*DOI: 10.18195/issn.0313-122x.77.2009.001-027*
*Records of the Western Australian Museum* Supplement No. 77: 1–27 (2009).

# Station and Transect Data for Mermaid (Rowley Shoals), Scott and Seringapatam Reefs, Western Australia.

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The biodiversity survey of Mermaid (Rowley Shoals), Scott and Seringapatam Reefs, Western Australia, undertaken in September 2006, recorded six faunal taxa (Porifera, Scleracterinia corals, Crustacea, Molluscs, Echinodermata and Pisces (fish) as well as the marine flora (algae and seagrasses).

Stations were sited to represent as many habitats as possible. Where practical, stations were overlayed or placed close to established Australian Institute of Marine Science (AIMS) monitoring sites (A. Heyward, pers. comm.) and Western Australian Museum (WA Museum) collecting sites as cited in Berry (1986) (Table 1). Five stations were also located in areas proposed for industrial activity (stations 25 and 28 from South Scott Reef; stations 31, 32 and 35 from North Scott Reef).

## STATION SITES AND TRANSECT DATA:

(Figures 1, 2 and 3; Table 2, 3, 4)

Location of station sites and transect data for Mermaid (Rowley Shoals), Scott and Seringapatam Reefs can be found in Figure 1 and Table 2; Figure 2 and Table 3 and; Figure 3 and Table 4 respectively.

Tables 2, 3 and 4 provide station numbers, coordinates, survey dates, transect data (T- depth, T-length, T-width, T-area in $m^2$ and hectares) and a brief habitat descriptor for the surveyed reefs. A total of 45 stations were surveyed (Mermaid 17 stations; South Scott Reef 14; North Scott Reef 10 and Seringapatam 5) over 16 sampling days. The station identification data (date, habitat descriptor, station number, coordinates in UTM, depth and decimal latitude and longitude) are in bold type for easy recognition.

The coordinates for stations and transects were recorded in the Universal Transverse Mercator geographic coordinate system (UTM), which uses "northings" and "eastings". These coordinates were converted to latitude and longitude (degrees and decimal minutes) for the convenience of reader use. The identification waypoint for stations was determined at the deepest point of each station. Within each subtidal station two sets of bisecting transect were established. This approach helped to alleviate site crowding with 10 divers in the water at any one time. It also allowed for predetermined sampling methodologies for each taxa to be accommodated within the one hour dive time. Intertidal stations were sampled qualitatively for all taxa, except for Porifera.

The set of transects dedicated to Algae (A), Mollusca (M), Echinodermata (E) and Fish (F) ran from the deepest point (station waypoint) to the shallowest part of each station. The fish transects (F1) ran in a general upslope or cross-station direction and had no recorded end waypoint but concluded at the reef edge. This set of transects crossed (i.e. ran perpendicular to) the second set, which were recording Scleracterinia (S), Porifera (P) and Crustacea (C). These latter transects were depth restricted at approximately 5 m and 12 m (relative to mean sea level). When they were sited at a significant distance from the station waypoint a decimal latitude and longitude conversion was also provided in Tables 2, 3 and 4. The area encompassed by these transects was recorded on video and analysed for percentage cover (Morrison, P., this volume).

Distances defining transect lengths were determined from measuring tape and way point coordinates. For the A, M and E transects, where a slope distance was required, a simple straight line estimate was calculated. The slope calculation used is expressed as:

$\sqrt{a^2 + b^2 + c^2}$ Where:

- a = "easting" coordinate (UTM) distance between deepest buoy and shallowest buoy
- b = "northing" coordinate (UTM) distance between deepest buoy and shallowest buoy
- c = difference in the depths at the two buoys.
- Detailed methodologies for each taxon are contained within the following papers of this volume.

**To read the tables:**

*Example 1:* Station 17, Scott Reef.

On the 18 September 2006 at Scott Reef dive

**Above:** Station 2, Mermaid Reef. (Photo: Sue Morrison)

**Table 1** Stations with matching coordinates for the 2006 WA Museum survey, AIMS monitoring stations and WA Museum stations (Berry, 1986).

| WA Museum Stations (This survey - 2006) | WA Museum Stations (Berry, 1986) | AIMS Monitoring Stations |
|---|---|---|
| 11 | | RL1-1(old) (Mermaid) |
| 18 and 24 | 2 and 4 (Scott) | |
| 22 | 23 (Scott) | |
| 26 | 20 (Scott) | |
| 27 | 19 (Scott) | |
| 26 | | SL2-1 (Scott) |
| 30 | | SS1-1 (Scott) |
| 34 | | SL4-1 (Scott) |
| 41 | 13 (Seringapatam) | |
| 44 and 45 | | SS3 (Seringapatam) |

Station 17 (located at UTM Zone 50S, easting 369212 : northing 8429152 or 14°12.360'S : 121°47.273'E) a 1 m wide transect for Algae (AI, A2), Mollusca (M1, M2), Echinodermata (E1, E2) and Fish (F1) began in 20 msw running for 72 m and ended in 3.5 msw at coordinates 14°12.325'E : 121°47.289'E. The survey area covered was 72 m² or 0.007 ha. Note that the Fish transect (F1) end coordinate was approximate and not recorded.

The start points for the transects of Porifera (P1 at 10.5 m and P2 at 3.5 m), Scleracterinia corals (S1 at 10.5 m and S2 at 3.5 m) and Crustacea (C1 at 10.5 m and C2 at 3.5 m) are recorded in UTMs ("northings' and "eastings"). The location of this set of replicated transects was also converted to decimal latitude and longitude (14°12.343'S: 121°47.281'E to 14°12.325'S: 121°47.289'E) for convenience as they were considered to be at a significant distance from the identifying station marker located at 14°12.360'S: 121°47.273'E.

*Example 2:* Station 21, Scott Reef.

On the 20 September 2006 at Scott Reef intertidal Station 21 (located at UTM Zone 50S easting 364563 : northing 8443446 or 14°04.593'S : 121°44.732'E) a 1 m wide transect for Porifera (P1) began in 0 msw running for a measured 15 m. The survey area covered was 15 m² or 0.002 ha. All other marine groups were surveyed qualitatively.

## REFERENCE:

Berry, P.F. and Marsh, L.M. (1986). Part 1. History of investigation and description of physical environment. In Berry. P.F. (ed.), Faunal Surveys of the Rowley Shoals, Scott Reef, and Seringapatam Reef, North-western Australia. Records of the Western Australian Museum, Supplement **25**: 1–25.

**Above:** Station 34, North Scott Reef. Numerous sea fans indicate a periodical, strong current flow. (Photo: John Huisman)

**From top:** Station 36, North Scott Reef. Pocked reef-crest with encrusting coralline algae; A well scoured habitat at Station; North Scott Reef; Station 45, Seringapatam Reef; Station 42, Seringapatam Reef. The reef at this site was inundated by sand. (Photos: John Huisman)


**Figure 1** Mermaid Reef (Rowley Shoals) with surveyed station sites (2006)

**Table 2** Station and transect data for Mermaid Reef (Rowley Shoals) (2006)

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MERMAID REEF (ROWLEY SHOALS)** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS (+/- ca.10 m) | | | | | | | WGS84 Datum | |
| 12-Sep-06 | **Dive: Inner lagoon - east side** | **1** | **781932** | **8108620** | **10.5** | **0** | **0** | **0** | **0.000** | **S 17°05.374′** | **E119°38.948′** |
| | Coralline sands and coral rubble bottom shallowing to a coral ourcrop. Outcrop with extensive coral growth across top and sides. Adjacent is a sand zone, which extends to inner reef platform edge. South of AIMS RL1-3 lagoon site. | | 782046 | 8108631 | 3.5 | 115 | 1 | 115 | 0.011 | S 17°05.368′ | E119°39.012′ |
| | | Algae (A1) | 781932 | 8108620 | 10.5 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 782046 | 8108631 | 3.5 | 115 | 1 | 115 | 0.011 | | |
| | | Porifera (P1) | 781943 | 8108615 | 10.5 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 781988 | 8108634 | 3.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 781944 | 8108615 | 10.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 781088 | 8108634 | 3.5 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 781944 | 8108615 | 10.5 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 781088 | 8108634 | 3.5 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 781932 | 8108620 | 10.5 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 782046 | 8108631 | 3.5 | 115 | 1 | 115 | 0.011 | | |
| | | Echinodermata (E1) | 781932 | 8108620 | 10.5 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 782046 | 8108631 | 3.5 | 115 | 1 | 115 | 0.011 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 781932 | 8108620 | 10.5 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: Outer slope - NE corner** | **2** | **780510** | **8114050** | **20** | **0** | **0** | **0** | **0.000** | **S 17°02.442′** | **E119°38.106′** |
| | Vertical outer reef wall with wide spurs and deep, narrow grooves. Walls with good coral cover. Soft corals evident beneath underhangs. Reef crest subject to high energy wave action and deeply scored. | | 780501 | 8114050 | 3 | 19 | 1 | 19 | 0.002 | S 17°02.443′ | E119°38.101′ |
| | | Algae (A1) | 780510 | 8114050 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 780501 | 8114050 | 3 | 19 | 1 | 19 | 0.002 | | |
| | | Porifera (P1) | 780510 | 8114050 | 20 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 780501 | 8114050 | 3 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 780510 | 8114050 | 20 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 780501 | 8114050 | 3 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 780510 | 8114050 | 20 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 780501 | 8114050 | 3 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 780510 | 8114050 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 780501 | 8114050 | 3 | 19 | 1 | 19 | 0.002 | | |
| | | Echinodermata (E1) | 780510 | 8114050 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 780501 | 8114050 | 3 | 19 | 1 | 19 | 0.002 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 780510 | 8114050 | 20 | 0 | 0 | 0 | 0.000 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13-Sep-06 | **Reef walk: NE Corner of reef** | **3** | **780438** | **8114039** | **0** | **100** | **1** | **100** | **0.010** | **S 17°02.449′** | **E119°38.065′** |
| | Reef flat with isolated coral outcrops, algal turf and soft coral (*Lobophyton*). Little coral rubble and no tidal pools of significance. | Porifera (P1) | 780438 | 8114039 | 0 | 15 | 1 | 15 | 0.002 | | |
| | | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |
| | **Dive: Outside slope south end of reef** | **4** | **780937** | **8100490** | **20** | **0** | **0** | **0** | **0.000** | **S 17°09.786′** | **E119°38.450′** |
| | Coral rubble slope rising to cemented rubble and coral ridge. Deep gutters dissecting reef with a floor of broken rubble. Reef wall steep with plate and branching coral. Outer reef platform at 3 m heavily eroded and honeycombed. | | 780989 | 8100447 | 3.5 | 69 | 1 | 69 | 0.007 | S 17°09.809′ | E119°38.479′ |
| | | Algae (A1) | 780937 | 8100490 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 780989 | 8100447 | 3.5 | 69 | 1 | 69 | 0.007 | | |
| | | Porifera (P1) | 780937 | 8100490 | 12.2 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 780989 | 8100447 | 5.2 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 780937 | 8100490 | 12.2 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 780989 | 8100447 | 5.2 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 780937 | 8100490 | 12.2 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 780989 | 8100447 | 5.2 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 780937 | 8100490 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 780989 | 8100447 | 3.5 | 69 | 1 | 69 | 0.007 | | |
| | | Echinodermata (E1) | 780937 | 8100490 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 780989 | 8100447 | 3.5 | 69 | 1 | 69 | 0.007 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 780937 | 8100490 | 20 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: Outside slope middle east side** | **5** | **782790** | **8108620** | **20** | **0** | **0** | **0** | **0.000** | **S 17°05.368′** | **E119°39.431′** |
| | Vertical wall with hard and soft corals, some underhangs forming small caves. Area of wall sampled was bordered by deep channels with many plate corals, *Tridacna* clams and soft corals on sidewalls. Reef crest heavily weathered and honeycombed. | | 782777 | 8108618 | 3.5 | 21 | 1 | 21 | 0.002 | S 17°05.369′ | E119°39.424′ |
| | | Algae (A1) | 782790 | 8108620 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 782777 | 8108618 | 3.5 | 21 | 1 | 21 | 0.002 | | |
| | | Porifera (P1) | 782790 | 8108620 | 12.7 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 782777 | 8108618 | 5.7 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 782790 | 8108620 | 12.7 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 782777 | 8108618 | 5.7 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | Not done | | | | | | | | |
| | | Crustacea (C2) | Not done | | | | | | | | |
| | | Mollusca (M1) | 782790 | 8108620 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 782777 | 8108618 | 3.5 | 21 | 1 | 21 | 0.002 | | |
| | | Echinodermata (E1) | 782790 | 8108620 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 782777 | 8108618 | 3.5 | 21 | 1 | 21 | 0.002 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 782790 | 8108620 | 20 | 0 | 0 | 0 | 0.000 | | |

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MERMAID REEF (ROWLEY SHOALS)** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS (+/- ca.10 m) | | | | | | | WGS84 Datum | |
| 14-Sep-06 | **Snorkel: Inner platform - west side** | **6** | **777987** | **8109760** | **1.8** | **0** | **0** | **0** | **0.000** | **S 17°04.785′** | **E119°36.717′** |
| | Coral reef and sand interface at west side of lagoon. Station at southern end of southward extending spur. Coral outcrop surrounded by infill sand that extends to reef platform. Isolated coral outcrops scattered about. Whole area has been subject to extensive damage from either cyclonic activity and/or coral bleaching activity. High diversity of *Tridacna* clams and holothurians. | | 778016 | 8109724 | 1.8 | 46 | 1 | 46 | 0.005 | S 17°04.805′ | E119°36.734′ |
| | | Algae (A1) | 777987 | 8109760 | 1.8 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 778016 | 8109724 | 1.8 | 46 | 1 | 46 | 0.005 | | |
| | | Porifera (P1) | 777987 | 8109760 | 1.8 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 778016 | 8109724 | 1.8 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 777987 | 8109760 | 1.8 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 778016 | 8109724 | 1.8 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 777987 | 8109760 | 1.8 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 778016 | 8109724 | 1.8 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 777987 | 8109760 | 1.8 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 778016 | 8109724 | 1.8 | 46 | 1 | 46 | 0.005 | | |
| | | Echinodermata (E1) | 777987 | 8109760 | 1.8 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 778016 | 8109724 | 1.8 | 46 | 1 | 46 | 0.005 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 777987 | 8109760 | 1.8 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: Inner lagoon outcrop - west side** | **7** | **777968** | **8109179** | **11.3** | **0** | **0** | **0** | **0.000** | **S 17°05.100′** | **E119°36.711′** |
| | Isolated coral outcrop sloping down to sand and coral rubble with areas of staghorn forest. Outcrop slope littered with coral rubble - possible evidence of either / or cyclonic destruction or coral bleaching. Some giant clams (*Tridacna derasa*) were seen in reasonable numbers. | | 777997 | 8109193 | 4.3 | 33 | 1 | 33 | 0.003 | S 17°05.092′ | E119°36.727′ |
| | | Algae (A1) | 777968 | 8109179 | 11.3 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 777997 | 8109193 | 4.3 | 33 | 1 | 33 | 0.003 | | |
| | | Porifera (P1) | 777968 | 8109179 | 11.3 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 777997 | 8109193 | 4.3 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 777968 | 8109179 | 11.3 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 777997 | 8109193 | 4.3 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 777968 | 8109179 | 11.3 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 777997 | 8109193 | 4.3 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 777968 | 8109179 | 11.3 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 777997 | 8109193 | 4.3 | 33 | 1 | 33 | 0.003 | | |
| | | Echinodermata (E1) | 777968 | 8109179 | 11.3 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 777997 | 8109193 | 4.3 | 33 | 1 | 33 | 0.003 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 777968 | 8109179 | 11.3 | 0 | 0 | 0 | 0.000 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Dive: South end lagoon back reef** | **8** | **778639** | **8111137** | **12.8** | **0** | **0** | **0** | **0.000** | **S 17°04.034′** | **E119°37.074′** |
| | Large pool with *Acropora* forest extending to coral rubble slope. Extensive damage evident - possible evidence of either cyclonic destruction and/or coral bleaching. Rim of pool consists of coral rubble with occasional coral outcrops. Sediment consists of fine coral sands. | | 778646 | 8111083 | 5.8 | 55 | 1 | 55 | 0.005 | S 17°04.064′ | E119°37.078′ |
| | | Algae (A1) | 778639 | 8111137 | 12.8 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 778646 | 8111083 | 5.8 | 55 | 1 | 55 | 0.005 | | |
| | | Porifera (P1) | 778639 | 8111137 | 12.8 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 778646 | 8111083 | 5.8 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 778639 | 8111137 | 12.8 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 778646 | 8111083 | 5.8 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 778639 | 8111137 | 12.8 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 778646 | 8111083 | 5.8 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 778639 | 8111137 | 12.8 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 778646 | 8111083 | 5.8 | 55 | 1 | 55 | 0.005 | | |
| | | Echinodermata (E1) | 778639 | 8111137 | 12.8 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 778646 | 8111083 | 5.8 | 55 | 1 | 55 | 0.005 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 778639 | 8111137 | 12.8 | 0 | 0 | 0 | 0.000 | | |
| 15-Sep-06 | **Dive: North end of lagoon** | **9** | **780482** | **8112012** | **11.1** | **0** | **0** | **0** | **0.000** | **S 17°03.547′** | **E119°38.105′** |
| | Reef outcrop at edge of low tide sand flat. Corals at top and sides have sustained considerable damage. Deeper areas are well forested with branching *Acropora*. Reasonable meadow of *Thalassia* between ourcrop and intertidal sand flat. | | 780503 | 8112032 | 4.1 | 30 | 1 | 30 | 0.003 | S 17°03.536′ | E119°38.117′ |
| | | Algae (A1) | 780482 | 8112012 | 11.1 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 780503 | 8112032 | 4.1 | 30 | 1 | 30 | 0.003 | | |
| | | Porifera (P1) | 780482 | 8112012 | 11.1 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 780503 | 8112032 | 4.1 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 780482 | 8112012 | 11.1 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 780503 | 8112032 | 4.1 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 780482 | 8112012 | 11.1 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 780503 | 8112032 | 4.1 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 780482 | 8112012 | 11.1 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 780503 | 8112032 | 4.1 | 30 | 1 | 30 | 0.003 | | |
| | | Echinodermata (E1) | 780482 | 8112012 | 11.1 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 780503 | 8112032 | 4.1 | 30 | 1 | 30 | 0.003 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 780482 | 8112012 | 11.1 | 0 | 0 | 0 | 0.000 | | |
| | **Drift dive: Lagoon entrance channel** | **10** | **780973** | **8111676** | **0** | **0** | **0** | **0** | **0.000** | **S 17°03.726′** | **E119°38.385′** |
| | High current tidal channel that drains and fills the lagoon. Depth to 18 m. Steep sided with branching off shoots. Base well scoured and sides covered | | 781764 | 8111779 | 18 | 820 | 10 | 8200 | 0.820 | S 17°03.664′ | E119°38.829′ |

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MERMAID REEF (ROWLEY SHOALS)** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS (+/- ca.10 m) | | | | | | | WGS84 Datum | |
| | **Drift dive: Lagoon entrance channel (continued)** with both hard and soft corals- *Dendronephthya* and *Melithaea*. Coarse coralline sands in deposition pockets. Co-ordinates and T-widths are indicative only and represent approximate area sampled for all phyla. | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |
| | **AIMS dive site: Lagoon sth of channel** | **11** | **781500** | **8110711** | **12.4** | **0** | **0** | **0** | **0.000** | **S 17°04.244′** | **E119°38.689′** |
| | Series of low and scattered rocky outcrops on fine coralline sands. Outcrops with fine coating of silt with damage to the branching *Acropora*, which has formed coral rubble scree slopes. Good populations of several species of holothurians. | | 781509 | 8110763 | 5.4 | 53 | 1 | 53 | 0.005 | S 17°04.216′ | E119°38.694′ |
| | | Algae (A1) | 781500 | 8110711 | 12.4 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 781509 | 8110763 | 5.4 | 53 | 1 | 53 | 0.005 | | |
| | | Porifera (P1) | 781500 | 8110711 | 12.4 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 781509 | 8110763 | 5.4 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 781500 | 8110711 | 12.4 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 781509 | 8110763 | 5.4 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 781500 | 8110711 | 12.4 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 781509 | 8110763 | 5.4 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 781500 | 8110711 | 12.4 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 781509 | 8110763 | 5.4 | 53 | 1 | 53 | 0.005 | | |
| | | Echinodermata (E1) | 781500 | 8110711 | 12.4 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 781509 | 8110763 | 5.4 | 53 | 1 | 53 | 0.005 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 781500 | 8110711 | 12.4 | 0 | 0 | 0 | 0.000 | | |
| 16-Sep-06 | **Dive: Reef system - central lagoon** | **12** | **780456** | **8108703** | **12.1** | **0** | **0** | **0** | **0.000** | **S 17°05.340′** | **E119°38.116′** |
| | Subtidal reef system 2 km south of anchorage. Damaged *Acropora* forest in deeper water leading to a rubble scree slope at base of reef outcrops. Crown of reef with larger coral outcrops including plate and massive corals. Good diversity of giant clams and holothurians. Generally a picturesque site. | | 780475 | 8108695 | 5.1 | 22 | 1 | 22 | 0.002 | S 17°05.344′ | E119°38.127′ |
| | | Algae (A1) | 780456 | 8108703 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 780475 | 8108695 | 5.1 | 22 | 1 | 22 | 0.002 | | |
| | | Porifera (P1) | 780456 | 8108703 | 12.1 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 780475 | 8108695 | 5.1 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 780456 | 8108703 | 12.1 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 780475 | 8108695 | 5.1 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 780456 | 8108703 | 12.1 | 5 | 1 | 5 | 0.001 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Crustacea (C2) | 780475 | 8108695 | 5.1 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 780456 | 8108703 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 780475 | 8108695 | 5.1 | 22 | 1 | 22 | 0.002 | | |
| | | Echinodermata (E1) | 780456 | 8108703 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 780475 | 8108695 | 5.1 | 22 | 1 | 22 | 0.002 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 780456 | 8108703 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | **Drift dive: Lagoon entrance channel** | **13** | **781335** | **8111637** | **0** | **0** | **0** | **0** | **0.000** | **S 17°03.744′** | **E119°38.589′** |
| | Site revisit at slack tide (neaps) to investigate different micro-habitats within confines of channel. Coordinates and T-widths are indicative only and represent approximate area sampled for all phyla. | | 781813 | 8111869 | 18 | 579 | 10 | 5790 | 0.579 | S 17°03.615′ | E119°38.857′ |
| | | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |
| | **Dive: South end of inner lagoon** | **14** | **780375** | **8101327** | **11.9** | **0** | **0** | **0** | **0.000** | **S 17°09.337′** | **E119°38.127′** |
| | Branching *Acropora* covered outcrops with scattered smaller monolithic coral heads. Sediment consists of fine coral sands and rubble with good coverage of *Thalassia* and *Halophila*. | | 780303 | 8101320 | 4.9 | 72 | 1 | 72 | 0.007 | S 17°09.341′ | E119°38.086′ |
| | | Algae (A1) | 780375 | 8101327 | 11.9 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 780303 | 8101320 | 4.9 | 72 | 1 | 72 | 0.007 | | |
| | | Porifera (P1) | 780375 | 8101327 | 11.9 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 780303 | 8101320 | 4.9 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 780375 | 8101327 | 11.9 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 780303 | 8101320 | 4.9 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 780375 | 8101327 | 11.9 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 780303 | 8101320 | 4.9 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 780375 | 8101327 | 11.9 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 780303 | 8101320 | 4.9 | 72 | 1 | 72 | 0.007 | | |
| | | Echinodermata (E1) | 780375 | 8101327 | 11.9 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 780303 | 8101320 | 4.9 | 72 | 1 | 72 | 0.007 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 780375 | 8101327 | 11.9 | 0 | 0 | 0 | 0.000 | | |
| 17-Sep-06 | **Dive: "Cod Hole" outer slope east side** | **15** | **781944** | **8111473** | **12.1** | **0** | **0** | **0** | **0.000** | **S 17°03.828′** | **E119°38.933′** |
| | Spur and groove outer slope that has broken off to form a deep reef pool (Cod Hole). Seaward slope reasonably steep to a "false reef crest" then drops vertically into a wide, deep hole to rise again to reef crest proper. Base of slope and hole consists of coral rubble. | | 781921 | 8111428 | 5.1 | 51 | 1 | 51 | 0.005 | S 17°03.853′ | E119°38.920′ |
| | | Algae (A1) | 781944 | 8111473 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 781921 | 8111428 | 5.1 | 51 | 1 | 51 | 0.005 | | |
| | | Porifera (P1) | 781944 | 8111473 | 12.1 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 781921 | 8111428 | 5.1 | 15 | 1 | 15 | 0.002 | | |

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MERMAID REEF (ROWLEY SHOALS)** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS (+/- ca.10 m) | | | | | | | WGS84 Datum | |
| | **Dive: "Cod Hole" outer slope east side (continued)** Slope with good coral coverage. Crest essentially bare and honeycombed. | Scleracterinia (S1) | 781944 | 8111473 | 12.1 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 781921 | 8111428 | 5.1 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 781944 | 8111473 | 12.1 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 781921 | 8111428 | 5.1 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 781944 | 8111473 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 781921 | 8111428 | 5.1 | 51 | 1 | 51 | 0.005 | | |
| | | Echinodermata (E1) | 781944 | 8111473 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 781921 | 8111428 | 5.1 | 51 | 1 | 51 | 0.005 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 781944 | 8111473 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: West side outer slope** | **16** | **776311** | **8110327** | **11.8** | **0** | **0** | **0** | **0.000** | **S 17°04.490′** | **E119°35.769′** |
| | High energy zone. Long even slope with well developed spur and grooves. Some coral outcrops at deeper levels forming caves and sandy pockets. Patchy frequent clusters of *Halimeda* at various levels. Crest well scoured and honeycombed. | | 776331 | 8110323 | 4.8 | 22 | 1 | 22 | 0.002 | S 17°04.492′ | E119°35.780′ |
| | | Algae (A1) | 776311 | 8110327 | 11.8 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 776331 | 8110323 | 4.8 | 22 | 1 | 22 | 0.002 | | |
| | | Porifera (P1) | 776311 | 8110327 | 11.8 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 776331 | 8110323 | 4.8 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 776311 | 8110327 | 11.8 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 776331 | 8110323 | 4.8 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 776311 | 8110327 | 11.8 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 776331 | 8110323 | 4.8 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 776311 | 8110327 | 11.8 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 776331 | 8110323 | 4.8 | 22 | 1 | 22 | 0.002 | | |
| | | Echinodermata (E1) | 776311 | 8110327 | 11.8 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 776331 | 8110323 | 4.8 | 22 | 1 | 22 | 0.002 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 776311 | 8110327 | 11.8 | 0 | 0 | 0 | 0.000 | | |


**Figure 2** Scott Reef with surveyed station sites (2006)

**Table 3** Station and transect data for Scott Reef (2006)

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **SOUTH SCOTT REEF** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS (+/- ca.10 m) | | | | | | | WGS84 Datum | |
| 18-Sep-06 | **Dive: South side outer slope** | **17** | **369212** | **8429152** | **20** | **0** | **0** | **0** | **0.000** | **S 14°12.360′** | **E121°47.273′** |
| | Gentle slope from edge of steep drop-off (20 m) to high energy reef edge with spur and groove. Many small coral heads providing a rich and highly diverse coral community. Surge channels with some coral slabs and coarse coral sands. | | 369241 | 8429216 | 3.5 | 72 | 1 | 72 | 0.007 | S 14°12.325′ | E121°47.289′ |
| | | | 369226 | 8429183 | 10.5 | 0 | 0 | 0 | 0.000 | S 14°12.343′ | E121°47.281′ |
| | | | 369241 | 8429216 | 3.5 | 37 | 1 | 37 | 0.004 | S 14°12.325′ | E121°47.289′ |
| | | Algae (A1) | 369212 | 8429152 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 369241 | 8429216 | 3.5 | 72 | 1 | 72 | 0.007 | | |
| | | Porifera (P1) | 369226 | 8429183 | 10.5 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 369241 | 8429216 | 3.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 369226 | 8429183 | 10.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 369241 | 8429216 | 3.5 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 369226 | 8429183 | 10.5 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 369241 | 8429216 | 3.5 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 369212 | 8429152 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 369241 | 8429216 | 3.5 | 72 | 1 | 72 | 0.007 | | |
| | | Echinodermata (E1) | 369212 | 8429152 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 369241 | 8429216 | 3.5 | 72 | 1 | 72 | 0.007 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 369212 | 8429152 | 20 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: West side Sandy Cay (WAM4)** | **18** | **367262** | **8445101** | **20** | **0** | **0** | **0** | **0.000** | **S 14°03.704′** | **E121°46.236′** |
| | Bottom gently sloping from 20 m with large compound coral outcrops that coalesce into a highly diverse coral reef with a rugged topographical aspect. Reef undulates at edges with large patches of coral sands. | | 367313 | 8445150 | 3 | 73 | 1 | 73 | 0.007 | S 14°03.677′ | E121°46.264′ |
| | | | 367272 | 8445106 | 12 | 0 | 0 | 0 | 0.000 | S 14°03.701′ | E121°46.241′ |
| | | | 367313 | 8445150 | 3 | 61 | 1 | 61 | 0.006 | S 14°03.677′ | E121°46.264′ |
| | | Algae (A1) | 367262 | 8445101 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 367313 | 8445150 | 3 | 73 | 1 | 73 | 0.007 | | |
| | | Porifera (P1) | 367272 | 8445106 | 12 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 367313 | 8445150 | 3 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 367272 | 8445106 | 12 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 367313 | 8445150 | 3 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 367272 | 8445106 | 12 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 367313 | 8445150 | 3 | 5 | 1 | 5 | 0.001 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mollusca (M1) | 367262 | 8445101 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 367313 | 8445150 | 3 | 73 | 1 | 73 | 0.007 | | |
| | | Echinodermata (E1) | 367262 | 8445101 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 367313 | 8445150 | 3 | 73 | 1 | 73 | 0.007 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 367262 | 8445101 | 20 | 0 | 0 | 0 | 0.000 | | |
| 19-Sep-06 | **Dive: Outer slope West Horn** | **19** | **363487** | **8444251** | **12.5** | **0** | **0** | **0** | **0.000** | **S 14°04.154′** | **E121°44.136′** |
| | Long gradual slope with very diverse coral cover and abundant soft corals (*Sarcophyton*, *Sinularia* and *Lobophyton*). Large coral outcrops at deeper depths. Shallower depths exhibit the effects of the increased surge with smaller coral heads, increased bare rock and deepening surge channels. | | 363620 | 8444196 | 5.5 | 144 | 1 | 144 | 0.014 | S 14°04.184′ | E121°44.209′ |
| | | Algae (A1) | 363487 | 8444251 | 12.5 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 363620 | 8444196 | 5.5 | 144 | 1 | 144 | 0.014 | | |
| | | Porifera (P1) | 363487 | 8444251 | 12.5 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 363620 | 8444196 | 5.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 363487 | 8444251 | 12.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 363620 | 8444196 | 5.5 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 363487 | 8444251 | 12.5 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 363620 | 8444196 | 5.5 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 363487 | 8444251 | 12.5 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 363620 | 8444196 | 5.5 | 144 | 1 | 144 | 0.014 | | |
| | | Echinodermata (E1) | 363487 | 8444251 | 12.5 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 363620 | 8444196 | 5.5 | 144 | 1 | 144 | 0.014 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 363487 | 8444251 | 12.5 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: Outer slope - west horn** | **20** | **361332** | **8438082** | **20** | **0** | **0** | **0** | **0.000** | **S 14°07.493′** | **E121°42.919′** |
| | Long gradual slope with abundant small coral heads and soft corals (*Sarcophyton*, *Sinularia* and *Lobophyton*) covering developing spur and grooves. Grooves (surge channels) with good coral coverage until shallower depths when they become scoured with coarse coralline sands along their bases. Coral cover very diverse. | | 361431 | 8438118 | 4.5 | 106 | 1 | 106 | 0.011 | S 14°07.474′ | E121°42.975′ |
| | | | 361394 | 8438112 | 12.4 | 0 | 0 | 0 | 0.000 | S 14°07.477′ | E121°42.954′ |
| | | | 361431 | 8438118 | 4.5 | 38 | 1 | 38 | 0.004 | S 14°07.474′ | E121°42.975′ |
| | | Algae (A1) | 361332 | 8438082 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 361431 | 8438118 | 4.5 | 106 | 1 | 106 | 0.011 | | |
| | | Porifera (P1) | 361394 | 8438112 | 12.4 | 15 | 1 | 15 | 0.000 | | |
| | | Porifera (P2) | 361431 | 8438118 | 4.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 361394 | 8438112 | 12.4 | 15 | 1 | 15 | 0.000 | | |
| | | Scleracterinia (S2) | 361431 | 8438118 | 4.5 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 361394 | 8438112 | 12.4 | 5 | 1 | 5 | 0.000 | | |
| | | Crustacea (C2) | 361431 | 8438118 | 4.5 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 361332 | 8438082 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 361431 | 8438118 | 4.5 | 106 | 1 | 106 | 0.011 | | |

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **SOUTH SCOTT REEF** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS (+/- ca.10 m) | | | | | | | WGS84 Datum | |
| | **Dive: Outer slope - west horn (continued)** | Echinodermata (E1) | 361332 | 8438082 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 361431 | 8438118 | 4.5 | 106 | 1 | 106 | 0.011 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 361332 | 8438082 | 20 | 0 | 0 | 0 | 0.000 | | |
| | **Intertidal: Lagoon side West Horn** | **21** | **364564** | **8443446** | **0** | **100** | **1** | **100** | **0.010** | **S 14°04.593′** | **E121°44.732′** |
| | Lagoon side of easternmost wreck. Turf covered platform with isolated coral heads. A small intertidal sand cay exists at the waters edge (1.1 m tide). Wreck site has the only significant tidal pool. Few turnable rocks or coral slabs evident. | Porifera (P1) | 364564 | 8443446 | 0 | 15 | 1 | 15 | 0.002 | | |
| | | Qualitative - biodiversity sampling (except porifera) | | | | | | | | | |
| 20-Sep-06 | **Dive: Nth Sandy Islet outer slope** | **22** | **366266** | **8447267** | **12.7** | **0** | **0** | **0** | **0.000** | **S 14°02.526′** | **E121°45.688′** |
| | High energy area with a gradual slope dissected by surge channels that develop as the depth decreases. Soft corals slightly dominate the small coral heads covering the pavement. The whole area has shallow blowouts filled with coarse coralline sands. | | 366141 | 8447290 | 5.7 | 127 | 1 | 127 | 0.013 | S 14°02.513′ | E121°45.619′ |
| | | Algae (A1) | 366266 | 8447267 | 12.7 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 366141 | 8447290 | 5.7 | 127 | 1 | 127 | 0.013 | | |
| | | Porifera (P1) | 366266 | 8447267 | 12.7 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 366141 | 8447290 | 5.7 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 366266 | 8447267 | 12.7 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 366141 | 8447290 | 5.7 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 366266 | 8447267 | 12.7 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 366141 | 8447290 | 5.7 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 366266 | 8447267 | 12.7 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 366141 | 8447290 | 5.7 | 127 | 1 | 127 | 0.013 | | |
| | | Echinodermata (E1) | 366266 | 8447267 | 12.7 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 366141 | 8447290 | 5.7 | 127 | 1 | 127 | 0.013 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 366266 | 8447267 | 12.7 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: Outcrop - East side lagoon** | **23** | **0367114** | **8438114** | **20** | **0** | **0** | **0** | **0.000** | **S 14°07.493′** | **E121°46.133′** |
| | Isolated outcrop with extensive coral damage from natural causes. From 20 m the slope is steep to the reef crest. The slope consists of algal covered *Acropora* rubble. At the crest large | | 0367155 | 8438218 | 4.5 | 113 | 1 | 113 | 0.011 | S 14°07.436′ | E121°46.156′ |
| | | | 0367149 | 8438210 | 12.4 | 0 | 0 | 0 | 0.000 | S 14°07.441′ | E121°46.153′ |
| | | | 367155 | 8438218 | 5.4 | 12 | 1 | 12 | 0.001 | S 14°07.436′ | E121°46.156′ |
| | | Algae (A1) | 0367114 | 8438114 | 20 | 0 | 0 | 0 | 0.000 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | outcrops dominate but with little coral growth. *Fromia multifora* (seastar) is prolific at this site. | Algae (A2) | 0367155 | 8438218 | 4.5 | 113 | 1 | 113 | 0.011 | | |
| | | Porifera (P1) | 367149 | 8438210 | 12.4 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 367155 | 8438218 | 5.4 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 367149 | 8438210 | 12.4 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 367155 | 8438218 | 5.4 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 367149 | 8438210 | 12.4 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 367155 | 8438218 | 5.4 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 0367114 | 8438114 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 0367155 | 8438218 | 4.5 | 113 | 1 | 113 | 0.011 | | |
| | | Echinodermata (E1) | 0367114 | 8438114 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 0367155 | 8438218 | 4.5 | 113 | 1 | 113 | 0.011 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 0367114 | 8438114 | 20 | 0 | 0 | 0 | 0.000 | | |
| | **Intertidal: West side of Sandy Islet** | **24** | **367630** | **8445255** | **0** | **100** | **1** | **100** | **0.010** | **S 14°03.621′** | **E121°46.441′** |
| | Reef begins as small isolated coral outcrops surrounded by coralline sands. The platform is covered by algal turf with many dead coral slabs. Generally flat in profile the reef leads to Sandy Islet where the sand overflow meets the platform. Small patches of *Thalassia* thrive at this junction. | Porifera (P1) | 367630 | 8445255 | 0 | 15 | 1 | 15 | 0.002 | | |
| | | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |
| 21-Sep-06 | **Dive: Lagoon backslope - south side** | **25** | **379321** | **8432403** | **12.8** | **0** | **0** | **0** | **0.000** | **S 14°10.623′** | **E121°52.902′** |
| | Lagoon edge site is a complex of interconnecting outcrops. Coral cover has been devastated and the rubble is covered with a brown algae (*Dictyota*). Intermittent and sparse *Acropora* thicket surrounded by areas of fine coralline sand dominate the areas at the base of the outcrops. Rubble ridges connect the outcrops. | | 379307 | 8432375 | 5.8 | 32 | 1 | 32 | 0.003 | S 14°10.639′ | E121°52.894′ |
| | | Algae (A1) | 379321 | 8432403 | 12.8 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 379307 | 8432375 | 5.8 | 32 | 1 | 32 | 0.003 | | |
| | | Porifera (P1) | 379321 | 8432403 | 12.8 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 379307 | 8432375 | 5.8 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 379321 | 8432403 | 12.8 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 379307 | 8432375 | 5.8 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 379321 | 8432403 | 12.8 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 379307 | 8432375 | 5.8 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 379321 | 8432403 | 12.8 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 379307 | 8432375 | 5.8 | 32 | 1 | 32 | 0.003 | | |
| | | Echinodermata (E1) | 379321 | 8432403 | 12.8 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 379307 | 8432375 | 5.8 | 32 | 1 | 32 | 0.003 | | |
| | Coordinates for Fish are approximate | Fish (F1) | 379321 | 8432403 | 12.8 | 0 | 0 | 0 | 0.000 | | |

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **SOUTH SCOTT REEF** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS (+/- ca.10 m) | | | | | | | WGS84 Datum | |
| | **Dive: Sth end of lagoon (AIMS SL2-1)** | **26** | **371241** | **8430894** | **20** | **0** | **0** | **0** | **0.000** | **S 14°11.421′** | **E121°48.407′** |
| | Inner lagoon coral reef with a gradual slope to the reef platform. Reef has been damaged by natural causes and is actively in the process of regrowth. Some larger plate corals (*Acropora*) still exist on reef tops. At deeper depths coral cover is low and evenly spread; as depth decreases the coral outcrops increase in size as does the distance between them, forming gutters of coralline sand. | | 371216 | 8430801 | 5.9 | 97 | 1 | 97 | 0.010 | S 14°11.471′ | E121°48.392′ |
| | | | 371228 | 8430837 | 12.9 | 0 | 0 | 0 | 0.000 | S 14°11.451′ | E121°48.399′ |
| | | | 371216 | 8430801 | 5.9 | 39 | 1 | 39 | 0.004 | S 14°11.471′ | E121°48.392′ |
| | | Algae (A1) | 371241 | 8430894 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 371216 | 8430801 | 5.9 | 97 | 1 | 97 | 0.010 | | |
| | | Porifera (P1) | 371228 | 8430837 | 12.9 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 371216 | 8430801 | 5.9 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 371228 | 8430837 | 12.9 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 371216 | 8430801 | 5.9 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 371228 | 8430837 | 12.9 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 371216 | 8430801 | 5.9 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 371241 | 8430894 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 371216 | 8430801 | 5.9 | 97 | 1 | 97 | 0.010 | | |
| | | Echinodermata (E1) | 371241 | 8430894 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 371216 | 8430801 | 5.9 | 97 | 1 | 97 | 0.010 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 371241 | 8430894 | 20 | 0 | 0 | 0 | 0.000 | | |
| | **Intertidal: South side of South Reef** | **27** | **371831** | **8429844** | **0** | **100** | **1** | **100** | **0.010** | **S 14°11.991′** | **E121°48.731′** |
| | Flat reef platform extending from a sand plain with numerous small coral and rock outcrops. Platform has many small tide pools and *Porites* heads, which are wide in diameter and low in profile due to tidal influence. There are many coral slabs to turn but little in the way of biota beneath. | Porifera (P1) | 371831 | 8429844 | 0 | 15 | 1 | 15 | 0.002 | | |
| | | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |
| 22-Sep-06 | **Dive: Outside slope SE corner of atoll** | **28** | **380106** | **8431330** | **20** | **0** | **0** | **0** | **0.000** | **S 14°11.208′** | **E121°53.336′** |
| | High energy reef with isolated rock outcrops with minimal cnidarian cover. Plate corals, gorgonian fans and soft corals evident but not prolific. All the gorgonian fans are perpendicular | | 380031 | 8431459 | 5.4 | 150 | 1 | 150 | 0.015 | S 14°11.137′ | E121°53.294′ |
| | | | 380053 | 8431384 | 12.4 | 0 | 0 | 0 | 0.000 | S 14°11.178′ | E121°53.307′ |
| | | | 380031 | 8431459 | 5.4 | 78 | 1 | 78 | 0.008 | S 14°11.137′ | E121°53.294′ |
| | | Algae (A1) | 380106 | 8431330 | 20 | 0 | 0 | 0 | 0.000 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | with the reef possibly indicating a long shore current. Reef is heavily dissected with well developed, steep sided surge channels, which meander rather than being straight. Tops of shallow reef bare and honeycombed. | Algae (A2) | 380031 | 8431459 | 5.4 | 150 | 1 | 150 | 0.015 | | |
| | | Porifera (P1) | 380053 | 8431384 | 12.4 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 380031 | 8431459 | 5.4 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 380053 | 8431384 | 12.4 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 380031 | 8431459 | 5.4 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 380053 | 8431384 | 12.4 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 380031 | 8431459 | 5.4 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 380106 | 8431330 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 380031 | 8431459 | 5.4 | 150 | 1 | 150 | 0.015 | | |
| | | Echinodermata (E1) | 380106 | 8431330 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 380031 | 8431459 | 5.4 | 150 | 1 | 150 | 0.015 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 380106 | 8431330 | 20 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: Lagoon back slope - East side** | **29** | **384866** | **8438472** | **20** | **0** | **0** | **0** | **0.000** | **S 14°07.346′** | **E121°56.000′** |
| | Back slope reef pool zone where the lagoon entrance is marked by a shallow reef bar at 10 m. The bar appears to be a series of interconnecting rocky outcrops. At 20 m a scree slope of broken coral rubble leads to the reef bar crest. Rocky outcrops with abundant remnant coral and other fauna exist amid coral rubble debris. | | 384903 | 8438503 | 13.3 | 49 | 1 | 49 | 0.005 | S 14°07.329′ | E121°56.021′ |
| | | Algae (A1) | 384866 | 8438472 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 384903 | 8438503 | 13.3 | 49 | 1 | 49 | 0.005 | | |
| | | Porifera (P1) | 384903 | 8438503 | 13.3 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | NOT DONE | | | | | | | | |
| | | Scleracterinia (S1) | 384903 | 8438503 | 13.3 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | NOT DONE | | | | | | | | |
| | | Crustacea (C1) | 384903 | 8438503 | 13.3 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | NOT DONE | | | | | | | | |
| | | Mollusca (M1) | 384866 | 8438472 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 384903 | 8438503 | 13.3 | 49 | 1 | 49 | 0.005 | | |
| | | Echinodermata (E1) | 384866 | 8438472 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 384903 | 8438503 | 13.3 | 49 | 1 | 49 | 0.005 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 384866 | 8438472 | 20 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: Outer slope NE East Hook** | **30** | **389761** | **8443317** | **20** | **0** | **0** | **0** | **0.000** | **S 14°04.729′** | **E121°58.733′** |
| | Outer reef of bare rock heavily dissected by deep and steep sided surge channels. Corals are few and stunted. Some plate corals exist on | | 389703 | 8443316 | 3.5 | 60 | 1 | 60 | 0.006 | S 14°04.730′ | E121°58.701′ |
| | | | 389715 | 8443318 | 10.5 | 14 | 1 | 14 | 0.001 | S 14°04.729′ | E121°58.707′ |
| | | | 389703 | 8443316 | 3.5 | 14 | 1 | 14 | 0.001 | S 14°04.730′ | E121°58.701′ |

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **SOUTH SCOTT REEF** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS (+/- ca.10 m) | | | | | | | WGS84 Datum | |
| | **Dive: Outer slope NE East Hook (continued)** the channel walls, shallow caves and deeper areas (20 m). Channels with coralline sand and coral rubble. Some small massive corals exist here. Tops of reef are bare with numerous urchins. | Algae (A1) | 389761 | 8443317 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 389703 | 8443316 | 3.5 | 60 | 1 | 60 | 0.006 | | |
| | | Porifera (P1) | 389715 | 8443318 | 10.5 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 389703 | 8443316 | 3.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 389715 | 8443318 | 10.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 389703 | 8443316 | 3.5 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 389715 | 8443318 | 10.5 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 389703 | 8443316 | 3.5 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 389761 | 8443317 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 389703 | 8443316 | 3.5 | 60 | 1 | 60 | 0.006 | | |
| | | Echinodermata (E1) | 389761 | 8443317 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 389703 | 8443316 | 3.5 | 60 | 1 | 60 | 0.006 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 389761 | 8443317 | 20 | 0 | 0 | 0 | 0.000 | | |
| | NORTH SCOTT REEF | | | | | | | | | | |
| 23-Sep-06 | **Dive: Outer slope SE side** | **31** | **383969** | **8452024** | **20** | **0** | **0** | **0** | **0.000** | **S 13°59.993′** | **E121°55.536′** |
| | Isolated outcrops surrounded by coral rubble over sand leading gently up the slope to a vertical reef abutment dissected by surge gullies. Sides of outcrops have encrusting corals - caves and underhangs have good cover of soft biota. In general hard corals are few. Top of reef is bare, fragmented and honeycombed providing shelter for a diverse invertebrate assemblage. | | 383875 | 8452097 | 3.5 | 120 | 1 | 120 | 0.012 | S 13°59.953′ | E121°55.484′ |
| | | | 383913 | 8452076 | 10.5 | 44 | 1 | 44 | 0.004 | S 13°59.964′ | E121°55.505′ |
| | | | 383875 | 8452097 | 3.5 | 44 | 1 | 44 | 0.004 | S 13°59.953′ | E121°55.484′ |
| | | Algae (A1) | 383969 | 8452024 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 383875 | 8452097 | 3.5 | 120 | 1 | 120 | 0.012 | | |
| | | Porifera (P1) | 383913 | 8452076 | 10.5 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 383875 | 8452097 | 3.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 383913 | 8452076 | 10.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 383875 | 8452097 | 3.5 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 383913 | 8452076 | 10.5 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 383875 | 8452097 | 3.5 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 383969 | 8452024 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 383875 | 8452097 | 3.5 | 120 | 1 | 120 | 0.012 | | |
| | | Echinodermata (E1) | 383969 | 8452024 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 383875 | 8452097 | 3.5 | 120 | 1 | 120 | 0.012 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 383969 | 8452024 | 20 | 0 | 0 | 0 | 0.000 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Dive: Lagoon site opposite stn 31** | **32** | **382784** | **8453552** | **11** | **0** | **0** | **0** | **0.000** | **S 13°59.161′** | **E121°54.882′** |
| | A once rich and diverse flat coral reef but now coral rubble overlaid with new coral heads of many species. The site has large rocky outcrops that sometimes project above the otherwise flat reef. Site is lacking any large *Tridacna* clams. | | 382726 | 8453544 | 6 | 59 | 1 | 59 | 0.006 | S 13°59.165′ | E121°54.850′ |
| | | Algae (A1) | 382784 | 8453552 | 11 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 382726 | 8453544 | 6 | 59 | 1 | 59 | 0.006 | | |
| | | Porifera (P1) | 382784 | 8453552 | 11 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 382726 | 8453544 | 6 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 382784 | 8453552 | 11 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 382726 | 8453544 | 6 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 382784 | 8453552 | 11 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 382726 | 8453544 | 6 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 382784 | 8453552 | 11 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 382726 | 8453544 | 6 | 59 | 1 | 59 | 0.006 | | |
| | | Echinodermata (E1) | 382784 | 8453552 | 11 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 382726 | 8453544 | 6 | 59 | 1 | 59 | 0.006 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 382784 | 8453552 | 11 | 0 | 0 | 0 | 0.000 | | |
| | **Intertidal: East side south channel** | **33** | **375790** | **8450404** | **0** | **100** | **1** | **100** | **0.010** | **S 14°00.850′** | **E121°50.988′** |
| | Flat algal covered platform dotted with rocks of turnable size - many have created small shallow pools. Bio-diversity appears to be low. | Porifera (P1) | 375790 | 8450404 | 0 | 15 | 1 | 15 | 0.002 | | |
| | | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |
| **24-Sep-06** | **Dive: AIMS site (SL4-1) SE corner** | **34** | **376983** | **8449288** | **20** | **0** | **0** | **0** | **0.000** | **S 14°01.459′** | **E121°51.648′** |
| | Gentle coralline sand slope with large coral outcrops that tend to coalesce into an irregular reef with surge channels at shallower depths. The outcrops have a covering of hard and soft corals and sea fans - the latter are perpendicular to the reef front indicating a long-shore current. The hard corals are generally massive and encrusting with small *Acropora* colonies evident. Little coral rubble at this site. | | 377014 | 8449348 | 4.7 | 69 | 1 | 69 | 0.007 | S 14°01.426′ | E121°51.666′ |
| | | | 376994 | 8449314 | 11.7 | 0 | 0 | 0 | 0.000 | S 14°01.445′ | E121°51.654′ |
| | | | 377014 | 8449348 | 4.7 | 40 | 1 | 40 | 0.004 | S 14°01.426′ | E121°51.666′ |
| | | Algae (A1) | 376983 | 8449288 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 377014 | 8449348 | 4.7 | 69 | 1 | 69 | 0.007 | | |
| | | Porifera (P1) | 376994 | 8449314 | 11.7 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 377014 | 8449348 | 4.7 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 376994 | 8449314 | 11.7 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 377014 | 8449348 | 4.7 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 376994 | 8449314 | 11.7 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 377014 | 8449348 | 4.7 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 376983 | 8449288 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 377014 | 8449348 | 4.7 | 69 | 1 | 69 | 0.007 | | |
| | | Echinodermata (E1) | 376983 | 8449288 | 20 | 0 | 0 | 0 | 0.000 | | |

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **NORTH SCOTT REEF** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS (+/- ca.10 m) | | | | | | | WGS84 Datum | |
| | **Dive: AIMS site (SL4-1) SE corner (contined)** | Echinodermata (E2) | 377014 | 8449348 | 4.7 | 69 | 1 | 69 | 0.007 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 376983 | 8449288 | 20 | 69 | 1 | 69 | 0.007 | | |
| | **Intertidal: Between stn 31 & 32** | **35** | **383297** | **8452748** | **0** | **100** | **1** | **100** | **0.010** | **S 13°59.598′** | **E121°55.165′** |
| | Snorkel/scuba dive site at intertidal lagoon edge. Coral sands with scattered outcrops and large pieces of coral rubble overlaying rock pavement. Some low but wide Porites heads evident. | Porifera (P1) | 383297 | 8452748 | 0 | 15 | 1 | 15 | 0.002 | | |
| | | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |
| | **Dive: Outer slope NE side** | **36** | **385578** | **8457949** | **20** | **0** | **0** | **0** | **0.000** | **S 13°56.783′** | **E121°56.445′** |
| | 1984 WAM sites (stn15,16). Irregular reef with steep sided surge channels that gently slope upwards. Fine coral | | 385445 | 8457882 | 5.2 | 150 | 1 | 150 | 0.015 | S 13°56.819′ | E121°56.371′ |
| | | | 385541 | 8457932 | 12.2 | 0 | 0 | 0 | 0.000 | S 13°56.792′ | E121°56.424′ |
| | or coralline sands with coral rubble cover the channel floors. Massive and encrusting corals are dominant with some small plate *Acropora*. Reef top and much of the deeper outcrops are bare but with good invertebrate assemblages in holes and crevices. Reef underhangs and caves have a good coverage of soft biota. | | 385445 | 8457882 | 5.2 | 108 | 1 | 108 | 0.011 | S 13°56.819′ | E121°56.371′ |
| | | Algae (A1) | 385578 | 8457949 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 385445 | 8457882 | 5.2 | 150 | 1 | 150 | 0.015 | | |
| | | Porifera (P1) | 385541 | 8457932 | 12.2 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 385445 | 8457882 | 5.2 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 385541 | 8457932 | 12.2 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 385445 | 8457882 | 5.2 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 385541 | 8457932 | 12.2 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 385445 | 8457882 | 5.2 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 385578 | 8457949 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 385445 | 8457882 | 5.2 | 150 | 1 | 150 | 0.015 | | |
| | | Echinodermata (E1) | 385578 | 8457949 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 385445 | 8457882 | 5.2 | 150 | 1 | 150 | 0.015 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 385578 | 8457949 | 20 | 0 | 0 | 0 | 0.000 | | |
| | **Intertidal: East side outer reef** | **37** | **385353** | **8457595** | **0** | **100** | **1** | **100** | **0.010** | **S 13°56.974′** | **E121°56.319′** |
| | Outer reef flat with many small boulders covered with algal turf. No coral cover or sand cays. | Porifera (P1) | 385353 | 8459595 | 0 | 15 | 1 | 15 | 0.002 | | |
| | | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25-Sep-06 | **Dive: Rocky outcrop in channel** | **38** | **381511** | **8460151** | **11.4** | **0** | **0** | **0** | **0.000** | **S 13°55.578′** | **E121°54.192′** |
| | One of a series of rocky outcrops at the lagoon mouth of the NE channel. The outcrops are bare except for soft corals and scattered hard coral recruits of various morphologies. Surrounding area is coral rubble and evidence of significant destruction. Sea whips and gorgonian fans indicate strong current flow. | | 381470 | 8460174 | 4.4 | 48 | 1 | 48 | 0.005 | S 13°55.566′ | E121°54.169′ |
| | | Algae (A1) | 381511 | 8460151 | 11.4 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 381470 | 8460174 | 4.4 | 48 | 1 | 48 | 0.005 | | |
| | | Porifera (P1) | 381511 | 8460151 | 11.4 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 381470 | 8460174 | 4.4 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 381511 | 8460151 | 11.4 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 381470 | 8460174 | 4.4 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 381511 | 8460151 | 11.4 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 381470 | 8460174 | 4.4 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 381511 | 8460151 | 11.4 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 381470 | 8460174 | 4.4 | 48 | 1 | 48 | 0.005 | | |
| | | Echinodermata (E1) | 381511 | 8460151 | 11.4 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 381470 | 8460174 | 4.4 | 48 | 1 | 48 | 0.005 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 381511 | 8460151 | 11.4 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: Coral outcrop - east lagoon** | **39** | **382731** | **8457673** | **13.2** | **0** | **0** | **0** | **0.000** | **S 13°56.925′** | **E121°54.863′** |
| | Large outcrop with smaller rocky outcrops surrounding the crown and extending to deeper depths where coral rubble is extensive. Outcrop covered in rubble but with a lot of new coral growth. Two very large *Porites* heads project above the rubble. | | 382715 | 8457683 | 6.2 | 20 | 1 | 20 | 0.002 | S 13°56.920′ | E121°54.854′ |
| | | Algae (A1) | 382731 | 8457673 | 13.2 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 382715 | 8457683 | 6.2 | 20 | 1 | 20 | 0.002 | | |
| | | Porifera (P1) | 382731 | 8457673 | 13.2 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 382715 | 8457683 | 6.2 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 382731 | 8457673 | 13.2 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 382715 | 8457683 | 6.2 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 382731 | 8457673 | 13.2 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 382715 | 8457683 | 6.2 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 382731 | 8457673 | 13.2 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 382715 | 8457683 | 6.2 | 20 | 1 | 20 | 0.002 | | |
| | | Echinodermata (E1) | 382731 | 8457673 | 13.2 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 382715 | 8457683 | 6.2 | 20 | 1 | 20 | 0.002 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 382731 | 8457673 | 13.2 | 0 | 0 | 0 | 0.000 | | |

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **NORTH SCOTT REEF** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS | | | | | | | WGS84 Datum | |
| | **Drift dive: NE channel** | **40** | **0382192** | **8461469** | **0** | **0** | **0** | **0** | **0.000** | **S 13°54.865′** | **E121°54.573′** |
| | Well scoured channel with good coverage of encrusting soft biota on the walls of the underhangs and lee side of the larger rocks. Highly mobile, coarse sand has settled in the eddy areas of the channel along the wall edges but diversity low. The rock surfaces are bare except for encrusting coralline algae. | | 0381025 | 8461402 | 12 | 1169 | 1 | 1169 | 0.117 | S 13°54.898′ | E121°53.925′ |
| | | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |
| | | | | | | | | | | | |

**Above:** Station 35, North Scott Reef. Sand over rock pavement. (Photo: John Huisman)

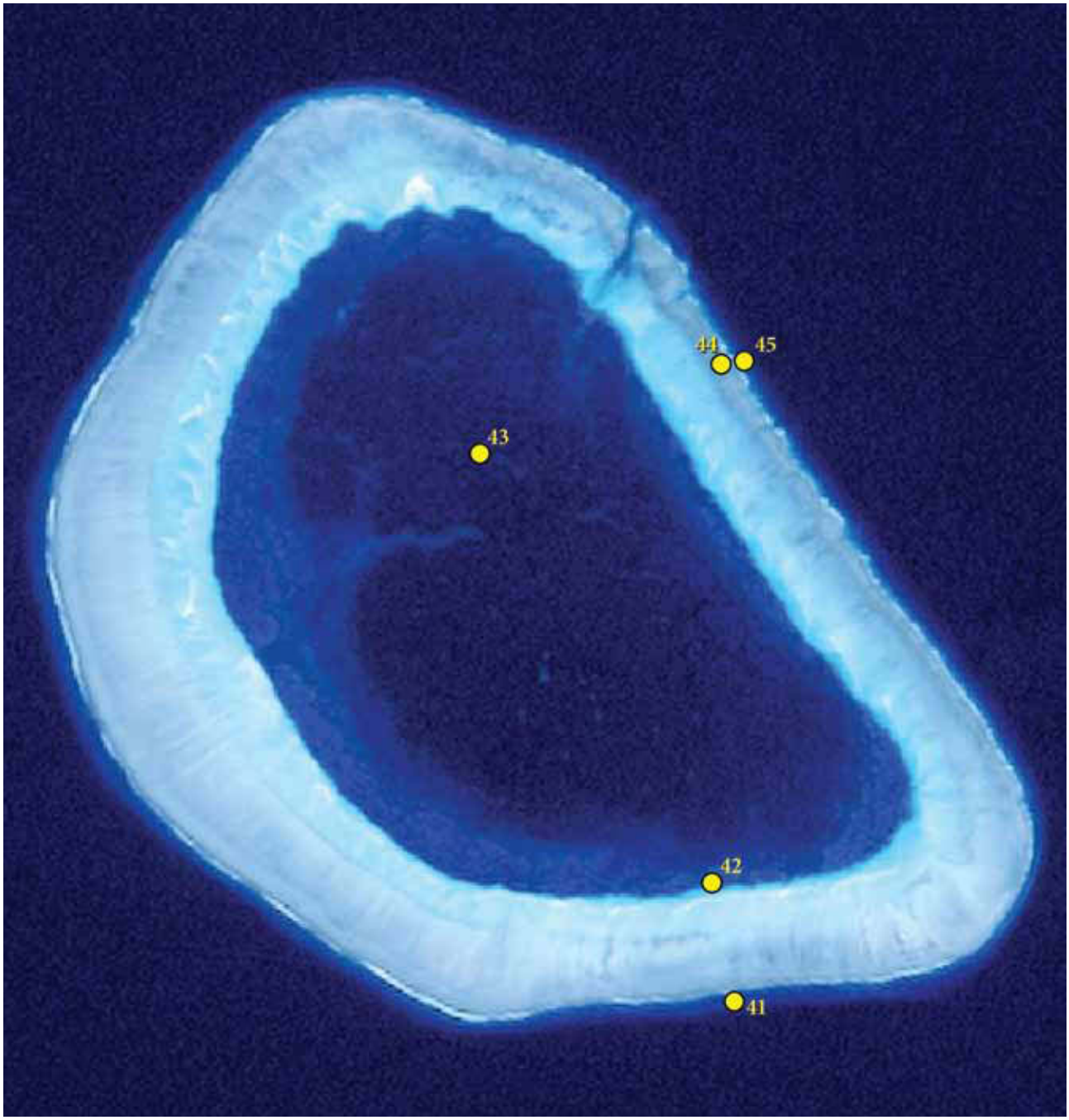


**Figure 3** Seringapatam Reef with surveyed station sites (2006)

**Table 4** Station and transect data for Seringapatam (2006)

| Date | Site | Station | Transect (T) | | T-depth | T-length | T-width | T-area | T-area | Station coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **SERINGAPATAM REEF** | | **Easting** | **Northing** | msw | m | m | m2 | ha | **Latitude** | **Longitude** |
| | | | UTM ZONE 5OS (+/- ca.10 m) | | | | | | | WGS84 Datum | |
| 26-Sep-06 | **Dive: South side outer slope** | **41** | **395253** | **8485323** | **20** | **0** | **0** | **0** | **0.000** | **S 13°41.956′** | **E122°01.879′** |
| | At deeper depths a gently rising coral rubble slope leads to bare rocky outcrops that merge to form a dissected reef. Surge channels dissect the reef forming steep sided but broken gutters. Little coral growth is present but caves and underhangs have reasonable soft biota cover. The reef top is bare, covered with coralline algae and forms an ideal habitat for cryptic phyla (Mollusca, Crustacea etc) | | 395228 | 8485404 | 4.1 | 86 | 1 | 86 | 0.009 | S 13°41.912′ | E122°01.866′ |
| | | | 395221 | 8485353 | 10.5 | 0 | 0 | 0 | 0.000 | S 13°41.939′ | E122°01.862′ |
| | | | 395228 | 8485404 | 3.5 | 52 | 1 | 52 | 0.005 | S 13°41.912′ | E122°01.866′ |
| | | Algae (A1) | 395253 | 8485323 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 395228 | 8485404 | 4.1 | 86 | 1 | 86 | 0.009 | | |
| | | Porifera (P1) | 395221 | 8485353 | 10.5 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 395228 | 8485404 | 3.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 395221 | 8485353 | 10.5 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 395228 | 8485404 | 3.5 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 395221 | 8485353 | 10.5 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 395228 | 8485404 | 3.5 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 395253 | 8485323 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 395228 | 8485404 | 4.1 | 86 | 1 | 86 | 0.009 | | |
| | | Echinodermata (E1) | 395253 | 8485323 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 395228 | 8485404 | 4.1 | 86 | 1 | 86 | 0.009 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 395253 | 8485323 | 20 | 0 | 0 | 0 | 0.000 | | |
| | **Dive: Lagoon edge/platform interface** | **42** | **395052** | **8486404** | **10** | **100** | **1** | **100** | **0.010** | **S 13°41.369′** | **E122°01.770′** |
| | Lagoon rises gently as a sandy slope with scattered small *Acropora* thickets. At the lagoon edge the sand rises steeply to a sandy plain where a small scattered rubble reef and occasional coral outcrops provide biotic cover. The sand is rich with infauna. Dead coral and empty *Tridacna* shells on the bottom. | Porifera (P1) | 395052 | 8486404 | 0 | 15 | 1 | 15 | 0.002 | | |
| | | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |
| | **Dive: Inner lagoon reef outcrop** | **43** | **392934** | **8490320** | **20** | **0** | **0** | **0** | **0.000** | **S 13°39.240′** | **E122°00.604′** |
| | Inner lagoon rocky knoll with a mix of coral rubble and scattered coral colonies, both old and new, overlying coral rubble. Larger rocky outcrops | | 392931 | 8490429 | 7 | 110 | 1 | 110 | 0.011 | S 13°39.181′ | E122°00.603′ |
| | | | 392934 | 8490395 | 13 | 0 | 0 | 0 | 0.000 | S 13°39.199′ | E122°00.604′ |
| | | | 392931 | 8490429 | 7 | 35 | 1 | 35 | 0.003 | S 13°39.181′ | E122°00.603′ |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | intermingle with coral colonies on a gradual slope to the knoll's crown. Empty giant clam shells are evident. Rambling thicket of *Acropora* present on rocky outcrops. | Algae (A1) | 392934 | 8490320 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 392931 | 8490429 | 7 | 110 | 1 | 110 | 0.011 | | |
| | | Porifera (P1) | 392934 | 8490395 | 13 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 392931 | 8490429 | 7 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 392934 | 8490395 | 13 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 392931 | 8490429 | 7 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 392934 | 8490395 | 13 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 392931 | 8490429 | 7 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 392934 | 8490320 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 392931 | 8490429 | 7 | 110 | 1 | 110 | 0.011 | | |
| | | Echinodermata (E1) | 392934 | 8490320 | 20 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 392931 | 8490429 | 7 | 110 | 1 | 110 | 0.011 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 392934 | 8490320 | 20 | 0 | 0 | 0 | 0.000 | | |
| 27-Sep-06 | **Intertidal:Sth of channel (AIMS SS-3)** | **44** | **395136** | **8491135** | **0** | **100** | **1** | **100** | **0.010** | **S 13°38.803′** | **E122°01.827′** |
| | Reef flat covered in algal turf and the alga, *Turbinaria*. Shallow flow channels dissect the reef creating small water falls. At highest part of the reef scattered coral slabs provide shelter for biota . At lower levels the reef is honeycombed in parts and flat with tidal pools in other sections. | Porifera (P1) | 395136 | 8491135 | 0 | 15 | 1 | 15 | 0.002 | | |
| | | Qualitative - biodiversity sampling (except Porifera) | | | | | | | | | |
| | **Dive: Outer slope NE channel** | **45** | **395345** | **8491164** | **12.1** | **0** | **0** | **0** | **0.000** | **S 13°38.788′** | **E122°01.944′** |
| | Steep sided reef with deep and meandering gutters forming reef blocks. Gutters quite wide in shallows forming small rubble and sand plains. A variety of corals - massive encrusting and *Acropora* plate are present At greater depths (20 m) the gutters are narrow and the reef is encrusted with massive and encrusting corals with soft corals on both sides and tops. | | 395301 | 8491153 | 5.1 | 46 | 1 | 46 | 0.005 | S 13°38.794′ | E122°01.919′ |
| | | Algae (A1) | 395345 | 8491164 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | | Algae (A2) | 395301 | 8491153 | 5.1 | 46 | 1 | 46 | 0.005 | | |
| | | Porifera (P1) | 395345 | 8491164 | 12.1 | 15 | 1 | 15 | 0.002 | | |
| | | Porifera (P2) | 395301 | 8491153 | 5.1 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S1) | 395345 | 8491164 | 12.1 | 15 | 1 | 15 | 0.002 | | |
| | | Scleracterinia (S2) | 395301 | 8491153 | 5.1 | 15 | 1 | 15 | 0.002 | | |
| | | Crustacea (C1) | 395345 | 8491164 | 12.1 | 5 | 1 | 5 | 0.001 | | |
| | | Crustacea (C2) | 395301 | 8491153 | 5.1 | 5 | 1 | 5 | 0.001 | | |
| | | Mollusca (M1) | 395345 | 8491164 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | | Mollusca (M2) | 395301 | 8491153 | 5.1 | 46 | 1 | 46 | 0.005 | | |
| | | Echinodermata (E1) | 395345 | 8491164 | 12.1 | 0 | 0 | 0 | 0.000 | | |
| | | Echinodermata (E2) | 395301 | 8491153 | 5.1 | 46 | 1 | 46 | 0.005 | | |
| | *Coordinates for Fish are approximate* | Fish (F1) | 395345 | 8491164 | 20 | 0 | 0 | 0 | 0.000 | | |

**Above:** Station 14, Mermaid Reef lagoon - *Acropora* coral and seagrass. (Photo: Clay Bryce)