicata							
Pinguipedidae Total								
Pomacanthidae	Apolemichthys trimaculatus	0.277						
	Centropyge flavissima	0.059						0.059
	Centropyge shepardi							
	Pomacanthus imperator	0.519	0.350			0.291		0.203
	Pygoplites diacanthus							
Pomacanthidae Total		0.855	0.350			0.291		0.261
Pomacentridae	Abudefduf septemfasciatus							
	Abudefduf vaigiensis							
	Chromis acares							
	Chromis agilis							
	Chromis margaritifer							
	Chromis vanderbilti	0.049						
	Chromis xanthura							
	Chrysiptera biocellata							
	Chrysiptera brownriggii	0.015			0.027	0.047	0.055	0.002
	Chrysiptera traceyi							
Dascyllus trimaculatus								

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Pomacentridae (cont.)	Plectroglyphidodon imparipennis							
	Plectroglyphidodon johnstonianus						0.003	
	Plectroglyphidodon lacrymatus							
	Plectroglyphidodon leucozona							
	Pomacentrus vaiuli							0.042
	Pomachromis guamensis	0.034						
	Stegastes albifasciatus							
	Stegastes fasciolatus	0.191			0.006	0.084	0.114	
Pomacentridae Total		0.289			0.033	0.132	0.173	0.044
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total								
Scaridae	Calotomus carolinus							
	Chlorurus microrhinos	0.650					0.110	0.040
	Scarus altipinnis							
	Scarus forsteni	3.235						
	Scarus globiceps					0.115		0.242
	Scarus oviceps							
	Scarus rubroviolaceus	1.607	0.532					0.160
	Scarus sp.							
Scaridae Total		5.492	0.532			0.115	0.110	0.443
Scorpaenidae	Pterois antennata							
	Pterois volitans							
Scorpaenidae Total								
Serranidae	Cephalopholis argus					0.011		0.362
	Cephalopholis sonnerati							
	Cephalopholis urodeta	0.180						
	Epinephelus hexagonatus	0.288					0.071	

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Serranidae (cont.)	Epinephelus maculatus Epinephelus merra Epinephelus socialis Grammistes sexlineatus Variola louti					0.130		
Serranidae Total		0.467				0.141	0.071	0.362
Sphyraenidae	Sphyraena sp.							
Sphyraenidae Total								
Synodontidae	Saurida gracilis Synodus binotatus Synodus dermatogenys							
Synodontidae Total								
Tetraodontidae	Arothron nigropunctatus							
Tetraodontidae Total								
Zanclidae	Zanclus cornutus							
Zanclidae Total								
SITE TOTAL		18.281	7.537	0.020	1.521	2.485	14.557	6.078

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Apogonidae	Apogon fraenatus							
	Apogon novemfasciatus		0.026	0.017	0.006	0.026		
	Apogon sp.							0.000
	Cheilodipterus quinquelineatus							
	Cheilodipterus sp.							
Apogonidae Total			0.026	0.017	0.006	0.026		0.000
Atherinidae	Atherinid sp.							
Atherinidae Total								
Balistidae	Balistapus undulatus							
	Melichthys niger							
	Melichthys vidua							
	Rhinecanthus rectangulus		0.423					
	Sufflamen bursa							
	Sufflamen chrysopterum							
Balistidae Total			0.423					
Belonidae	Tylosurus crocodilus					1.147		
Belonidae Total						1.147		
Blenniidae	Aspidontus taeniatus							
	Blenniella chrysospilos							
	Blenniid sp.							
	Cirripectes variolosus							0.005
	Ecsenius opsifrontalis							
	Meiacanthus atrodorsalis							
	Plagiotremus tapeinosoma		0.004					
Blenniidae Total			0.004					0.005

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Caesionidae	Caesio teres							
Caesionidae Total								
Carangidae	Carangoides ferdau Carangoides orthogrammus Caranx ignobilis Caranx lugubris Scomberoides lysan							
Carangidae Total								
Carcharhinidae	Triaenodon obesus							
Carcharhinidae Total								
Chaetodontidae	Chaetodon auriga Chaetodon ephippium Chaetodon lunula Chaetodon ornatissimus Chaetodon punctatofasciatus Chaetodon quadrimaculatus Chaetodon unimaculatus Heniochus chrysostomus							0.198
Chaetodontidae Total					0.088			0.198
Cirrhitidae	Cirrhitichthys falco Cirrhitops fasciatus Cirrhitus pinnulatus Neocirrhites armatus Paracirrhites arcatus Paracirrhites forsteri		0.105				0.026	0.001
Cirrhitidae Total			0.105				0.026	0.001

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Fistulariidae	Fistularia commersonii							
Fistulariidae Total								
Gobiidae	Amblyeleotris fasciatus Eviota sp. Gobiid sp. Valenciennea strigata							
Gobiidae Total								
Hemiramphidae	Hemiramphus lutkei							
Hemiramphidae Total								
Holocentridae	Myripristis amaena Myripristis berndti Sargocentron tere							
Holocentridae Total								
Kyphosidae	Kyphosus bigibbus Kyphosus cinerascens Kyphosus vaigiensis							
Kyphosidae Total								
Labridae	Anampses caeruleopunctatus Cirrhilabrus katherinae Coris aygula Coris dorsomacula Coris gaimard Gomphosus varius Halichoeres biocellatus Halichoeres hortulanus Halichoeres margaritaceus Halichoeres marginatus			0.013				0.052
			0.023	0.023	0.014			
								0.004
		0.042	0.001	0.000	0.083		0.356	
		0.043	0.149	0.018	0.000	0.134	0.052	
		0.040						

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Lutjanidae	Aphareus furca							
	Aprion virescens							
	Lutjanus bohar							
	Lutjanus fulvus							
	Lutjanus gibbus							
	Lutjanus kasmira							
	Lutjanus monostigma							
	Macolor macularis							
	Macolor niger							0.000
Lutjanidae Total								0.000
Malacanthidae	Malacanthus latovittatus							
Malacanthidae Total								
Microdesmidae	Microdesmid sp.							
	Nemateleotris magnifica							
	Ptereleotris evides							
	Ptereleotris microlepis							
	Ptereleotris zebra							
Microdesmidae Total								
Monacanthidae	Cantherhines dumerilii							
Monacanthidae Total								
Mullidae	Mulloidichthys flavolineatus							
	Mulloidichthys vanicolensis							
	Parupeneus barberinus							
	Parupeneus cyclostomus							0.029
	Parupeneus insularis	0.272	0.382			0.401	0.062	0.293
	Parupeneus multifasciatus				0.108			0.097
Mullidae Total		0.272	0.382		0.108	0.401	0.091	0.390

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Muraenidae	Gymnothorax javanicus							
Muraenidae Total								
Ostraciidae	Ostracion meleagris							
Ostraciidae Total								
Pempheridae	Pempheris oualensis							
Pempheridae Total								
Pinguipedidae	Parapercis clathrata Parapercis millepunctata Parapercis multiplicata							
Pinguipedidae Total								
Pomacanthidae	Apolemichthys trimaculatus Centropyge flavissima Centropyge shepardii Pomacanthus imperator Pygoplites diacanthus						0.296	0.034
Pomacanthidae Total							0.296	0.034
Pomacentridae	Abudefduf septemfasciatus Abudefduf vaigiensis Chromis acares Chromis agilis Chromis margaritifer Chromis vanderbilti Chromis xanthura Chrysiptera biocellata Chrysiptera brownriggii Chrysiptera traceyi Dascyllus trimaculatus		0.791			0.011		
		0.027	0.080	0.087	0.023	0.032	0.072	0.051

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Pomacentridae (cont.)	Plectroglyphidodon imparipennis	0.012	0.019					
	Plectroglyphidodon johnstonianus							
	Plectroglyphidodon lacrymatus			0.036		0.031	0.093	0.014
	Plectroglyphidodon leucozona		0.019	0.014	0.007	0.017		
	Pomacentrus vaiuli							
	Pomachromis guamensis							
	Stegastes albifasciatus	0.190	0.296			0.277	0.155	
	Stegastes fasciolatus			0.035				0.089
Pomacentridae Total		0.229	1.233	0.172	0.030	0.368	0.320	0.155
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total								
Scaridae	Calotomus carolinus		0.103	0.139		0.102		
	Chlorurus microrhinos							
	Scarus altipinnis							
	Scarus forsteni							
	Scarus globiceps							
	Scarus oviceps							
	Scarus rubroviolaceus				0.626	1.253	1.673	1.127
	Scarus sp.							
Scaridae Total			0.103	0.139	0.626	1.355	1.673	1.127
Scorpaenid	Pterois antennata							
	Pterois volitans							
Scorpaenidae Total								
Serranidae	Cephalopholis argus							
	Cephalopholis sonnerati							
	Cephalopholis urodeta							
	Epinephelus hexagonatus			0.092				0.198

Table G.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map D.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)								
Family	TaxonName	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Serranidae (cont.)	Epinephelus maculatus Epinephelus merra Epinephelus socialis Grammistes sexlineatus Variola louti							
Serranidae Total				0.092				0.198
Sphyraenidae	Sphyraena sp.					0.022		
Sphyraenidae Total						0.022		
Synodontidae	Saurida gracilis Synodus binotatus Synodus dermatogenys							
Synodontidae Total								
Tetraodontidae	Arothron nigropunctatus							
Tetraodontidae Total								
Zanclidae	Zanclus cornutus							0.164
Zanclidae Total								0.164
SITE TOTAL		1.569	3.260	1.331	2.811	4.408	5.079	4.490

Table G.7. Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area D						
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Acanthuridae	Acanthurus guttatus							
	Acanthurus leucopareius							
	Acanthurus lineatus							
	Acanthurus nigricauda		0.397					
	Acanthurus nigrofuscus	0.068						
	Acanthurus olivaceus		0.378		0.214	0.214		
	Acanthurus pyroferus							
	Acanthurus triostegus							
	Acanthurus xanthopterus							
	Ctenochaetus hawaiiensis							
	Ctenochaetus striatus	0.133	0.133		0.133			0.133
Naso hexacanthus								
Naso lituratus	0.139	0.139		0.139	0.139		0.139	
Naso unicornis		0.793						
Acanthuridae Total		0.339	1.839		0.486	0.353		0.272
Balistidae	Melichthys vidua							
	Rhinecanthus rectangulus							
	Sufflamen bursa							
Balistidae Total								
Caesionidae	Caesio teres							
	Pterocaesio tile	0.052			0.026			
Caesionidae Total		0.052			0.026			
Carangidae	Carangid sp.							
	Carangoides ferdau							
	Carangoides orthogrammus							
	Caranx melampygus							
	Decapterus macarellus							
Carangidae Total								

Table G.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area D						
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Carcharhinidae	Carcharhinus amblyrhynchos							
	Triacnodon obesus	11.555						
Carcharhinidae Total		11.555						
Holocentridae	Myripristis berndti	0.229						0.131
	Sargocentron caudimaculatum							
	Sargocentron tiere							
Holocentridae Total		0.229						0.131
Kyphosidae	Kyphosus bigibbus							
	Kyphosus cinerascens							
	Kyphosus vaigiensis		0.185					
Kyphosidae Total			0.185					
Labridae	Anampses caeruleopunctatus							
	Cheilinus trilobatus		0.162					
	Coris aygula	0.511						
	Coris gaimard							
	Halichoeres hortulanus	0.121	0.068			0.068		
	Hemigymnus fasciatus							
	Oxycheilinus unifasciatus							
	Pseudodax moluccanus							
	Thalassoma trilobatum							
Labridae Total		0.631	0.231			0.068		
Lethrinidae	Gnathodentex aureolineatus	0.154	0.154					
	Monotaxis grandoculis	1.016	0.642					
Lethrinidae Total		1.170	0.796					
Lutjanidae	Aphareus furca							
	Aprion virescens							
	Lutjanus bohar	0.251	0.156		0.088			
	Lutjanus fulvus							

Table G.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area D						
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Lutjanidae (cont.)	Lutjanus gibbus							
	Lutjanus kasmira	0.246	0.087					0.128
	Lutjanus monostigma		0.213					
	Macolor macularis	0.967						
	Macolor niger							
Lutjanidae Total		1.464	0.455		0.088			0.128
Mugilidae	Ellochelon vaigiensis							
Mugilidae Total								
Mullidae	Mulloidichthys flavolineatus	0.089						
	Parupeneus barberinus	0.162	0.264					
	Parupeneus cyclostomus							
	Parupeneus insularis	0.217	0.138					
	Parupeneus multifasciatus							
Mullidae Total		0.468	0.402					
NoFish	no individuals seen			0.000			0.000	
NoFish Total				0.000			0.000	
Pomacanthidae	Apolemichthys trimaculatus							
	Pomacanthus imperator	0.226	0.226					0.226
	Pygoplites diacanthus							0.226
Pomacanthidae Total		0.226	0.226					0.451
Pomacentridae	Abudefduf septemfasciatus							
Pomacentridae Total								
Scaridae	Calotomus carolinus							
	Chlorurus microrhinos							
	Scarus forsteni							
	Scarus oviceps							0.353
	Scarus rubroviolaceus		0.398					
Scaridae Total			0.398					0.353

Table G.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area D							
Family	TaxonName	D 001	D 002	D 004	D 005	D 009	D 010	D 014	
Serranidae	Cephalopholis argus	0.230			0.140				
	Cephalopholis urodeta	0.074	0.074						
	Epinephelus fasciatus								
	Epinephelus hexagonatus								
	Gracila albomarginata								
	Variola louti								
Serranidae Total		0.304	0.074		0.140				
Tetraodontidae	Arothron meleagris								
	Arothron nigropunctatus								
Tetraodontidae Total									
SITE TOTAL		16.437	4.606	0.000	0.741	0.422	0.000	1.335	

Table G.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area D						
Family	TaxonName	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Carcharhinidae	Carcharhinus amblyrhynchos Triaenodon obesus							
Carcharhinidae Total								
Holocentridae	Myripristis berndti Sargocentron caudimaculatum Sargocentron tiere							
Holocentridae Total								
Kyphosidae	Kyphosus bigibbus Kyphosus cinerascens Kyphosus vaigiensis							
Kyphosidae Total								
Labridae	Anampses caeruleopunctatus Cheilinus trilobatus Coris aygula Coris gaimard Halichoeres hortulanus Hemigymnus fasciatus Oxycheilinus unifasciatus Pseudodax moluccanus Thalassoma trilobatum					0.162		
				0.068		0.102	0.068	
		0.068						
Labridae Total		0.068		0.068		0.265	0.068	
Lethrinidae	Gnathodentex aureolineatus Monotaxis grandoculis							
Lethrinidae Total								
Lutjanidae	Aphareus furca Aprion virescens Lutjanus bohar Lutjanus fulvus							

Table G.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area D						
Family	TaxonName	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Lutjanidae (cont.)	Lutjanus gibbus							
	Lutjanus kasmira							
	Lutjanus monostigma							
	Macolor macularis							
	Macolor niger							
Lutjanidae Total								
Mugilidae	Ellochelon vaigiensis				0.195			
Mugilidae Total					0.195			
Mullidae	Mulloidichthys flavolineatus							
	Parupeneus barberinus							
	Parupeneus cyclostomus							
	Parupeneus insularis					0.138		
	Parupeneus multifasciatus					0.104		
Mullidae Total						0.243		
NoFish	no individuals seen							
NoFish Total								
Pomacanthidae	Apolemichthys trimaculatus							
	Pomacanthus imperator							
	Pygoplites diacanthus							
Pomacanthidae Total								
Pomacentridae	Abudefduf septemfasciatus	0.109						
Pomacentridae Total		0.109						
Scaridae	Calotomus carolinus					0.097		
	Chlorurus microrhinos							
	Scarus forsteni							
	Scarus oviceps							
	Scarus rubroviolaceus		0.821			0.821	1.237	
Scaridae Total			0.821			0.918	1.237	

Table G.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map D.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area D						
Family	TaxonName	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Serranidae	Cephalopholis argus			0.140				
	Cephalopholis urodeta							
	Epinephelus fasciatus							
	Epinephelus hexagonatus			0.034				
	Gracila albomarginata							
	Variola louti							
Serranidae Total				0.174				
Tetraodontidae	Arothron meleagris		1.862					1.219
	Arothron nigropunctatus							
Tetraodontidae Total			1.862					1.219
SITE TOTAL		0.806	2.682	0.562	0.315	2.146	2.762	1.595

Table G.8. Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map D. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals							
Belt transects 25m x 4m	(Number/100 m ²)	Map D						
Family	Taxon Name	D 001	D 009	D 014	D 040	D 041	D 043	D 044
Alpheidae	<i>Alpheus deuteropus</i>				multiple	multiple		multiple
Diogenidae	<i>Calcinus</i> spp.	34			38	47	7	12
	<i>Dardanus</i> spp.							
Eriphiidae	<i>Eriphia sebana</i>							
Palinuridae	<i>Panulirus penicillatus</i>	6						
Plagusidae/Grapsidae	<i>Percnon planissimum</i>	50		7	7			6
Porcellanidae	<i>Petrolisthes coccineus</i>						32	
Portunidae	<i>Thalamita pseudopelsarti</i>		3					
Stenopodidae	<i>Stenopus hispidus</i>	4	6			7		
Trapeziidae	<i>Trapezia flavopunctata</i>	14			2			
	<i>Trapezia intermedia</i>							
	<i>Trapezia</i> spp.							
Xanthidae	<i>Pilodius areolatus</i>	12						
PHYLUM CRUSTACEA TOTAL		120	9	7	47+	54+	39	18+

Table G.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map D. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals							
Belt transects 25m x 4m	(Number/100 m ²)	Map D						
Family	Taxon Name	D 001	D 009	D 014	D 040	D 041	D 043	D 044
Acanthasteridae	<i>Acanthaster planci</i>							
Ophidiasteridae	<i>Linckia multifora</i>							
Oreasteridae	<i>Culcita novaeguineae</i>			1				
Ophiocomidae	<i>Ophiocoma scolopendrina</i>							
Diadematidae	<i>Echinothrix calamaris</i>	8	11			7		
	<i>Echinothrix diadema</i>	34	13	2	19	33	4	19
Echinometridae	<i>Echinometra mathaei</i> (complex)	16	2		47	73	3	
	<i>Echinostrephus aciculatus</i>	74			2	7		8
Holothuriidae	<i>Actinopyga mauritiana</i>	2			1	4		2
	<i>Holothuria atra</i>							
	<i>Holothuria whitmaei</i>						2	
Stichopodidae	<i>Stichopus chloronotus</i>							
Comasteridae	<i>Comaster schlegelii</i>							
	<i>Crinoid sp. E</i> (Guam)							
PHYLUM ECHINODERMATA TOTAL		134	26	3	69	124	9	29

Table G.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map D. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals							
Belt transects 25m x 4m	(Number/100 m ²)	Map D						
Family	Taxon Name	D 001	D 009	D 014	D 040	D 041	D 043	D 044
Octopodidae	<i>Octopus cyanea</i>							
	<i>Octopus sp. A</i> (Guam)							
Tridacnidae	<i>Tridacna crocea</i>	48	3			1	1	
	<i>Tridacna gigas</i>						1	
Bursidae	<i>Bursa granularis</i>							
Cerithiidae	<i>Cerithium zebrum</i>			3				
	<i>Cerithium</i> spp.							
	<i>Rhinoclavis articulata</i>							
Conidae	<i>Conus ebraeus</i>		2			27	3	
	<i>Conus flavidus</i>	140	50	22	65	129	33	14
	<i>Conus imperialis</i>				8			
	<i>Conus lividus</i>	20	25		6	7	4	3
	<i>Conus marmoreus</i>							
	<i>Conus miles</i>			5			2	2
	<i>Conus pennaceus</i>							
	<i>Conus pulicarius</i>							
Costellariidae	<i>Vexillum</i> spp.		6					

Table G.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map D. Density of organisms in 100 m²

Non-coral invertebrates	Number of Individuals							
Belt transects 25m x 4m	(Number/100 m ²)	Map D						
Family	Taxon Name	D 001	D 009	D 014	D 040	D 041	D 043	D 044
Cypraeidae	<i>Cypraea caputserpentis</i>		4	2	17	18	2	3
	<i>Cypraea lynx</i>							
	<i>Cypraea maculifera</i>							
	<i>Cypraea moneta</i>							
	<i>Cypraea tigris</i>				2			
Fascioliariidae	<i>Latirus nodatus</i>							
Mitridae	<i>Mitra stictica</i>							
Modulidae	<i>Modulus tectum</i>	12						
Muricidae	<i>Drupa morum</i>	14			32			8
	<i>Drupa ricinus</i>	40		7	12	30		
	<i>Morula funiculata</i>							
	<i>Morula granulata</i>						2	
	<i>Morula uva</i>		9		27			
	<i>Pascula ochrostoma</i>							
Nassariidae	<i>Nassarius papillosus</i>							
Ranellidae	<i>Charonia tritonis</i>							
	<i>Cymatium nicobaricum</i>		5					

Table G.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map D. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals							
Belt transects 25m x 4m	(Number/100 m ²)	Map D						
Family	Taxon Name	D 001	D 009	D 014	D 040	D 041	D 043	D 044
Strombidae	<i>Lambis lambis</i>	4			3			
	<i>Lambis</i> spp.	38	1	1	57	63	9	6
	<i>Strombus</i> spp.	6				12		
Terebridae	<i>Terebra dimidiata</i>							
	<i>Terebra subulata</i>						12	
Trochidae	<i>Trochus niloticus</i>							
	<i>Trochus</i> spp.	6				2	1	2
Turbinidae	<i>Turbo</i> spp.		1				1	
Lottiidae	<i>Notoacmea persona</i>							
Nacellidae	<i>Cellana</i> spp.							
Aglajidae	<i>Chelidonura hirundinina</i>							
	<i>Chelidonura inornata</i>						1	
	<i>Philinopsis gardineri</i>	16						
Aplysiidae	<i>Petalifera cf. lafonti</i>	18						
	<i>Stylocheilus striatus</i>	20	8	2			1	

Table G.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map D. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals							
Belt transects 25m x 4m	(Number/100m ²)	Map D						
Family	Taxon Name	D 001	D 009	D 014	D 040	D 041	D 043	D 044
Chromodorididae	<i>Chromodoris vibrata</i>							
	<i>Noumea angustolutea</i>		2					
Haminoeidae	<i>Alys semistriata</i>							
Glaucidae	<i>Pteraeolidia ianthina</i>							
Gymnodorididae	<i>Gymnodoris</i> spp.							
Phyllidiidae	<i>Phyllidia elegans</i>							
	<i>Phyllidiella pustulosa</i>		2	3				
	<i>Phyllidiella</i> spp.							
Plakobrachidae	<i>Plakobrachus</i> spp.							
Polyceridae	<i>Nembrotha livingstonei</i>	6						
	<i>Roboastra gracilis</i>	2						
Tergipedidae	<i>Phestilla melanobranchia</i>							
PHYLUM MOLLUSCA TOTAL		390	118	45	229	289	73	38
TOTAL ALL PHyla		644	153	55	345+	467+	121	85+

Appendix H.

Data: Towards Sount Point, Map E

Table H.1. Benthic Algal Quadrats: Relative Cover

Table H.2. Coral Belt Transects: Colony Counts

Table H.3. Coral Belt Transects: Colony Size

Table H.4. Fish Belt Transects: Fish Density

Table H.5. SPC Surveys: Fish Density

Table H.6. Fish Belt Transects: Fish Biomass

Table H.7. SPC Surveys: Fish Biomass

Table H.8. Non-coral Invertebrate Transects: Individual Counts

Table H.1. Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats			Percent Cover				
Taxon	Family	Taxon Name	Map E				
			E8	E9	E12	E23	
Prokaryota	Cyanobacteria	Calothrix sp.					
		Cyanobacterium green tuft					
		Cyanobacterium sp.					
		Hormothamnion enteromorphioides			0.3	22.5	15.5
		Hydrocoleum coccineum	3.7	2.2	0.3	1.2	
		Hydrocoleum sp.		0.3		0.2	
		Lyngbya bouillonii					
		Lyngbya penicilliformis			0.3		
		Lyngbya polychroa	0.3				
		Lyngbya semiplena					
		Phormidium cf. dimorphum					
		Schizothrix mexicana					
		Schizothrix sp.					
Symploca hydnoides				0.2	0.5		
Prokaryota Total			4.0	3.3	22.8	17.3	
Chlorophyta	Bryopsidaceae	Bryopsis pennata		0.2			
		Caulerpaceae	Caulerpa antoensis		0.3		0.3
		Caulerpa elongata				0.2	
		Caulerpa nummularia				0.5	
		Caulerpa serrulata		0.2		0.7	
		Caulerpa taxifolia					
	Dasycladaceae	Bornetella nitida			0.5	0.2	0.5
		Bornetella sphaerica					

Table H.1 (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map E			
Taxon	Family	Taxon Name	E8	E9	E12	E23
Chlorophyta (cont.)	Dasycladaceae (cont.)	Neomeris annulata	0.2			0.7
		Neomeris vanbosseae		0.2		
	Palmellopsidaceae	Palmophyllum crassa				
		Polyphysaceae	Parvocaulis parvula			
	Siphonocladales Clade 1	Boergesenia forbesii				
	Siphonocladales Clade 2,3,4,5 & outgroup	Cladophora sericea				
	Siphonocladales Clade 5	Anadyomene wrightii				
	Siphonocladales Clade 6	Valonia ventricosa			0.2	0.2
	Siphonocladales Clade 7	Dictyosphaeria cavernosa				
		Dictyosphaeria intermedia				0.8
		Dictyosphaeria versluisii	0.2		0.7	
	Siphonocladales Clade 8	Valoniopsis pachynema				
	Siphonocladales Clade 9	Boodlea composita	0.2			
		Boodlea vanbosseae		0.2		
	Udoteaceae	Halimeda discoidea				
		Halimeda gracilis				
		Halimeda lacunalis/taenicola				
Rhipidosiphon javensis						
		Tydemanina expeditionis				
Chlorophyta Total			0.5	1.5	1.0	4.2

Table H.1 (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map E				
Taxon	Family	Taxon Name	E8	E9	E12	E23	
Rhodophyta (cont.)	Corallinaceae	Amphiroa beauvoisii					
		Amphiroa fragilissima	1.0	2.0	0.3	0.7	
		Hydrolithon farinosum					
		Hydrolithon gardineri					
		Hydrolithon onkodes	6.8	18.2	11.2	3.7	
		Hydrolithon rupestre					
		Jania adhaerens				0.3	
		Jania pumila	4.8	0.7	1.2	2.9	
		Jania sp.					
		Jania spectabile		0.2			
		Lithophyllum kotschyanum					
		Lithophyllum okamurae		3.8			
		Mesophyllum simulans			0.7	3.0	0.2
		Neogoniolithon rugulosum		0.3	0.2		
		Pneophyllum conicum			1.2	0.3	
		Galaxauraceae	Actinotrichia fragilis			0.2	0.8
	Gelidiaceae	Gelidium pusillum					
	Hypneaceae	Hypnea spinella					
	Liagoraceae	Liagora sp.					
	Lomentariaceae	Gelidiopsis intricata	0.2			1.0	
Gelidiopsis variabilis				0.2			
Peyssonneliaceae	Peyssonnelia boergesenii	0.3	4.8	4.1	3.5		
	Peyssonnelia rubra	2.2	7.4	2.8	0.3		

Table H.1 (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map E			
Taxon	Family	Taxon Name	E8	E9	E12	E23
Rhodophyta (cont.)	Rhizophyllidaceae	Portieria hornemannii		0.2		0.3
	Rhodomelaceae	Chondria sp.				
		Chondrophycus papillosus				
		Chondrophycus parvipapillatus				
		Laurencia mariannensis				
		Palisada papillosa	0.2			
		Tolypiocladia glomerulata				
		Rhodymeniaceae	Botryocladia skottsbergii			
	Sporolithaceae	Coelothrix irregularis				
	Wrangeliaceae	Sporolithon sp.				
		Pleonosporium sp.				
Rhodophyta Total			15.8	39.2	23.3	14.6
Turf algae		Turf algae	38.7	27.3	4.3	33.3
Turf algae Total			38.7	27.3	4.3	33.3
Porifera	Petrosiidae	Xestospongia exigua			1.2	0.2
	Porifera	Porifera sp.			0.7	
	Suberitidae	Terpios hoshinota			23.5	
Porifera Total					25.3	0.2
Cnidaria	Acroporidae	Acropora digitifera				
		Acropora humilis	0.4			
		Astreopora listeri	0.2		0.2	0.8
		Astreopora myriophthalma		0.3	0.5	0.3

Table H.1 (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map E				
Taxon	Family	Taxon Name	E8	E9	E12	E23	
Cnidaria (cont.)	Acroporidae (cont.)	Montipora floweri			0.5		
		Montipora foveolata					
		Montipora sp.			0.7		
		Agariciidae	Montipora tuberculosa				
	Leptoseris mycetoseroides			0.3			
	Pavona sp.						
			Pavona varians			1.5	0.2
		Alcyoniidae	Sinularia sp.		0.2		
		Astrocoeniidae	Stylocoeniella armata		0.2		
		Dendrophylliidae	Turbinaria stellulata				
		Faviidae	Cyphastrea agassizi	1.8	0.6	3.3	0.8
			Cyphastrea microphthalma				
			Cyphastrea sp.	0.3		0.5	
			Favia favus				
			Favia mathaei	0.5	0.3	1.5	0.8
			Favia pallida		0.5	0.2	
			Favia sp.			0.2	0.2
			Favia stelligera	0.2		0.2	0.2
			Favites russelli		0.2	0.2	0.2
			Favites sp.				
		Goniastrea edwardsi			0.2		
		Goniastrea pectinata					
		Goniastrea retiformis					

Table H.1 (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map E					
Taxon	Family	Taxon Name	E8	E9	E12	E23		
Cnidaria (cont.)	Faviidae (cont.)	Leptastrea bottae			0.2			
		Leptastrea purpurea		0.2	0.5			
		Leptoria phrygia						
		Montastrea curta		0.2	0.3	0.2		
		Montastrea sp.						
		Montastrea valenciennesi				0.2		
		Fungiidae	Fungia sp.					
		Mussidae	Acanthastrea echinata			0.3	0.2	0.2
			Acanthastrea hillae					
			Homophyllia/Scolymia sp.					
	Lobophyllia sp.				0.2			
	Oculinidae Pocilloporidae	Scolymia australis				0.2	0.2	
		Galaxea fascicularis						
		Pocillopora damicornis						
		Pocillopora meandrina	0.2		0.2	0.3		
		Pocillopora setchelli						
		Pocillopora sp.	0.7	0.2				
		Poritidae	Goniopora sp.			0.6		
			Porites australiensis					
			Porites lichen		0.7	0.8		
Porites lutea			0.2		0.8	0.5		
Porites rus								

Table H.1 (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map E			
Taxon	Family	Taxon Name	E8	E9	E12	E23
Cnidaria (cont.)	Siderastreidae	Coscinaraea exesa		0.2		
		Psammocora haimeana				
	Stylasteriidae	Stylaster gracilis		0.3		
	Zoanthidae	Palythoa sp.		0.3	0.5	
Cnidaria Total			4.4	5.6	13.3	4.8
Chordata	Didemnidae	Trididemnum cyclops			1.5	0.2
Chordata Total					1.5	0.2

Table H.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map E, near South Point.

Coral Counts Belt Transects		Number of Colonies				Map E			
Genus	Taxa	E 008	E 009	E 012	E 023				
<i>Cyphastrea</i>	<i>Cyphastrea agassizi</i>	7	12	7	102				
	<i>Cyphastrea chalcidicum</i>		4	1					
	<i>Cyphastrea ocellina</i>								
	<i>Cyphastrea serailia</i>		2	34					
	<i>Cyphastrea</i> spp.								
<i>Echinophyllia</i>	<i>Echinophyllia echinata</i>								
<i>Echinopora</i>	<i>Echinopora lamellosa</i>								
	<i>Echinopora pacificus</i>		1	1					
<i>Favia</i>	<i>Favia matthaii</i> (complex)	10	93	44	43				
	<i>Favia speciosa</i>								
	<i>Favia</i> spp.								
	<i>Favia stelligera</i>	1	1	2	4				
<i>Favites</i>	<i>Favites abdita</i>								
	<i>Favites pentagona</i>								
	<i>Favites</i> sp.1								
	<i>Favites</i> sp.2			1					
<i>Galaxea</i>	<i>Galaxea fascicularis</i>		7	5					
<i>Goniastrea</i>	<i>Goniastrea edwardsi</i>			8	2				
	<i>Goniastrea retiformis</i>		3	1					
<i>Goniopora</i>	<i>Goniopora somaliensis</i>		4						
	<i>Goniopora tenuidens</i>			1					
<i>Heliopora</i>	<i>Heliopora coerulea</i>								

Table H.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map E, near South Point.

Coral Counts Belt Transects		Map E			
Genus	Taxa	E 008	E 009	E 012	E 023
<i>Hydnophora</i>	<i>Hydnophora microconos</i>				
<i>Leptastrea</i>	<i>Leptastrea purpurea</i>		5	3	
	<i>Leptastrea transversa</i>				
<i>Leptoria</i>	<i>Leptoria phrygia</i>				
<i>Leptoseris</i>	<i>Leptoseris spp.</i>		1		
<i>Lobophyllia</i>	<i>Lobophyllia hemprichii</i>				
<i>Merulina</i>	<i>Merulina ampliata</i>				
<i>Montastrea</i>	<i>Montastrea curta</i>		6	4	6
	<i>Montastrea valenciennesi</i>				
<i>Montipora</i>	<i>Montipora caliculata</i>		3	1	
	<i>Montipora efflorescens</i>				1
	<i>Montipora ehrenbergii</i>				
	<i>Montipora grisea</i>				
	<i>Montipora hoffmeisteri</i>		3	2	
	<i>Montipora incrassata</i>				1
	<i>Montipora informis</i>				
	<i>Montipora lobulata</i>				
	<i>Montipora monasteriata</i>				
	<i>Montipora sp.1</i>				
	<i>Montipora sp.2 (Randall 2003)</i>				2
	<i>Montipora tuberculosa</i>		1		
	<i>Montipora turgescens</i>				
	<i>Montipora verucosa</i>		1	2	
<i>Montipora verrilli</i>			2		

Table H.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map E, near South Point.

Coral Counts Belt Transects		Number of Colonies				Map E			
Genus	Taxa	E 008	E 009	E 012	E 023				
<i>Oxypora</i>	<i>Oxypora lacera</i>								
<i>Pavona</i>	<i>Pavona duerdeni</i>			2					
	<i>Pavona varians</i>	1	57	21	2				
<i>Platygyra</i>	<i>Platygyra pini</i>		1						
	<i>Platygyra sinensis</i>								
<i>Pocillopora</i>	<i>Pocillopora ankei</i>								
	<i>Pocillopora damicornis</i>								
	<i>Pocillopora elegans</i>								
	<i>Pocillopora eydouxi</i>		1	3					
	<i>Pocillopora meandrina</i>	1	1	3					
	<i>Pocillopora setchelli</i>								
	<i>Pocillopora</i> spp. (juv)	28	3	6	9				
<i>Porites</i>	<i>Porites lobata</i>	1	1	22	3				
	<i>Porites lutea</i>								
	<i>Porites massive</i>								
	<i>Porites rus</i>								
	<i>Porites</i> spp.			1					
<i>Psammocora</i>	<i>Psammocora digitata</i>								
	<i>Psammocora haimeana</i>		1	4	6				
	<i>Psammocora nierstraszi</i>		1						

Table H.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map E, near South Point.

Coral Counts Belt Transects		Map E			
Genus	Taxa	E 008	E 009	E 012	E 023
<i>Sarcophytum</i>	<i>Sarcophytum</i> spp.		2	2	4
<i>Scolymia</i>	<i>Scolymia australis</i>		2		3
<i>Sinularia</i>	<i>Sinularia</i> spp.				
<i>Stylocoeniella</i>	<i>Stylocoeniella armata</i>		2	3	
<i>Stylophora</i>	<i>Stylophora mordax</i>				
<i>Turbinaria</i>	<i>Turbinaria irregularis</i>				
TOTAL COLONIES		49	254	189	211

Table H.3. Number of coral colonies in each size class observed at survey sites within Map E, near South Point. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies		Map E		All Sites		
Genus	Taxa	>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Acanthastrea</i>	<i>Acanthastrea echinata</i>	3						
	<i>Acanthastrea</i> spp.							
<i>Acropora</i>	<i>Acropora abrotanoides</i>							
	<i>Acropora azurea</i>							
	<i>Acropora digitifera</i>							
	<i>Acropora humilis</i> (complex)							
	<i>Acropora loripes</i>							
	<i>Acropora monticulosa</i>							
	<i>Acropora nasuta</i>							
	<i>Acropora quelchi</i>							
	<i>Acropora robusta</i>							
	<i>Acropora secale</i>							
	<i>Acropora</i> spp.							
	<i>Acropora surculosa</i>							
	<i>Acropora tenuis</i>							
	<i>Acropora valida</i>							
<i>Acropora vaughani</i>								
<i>Acropora verweyi</i>								
<i>Alcyonaria</i>	<i>Alcyonaria</i> spp.	2	1					
<i>Astreopora</i>	<i>Astreopora listeri</i>							
	<i>Astreopora myriophthalma</i>	38	12	4				
	<i>Astreopora randalli</i>		1	1				
<i>Coscinaraea</i>	<i>Coscinaraea columnna</i>							
	<i>Coscinaraea ramosa</i>							

Table H.3. (continued) Number of coral colonies in each size class observed at survey sites within Map E, near South Point. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies		Map E		All Sites		
Genus	Taxa	>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Cyphastrea</i>	<i>Cyphastrea agassizi</i>	99	23	6				
	<i>Cyphastrea chalcidicum</i>	2	3					
	<i>Cyphastrea ocellina</i>							
	<i>Cyphastrea serailia</i>	17	13	6				
	<i>Cyphastrea</i> spp.							
<i>Echinophyllia</i>	<i>Echinophyllia echinata</i>							
<i>Echinopora</i>	<i>Echinopora lamellosa</i>							
	<i>Echinopora pacificus</i>			1	1			
<i>Favia</i>	<i>Favia matthaii</i> (complex)	158	27	5				
	<i>Favia speciosa</i>							
	<i>Favia</i> spp.	2						
	<i>Favia stelligera</i>	7		1				
<i>Favites</i>	<i>Favites abdita</i>							
	<i>Favites pentagona</i>							
	<i>Favites</i> sp.1							
	<i>Favites</i> sp.2							
<i>Galaxea</i>	<i>Galaxea fascicularis</i>	6	4	2				
<i>Goniastrea</i>	<i>Goniastrea edwardsi</i>	5	7	1				
	<i>Goniastrea retiformis</i>		1					
<i>Goniopora</i>	<i>Goniopora somaliensis</i>	1		1	1	1		
	<i>Goniopora tenuidens</i>	1						
<i>Heliopora</i>	<i>Heliopora coerulea</i>							
<i>Hydnophora</i>	<i>Hydnophora microconos</i>							

Table H.3. (continued) Number of coral colonies in each size class observed at survey sites within Map E, near South Point. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies		Map E		All Sites		
Genus	Taxa	>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Leptastrea</i>	<i>Leptastrea purpurea</i>	2	6					
	<i>Leptastrea transversa</i>							
<i>Leptoria</i>	<i>Leptoria phrygia</i>							
<i>Leptoseris</i>	<i>Leptoseris</i> spp.		1					
<i>Lobophyllia</i>	<i>Lobophyllia hemprichii</i>							
<i>Merulina</i>	<i>Merulina ampliata</i>							
<i>Montastrea</i>	<i>Montastrea curta</i>	9	7					
	<i>Montastrea valenciennesi</i>							
<i>Montipora</i>	<i>Montipora caliculata</i>	2	1	1				
	<i>Montipora efflorescens</i>		1					
	<i>Montipora ehrenbergii</i>							
	<i>Montipora grisea</i>							
	<i>Montipora hoffmeisteri</i>		2	3				
	<i>Montipora incrassata</i>			1				
	<i>Montipora informis</i>							
	<i>Montipora lobata</i>	17	3	7				
	<i>Montipora monasteriata</i>							
	<i>Montipora</i> sp.1							
	<i>Montipora</i> sp.2 (Randall 2003)							
	<i>Montipora</i> spp.	2						
	<i>Montipora tuberculosa</i>			1				
	<i>Montipora turgescens</i>							
<i>Montipora verrilli</i>			1	1				

Table H.3. (continued) Number of coral colonies in each size class observed at survey sites within Map E, near South Point. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies		Map E		All Sites		
Genus	Taxa	>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Oxypora</i>	<i>Oxypora lacera</i>							
<i>Pavona</i>	<i>Pavona duerdeni</i>	2	1					
	<i>Pavona varians</i>	34	28	14	3	1		
<i>Platygyra</i>	<i>Platygyra pini</i>	1						
	<i>Platygyra sinensis</i>							
<i>Pocillopora</i>	<i>Pocillopora ankei</i>							
	<i>Pocillopora damicornis</i>							
	<i>Pocillopora elegans</i>							
	<i>Pocillopora eydouxi</i>		4					
	<i>Pocillopora meandrina</i>		3	1	1			
	<i>Pocillopora setchelli</i>							
	<i>Pocillopora</i> spp. (juv)	46	1					
	<i>Pocillopora verrucosa</i>	1	1	1				
<i>Porites</i>	<i>Porites lobata</i>							
	<i>Porites lutea</i>							
	<i>Porites massive</i>							
	<i>Porites rus</i>							
	<i>Porites</i> spp.			1				
<i>Psammocora</i>	<i>Psammocora digitata</i>							
	<i>Psammocora haimeana</i>	8	3					
	<i>Psammocora nierstraszi</i>						1	

Table H.3. (continued) Number of coral colonies in each size class observed at survey sites within Map E, near South Point. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies	Map E		All Sites				
Genus	Taxa		>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Sarcophytum</i>	<i>Sarcophytum</i> spp.		5	2					
<i>Scolymia</i>	<i>Scolymia australis</i>		5						
<i>Sinularia</i>	<i>Sinularia</i> spp.								
<i>Stylocoeniella</i>	<i>Stylocoeniella armata</i>		5						
<i>Stylophora</i>	<i>Stylophora mordax</i>								
<i>Turbinaria</i>	<i>Turbinaria irregularis</i>								
TOTAL			480	156	59	7	2	1	0

% colony size class **68.1 22.1 8.4 1.0 0.3 0.1 0.0**

Table H.4. Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map E.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Acanthuridae	Acanthurus blochii					
	Acanthurus guttatus	3.00				2.00
	Acanthurus lineatus	4.00			5.00	
	Acanthurus nigricans		6.00	4.00	2.00	
	Acanthurus nigricauda	4.00			0.50	
	Acanthurus nigrofuscus	20.00	10.00	6.00	16.00	16.00
	Acanthurus nigroris					
	Acanthurus olivaceus		15.50			0.50
	Acanthurus pyroferus					
	Acanthurus thompsoni		10.00			
	Acanthurus triostegus					
	Acanthurus xanthopterus					
	Ctenochaetus binotatus					
	Ctenochaetus hawaiiensis	7.50	16.00	8.50	16.00	4.00
	Ctenochaetus sp.					
	Ctenochaetus striatus		2.00			
	Ctenochaetus strigosus					
	Naso hexacanthus					
Naso lituratus	1.50	2.00	2.50	1.50	3.00	
Naso unicornis						
Zebrasoma veliferum			0.50			
Acanthuridae Total		40.00	62.00	21.00	41.00	25.50
Anthias (Serranidae)	Pseudanthias pascalus					
Anthias (Serranidae) Total						

Table H.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map E.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Apogonidae	Apogon fraenatus Apogon novemfasciatus Apogon sp. Cheilodipterus quinquelineatus Cheilodipterus sp.		2.00			
Apogonidae Total			2.00			
Atherinidae	Atherinid sp.					
Atherinidae Total						
Balistidae	Balistapus undulatus Melichthys niger Melichthys vidua Rhinecanthus rectangulus Sufflamen bursa Sufflamen chrysopterum	0.50	2.00		1.00	0.50
Balistidae Total		0.50	2.00		1.00	0.50
Belonidae	Tylosurus crocodilus					
Belonidae Total						
Blenniidae	Aspidontus taeniatus Blenniella chrysospilos Blenniid sp. Cirripectes variolosus Ecsenius opsifrontalis Meiacanthus atrodorsalis Plagiotremus tapeinosoma	2.00	2.00	12.00	24.00 6.00	
Blenniidae Total		2.00	2.00	12.00	30.00	
Caesionidae	Caesio teres					
Caesionidae Total						

Table H.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map E.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Carangidae	Carangoides ferdau					
	Carangoides orthogrammus					
	Caranx ignobilis					
	Caranx lugubris	0.50				
	Scomberoides lysan					
Carangidae Total		0.50				
Carcharhinidae	Triaenodon obesus					
Carcharhinidae Total						
Chaetodontidae	Chaetodon auriga					
	Chaetodon ephippium					
	Chaetodon lunula					2.00
	Chaetodon ornatissimus					
	Chaetodon punctatofasciatus					
	Chaetodon quadrimaculatus	2.00				4.00
	Chaetodon unimaculatus					
Heniochus chrysostomus						
Chaetodontidae Total		2.00				6.00
Cirrhitidae	Cirrhichthys falco		4.00			
	Cirrhitops fasciatus					
	Cirrhites pinnulatus					
	Neocirrhites armatus			2.00	2.00	
	Paracirrhites arcatus			6.00		
	Paracirrhites forsteri	2.00	2.00		2.00	2.00
Cirrhitidae Total		2.00	6.00	8.00	4.00	2.00
Fistulariidae	Fistularia commersonii					
Fistulariidae Total						

Table H.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map E.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Gobiidae	Amblyeleotris fasciatus		2.00			
	Eviota sp.	2.00			2.00	
	Gobiid sp.		2.00	2.00		
	Valenciennesa strigata		4.00			
Gobiidae Total		2.00	8.00	2.00	2.00	
Hemiramphidae	Hemiramphus lutkei					
Hemiramphidae Total						
Holocentridae	Myripristis amaena					
	Myripristis berndti					
	Sargocentron tere	1.00	0.50	2.50	2.00	
Holocentridae Total		1.00	0.50	2.50	2.00	
Kyphosidae	Kyphosus bigibbus					
	Kyphosus cinerascens			2.50		0.50
	Kyphosus vaigiensis					
Kyphosidae Total				2.50		0.50
Labridae	Anampses caeruleopunctatus	9.50				3.50
	Cirrhilabrus katherinae		6.00			
	Coris aygula		0.50		2.50	1.00
	Coris dorsomacula					
	Coris gaimard				2.00	2.50
	Gomphosus varius					
	Halichoeres biocellatus		6.00			
	Halichoeres hortulanus	2.50			6.00	5.00
	Halichoeres margaritaceus					
	Halichoeres marginatus	0.50				

Table H.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map E.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Labridae (cont.)	Halichoeres ornatissimus	32.00	6.00	12.00	22.00	34.00
	Hemigymnus melapterus		0.50			0.50
	Hologymnosus annulatus					
	Hologymnosus doliatus					0.50
	Iniistius celebicus					
	Labrid sp.					
	Labroides bicolor			2.00		
	Labroides dimidiatus	2.00	4.00	4.00	6.00	2.00
	Labropsis xanthonota					
	Macropharyngodon meleagris		2.00			
	Novaculichthys taeniourus					
	Oxycheilinus unifasciatus	0.50				
	Pseudocheilinus octotaenia		6.00			
	Pseudojuloides atavai					
	Stethojulis bandanensis	2.00				
	Stethojulis strigiventer					
	Thalassoma amblycephalum			4.00		
	Thalassoma lutescens		8.00	8.00		2.00
Thalassoma quinquevittatum				6.00		
Thalassoma trilobatum						
Xyrichtys halstedii						
Labridae Total		49.00	39.00	30.00	44.50	51.00
Lethrinidae	Gnathodentex aureolineatus	0.50				
	Monotaxis grandoculis	0.50		0.50	0.50	0.50
Lethrinidae Total		1.00		0.50	0.50	0.50

Table H.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map E.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish>20cm)		Area E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Lutjanidae	Aphareus furca		0.50			
	Aprion virescens		0.50			
	Lutjanus bohar		0.50			0.50
	Lutjanus fulvus					
	Lutjanus gibbus					
	Lutjanus kasmira					
	Lutjanus monostigma					
	Macolor macularis			4.00		
	Macolor niger		0.50			2.00
Lutjanidae Total			2.00	4.00		2.50
Malacanthidae	Malacanthus latovittatus					
Malacanthidae Total						
Microdesmidae	Microdesmid sp.					
	Nemateleotris magnifica		12.00			
	Ptereleotris evides				46.00	
	Ptereleotris microlepis					
	Ptereleotris zebra					
Microdesmidae Total			12.00		46.00	
Monacanthidae	Cantherhines dumerilii	2.00				
Monacanthidae Total		2.00				
Mullidae	Mulloidichthys flavolineatus					
	Mulloidichthys vanicolensis					
	Parupeneus barberinus					
	Parupeneus cyclostomus					
	Parupeneus insularis	2.00			6.00	0.50
	Parupeneus multifasciatus	0.50				9.00
Mullidae Total		2.50			6.00	9.50

Table H.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map E.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Muraenidae	Gymnothorax javanicus					
Muraenidae Total						
Ostraciidae	Ostracion meleagris	2.00				
Ostraciidae Total		2.00				
Pempheridae	Pempheris oualensis			0.50		
Pempheridae Total				0.50		
Pinguipedidae	Parapercis clathrata Parapercis millepunctata Parapercis multiplicata	2.00				
Pinguipedidae Total		2.00				
Pomacanthidae	Apolemichthys trimaculatus Centropyge flavissima Centropyge shepardi Pomacanthus imperator Pygoplites diacanthus		6.00 4.00			2.00
Pomacanthidae Total		1.00	10.00	0.50		2.00
Pomacentridae	Abudefduf septemfasciatus Abudefduf vaigiensis Chromis acares Chromis agilis Chromis margaritifer Chromis vanderbilti Chromis xanthura Chrysiptera biocellata Chrysiptera brownriggii Chrysiptera traceyi Dascyllus trimaculatus		54.00 14.00		4.00 20.00	32.00
				4.00		

Table H.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map E.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Pomacentridae (cont.)	Plectroglyphidodon imparipennis			4.00		
	Plectroglyphidodon johnstonianus					
	Plectroglyphidodon lacrymatus		8.00			
	Plectroglyphidodon leucozona					
	Pomacentrus vaiuli		18.00			
	Pomachromis guamensis			2.00		
	Stegastes albifasciatus					
	Stegastes fasciolatus	24.00	10.00	10.00	16.00	10.00
Pomacentridae Total		24.00	104.00	96.00	72.00	10.00
Pseudochromidae	Pseudochromis sp.		2.00			
Pseudochromidae Total			2.00			
Scaridae	Calotomus carolinus				2.00	
	Chlorurus microrhinos		0.50		1.00	0.50
	Scarus altipinnis					
	Scarus forsteni		1.00			2.00
	Scarus globiceps					
	Scarus oviceps			0.50		
	Scarus rubroviolaceus	0.50	1.00	0.50	1.00	
	Scarus sp.					
Scaridae Total		0.50	2.50	1.00	4.00	2.50
Scorpaenidae	Pterois antennata					
	Pterois volitans					
Scorpaenidae Total						
Serranidae	Cephalopholis argus	2.00	1.00		2.00	0.50
	Cephalopholis sonnerati					
	Cephalopholis urodeta	2.00	6.00	4.00		2.00
	Epinephelus hexagonatus					2.00

Table H.4 (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map E.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Serranidae (cont.)	Epinephelus maculatus					
	Epinephelus merra					
	Epinephelus socialis			0.50		
	Grammistes sexlineatus				2.00	
	Variola louti		0.50			0.50
Serranidae Total		4.00	7.50	4.50	4.00	5.00
Sphyraenidae	Sphyraena sp.					
Sphyraenidae Total						
Synodontidae	Saurida gracilis			2.00		
	Synodus binotatus	2.00				
	Synodus dermatogenys					
Synodontidae Total		2.00		2.00		
Tetraodontidae	Arothron nigropunctatus					
Tetraodontidae Total						
Zanclidae	Zanclus cornutus					
Zanclidae Total						
SITE TOTAL		140.00	261.50	187.00	257.00	117.50

Table H.5. Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map E.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map E					
Family	Species	E 008	E 009	E 012	E 018	E 023	
Acanthuridae	Acanthurus guttatus		13.37				
	Acanthurus leucopareius						
	Acanthurus lineatus	11.78			0.64	3.18	
	Acanthurus nigricauda		0.64				
	Acanthurus nigrofuscus						
	Acanthurus olivaceus		11.14	3.50		2.23	
	Acanthurus pyroferus		1.27	0.32			
	Acanthurus triostegus						
	Acanthurus xanthopterus						
	Ctenochaetus hawaiiensis			0.32			
	Ctenochaetus striatus			4.77	3.18	3.82	7.00
	Naso hexacanthus						
Naso lituratus		2.23	0.95	3.50	0.32	1.91	
Naso unicornis							
Acanthuridae Total		14.01	32.47	10.50	4.77	14.32	
Balistidae	Melichthys vidua						
	Rhinecanthus rectangulus						
	Sufflamen bursa						
Balistidae Total							
Caesionidae	Caesio teres						
	Pterocaesio tile						
Caesionidae Total							
Carangidae	Carangid sp.						
	Carangoides ferdau						
	Carangoides orthogrammus						
	Caranx melampygus	0.64					
	Decapterus macarellus						
Carangidae Total		0.64					

Table H.5. (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map E.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Carcharhinidae	Carcharhinus amblyrhynchos			0.32		
	Triaenodon obesus					
Carcharhinidae Total				0.32		
Holocentrid	Myripristis berndti					
	Sargocentron caudimaculatum					
	Sargocentron tiere					
Holocentridae Total						
Kyphosidae	Kyphosus bigibbus					
	Kyphosus cinerascens	0.32			0.32	
	Kyphosus vaigiensis					
Kyphosidae Total		0.32		0.32		
Labridae	Anampses caeruleopunctatus					0.64
	Cheilinus trilobatus					
	Coris aygula		0.32			0.32
	Coris gaimard					
	Halichoeres hortulanus	0.32			0.32	0.64
	Hemigymnus fasciatus				0.32	0.32
	Oxycheilinus unifasciatus	0.32				0.32
	Pseudodax moluccanus			0.32		
Thalassoma trilobatum						
Labridae Total		0.64	0.32	0.32	0.64	2.23
Lethrinidae	Gnathodentex aureolineatus	1.59	2.55			
	Monotaxis grandoculis	0.32	0.32			0.64
Lethrinidae Total		1.91	2.86			0.64

Table H.5. (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map E.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Lutjanidae	Aphareus furca	0.64	0.64	0.32		0.64
	Aprion virescens					
	Lutjanus bohar	0.95	1.59	0.64	0.32	
	Lutjanus fulvus					
	Lutjanus gibbus					
	Lutjanus kasmira		0.95		0.32	0.32
	Lutjanus monostigma					
	Macolor macularis		0.32			0.32
	Macolor niger					0.32
Lutjanidae Total		1.59	3.50	0.95	0.64	1.59
Mugilidae	Ellochelon vaigiensis					
Mugilidae Total						
Mullidae	Mulloidichthys flavolineatus	0.32				
	Parupeneus barberinus					
	Parupeneus cyclostomus					0.32
	Parupeneus insularis			0.32		0.64
	Parupeneus multifasciatus					1.27
Mullidae Total		0.32		0.32		2.23
NoFish	no individuals seen					
NoFish Total						
Pomacanthidae	Apolemichthys trimaculatus					
	Pomacanthus imperator					
	Pygoplites diacanthus					
Pomacanthidae Total						
Pomacentridae	Abudefduf septemfasciatus					
Pomacentridae Total						

Table H.5. (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map E.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map E				
Family	Species	E 008	E 009	E 012	E 018	E 023
Scaridae	Calotomus carolinus					
	Chlorurus microrhinos				1.59	
	Scarus forsteni		1.59			0.64
	Scarus oviceps		0.32		0.32	0.32
	Scarus rubroviolaceus	0.32	0.95		2.23	1.59
Scaridae Total		0.32	2.86		4.14	2.55
Serranidae	Cephalopholis argus	0.32	0.95	1.27		1.27
	Cephalopholis urodeta					
	Epinephelus fasciatus					
	Epinephelus hexagonatus					
	Gracila albomarginata			0.32		
Variola louti			0.32		0.64	
Serranidae Total		0.32	0.95	1.91		1.91
Tetraodontidae	Arothron meleagris					0.32
	Arothron nigropunctatus					
Tetraodontidae Total						0.32
SITE TOTAL		20.05	42.97	14.32	10.50	25.78

Table H.6. Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites at sites within Map E.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)						
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Acanthuridae	Acanthurus blochii					
	Acanthurus guttatus	0.011				0.022
	Acanthurus lineatus	0.696			0.313	
	Acanthurus nigricans		0.421	0.308	0.139	
	Acanthurus nigricauda	0.418			0.239	
	Acanthurus nigrofuscus	0.462	0.438	0.250	0.582	0.438
	Acanthurus nigroris					
	Acanthurus olivaceus		0.885			0.226
	Acanthurus pyroferus					
	Acanthurus thompsoni		0.215			
	Acanthurus triostegus					
	Acanthurus xanthopterus					
	Ctenochaetus binotatus					
	Ctenochaetus hawaiiensis	0.587	0.360	0.488	0.369	0.502
	Ctenochaetus sp.					
	Ctenochaetus striatus		0.082			
	Ctenochaetus strigosus					
	Naso hexacanthus					
	Naso lituratus	0.696	0.553	0.742	0.657	0.820
Naso unicornis						
Zebrasoma veliferum		0.128				
Acanthuridae Total		2.869	3.082	1.788	2.299	2.007
Anthias (Serranidae)	Pseudanthias pascalus					
Anthias (Serranidae) Total						

Table H.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites at within Map E.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)						
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Apogonidae	Apogon fraenatus		0.006			
	Apogon novemfasciatus					
	Apogon sp.					
	Cheilodipterus quinquelineatus					
	Cheilodipterus sp.					
Apogonidae Total		0.006				
Atherinidae	Atherinid sp.					
Atherinidae Total						
Balistidae	Balistapus undulatus					
	Melichthys niger				0.467	
	Melichthys vidua	0.133	0.370			0.158
	Rhinecanthus rectangulus					
	Sufflamen bursa					
Sufflamen chrysopterum						
Balistidae Total		0.133	0.370		0.467	0.158
Belonidae	Tylosurus crocodilus					
Belonidae Total						
Blenniidae	Aspidontus taeniatus					
	Blenniella chrysospilos					
	Blenniid sp.					
	Cirripectes variolosus	0.002	0.003	0.006	0.029	
	Ecsenius opsifrontalis				0.013	
	Meiacanthus atrodorsalis					
Plagiotremus tapeinosoma						
Blenniidae Total		0.002	0.003	0.006	0.042	

Table H.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites at within Map E.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)						
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Caesionidae	Caesio teres					
Caesionidae Total						
Carangidae	Carangoides ferdau					
	Carangoides orthogrammus					
	Caranx ignobilis					
	Caranx lugubris	0.074				
	Scomberoides lysan					
Carangidae Total		0.074				
Carcharhinidae	Triaenodon obesus					
Carcharhinidae Total						
Chaetodontidae	Chaetodon auriga					
	Chaetodon ephippium					
	Chaetodon lunula					0.214
	Chaetodon ornatissimus					
	Chaetodon punctatofasciatus					
	Chaetodon quadrimaculatus	0.005				0.088
	Chaetodon unimaculatus					
Heniochus chrysostomus						
Chaetodontidae Total		0.005				0.302
Cirrhitidae	Cirrhichthys falco		0.015			
	Cirrhitops fasciatus					
	Cirrhites pinnulatus					
	Neocirrhites armatus			0.002	0.004	
	Paracirrhites arcatus			0.059		
	Paracirrhites forsteri	0.011	0.007		0.026	0.007
Cirrhitidae Total		0.011	0.021	0.060	0.030	0.007

Table H.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites at within Map E.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)						
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Fistulariidae	Fistularia commersonii					
Fistulariidae Total						
Gobiidae	Amblyeleotris fasciatus		0.025			
	Eviota sp.	0.001			0.000	
	Gobiid sp.		0.007	0.001		
	Valenciennea strigata		0.042			
Gobiidae Total		0.001	0.074	0.001	0.000	
Hemiramphidae	Hemiramphus lutkei					
Hemiramphidae Total						
Holocentridae	Myripristis amaena					
	Myripristis berndti					
	Sargocentron tere	0.971	0.523	0.943	0.251	
Holocentridae Total		0.971	0.523	0.943	0.251	
Kyphosidae	Kyphosus bigibbus					
	Kyphosus cinerascens			0.347		0.180
	Kyphosus vaigiensis					
Kyphosidae Total				0.347		0.180
Labridae	Anampses caeruleopunctatus	0.503				0.464
	Cirrhilabrus katherinae		0.014			
	Coris aygula		0.224		0.238	1.081
	Coris dorsomacula					
	Coris gaimard				0.013	0.089
	Gomphosus varius					
	Halichoeres biocellatus		0.058			
	Halichoeres hortulanus	0.194			0.155	0.168
	Halichoeres margaritaceus					
Halichoeres marginatus	0.108					

Table H.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites at within Map E.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)						
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Labridae (continued)	Halichoeres ornatissimus	0.065	0.016	0.019	0.043	0.086
	Hemigymnus melapterus		0.347			0.446
	Hologymnosus annulatus					
	Hologymnosus doliatus					0.120
	Iniistius celebicus					
	Labrid sp.					
	Labroides bicolor			0.000		
	Labroides dimidiatus	0.002	0.022	0.008	0.025	0.000
	Labropsis xanthonota					
	Macropharyngodon meleagris		0.017			
	Novaculichthys taeniourus					
	Oxycheilinus unifasciatus	0.096				
	Pseudocheilinus octotaenia		0.062			
	Pseudojuloides atavai					
	Stethojulis bandanensis	0.033				
	Stethojulis strigiventer					
	Thalassoma amblycephalum			0.030		
	Thalassoma lutescens		0.065	0.067		0.024
	Thalassoma quinquevittatum				0.143	
Thalassoma trilobatum						
Xyrichtys halsteadi						
Labridae Total		1.001	0.824	0.124	0.618	2.478
Lethrinidae	Gnathodentex aureolineatus	0.187				
	Monotaxis grandoculis	0.467		0.510	0.556	0.556
Lethrinidae Total		0.653		0.510	0.556	0.556

Table H.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites at within Map E.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish>20cm)						
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Lutjanidae	Aphareus furca		0.197			
	Aprion virescens		0.894			
	Lutjanus bohar		0.361			0.080
	Lutjanus fulvus					
	Lutjanus gibbus					
	Lutjanus kasmira					
	Lutjanus monostigma					
	Macolor macularis			0.000		
	Macolor niger		0.227			0.000
Lutjanidae Total			1.679	0.000		0.081
Malacanthidae	Malacanthus latovittatus					
Malacanthidae Total						
Microdesmidae	Microdesmid sp.					
	Nemateleotris magnifica		0.050			
	Ptereleotris evides				0.001	
	Ptereleotris microlepis					
	Ptereleotris zebra					
Microdesmidae Total			0.050		0.001	
Monacanthidae	Cantherhines dumerilii	0.240				
Monacanthidae Total		0.240				
Mullidae	Mulloidichthys flavolineatus					
	Mulloidichthys vanicolensis					
	Parupeneus barberinus					
	Parupeneus cyclostomus					
	Parupeneus insularis	0.079			0.064	0.139
	Parupeneus multifasciatus	0.143				0.909
Mullidae Total		0.223			0.064	1.048

Table H.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites at within Map E.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish>20cm)						
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Muraenidae	Gymnothorax javanicus					
Muraenidae Total						
Ostraciidae	Ostracion meleagris	0.341				
Ostraciidae Total		0.341				
Pempheridae	Pempheris oualensis			0.086		
Pempheridae Total				0.086		
Pinguipedidae	Parapercis clathrata Parapercis millepunctata Parapercis multiplicata	0.070				
Pinguipedidae Total		0.070				
Pomacanthidae	Apolemichthys trimaculatus Centropyge flavissima Centropyge shepardi Pomacanthus imperator Pygoplites diacanthus		0.138 0.031			0.018
		0.431 0.137		0.203		
Pomacanthidae Total		0.568	0.169	0.203		0.018
Pomacentridae	Abudefduf septemfasciatus Abudefduf vaigiensis Chromis acares Chromis agilis Chromis margaritifer Chromis vanderbilti Chromis xanthura Chrysiptera biocellata Chrysiptera brownriggii Chrysiptera traceyi Dascyllus trimaculatus		0.003 0.006		0.001	
				0.016	0.001	
					0.079	
				0.000		

Table H.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites at within Map E.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)						
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Pomacentridae (cont.)	Plectroglyphidodon imparipennis			0.006		
	Plectroglyphidodon johnstonianus					
	Plectroglyphidodon lacrymatus		0.091			
	Plectroglyphidodon leucozona					
	Pomacentrus vaiuli		0.130			
	Pomachromis guamensis			0.005		
	Stegastes albifasciatus					
	Stegastes fasciolatus	0.201	0.130	0.203	0.109	0.043
Pomacentridae Total		0.201	0.360	0.230	0.190	0.043
Pseudochromidae	Pseudochromis sp.		0.004			
Pseudochromidae Total			0.004			
Scaridae	Calotomus carolinus				0.005	
	Chlorurus microrhinos		0.476		1.402	0.180
	Scarus altipinnis					
	Scarus forsteni		0.668			1.229
	Scarus globiceps					
	Scarus oviceps			0.281		
	Scarus rubroviolaceus	0.532	1.439	0.532	0.578	
	Scarus sp.					
Scaridae Total		0.532	2.582	0.814	1.985	1.409
Scorpaenidae	Pterois antennata					
	Pterois volitans					
Scorpaenidae Total						
Serranidae	Cephalopholis argus	0.199	0.827		0.114	0.156
	Cephalopholis sonnerati					
	Cephalopholis urodeta	0.128	0.366	0.239		0.152
	Epinephelus hexagonatus					0.183

Table H.6 (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites at within Map E.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)						
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Serranidae (cont.)	Epinephelus maculatus					
	Epinephelus merra					
	Epinephelus socialis			0.493		
	Grammistes sexlineatus				0.035	
	Variola louti		0.102			0.250
Serranidae Total		0.327	1.295	0.732	0.149	0.741
Sphyraenidae	Sphyraena sp.					
Sphyraenidae Total						
Synodontidae	Saurida gracilis			0.030		
	Synodus binotatus	0.019				
	Synodus dermatogenys					
Synodontidae Total		0.019		0.030		
Tetraodontidae	Arothron nigropunctatus					
Tetraodontidae Total						
Zanclidae	Zanclus cornutus					
Zanclidae Total						
SITE TOTAL		8.242	11.043	5.875	6.651	9.028

Table H.7. Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map E.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area E				
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Acanthuridae	Acanthurus guttatus		0.007			
	Acanthurus leucopareius					
	Acanthurus lineatus	0.119			0.119	0.119
	Acanthurus nigricauda		0.397			
	Acanthurus nigrofuscus					
	Acanthurus olivaceus		0.214	0.592		0.378
	Acanthurus pyroferus		0.042	0.084		
	Acanthurus triostegus					
	Acanthurus xanthopterus					
	Ctenochaetus hawaiiensis		0.138			
	Ctenochaetus striatus		0.133	0.265	0.199	0.133
	Naso hexacanthus					
Naso lituratus	0.139	0.139	0.139	0.139	0.139	
Naso unicornis						
Acanthuridae Total		0.258	1.070	1.081	0.457	0.769
Balistidae	Melichthys vidua					
	Rhinecanthus rectangulus					
	Sufflamen bursa					
Balistidae Total						
Caesionidae	Caesio teres					
	Pterocaesio tile					
Caesionidae Total						
Carangidae	Carangid sp.					
	Carangoides ferdau					
	Carangoides orthogrammus					
	Caranx melampygus	0.626				
	Decapterus macarellus					
Carangidae Total		0.626				

Table H.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map E.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area E				
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Carcharhinidae	Carcharhinus amblyrhynchos			12.773		
	Triaenodon obesus					
Carcharhinidae Total				12.773		
Holocentridae	Myripristis berndti					
	Sargocentron caudimaculatum					
	Sargocentron tiere					
Holocentridae Total						
Kyphosidae	Kyphosus bigibbus					
	Kyphosus cinerascens	0.140			0.140	
	Kyphosus vaigiensis					
Kyphosidae Total		0.140			0.140	
Labridae	Anampses caeruleopunctatus					0.086
	Cheilinus trilobatus					
	Coris aygula		0.196			0.114
	Coris gaimard					
	Halichoeres hortulanus	0.121			0.068	0.102
	Hemigymnus fasciatus				0.140	0.480
	Oxycheilinus unifasciatus	0.138				0.138
	Pseudodax moluccanus			0.118		
Thalassoma trilobatum						
Labridae Total		0.259	0.196	0.118	0.208	0.919
Lethrinidae	Gnathodentex aureolineatus	0.272	0.154			
	Monotaxis grandoculis	0.489	0.325			0.813
Lethrinidae Total		0.761	0.479			0.813
Lutjanidae	Aphareus furca	0.223	0.186	0.086		0.086
	Aprion virescens					
	Lutjanus bohar	0.720	0.659	0.632	0.759	
	Lutjanus fulvus					

Table H.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map E.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area E				
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Lutjanidae (cont.)	Lutjanus gibbus					
	Lutjanus kasmira		0.087		0.087	0.159
	Lutjanus monostigma					
	Macolor macularis		0.190			0.284
	Macolor niger					0.118
Lutjanidae Total		0.943	1.121	0.718	0.845	0.647
Mugilidae	Ellochelon vaigiensis					
Mugilidae Total						
Mullidae	Mulloidichthys flavolineatus	0.144				
	Parupeneus barberinus					
	Parupeneus cyclostomus					0.162
	Parupeneus insularis			0.138		0.138
	Parupeneus multifasciatus					0.155
Mullidae Total		0.144		0.138		0.455
NoFish	no individuals seen					
NoFish Total						
Pomacanthidae	Apothemichthys trimaculatus					
	Pomacanthus imperator					
	Pygoplites diacanthus					
Pomacanthidae Total						
Pomacentridae	Abudefduf septemfasciatus					
Pomacentridae Total						
Scaridae	Calotomus carolinus					
	Chlorurus microrhinos				1.803	
	Scarus forsteni		0.463			0.285
	Scarus oviceps		0.353		0.235	0.235
	Scarus rubroviolaceus	0.261	0.261		1.327	1.397
Scaridae Total		0.261	1.077		3.365	1.918

Table H.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map E.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area E				
Family	TaxonName	E 008	E 009	E 012	E 018	E 023
Serranidae	Cephalopholis argus	0.230	0.584	0.662		0.370
	Cephalopholis urodeta					
	Epinephelus fasciatus					
	Epinephelus hexagonatus			0.203		
	Variola louti			0.211		0.130
Serranidae Total		0.230	0.584	1.076		0.500
Tetraodontidae	Arothron meleagris					1.219
	Arothron nigropunctatus					
Tetraodontidae Total						1.219
SITE TOTAL		3.623	4.528	15.904	5.016	7.242

Table H.8. Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map E. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals					
Belt transects 25m x 4m	(Number/100 m ²)	Map E				
Family	Taxon Name	E 008	E 009	E 012	E 018	E 023
Alpheidae	<i>Alpheus deuteropus</i>					
Diogenidae	<i>Calcinus</i> spp.			33	27	14
	<i>Dardanus</i> spp.					
Eriphiidae	<i>Eriphia sebana</i>					
Palinuridae	<i>Panulirus penicillatus</i>				2	
Plagusiidae/Grapsidae	<i>Percnon planissimum</i>	7		27	28	
Porcellanidae	<i>Petrolisthes coccineus</i>					
Portunidae	<i>Thalamita pseudopelsarti</i>					
Stenopodidae	<i>Stenopus hispidus</i>	7		4	3	2
Trapeziidae	<i>Trapezia flavopunctata</i>		7			
	<i>Trapezia intermedia</i>				2	2
	<i>Trapezia</i> spp.					
Xanthidae	<i>Pilodius areolatus</i>					
PHYLUM CRUSTACEA TOTAL		14	7	64	62	18

Table H.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map E. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals					
Belt transects 25m x 4m	(Number/100 m ²)	Map E				
Family	Taxon Name	E 008	E 009	E 012	E 018	E 023
Acanthasteridae	<i>Acanthaster planci</i>					
Ophiasteridae	<i>Linckia multifora</i>					
Oreasteridae	<i>Culcita novaeguineae</i>					
Ophiocomidae	<i>Ophiocoma scolopendrina</i>					
Diadematidae	<i>Echinothrix calamaris</i>		1			
	<i>Echinothrix diadema</i>		11			2
Echinometridae	<i>Echinometra mathaei</i> (complex)					
	<i>Echinostrephus aciculatus</i>		37			
Holothuriidae	<i>Actinopyga mauritiana</i>					1
	<i>Holothuria atra</i>					
	<i>Holothuria whitmaei</i>					
Stichopodidae	<i>Stichopus chloronotus</i>	2			2	
Comasteridae	<i>Comaster schlegelii</i>		2	3		
	<i>Crinoid sp. E (Guam)</i>		1			
PHYLUM ECHINODERMATA TOTAL		2	52	3	2	3

Table H.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map E. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals					
Belt transects 25m x 4m	(Number/100 m ²)	Map E				
Family	Taxon Name	E 008	E 009	E 012	E 018	E 023
Octopodidae	<i>Octopus cyanea</i>				2	1
	<i>Octopus sp. A</i> (Guam)					
Tridacnidae	<i>Tridacna crocea</i>		1	6		
	<i>Tridacna gigas</i>					
Bursidae	<i>Bursa granularis</i>					
Cerithiidae	<i>Cerithium zebrum</i>					
	<i>Cerithium</i> spp.					
	<i>Rhinoclavis articulata</i>					
Conidae	<i>Conus ebraeus</i>					2
	<i>Conus flavidus</i>	7	21	35	172	18
	<i>Conus imperialis</i>		1		6	
	<i>Conus lividus</i>			12	7	
	<i>Conus marmoreus</i>					
	<i>Conus miles</i>					2
	<i>Conus pennaceus</i>				7	1
	<i>Conus pulicarius</i>					
Costellariidae	<i>Vexillum</i> spp.					

Table H.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map E. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals					
Belt transects 25m x 4m	(Number/100 m ²)	Map E				
Family	Taxon Name	E 008	E 009	E 012	E 018	E 023
Cypraeidae	<i>Cypraea caputserpentis</i>					2
	<i>Cypraea lynx</i>					
	<i>Cypraea maculifera</i>	2				
	<i>Cypraea moneta</i>					
	<i>Cypraea tigris</i>					
Fascioliariidae	<i>Latirus nodatus</i>					
Mitridae	<i>Mitra stictica</i>					
Modulidae	<i>Modulus tectum</i>		13	11	7	13
Muricidae	<i>Drupa morum</i>		6	17		
	<i>Drupa ricinus</i>			14	3	7
	<i>Morula funiculata</i>					
	<i>Morula granulata</i>	4	10		22	2
	<i>Morula uva</i>	5				
	<i>Pascula ochrostoma</i>					
Nassariidae	<i>Nassarius papillosus</i>					
Ranellidae	<i>Charonia tritonis</i>					
	<i>Cymatium nicobaricum</i>					

Table H.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map E. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals					
Belt transects 25m x 4m	(Number/100 m ²)	Map E				
Family	Taxon Name	E 008	E 009	E 012	E 018	E 023
Strombidae	<i>Lambis lambis</i>			2		
	<i>Lambis</i> spp.		1	23		1
	<i>Strombus</i> spp.	2		13		
Terebridae	<i>Terebra dimidiata</i>					
	<i>Terebra subulata</i>					
Trochidae	<i>Trochus niloticus</i>					
	<i>Trochus</i> spp.		1			
Turbinidae	<i>Turbo</i> spp.					
Lottiidae	<i>Notoacmea persona</i>					
Nacellidae	<i>Cellana</i> spp.					
Aglajidae	<i>Chelidonura hirundinina</i>					
	<i>Chelidonura inornata</i>					
	<i>Philinopsis gardineri</i>					1

Table H.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map E. Density of organisms in 100 m².

Non-coral invertebrates	Number of Individuals					
Belt transects 25m x 4m	(Number/100 m ²)	Map E				
Family	Taxon Name	E 008	E 009	E 012	E 018	E 023
Aplysiidae	<i>Petalifera cf. lafonti</i>					
	<i>Stylocheilus striatus</i>			4	3	
Chromodorididae	<i>Chromodoris vibrata</i>					
	<i>Noumea angustolutea</i>					
Haminoeidae	<i>Atys semistriata</i>					
Glaucidae	<i>Pteraeolidia ianthina</i>					
Phyllidiidae	<i>Phyllidia elegans</i>			3		
	<i>Phyllidiella pustulosa</i>					
	<i>Phyllidiella</i> spp.					
Plakobrachidae	<i>Plakobranthus</i> spp.					
Polyceridae	<i>Nembrotha livingstonei</i>					
	<i>Roboastra gracilis</i>					
Tergipedidae	<i>Phestilla melanobranchia</i>					
PHYLUM MOLLUSCA TOTAL		20	54	140	229	50
TOTAL ALL PHYLA		36	113	207	293	71

Appendix I.

Data: Katchu Bay, Map X

Table I.1. Benthic Algal Quadrats: Relative Cover

Table I.2. Coral Belt Transects: Colony Counts

Table I.3. Coral Belt Transects: Colony Size

Table I.4. Fish Belt Transects: Fish Density

Table I.5. SPC Surveys: Fish Density

Table I.6. Fish Belt Transects: Fish Biomass

Table I.7. SPC Surveys: Fish Biomass

Table I.8. Non-coral Invertebrate Transects: Individual Counts

Table I.1. Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats Percent Cover			Map X						
Taxon	Family	Taxon Name	X1	X3	X5	X8	X16	X22	X39
Prokaryota	Cyanobacteria	Calothrix sp.				1.2			
		Cyanobacterium green tuft			0.3				
		Cyanobacterium sp.							
		Hormothamnion enteromorphioides	28.8	41.7	28.0	8.3	12.6	2.8	
		Hydrocoleum coccineum		0.2	2.0	0.5	1.2	0.8	
		Hydrocoleum sp.	0.8			0.8	0.2		
		Lyngbya bouillonii				0.2			
		Lyngbya penicilliformis							
		Lyngbya polychroa		0.2		0.3		0.2	
		Lyngbya semiplena					0.5		
		Phormidium cf. dimorphum							
		Schizothrix mexicana	0.2			0.2	0.2		0.3
		Schizothrix sp.							
Symploca hydroides					0.2	0.5			
Prokaryota Total			29.8	42.0	30.3	11.6	15.1	3.8	0.3
Chlorophyta	Bryopsidaceae	Bryopsis pennata							
		Caulerpaceae	Caulerpa antoensis						
			Caulerpa elongata						
			Caulerpa nummularia						
	Dasycladaceae	Caulerpa serrulata						0.2	
		Caulerpa taxifolia						0.2	
		Bornetella nitida				0.2	0.3		
		Bornetella sphaerica							

Table I.1. (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats Percent Cover			Map X						
Taxon	Family	Taxon Name	X1	X3	X5	X8	X16	X22	X39
Chlorophyta (cont.)	Dasycladaceae (cont.)	Neomeris annulata	0.2	0.7	0.2	0.2	0.7		0.2
		Neomeris vanbosseae							
	Palmellopsidaceae	Palmophyllum crassa				0.2			
		Polyphysaceae	Parvocaulis parvula				0.2	0.2	0.2
	Siphonocladales Clade 1	Boergesenia forbesii							
	Siphonocladales Clade 2,3,4,5 & outgroup	Cladophora sericea							
		Anadyomene wrightii	0.2			0.2			
	Siphonocladales Clade 6	Valonia ventricosa	0.2		0.3	0.2	0.3	0.2	
	Siphonocladales Clade 7	Dictyosphaeria cavernosa			0.2				
		Dictyosphaeria intermedia	2.3	0.8	0.3	1.9	2.2		1.1
		Dictyosphaeria versluisii	0.5		0.2	0.3			
	Siphonocladales Clade 8	Valoniopsis pachynema							
	Siphonocladales Clade 9	Boodlea composita							0.2
		Boodlea vanbosseae			0.2				0.3
	Udoteaceae	Halimeda discoidea							
		Halimeda gracilis		0.2	0.2				
Halimeda lacunalis/taenicola		0.3			0.8	1.5		0.2	
Rhipidosiphon javensis		0.2			0.2				
	Tydemania expeditionis	0.5	0.5		0.5	0.2	0.2		
Chlorophyta Total			4.3	2.1	1.5	4.6	5.2	1.7	1.4

Table I.1. (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map X							
Taxon	Family	Taxon Name	X1	X3	X5	X8	X16	X22	X39	
Ochrophyta	Chnoosporaceae	Chnoospora minima								
		Chnoospora pannosa						0.7		
	Cutleriaceae	Cutleria sp.								5.9
		Dictyotaceae	Dictyopteris repens							
	Dictyota adnata		0.5	0.3	0.3	0.3	0.7	0.2	0.2	
	Dictyota bartayresiana					0.5				
	Dictyota ceylanica					0.5				
	Dictyota friabilis				0.2	0.5		0.2	0.2	
	Lobophora variegata		1.3	3.0	0.7	2.3	0.8	0.7	7.0	
	Padina sanctae-crucis					0.2				
	Sarcinochrysidaceae	Chrysocystis fragilis								
		Chrysonephos sp.								
		Sarcinochrysis marina								
Sargassaceae	Sargassum polycystum									
Ochrophyta Total			1.8	3.3	1.2	4.3	1.5	1.7	13.3	
Diatom		Diatom								
Diatom Total										
Rhodophyta	Bonnemaisoniaceae	Asparagopsis taxiformis								
	Ceramiaceae	Ceramium sp.								
		Wrangelia argus				0.5			0.2	
Champiaceae	Champia parvula					0.2				

Table I.1. (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map X						
Taxon	Family	Taxon Name	X1	X3	X5	X8	X16	X22	X39
Rhodophyta (cont.)	Corallinaceae	Amphiroa beauvoisii		2.7					
		Amphiroa fragilissima	0.2	0.7	0.3	1.0		0.2	
		Hydrolithon farinosum		6.7		1.0		1.0	
		Hydrolithon gardineri				0.5			
		Hydrolithon onkodes	10.8	2.8	6.3	0.8	1.3	0.3	6.1
		Hydrolithon rupestre							0.3
		Jania adhaerens	0.5	1.3	0.3		0.7		
		Jania pumila	0.3	0.2	0.3	1.0	0.7	1.7	1.0
		Jania sp.							
		Jania spectabile							
		Lithophyllum kotschyanum				6.3			
		Lithophyllum okamurae	1.0	0.2			0.2		
		Mesophyllum simulans	8.2	7.2	2.3	8.2		0.3	
		Neogoniolithon rugulosum							0.8
		Pneophyllum conicum	2.7	19.0	1.7	4.7	1.3		0.2
		Galaxauraceae	Actinotrichia fragilis					0.2	0.2
	Gelidiaceae	Gelidium pusillum	0.8			0.5	0.2		
	Hypneaceae	Hypnea spinella							
	Liagoraceae	Liagora sp.						0.2	
	Lomentariaceae	Gelidiopsis intricata	0.8	1.2			0.2	0.2	
Gelidiopsis variabilis					0.7				
Peyssonneliaceae	Peyssonnelia boergesenii	11.3	7.3	5.0	4.1	4.3	0.4	0.8	
	Peyssonnelia rubra	2.0		1.3	0.7	0.3	0.5		

Table I.1. (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map X						
Taxon	Family	Taxon Name	X1	X3	X5	X8	X16	X22	X39
Rhodophyta (cont.)	Rhizophyllidaceae	Portieria hornemannii							
	Rhodomelaceae	Chondria sp.						1.0	
		Chondrophycus papillosus							
		Chondrophycus parvipapillatus			0.2				0.2
		Laurencia mariannensis							
		Palisada papillosa			0.8			0.2	0.2
	Rhodymeniaceae	Tolypiocladia glomerulata							
		Botryocladia skottsbergii			0.2				0.2
Sporolithaceae	Coelothrix irregularis								
Wrangeliaceae	Sporolithon sp.			3.0					
	Pleonosporium sp.								
Rhodophyta Total			38.7	53.3	17.7	29.9	9.7	6.4	9.4
Turf algae		Turf algae	5.2	12.2	71.8	3.4	54.8	6.5	52.0
Turf algae Total			5.2	12.2	71.8	3.4	54.8	6.5	52.0
Porifera	Petrosiidae	Xestospongia exigua							
	Porifera	Porifera sp.							
	Suberitidae	Terpios hoshinota							
Porifera Total									
Cnidaria	Acroporidae	Acropora digitifera							
		Acropora humilis							
		Astreopora listeri					0.5		
		Astreopora myriophthalma		0.2	0.2	2.7	0.3	0.2	

Table I.1. (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map X							
Taxon	Family	Taxon Name	X1	X3	X5	X8	X16	X22	X39	
Cnidaria (cont.)	Acroporidae (cont.)	Montipora floweri								
		Montipora foveolata					0.2			
			Montipora sp.	0.2						
			Montipora tuberculosa		0.2					
		Agariciidae	Leptoseris mycetoseroides							
	Pavona sp.		0.3							
			Pavona varians	0.8	0.2	1.0	0.8	0.3	0.2	
		Alcyoniidae	Sinularia sp.		0.2		0.3	0.2		
		Astrocoeniidae	Stylocoeniella armata		0.2					
		Dendrophylliidae	Turbinaria stellulata							
		Faviidae	Cyphastrea agassizi				2.7	0.8		0.5
			Cyphastrea microphthalma		0.2					
			Cyphastrea sp.	0.5		0.3				
			Favia fавus	1.0	0.3					
			Favia mathaei			0.3	0.9	0.8		0.7
			Favia pallida	0.2	0.2	0.3				
			Favia sp.							
			Favia stelligera			0.2				
			Favites russelli			0.3				
			Favites sp.			0.2				
		Goniastrea edwardsi	0.2	0.2						
		Goniastrea pectinata		0.2						
		Goniastrea retiformis			0.2			1.0		

Table I.1. (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map X							
Taxon	Family	Taxon Name	X1	X3	X5	X8	X16	X22	X39	
Cnidaria (cont.)	Faviidae (cont.)	Leptastrea bottae	0.8	6.0			0.2			
		Leptastrea purpurea	0.2	0.2		1.1				
		Leptoria phrygia								
		Montastrea curta								
		Montastrea sp.			0.2					
		Montastrea valenciennesi			0.3					
		Fungiidae	Fungia sp.			0.2				
			Mussidae	Acanthastrea echinata	0.2		0.2		0.2	
		Acanthastrea hillae								
		Homophyllia/Scolymia sp.				0.2				
			Lobophyllia sp.							
			Scolymia australis							
	Oculinidae	Galaxea fascicularis	0.5	0.2						
	Pocilloporidae	Pocillopora damicornis	0.3							
		Pocillopora meandrina					0.3			
		Pocillopora setchelli					0.8			
		Pocillopora sp.			0.3	0.2	0.2			
	Poritidae	Goniopora sp.			0.2			0.3		
		Porites australiensis	1.2					0.6		
		Porites lichen					2.4			
Porites lutea				0.3	0.3	1.0	0.5			
		Porites rus						0.2		

Table I.1. (continued). Percent cover of all taxa observed in the algal quadrats at benthic survey sites within Map E. Values are average percent cover of taxa observed in six algal quadrats. Note: Totals may not add to exactly 100%.

Algal Quadrats		Percent Cover	Map X						
Taxon	Family	Taxon Name	X1	X3	X5	X8	X16	X22	X39
Cnidaria (cont.)	Siderastreidae	Coscinaraea exesa							
		Psammocora haimeana	0.3	0.7		0.3	0.2		0.2
	Stylasteriidae	Stylaster gracilis							
	Zoanthidae	Palythoa sp.							
Cnidaria Total			6.5	10.2	4.0	13.4	5.1	0.2	2.8
Chordata	Didemnidae	Trididemnum cyclops							
Chordata Total									

Table I.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map X, Katchu Bay.

Coral Counts Belt Transects		Number of Colonies		Map X			
Genus	Taxa	X 001	X 003	X 005	X 006	X 008	X 016
<i>Cyphastrea</i>	<i>Cyphastrea agassizi</i>	20	1	3	31	33	4
	<i>Cyphastrea chalcidicum</i>				5		
	<i>Cyphastrea micropthalma</i>	2					
	<i>Cyphastrea ocellina</i>						
	<i>Cyphastrea serailia</i>		2				
	<i>Cyphastrea</i> spp.						1
<i>Echinophyllia</i>	<i>Echinophyllia echinata</i>	1			1		
<i>Echinopora</i>	<i>Echinopora lamellosa</i>						
	<i>Echinopora pacificus</i>				1	1	
<i>Favia</i>	<i>Favia matthaii</i> (complex)	33	57	32	24	18	7
	<i>Favia speciosa</i>						
	<i>Favia</i> spp.	2					
	<i>Favia stelligera</i>						
<i>Favites</i>	<i>Favites abdita</i>						
	<i>Favites pentagona</i>						
	<i>Favites</i> sp.1						
	<i>Favites</i> sp.2						
<i>Galaxea</i>	<i>Galaxea fascicularis</i>	2	2	1	6	2	
<i>Goniastrea</i>	<i>Goniastrea edwardsi</i>	3	1	1	6	1	
	<i>Goniastrea retiformis</i>	1					
<i>Goniopora</i>	<i>Goniopora minor</i>		1				
	<i>Goniopora somaliensis</i>						
	<i>Goniopora tenuidens</i>					1	

Table I.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map X, Katchu Bay.

Coral Counts Belt Transects		Number of Colonies		Map X			
Genus	Taxa	X 001	X 003	X 005	X 006	X 008	X 016
<i>Heliopora</i>	<i>Heliopora coerulea</i>						
<i>Hydnophora</i>	<i>Hydnophora microconos</i>						
<i>Leptastrea</i>	<i>Leptastrea incrustans</i>			1	1		
	<i>Leptastrea purpurea</i>	11	2	16	28	13	2
	<i>Leptastrea transversa</i>	1					
<i>Leptoria</i>	<i>Leptoria phrygia</i>						
<i>Lobophyllia</i>	<i>Lobophyllia hemprichii</i>						
<i>Merulina</i>	<i>Merulina ampliata</i>						
<i>Montastrea</i>	<i>Montastrea curta</i>				2	1	
	<i>Montastrea valenciennesi</i>						
<i>Montipora</i>	<i>Montipora caliculata</i>				1		1
	<i>Montipora efflorescens</i>						
	<i>Montipora ehrenbergii</i>						
	<i>Montipora foveolata</i>	1					
	<i>Montipora grisea</i>						
	<i>Montipora hoffmeisteri</i>	3			3	2	
	<i>Montipora informis</i>						
	<i>Montipora incrassata</i>			1			
	<i>Montipora lobulata</i>						
	<i>Montipora monasteriata</i>						
	<i>Montipora</i> sp.1	1					
	<i>Montipora</i> sp.2 (Randall 2003)						
	<i>Montipora tuberculosa</i>						
<i>Montipora turgescens</i>							
<i>Montipora verrucosa</i>						7	

Table I.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map X, Katchu Bay.

Coral Counts Belt Transects		Number of Colonies		Map X			
Genus	Taxa	X 001	X 003	X 005	X 006	X 008	X 016
<i>Oxypora</i>	<i>Oxypora lacera</i>						
<i>Pavona</i>	<i>Pavona duerdeni</i>				1		
	<i>Pavona varians</i>	28	8	7	38	59	2
<i>Platygyra</i>	<i>Platygyra pini</i>						
	<i>Platygyra sinensis</i>						
<i>Pocillopora</i>	<i>Pocillopora ankei</i>						
	<i>Pocillopora damicornis</i>						
	<i>Pocillopora elegans</i>						
	<i>Pocillopora eydouxi</i>		1	1		1	
	<i>Pocillopora meandrina</i>				1		
	<i>Pocillopora setchelli</i>						
	<i>Pocillopora</i> spp. (juv)	9			27		2
<i>Porites</i>	<i>Porites lobata</i>	14	4	1		14	3
	<i>Porites lutea</i>	2	3	5		4	1
	<i>Porites massive</i>						
	<i>Porites rus</i>						
	<i>Porites</i> spp.				11	11	2
<i>Psammocora</i>	<i>Psammocora digitata</i>						
	<i>Psammocora haimeana</i>	4	4	6	8	6	4
	<i>Psammocora nierstraszi</i>						

Table I.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map X, Katchu Bay.

Coral Counts Belt Transects		Number of Colonies						Map X					
Genus	Taxa	X 001	X 003	X 005	X 006	X 008	X 016						
<i>Sarcophytum</i>	<i>Sarcophytum</i> spp.		1	1									
<i>Scolymia</i>	<i>Scolymia australis</i>		3			1							
<i>Sinularia</i>	<i>Sinularia</i> spp.		1	1		1							
<i>Stylocoeniella</i>	<i>Stylocoeniella armata</i>												
<i>Stylophora</i>	<i>Stylophora mordax</i>												
<i>Turbinaria</i>	<i>Turbinaria irregularis</i>												
	<i>Turbinaria stellulata</i>	2											
TOTAL COLONIES		147	97	84	217	182	66						

Table I.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map X, Katchu Bay.

Coral Counts Belt Transects		Number of Colonies		Map X		
Genus	Taxa	X 022	X 039			
<i>Acanthastrea</i>	<i>Acanthastrea echinata</i>					
	<i>Acanthastrea</i> spp.					
<i>Acropora</i>	<i>Acropora abrotanoides</i>					
	<i>Acropora azurea</i>					
	<i>Acropora digitifera</i>					
	<i>Acropora humilis</i> (complex)					
	<i>Acropora loripes</i>					
	<i>Acropora monticulosa</i>					
	<i>Acropora nasuta</i>					
	<i>Acropora quelchi</i>					
	<i>Acropora robusta</i>					
	<i>Acropora secale</i>					
	<i>Acropora</i> spp.					
	<i>Acropora surculosa</i>					
	<i>Acropora tenuis</i>		1			
	<i>Acropora valida</i>					
<i>Acropora vaughani</i>						
<i>Acropora verweyi</i>						
<i>Astreopora</i>	<i>Astreopora listeri</i>					
	<i>Astreopora myriophthalma</i>	14	12			
	<i>Astreopora randalli</i>					
	<i>Astreopora</i> spp.	1				
<i>Coscinaraea</i>	<i>Coscinaraea columna</i>					
	<i>Coscinaraea ramosa</i>					

Table I.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map X, Katchu Bay.

Coral Counts Belt Transects		Number of Colonies		Map X	
Genus	Taxa	X 022	X 039		
<i>Cyphastrea</i>	<i>Cyphastrea agassizi</i>		4		
	<i>Cyphastrea chalcidicum</i>	8			
	<i>Cyphastrea ocellina</i>				
	<i>Cyphastrea serailia</i>				
	<i>Cyphastrea</i> spp.				
<i>Echinophyllia</i>	<i>Echinophyllia echinata</i>				
<i>Echinopora</i>	<i>Echinopora lamellosa</i>				
<i>Favia</i>	<i>Favia matthaii</i> (complex)	9	3		
	<i>Favia speciosa</i>				
	<i>Favia</i> spp.				
	<i>Favia stelligera</i>				
<i>Favites</i>	<i>Favites abdita</i>				
	<i>Favites pentagona</i>				
	<i>Favites</i> sp.1				
	<i>Favites</i> sp.2				
<i>Galaxea</i>	<i>Galaxea fascicularis</i>				
<i>Goniastrea</i>	<i>Goniastrea edwardsi</i>				
	<i>Goniastrea retiformis</i>				
<i>Goniopora</i>	<i>Goniopora somaliensis</i>				
<i>Heliopora</i>	<i>Heliopora coerulea</i>				
<i>Hydnophora</i>	<i>Hydnophora microconos</i>				
<i>Leptastrea</i>	<i>Leptastrea purpurea</i>	1			
	<i>Leptastrea transversa</i>				

Table I.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map X, Katchu Bay.

Coral Counts Belt Transects		Number of Colonies	Map X	
Genus	Taxa	X 022	X 039	
<i>Merulina</i>	<i>Merulina ampliata</i>			
<i>Montastrea</i>	<i>Montastrea curta</i>			
	<i>Montastrea valenciennesi</i>			
<i>Montipora</i>	<i>Montipora efflorescens</i>			
	<i>Montipora ehrenbergii</i>			
	<i>Montipora grisea</i>			
	<i>Montipora hoffmeisteri</i>			
	<i>Montipora informis</i>			
	<i>Montipora lobulata</i>			
	<i>Montipora monasteriata</i>			
	<i>Montipora</i> sp.1			
	<i>Montipora</i> sp.2 (Randall 2003)			
	<i>Montipora tuberculosa</i>			
<i>Pavona</i>	<i>Pavona duerdeni</i>			
	<i>Pavona varians</i>	2		
<i>Platygyra</i>	<i>Platygyra pini</i>			
	<i>Platygyra sinensis</i>			
<i>Pocillopora</i>	<i>Pocillopora ankei</i>			
	<i>Pocillopora damicornis</i>			
	<i>Pocillopora elegans</i>			
	<i>Pocillopora eydouxi</i>	3		
	<i>Pocillopora meandrina</i>			
	<i>Pocillopora setchelli</i>			
	<i>Pocillopora</i> spp. (juv)			6
<i>Pocillopora verrucosa</i>				

Table I.2. (continued) Number of coral colonies observed in 5 x 1 meter belt transects at benthic survey sites within Map X, Katchu Bay.

Coral Counts Belt Transects		Number of Colonies		Map X	
Genus	Taxa	X 022	X 039		
<i>Porites</i>	<i>Porites lobata</i>				
	<i>Porites lutea</i>				
	<i>Porites massive</i>				
	<i>Porites rus</i>				
	<i>Porites spp.</i>	23	2		
<i>Psammocora</i>	<i>Psammocora digitata</i>				
	<i>Psammocora haimeana</i>	2			
	<i>Psammocora nierstraszi</i>				
<i>Scolymia</i>	<i>Scolymia australis</i>	1			
<i>Sinularia</i>	<i>Sinularia spp.</i>				
<i>Stylocoeniella</i>	<i>Stylocoeniella armata</i>				
<i>Stylophora</i>	<i>Stylophora mordax</i>				
<i>Turbinaria</i>	<i>Turbinaria irregularis</i>				
TOTAL COLONIES		65	27		

Table I.3. Number of coral colonies in each size class observed at survey sites within Katchu Bay, Map X. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size	Number of Colonies	Map X		All Sites				
		>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Acanthastrea</i>	<i>Acanthastrea echinata</i>	2		1				
	<i>Acanthastrea</i> spp.							
<i>Acropora</i>	<i>Acropora abrotanoides</i>							
	<i>Acropora azurea</i>							
	<i>Acropora digitifera</i>							
	<i>Acropora gemmifera</i>		1					
	<i>Acropora humilis</i> (complex)							
	<i>Acropora loripes</i>							
	<i>Acropora monticulosa</i>							
	<i>Acropora nasuta</i>							
	<i>Acropora quelchi</i>							
	<i>Acropora robusta</i>							
	<i>Acropora secale</i>							
	<i>Acropora</i> spp.							
	<i>Acropora surculosa</i>							
	<i>Acropora tenuis</i>		1					
	<i>Acropora valida</i>							
<i>Acropora vaughani</i>								
<i>Acropora verweyi</i>								
<i>Astreopora</i>	<i>Astreopora listeri</i>				1			
	<i>Astreopora myriophthalma</i>	65	15	4	7			
	<i>Astreopora randalli</i>	3	5	3	1			
	<i>Astreopora</i> spp.	4	1					
<i>Coscinaraea</i>	<i>Coscinaraea columna</i>							
	<i>Coscinaraea ramose</i>							

Table I.3. (continued) Number of coral colonies in each size class observed at survey sites within Katchu Bay, Map X. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies		Map X		All Sites			
Genus	Taxa	>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm	
<i>Cyphastrea</i>	<i>Cyphastrea agassizi</i>	39	25	24	8				
	<i>Cyphastrea chalcidicum</i>	11	2						
	<i>Cyphastrea microphthalma</i>			2					
	<i>Cyphastrea ocellina</i>								
	<i>Cyphastrea serailia</i>	2							
	<i>Cyphastrea</i> spp.	1							
<i>Echinophyllia</i>	<i>Echinophyllia echinata</i>								
<i>Echinopora</i>	<i>Echinopora lamellosa</i>								
	<i>Echinopora pacificus</i>			1	1				
<i>Favia</i>	<i>Favia matthaii</i> (complex)	165	19						
	<i>Favia speciosa</i>								
	<i>Favia</i> spp.	2							
	<i>Favia stelligera</i>								
<i>Favites</i>	<i>Favites abdita</i>								
	<i>Favites pentagona</i>								
	<i>Favites</i> sp.1								
	<i>Favites</i> sp.2								
<i>Galaxea</i>	<i>Galaxea fascicularis</i>	1	9	3					
<i>Goniastrea</i>	<i>Goniastrea edwardsi</i>	9	1	2					
	<i>Goniastrea retiformis</i>	1							
<i>Goniopora</i>	<i>Goniopora minor</i>		1						
	<i>Goniopora somaliensis</i>								
	<i>Goniopora tenuidens</i>			1					

Table I.3. (continued) Number of coral colonies in each size class observed at survey sites within Katchu Bay, Map X. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size	Number of Colonies	Map X						
		All Sites						
Genus	Taxa	>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Heliopora</i>	<i>Heliopora coerulea</i>							
<i>Hydnophora</i>	<i>Hydnophora microconos</i>							
<i>Leptastrea</i>	<i>Leptastrea incrustans</i>		1	1				
	<i>Leptastrea purpurea</i>	47	12	9	5			
	<i>Leptastrea transversa</i>			1				
<i>Leptoria</i>	<i>Leptoria phrygia</i>							
<i>Lobophyllia</i>	<i>Lobophyllia hemprichii</i>							
<i>Merulina</i>	<i>Merulina ampliata</i>							
<i>Montastrea</i>	<i>Montastrea curta</i>	2		1				
	<i>Montastrea valenciennesi</i>							
<i>Montipora</i>	<i>Montipora caliculata</i>		2					
	<i>Montipora efflorescens</i>							
	<i>Montipora ehrenbergii</i>							
	<i>Montipora foveolata</i>		1					
	<i>Montipora grisea</i>							
	<i>Montipora hoffmeisteri</i>	1	4	3				
	<i>Montipora incrassata</i>			1				
	<i>Montipora informis</i>							
	<i>Montipora lobulata</i>							
	<i>Montipora monasteriata</i>							
	<i>Montipora</i> sp.1							
	<i>Montipora</i> sp.2 (Randall 2003)							
<i>Montipora</i> spp.				1				

Table I.3. (continued) Number of coral colonies in each size class observed at survey sites within Katchu Bay, Map X. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies		Map X		All Sites		
Genus	Taxa	>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Oxypora</i>	<i>Oxypora lacera</i>							
<i>Pavona</i>	<i>Pavona duerdeni</i>		1					
	<i>Pavona varians</i>	65	36	20	4			
<i>Platygyra</i>	<i>Platygyra pini</i>							
	<i>Platygyra sinensis</i>							
<i>Pocillopora</i>	<i>Pocillopora ankei</i>							
	<i>Pocillopora damicornis</i>							
	<i>Pocillopora elegans</i>							
	<i>Pocillopora eydouxi</i>	2	1	2	1			
	<i>Pocillopora meandrina</i>			1				
	<i>Pocillopora setchelli</i>							
	<i>Pocillopora</i> spp. (juv)	65	2					
	<i>Pocillopora verrucosa</i>	1	1	5				
	<i>Pocillopora verrucosa/ankei</i>		1					
<i>Porites</i>	<i>Porites lobata</i>	10	6	13	7	1		
	<i>Porites lutea</i>	7	3	5				
	<i>Porites massive</i>							
	<i>Porites rus</i>							
	<i>Porites</i> spp.	17	2	4	1	1		
<i>Psammocora</i>	<i>Psammocora digitata</i>							
	<i>Psammocora haimeana</i>	31	2	1				
	<i>Psammocora nierstraszi</i>							

Table I.3. (continued) Number of coral colonies in each size class observed at survey sites within Katchu Bay, Map X. Value is the summed total of all colonies observed within 5 x 1 meter belt transects.

Coral Size		Number of Colonies	Map X						
Genus	Taxa		>0-2 cm	>2-5 cm	>5-10 cm	>10-20 cm	>20-40 cm	>40-80 cm	>80-160 cm
<i>Sarcophytum</i>	<i>Sarcophytum</i> spp.		2						
<i>Scolymia</i>	<i>Scolymia australis</i>		5						
<i>Sinularia</i>	<i>Sinularia</i> spp.		2		1				
<i>Stylocoeniella</i>	<i>Stylocoeniella armata</i>								
<i>Stylophora</i>	<i>Stylophora mordax</i>								
<i>Turbinaria</i>	<i>Turbinaria irregularis</i>								
	<i>Turbinaria stellulata</i>					2			
TOTAL			562	155	110	38	2	0	0

% colony size class	64.8	17.9	12.7	4.4	0.2	0.0	0.0
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Table I.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map X.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area X							
Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Carangidae	Carangoides ferdau								
	Carangoides orthogrammus								
	Caranx ignobilis					0.50			
	Caranx lugubris								
	Scomberoides lysan								
Carangidae Total						0.50			
Carcharhinidae	Trienodon obesus					1.50			
Carcharhinidae Total						1.50			
Chaetodontidae	Chaetodon auriga			4.00					
	Chaetodon ephippium								
	Chaetodon lunula								
	Chaetodon ornatissimus		2.00						
	Chaetodon punctatofasciatus								
	Chaetodon quadrimaculatus	8.00			2.00	2.00	4.00		2.00
	Chaetodon unimaculatus								
Heniochus chrysostomus									
Chaetodontidae Total		8.00	2.00	4.00	2.00	2.00	4.00		2.00
Cirrhitidae	Cirrhichthys falco							2.00	
	Cirrhitops fasciatus	8.00							
	Cirrhites pinnulatus								
	Neocirrhites armatus	6.00	2.00						
	Paracirrhites arcatus	10.00	10.00		4.00	6.00			2.00
	Paracirrhites forsteri		12.00						
Cirrhitidae Total		24.00	24.00		4.00	6.00		2.00	2.00
Fistulariidae	Fistularia commersonii					4.00			
Fistulariidae Total						4.00			

Table I.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map X.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area X							
Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Gobiidae	Amblyeleotris fasciatus								
	Eviota sp.						4.00		
	Gobiid sp.		4.00					2.00	
	Valenciennesa strigata	4.00	4.00	2.00	2.00	2.00	4.00		
Gobiidae Total		4.00	8.00	2.00	2.00	2.00	8.00	2.00	
Hemiramphidae	Hemiramphus lutkei								
Hemiramphidae Total									
Holocentridae	Myripristis amaena								1.50
	Myripristis berndti								2.00
	Sargocentron tiere			1.50					
Holocentridae Total			1.50						3.50
Kyphosidae	Kyphosus bigibbus								4.50
	Kyphosus cinerascens								0.50
	Kyphosus vaigiensis								1.00
Kyphosidae Total									6.00
Labridae	Anampses caeruleopunctatus		1.00						0.50
	Cirrhilabrus katherinae								
	Coris aygula	0.50	2.00	2.00					2.00
	Coris dorsomacula								
	Coris gaimard		0.50				2.00		
	Gomphosus varius								
	Halichoeres biocellatus			18.00	2.00				
	Halichoeres hortulanus			0.50	2.00			6.50	4.00
	Halichoeres margaritaceus	2.00					2.00		
	Halichoeres marginatus								
Halichoeres ornatissimus	12.00	26.00	36.00				34.00	40.00	

Table I.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map X.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area X							
Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Labridae (cont.)	Hemigymnus melapterus								
	Hologymnosus annulatus								
	Hologymnosus doliatus							12.00	
	Iniistius celebicus								
	Labrid sp.							2.00	
	Labroides bicolor								
	Labroides dimidiatus	2.00	4.00	4.00	2.00	2.00	4.00		4.00
	Labropsis xanthonota						2.00		
	Macropharyngodon meleagris			2.00					
	Novaculichthys taeniourus								
	Oxycheilinus unifasciatus								
	Pseudocheilinus octotaenia		2.00						
	Pseudojuloides atavai				2.00				
	Stethojulis bandanensis								
	Stethojulis strigiventer								
	Thalassoma amblycephalum	8.00	4.00				6.00		
Thalassoma lutescens	2.00	2.00				2.00	14.00	2.00	
Thalassoma quinquevittatum	20.00			24.00	24.00	4.00		4.00	
Thalassoma trilobatum								0.50	
Xyrichtys halsteadii									
Labridae Total		46.50	60.00	48.00	28.00	36.00	66.50	14.00	57.00
Lethrinidae	Gnathodentex aureolineatus								
	Monotaxis grandoculis			1.00			2.00		
Lethrinidae Total				1.00			2.00		

Table I.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map X.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area X							
Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Lutjanidae	Aphareus furca			0.50	0.50			0.50	
	Aprion virescens								
	Lutjanus bohar	0.50	0.50			0.50		1.00	0.50
	Lutjanus fulvus			0.50					
	Lutjanus gibbus		0.50						
	Lutjanus kasmira			19.50					1.50
	Lutjanus monostigma								
	Macolor macularis								0.50
	Macolor niger								
Lutjanidae Total		0.50	1.00	20.50	0.50	0.50		1.50	2.50
Malacanthidae	Malacanthus latovittatus							1.50	
Malacanthidae Total								1.50	
Microdesmidae	Microdesmid sp.								
	Nemateleotris magnifica								
	Ptereleotris evides								
	Ptereleotris microlepis								
	Ptereleotris zebra	4.00				8.00			
Microdesmidae Total		4.00				8.00			
Monacanthidae	Cantherhines dumerilii								
Monacanthidae Total									
Mullidae	Mulloidichthys flavolineatus								
	Mulloidichthys vanicolensis								
	Parupeneus barberinus								
	Parupeneus cyclostomus					8.50			
	Parupeneus insularis			7.00			2.50		1.50
	Parupeneus multifasciatus			2.00			2.00	4.00	
Mullidae Total				9.00		10.50	6.50		1.50

Table I.4. (continued). Density (# individuals/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map X.

Fish Density (#/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)		Area X							
Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Serranidae (cont.)	Epinephelus maculatus Epinephelus merra Epinephelus socialis Grammistes sexlineatus Variola louti	0.50							
Serranidae Total		2.50	0.50	12.00		0.50	2.00		0.50
Sphyraenidae	Sphyraena sp.								
Sphyraenidae Total									
Synodontidae	Saurida gracilis Synodus binotatus Synodus dermatogenys	2.00							
Synodontidae Total		2.00							
Tetraodontidae	Arothron nigropunctatus								
Tetraodontidae Total									
Zanclidae	Zanclus cornutus								
Zanclidae Total									

Table I.5. Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map X.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map X							
Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Acanthuridae	<i>Acanthurus guttatus</i>								1.59
	<i>Acanthurus leucopareius</i>				1.27				8.28
	<i>Acanthurus lineatus</i>		0.95	0.32					2.55
	<i>Acanthurus nigricauda</i>								
	<i>Acanthurus nigrofuscus</i>		0.32	0.64			0.64		
	<i>Acanthurus olivaceus</i>		0.32	0.64			0.32		1.59
	<i>Acanthurus pyroferus</i>						0.64		
	<i>Acanthurus triostegus</i>								
	<i>Acanthurus xanthopterus</i>		0.32						0.32
	<i>Ctenochaetus hawaiiensis</i>								
	<i>Ctenochaetus striatus</i>			0.64	0.64	0.64	1.27	2.23	8.28
	<i>Naso hexacanthus</i>								
<i>Naso lituratus</i>		3.18	3.18	4.46	0.32		2.86	6.05	
<i>Naso unicornis</i>									
Acanthuridae Total		3.18	5.73	6.68	2.23	1.27	6.68		28.65
Balistidae	<i>Melichthys vidua</i>		0.32				0.95		
	<i>Rhinecanthus rectangulus</i>								
	<i>Sufflamen bursa</i>		0.32				0.32		
Balistidae Total			0.64				1.27		
Caesionidae	<i>Caesio teres</i>					1.59			
	<i>Pterocaesio tile</i>				10.82				
Caesionidae Total					10.82	1.59			
Carangidae	<i>Carangid sp.</i>								0.32
	<i>Carangoides ferdau</i>								
	<i>Carangoides orthogrammus</i>	0.64						0.32	
	<i>Caranx melampygus</i>	0.32							
	<i>Decapterus macarellus</i>								
Carangidae Total		0.95						0.32	0.32

Table I.5 (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map X.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map X							
Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Carcharhinidae	Carcharhinus amblyrhynchos								
	Triaenodon obesus								
Carcharhinidae Total									
Holocentridae	Myripristis berndti								
	Sargocentron caudimaculatum								0.32
	Sargocentron tiere		0.32						
Holocentridae Total			0.32						0.32
Kyphosidae	Kyphosus bigibbus								0.64
	Kyphosus cinerascens		0.32						
	Kyphosus vaigiensis								0.95
Kyphosidae Total			0.32						1.59
Labridae	Anampses caeruleopunctatus								
	Cheilinus trilobatus								
	Coris aygula			0.64					
	Coris gaimard		0.32	0.32	0.32		0.64		0.64
	Halichoeres hortulanus		0.32	0.64			0.64		
	Hemigymnus fasciatus								
	Oxycheilinus unifasciatus					0.32			
	Pseudodax moluccanus								
Thalassoma trilobatum									
Labridae Total			0.64	1.59	0.32	0.32	1.27		0.64
Lethrinidae	Gnathodentex aureolineatus								
	Monotaxis grandoculis			0.32					0.32
Lethrinidae Total				0.32					0.32

Table I.5. (continued). Density (# individuals/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map X.

Fish Density (#/100m ²) Stationary Point Count 10m radius		Map X							
Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Scaridae	Calotomus carolinus								
	Chlorurus microrhinus								
	Scarus forsteni				1.27				
	Scarus oviceps				0.32				
	Scarus rubroviolaceus	0.32	0.32	0.95					0.95
Scaridae Total		0.32	0.32	0.95	1.59				0.95
Serranidae	Cephalopholis argus			0.95			0.32		1.27
	Cephalopholis urodeta		1.91				0.95		
	Epinephelus fasciatus								
	Epinephelus hexagonatus								
	Gracila albomarginata								
	Variola louti								
Serranidae Total			1.91	0.95			1.27		1.27
Tetraodontidae	Arothron meleagris		0.32						
	Arothron nigropunctatus								
Tetraodontidae Total			0.32						
SITE TOTAL		4.77	11.78	21.01	15.60	3.18	12.73	0.32	43.93

Table I.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map X.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)									
Family	TaxonName	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Apogonidae	Apogon fraenatus								0.032
	Apogon novemfasciatus								
	Apogon sp.								
	Cheilodipterus quinquelineatus			0.053					
	Cheilodipterus sp.								
Apogonidae Total				0.053					0.032
Atherinidae	Atherinid sp.								
Atherinidae Total									
Balistidae	Balistapus undulatus								
	Melichthys niger								
	Melichthys vidua				0.158				
	Rhinecanthus rectangulus			0.006					0.015
	Sufflamen bursa	0.011	0.007			0.173			0.027
Sufflamen chrysopterum									
Balistidae Total		0.011	0.007	0.006	0.158	0.173			0.041
Belonidae	Tylosurus crocodilus								
Belonidae Total									
Blenniidae	Aspidontus taeniatus								
	Blenniella chrysospilos		0.003	0.023					
	Blenniid sp.		0.001						
	Cirripectes variolosus								0.010
	Ecsenius opsifrontalis				0.006	0.006	0.002		0.019
	Meiacanthus atrodorsalis				0.001				
Plagiotremus tapeinosoma									
Blenniidae Total			0.003	0.023	0.007	0.006	0.002		0.030

Table I.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map X.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)									
Family	TaxonName	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Caesionidae	Caesio teres								
Caesionidae Total									
Carangidae	Carangoides ferdau								
	Carangoides orthogrammus								
	Caranx ignobilis					39.012			
	Caranx lugubris								
	Scomberoides lysan								
Carangidae Total						39.012			
Carcharhinidae	Triaenodon obesus					55.079			
Carcharhinidae Total						55.079			
Chaetodontidae	Chaetodon auriga			0.381					
	Chaetodon ephippium								
	Chaetodon lunula								
	Chaetodon ornatissimus		0.113						
	Chaetodon punctatofasciatus								
	Chaetodon quadrimaculatus	0.133			0.005	0.003	0.200		0.088
	Chaetodon unimaculatus								
Heniochus chrysostomus									
Chaetodontidae Total		0.133	0.113	0.381	0.005	0.003	0.200		0.088
Cirrhitidae	Cirrhichthys falco							0.006	
	Cirrhitops fasciatus	0.018							
	Cirrhites pinnulatus								
	Neocirrhites armatus	0.025	0.002						
	Paracirrhites arcatus	0.136	0.026		0.011	0.010			0.011
	Paracirrhites forsteri		0.017						
Cirrhitidae Total		0.179	0.045		0.011	0.010		0.006	0.011

Table I.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map X.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)									
Family	TaxonName	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Labridae (cont.)	Halichoeres ornatissimus	0.048	0.093	0.050			0.170		0.065
	Hemigymnus melapterus								
	Hologymnosus annulatus							0.449	
	Hologymnosus doliatus								
	Iniistius celebicus							0.105	
	Labrid sp.								
	Labroides bicolor								
	Labroides dimidiatus	0.008	0.006	0.013	0.008	0.005	0.015		0.013
	Labropsis xanthonota						0.002		
	Macropharyngodon meleagris			0.004					
	Novaculichthys taeniourus								
	Oxycheilinus unifasciatus								
	Pseudocheilinus octotaenia		0.034						
	Pseudojuloides atavai				0.013				
	Stethojulis bandanensis								
	Stethojulis strigiventer								
	Thalassoma amblycephalum	0.008	0.001			0.038			
	Thalassoma lutescens	0.017	0.024			0.044	0.205		0.005
Thalassoma quinquevittatum	0.152			0.262	0.229	0.042		0.066	
Thalassoma trilobatum								0.151	
Xyrichtys halsteadii									
Labridae Total		0.327	0.474	0.167	0.283	0.329	0.709	0.553	0.462
Lethrinidae	Gnathodentex aureolineatus								
	Monotaxis grandoculis			0.387			0.030		
Lethrinidae Total				0.387			0.030		

Table I.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map X.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)									
Family	TaxonName	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Lutjanidae	Aphareus furca			0.235	0.164			0.235	
	Aprion virescens								
	Lutjanus bohar	2.092	0.069			12.773		33.725	0.395
	Lutjanus fulvus			0.248					
	Lutjanus gibbus		0.478						
	Lutjanus kasmira			0.822					0.166
	Lutjanus monostigma								
	Macolor macularis								0.639
	Macolor niger								
Lutjanidae Total		2.092	0.547	1.305	0.164	12.773		33.960	1.200
Malacanthidae	Malacanthus latovittatus							0.083	
Malacanthidae Total								0.083	
Microdesmidae	Microdesmid sp.								
	Nemateleotris magnifica								
	Ptereleotris evides								
	Ptereleotris microlepis								
	Ptereleotris zebra	0.049				0.060			
Microdesmidae Total		0.049				0.060			
Monacanthidae	Cantherhines dumerilii								
Monacanthidae Total									
Mullidae	Mulloidichthys flavolineatus								
	Mulloidichthys vanicolensis								
	Parupeneus barberinus								
	Parupeneus cyclostomus					0.388			
	Parupeneus insularis			0.589			0.320		0.622
	Parupeneus multifasciatus			0.058		0.097	0.155		
Mullidae Total				0.647		0.485	0.475		0.622

Table I.6. (continued). Biomass (kg/100 m²) of fish observed in a 25 x 5 meter belt transect at survey sites within Map X.

Fish Biomass (kg/100m ²) Belt Transect (25m x 2m for fish <20cm, 25m x 8m for fish >20cm)									
Family	TaxonName	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Serranidae (cont.)	Epinephelus maculatus Epinephelus merra Epinephelus socialis Grammistes sexlineatus Variola louti	0.362							
Serranidae Total		0.529	0.329	0.669		0.091	0.106		0.556
Sphyraenidae	Sphyraena sp.								
Sphyraenidae Total									
Synodontidae	Saurida gracilis Synodus binotatus Synodus dermatogenys	0.033							
Synodontidae Total								0.033	
Tetraodontidae	Arothron nigropunctatus								
Tetraodontidae Total									
Zanclidae	Zanclus cornutus								
Zanclidae Total									
SITE TOTAL		6.422	5.083	7.537	5.149	112.390	4.469	35.899	11.115

Table I.7. Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map X.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area X							
Family	TaxonName	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Acanthuridae	Acanthurus guttatus								0.007
	Acanthurus leucopareius				0.007				0.198
	Acanthurus lineatus		0.119	0.119					0.119
	Acanthurus nigricauda								
	Acanthurus nigrofuscus		0.068	0.068			0.068		
	Acanthurus olivaceus		0.378	0.378			0.378		0.378
	Acanthurus pyroferus						0.084		
	Acanthurus triostegus								
	Acanthurus xanthopterus		0.707						0.971
	Ctenochaetus hawaiiensis								
	Ctenochaetus striatus		0.367	0.199	0.133	0.133	0.133		0.133
	Naso hexacanthus								
	Naso lituratus		0.139	0.375	0.139	0.139		0.212	0.139
Naso unicornis									
Acanthuridae Total		0.139	2.013	0.903	0.278	0.133	0.874		1.945
Balistidae	Melichthys vidua		0.160					0.160	
	Rhinecanthus rectangulus								
	Sufflamen bursa		0.101					0.101	
Balistidae Total			0.261					0.261	
Caesionidae	Caesio teres					0.095			
	Pterocaesio tile				0.052				
Caesionidae Total					0.052	0.095			
Carangidae	Carangid sp.								0.494
	Carangoides ferdau								
	Carangoides orthogrammus	0.336						0.223	
	Caranx melampygus	0.340							
	Decapterus macarellus								
Carangidae Total		0.676						0.223	0.494

Table I.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map X.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area X							
Family	TaxonName	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Carcharhinidae	Carcharhinus amblyrhynchos Triaenodon obesus								
Carcharhinidae Total									
Holocentridae	Myripristis berndti Sargocentron caudimaculatum Sargocentron tiere		0.110						0.094
Holocentridae Total			0.110						0.094
Kyphosidae	Kyphosus bigibbus Kyphosus cinerascens Kyphosus vaigiensis		0.219						0.222 0.185
Kyphosidae Total			0.219						0.407
Labridae	Anampses caeruleopunctatus Cheilinus trilobatus Coris aygula Coris gaimard Halichoeres hortulanus Hemigymnus fasciatus Oxycheilinus unifasciatus Pseudodax moluccanus Thalassoma trilobatum		0.121	0.511 0.089 0.121	0.051		0.140 0.068		0.089
Labridae Total			0.210	0.720	0.051	0.079	0.208		0.089
Lethrinidae	Gnathodentex aureolineatus Monotaxis grandoculis			0.202					0.325
Lethrinidae Total				0.202					0.325
Lutjanidae	Aphareus furca Aprion virescens Lutjanus bohar		0.137 0.156	0.223 0.156	0.086 0.156				0.137 0.156

Table I.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map X.

Family	TaxonName	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Lutjanidae (cont.)	Lutjanus fulvus		0.251						0.158
	Lutjanus gibbus		0.278	0.278			0.170		0.170
	Lutjanus kasmira			0.087					0.087
	Lutjanus monostigma								
	Macolor macularis								
	Macolor niger								0.190
Lutjanidae Total		0.251	0.823	0.744	0.242		0.170		0.898
Mullidae	Mulloidichthys flavolineatus								
	Parupeneus barberinus								
	Parupeneus cyclostomus								
	Parupeneus insularis								0.362
	Parupeneus multifasciatus			0.104					
Mullidae Total				0.104					0.362
NoFish	no individuals seen								
NoFish Total									
Pomacanthidae	Apolemichthys trimaculatus		0.215						
	Pomacanthus imperator								
	Pygoplites diacanthus								
Pomacanthidae Total		0.215							
Pomacentridae	Abudefduf septemfasciatus								
Pomacentridae Total									
Scaridae	Calotomus carolinus								
	Chlorurus microrhinos								
	Scarus forsteni				0.177				
	Scarus oviceps				0.235				
	Scarus rubroviolaceus	0.577	0.261	0.738					0.821
Scaridae Total	0.577	0.261	0.738	0.412					0.821

Table I.7. (continued). Biomass (kg/100 m²) of fish >20 m total length observed during Stationary Point Count (SPC) Surveys at sites within Map X.

Fish Biomass (kg/100m ²) Stationary Point Count 10m radius		Area X							
Family	TaxonName	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Serranidae	Cephalopholis argus			0.217			0.140		0.217
	Cephalopholis urodeta		0.074				0.074		
	Epinephelus fasciatus								
	Epinephelus hexagonatus								
	Gracila albomarginata								
	Variola louti								
Serranidae Total			0.074	0.217			0.214		0.217
Tetraodontidae	Arothron meleagris		1.862						
	Arothron nigropunctatus								
Tetraodontidae Total			1.862						
SITE TOTAL		1.643	6.047	3.629	1.036	0.306	1.728	0.223	5.652

Table I.8. Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
Family	Taxon Name	Map X					
		X 001	X 003	X 005	X 006	X 008	X 016
Alpheidae	<i>Alpheus deuteropus</i>						
Diogenidae	<i>Calcinus</i> spp.	18	4		23	27	
	<i>Dardanus</i> spp.		1				
Eriphiidae	<i>Eriphia sebana</i>					7	
Palinuridae	<i>Panulirus penicillatus</i>						1
Plagusidae/Grapsidae	<i>Percnon planissimum</i>		18	22			12
Porcellanidae	<i>Petrolisthes coccineus</i>						
Portunidae	<i>Thalamita pseudopelsarti</i>						
Stenopodidae	<i>Stenopus hispidus</i>			4	2		7
Trapeziidae	<i>Trapezia flavopunctata</i>						
	<i>Trapezia intermedia</i>					1	
	<i>Trapezia</i> spp.						
Xanthidae	<i>Pilodius areolatus</i>			3	7		
PHYLUM CRUSTACEA TOTAL		18	23	29	32	35	20

Table L.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
Family	Taxon Name	Map X					
		X 001	X 003	X 005	X 006	X 008	X 016
Acanthasteridae	<i>Acanthaster planci</i>			2		1	
Ophiasteridae	<i>Linckia multifora</i>	2				1	
Oreasteridae	<i>Culcita novaeguineae</i>						
Ophiocomidae	<i>Ophiocoma scolopendrina</i>						3
Diadematidae	<i>Echinothrix calamaris</i>	7	13		3	2	
	<i>Echinothrix diadema</i>	5	5	7	1	3	
Echinometridae	<i>Echinometra mathaei</i> (complex)	22			4		28
	<i>Echinostrephus aciculatus</i>	162	63	18	59	97	
Holothuriidae	<i>Actinopyga mauritiana</i>			2			
	<i>Holothuria atra</i>						
	<i>Holothuria whitmaei</i>						
Stichopodidae	<i>Stichopus chloronotus</i>	3					
Comasteridae	<i>Comaster schlegelii</i>						
	<i>Crinoid sp. E</i> (Guam)						
PHYLUM ECHINODERMATA TOTAL		201	81	29	67	104	31

Table I.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
Family	Taxon Name	Map X					
		X 001	X 003	X 005	X 006	X 008	X 016
Octopodidae	<i>Octopus cyanea</i>						
	<i>Octopus sp. A</i> (Guam)						
Tridacnidae	<i>Tridacna crocea</i>	48	13	12	40	32	3
	<i>Tridacna gigas</i>						
Bursidae	<i>Bursa granularis</i>					3	
Cerithiidae	<i>Cerithium zebrum</i>						
	<i>Cerithium</i> spp.		25				
	<i>Rhinoclavis articulata</i>						
Conidae	<i>Conus ebraeus</i>	25		13			
	<i>Conus flavidus</i>	16	45	47	52	87	49
	<i>Conus imperialis</i>	3		2			
	<i>Conus lividus</i>	23	7		3	6	4
	<i>Conus marmoreus</i>		2				4
	<i>Conus miles</i>	2	3		8		
	<i>Conus pennaceus</i>						
	<i>Conus pulicarius</i>						
Costellariidae	<i>Vexillum</i> spp.						

Table I.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
Family	Taxon Name	Map X					
		X 001	X 003	X 005	X 006	X 008	X 016
Cypraeidae	<i>Cypraea caputserpentis</i>				4	5	
	<i>Cypraea lynx</i>					2	
	<i>Cypraea maculifera</i>						
	<i>Cypraea moneta</i>			1	3		
	<i>Cypraea tigris</i>						
Fasciariidae	<i>Latirus nodatus</i>		7		2		
Mitridae	<i>Mitra stictica</i>		4				
Modulidae	<i>Modulus tectum</i>	17			4	4	
Muricidae	<i>Drupa morum</i>	10	16	20	14	10	
	<i>Drupa ricinus</i>	3	5			8	
	<i>Morula funiculata</i>						
	<i>Morula granulata</i>						
	<i>Morula uva</i>						
	<i>Pascuala ochrostoma</i>			3			
Nassariidae	<i>Nassarius papillosus</i>	3					
Ranellidae	<i>Charonia tritonis</i>						
	<i>Cymatium nicobaricum</i>						

Table I.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
		Map X					
Family	Taxon Name	X 001	X 003	X 005	X 006	X 008	X 016
Strombidae	<i>Lambis lambis</i>						1
	<i>Lambis</i> spp.	13	10		9	23	
	<i>Strombus</i> spp.	7	16		12		
Terebridae	<i>Terebra dimidiata</i>				1		
	<i>Terebra subulata</i>						
Trochidae	<i>Trochus niloticus</i>						
	<i>Trochus</i> spp.	1		1			
Turbinidae	<i>Turbo</i> spp.		1	1	1		2
Lottiidae	<i>Notoacmea persona</i>	10					
Aglajidae	<i>Chelidonura hirundinina</i>						
	<i>Chelidonura inornata</i>	1				1	
	<i>Philineopsis gardineri</i>						
Aplysiidae	<i>Petalifera cf. lafonti</i>						
	<i>Stylocheilus striatus</i>		3	7		3	12

Table L.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals					
Belt transects 25m x 4m		(Number/100 m ²)					
Family	Taxon Name	Map X					
		X 001	X 003	X 005	X 006	X 008	X 016
Chromodorididae	<i>Chromodoris vibrata</i>						3
	<i>Noumea angustolutea</i>						
Haminoeidae	<i>Alys semistriata</i>						30
Glaucidae	<i>Pteraeolidia ianthina</i>						
Gymnodorididae	<i>Gymnodoris</i> spp.						
Phyllidiidae	<i>Phyllidia elegans</i>						
	<i>Phyllidiella pustulosa</i>						
	<i>Phyllidiella</i> spp.			4			
Plakobrachidae	<i>Plakobrachus</i> spp.						
Polyceridae	<i>Nembrotha livingstonei</i>						
	<i>Roboastra gracilis</i>						
Tergipedidae	<i>Phestilla melanobranchia</i>						
PHYLUM MOLLUSCA TOTAL		182	157	111	153	184	108
TOTAL ALL PHYLA		401	261	169	252	323	159

Table I.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals	
Belt transects 25m x 4m		(Number/100 m ²)	
Family	Taxon Name	Map X	
		X022	X 039
Alpheidae	<i>Alpheus deuteropus</i>		
Diogenidae	<i>Calcinus</i> spp.	4	23
	<i>Dardanus</i> spp.		
Eriphiidae	<i>Eriphia sebana</i>		
Palinuridae	<i>Panulirus penicillatus</i>		
Plagusiidae/Grapsidae	<i>Percnon planissimum</i>		71
Porcellanidae	<i>Petrolisthes coccineus</i>		
Portunidae	<i>Thalamita pseudopelsarti</i>		
Stenopodidae	<i>Stenopus hispidus</i>		
Trapeziidae	<i>Trapezia flavopunctata</i>		
	<i>Trapezia intermedia</i>		
	<i>Trapezia</i> spp.		
Xanthidae	<i>Pilodius areolatus</i>		
PHYLUM CRUSTACEA TOTAL		4	94

Table L.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals	
Belt transects 25m x 4m		(Number/100 m ²)	
Family	Taxon Name	Map X	
		X022	X 039
Acanthasteridae	<i>Acanthaster planci</i>		
Ophiasteridae	<i>Linckia multifora</i>		2
Oreasteridae	<i>Culcita novaeguineae</i>		
Ophiocomidae	<i>Ophiocoma scolopendrina</i>		
Diadematidae	<i>Echinothrix calamaris</i>	1	2
	<i>Echinothrix diadema</i>		
Echinometridae	<i>Echinometra mathaei</i> (complex)		
	<i>Echinostrephus aciculatus</i>		
Holothuriidae	<i>Actinopyga mauritiana</i>		
	<i>Holothuria atra</i>		
	<i>Holothuria whitmaei</i>		
Stichopodidae	<i>Stichopus chloronotus</i>		
Comasteridae	<i>Comaster schlegelii</i>		
	<i>Crinoid sp. E</i> (Guam)		
PHYLUM ECHINODERMATA TOTAL		1	4

Table I.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals	
Belt transects 25m x 4m		(Number/100 m ²)	
Family	Taxon Name	Map X	
		X022	X 039
Octopodidae	<i>Octopus cyanea</i>	1	
	<i>Octopus sp. A</i> (Guam)		
Tridacnidae	<i>Tridacna crocea</i>		
	<i>Tridacna gigas</i>		
Bursidae	<i>Bursa granularis</i>		
Cerithiidae	<i>Cerithium zebrum</i>		
	<i>Cerithium</i> spp.		
	<i>Rhinoclavis articulata</i>	11	
Conidae	<i>Conus ebraeus</i>		
	<i>Conus flavidus</i>	12	32
	<i>Conus imperialis</i>		
	<i>Conus lividus</i>		1
	<i>Conus marmoreus</i>		
	<i>Conus miles</i>		
	<i>Conus pennaceus</i>		
	<i>Conus pulicarius</i>	2	
Costellariidae	<i>Vexillum</i> spp.		

Table I.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals	
Belt transects 25m x 4m		(Number/100 m ²)	
Family	Taxon Name	Map X	
		X022	X 039
Cypraeidae	<i>Cypraea caputserpentis</i>		1
	<i>Cypraea lynx</i>	1	
	<i>Cypraea maculifera</i>		
	<i>Cypraea moneta</i>		
	<i>Cypraea tigris</i>	2	
Fascioliariidae	<i>Latirus nodatus</i>		
Mitridae	<i>Mitra stictica</i>		
Modulidae	<i>Modulus tectum</i>		
Muricidae	<i>Drupa morum</i>	3	8
	<i>Drupa ricinus</i>		
	<i>Morula funiculata</i>		
	<i>Morula granulata</i>		
	<i>Morula uva</i>		
	<i>Pascula ochrostoma</i>		
Nassariidae	<i>Nassarius papillosus</i>		
Ranellidae	<i>Charonia tritonis</i>		
	<i>Cymatium nicobaricum</i>		

Table I.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals	
Belt transects 25m x 4m		(Number/100 m ²)	
Family	Taxon Name	Map X	
		X022	X 039
Strombidae	<i>Lambis lambis</i>		
	<i>Lambis</i> spp.		4
	<i>Strombus</i> spp.	6	2
Terebridae	<i>Terebra dimidiata</i>		
	<i>Terebra subulata</i>		
Trochidae	<i>Trochus niloticus</i>		
	<i>Trochus</i> spp.		
Turbinidae	<i>Turbo</i> spp.		
Lottiidae	<i>Notoacmea persona</i>		
Nacellidae	<i>Cellana</i> spp.		
Aglajidae	<i>Chelidonura hirundinina</i>		
	<i>Chelidonura inornata</i>		
	<i>Philinopsis gardineri</i>	2	

Table I.8. (continued) Number of non-coral invertebrates in 25 x 4 meter belt transects at survey sites within Map X. Density of organisms in 100 m².

Non-coral invertebrates		Number of Individuals	
Belt transects 25m x 4m		(Number/100m ²)	
Family	Taxon Name	Map X	
		X022	X 039
Aplysiidae	<i>Petalifera cf. lafonti</i>		
	<i>Stylocheilus striatus</i>	1	
Chromodorididae	<i>Chromodoris vibrata</i>		
	<i>Noumea angustolutea</i>		
Haminoeidae	<i>Atys semistriata</i>	3	
Glaucidae	<i>Pteraeolidia ianthina</i>		
Phyllidiidae	<i>Phyllidia elegans</i>		
	<i>Phyllidiella pustulosa</i>		
	<i>Phyllidiella</i> spp.		
Plakobanchidae	<i>Plakobanchus</i> spp.		
Polyceridae	<i>Nembrotha livingstonei</i>		
	<i>Roboastra gracilis</i>		
Tergipedidae	<i>Phestilla melanobrachia</i>		
PHYLUM MOLLUSCA TOTAL		44	48
TOTAL ALL PHYLA		49	146

Appendix J.

Species Presence Tables for all 4 Regions

Table J.1. Fish Presence by Site for all 4 Regions

Table J.2. Non-coral Mobile Invertebrate Presence by Site for all 4 Regions

Table J.1. Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009	
Acanthuridae	Acanthurus blochii						X		
	Acanthurus guttatus				X	X			
	Acanthurus leucopareius					X	X	X	
	Acanthurus lineatus			X	X				
	Acanthurus nigricans						X		
	Acanthurus nigricauda								
	Acanthurus nigrofuscus				X	X	X	X	
	Acanthurus nigroris						X		
	Acanthurus olivaceus				X	X	X		
	Acanthurus pyroferus				X		X	X	
	Acanthurus thompsoni						X		
	Acanthurus triostegus								
	Acanthurus xanthopterus				X				
	Ctenochaetus binotatus		X				X		X
	Ctenochaetus hawaiiensis							X	
	Ctenochaetus sp.						X		
	Ctenochaetus striatus								
	Ctenochaetus strigosus					X			
	Naso hexacanthus					X			
	Naso lituratus					X	X	X	X
	Naso turberosis								
	Naso unicornis								
	Naso vlamingii								
Paracanthurus hepatus									
Zebrasoma flavescens						X			
Zebrasoma veliferum									
Acanthuridae Total		0	1	1	9	8	10	5	
Anthias (Serranidae)	Pseudanthias cooperi					X			
	Pseudanthias pascalus							X	

Anthias (Serranidae) Total		0	0	0	0	1	0	1
Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010								
Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Apogonidae	Apogon angustatus							
	Apogon apogonides							
	Apogon fraenatus					X	X	
	Apogon luteus							
	Apogon novemfasciatus		X			X	X	X
	Apogon sp.					X		X
	Cheilodipterus quinquelineatus							
	Cheilodipterus sp.							X
Apogonidae Total		0	1	0	0	3	2	3
Atherinidae	Atherinid sp.							
Atherinidae Total		0	0	0	0	0	0	0
Balistidae	Balistapus undulatus				X		X	
	Balistoides conspicillum							
	Melichthys niger							
	Melichthys vidua				X		X	
	Rhinecanthus aculeatus							
	Rhinecanthus rectangulus							
	Sufflamen bursa	X	X		X		X	X
	Sufflamen chrysopterum						X	
Balistidae Total		1	1	0	3	0	4	1
Belonidae	Tylosurus crocodilus							
Belonidae Total		0	0	0	0	0	0	0
Blenniidae	Aspidontus taeniatus						X	
	Blenniella chrysospilos							
	Blenniid sp.							
	Cirripectes sp.							
	Cirripectes vanderbilti							
	Cirripectes variolosus							

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009					
Blenniidae (cont.)	Ecsenius bicolor	X						X					
	Ecsenius opsifrontalis												
	Meiacanthus atrodorsalis												
	Plagiotremus tapeinosoma								X	X			
Blenniidae Total	2	1	1	1	2	2	3						
Bothidae	Bothus mancus												
Bothidae Total		0	0	0	0	0	0	0					
Caesionidae	Caesio teres					X							
	Pterocaesio marri												
	Pterocaesio tile								X				
Caesionidae Total		0	0	0	1	1	0	0					
Carangidae	Carangid sp.	X	X					X					
	Carangoides ferdau												
	Carangoides orthogrammus								X	X			
	Caranx ignobilis												
	Caranx lugubris												
	Caranx melampygus									X		X	X
	Caranx papuensis										X		
	Decapterus macarellus								X				
	Gnathanodon speciosus												
	Scomberoides lysan								X				
Trachinotus bailloni	X												
Carangidae Total	4	2	1	1	0	1	3						
Carcharhinidae	Carcharhinus amblyrhynchos												
	Carcharhinus melanopterus												
	Triaenodon obesus								X				
Carcharhinidae Total	0	0	0	1	0	0	0						

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Gobiidae	Amblyeleotris fasciatus							
	Eviota sp.							
	Gobiid sp.	X		X		X	X	
	Valenciennea strigata					X		X
Gobiide Total		1	0	1	0	2	1	1
Haemulidae	Plectorhinchus picus							
Haemulidae Total		0	0	0	0	0	0	0
Hemiramphidae	Hemiramphus lutkei							
Hemiramphidae Total		0	0	0	0	0	0	0
Holocentridae	Myripristis amaena							
	Myripristis berndti				X	X		X
	Neoniphon opercularis							
	Neoniphon sammara							
	Sargocentron caudimaculatum					X	X	
	Sargocentron tiere							
Holocentridae Total		0	0	0	0	0	0	0
Kuhliidae	Kuhlia mugil							
	Kuhlia sp.							
Kuhliidae Total		0	0	0	0	0	0	0
Kyphosidae	Kyphosus bigibbus				X	X		
	Kyphosus cinerascens				X	X		
	Kyphosus sp.							
	Kyphosus vaigiensis				X			
Kyphosidae Total		0	0	0	3	2	0	0
Labridae	Anampses caeruleopunctatus					X		
	Anampses meleagrides							
	Anampses twistii							
	Bodianus axillaris							

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Labridae (cont.)	Bodianus bilunulatus							
	Cheilinus trilobatus							
	Cirrhilabrus katherinae				X	X	X	X
	Coris aygula				X	X	X	X
	Coris dorsomacula					X		X
	Coris gaimard					X	X	X
	Gomphosus varius							
	Halichoeres biocellatus					X	X	X
	Halichoeres hartzfeldi	X						
	Halichoeres hortulanus				X	X		X
	Halichoeres margaritaceus					X		X
	Halichoeres marginatus							
	Halichoeres ornatissimus				X	X	X	X
	Hemigymnus fasciatus							
	Hemigymnus melapterus						X	
	Hologymnosus annulatus							X
	Hologymnosus doliatus							
	Iniistius celebicus	X						
	Iniistius pavo							X
	Iniistius pentadactylus	X						
	Labrid sp.							
	Labroides bicolor					X		
	Labroides dimidiatus					X	X	X
	Labroides pectoralis					X		
	Labropsis xanthonota							
	Macropharyngodon meleagris							X
	Novaculichthys taeniourus							X
Oxycheilinus digrammus								
Oxycheilinus unifasciatus								

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Pinguipedidae	Parapercis clathrata							
	Parapercis millepunctata							X
	Parapercis multiplicata							X
Pinguipedidae Total		0	0	0	0	0	0	2
Pomacanthidae	Apolemichthys trimaculatus						X	
	Centropyge flavissima				X	X	X	X
	Centropyge shepardi							
	Pomacanthus imperator				X		X	
	Pygoplites diacanthus							
Pomacanthidae Total		0	0	0	2	1	3	1
Pomacentridae	Abudefduf septemfasciatus							
	Abudefduf sexfasciatus							
	Abudefduf sordidus							
	Abudefduf vaigiensis							
	Chromis acares				X	X	X	X
	Chromis agilis				X	X	X	X
	Chromis margaritifer				X	X	X	
	Chromis vanderbilti					X		
	Chromis xanthura						X	
	Chrysiptera biocellata							
	Chrysiptera brownriggii			X		X		X
	Chrysiptera traceyi				X			
	Dascyllus reticulatus							
	Dascyllus trimaculatus			X			X	X
	Lepidozygus tapeinosoma							
	Plectroglyphidodon dickii							X
	Plectroglyphidodon imparipennis	X	X					

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
	Plectroglyphidodon johnstonianus		X			X		
	Plectroglyphidodon lacrymatus							
	Plectroglyphidodon leucozona							
	Pomacentrid sp.							X
	Pomacentrus pavo							X
	Pomacentrus vaiuli				X		X	
	Pomachromis guamensis					X	X	X
	Stegastes albifasciatus							
	Stegastes fasciolatus				X			X
Pomacentridae Total		2	5	1	7	8	8	10
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total		0	0	0	0	0	0	0
Scaridae	Calotomus carolinus							X
	Chlorurus microrhinos							
	Scarus altipinnis				X		X	
	Scarus forsteni							
	Scarus globiceps							
	Scarus oviceps							
	Scarus rubroviolaceus	X			X		X	
	Scarus sp.							
Scaridae Total		1	0	0	2	0	2	1
Scorpaenidae	Pterois antennata							
	Pterois volitans						X	
	Scorpaenopsis sp.							
Scorpaenidae Total		0	0	0	0	0	1	0
Serranidae	Cephalopholis argus	1	X		X		X	
	Cephalopholis sexmaculata							
	Cephalopholis sonnerati					X		
	Cephalopholis urodeta	X	X		X		X	

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 001	C 002	C 003	C 005	C 006	C 007	C 009
Serranidae (cont.)	Epinephelus fasciatus	X	X					X
	Epinephelus hexagonatus	X	X	X		X		X
	Epinephelus macrospilos							
	Epinephelus maculatus	X	X	X				X
	Epinephelus merra				X			
	Epinephelus socialis							
	Gracila albomarginata							
	Grammistes sexlineatus							
	Variola albimarginata							
	Variola louti						X	
Serranidae Total		6	6	3	4	3	4	4
Sphyraenidae	Sphyraena sp.							
Sphyraenidae Total		0	0	0	0	0	0	0
Synodontidae	Saurida gracilis							
	Synodus binotatus							
	Synodus dermatogenys							
	Synodus variegatus							
Synodontidae Total		0	0	0	0	0	0	0
Tetraodontidae	Arothron meleagris							
	Arothron nigropunctatus			X				
	Canthigaster solandri							
Tetraodontidae Total		0	0	1	0	0	0	0
Zanclidae	Zanclus cornutus					X		X
Zanclidae Total		0	0	0	0	1	0	1
GRAND TOTAL		26	26	13	63	60	62	67

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Acanthuridae	Acanthurus blochii							
	Acanthurus guttatus			X			X	
	Acanthurus leucopareius		X				X	
	Acanthurus lineatus			X	X	X	X	X
	Acanthurus nigricans						X	X
	Acanthurus nigricauda							
	Acanthurus nigrofuscus	X	X	X	X	X	X	X
	Acanthurus nigroris							
	Acanthurus olivaceus	X	X	X	X	X	X	
	Acanthurus pyroferus	X	X		X	X		X
	Acanthurus thompsoni							
	Acanthurus triostegus						X	
	Acanthurus xanthopterus		X		X			
	Ctenochaetus binotatus						X	
	Ctenochaetus hawaiiensis			X		X	X	
	Ctenochaetus sp.							
	Ctenochaetus striatus		X	X	X	X	X	X
	Ctenochaetus strigosus							
	Naso hexacanthus							X
	Naso lituratus	X	X	X	X	X	X	X
	Naso turberosis							
	Naso unicornis		X		X			
Naso vlamingii								
Paracanthurus hepatus								
Zebrasoma flavescens				X			X	
Zebrasoma veliferum								
Acanthuridae Total		4	8	8	8	7	11	8
Anthias (Serranidae)	Pseudanthias cooperi							
	Pseudanthias pascalus		X					X
Anthias (Serranidae) Total		0	1	0	0	0	0	1

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Apogonidae	Apogon angustatus							
	Apogon apogonides		X					
	Apogon fraenatus							
	Apogon luteus				X			
	Apogon novemfasciatus	X			X			
	Apogon sp.				X			
	Cheilodipterus quinquelineatus							
Cheilodipterus sp.								
Apogonidae Total		1	1	0	3	0	0	0
Atherinidae	Atherinid sp.							
Atherinidae Total		0	0	0	0	0	0	0
Balistidae	Balistapus undulatus					X		
	Balistoides conspicillum							
	Melichthys niger							
	Melichthys vidua		X	X		X		X
	Rhinecanthus aculeatus						X	
	Rhinecanthus rectangulus	X	X				X	
	Sufflamen bursa	X	X					X
Sufflamen chrysopterum					X		X	
Balistidae Total		2	3	1	0	3	2	3
Belonidae	Tylosurus crocodilus						X	
Belonidae Total		0	0	0	0	0	1	0
Blenniidae	Aspidontus taeniatus							
	Blenniella chrysospilos					X	X	
	Blenniid sp.							
	Cirripectes sp.					X		
	Cirripectes vanderbilti							
	Cirripectes variolosus							

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Blenniidae (cont.)	Ecsenius bicolor			X				
	Ecsenius opsifrontalis							
	Meiacanthus atrodorsalis							
	Plagiotremus tapeinosoma			X	X	X		
Blenniidae Total	0	0	2	1	3	1	0	
Bothidae	Bothus mancus		X					
Bothidae Total		0	1	0	0	0	0	0
Caesionidae	Caesio teres		X					
	Pterocaesio marri		X					
	Pterocaesio tile							X
Caesionidae Total	0	2	0	0	0	0	1	
Carangidae	Carangid sp.							
	Carangoides ferdau	X			X			
	Carangoides orthogrammus	X			X			
	Caranx ignobilis							
	Caranx lugubris							
	Caranx melampygus		X			X	X	
	Caranx papuensis							
	Decapterus macarellus							
	Gnathanodon speciosus							
	Scomberoides lysan							
Trachinotus bailloni								
Carangidae Total	2	1	0	2	1	1	0	
Carcharhinidae	Carcharhinus amblyrhynchos							X
	Carcharhinus melanopterus			X				
	Triaenodon obesus							X
Carcharhinidae Total	0	0	1	0	0	0	2	

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Gobiidae	Amblyeleotris fasciatus				X			
	Eviota sp.				X			
	Gobiid sp.	X			X	X		
	Valenciennea strigata	X	X	X	X	X	X	X
Gobiidae Total	2	1	1	3	2	1	1	
Haemulidae	Plectorhinchus picus							
Haemulidae Total		0	0	0	0	0	0	0
Hemiramphidae	Hemiramphus lutkei							
Hemiramphidae Total		0	0	0	0	0	0	0
Holocentridae	Myripristis amaena		X					
	Myripristis berndti		X	X	X		X	X
	Neoniphon opercularis							
	Neoniphon sammara		X					
	Sargocentron caudimaculatum		X					
	Sargocentron tiere		X	X		X		
Holocentridae Total		0	0	0	0	0	0	0
Kuhliidae	Kuhlia mugil Kuhlia sp.							
Kuhliidae Total		0	0	0	0	0	0	0
Kyphosidae	Kyphosus bigibbus							X
	Kyphosus cinerascens		X			X	X	
	Kyphosus sp.							
	Kyphosus vaigiensis				X			X
Kyphosidae Total		0	1	0	1	1	1	2
Labridae	Anampses caeruleopunctatus		X	X		X	X	
	Anampses meleagrides							
	Anampses twistii							
	Bodianus axillaris							

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Labridae (cont.)	Bodianus bilunulatus							
	Cheilinus trilobatus							
	Cirrhilabrus katherinae	X		X	X			X
	Coris aygula		X	X	X	X	X	X
	Coris dorsomacula	X		X	X	X		
	Coris gaimard	X	X	X	X	X	X	X
	Gomphosus varius							X
	Halichoeres biocellatus			X	X	X	X	
	Halichoeres hartzfeldi							
	Halichoeres hortulanus	X	X	X	X	X	X	X
	Halichoeres margaritaceus	X	X	X		X	X	
	Halichoeres marginatus		X					
	Halichoeres ornatissimus	X	X	X	X	X	X	X
	Hemigymnus fasciatus							
	Hemigymnus melapterus							
	Hologymnosus annulatus			X			X	X
	Hologymnosus doliatus			X	X		X	
	Iniistius celebicus							
	Iniistius pavo							
	Iniistius pentadactylus							
	Labrid sp.		X					
	Labroides bicolor				X			X
	Labroides dimidiatus			X	X	X	X	X
	Labroides pectoralis							
	Labropsis xanthonota							
	Macropharyngodon meleagris	X	X	X				
	Novaculichthys taeniourus	X						
	Oxycheilinus digrammus							X
	Oxycheilinus unifasciatus							

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Labridae (cont.)	<i>Pseudocheilinus octotaenia</i>		X					
	<i>Pseudocheilinus tetrataenia</i>							
	<i>Pseudodax moluccanus</i>							
	<i>Pseudojuloides atavai</i>	X	X					
	<i>Stethojulis bandanensis</i>			X				
	<i>Stethojulis strigiventer</i>	X				X	X	
	<i>Thalassoma amblycephalum</i>	X	X		X			X
	<i>Thalassoma lutescens</i>	X	X	X	X	X		X
	<i>Thalassoma purpureum</i>		X					
	<i>Thalassoma quinquevittatum</i>	X	X	X		X	X	
	<i>Thalassoma trilobatum</i>			X				
	<i>Xyrichtys halsteadii</i>							
	<i>Xyrichtys sp.</i>							
Labridae Total		14	17	17	10	14	10	12
Lethrinidae	<i>Gnathodentex aureolineatus</i>		X					X
	<i>Lethrinus olivaceus</i>							X
	<i>Monotaxis grandoculis</i>		X			X	X	X
Lethrinidae Total	0	2	0	0	1	1	3	
Lutjanidae	<i>Aphareus furca</i>			X				X
	<i>Aprion virescens</i>						X	
	<i>Lutjanus bohar</i>		X	X			X	X
	<i>Lutjanus fulvus</i>	X	X	X	X	X	X	X
	<i>Lutjanus gibbus</i>	X	X	X	X	X	X	X
	<i>Lutjanus kasmira</i>	X	X	X	X	X		X
	<i>Lutjanus monostigma</i>							X
	<i>Macolor macularis</i>		X	X				X
<i>Macolor niger</i>		X	X				X	
Lutjanidae Total	3	6	7	3	3	4	8	
Malacanthidae	<i>Malacanthus latovittatus</i>					X		
Malacanthidae Total	0	0	0	0	1	0	0	

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Microdesmidae	Gunnellichthys curiosus	X						
	Gunnellichthys monostigma							
	Gunnellichthys viridescens							
	Microdesmid sp.							
	Nemateleotris magnifica			X		X		X
	Ptereleotris evides		X					X
	Ptereleotris microlepis							X
Ptereleotris zebra	X	X				X		
Microdesmidae Total		2	2	1	0	2	0	3
Monacanthidae	Cantherhines dumerilii			X				
Monacanthidae Total		0	0	1	0	0	0	0
Mugilidae	Ellochelon vaigiensis							
Mugilidae Total		0	0	0	0	0	0	0
Mullidae	Mulloidichthys flavolineatus		X					
	Mulloidichthys vanicolensis		X					
	Parupeneus barberinus	X						
	Parupeneus ciliatus				X			
	Parupeneus cyclostomus		X					
	Parupeneus insularis	X	X	X	X	X	X	X
	Parupeneus multifasciatus	X	X	X		X	X	X
Mullidae Total		3	5	2	2	2	2	2
Muraenidae	Gymnothorax flavimarginatus							
	Gymnothorax javanicus							
	Gymnothorax sp.							
Muraenidae Total		0	0	0	0	0	0	0
Ostraciidae	Ostracion meleagris							
Ostraciidae Total		0	0	0	0	0	0	0
Pempheridae	Pempheris oualensis						X	
Pempheridae Total		0	0	0	0	0	1	0

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Pinguipedidae	Parapercis clathrata				X	X		
	Parapercis millepunctata							
	Parapercis multiplicata	X						
Pinguipedidae Total	1	0	0	1	1	0	0	
Pomacanthidae	Apolemichthys trimaculatus					X		X
	Centropyge flavissima	X	X	X	X	X	X	X
	Centropyge shepardi			X				X
	Pomacanthus imperator					X	X	X
	Pygoplites diacanthus							
Pomacanthidae Total	1	1	2	1	3	2	4	
Pomacentridae	Abudefduf septemfasciatus							
	Abudefduf sexfasciatus			X				
	Abudefduf sordidus			X				
	Abudefduf vaigiensis							
	Chromis acares	X	X			X		X
	Chromis agilis					X		X
	Chromis margaritifer	X	X					X
	Chromis vanderbilti		X	X		X		
	Chromis xanthura					X		X
	Chrysiptera biocellata							
	Chrysiptera brownriggii	X		X		X	X	
	Chrysiptera traceyi							
	Dascyllus reticulatus							X
	Dascyllus trimaculatus	X		X	X			
	Lepidozygus tapeinosoma							X
	Plectroglyphidodon dickii	X	X					
Plectroglyphidodon imparipennis						X		

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Pomacentridae (cont.)	Plectroglyphidodon johnstonianus					X		
	Plectroglyphidodon lacrymatus							
	Plectroglyphidodon leucozona							
	Pomacentrid sp.							
	Pomacentrus pavo							
	Pomacentrus vaiuli	X	X				X	X
	Pomachromis guamensis		X					X
	Stegastes albifasciatus							
	Stegastes fasciolatus		X	X		X	X	
Pomacentridae Total		6	7	6	1	8	3	8
Pseudochromidae	Pseudochromis sp.		X					
Pseudochromidae Total		0	1	0	0	0	0	0
Scaridae	Calotomus carolinus	X						
	Chlorurus microrhinos							
	Scarus altipinnis			X			X	
	Scarus forsteni					X		X
	Scarus globiceps							
	Scarus oviceps							
	Scarus rubroviolaceus			X	X	X	X	X
	Scarus sp.							
Scaridae Total		1	0	2	1	2	2	2
Scorpaenidae	Pterois antennata	X	X		X			
	Pterois volitans							
	Scorpaenopsis sp.							
Scorpaenidae Total	1	1	0	1	0	0	0	
Serranidae	Cephalopholis argus		X	X		X	X	X
	Cephalopholis sexmaculata							
	Cephalopholis sonnerati		X		X			
	Cephalopholis urodeta		X	X		X	X	X

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	C 011	C 014	C 023	C 024	C 043	C 057	C 091
Serranidae (cont.)	Epinephelus fasciatus	X	X	X		X	X	
	Epinephelus hexagonatus		X		X	X	X	
	Epinephelus macrospilos		X					
	Epinephelus maculatus	X	X		X			
	Epinephelus merra						X	
	Epinephelus socialis							
	Gracila albomarginata							
	Grammistes sexlineatus		X		X			
	Variola albimarginata							
	Variola louti					X	X	X
Serranidae Total		2	8	3	4	5	6	3
Sphyraenidae	Sphyraena sp.							
Sphyraenidae Total		0	0	0	0	0	0	0
Synodontidae	Saurida gracilis							X
	Synodus binotatus	X						
	Synodus dermatogenys							
	Synodus variegatus					X		
Synodontidae Total		1	0	0	0	1	0	1
Tetraodontidae	Arothron meleagris			X		X	X	
	Arothron nigropunctatus					X		
	Canthigaster solandri	X						
Tetraodontidae Total		1	0	1	0	2	1	0
Zanclidae	Zanclus cornutus		X		X	X		
Zanclidae Total		0	1	0	1	1	0	0
GRAND TOTAL		51	73	61	44	67	52	68

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Apogonidae	Apogon angustatus							
	Apogon apogonides							
	Apogon fraenatus							
	Apogon luteus							
	Apogon novemfasciatus							
	Apogon sp.							
	Cheilodipterus quinquelineatus					X		
	Cheilodipterus sp.							
Apogonidae Total		0	0	0	0	1	0	0
Atherinidae	Atherinid sp.							
Atherinidae Total		0	0	0	0	0	0	0
Balistidae	Balistapus undulatus							
	Balistoides conspicillum							
	Melichthys niger							
	Melichthys vidua	X	X					X
	Rhinecanthus aculeatus							
	Rhinecanthus rectangulus					X	X	
	Sufflamen bursa	X						X
Sufflamen chrysopterum				X				
Balistidae Total		2	1	0	1	1	1	2
Belonidae	Tylosurus crocodilus							
Belonidae Total		0	0	0	0	0	0	0
Blenniidae	Aspidontus taeniatus							
	Blenniella chrysospilos							
	Blenniid sp.							
	Cirripectes sp.	X	X					X
	Cirripectes vanderbilti							
	Cirripectes variolosus	X	X					

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Blenniidae (cont.)	Ecsenius bicolor							
	Ecsenius opsifrontalis	X	X			X		X
	Meiacanthus atrodorsalis	X						
	Plagiotremus tapeinosoma	X			X			
Blenniidae Total	5	3	0	1	1	0	2	
Bothidae	Bothus mancus							
Bothidae Total		0	0	0	0	0	0	0
Caesionidae	Caesio teres	X						
	Pterocaesio marri							
	Pterocaesio tile	X			X			
Caesionidae Total	2	0	0	1	0	0	0	
Carangidae	Carangid sp.							
	Carangoides ferdau							
	Carangoides orthogrammus			X				
	Caranx ignobilis							
	Caranx lugubris							
	Caranx melampygus							
	Caranx papuensis							X
	Decapterus macarellus							
	Gnathanodon speciosus	X						
	Trachinotus bailloni			X				
Carangidae Total	1	0	2	0	0	0	1	
Carcharhinidae	Carcharhinus amblyrhynchos							
	Carcharhinus melanopterus							
	Triaenodon obesus	X			X		X	X
Carcharhinidae Total	1	0	0	1	0	1	1	

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Gobiidae	Amblyeleotris fasciatus							X
	Eviota sp.							
	Gobiid sp.		X					X
	Valenciennea strigata	X			X	X	X	X
Gobiidae Total	1	1	0	1	1	1	3	
Haemulidae	Plectorhinchus picus		X					
Haemulidae Total		0	1	0	0	0	0	0
Hemiramphidae	Hemiramphus lutkei			X				
Hemiramphidae Total		0	0	1	0	0	0	0
Holocentridae	Myripristis amaena	X						
	Myripristis berndti	X	X				X	X
	Neoniphon opercularis							
	Neoniphon sammara							
	Sargocentron caudimaculatum	X						
	Sargocentron tiere	X	X			X		
Holocentridae Total		0	0	0	0	0	0	0
Kuhliidae	Kuhlia mugil			X				
	Kuhlia sp.							
Kuhliidae Total		0	0	1	0	0	0	0
Kyphosidae	Kyphosus bigibbus		X					
	Kyphosus cinerascens		X					
	Kyphosus sp.							
	Kyphosus vaigiensis		X	X				X
Kyphosidae Total		0	3	1	0	0	0	1
Labridae	Anampses caeruleopunctatus	X					X	
	Anampses meleagrides							
	Anampses twistii							
	Bodianus axillaris							

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Microdesmidae	Gunnellichthys curiosus							
	Gunnellichthys monostigma							
	Gunnellichthys viridescens							
	Microdesmid sp.				X		X	
	Nemateleotris magnifica							
	Ptereleotris evides	X			X	X	X	X
	Ptereleotris microlepis							
Ptereleotris zebra	X			X				
Microdesmidae Total		2	0	0	3	1	2	1
Monacanthidae	Cantherhines dumerilii							X
Monacanthidae Total		0	0	0	0	0	0	1
Mugilidae	Ellochelon vaigiensis							
Mugilidae Total		0	0	0	0	0	0	0
Mullidae	Mulloidichthys flavolineatus	X	X			X	X	X
	Mulloidichthys vanicolensis	X	X			X		X
	Parupeneus barberinus	X	X			X	X	X
	Parupeneus ciliatus							
	Parupeneus cyclostomus	X						
	Parupeneus insularis	X	X			X	X	X
Parupeneus multifasciatus	X	X			X	X	X	
Mullidae Total		6	5	0	0	5	4	5
Muraenidae	Gymnothorax flavimarginatus							
	Gymnothorax javanicus							
	Gymnothorax sp.							
Muraenidae Total		0	0	0	0	0	0	0
Ostraciidae	Ostracion meleagris							
Ostraciidae Total		0	0	0	0	0	0	0
Pempheridae	Pempheris oualensis		X					X
Pempheridae Total		0	1	0	0	0	0	1

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Pinguipedidae	Parapercis clathrata			X		X		
	Parapercis millepunctata							
	Parapercis multiplicata							
Pinguipedidae Total		0	0	1	0	1	0	0
Pomacanthidae	Apolemichthys trimaculatus	X			X			
	Centropyge flavissima	X						X
	Centropyge shepardi							
	Pomacanthus imperator	X	X			X		X
	Pygoplites diacanthus	X						X
Pomacanthidae Total		4	1	0	1	1	0	3
Pomacentridae	Abudefduf septemfasciatus							
	Abudefduf sexfasciatus							
	Abudefduf sordidus							
	Abudefduf vaigiensis							
	Chromis acares	X	X		X			X
	Chromis agilis	X	X					X
	Chromis margaritifer		X			X		
	Chromis vanderbilti	X						
	Chromis xanthura							
	Chrysiptera biocellata							
	Chrysiptera brownriggii	X	X		X	X	X	X
	Chrysiptera traceyi							
	Dascyllus reticulatus						X	
	Dascyllus trimaculatus						X	
	Lepidozygus tapeinosoma							
	Plectroglyphidodon dickii	X						X
	Plectroglyphidodon imparipennis							

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Pomacentridae (cont.)	Plectroglyphidodon johnstonianus						X	
	Plectroglyphidodon lacrymatus							
	Plectroglyphidodon leucozona							
	Pomacentrid sp.							
	Pomacentrus pavo							
	Pomacentrus vaiuli	X				X	X	X
	Pomachromis guamensis	X	X		X			X
	Stegastes albifasciatus							
	Stegastes fasciolatus	X	X		X	X	X	
Pomacentridae Total		8	6	0	4	4	6	6
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total		0	0	0	0	0	0	0
Scaridae	Calotomus carolinus						X	
	Chlorurus microrhinos	X					X	X
	Scarus altipinnis							
	Scarus forsteni	X						X
	Scarus globiceps					X		X
	Scarus oviceps	X						X
	Scarus rubroviolaceus	X	X					X
	Scarus sp.							
Scaridae Total		4	1	0	0	1	2	5
Scorpaenidae	Pterois antennata	X	X					
	Pterois volitans							
	Scorpaenopsis sp.							
Scorpaenidae Total	1	1	0	0	0	0	0	
Serranidae	Cephalopholis argus	X	X		X	X	X	X
	Cephalopholis sexmaculata	X						
	Cephalopholis sonnerati							
	Cephalopholis urodeta	X	X			X		X

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 001	D 002	D 004	D 005	D 009	D 010	D 014
Serranidae (cont.)	Epinephelus fasciatus							
	Epinephelus hexagonatus	X	X			X	X	X
	Epinephelus macrospilos		X					
	Epinephelus maculatus					X		
	Epinephelus merra					X		
	Epinephelus socialis							
	Gracila albomarginata							
	Grammistes sexlineatus							
	Variola albimarginata		X					
	Variola louti							
Serranidae Total		4	5	0	1	5	2	3
Sphyraenidae	Sphyraena sp.							
Sphyraenidae Total		0	0	0	0	0	0	0
Synodontidae	Saurida gracilis		X					
	Synodus binotatus							
	Synodus dermatogenys							
	Synodus variegatus		X					
Synodontidae Total		0	2	0	0	0	0	0
Tetraodontidae	Arothron meleagris						X	
	Arothron nigropunctatus							
	Canthigaster solandri							
Tetraodontidae Total		0	0	0	0	0	1	0
Zanclidae	Zanclus cornutus				X			X
Zanclidae Total		0	0	0	1	0	0	1
GRAND TOTAL		83	64	10	35	44	43	69

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Apogonidae	Apogon angustatus							
	Apogon apogonides							
	Apogon fraenatus							
	Apogon luteus							
	Apogon novemfasciatus	X	X	X	X	X		
	Apogon sp.		X		X			X
	Cheilodipterus quinquelineatus Cheilodipterus sp.							
Apogonidae Total		1	2	1	2	1	0	1
Atherinidae	Atherinid sp.							
Atherinidae Total		0	0	0	0	0	0	0
Balistidae	Balistapus undulatus							
	Balistoides conspicillum							
	Melichthys niger							
	Melichthys vidua							
	Rhinecanthus aculeatus					X		
	Rhinecanthus rectangulus	X	X	X	X		X	
	Sufflamen bursa Sufflamen chrysopterum							
Balistidae Total		1	1	1	1	1	1	0
Belonidae	Tylosurus crocodilus					X		
Belonidae Total		0	0	0	0	1	0	0
Blenniidae	Aspidontus taeniatus							
	Blenniella chrysospilos				X			
	Blenniid sp.				X			
	Cirripectes sp.					X		
	Cirripectes vanderbilti							
	Cirripectes variolosus	X				X		X

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Gobiidae	Amblyeleotris fasciatus							
	Eviota sp.							
	Gobiid sp.		X					
	Valenciennea strigata		X	X			X	
Gobiidae Total	0	2	1	0	0	1	0	
Haemulidae	Plectorhinchus picus							
Haemulidae Total		0	0	0	0	0	0	0
Hemiramphidae	Hemiramphus lutkei							
Hemiramphidae Total		0	0	0	0	0	0	0
Holocentridae	Myripristis amaena							
	Myripristis berndti							
	Neoniphon opercularis							
	Neoniphon sammara							
	Sargocentron caudimaculatum							
	Sargocentron tiere					X		
Holocentridae Total		0	0	0	0	0	0	0
Kuhliidae	Kuhlia mugil							
	Kuhlia sp.							X
Kuhliidae Total		0	0	0	0	0	0	1
Kyphosidae	Kyphosus bigibbus							
	Kyphosus cinerascens				X			
	Kyphosus sp.							
	Kyphosus vaigiensis	X						
Kyphosidae Total		1	0	0	1	0	0	0
Labridae	Anampses caeruleopunctatus	X		X		X		X
	Anampses meleagrides							
	Anampses twistii					X		
	Bodianus axillaris							

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Labridae (cont.)	Bodianus bilunulatus							
	Cheilinus trilobatus					X		
	Cirrhilabrus katherinae							
	Coris aygula	X	X	X	X	X	X	
	Coris dorsomacula							
	Coris gaimard				X	X	X	X
	Gomphosus varius							
	Halichoeres biocellatus							
	Halichoeres hartzfeldi							
	Halichoeres hortulanus	X	X	X	X	X	X	X
	Halichoeres margaritaceus	X	X	X	X	X	X	X
	Halichoeres marginatus	X					X	
	Halichoeres ornatissimus	X	X	X	X	X	X	X
	Hemigymnus fasciatus							
	Hemigymnus melapterus						X	
	Hologymnosus annulatus							
	Hologymnosus doliatus		X			X		X
	Iniistius celebicus							
	Iniistius pavo							
	Iniistius pentadactylus							
	Labrid sp.							
	Labroides bicolor							
	Labroides dimidiatus	X	X	X	X	X	X	X
	Labroides pectoralis							
	Labropsis xanthonota							
	Macropharyngodon meleagris	X	X	X	X	X	X	X
	Novaculichthys taeniourus				X			
	Oxycheilinus digrammus							
Oxycheilinus unifasciatus								
Pseudocheilinus octotaenia								

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Pinguipedidae	Parapercis clathrata							
	Parapercis millepunctata							
	Parapercis multiplicata							
Pinguipedidae Total		0	0	0	0	0	0	0
Pomacanthidae	Apolemichthys trimaculatus							
	Centropyge flavissima							X
	Centropyge shepardi							
	Pomacanthus imperator			X			X	
	Pygoplites diacanthus				X			
Pomacanthidae Total		0	0	1	1	0	1	1
Pomacentridae	Abudefduf septemfasciatus	X	X	X				
	Abudefduf sexfasciatus							
	Abudefduf sordidus							
	Abudefduf vaiensis		X	X	X	X	X	X
	Chromis acares							
	Chromis agilis				X			
	Chromis margaritifer							
	Chromis vanderbilti							
	Chromis xanthura							
	Chrysiptera biocellata		X					
	Chrysiptera brownriggii	X	X	X	X	X	X	X
	Chrysiptera traceyi							
	Dascyllus reticulatus						X	
	Dascyllus trimaculatus							
	Lepidozygus tapeinosoma							
	Plectroglyphidodon dickii						X	X
	Plectroglyphidodon imparipennis	X	X		X			

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Pomacentridae (cont.)	Plectroglyphidodon johnstonianus							X
	Plectroglyphidodon lacrymatus	X	X	X		X	X	X
	Plectroglyphidodon leucozona	X	X	X	X	X		
	Pomacentrid sp.					X	X	
	Pomacentrus pavo							
	Pomacentrus vaiuli						X	
	Pomachromis guamensis							
	Stegastes albifasciatus	X	X	X		X	X	
	Stegastes fasciolatus	X	X	X	X	X	X	X
Pomacentridae Total		7	9	7	6	7	9	6
Pseudochromidae	Pseudochromis sp.							
Pseudochromidae Total		0	0	0	0	0	0	0
Scaridae	Calotomus carolinus	X	X	X	X	X	X	X
	Chlorurus microrhinos					X		
	Scarus altipinnis							
	Scarus forsteni							
	Scarus globiceps							
	Scarus oviceps							
	Scarus rubroviolaceus		X		X	X	X	X
	Scarus sp.							
Scaridae Total		1	2	1	2	3	2	2
Scorpaenidae	Pterois antennata							
	Pterois volitans							
	Scorpaenopsis sp.						X	
Scorpaenidae Total		0	0	0	0	0	1	0
Serranidae	Cephalopholis argus	X		X	X		X	X
	Cephalopholis sexmaculata							
	Cephalopholis sonnerati							
	Cephalopholis urodeta					X		

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	D 040	D 041	D 042	D 043	D 044	D 045	D 046
Serranidae (cont.)	Epinephelus fasciatus							
	Epinephelus hexagonatus		X	X		X	X	X
	Epinephelus macrospilos							
	Epinephelus maculatus							
	Epinephelus merra							
	Epinephelus socialis							
	Gracila albomarginata							
	Grammistes sexlineatus							
	Variola albimarginata							
	Variola louti							
Serranidae Total		1	1	2	1	2	2	2
Sphyraenidae	Sphyraena sp.					X		
Sphyraenidae Total		0	0	0	0	1	0	0
Synodontidae	Saurida gracilis				X			
	Synodus binotatus						X	
	Synodus dermatogenys							
	Synodus variegatus							
Synodontidae Total		0	0	0	1	0	1	0
Tetraodontidae	Arothron meleagris		X		X			X
	Arothron nigropunctatus							
	Canthigaster solandri			X	X			X
Tetraodontidae Total		0	1	1	2	0	0	2
Zanclidae	Zanclus cornutus	X			X	X	X	X
Zanclidae Total		1	0	0	1	1	1	1
GRAND TOTAL		46	46	39	49	57	59	52

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
Acanthuridae	Acanthurus blochii					
	Acanthurus guttatus	X				X
	Acanthurus leucopareius	X	X			X
	Acanthurus lineatus	X	X	X	X	X
	Acanthurus nigricans	X	X	X	X	X
	Acanthurus nigricauda	X	X	X	X	
	Acanthurus nigrofuscus	X	X	X	X	X
	Acanthurus nigroris					X
	Acanthurus olivaceus	X	X	X	X	X
	Acanthurus pyroferus	X	X	X	X	X
	Acanthurus thompsoni		X			
	Acanthurus triostegus					
	Acanthurus xanthopterus					
	Ctenochaetus binotatus					
	Ctenochaetus hawaiiensis	X	X	X	X	X
	Ctenochaetus sp.					
	Ctenochaetus striatus	X	X	X	X	X
	Ctenochaetus strigosus					
	Naso hexacanthus					
	Naso lituratus	X	X	X	X	X
	Naso turberosis		X			
	Naso unicornis					
	Naso vlamingii	X	X			
Paracanthurus hepatus						
Zebrasoma flavescens		X				
Zebrasoma veliferum		X				
Acanthuridae Total		12	15	9	9	11
Anthias (Serranidae)	Pseudanthias cooperi					
	Pseudanthias pascalus					
Anthias (Serranidae) Total		0	0	0	0	0

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
Apogonidae	Apogon angustatus					
	Apogon apogonides					
	Apogon fraenatus		X			
	Apogon luteus					
	Apogon novemfasciatus	X				
	Apogon sp.					
	Cheilodipterus quinquelineatus					
Cheilodipterus sp.						
Apogonidae Total		1	1	0	0	0
Atherinidae	Atherinid sp.					
Atherinidae Total		0	0	0	0	0
Balistidae	Balistapus undulatus		X	X	X	X
	Balistoides conspicillum			X		
	Melichthys niger		X	X	X	X
	Melichthys vidua	X	X	X	X	X
	Rhinecanthus aculeatus					
	Rhinecanthus rectangulus					X
	Sufflamen bursa	X	X	X	X	
Sufflamen chrysopterum						
Balistidae Total		2	4	5	4	4
Belonidae	Tylosurus crocodilus					
Belonidae Total		0	0	0	0	0
Blenniidae	Aspidontus taeniatus					
	Blenniella chrysospilos				X	
	Blenniid sp.					
	Cirripectes sp.		X			
	Cirripectes vanderbilti	X				
	Cirripectes variolosus	X	X	X	X	

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
	Ecsenius bicolor					
	Ecsenius opsifrontalis				X	X
	Meiacanthus atrodorsalis					
	Plagiotremus tapeinosoma		X	X		
Blenniidae Total		2	3	2	3	1
Bothidae	Bothus mancus					
Bothidae Total		0	0	0	0	0
Caesionidae	Caesio teres					
	Pterocaesio marri					
	Pterocaesio tile			X		X
Caesionidae Total		0	0	1	0	1
Carangidae	Carangid sp.					
	Carangoides ferdau					
	Carangoides orthogrammus					
	Caranx ignobilis					
	Caranx lugubris	X	X			
	Caranx melampygus	X		X	X	X
	Caranx papuensis					
	Decapterus macarellus					
	Gnathanodon speciosus					
	Scomberoides lysan					
	Trachinotus bailloni					
Carangidae Total		2	1	1	1	1
Carcharhinidae	Carcharhinus amblyrhynchos			X		
	Carcharhinus melanopterus					
	Triaenodon obesus					
Carcharhinidae Total		0	0	1	0	0

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
Chaetodontidae	Chaetodon auriga		X	X		X
	Chaetodon citrinellus				X	X
	Chaetodon ephippium	X				X
	Chaetodon lunula	X	X	X	X	X
	Chaetodon ornatissimus	X		X	X	X
	Chaetodon punctatofasciatus	X	X		X	X
	Chaetodon quadrimaculatus	X	X		X	X
	Chaetodon reticulatus	X	X		X	X
	Chaetodon trifascialis				X	X
	Chaetodon ulietensis					
	Chaetodon unimaculatus					
	Forcipiger flavissimus					
	Forcipiger longirostris	X				X
	Heniochus chrysostomus	X	X			
Chaetodontidae Total		8	6	3	7	10
Cirrhitidae	Cirrhitichthys falco		X		X	
	Cirrhitops fasciatus					
	Cirrhitus pinnulatus					
	Neocirrhites armatus	X	X	X	X	X
	Paracirrhites arcatus	X	X	X	X	X
	Paracirrhites forsteri	X	X	X	X	X
	Paracirrhites hemistictus		X			
Cirrhitidae Total		3	5	3	4	3
Dasyatidae	Taeniura meyeni					
Dasyatidae Total		0	0	0	0	0
Fistulariidae	Fistularia commersonii					
Fistulariidae Total		0	0	0	0	0
Ginglymostomatidae	Nebrius ferrugineus	X				
Ginglymostomatidae Total		1	0	0	0	0

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
Gobiidae	Amblyeleotris fasciatus		X			
	Eviota sp.	X			X	
	Gobiid sp.		X	X	X	
	Valenciennea strigata		X		X	X
Gobiidae Total	1	3	1	3	1	
Haemulidae	Plectorhinchus picus					
Haemulidae Total		0	0	0	0	0
Hemiramphidae	Hemiramphus lutkei					
Hemiramphidae Total		0	0	0	0	0
Holocentridae	Myripristis amaena					
	Myripristis berndti			X		
	Neoniphon opercularis					
	Neoniphon sammara					
	Sargocentron caudimaculatum					
	Sargocentron tere	X	X	X	X	X
Holocentridae Total		0	0	0	0	0
Kuhliidae	Kuhlia mugil					
	Kuhlia sp.					
Kuhliidae Total		0	0	0	0	0
Kyphosidae	Kyphosus bigibbus					
	Kyphosus cinerascens	X	X	X	X	X
	Kyphosus sp.					
	Kyphosus vaigiensis	X				X
Kyphosidae Total	2	1	1	1	2	
Labridae	Anampses caeruleopunctatus	X	X	X	X	X
	Anampses meleagrides					
	Anampses twistii					
	Bodianus axillaris			X		X

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
Labridae (cont.)	Bodianus bilunulatus					
	Cheilinus trilobatus					
	Cirrhilabrus katherinae		X			
	Coris aygula	X	X		X	X
	Coris dorsomacula					
	Coris gaimard				X	X
	Gomphosus varius		X	X		
	Halichoeres biocellatus		X		X	
	Halichoeres hartzfeldi					
	Halichoeres hortulanus	X	X	X	X	X
	Halichoeres margaritaceus		X		X	X
	Halichoeres marginatus	X				
	Halichoeres ornatissimus	X	X	X	X	X
	Hemigymnus fasciatus		X	X	X	X
	Hemigymnus melapterus		X			X
	Hologymnosus annulatus					X
	Hologymnosus doliatus					X
	Iniistius celebicus					
	Iniistius pavo					
	Iniistius pentadactylus					
	Labrid sp.					
	Labroides bicolor	X	X	X		
	Labroides dimidiatus	X	X	X	X	X
	Labroides pectoralis					
	Labropsis xanthonota					
	Macropharyngodon meleagris		X	X		
	Novaculichthys taeniourus					
	Oxycheilinus digrammus					
	Oxycheilinus unifasciatus	X	X	X		X
	Pseudocheilinus octotaenia		X			

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
Labridae (cont.)	<i>Pseudocheilinus tetrataenia</i>	X				
	<i>Pseudodax moluccanus</i>			X		
	<i>Pseudojuloides atavai</i>			X		X
	<i>Stethojulis bandanensis</i>	X		X		
	<i>Stethojulis strigiventer</i>					
	<i>Thalassoma amblycephalum</i>		X	X		
	<i>Thalassoma lutescens</i>	X	X	X	X	X
	<i>Thalassoma purpureum</i>					
	<i>Thalassoma quinquevittatum</i>	X	X	X	X	X
	<i>Thalassoma trilobatum</i>					
	<i>Xyrichtys halsteadii</i>					
	<i>Xyrichtys sp.</i>					
Labridae Total		12	18	16	11	16
Lethrinidae	<i>Gnathodentex aureolineatus</i>	X	X	X		X
	<i>Lethrinus olivaceus</i>					
	<i>Monotaxis grandoculis</i>	X	X	X	X	X
Lethrinidae Total	2	2	2	1	2	
Lutjanidae	<i>Aphareus furca</i>	X	X	X		X
	<i>Aprion virescens</i>		X			X
	<i>Lutjanus bohar</i>	X	X	X	X	X
	<i>Lutjanus fulvus</i>					
	<i>Lutjanus gibbus</i>					X
	<i>Lutjanus kasmira</i>	X	X		X	X
	<i>Lutjanus monostigma</i>					
	<i>Macolor macularis</i>	X	X	X		X
<i>Macolor niger</i>		X			X	
Lutjanidae Total	4	6	3	2	7	
Malacanthidae	<i>Malacanthus latovittatus</i>					
Malacanthidae Total		0	0	0	0	0

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
Microdesmidae	Gunnellichthys curiosus					
	Gunnellichthys monostigma					
	Gunnellichthys viridescens					
	Microdesmid sp.					
	Nemateleotris magnifica	X	X		X	
	Ptereleotris evides			X	X	
	Ptereleotris microlepis					
Ptereleotris zebra						
Microdesmidae Total		1	1	1	2	0
Monacanthidae	Cantherhines dumerilii	X			X	X
Monacanthidae Total		1	0	0	1	1
Mugilidae	Ellochelon vaigiensis					
Mugilidae Total		0	0	0	0	0
Mullidae	Mulloidichthys flavolineatus	X				
	Mulloidichthys vanicolensis	X	X			
	Parupeneus barberinus					
	Parupeneus ciliatus					
	Parupeneus cyclostomus	X	X	X		X
	Parupeneus insularis	X	X	X	X	X
Parupeneus multifasciatus	X	X		X	X	
Mullidae Total		5	4	2	2	3
Muraenidae	Gymnothorax flavimarginatus					
	Gymnothorax javanicus					
	Gymnothorax sp.					
Muraenidae Total		0	0	0	0	0
Ostraciidae	Ostracion meleagris	X	X		X	X
Ostraciidae Total		1	1	0	1	1
Pempheridae	Pempheris oualensis			X		
Pempheridae Total		0	0	1	0	0

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
Pinguipedidae	Parapercis clathrata		X			
	Parapercis millepunctata	X	X			X
	Parapercis multiplicata					
Pinguipedidae Total		1	2	0	0	1
Pomacanthidae	Apolemichthys trimaculatus	X		X		X
	Centropyge flavissima	X	X	X		X
	Centropyge shepardi		X			
	Pomacanthus imperator	X	X	X		X
	Pygoplites diacanthus	X	X		X	X
Pomacanthidae Total	4	4	3	1	4	
Pomacentridae	Abudefduf septemfasciatus	X				X
	Abudefduf sexfasciatus					
	Abudefduf sordidus					
	Abudefduf vaigiensis					
	Chromis acares	X	X	X	X	
	Chromis agilis	X	X	X	X	
	Chromis margaritifer			X		X
	Chromis vanderbilti			X	X	
	Chromis xanthura	X	X		X	
	Chrysiptera biocellata					
	Chrysiptera brownriggii				X	X
	Chrysiptera traceyi					
	Dascyllus reticulatus					
	Dascyllus trimaculatus			X		
	Lepidozygus tapeinosoma					
	Plectroglyphidodon dickii					
	Plectroglyphidodon imparipennis		X		X	

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
Pomacentridae (cont.)	Plectroglyphidodon johnstonianus	X	X	X		
	Plectroglyphidodon lacrymatus	X	X			
	Plectroglyphidodon leucozona					
	Pomacentrid sp.					
	Pomacentrus pavo					
	Pomacentrus vaiuli	X	X	X		
	Pomachromis guamensis			X		
	Stegastes albifasciatus					
	Stegastes fasciolatus	X	X	X	X	X
Pomacentridae Total		8	8	9	7	4
Pseudochromidae	Pseudochromis sp.		X			
Pseudochromidae Total		0	1	0	0	0
Scaridae	Calotomus carolinus				X	
	Chlorurus microrhinos		X	X	X	X
	Scarus altipinnis					
	Scarus forsteni	X	X	X		X
	Scarus globiceps					
	Scarus oviceps		X	X	X	X
	Scarus rubroviolaceus	X	X	X	X	X
Scarus sp.						
Scaridae Total		2	4	4	4	4
Scorpaenidae	Pterois antennata					
	Pterois volitans					
	Scorpaenopsis sp.					
Scorpaenidae Total		0	0	0	0	0
Serranidae	Cephalopholis argus	X	X	X	X	X
	Cephalopholis sexmaculata					
	Cephalopholis sonnerati					
	Cephalopholis urodeta	X	X	X	X	X

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	E 008	E 009	E 012	E 018	E 023
Serranidae (cont.)	Epinephelus fasciatus					
	Epinephelus hexagonatus					X
	Epinephelus macrospilos			X		
	Epinephelus maculatus					
	Epinephelus merra					
	Epinephelus socialis			X		
	Gracila albomarginata			X		
	Grammistes sexlineatus				X	
	Variola albimarginata					
	Variola louti	X	X	X		X
Serranidae Total		3	3	6	3	4
Sphyraenidae	Sphyraena sp.					
Sphyraenidae Total		0	0	0	0	0
Synodontidae	Saurida gracilis			X		X
	Synodus binotatus	X				
	Synodus dermatogenys					
	Synodus variegatus					
Synodontidae Total		1	0	1	0	1
Tetraodontidae	Arothron meleagris					X
	Arothron nigropunctatus					X
	Canthigaster solandri				X	
Tetraodontidae Total		0	0	0	1	2
Zanclidae	Zanclus cornutus	X	X	X		X
Zanclidae Total		1	1	1	0	1
GRAND TOTAL		80	94	76	68	85

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Acanthuridae	Acanthurus blochii								X
	Acanthurus guttatus		X	X			X		X
	Acanthurus leucopareius		X		X		X		X
	Acanthurus lineatus	X	X	X		X	X	X	X
	Acanthurus nigricans	X	X	X	X	X	X	X	X
	Acanthurus nigricauda				X			X	X
	Acanthurus nigrofuscus	X	X	X	X	X	X	X	X
	Acanthurus nigroris								
	Acanthurus olivaceus		X	X	X	X	X	X	X
	Acanthurus pyroferus	X			X	X	X		X
	Acanthurus thompsoni								
	Acanthurus triostegus	X			X	X			
	Acanthurus xanthopterus	X	X	X				X	X
	Ctenochaetus binotatus		X					X	X
	Ctenochaetus hawaiiensis		X			X	X	X	X
	Ctenochaetus sp.		X	X					
	Ctenochaetus striatus	X	X	X	X	X	X	X	X
	Ctenochaetus strigosus		X					X	X
	Naso hexacanthus	X							
	Naso lituratus	X	X	X	X	X	X	X	X
	Naso turberosis								
	Naso unicornis		X	X					X
	Naso vlamingii								
Paracanthurus hepatus						X			
Zebrasoma flavescens									
Zebrasoma veliferum									
Acanthuridae Total		9	14	10	10	10	13	8	16
Anthias (Serranidae)	Pseudanthias cooperi								
	Pseudanthias pascalus	X			X	X			
Anthias (Serranidae) Total		1	0	0	1	1	0	0	0

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Apogonidae	Apogon angustatus		X						
	Apogon apogonides								
	Apogon fraenatus		X						X
	Apogon luteus								
	Apogon novemfasciatus						X		X
	Apogon sp.								
	Cheilodipterus quinquelineatus			X					X
Cheilodipterus sp.									
Apogonidae Total		0	2	1	0	0	1	0	3
Atherinidae	Atherinid sp.		X						
Atherinidae Total		0	1	0	0	0	0	0	0
Balistidae	Balistapus undulatus		X		X				X
	Balistoides conspicillum								
	Melichthys niger								
	Melichthys vidua	X	X	X	X	X	X	X	X
	Rhinecanthus aculeatus								
	Rhinecanthus rectangulus	X		X					X
	Sufflamen bursa	X	X	X	X	X	X	X	X
Sufflamen chrysopterum				X	X				
Balistidae Total		3	3	3	4	3	2	2	4
Belonidae	Tylosurus crocodilus								
Belonidae Total		0	0	0	0	0	0	0	0
Blenniidae	Aspidontus taeniatus								
	Blenniella chrysopilos		X	X					
	Blenniidae sp.		X						
	Cirripectes sp.		X		X				
	Cirripectes vanderbilti								
	Cirripectes variolosus			X					X

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Blenniidae (cont.)	Ecsenius bicolor								X
	Ecsenius opsifrontalis		X		X	X	X		X
	Meiacanthus atrodorsalis				X				
	Plagiotremus tapeinosoma	X	X		X		X		X
Blenniidae Total	1	5	2	4	1	2	0	4	
Bothidae	Bothus mancus								
Bothidae Total		0	0	0	0	0	0	0	0
Caesionidae	Caesio teres	X				X			
	Pterocaesio marri	X							
	Pterocaesio tile	X			X	X	X		
Caesionidae Total	3	0	0	1	2	1	0	0	
Carangidae	Carangid sp.								X
	Carangoides ferdau								
	Carangoides orthogrammus	X						X	
	Caranx ignobilis					X			
	Caranx lugubris								
	Caranx melampygus	X							
	Caranx papuensis								
	Decapterus macarellus								
	Gnathanodon speciosus								
Scomberoides lysan									
Trachinotus bailloni									
Carangidae Total	2	0	0	0	1	0	1	1	
Carcharhinidae	Carcharhinus amblyrhynchos								
	Carcharhinus melanopterus								
	Triaenodon obesus					X			
Carcharhinidae Total	0	0	0	0	1	0	0	0	

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039	
Labridae (cont.)	Bodianus bilunulatus								X	
	Cheilinus trilobatus									
	Cirrhilabrus katherinae				X		X	X		
	Coris aygula	X	X	X	X		X	X	X	
	Coris dorsomacula									
	Coris gaimard	X	X	X	X		X	X	X	
	Gomphosus varius		X							
	Halichoeres biocellatus		X	X						
	Halichoeres hartzfeldi						X			
	Halichoeres hortulanus	X	X	X	X	X	X		X	
	Halichoeres margaritaceus	X	X		X	X	X		X	
	Halichoeres marginatus		X		X	X	X	X	X	
	Halichoeres ornatissimus	X	X	X		X	X	X	X	
	Hemigymnus fasciatus								X	
	Hemigymnus melapterus		X							
	Hologymnosus annulatus							X		
	Hologymnosus doliatus							X	X	
	Iniistius celebicus									
	Iniistius pavo									
	Iniistius pentadactylus									
	Labrid sp.								X	
	Labroides bicolor			X	X					X
	Labroides dimidiatus	X	X	X	X	X	X	X		X
	Labroides pectoralis									
	Labropsis xanthonota							X		
	Macropharyngodon meleagris			X	X					X
	Novaculichthys taeniourus									
Oxycheilinus digrammus										
Oxycheilinus unifasciatus	X					X				
Pseudocheilinus octotaenia			X		X					

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Labridae (cont.)	<i>Pseudocheilinus tetrataenia</i>						X		
	<i>Pseudodax moluccanus</i>								
	<i>Pseudojuloides atavai</i>				X	X			
	<i>Stethojulis bandanensis</i>						X		
	<i>Stethojulis strigiventer</i>		X				X		
	<i>Thalassoma amblycephalum</i>	X	X		X	X	X		X
	<i>Thalassoma lutescens</i>	X	X	X	X	X	X		X
	<i>Thalassoma purpureum</i>								
	<i>Thalassoma quinquevittatum</i>	X	X	X	X	X	X		X
	<i>Thalassoma trilobatum</i>								X
	<i>Xyrichtys halsteadii</i>								
<i>Xyrichtys sp.</i>									
Labridae Total		10	19	11	13	10	18	7	17
Lethrinidae	<i>Gnathodentex aureolineatus</i>	X	X		X	X			
	<i>Lethrinus olivaceus</i>								
	<i>Monotaxis grandoculis</i>	X	X	X	X	X	X		X
Lethrinidae Total	2	2	1	2	2	1	0	1	
Lutjanidae	<i>Aphareus furca</i>		X	X	X	X		X	X
	<i>Aprion virescens</i>								
	<i>Lutjanus bohar</i>	X	X	X	X	X	X	X	X
	<i>Lutjanus fulvus</i>		X	X	X	X			X
	<i>Lutjanus gibbus</i>		X	X	X	X	X	X	X
	<i>Lutjanus kasmira</i>	X	X	X	X	X			X
	<i>Lutjanus monostigma</i>		X		X			X	
	<i>Macolor macularis</i>					X	X		X
<i>Macolor niger</i>					X			X	
Lutjanidae Total	2	6	5	6	7	3	4	7	
Malacanthidae	<i>Malacanthus latovittatus</i>							X	
Malacanthidae Total		0	0	0	0	0	0	1	0

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Microdesmidae	Gunnellichthys curiosus			X					
	Gunnellichthys monostigma								
	Gunnellichthys viridescens								
	Microdesmid sp.								
	Nemateleotris magnifica	X				X			
	Ptereleotris evides				X	X	X	X	
	Ptereleotris zebra	X			X	X	X		
Microdesmidae Total		2	0	1	2	3	2	1	0
Monacanthidae	Cantherhines dumerilii								
Monacanthidae Total		0	0	0	0	0	0	0	0
Mugilidae	Ellochelon vaigiensis								X
Mugilidae Total		0	0	0	0	0	0	0	1
Mullidae	Mulloidichthys flavolineatus		X	X					X
	Mulloidichthys vanicolensis		X	X					X
	Parupeneus barberinus								
	Parupeneus ciliatus								
	Parupeneus cyclostomus	X	X		X	X	X		X
	Parupeneus insularis	X	X	X	X	X	X	X	X
Parupeneus multifasciatus	X	X	X	X	X	X	X	X	
Mullidae Total		3	5	4	3	3	3	2	5
Muraenidae	Gymnothorax flavimarginatus								
	Gymnothorax javanicus								
	Gymnothorax sp.								
Muraenidae Total		0	0	0	0	0	0	0	0
Ostraciidae	Ostracion meleagris		X						
Ostraciidae Total		0	1	0	0	0	0	0	0
Pempheridae	Pempheris oualensis	X	X	X	X				X
Pempheridae Total		1	1	1	1	0	0	0	1

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Pinguipedidae	Parapercis clathrata	X					X	X	
	Parapercis millepunctata							X	
	Parapercis multiplicata							X	
Pinguipedidae Total		1	0	0	0	0	1	3	0
Pomacanthidae	Apolemichthys trimaculatus	X	X	X	X	X		X	
	Centropyge flavissima	X	X	X	X	X	X		X
	Centropyge shepardi								
	Pomacanthus imperator	X			X	X			
	Pygoplites diacanthus								
Pomacanthidae Total		3	2	2	3	3	1	1	1
Pomacentridae	Abudefduf septemfasciatus						X		X
	Abudefduf sexfasciatus								
	Abudefduf sordidus		X						
	Abudefduf vaigiensis			X			X		X
	Chromis acares	X	X	X	X	X	X		
	Chromis agilis	X	X	X	X	X	X		
	Chromis margaritifer	X	X	X	X	X	X		
	Chromis vanderbilti	X	X	X	X	X	X		
	Chromis xanthura						X		
	Chrysiptera biocellata								
	Chrysiptera brownriggii	X	X	X	X	X	X		X
	Chrysiptera traceyi								
	Dascyllus reticulatus			X		X			
	Dascyllus trimaculatus								X
	Lepidozygus tapeinosoma								
	Plectroglyphidodon dickii				X				
	Plectroglyphidodon imparipennis			X	X	X			X

Table J.1. (continued). Fish species presence by site for all areas: Map C, Map D, Map E, Map X. July 2010

Family	Species	X 001	X 003	X 005	X 006	X 008	X 016	X 022	X 039
Serranidae (cont.)	Epinephelus fasciatus							X	
	Epinephelus hexagonatus						X		X
	Epinephelus macrospilus								
	Epinephelus maculatus				X			X	X
	Epinephelus merra								
	Epinephelus socialis								
	Gracila albomarginata								
	Grammistes sexlineatus								
	Variola albimarginata						X		
	Variola louti	X							X
Serranidae Total		4	2	2	2	2	3	5	4
Sphyraenidae	Sphyraena sp.								
Sphyraenidae Total		0	0	0	0	0	0	0	0
Synodontidae	Saurida gracilis	X							
	Synodus binotatus						X		X
	Synodus dermatogenys							X	
	Synodus variegatus						X		
Synodontidae Total		1	0	0	0	0	2	1	1
Tetraodontidae	Arothron meleagris		X	X		X			
	Arothron nigropunctatus								
	Canthigaster solandri								
Tetraodontidae Total		0	1	1	0	1	0	0	0
Zanclidae	Zanclus cornutus	X		X		X		X	
Zanclidae Total		1	0	1	0	1	0	1	0
GRAND TOTAL		75	88	66	76	74	73	43	84

Table J.2. Non-coral macroinvertebrates species observed in belt transects (25m x 4m) around Pagan Island, CNMI. July 2010.

Family	Taxon Name	MAP C	MAP D	MAP E	MAP X
Alpheidae	<i>Alpheus deuteropus</i>		X		
Diogenidae	<i>Calcinus</i> spp.	X	X	X	X
	<i>Dardanus</i> spp.	X			X
Eriphiidae	<i>Eriphia sebana</i>				X
Palinuridae	<i>Panulirus penicillatus</i>	X	X	X	X
Plagusiidae/Grapsidae	<i>Percnon planissimum</i>	X	X	X	X
Porcellanidae	<i>Petrolisthes coccineus</i>		X		
Portunidae	<i>Thalamita pseudopelsarti</i>		X		
Stenopodidae	<i>Stenopus hispidus</i>	X	X	X	X
Trapeziidae	<i>Trapezia flavopunctata</i>		X	X	
	<i>Trapezia intermedia</i>			X	X
	<i>Trapezia</i> spp.	X			
Xanthidae	<i>Pilodius areolatus</i>		X		X
PHYLUM CRUSTACEA TOTAL		6	9	6	8

Table J.2. (continued) Non-coral macroinvertebrates species observed in belt transects (25m x 4m) around Pagan Island, CNMI. July 2010

Family	Taxon Name	MAP C	MAP D	MAP E	MAP X
Acanthasteridae	<i>Acanthaster planci</i>	X			X
Ophiasteridae	<i>Linckia multifora</i>	X			X
Oreasteridae	<i>Culcita novaeguineae</i>		X		
Ophiocomidae	<i>Ophiocoma scolopendrina</i>	X			X
Diadematidae	<i>Echinothrix calamaris</i>	X	X	X	X
	<i>Echinothrix diadema</i>	X	X	X	X
Echinometridae	<i>Echinometra mathaei</i> (complex)	X	X		X
	<i>Echinostrephus aciculatus</i>	X	X	X	X
Holothuriidae	<i>Actinopyga mauritiana</i>	X	X	X	X
	<i>Holothuria atra</i>	X			
	<i>Holothuria whitmaei</i>		X		
Stichopodidae	<i>Stichopus chloronotus</i>			X	X
Comasteridae	<i>Comaster schlegelii</i>			X	
	<i>Crinoid sp. E</i> (Guam)			X	
PHYLUM ECHINODERMATA TOTAL		9	7	7	9

Table J.2. (continued) Non-coral macroinvertebrates species observed in belt transects (25m x 4m) around Pagan Island, CNMI. July 2010

Family	Taxon Name	MAP C	MAP D	MAP E	MAP X
Acanthasteridae	<i>Acanthaster planci</i>	X			X
Ophiasteridae	<i>Linckia multifora</i>	X			X
Oreasteridae	<i>Culcita novaeguineae</i>		X		
Ophiocomidae	<i>Ophiocoma scolopendrina</i>	X			X
Diadematidae	<i>Echinothrix calamaris</i>	X	X	X	X
	<i>Echinothrix diadema</i>	X	X	X	X
Echinometridae	<i>Echinometra mathaei</i> (complex)	X	X		X
	<i>Echinostrephus aciculatus</i>	X	X	X	X
Holothuriidae	<i>Actinopyga mauritiana</i>	X	X	X	X
	<i>Holothuria atra</i>	X			
	<i>Holothuria whitmaei</i>		X		
Stichopodidae	<i>Stichopus chloronotus</i>			X	X
Comasteridae	<i>Comaster schlegelii</i>			X	
	<i>Crinoid sp. E</i> (Guam)			X	
PHYLUM ECHINODERMATA TOTAL		9	7	7	9

Table J.2. (continued) Non-coral macroinvertebrates species observed in belt transects (25m x 4m) around Pagan Island, CNMI. July 2010

Family	Taxon Name	MAP C	MAP D	MAP E	MAP X
Octopodidae	<i>Octopus cyanea</i>	X		X	X
	<i>Octopus sp. A</i> (Guam)	X			
Tridacnidae	<i>Tridacna crocea</i>	X	X	X	X
	<i>Tridacna gigas</i>	X	X		
Bursidae	<i>Bursa granularis</i>				X
Cerithiidae	<i>Cerithium zebrum</i>	X	X		
	<i>Cerithium spp.</i>				X
	<i>Rhinoclavis articulata</i>				X
Conidae	<i>Conus ebraeus</i>		X	X	X
	<i>Conus flavidus</i>	X	X	X	X
	<i>Conus imperialis</i>	X	X	X	X
	<i>Conus lividus</i>	X	X	X	X
	<i>Conus marmoreus</i>	X			X
	<i>Conus miles</i>	X	X	X	X
	<i>Conus pennaceus</i>			X	
	<i>Conus pulicarius</i>				X
Costellariidae	<i>Vexillum spp.</i>	X	X		
Cypraeidae	<i>Cypraea caputserpentis</i>	X	X	X	X
	<i>Cypraea lynx</i>				X
	<i>Cypraea maculifera</i>	X		X	
	<i>Cypraea moneta</i>				X
	<i>Cypraea tigris</i>	X	X		X

Table J.2. (continued) Non-coral macroinvertebrates species observed in belt transects (25m x 4m) around Pagan Island, CNMI. July 2010

Family	Taxon Name	MAP C	MAP D	MAP E	MAP X
Fasciariidae	<i>Latirus nodatus</i>				X
Mitridae	<i>Mitra stictica</i>				X
Modulidae	<i>Modulus tectum</i>		X	X	X
Muricidae	<i>Drupa morum</i>	X	X	X	X
	<i>Drupa ricinus</i>	X	X	X	X
	<i>Morula funiculata</i>	X			
	<i>Morula granulata</i>	X		X	
	<i>Morula uva</i>		X	X	
	<i>Pascula ochrostoma</i>				X
Nassariidae	<i>Nassarius papillosus</i>				X
Ranellidae	<i>Charonia tritonis</i>	X			
	<i>Cymatium nicobaricum</i>		X		
Strombidae	<i>Lambis lambis</i>	X	X	X	X
	<i>Lambis</i> spp.	X	X	X	X
	<i>Strombus</i> spp.	X	X	X	X
Terebridae	<i>Terebra dimidiata</i>				X
	<i>Terebra subulata</i>		X		

Table J.2. (continued) Non-coral macroinvertebrates species observed in belt transects (25m x 4m) around Pagan Island, CNMI. July 2010

Family	Taxon Name	MAP C	MAP D	MAP E	MAP X
Trochidae	<i>Trochus niloticus</i>	X			
	<i>Trochus</i> spp.	X	X	X	X
Turbinidae	<i>Turbo</i> spp.	X	X		X
Lottiidae	<i>Notoacmea persona</i>	X			X
Nacellidae	<i>Cellana</i> spp.	X			
Aglajidae	<i>Chelidonura hirundinina</i>	X			
	<i>Chelidonura inornata</i>		X		X
	<i>Philinopsis gardineri</i>	X	X	X	X
Aplysiidae	<i>Petalifera cf. lafonti</i>		X		
	<i>Stylocheilus striatus</i>	X	X	X	X
Chromodorididae	<i>Chromodoris vibrata</i>				X
	<i>Noumea angustolutea</i>				
Haminoeidae	<i>Atys semistriata</i>	X			X
Glaucidae	<i>Pteraeolidia ianthina</i>	X			
Gymnodorididae	<i>Gymnodoris</i> spp.	X			

Table J.2. (continued) Non-coral macroinvertebrates species observed in belt transects (25m x 4m) around Pagan Island, CNMI. July 2010

Family	Taxon Name	MAP C	MAP D	MAP E	MAP X
Phyllidiidae	<i>Phyllidia elegans</i>	X		X	
	<i>Phyllidiella pustulosa</i>		X		
	<i>Phyllidiella</i> spp.				X
Plakobrachidae	<i>Plakobranthus</i> spp.	X			
Polyceridae	<i>Nembrotha livingstonei</i>		X		
	<i>Roboastra gracilis</i>	X	X		
Tergipedidae	<i>Phestilla melanobrachia</i>				
PHYLUM MOLLUSCA TOTAL		36	29	22	36

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