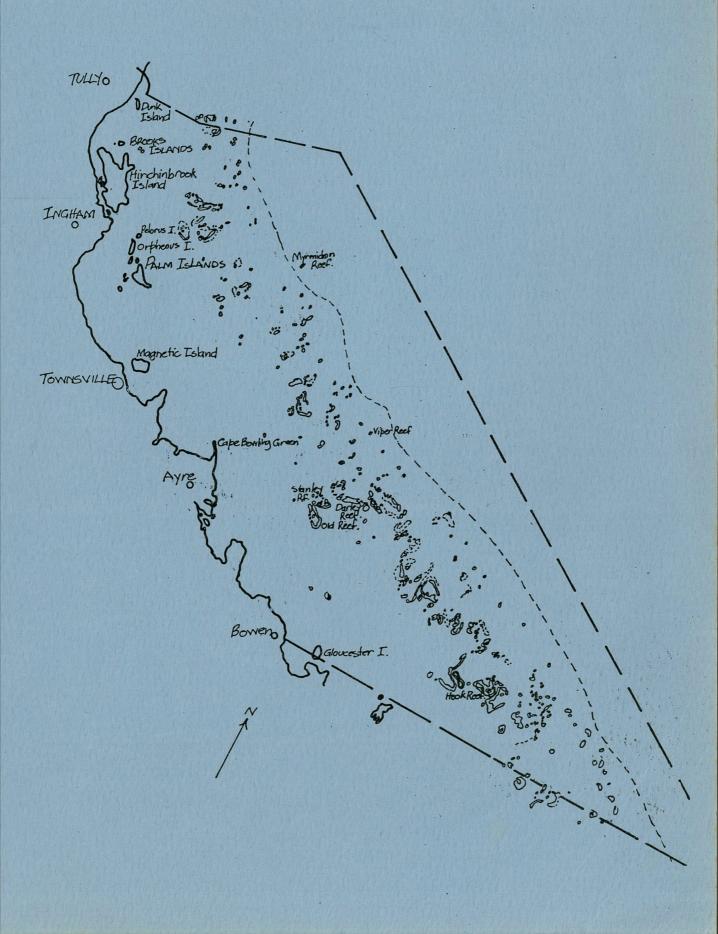
Great Barrier Reef Resource Inventory TOWNSVILLE SECTION(115'00'10 20'00)



The Great Barrier Reef

Resource Inventory

TOWNSVILLE SECTION (17° 48'S to 19° 59'S)

Prepared for

the Great Barrier Reef Marine Park Authority

bу

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ERRATA

Great Barrier Reef Resource Inventory, Townsville Section

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Pp. 18, 37, 43 and 100: <u>Gentien</u> should be <u>Geutien</u>.

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1.0 INTRODUCTION

Reef (GBR) Region Resource Inventory is a The Great Barrier computer-compatible information system which incorporates all known, accessible data pertaining to the natural features and patterns of human usage of the islands, cays, reefs, shoals, etc. of Australia's Great Barrier Reef Region. The Region is defined for the purposes of the Inventory as the entire area within the boundaries of the Region defined in the Schedule of the Great Barrier Reef Marine Park Act Amendment Act 1978, and an additional area in Torres Strait.

The first work on the Inventory was undertaken in January, 1982 by Gina Green, Edward Hegerl and Diane Tarte. By March 31, 1982 the first draft of the Resource Inventory for the Cairns Section of the Great Barrier Reef Marine Park had been completed and the Great Barrier Reef Marine presented to Park Authority (ALS) (GBRMPA) along with the Australian Littoral Society's recommendations for zoning the Cairns Section Marine Park.

The Inventory was updated in September, 1982 and will be updated again in the future to include the results of baseline surveys of human impact on some of the Cairns Section islands which were carried out by ALS in September-October, 1982.

A grant from Fund for Animals Ltd. Australia made it possible for Peter Outridge to begin full-time work on the Inventory for ALS in September, 1982. This involved collating data on other portions of the Great Barrier Reef not yet included within the Great Barrier Reef Marine Park.

In January, 1983 the ALS received a consultancy from GBRMPA to prepare the Resource Inventory on the reefs and islands within the remainder of the Reef Region (as defined in the Marine Park Amendments Act) not yet included within the Barrier Reef Marine Park.

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For ease of data presentation and retrieval, the Resource Inventory, when completed, will be divided into six geographical areas:

- 1. Torres Strait Section (9° 05'S 10° 41'S)
- 2. Far Northern Section (10° 41'S approx. 14° 40'S)
- 3. Cairns Section (approx. 14° 40'S 17°S 48'E)
- 4. Townsville Section (17°S 48'E 20°S)
- 5. Whitsunday Islands Section (20°S 22° 30'S)
- Capricorn-Bunker and Keppel Groups Section (22° 30'S 24° 30'S)

The following file contains the Inventory of the Townsville Section, extending approximately from Tully to Bowen.

2.0 DESCRIPTION OF THE GBR RESOURCE INVENTORY

The Resource Inventory is made up of three types of information pro formas, brief descriptions of which are furnished below:

- <u>Reef Pro Formas</u> (also used for shoals and banks), containing 65 categories, each with an <u>X</u> prefix, for data entry and retrieval. Information contained in these pro formas relates to features below mean tide level.
- <u>Island Pro Formas</u> (also used for islets, cays and rocks), containing 20 information categories, each with a <u>Y</u> prefix. Information contained relates to features above mean tide level, including mangroves, although some rocks included have elevations below MLWN (e.g. U/N Rock 19-013-Y010).
- <u>Resort Pro Formas</u>, containing 51 information categories with <u>Z</u> prefixes, relating to tourist resorts on islands within the GBR Region.

A more detailed description of the information categories in each proforma is provided in the following section.

2.1 Pro Forma Descriptions

Reef Pro Forma

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- X1. <u>Reef</u>: Reef code number and name, as determined by the GBR Gazetteer.
- X2. Location: Latitude and longitude co-ordinates from the Gazetteer.
- X3. Group: Determined from Admiralty Charts.
- X4. <u>Size (ha)</u>: Reef area, from GBR Gazetteer.
- X5. <u>Description</u>: Geomorphological description of the reef, using the GBR Gazetteer and other published references, together with coral species recorded.
- X6. <u>Special Features</u>: Features, geomorphological or biological, which confer a special scientific or conservation value on the reef.
 - <u>Values</u>: The fossicking, reef fishing, other fishing, diving and sheltered anchorage values of reefs are determined from observer's reports.

Χ7.	No	fossicking	value _	
X8.	Poor	11	"-	
X9.	Moderate	Н.	11	
X10.	Good	11	**	
X11.	Very good	11	" _	
X12.	Poor	reef fishin	ng value	
X13.	Moderate	11 11		
X14.	Good	11 11		
X15.	Very good		11	
X16.	Other fish	ning values	· .	
X17	Poor	diving valu	10	
	Moderate			
	Good	** **	-	
	Very good		_	
720.	very good		-	
X21.	No	oboltopod (nohonog	
X22.		sheltered a	"	
$\land \angle \angle \bullet$	Poor			

~~~•	1001			
X23.	Moderate	"	11	
X24.	Good		н	
X25.	Very good	"	11	

Fossicking value is defined as the value of the reef for inter-tidal observation, photography and collecting.

Reef fishing value is defined as the value of the reef for fishing for reef species.

Includes game fishing and bait fishing values.

Diving value is defined as the value of the area for underwater observation (including snorkelling), determined by observer's reports.

Sheltered anchorage as formed by the reef, the degree of shelter being determined by observers' reports and yachting guides.

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## Reef Pro Forma contd.

<u>Usage</u>: The four levels of usage (not, little, moderately, heavily) associated with human activities on reefs have been assigned in two ways. Firstly, they may be directly entered from observer's reports, where available. Thus, for example, an observer's report of a reef being "only rarely visited by sports fishermen" is entered as "X31. Little used by amateur fishermen"; and "not many divers go there" is entered as "X40. Moderately used by underwater observers." The second method, which is employed in those few cases when actual usage data, but no assessment, is given in the literature, is a subjective judgment of the relative level of usage of that particular reef compared with other reefs in the area.

X28.	Not Little Moderately Heavily	used " "	by " "	professional " " "	fisherma " "	en Professional fisher- men are defined as those who are licen- ced to derive their income from fishing. This category encom- passes bait fishing by professionals, but does not include the crews of charter boats that take out recreat- ional fishermen.
X32.	Not Little Moderately Heavily	used " "	by "	amateur fishe """" """	1 1	Amateur fishermen are defined as those who do not derive the majority of their income from fish- ing and/or who are not licenced. This category includes bait fishing by amateur fishermen.
X36.	Not Little Moderately Heavily	used " "	by "	spearfisherme " " "	<u>en</u>	Spearfishermen are defined as those using the reef only for spearfishing (includes both amateurs and professionals).
X40.	Not Little Moderately Heavily	used " "	by "	underwater ob " " "	DSETVETS " " "	Underwater observers are defined as those who use the reef for underwater photography and observation, but not collecting or spear- fishing.
X44.	Not Little Moderately Heavily	used " "	by " "	researchers " " "	s	Researchers are defined as scientists (affiliated or individuals) engaged in study of any aspect of reef science.

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Reef Pro Forma contd.

X46. Not X47. Little X48. Moderately X49. Heavily	11 11	11	walkers " "	Reef walkers are defined as those who are interested in inter-tidal observation and photography, but not collecting.
X50. Not X51. Little X52. Moderately X53. Heavily	11 11	11	<u>collectors</u> " " "	This category encom- passes both amateur and professional shell collecting.
X54. Not X55. Little X56. Moderately X57. Heavily	used by " " " "	11	collectors " "	Fish collectors are defined as amateur and professional aquarium fish collectors.
X58. Not X59. Little X60. Moderately X61. Heavily	used by " " " "	11	collectors " " "	This category encom- passes both amateur and professional coral collectors.

X62. Additional usage data: This section encompasses additional data not entered in previous usage categories including: presence of navigational lights on the reef, descriptions of the type of anchorage, the level of charter boat and game fishing activity. and general observations on human usage patterns - particularly those of Domm (1977). Information on user group visits to reefs supplied by Domm (1977) has been entered in the following categories for the Townsville Section: Inventory Entry

User Group Visitation Rate

(Domm, 1977)

"more popular with user groups in this region" : >3.0 group visits/year "moderately popular with user groups in this region" : >1.5 - <3.0 group visits/year "less popular with user

groups in this region : <1.5 group visits/year The visitation rate categories have been chosen such that the "more popular" category corresponds to the upper 10-20% of reefs listed by Domm (1977), "moderately popular" corresponds to the intermediate 30-40%, while "less popular" corresponds to the lower 40-60% of reefs, based on user visitation rates in each section of the GBR Region.

- X63. Historical: Historical information (both Aboriginal and European) relating to the reef. Of particular note are historical accounts of reef morphology and biota (e.g. Stanley, 1927).
- X64. Publications: Publications of relevance to the reef, which are not listed in any of the above categories, are cited here, with the full reference listed in the bibliography to this Section.

X65. Notes: Any information not able to be categorized in the above.

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### Island Pro Forma

- Yl. <u>Island</u>: Island code number, common name (determined from Admiralty Charts and yachting guides), and any alternative names (historical and indigenous).
- Y2. Location: Latitude and longitude co-ordinates from the most recent Admiralty Charts, taken at the approximate centre of the island.
- Y3. Group: As determined from Admiralty Charts.
- Y4. <u>Size (ha)</u>: Sources are Anon. (1966), Anon. (1974) and tenure information (see below).
- Y5. <u>History</u>: Both Aboriginal/Islander and European histories to the present day. Also historical scientific accounts.
- Y6. <u>Tenure</u>: Land tenure information from Qld. Dept. of Lands and Qld. Dept. of Mapping and Surveying. Batch and File references in this section refer to the relevant Lands Dept. files. It should be noted that the letters "S.L." and "N.C.L." refer to Special Lease and Non-Competitive Lease, respectively. "Freehold C.T." and "Freehold D.G." refer to Freehold Certificate of Title and Freehold Deed of Grant, respectively. Volume and Folio numbers following these refer to the information locations in the State Titles Offices.
- Y7. <u>Development</u>: Brief description of number and purposes of buildings; presence of radio stations, navigational lights, airstrips, etc.
- Y8. <u>General features</u>: Descriptions of geology, geomorphology, topography and vegetation, also presence or absence of coral reefs fringing the island.
- Y9. Approx. annual rainfall (mm): As calculated from Anon. (1966).
- Y10. Elevation (m): The heights of islands, etc. are as marked on the most recent Admiralty Charts. These are heights above M.H.W.S. In almost all cases they are topographic heights. In some instances they are to the top of the tree line, and are so noted in the Inventory. On Admiralty Charts the heights of rocks and cays is usually given as a "drying height" which is the height above the chart datum. For these an approximation of the height relative to M.H.W.S. was made using the table of Tidal Levels referred to Datum of Soundings on each chart. Each table contains values for a number of locations on the chart. If no location was proximal to the rock or cay, two locations were used to provide end point values to roughly estimate the M.H.W.S.-chart datum difference at the rock or cay location.
- Yll. Local Authority: Determined from Qld. Dept. of Mapping and Survey files.
- Y12. <u>Is camping permitted</u>? Determined, where possible, from users' reports, QNPWS and yachting guides.

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Island Pro Forma contd.

- Y13. <u>Island's scenic value (scale 0-3)</u>: Determined from observers' reports.
- Yl4. <u>Island's naturalness value (scale 0-3)</u>: Determined from recent observers' reports.
- Y15. <u>Special biota</u>: Includes bird and vegetation species lists and bird breeding information. Also other biota (e.g. turtles) of scientific or conservation interest.
- Y16. <u>Rare or endangered species</u>: Rare or endangered status determined from literature.
- Y17. <u>Is there a jetty</u>? If so, the size, location and ownership details.
- Y18. <u>Is there an anchorage not associated with the island's reef?</u> Description of anchorages not adjacent to fringing reefs of islands, or where islands lack fringing reefs.
- Y19. <u>Publications</u>: Any publications referring to the island which were not listed in any of the above categories are cited here, with a full reference listing presented in the bibliography.
- Y20. <u>Notes</u>: Any information not able to be categorized in the above, including location of freshwater supplies.

## Resort Pro Forma

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- Z1. Name of resort: Resort code number and resort name.
- Z2. Island: Name of island.
- Z3. <u>Resort area (ha)</u>: Area covered by the leasehold or freehold title upon which the resort is situated.
- Z4. <u>% island used</u>: Percentage of the island's area covered by the resort's lease or freehold title.
- Z5. <u>Tenure</u>: Resort land tenure information, corresponding to the  $\underline{Y6}$  entry, Island Pro Forma.
- Z6. Presently held by: Owner(s) or lessee(s) of the resort.
- Z7. <u>Changes of ownership</u>: Sequence of ownership or leaseholders since resort was established.
- Z8. <u>Date established</u>: Year in which the resort first accepted guests.
- Z9. <u>Date(s) expanded</u>: Date(s) on which accommodation numbers or standards were upgraded.
- Z10. Initial establishment costs (\$): Costs of establishment (in \$ values at the time of commencement).
- Zll. <u>Value of additions (\$)</u>: Costs of expansions (in \$ values at the time of expansion).
- Zl2a. <u>Max. overnight accommodation</u>: Maximum number of overnight guests able to be accommodated.
- Zl2b. <u>Max. number day visitors</u>: Maximum number of day visitors possible.
- Z13. Peak season: Season of highest rate of room occupancy.
- Zl4. <u>Visitor days per annum</u>: Total number of days spent by visitors at the resort (this figure, unless otherwise noted, may include overnight guests).
- Z15. <u>Airstrip</u>: Dimensions of strip, and types of aircraft able to land.
- Zl6. <u>Access means & time (min.)</u>: Access means and times from nearby centres.
- Z17. Access from: Points of access from the mainland to the resort.
- Z18. <u>Distance (km)</u>: Direct distance from nearby mainland centres to the resort.
- Z19. <u>Staff employed</u>: Number of full-time (and part-time) staff. The two categories are separated where data are available.

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Resort Pro Forma contd.

	Activities:		
Z20.	Coral viewing		
Z21.	Bushwalks		
Z22.	Line fishing		
Z23.	Spear fishing		
Z24.	Skin diving		
Z25.	Water skiing	Ac	tiv
Z26a.	Sailing	re	sor
Z26b.	Windsurfing		
Z27.	Tennis		
Z28.	Golf		
Z29.	Swimming		
Z30.	Glass-bottom boat		
Z31.	Archery		
Z32.	Horseback riding		

Activities which are offered by the resort to guests and visitors.

Z34. Day cruises

Z33. Air tours

- Z35. Water supply: Method and capacity.
- Z36. Sewage disposal: Method and capacity.
- Z37. Garbage disposal: Method.
- Z38. Is camping permitted within resort area ? If so, any charges or number restrictions.
- Z39. Electricity source and capacity: Self-evident.
- Z40. Fuel storage: Method and capacity.
- Z41. <u>Shoreline development</u>: Number and size of buildings and other human constructions on the shoreline and their proximity to highest, high water spring tide level. Includes rock walls and groynes, concreted surfaces, swimming pools, helipads, etc.
- Z42. Pathways: Number and total length of pathways.
- Z43. Erosion on pathways (scale 0-3): Extent of erosion related to pathways.
- Z44. Estimated % of natural vegetation remaining in resort area: Self-evident.
- Z45. Resort-related damage outside resort area: Self-evident.
- Z46. <u>Any other development</u>: Any buildings or constructions not covered in above categories.
- Z47. Manager and address of resort: Self-evident.
- Z48. Telephone number of resort: Self-evident.
- Z49. <u>Radio frequencies</u>: Resort radio frequencies and hours of contact.
- Z50. <u>Notes</u>: Any information about the resort not able to be categorized in the above.
- Z51. <u>ALS photographic number</u>: Photographic reference number(s) in ALS collection.

2.2 Ordering of the Inventory Information

A separate pro forma entry is made in the Inventory for each reef, island and resort present in the GBR Region. The Inventory pro forma listings follow a geographic co-ordinate sequence from west to east along 1 minute intervals of latitude which are presented in a north to south order. Code numbers assigned to reefs, islands, etc. in this sequence recommence at each degree of latitude.

The co-ordinates which determine a reef's or an island's position in the Inventory are those of the approximate centre of the reef or island. In the case of fringing reefs around an island, or a group of associated reefs not fringing an island, the coordinates of the centre of the most north-westerly (N.W.) reef are used.

If an island has one or more fringing reefs, the island's listing immediately follows that of its reef (or reefs). This is then followed by the resort information if a resort is present on the island.

While the grouping of islands with attached reefs in this manner results in some disruption to the strict geographic order of the Inventory, it has been done to facilitate use of the information for planning by treating islands and their attached reefs as interrelated ecosystems. The geographic listing of islands has been preserved by inserting a cross-referenced note at each island's proper position in the Inventory according to its coordinates.

Two types of numbering system have been used to facilitate information access and usage:

- a computer-compatible code number system based on the GBR Gazetteer (which is described in section 3.0) designed for computer accession of data;

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- a running number system which is purely for manual use in the printed Inventory documents. Within each GBR Section, each entry (reef, island or resort) is given a sequential number according to the position in the Inventory of its full information listing. The information that follows this number may then be accessed through either the geographic co-ordinate or alphabetical indexes. The running number recommences for each Section of the Inventory - Cairns Section, Townsville Section, etc.

The code number immediately precedes the name of the island on the same line, while the running number is given on the preceeding line.

# 3.0 <u>INTEGRATION OF THE RESOURCE INVENTORY AND THE GBR GAZETTEER</u> CODE NUMBERING SYSTEMS

The Resource Inventory basically follows the naming and numbering system of the GBR Gazetteer compiled by staff of the Department of Geography, James Cook University of North Queensland. There are, however, amendments and additions to the Gazetteer system which are noted below.

# 3.1 Reef Code Numbers

The GBR Gazetteer provides names, position co-ordinates, descriptions and sizes for reefs, which are assigned a five-digit number code. Where more than one distinct reef fringes an island or coastal bay, etc., the Gazetteer provides co-ordinates and size data for each of the reefs, which are individually assigned a letter (A, B, etc.) after the reef name.

However, published studies on the reef systems of an island where more than one distinct reef is present often do not specify to which particular fringing reef the information applies. Where the information is specific in terms of location, it is entered under the appropriate fringing reef. In those cases where the particular fringing reef studied is not specified, the information is included with the reef group entry in the Inventory, using the Gazetteer number. Position coordinates and reef areas of multiple fringing reefs (from the Gazetteer) are individually entered in the appropriate categories of the reef pro forma, with a total area given for the group of fringing reefs surrounding that particular island or headland, etc. The co-ordinates of the most northwesterly fringing reef of the group, which were used to determine the group's position in the Inventory, are also given.

An example is Orpheus Island Reefs which are listed in the Inventory under:

18-049 Orpheus (Goolboddi) Island Reefs Position co-ordinates are entered in X2 as:

X2. A, (Pioneer Bay) (Goolboddi) 18° 36'S 146° 29'E B, (Hazard Bay) (Goolboddi) 18° 38'S 146° 30'E C, (Harrier Pt.) (Goolboddi) 18° 40'S 146° 29'E D, (Goolboddi) 18° 38'S 146° 30'E E, (Goolboddi) 18° 36'S 146° 30'E NW co-ordinates, 18° 36'S 146° 29'E

Reef sizes appear in X4 as:

X4. A, 120 ha B, 60 ha C, 120 ha D, 60 ha E, 120 ha Total, 480 ha

A similar procedure has been adopted for groups of associated reefs not attached to islands, e.g. those fringing coastal bays and headlands.

In some cases the Gazetteer omits mention of reefs which appear in the Inventory. A code number is assigned to each of these reefs by following on from the final Gazetteer number in each degree of latitude. For example, the final Gazetteer number in the 19°-20° section is 19-229 Scribes Shoal, and Cape Cleveland Reef (the most NW unnumbered reef in 19°-20°) has been assigned the number 19-230.

### 3.2 Island Code Numbers

Integration of island information from the Inventory with the Gazetteer's code numbering system has proved particularly complex because:

- the Gazetteer provides code numbers for reefs, but does not make provision for associated islands,
- some islands lack fringing reefs, and
- some reefs encompass two or more islands.

However, integration has been achieved as follows:

### Reefs with one associated island.

Single island-reef systems are assigned a code number by using the Gazetteer number given to the reef of that island and adding a 4-character suffix ( $\underline{Y}$ ). The latter 3-number part of the code is determined by the island's position in the Inventory according to its co-ordinates, and recommences in each degree of latitude. Thus, Richards (Bedarra) Island, the most northwesterly island on the most northwesterly reef between 18° and 19°S (with its reef's Gazetteer number 18-001 and island's Inventory number 18-001-Y001) is listed in the Inventory as:

18-001-Y001 Richards (Bedarra) Island.

# Reefs with two or more associated islands.

In the case of two or more islands sharing a common reef given the same Gazetteer number, code numbers are again assigned according to the island's co-ordinates. The listings follow immediately after that of the common reef, the island from which the reef derived its name first, and then the most northwesterly to the most southeasterly island. An example is Great Palm Island and two U/N islands which occur on Great Palm Island Reefs. These appear in the Inventory in the order:

18-054 - Great Palm Island Reefs, 18° 41'S 146° 35'E 18-054-Y032 Great Palm Island, 18° 44.5'S 146° 36.3'E 18-054-Y034 U/N Island, 18° 45.6'S 146° 41.6'E 18-054-Y040 U/N Island, 18° 46.7'S 146° 38.6'E Islands which lack fringing reefs.

In the case of islands which do not have attached reefs and therefore are not able to be assigned code numbers using a Gazetteer number, a number is entered in the following form: XX-000-Y

- where XX is the degree of latitude in which the island occurs, 000 denotes the absence of a fringing reef, and
  - Y____ is the 4-character island code described previously, determined according to the island's co-ordinates.

An example is Sand Island (19° 20.5'S, 147° 22.4'E) which appears in the Inventory as:

19-000-Y022 Sand Island.

## 3.3 Resort Code Numbers

Inventory listings of island tourist resorts have been assigned code numbers by using the Inventory island code number described previously, and replacing "Y" with "Z" in the 4-character suffix. Where more than one resort is present on an island, a single identifying number suffix is added. An example is the resorts of Mediterranean Holiday Village and Radical Bay Resort on Magnetic Island (19° 08.4'S 146° 49.8'E). These appear in the Inventory in the order:

18-009-Y009 Magnetic Island

18-009-Z009-1 Mediterranean Holiday Village 18-009-Z009-2 Radical Bay Resort

RESOURCE INVENTORY OF TOWNSVILLE SECTION, 17° 48'S to 19° 59'S. [ 1.] X1. 17-049 U/N X2. 17° 48'S 146° 06'E X4. 120 ha X5. Coastal fringing reef.

[ 2.] X1. 17-050 U/N X2. 17° 50'S 146° 06'E X4. 60 ha X5. Coastal fringing reef.

[ 3.] X1. 17-052 U/N X2. 17° 52'S 146° 07'E X4. 250 ha X5. Coastal fringing reef.

[ 4.] X1. 17-066 <u>Yamacutta Reef</u> X2. 17° 53'S <u>146° 35'E</u> X4. 5370 ha X5. Crescentic reef.

[ 5.] X1. 17-065 U/N X2. 17° 53'S 146° 44'E X4. 1110 ha X5. Reef patches. 17º 48'S

17º 49'S

17º 50'S

17º 51'S

17º 52'S

17º 53'S

17º 54'S

17º 55'S

17-053-Y001 Mound Island 17° 55.6'S 146° 08.1'E See Dunk Island Reef, 17° 57'S 146° 09'E

17º 56'S

17-053-Y002 Dunk Island 17° 56.7'S 146° 09.4'E See Dunk Island Reef, 17° 57'S 146° 09'E

17º 57'S

- [ 6.] X1. 17-053 Dunk Island Reef
- X2. 17° 57'S 146° 09'E

X4. 1430 ha

X5. Fringing reef; well developed along SW and W sides.

[ 7.]

- Yl. 17-053-Y002 Dunk Island
- Y2. 17º 56.7'S 146 09.4'E
- Y4. 891 ha
- Y5. Named by Capt. Cook for G.M. Dunk, 1st Lord of Admiralty on 8.6.1770. Subsequently visited by Lt. Jeffreys (HMS Kangaroo, 1815), Capt. King (HMS Mermaid, 1818), Capt. Owen Stanley (HMS Rattlesnake, 1848), Mr. Dalrymple (Qld. North-east Coast Expedition, 1873). Reputedly over 400 aborigines once inhabited the island, but only 4 remained in 1908. Areas of the island's mountains are said to contain aboriginal art. Aboriginal name for Dunk Is. was "Coonanglebah".
- Y6. 9 land tenure areas:
  - 1. National Park 382 (Gov. Gaz. 1960-3-2046).
    Area, 730.46 ha.
  - 2. Freehold Certificate of Title (C.T.) Vol.N. 564, Fol. 99 Area, 85.79 ha; owner, Great Barrier Reef Hotel Pty. Ltd., c/-Secretary, P.O. Box 117, King's Cross, Sydney.
  - 3. Freehold C.T. Vol.N. 555, Fol. 9 Area, 0.405 ha; owner, C. McT., M.H. and H.M. Hopkins.
  - 4. Freehold C.T. Vol.N. 769, Fol. 240 Area, 2.096 ha; owner, Great Barrier Reef Pty. Ltd.
  - Freehold C.T Vol.N. 817, Fol. 246
     Area, 43.35 ha; owner, Great Barrier Reef Pty. Ltd.
  - Freehold C.T. Vol.N. 555, Fol. 10 Area, 16.19 ha; owner, C. McT. Hopkins, c/- H. Hopkins Pty. Ltd., Townsville.
  - 7. Special Lease 31332 Area, 0.119 ha; rent, \$10 p.a.; terms, 30 years expires 31/8/97; lessee,

Cardwell Shire Council, c/- Shire Clerk, P.O. Box 401 Tully, Q. 8. Special Lease 31288 Area, 0.24 ha; rent, \$16 p.a.; terms, 30 years expires 31/1/97; lessee, Great Barrier Reef Hotel Pty. Ltd. 9. Museum Reserve R.668 (Gov. Gaz. 1971-1-308) Area, 0.121 ha; Banfield Memorial Museum, c/- James Cook University. Dunk Island proclaimed Reserve for Protection and Preservation of Native Birds (Gov. Gaz. 1905-1-1546). Recommended Buffer Zone (Beach Protection Authority) on shoreline (Lands Dept. Batch 1845-28). Application for reclamation of part of S shoreline for a proposed airstrip extension (Lands Dept. 79/42645, Res. 5933). Tourist resort & airstrip. Development associated with resort Y7. includes tennis courts, swimming pool & a 6 hole golf course. Y8. High, steep & rocky continental island. Geologically the island is formed of clay slates and micaceous shist. Soft, greasy, very red decomposing granitic clays exposed along SW tidal flats with quartz and blue slate veins on same side of island further inland. Interior hills and ridges are granite. Vegetation includes substantial areas of rainforest. Vegetation species present include: Eucalyptus corymbosa, E. robusta, E. tesselaris, Diplanthera tetraphylla, Pandanus aquaticus, Calamus sp., Entada scandens, Lygodium sp., Erythrina indica, Canavalia obtusifolia, Melia composita, Tristania suaveolens, Careya australis, Eupomatia laurina, Faradaya splendida, Crinum sp., Vitax trifolia, Cymbidium suave, Eria fitzalani, Bulbophyllum baileyi, Dendrobium undulatum, D. teretifolium, Cyrtostylis reniformis, Phaius grandifolius, Geodorum pictum. Three perennial streams. Y9. Rainfall, 4318 mm Y10. Elevation, 240 m Yll. Cardwell Shire Council Y13. Scenic value - 3 Y14. Naturalness value - 2 Y15. 10 spp. of sea birds: 2 breeding colonies (minor breeding) of the Bridled Tern and Black-naped Tern; non-breeding Red-tailed Tropic-bird, Brown Gannet, Pied Cormorant, Common Noddy, Caspian Tern, Little Tern, Crested tern and Sooty Tern. 99 spp. of land & water birds - 55 breeding colonies. Maritime breeding spp. include Reef Heron, White-faced Heron, Mangrove Heron, Red-backed Sea Eagle and Osprey. See Kikkawa (1976) for a comprehensive list of breeding spp. Banfield (1908) notes the terrestrial mammal fauna to comprise the echidna, a flying fox, two bats and two rat species. One of the latter species, examined by Mr. C.W. deVis of the Qld. Museum, was named Uromys banfieldi, and was a previously unrecorded species. Yl6. Mountain Blue Butterfly (Ulysses) used as symbol of Dunk Island resort (family Papilionidae). Y17. Deep water wharf in Brammo Bay. Public wharf regularly used by commercial and private craft; should only be used on temporary basis. Y18. Anchorage is in Brammo Bay on island's NW side, only to the west of the deep-water wharf. Anchorage uncomfortable in moderate to heavy weather owing to persistent NE swell. Y19. Banfield (1908a); Banfield (1908b); Banfield (1911); Banfield (1918); Banfield (1925); Bárrett (1923); Barrett (1935); Chisholm (1929); Collins (1923); Dillon (1934); Duke (1929); Lucas (1974); McCristal (1969); McCristal (1971); Park (1965); Toghill (1982);

Tretheway (1969); Trezise and Wright (1966); Tuckfield (1953); Walker (1980).

[ 8.]	
Z1.	, 17-053-Z002 Dunk Island Resort
Z2.	Dunk Island
Z3.	131 ha, NW tip of island at Brammo Bay
Z4.	14.7% island as resort
Z5.	National Park & leasehold for resort
Z6.	Lease presently held by G.B.R. Hotels Pty. Ltd. (subsidiary of TAA)
Z7.	1896-1916 E. J. Banfield.
21.	1916-? Stephen Hopkins, then Hugo Brassey who developed the first resort. Changed hands "a number of times" until 1963 when Eric McIllree (founder of Avis Rent-a-Car Aust.) purchased the freehold from Gordon Stein. McIllree owned resort until his death in 1973.
Z9.	Expanded in 1978 & more recently
	Total expenditure to date approx. \$3 million
	Capacity – 97 units, 194 people
	46,000 resort person days in 1979
	15,000-45,000 day visitors/annum
	10% of resort quests from Qld., 1% from overseas, and remainder from
	interstate.
Z15.	Airstrip; virtually all resort guest arrive by air.
Z16.	Access by air - 35 mins.
	Access by sea - 45 mins.
Z17.	Daily access by boat from Clump Pt. jetty near Mission Beach on "M.V. Lawrence Kavanagh", and 5 days/week on "MV Friendship".
	Access from Townsville by air.
	Staff employed - 93
	coral viewing
	bushwalks
	skin diving
	water skiing
	sailing
	tennis
Z28.	
	swimming
	archery
	horseback riding
	day cruises
	Garbage tip reportedly not being covered, just sprayed with insecticide.
۷۵۰	Camping allowed subject to permit; over 350 camping permits in 1979.
750	Maximum permitted 12 people; limit of stay 3 days.
	Approx. 2,000 people/annum undertake recreational fishing trips from the

resort and an estimated 6,000-7,000 make reef trips each year. Staff of the resort are reported to have shot flying foxes and killed echidnas on the golf course. [ 9.]

Yl. 17-053-YOOl Mound Island (Purtaboi or Honeymoon Island)

Y2. 17° 55.6'S 146° 08.1'E; 42 km NE of Cardwell, 8 km SE of Clump Point. Y4. 6.07 ha

- 14. 6.07 ha
- Y6. National Park 493 (Gov. Gaz. 1954-1-276) Proclaimed Reserve for Protection and Preservation of Native Birds (Gov. Gaz. 1905-1-1546). Recommended Buffer Zone (Beach Prot. Auth.) on shoreline (Lands Dept. Batch 1845-29).
- Y8. Geologicall high continental island lying on a bank extending N. from Brammo Bay and Dunk Island on Dunk Island Reef.
- Y9. Rainfall, 4318 mm
- YlO. Elevation, 19 m
- Yll. Cardwell Shire Council
- Y13. Scenic value 3
- Y15. Following birds observed nesting on the island by Banfield (1908) Torres Strait Pigeon, Peaceful Dove, Blue-reef Heron, Little Black Cormorant (occasionally), Large-billed Shore Plover (Beach Stone Curlew), Whiteshafted Ternlet (Little Tern), Brown-winged Ternlet (Bridled Tern?).

[10.]

- Yl. 17-053-Y003 Mung-um-gnackum Island
- Y2. 17° 57.1'S 146° 08.5'E
- Y4. 2.023 ha
- Y6. National Park 494 (Gov. Gaz. 1954-1-276). Recommended Buffer Zone (Beach Prot. Auth.) on shoreline (Lands Dept. Batch 1845-28).
- Y8. Geologically high continental island. On Dunk Island Reef at W. extremity of Dunk Island.
- Yll. Cardwell Shire Council
- Y15. Following birds observed by Banfield (1908) Varied Honeyeater, Tranquil Dove, Night Jar (nesting places for latter).

# [11.]

- Yl. 17-053-Y004 Kumboola Island
- Y2. 17° 57.4'S 146° 08.5'E

Y4. 12.14 ha

Y6. National Park 418 (Gov. Gaz. 1939-2-1700). Proclaimed Reserve for Protection and Preservation of Native Birds (Gov. Gaz. 1905-1-1546). Recommended Buffer Zone (Beach Prot. Auth.) on shoreline (Lands Dept.

Batch 1845-28).

Y8. Geologically high continental island on Dunk Island Reef at the W. extremity of Dunk Island.

Y10. Elevation, 61 m

- Yll. Cardwell Shire Council
- Y15. Following birds observed by Banfield (1908) Channel-billed Cuckoo, Scrub Fowl, Torres Strait Pigeon, Osprey, Grey Falcon.

[12.]

Y1. 17-053-Y006 Woln-Garin Island

Y2. 17º 58.2'S 146º 10.7'E

Y4. 3.237 ha

Y6. Vacant Crown Land. Recommended Buffer Zone (Beach Prot. Auth.) on shoreline (Lands Dept. Batch 1845-28).

Y8. Geologically high continental island.Low, rocky island at S.E. extremity of Dunk Island on Dunk Island Reef.

- Y10. Elevation, 12 m
- Yll. Cardwell Shire Council
- Y15. Banfield (1908) notes that turtles and occasionally dugong were seen in the vicinity of this island.
- [13.] X1. 17-068 <u>Moss Reef</u> X2. 17° 57'S 146° 48'E X4. 620 ha X5. Ribbon reef.

[14.] X1. 17-054 U/N X2. 17° 58'S 146° 08'E X4. 60 ha X5. Reef patches.

17-055-Y005 U/N Island 17° 58.8'S 146° 08.4'E See Thorpe Island Reef, 17° 59'S 146° 08'E

17-053-Y006 <u>Woln-Garin Island</u> 17° 58.2'S 146° 10.7'E See Dunk Island Reef, 17° 57'S 146° 09'E

- [15.] X1. 17-067 U/N X2. 17° 58'S 146° 36'E X4. 410 ha
- X5. Reef patches.

17º 58'S

17º 59'S

[16.] X1. 17-056 U/N X2. 17° 59'S 146° 06'E X4. 90 ha X5. Coastal fringing reef.

[17.]
X1. 17-055 Thorpe Island Reef
X2. 17° 59'S 146° 08'E
X4. 70 ha
X5. Fringing reef with high continental island.

- 7 -

[18.] 17-055-Y007 Thorpe Island Y1. Y2. 17º 59.0'S 146º 08.1'E Y3. Family Group Y4. 15.99 ha Freehold C.T. Vol.N. 517, Fol. 49 and C.T. Vol.N. 517, Fol. 50. Υ6. "Tirnana"; owner, Y.F. Cohen, "The Wool", Mains Road, Templestone Vic. Geologically, high continental island; high, rocky and reef fringed; Y8. wooded. Y10. Elevation, 85 m Yll. Cardwell Shire Council

[19.]
Y1. 17-055-Y005 U/N Island
Y2. 17° 58.8'S 146° 08.4'E
Y8. High continental island. On Thorpe Island Reef.
Y10. Elevation, 1 m

18-001-Y008 U/N Island 17° 59.8'S 146° 09.01'E See Richards Island Reef, 18° 00'S 146° 09'E

[20.	]	
Xl.	17-069	U/N
Х2.	17º 59'S	146º 46'E
Χ4.	380 ha	

[21.] Richards (Bedarra) Island Reef X1. 18-001 18° 00'S 146° 09'E X2. Χ4. 50 ha Fringing reef with high continental island. X5. [22.] 18-001-Y001 Richards (Bedarra) Island Y1. 146° 08.8'E Y2. 18º 00.4'S Y3. Family Islands Y4. 86 ha Originally settled by a Capt. Allison in 1912, part became a banana Y5. plantation in 1940's. Home to the artist Noel Woods for 40 years. Y6. 3 freehold tenure areas: 1. Freehold C.T. Vol. No. 450, Folio 127: Area 6.1 ha Owner: N.H. Wood, P.O. Box 192 Tully. 2. Freehold C.T. Vol. No. 441, Folio 193; Area 35 ha Owner: Great Barrier Reef Hotels Pty. Ltd., c/- Secretary, P.O. Box 117, Kings Cross, Sydney, NSW. 3. Freehold C.T. Vol. No. 441, Folio 195; Area 45 ha Owner: C.W. Scott, "Hifomunjie", Omeo 3898. Υ7. Tourist resort on W side of island. Geologically, high continental island. Steeply sloping island with granite Y8. outcrops common, and soils derived from granite/granodiorite. Covered with Medium Vine Thicket vegetation (Tracey, 1982). Latter author listed 28 spp plants on the island. Rainfall, 4,065 mm Y9. YlO. Elevation, 106 m Yll. Cardwell Shire Council Y15. Grey Swiftlet breeding site (1 of 3 GBR breeding records of this species). Y17. Jetty operated by resort. Y18. Moderate anchorage during SE weather off the resort towards the jetty. Y19. Morrison (1951). [23.]

- Z1. 18-001-Z001 Bedarra Island Hideaway Resort
- Ζ2. Richards Island
- Ζ3. Resort area - 35 ha
- Ζ4. 41% of island used.
- Ζ5. Freehold C.T. Vol. No. 441, Folio 193.
- Great Barrier Reef Hotels Pty. Ltd. (TAA subsidary) 76.
- Sold by Ken Druitt for \$1.2 million to TAA in 1980. Z7.
- Zl2a.21 (in 8 bungalows and 3 units). Planned capacity of 125 people.
- Z15. No airstrip.
- Zl6. Access by launch (45 mins).
- Z17. Access from Clump Point (sea), and Dunk Island (sea).
- Z18. 6 km from Clump Point; 6 km from Dunk Island.
- Z21. Bushwalks
- Z22. Line fishing
- Z24. Skin diving and snorkelling Z26a.Sailing

Z27. Tennis (Dunk Is.)
Z28. Golf (Dunk Is.)
Z29. Swimming
Z31. Archery (Dunk Is.)
Z34. Day cruises

[24.]

- Yl. 18-001-Y008 U/N Island
- Y2. 17° 59.8'S 146° 09.0'E

Y8. Geologically, high continental island. On Richards Island Reef.

18-002-Y002 Battleship Rock 18° 00.6'S 146° 09.4'E See Battleship Rock Reef, 18° 01'S 146° 10'E

18º 01'S

18-003-Y003 Wheeler (Toolgbar) Island 18° 01.7'E 146° 09.9'E See Wheeler Island Reef, 18° 02'S 146° 10'E

[25.]

X1. 18-002 <u>Battleship Rock (Pee-Rahm-Ah Is.) Reef</u> X2. 18° 01'S 146° 10'E X4. 1 ha X5. Fringing reef.

[26.] Yl. 18-002-Y002 <u>Battleship Rock</u> Y2. 18° 00.6'S <u>146° 09.4'E</u> Y8. Geologically, high continental. Y10. Elevation, 14 m Y11. Cardwell Shire Council

[27.] X1. 18-016 U/N X2. 18°01'S 146°50'E X4. 875 ha X5. Reef patches. - 9 -

[28.] Y1. 18-000-Y004 U/N Island Y2. 18° 02.2'S 146° 03.0'E Y8. On tidal flats to S of Tully River mouth. Y11. Cardwell Shire Council

[29.] Y1. 18-000-Y005 U/N Island Y2. 18° 02.1'S 146° 03.2'E Y8. On tidal flats to S of Tully River mouth. Y11. Cardwell Shire Council

[30.]
X1. 18-003 Wheeler (Toolgbar) Island Reef
X2. 18° 02'S 146° 10'E
X4. 40 ha
X5. Fringing reef with high continental island.

[31.]

- Yl. 18-003-Y003 Wheeler (Toolgbar) Island
- Y2. 18º 01.7'S 146º 09.9'E
- Y3. Family Islands

Y4. 30.8 ha

- Y6. Nat. Park 384 (Gov. Gaz. 1936-2-660)
- Y8. Geologically high continental island; wooded, reef fringed and cliffy except on its W side.
- Y9. Rainfall, 4,065 mm
- Y10. Elevation, 85 m
- Yll. Cardwell Shire Council

[32.]

- X1. 18-004 Coombe Island Reef
- X2. 18º 02'S 146º 11'E

X4. 40 ha

X5. Fringing reef with high continental island.

[33.]

- Y1. 18-004-Y006 Coombe Island
- Y2. 18° 02.4'S 146° 10.5'E
- Y3. Family Islands

Y4. 48.6 ha

- Y6. Nat. Park 385 (Gov. Gaz. 1936-2-660).
- Y8. Geologically high continental island; wooded, reef-fringed and cliffy except on its W side.

Y9. Rainfall, 3810 mm

YlO. Elevation, 109 m

Yll. Cardwell Shire Council

18-005-Y007 Bowden (Budg-joo) Island 18° 02.6'S 146° 11.8'E See Smith Island Reef, 18° 03'S 146° 12'E

18-005-Y008 <u>Smith (Kurrambah) Island</u> 18° 02.3'S 146° 11.9'E See Smith Island Reef, 18° 03'S 146° 12'E

[34.]
X1. 18-005 Smith (Bowden, Kurrambah, Budg-joo) Island Reef
X2. 18° 03'S 146° 12'E
X4. 120 ha
X5. Fringing reef.
X6. Wallace (1978) recorded 21 spp of Acropora corals on the reef.
X62. Less popular with user groups (Domm, 1977).
X64. Wallace (1978).

[35.]

Yl. 18-005-Y008 Smith (Kurrambah) Island

Y2. 18° 02.3'S 146° 11.9'E

Y3. Family Islands

Y4. 9.7 ha

Y6. Nat. Park 386 (Gov. Gaz. 1936-2-660).

Y8. Geologically high continental island; well wooded.

Y9. Rainfall, 4,065 mm

YlO. Elevation, 57 m

Yll. Cardwell Shire Council

[36.] Yl. 18-005-Y007 Bowden (Budg-joo) Island 18º 02.6'S 146º 11.8'E Y2. Y3. Family Islands 9.7 ha Y4. Nat. Park 387 (Gov. Gaz. 1936-2-660). Y6. Geologically high continental island; well wooded; on Smith Island Reef. Y8. Y9. Rainfall, 4,065 mm Y10. Elevation, 61 m

Yll. Cardwell Shire Council

### 18º 03'S

[37.]	]			
X1.	18-006	Hudson (Bi	rd, Coolah)	Island Reef
X2.	18º 03'S	146º 12'E		
Χ4.	60 ha			
X5.	Fringing re	eef.		

[38.]

- Yl. 18-006-Y009 Hudson (Bird, Coolah) Island
- Y2. 18º 03.1'S 146º 12.0'E
- Y3. Family Islands
- Y4. 20.2 ha
- Y6. Nat. Park 388 (Gov. Gaz. 1936-2-660).

Y8. Geologically, a high continental island composed of the Barnard Metamorphics ("Coastal Series"), with highly altered schists and gueisses associated with guessic granite rocks (Jones and Jones, 1956). Wooded on all sides.

- Y9. Rainfall, 4,065 mm
- Y10. Elevation, 82 m
- Yll. Cardwell Shire Council

[39.]

- X1. 18-017 U/N
- X2. 18° 03'S 146° 47'E
- X4. 380 ha
- X5. Reef patches.

[40.]

- X1. 18-019 Barnett Patches
- X2. 18º 03'S 146º 52'E
- X4. 3330 ha
- X5. Irregular reef patches rising sharply from a general shelf at 65 m to approximately 20-25 m from which the patches rise (Hopley, 1982); with sand cay.

18º 04'S

- [41.]
- X1. 18-018 <u>Otter Reef</u> X2. 18° 04'S <u>146° 34'E</u>
- AZ. 10° U4°5 146°
- X4. 13250 ha
- X5. Reef patches.
- X62. Moderately popular with user groups (Domm 1977).
- X65. Olafson (1978) found two levels of lindane in <u>Acropora</u> and <u>Fungia</u> corals; fish and Tridacna clams.

18º 06'S

- [43.] X1. 18-020 Duncan Reef X2. 18º 06'S 146° 47'E Χ4. 1880 ha X5. Reef patches with sand cay.

[44.] X1. 18-021 U/N · X2. 18º 07'S 146º 44'E X4. 60 ha X5. Submerged reef.

[45.] X1. 18-022 U/N X2. 18° 07'S 146° 46'E X4. 1500 ha X5. Crescentic reef.

18-008-Y010 North Island 18° 08.5'S 146° 16.8'E See Brook Islands Reef, 18° 09'S 146° 18'E

18-008-Y011 <u>Tween Island</u> 18° 08.8'S 146° 17.1'E See Brook Islands Reef, 18° 09'S 146° 18'E

- 13 -

18º 08'S

18º 07'S

18º 05'S

[46.] X1. 18-023 U/N X2. 18° 08'S 146° 58'E X4. 310 ha X5. Reef patches.

[47.] X1. 18-010 <u>Goold Island Reef</u> X2. 18° 09'S <u>146° 10'E</u> X4. 550 ha X5. Fringing reef.

[48.]

- Yl. 18-010-Y014 Goold Island
- Y2. 18º 10.0'S 146º 10.2'E

Y4. 829.6 ha

Y5. Frequently used as stopping place for freshwater by European ships. Remains of stone fish traps on shoreline near mouth of creek.

- Y6. Nat. Park 389 (Gov. Gaz. 1936-2-1673). Recommended Buffer Zone on shoreline (Beach Protection Authority Batch No. 1845-28).
- Y8. Geologically, a high continental island with sandy beach on SW corner, rocky coastline elsewhere, rising to a heavily vegetated plateau.

Y9. Rainfall, 3,300 mm

- Y10. Elevation, 406 m
- Yll. Cardwell Shire Council

Y15. 5 spp. land birds: non-breeding - Australian Goshawk, Little Cuckoo-Shrike, White-eared Flycatcher, Striped Honeyeater, Brown-backed Honeyeater.

- Y16. Striped Honeyeater only GBR record for this species. Brown-backed Honeyeater - 1 of 2 GBR records for this species.
- Y18. Moderate anchorage off beach and on W side of island.
- Y20. Anon, (1966) noted the island was suitable for a tourist resort. Jukes, (1847) noted abundant freshwater in several creeks.

[49.]

- X1. 18-008 Brook Islands Reef
- X2. 18° 09'S 146° 18'E

X4. 120 ha

X5. Fringing reef.

Wells (1955) noted the following coral genera: Acropora, Heliopora.

X62. Regular cruises to the Brook Islands reefs operate from Hinchinbrook Island resort at Cape Richards.

Moderately popular with user groups (Domm, 1977).

- 14 -

18º 09'S

[50.]

- Yl. 18-008-Y010 North Island
- Y2. 18° 08.5'S 146° 16.8'E
- Y3. Brook Islands
- Y4. 64.8 ha
- Y5. Used as a site for chemical weapons testing in World War II.
- Y6. Nat. Park 390 (Gov. Gaz. 1936-2-660).
- Y8. Geologically high continental island; high and rocky with small fringing reefs, vegetation includes dense rainforest. Its NE face is cliffed. On Brook Islands Reef.
- Y9. Rainfall, 2,285 mm
- YlO. Elevation, 76 m
- Yll. Cardwell Shire Council
- Y15. Most southerly major (>10,000 birds) colonies of Torres Strait Pigeons on GBR.
- Y2O. Report by Anon. (1966) claimed the island was suitable for a tourist resort, as a satellite for a larger resort on Goold or Hinchinbrook or as a stopping place for day trips.

[51.]

- Yl. 18-008-Y011 Tween Island
- Y2. 18° 08.8'S 146° 17.1'E
- Y3. Brook Islands
- Y4. 6.5 ha
- Y6. Nat. Park 391 (Gov. Gaz. 1936-2-660).
- Y8. Geologically high continental island; on Brook Islands Reef.
- Y9. Rainfall, 2,285 mm
- Yll. Cardwell Shire Council

[52.] Yl. 18-008-Y012 Middle Island

- Y2. 18° 09.0'S 146° 17.3'E
- Y3. Brook Islands
- Y4. 16.2 ha
- Y6. Nat. Park 392 (Gov. Gaz. 1936-2-660).
- Y8. Geologically high continental island; on Brook Islands Reef.
- Y9. Rainfall, 2,285 mm
- Yll. Cardwell Shire Council

[53.] Yl. 18-008-Y013 <u>South (South Brook) Island</u> Y2. 18° 09.5'S <u>146° 18.2'E</u>

- Y2. 18º 09.5'S 146º 18 Y3. Brook Islands
- 17. Drook Islanus
- Y4. 8.1 ha
- Y6. Freehold D.G. Vol. No. 293, Folio 35; Owner: Commonwealth of Australia.
- Y7. Unmanned navigational light.
- Y8. Geologically high continental; a small island of volcanic rock, heavily vegetated with rainforest, with spinifex, pandanus, tournefortias and a couch grass fringing the beach. It is cliff-faced and steep on its E side. On Brook Islands Reef.
- Y9. Rainfall, 2,285 mm
- Yll. Cardwell Shire Council
- Y15. 1 sp. sea bird: White-breasted Sea Eagle

8 spp. land or shore birds: breeding - Torres Strait Pigeon, Red-crowned Pigeon, Sacred Kingfisher, Mangrove Kingfisher, Yellow-breasted Sunbird, Australian Shining Starling; non-breeding - Starling, Spangled Drongo.

18º 10'S

18-010-Y014 <u>Goold Island</u> 18° 10.0'S 146° 10.2'E See Goold Island Reef, 18° 09'S 146° 10'E

[54.] Y1. 18-000-Y015 U/N Island Y2. 18° 10.1'S 146° 11.6'E Y3. Near eastern tip of Goold Island. Y10. Elevation, 52 m Y11. Cardwell Shire Council

[55.] X1. 18-009 <u>Brook Shoal</u> X2. 18° 10'S <u>146° 16'E</u> X4. 60 ha X5. Submerged reef

[56.] Yl. 18-000-Y018 U/N Island Y2. 18° 11.1'S 146° 08.7'E Y10. Elevation, 1 m

[57.] X1. 18-011 <u>Garden Island Reef</u> X2. 18°11'S 146°09'E X4. 50 ha X5. Fringing reef.

[58.] Y1. 18-011-Y016 Garden Island Y2. 18° 11.1'S 146° 08.6'E Y4. 20.2 ha Y6. Recreation Reserve 219 (Gov. Gaz. 1914-2-1271). Y8. Geologically, a high continental island. Sparsely wooded. Y9. Rainfall, 3,300 mm Y10. Elevation, 39 m Y11. Cardwell Shire Council 18º 11'S

[59.] X1. 18-012 <u>Sail Rock Reef</u> X2. 18° 11'S 146° 09'E X4. 1 ha X5. Fringing reef.

[60.]
Y1. 18-012-Y017 Sail Rock
Y2. 18° 11.4'S 146° 08.6'E
Y6. Vacant Crown Land.
Y8. Geologically high continental.
Y10. Elevation, 9 m
Y11. Cardwell Shire Council

[61.] X1. 18-033 <u>Pith Reef</u> X2. 18° 13'S 147° 02'E X4. 1310 ha X5. Reef patches. X62. Light on reef.

[62.] X1. 18-013 <u>Eva Island (Channel Rock) Reef</u> X2. 18º 14'S <u>146º 19'E</u> X4. 120 ha

X5. Incipient fringing reef.

[63.]

- Yl. 18-013-Y020 Eva Island
- Y2. 18º 14.2'S 146º 19.3'E
- Y4. 2.4 ha
- Y6. Crown Land.
- Y8. Geologically high continental; steep wooded island which shares reef with Channel Rock.
- Y9. Rainfall, 1,955 mm
- Y10. Elevation, 35 m
- Yll. Cardwell Shire Council

18º 12'S

# 18º 13'S

18º 14'5

[64.]

- Y1. 18-013-Y019 Channel Rock
- Y2. 18º 14.2'S 146º 19.1'E
- Y8. Geologically, high continental; on Eva Island (Channel Rock) Reef.
- YlO. Elevation, 2 m

[65.] X1. 18-024 Britomart Reef

X2. 18º 14'S 146º 44'E

X4. 13,440 ha

X5. Crescentic reef; 15 km long, orientated roughly E-W. Comprises 3 well defined lagoons separated by narrow passes and has several channels opening to the sea. Sammarco and Carleton (1981) noted the following corals present as spat: <u>Acropora, Seriatopora hystrix</u>, 3 spp. of Mussid, <u>Galaxea</u>, <u>Alveopora</u>, <u>Fungia</u>, a compound Fungiid, Stylophora (?), <u>Porites</u>, a Faviid, and a

Caryophylliid or Pectimid.

X62. Moderately popular with user groups (Domm 1977).

- X64. Gentien (1981)
- Wolanski and Jones (1980)
- X65. Olafson (1978) found trace quantities of lindome in <u>Acropora</u> and <u>Fungia</u> corals, fish and <u>Tridacna</u> clams.

18º 15'S

18º 16'S

- [66.]
- X1. 18-025 U/N
- X2. 18º 16'S 146º 54'E
- X4. 690 ha
- X5. Reef patches.

[67.] X1. 18-034 Myrmidon Reef 147º 23'E 18º 16'S X2. 620 ha Χ4. Planar reef. Χ5. Χ6. Acropora azurea coral known only from here (J.E. Veron, pers.comm.) X62. Less popular with user groups (Domm, 1977). X64. Done (1982) Williams (1982) X65. Wreck on reef.

18º 17'S

18º 18'S

18º 19'5

18º 20'S

18º 21'S

[68.] X1. 18-026 U/N X2. 18° 20'S 146° 45'E X4. 2690 ha X5. Crescentic reef with sand cay.

## [69.]

- Yl. 18-000-Y021 Mangrove Island
- Y2. 18º 21.0'S 146º 07.5'E
- Y6. Vacant Crown Land.
- Y7. Navigational beacon and tide gauge on the SE side of the island.
- Y8. Lies in Hinchinbrook Channel. No fringing reef.
- Y9. Rainfall, 1,955 mm
- Yll. Cardwell Shire Council
- Y20. Areas surrounding are part of Fisheries Habitat Reserve (Gov.Gaz.1971-2-964).

[70.]

- X1. 18-014 Hinchinbrook Island Reef
- X2. 18º 21'S 146º 19'E

X4. 190 ha

- X5. Incipient fringing reef.
- Xll. Very good fossicking value.
- X62. Excellent fossicking in Ramsay Bay (Lucas, 1974).

Less popular with user groups in this region (Domm, 1977). X64. Cribb, A.B. (1978a)

Cribb, A.B. (1978b).

- 19 -

[71.]

Y2. 18º 22.0'S 146º 15.0'E

- Y4. Approx. 40,000 ha
- Y5. Hinchinbrook Island aborigines belonged to the Bandjin tribe. Cannibalism was practiced, and several whites were known to have been killed by these people during the early-mid 19th Century. Middens exist at several sites, and the remains of stone intertidal fish traps occur at several places. Originally called Mt. Hinchinbrook by King ca. 1819, but confirmed as an island by Jukes ca. 1844. Remains of fish traps constructed by natives on shoreline.
- Y6. 2 tenure areas:
  - 1. National Park 95 (Gov.Gaz. 1960-3-1390).

Area: all island except S.L 41350

2. Special Lease 41350

Area, 8.1 ha; rent, \$200 total for 1st 5 years; terms, 75 yrs. expires 31/12/2052; lessee, Hinchinbrook Island Pty. Ltd., C/- Hungerfords, P.O. Box 537, Townsville.

Recommended Buffer Zones on NE and SE coasts (Beach Prot. Auth.) (Lands Dept. Batch 1845-28).

Y7. Resort at Cape Richards. Barbecue, toilet, freshwater available at Scraggy Point.

Y8. A rugged high continental island, roughly Y shaped. W side is either steep hillside covered with rainforest, or flat with deep mangrove creeks. E side is rocky and steep to undulating with a dry scrub and occasional areas of rainforest. Granite outcrops are common, and soils are derived either from granite or, in lower areas, allluvium. Other rock types present are silicic volcanics and Pleistocene screes.

Tracey (1982) and Tracey and Webb (1978) recognized 10 distinct vegetation complexes on the island: Complex Mesophyll Vineforest, Mesophyll

Vineforest, Closed Forests with Schlerophyll Emergents and Co-Dominants, Medium Open Forests and Medium Woodlands, Medium and Low Woodlands, Coastal Beach Ridges and Swales, Texture Contrast Soils with Impeded Drainage on Coastal Plains, Mountain Rock Pavements, Saline Littoral Zone, Coastal Plains - Grassland.

Tracey and Webb (1978) list 170 spp. of rainforest plants found on the island. Sharpe (1978) recorded 289 spp. of vascular plants (including mangroves). Tracey (1982) lists 111 species from 2 sites on the island. Rainfall, 1,955 mm

- Y9. Rainfall, 1,955 m Y10. Elevation, 980 m
- Yll. Cardwell Shire Council
- Y13. Island's scenic value: 3
- Y14. Island's naturalness value: 3
- Y15. 13 spp. sea or shore birds: breeding White-breasted Sea Eagle; nonbreeding - Australian Pelican, Black Cormorant, White-faced Heron, Plumed Egret, Reef Heron, Southern Stone Curlew, Beach Stone Curlew, Silver Gull, Caspian Tern, Black-naped Tern, Crested Tern, Lesser Crested Tern. 48 spp. land birds: breeding - Varied Triller; non-breeding - Brahminy Kite, Whistling Kite, Wedge-tailed Eagle, Red-crowned Pigeon, Green-winged Pigeon, Sulphur-crested Cockatoo, Golden Bronze Cuckoo, Pheasant Coucal, Grey Swiftlet, Azure Kingfisher, Blue-winged Kookaburra, Sacred Kingfisher, Mangrove Kingfisher, Rainbow Bird, Welcome Swallow, Little Cuckoo Shrike, Lovely Wren, Fairy Warbler, Buff-tailed Thornbill, Lemon-breasted Flycatcher, Grey Fantail, Rufous Fantail, Pale Yellow Robin, Leaden Flycatcher, Shining Flycatcher, Satin Flycatcher, Spectacled Flycatcher, White-eared Flycatcher, Pied Flycatcher, Boat-billed Flycatcher, Grey Whistler, Grey Shrike-Thrush, Rufous Shrike-Thrush, Mistletoe Bird, Yellowbreasted Sunbird, Grey-breasted Silvereye, Dusky Honeyeater, Lesser Lewin Honeyeater, Macleay's Honeyeater, White-throated Honeyeater, Helmeted Friarbird, Brown-backed Honeyeater, Olive-backed Oriole, Yellow Figbird, Spangled Drongo, Grey Butcherbird, Black Butcherbird.

- Y19. Alcorn (1978); Colliver (1978a); Colliver (1978b); Ewart (1978); Jahnke (1978); Marks (1978); Monteith (1978); Pearson and Reeves (1978); Reeves (1978); Stevens (1981); Tracey and Webb (1978); Troughton and Le Souef (1929); Wolanski et al. (1980)
- Wolanski <u>et al.</u> (1980) Y20. World's largest island national park. Missionary Bay mangroves have been the site of intensive research by AIMS scientists. Freshwater available at Deluge Inlet and Scraggy Point.

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[72.]
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- Z1. 18-014-Z023 Cape Richards Resort.
- Z2. Hinchinbrook Island.
- Z3. 9.3 ha at N tip of Cape Richards.
- Z4. 0.025% of island used.
- Z5. Leasehold.
- Z6. Presently held by consortium of 19 Townsville businessmen: Hinchinbrook Island Pty. Ltd. (chairman is T. Bolger).
- Z7. In May 1981 Ansett considered buying resort and expanding to hold 700 guests, with lease expanded to 119 ha Airstrip included in proposal.
   Z8. Established & operating 1974.
- ZlO. Establishment costs \$500,000.
- Zll. Additions: 16 units \$1.5 million planned for 1981.
- Zl2a.Max. overnight accomodation: 60 people in 15 large units.
- Z13. Peak season: mid-December to mid-January.
- Z15. Resort will use 2 8-seater Grumman Goose amphibious planes.
- Zl6. Access by sea (95 mins.) and air.
- Z17. Access from Cardwell (sea); Townsville (air).
- Z18. Distance 22 km from Cardwell.
- Z21. Bushwalks
- Z22. Line fishing
- Z29. Swimming
- Z34. Day cruises
- Z38. 2 camping areas are established. Permits for 14 days from QNPWS.

[73.]

- Yl. 18-014-Y024 U/N Island
- Y2. 18° 22.5'S 146° 20.0'E
- Y8. On Hinchinbrook Island reef.
- Yll. Cardwell Shire Council

[74.] X1. 18-015 <u>Agnes Island Reef</u> X2. 18° 21'S <u>146° 20'E</u> X4. 50 ha

X5. Incipient fringing reef.

- 21 -

[75.]

- Yl. 18-015-Y022 Agnes Island
- Y2. 18° 21.4'S 146° 19.6'E
- Y4. 16.2 ha
- Y6. Vacant Crown Land.
- Y8. Geologically high continental; a small rocky continental island linked to Hinchinbrook Island at low tide. Most of island is vegetated with tropical heath; along N shorre is a small patch of closed forest below cliffs.
- Y9. Rainfall, 1,955 mm
- Y10. Elevation, 89 m
- Yll. Cardwell Shire Council
- Y15. 1 sp. sea bird: Darter.
- 3 land birds: Boobook Owl, Brown Honeyeater, White-breasted Wood-swallow. Y18. Moderate anchorage in bay behind rocky headland.

[76.] X1. 18-036 <u>Urchin Shoal</u> X2. 18º 21'S 147º 05'E X4. 60 ha X5. Submerged reef.

[77.]

X1. 18-035 <u>Thread Shoal</u> X2. 18° 21'S 147° 11'E X4. 60 ha X5. Submerged reef.

## 18º 22'S

18-014-Y023 Hinchinbrook Island 18° 22.0'S 146° 15.0'E See Hinchinbrook Island Reef, 18° 21'S 146° 19'E

18-014-Y024 U/N Island 18° 22.5'S 146° 20.0'E See Hinchinbrook Island Reef, 18° 21'S 146° 19'E

[78.] X1. 18-027 <u>Trunk Reef</u> X2. 18° 22'S 146° 50'E X4. 11380 ha X5. Crescentic reef. X62. Moderately popular with user groups (Domm 1977). [79.] X1. 18-037 <u>Needle Reef</u> X2. 18° 22'S <u>147° 12'E</u> X4. 250 ha X5. Crescentic reef.

[80.] X1. 18-028 U/N X2. 18° 23'S 146° 46'E X4. 60 ha X5. Submerged reef

[81.] X1. 18-038 <u>Thimble Shoal</u> X2. 18° 23'S <u>147° 16'E</u> X4. 120 ha X5. Submerged reef.

18º 24'S

18º 25'S

[82.]
Yl. 18-000-Y025 U/N Island
Y2. 18° 25.6'S 146° 21.1'E
Y8. In Hinchinbrook Channel.

[83.]

- X1. 18-029 Bramble Reef
- X2. 18º 25'S 146º 43'E

X4. 6130 ha

- X5. Crescentic reef.
- X62. Moderately popular with user groups in this region (Domm 1977). Recommended for line and game fishing because of large size and accessibility to small boats (Domm 1977).
- X65. Olafson (1978) found trace quantities of lindane in <u>Acropora</u> and <u>Fungia</u> corals, fish and <u>Tridacna</u> clams, and Heptachlor epoxide, DDT and DDE in fish.

18º 23'S

[84.]

- X1. 18-040 Arab Reef
- X2. 18º 25'S 147º 09'E
- X3. The Slashers Group.

X4. 440 ha

X5. Reef patches.

X62. More popular with user groups in this region (Domm 1977). However, Domm (1977) also cites "the Slashers Group" reefs as the most popular reef with user groups in this region, and Arab Reef (one of "The Slashers") as a little visited reef (0.3 groups visiting per year).

[85.]
X1. 18-039 Dip Reef
X2. 18° 25'S 147° 27'E
X4. 560 ha
X5. Crescentic reef.
X62. Less popular with user groups (Domm 1977).
X64. Williams (1982).

18º 26'5

- [86.]
- X1. 18-030 Kelso Reef
- X2. 18º 26'S 147º 00'E
- X3. The Slashers Group

X4. 880 ha

- X5. Crescentic reef.
- X62. More popular with user groups in this region (Domm 1977) However, Kelso Reef is also cited in Domm (1977) as being less popular (1.3 groups visiting per year).

[87.] X1. 18-042 <u>Slashers Reefs</u> X2. 18° 26'S 147° 04'E X4. 1750 ha X5. Reef patches.

[88.] X1. 18-041 <u>Faraday Reef</u> X2. 18° 26'S 147° 21'E X4. 250 ha X5. Crescentic reef. [89.] X1. 18-046 <u>Coil Reef</u> X2. 18° 26'S <u>147° 31'E</u> X4. 190 ha X5. Crescentic reef.

18º 27'S

18º 28'S

[90.] Yl. 18-000-Y026 U/N Island Y2. 18° 28.4'S 146° 13.0'E Y8. In Hinchinbrook Channel.

[91.] X1. 18-031 <u>Little Kelso Reef</u> X2. 18° 29'S 147° 00'E X4. 380 ha X5. Planar reef with sand cay.

[92.] X1. 18-045 U/N X2. 18° 29'S 147° 24'E X4. 120 ha X5. Submerged reef.

[93.]
X1. 18-032 <u>Rib Reef</u>
X2. 18° 29'S <u>147° 53'E</u>
X4. 500 ha
X5. Crescentic reef.
X62. Light on reef.
Less popular with user groups (Domm 1977).
X64. Done (1982)
Williams (1982)

18º 29'S

[94.] X1. 18-047 <u>Oyster Rock Reef</u> X2. 18° 30'S 146° 18'E X4. 1 ha X5. Incipient fringing reef.

[95.] Yl. 18-047-Y027 <u>Oyster Rock</u> Y2. 18° 30.3'S <u>146° 17.9'E</u> Y8. Geologically a high continental island.

[96.]

	J	
X1.	18-043	Slashers Reefs
X2.	18º 30'S	147º 03'E
Χ4.	1940 ha	
X5.	Crescentic	reef.

[97.]

X1.	18-044	Slashers Reefs
X2.	18º 30'S	147º 06'E
Χ4.	500 ha	
X5.	Reef patches	S.

[98.] X1. 18-070 <u>Arc Reef</u> X2. 18° 30'S <u>147° 27'E</u> X4. 60 ha

X5. Reef patches.

18º 31'S

[99.	]	
Xl.	18-080	Bowl Reef
V D	100 7110	1470 7015

X2. 18° 31'S 147° 32'E

X4. 2000 ha

X5. Ribbon reef. Consists of a hard-line windward reef, contrasting with irregular leeward development, and a back reef sand slope with isolated coral colonies.

X62. Less popular with user groups (Domm 1977).

X63. Williams (1982).

[100.]
X1. 18-069 Slashers Reefs
X2. 18° 32'S 147° 09'E
X4. 4500 ha
X5. Reef patches with sand cay.

X62. Less popular with user groups in this region (Domm 1977).

18-048-Y028 <u>Pelorus (North Palm, Yanooa) Island</u> 18° 33.2'S 146° 29.7'E See Pelorus Island Reef, 18° 34'S 146° 29'E

[102.] X1. 18-072 U/N X2. 18° 33'S 147° 14'E X4. 190 ha X5. Submerged reef.

[103.]
X1. 18-048 Pelorus (North Palm, Yanooa) Island Reef
X2. 18° 34'S 146° 29'E
X4. 120 ha
X5. Fringing reef.
X62. Less popular with user groups (Domm 1977).

[104.] Y1. 18-048-Y028 Pelorus (North Palm, Yanooa) Island Y2. 18° 33.2'S 146° 29.7'E Y3. Palm Islands Group Y4. 356 ha Y6. 2 tenure areas: 1. Recreation Reserve R.614. (Gov. Gaz. 1968-3-1141) 2. S.L. 31301. Area, 0.4 ha; rent, \$120 per year; terms, 30 years expires 7/8/1997; condition that it not be used for resort purposes; lessees: G.L & A.R Richards.

Y8. Geologically high continental island; steep and wooded.

18º 34'S

18º 33'S

Y9. Rainfall, 1,980 mm

Y10. Elevation, 282 m

Yll. Townsville City Council

- [105.]
- X1. 18-073 Hopkinson Reef
- X2. 18º 34'S 147º 12'E
- X3. The Slashers Group
- X4. 500 ha
- X5. Crescentic reef.
- X62. More popular with user groups in this region (Domm 1977). However, Hopkinson Reef is also cited individually in Domm (1977) as being of moderate popularity (1.7 groups visiting per year).

[106.] X1. 18-074 <u>Yankee Reef</u> X2. 18° 34'S <u>147° 30'E</u> X4. 1000 ha X5. Reef patches.

X62. Moderately popular with user groups (Domm 1977).

18º 35'S

[107]	• ]	
X1.	18-081	Knife Reef
X2.	18º 35'S	147º 34'E
Χ4.	310 ha	
X5.	Crescentic	reef.

[108.]

X1. 18-082 U/N X2. 18° 35'S 147° 51'E X4. 190 ha X5. Submerged reef.

18º 36'S

[109	.]
хı.	18–049 Orpheus (Goolboddi) Island Reefs
X2.	A, (Pioneer Bay) (Goolboddi) 18° 36'S 146° 29'E
	B, (Hazard Bay) (Goolboddi) 18° 38'S 146° 30'E
	C, (Harrier Pt) (Goolboddi) 18º 40'S 146º 29'E
	D, (Goolboddi) 18º 38'S 146º 30'E
	E, (Goolboddi) 18º 36'S 146º 30'E
	NW co-ordinates 18º 36'S 146º 29'E
Χ4.	A, 120 ha
	B, 060 ha
	C, 120 ha

D, 060 ha E, 120 ha Total 480 ha Fringing reef. X20. Very good diving X24. Good sheltered anchorage. X28. Moderately used by professional fishermen (Lucas, 1974). X62. Thought by Lucas (1974) to be one of the best diving value reefs in the area. Anchorage (moderate to good) in Hazard Bay close to fringing reef. Better anchorage in Pioneer Bay (N side of island), but reef is of poorer quality. Commercial trawlers and mackerel fishermen make use of Pioneer Bay and Cattle Bay for anchorages (Lucas 1974).

Tidal streams between Pelorus and Orpheus Islands are usually strong. Moderately popular with user groups (Domm 1977).

N.B. "Palm Island Group" as a whole are more popular with user groups (Domm 1977).

[110.]

Χ5.

- 18-049-Y029 Orpheus (Goolboddi) Island Yl.
- 18º 37.0'S 146º 29.6'E Y2.
- Palm Islands Group. Y3.
- 1376 ha Y4.
- Previously used as a base for mackerel fishermen, sheep run, oyster Y5. farming, and 'degaussing' station during World War II. Derelict buildings steming from all the above activities still stand on various parts of the island. Named and visited by Cook. At that time, Banks recorded the following plant species: Hibiscus, Sesuvium, Clerondendron, Knoxia, Halium, Pittosporum,
  - Sarcostemma and Pterocaulon.
- 5 tenure areas: Y6.
  - 1. Nat. Park 531 (Gov. Gaz. 1960-1-1166).
  - Area, 1367 ha
  - 2. S.L. 25629. Area, 7.6 ha; rent, \$30 p.a.; terms, 30 years expires 30/6/1991; lessee, Orpheus Island Resort Pty. Ltd.
  - 3. N.C.L. 1722. Area, 2.9 ha; rent, \$900 p.a. for period 1/7/76 - 1/7/86; terms, commenced 1/7/1961; lessee, Orpheus Island Resort Pty. Ltd.
  - 4. S.L. 41604. Area, 2 ha; rent, \$1 p.a.; terms, 20 years expires 31/5/1998; lessee, James Cook University.
  - 5. Vacant Crown Land. Area, 1.0 ha.
- Tourist resort on SW side of island. Research station. Y7.
- Divided into three wooded summits with low narrow necks of land between. E Y8. side of island is steep.
- Rainfall, 2,005 mm Y9.
- Y10. Elevation, >200 m
- Y15. Feral goats.

[111.] 18-049-Z029 Orpheus Island Resort Z1. Orpheus Island. Ζ2. 10.5 ha 73. 0.8% of island used. 74. Z5. Tenure: N.C.L. 1722 Held by Orpheus Island Resort Pty. Ltd. Z6. Started by local businessman George Morris. Operated by Taylor family from Ζ7. mid 1940's to 9/1967. 9/67-4/74: Orpheus Island Pty. Ltd. (F.& W. Jeffries) 4/74-5/79: Snipe Investments Pty. Ltd. 5/79-11/80: Ceramic Properties Pty. Ltd. 11/80- present: current leasee. N.B. Changes in S.L. 25629 ownership, the adjacent lot to N.C.L. 1722, mirror those of the resort lease. Established 1902, reopened in Dec. '81 after 2 years closure. Z8. Zl2a.Max. overnight accommodation: 25 Z15. Helipad only. Zl6. Access means & time: launch, 2hrs; helicopter, 20 mins. Z17. Access from Townsville (air & sea). Z18. Distance: Townsville (80km). Z20. Coral viewing Z21. Bushwalks Z22. Line fishing Z24. Skin diving Z25. Water skiing Z26a.Sailing Z26b.Windsurfing Z29. Swimming Z30. Glass-bottom boat Z34. Day cruises Z38. No camping permitted within resort area. 18º 37'S 18-049-Y029 Orpheus (Goolboddi) Island 18º 37.0'S 146º 29.6'E See Orpheus Island Reef A, 18º 36' S 146' 29'E [112.] X1. 18-083 Fork Reef

- X2. 18° 37'S 147° 34'E X4. 310 ha
- X5. Crescentic reef.

C, 120 ha

Total 880 ha

X5. Reef patches. 3 reefs sharing common submerged reef platform.

18º 38'S

[114.]

John Brewer (Watt) Reef Xl. 18-075

X2. 18º 38'S 147º 04'E

Χ4. 1750 ha

Lagoonal reef. Done (1982) mentions the following corals to be present on X5. the reef: Acropora (tabulate and caespitose forms), Stylophora pistillata, Seriatopora hystrix and various encrusting types.

X62. More popular with user groups in this region (Domm 1977).

X64. Williams (1982).

X65. Hopley (1982) noted that this reef had achieved over 90% coral cover regrowth within 4 years of Acanthaster devastation.

[115.]

X1. 18-076

X1. 18-076 X2. 18° 38'S Helix Reef 147° 18'E

X4. 60 ha

X5. Reef patches.

X62. Moderately popular with user groups (Domm 1977).

[116.]

- Xl. 18-077 Grub Reef
- 147º 25'E Х2. 18º 38'S

X4. 2380 ha

X5. Lagoonal reef.

X62. Moderately popular with user groups (Domm 1977).

Cup Reef B 18-084 18° 39'S 147° 35'E See Cup Reef A, 18° 37'S 147° 37'E

. 、

18° 39'S

[117.] X1. 18-052 X2. A, 18° 40'S B, 18° 41'S L46° 34'E 146° 33'E NW co-ordinates 18° 40'S 146° 34'E X3. Palm Islands Group A, 50 ha Χ4. B, 120 ha

18º 40'S

Total, 170 ha

X5. Fringing reef.

X15. Very good reef fishing.

X21. No sheltered anchorage.

X62. Less popular with user groups (Domm 1977). N.B. Usage data in Domm (1977) indicates the "Palm Island Group" reefs as a whole are among the more popular reefs in the region.

[118.] Y1. 18-052-Y030 Curacoa (Noogoo) Island Y2. 18° 40.0'S 146° 33.2'E Y3. Palm Islands Group Y4. 440 ha Y6. Aboriginal Reserve R. 216 (part) (Gov. Gaz. 1968-2-734) Y8. Geologically, a high continental island. Y9. Rainfall, 2,005 mm Y10. Elevation, 295 m Y11. Townsville City Council Y15. Feral goats.

Y19. Hopley, D. (1968).

[119.]
X1. 18-085 Spoon Reef
X2. A & B, 18° 40'S 147° 34'E
X4. A, 190 ha
 B, 060 ha
 Total 250 ha
X5. Reef patches.

18-084 <u>Cup Reef C (Saucer Reef)</u> 18° 40'S 147° 36'E See Cup Reef A, 18° 37'S 147° 37'E

[120.] X1. 18-086 <u>Chicken Reef</u> X2. 18° 40'S 147° 43'E X4. 380 ha X5. Crescentic reef.

18º 41'S

 [122.]

- Fantome (Eumilli) Island Reef X1. 18-053
- 146º 31'E 18º 41'S Χ2.
- Χ4. 190 ha
- Χ5. Fringing reef.
- X24. Good sheltered anchorage.
- X62. Unmanned navigational light. Anchorage in Juno Bay close to reef near abandoned buildings. Less popular with user groups (Domm 1977).

[123.]

- Y1. 18-053-Y031 Fantome (Eumilli) Island
- 146º 31.2'E Υ2. 18º 41.2'S
- Palm Islands Group Y3.
- Y4. 735 ha
- Named after HMS Fantome, a survey vessel which charted the area in the mid Y5. 1800's. Until 1973, an Aboriginal leper colony run by the Catholic church.
- Reserve for Dept. and Official Purposes R. 735 (Gov.Gaz. 1975-2-900). Y6.
- Abandoned leprosarium buildings. Y7.
- Geologically, a high continental island. The island has two peaks at its S Y8. and N sides separated by a low narrow neck of land. The N hill slopes down to a low sandy plain on which there is a hillock. The E side of the island is steep and rocky.
- Rainfall, 1,780 mm Y9.
- YlO. Elevation, 218 m
- Yll. Townsville City Council
- Y13. Scenic value: 3
- Y15. Wild goats.

[124.]

- X1. 18-054 Great Palm Island Reefs
- A, (Coolgareee B.) 18° 43'S 146° 34'E Χ2.
  - B, (Butler-Mundy B.) 18° 46'S 146° 37'E
  - C, (Barber B.) 18° 46'S 146° 41'E
  - D, 18º 45'S 146º 41'E
  - E, (North East B.) 18º 44'S 146° 39'F
  - F, (Hullumbooroo B.) 18° 42'S 146° 36'E
  - G, (Cannon B.) 18° 41'S 146° 35'E
  - NW co-ordinates, 18° 41'S 146° 35'E
- A, 690 ha Χ4.
  - B, 380 ha C, 120 ha

  - D, 310 ha
  - E, 250 ha
  - F, 060 ha
  - G, 060 ha
  - Total, 1870 ha

Χ5. Fringing reef.

> Wells (1955) noted the following coral genera present on "Palm Islands" reefs: Synaraea, Caulastrea, Pectinia, Euphyllia, Echinophyllia, Merulina, Astreopora, Millepora, Echinopora, Leptoria, Hydnophora, Stylophora, Lobophyllia, Porites, Cycloseris, Acropora, Favites, Montipora, Cyphastrea, Pavona, <u>Pocillopora</u>, <u>Turbinaria</u>.

Acropora kirstyae known only (and abundant) here (J.E. Veron, pers. Χ6. Comm.). Wallace (1978) noted the following Acropora corals: A. grandis, A. nasuta, A. rosaria, and A. brueggemanni.

- X20. Very good diving
- X24. Good sheltered anchorage.
- X62. Anchorage close to fringing reef S of settlement in Challenger Bay. Moderately popular with user groups (Domm 1977).
  - N.B. "Palm Island Group" as a whole was listed among the more popular category based on Domm's data.
- [125.]
- Y1. 18-054-Y032 Great Palm Island
- Y2. 18º 44.5'S 146º 36.6"E
- Y3. Palm Islands Group
- Y4. 5,666 ha
- Y5. Named by Captain Cook. Originally inhabited by the Boogamon people, and a government mission was set up in 1918.
- Y6. 7 tenure areas:
  - 1. Aboriginal Reserve R216 (part) (Gov.Gaz. 1968-2-734).
  - Area: all of island except for a few ha in following areas.
  - 2. Vacant Crown Land. 3 separate allotments totalling 9.3 ha.
  - 3. S.L. 33868
  - Area: 0.2 ha; Rent: \$6 p.a.; Terms: 30 years expires 30/4/2000; Lessee: Synod of Diocese of Nth. Qld., P.O. Box 519, Townsville.
  - 4. S.L. 34240

Area: 0.25 ha; Rent: \$6 p.a.; Terms: 30 years expires 31/3/2000.; Lessees: E.C. Long, I.T. Perry, & E.A. Collins as Trustees of the Aborigines Inland Mission of Australia.

5. S.L. 34117

Area: 0.08 ha; Rent: \$6 p.a.; Terms: 30 years expires 31/3/2000; Lessees: same as above.

6. S.L. 31592

Area: 1.9 ha; Rent: \$6 p.a.; Terms: 30 years expires 31/7/97; Lessee: Roman Catholic Trust Corp., Diocese of Townsville.

- 7. Other reserves for schools, hospital, totalling 3.7 ha.
- Y7. Airstrip. Aboriginal settlement on SW side in Challenger Bay.
- Y8. Geologically, a high continental island. Island is thickly wooded. Three ridges extend from the summit. The coastline is cliffy and steep over much of its E and S coasts. Rainforest occurs on N side ridges and in sheltered gullies. Lower and drier ridges support an open Eucalyptus forest which is subject to frequent fires that have replaced the usual understorey with grasses. On level ground this open forest gives way to a savannah type , and uncommonly, to grassland. Swampy land supports <u>Melaleuca leucadendron</u> and <u>Phragmites consumins</u>. Mangroves occur along several tidal creeks and on intertidal shorelines.
- Y9. Rainfall, 1,780 mm
- Y10. Elevation, (Mt. Bentley) 554 m
- Yll. Townsville City Council
- Y15. 8 spp. land birds (none breeding): Brown Hawk, Eastern Grass Owl, Noisy Pitta, Little Cuckoo-Shrike, Black-throated Warbler, Spectacled Flycatcher, Rufous Shrike Thrush, Spangled Drongo.
- Y16. Brown Hawk 1 of 3 GBR records Eastern Grass Owl - only GBR record Noisy Pitta - 1 of 4 GBR records
- Y17. Jetty on W side of island. Moorings available near jetty. Anchorage off beach on NE side in bay.
- Y19. Herbert, D.A. (1929).
- Y20. Freshwater available at settlement and in creek in NE bay. Anon. (1966) noted the island was suitable for a tourist resort.

Permission to land on island required from Qld. Dept. of Aboriginal & Islanders Affairs.

[126.] Yl. 18-054-Y034 U/N Island Y2. 18° 45.6'S 146° 41.6'E Y8. On Great Palm Island Reef D.

[127.]
Y1. 18-054-Y040 U/N Island
Y2. 18° 46.7'S 146° 38.6'E
Y6. Vacant Crown Land
Y8. On Great Palm Island Reef B

Yll. Townsville City Council

18º 42'S

- X1. 18-078 Lodestone Reef
- X2. 18º 42'S 147º 06'E
- X4. 500 ha

[128.]

- X5. Planar reef.
- X62. Moderately popular with user groups (Domm 1977).
- X64. Done (1982)
- Williams (1982)
- X65. Reported to Domm (1977) by several observers as being a "dead reef" following a heavy infestation of crown-of-thorns starfish.

[129.]

- X1. 18-087 U/N
- X2. 18º 42'S 147º 52'E

X4. 30 ha

X5. Reef patches.

18° 43'S

18º 44'S

18-054-Y032 Great Palm Island 18° 44.5'S 146° 36.6'E See Great Palm Island Reefs, 18° 41'S 146° 35'E

[130.] X1. 18-055 Hayman Rock Reef X2. 18º 44'S 146º 42'E X4. 1 ha Χ5. Incipient fringing reef. [131.] Y1. 18-055-Y033 Hayman Rock 18º 44.5'S 146º 41.5'E Y2. Y6. Vacant Crown Land Y8. Geologically, high continental. Yll. Townsville City Council [132.] X1. 18-088 <u>Centipede (Goon) Reef</u> 147º 32'E X2. 18º 44'S X4. 2750 ha X5. Crescentic reef. X62. Moderately popular with user groups in this region (Domm 1977). [133.] U/N X1. 18-090 18º 44'S 147º 51'E X2. X4. 190 ha Planar reef. X5. [134.] X1. 18-089 Anzac Reef 147° 53'E X2. 18º 44'S X4. 250 ha X5. Crescentic reef. 18-054-Y034 U/N Island 18º 45.6'S 146º 41.6'E See Great Palm Island Reefs, 18° 41'S 146° 35'E [135.] X1. 18-056 Paluma Rock Reef X2. 18º 45'S 146º 42'E

X4. l ha

X5. Submerged reef.

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18º 45'S

Y6. Vacant Crown Land

[137.]

- Y8. Geologically high continental.
- Yll. Townsville City Council

X1. 18-079 Keeper Reef
X2. 18° 45'S 147° 16'E
X4. 620 ha
X5. Planar reef.
X62. Moderately popular with user groups (Domm 1977).
X64. Dineson (1982).
Gentien (1981).

X65. Olafson (1978) found trace levels of lindane in <u>Acropora</u> and <u>Fungia</u> corals and fish.

[138.] X1. 18-092 U/N X2. 18° 45'S 147° 57'E X4. 190 ha

X5. Crescentic reef.

18º 46'S

18-060-Y036 <u>Dido Rock</u> 18° 46.6'S 146° 30.6'E See Dido Rock Reef, 18° 47'S 146° 31'E

[139.] X1. 18-059 <u>Esk (Soopun) Island Reef</u> X2. 18° 46'S <u>146° 31'E</u> X4. 20 ha X5. Fringing reef.

[140.] Y1. 18-059-Y037 Esk (Soopun) Island Y2. 18° 46.3'S 146° 31.1'E Y3. Palm Islands Group Y4. 26 ha Y6. Aboriginal Reserve R. 216 (part) (Gov.Gaz. 1962-2-734). Y8. Geologically high continental; well wooded island fringed with reefs. Y9. Rainfall, 1,650 mm Y10. Elevation, 50 m Y11. Townsville City Council

18-062-Y038 Falcon (Carbooroo) Island 18º 46.2'S 146º 31.9'E See Brisk, Falcon (Carbooroo, Culgarool) Islands Reef, 18º 47'S 146º 32'E [141.] X1. 18-058 Eclipse (Garooqubbee) Island Reef X2. 18º 46'S 146° 33'E 10 ha Χ4. X5. Fringing reef. [142.] Yl. 18-058-Y039 Eclipse (Garooqubbee) Island 18° 46.3'S 146° 33.1'E Y2. Y3. Palm Islands Group Aboriginal Reserve R. 216 (part) (Gov.Gaz. 1968-2-734). Geologically, a high continental island. Flat-topped summit which slopes to Y6. Y8. a sandy point at its NW end. Trees are very stunted on exposed ridges due to wind action - mainly Eucalyptus and grasses, with rainforest types occurring in moist gullies on the N side. Y9. Rainfall, 1,650 mm YlO. Elevation, 63 m Yll. Townsville City Council Yl9. Herbert (1929). 18-054-Y040 U/N Island 18º 46.7'S 146º 38.6'E See Great Palm Island Reefs, 18° 41'S 146° 35'E [143.] X1. 18-061 Barber (Boodthean) Islet Reef X2. 18º 46'S 146° 40'E Χ4. 10 ha X5. Fringing reef. [144.] Yl. 18-061-Y041 Barber (Boodthean) Islet 18º 46.7'S 146º 39.9'E Y2. Y3. Palm Islands Group Y4. 2.4 ha Vacant Crown Land. Y6. Geologically, a high continental island. Y8. Rainfall, 2,005 mm Y9. YlO. Elevation, 26 m Yll. Townsville City Council

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[145.]

- X1. 18-057 Albino (White) Rock Reef
- X2. 18º 46'S 146° 43'E

X4. l ha

X5. Incipient fringing reef.

[146.] Yl. 18-057-Y042 Albino (White) Rock 18º 46.4'S 146º 43.1'E Y2. Y4. 0.2 ha S.L. 18992 Y6. Area: 0.2 ha; terms: 30 years expires 31/12/82 (no more recent info.); . lessee: Commonwealth of Australia.

Navigational light. Υ7.

Geologically, a high continental island. Very small, steep and apparently Y8. granitic. Almost devoid of vegetation except for very sparse grasses.

- YlO. Elevation, 23 m
- Yll. Townsville City Council Yl5. 5 spp. of sea or shore birds: breeding Osprey, Silver Gull, Crested Tern; non-breeding - Brown Gannet, Noddy.

[147.] X1. 18-093 U/N 18º 46'S 147º 56'E X2. X4. 380 ha X5. Reef patches.

[148.] X1. 18-060 Dido Rock Reef 146° 31'E X2. 18º 47'S X4. 1 ha X5. Fringing reef.

[149.] Y1. 18-060-Y036 <u>Dido Rock</u> Y2. 18° 46.6'S <u>146°</u> 30.6'E Y8. Geologically, high continental. YlO. Elevation, 6 m

[150.] X1. 18-062 Brisk, Falcon (Carbooroo, Culgarool) Islands Reef X2. 18º 47'S 146° 32'E X4. 50 ha Fringing reef. Χ5. X62. Less popular with user groups (Domm 1977).

18º 47'S

- 40 -[151.] Yl. 18-062-Y038 Falcon (Carbooroo) Island Y2. 18º 46.2'S 146º 31.9'E Y3. Palm Islands Group. Y4. 16.2 ha Aboriginal Reserve R.216 (part) (Gov. Gaz. 1968-2-734). Y6. Geologically, a high continental island; shares reef with Brisk Island. Y8. Y9. Rainfall, 1,650 mm Y10. Elevation, 59 m Yll. Townsville City Council [152.] 18-062-Y043 <u>Brisk (Culgarool) Island</u> 18º 47.2'S <u>146º 32.4'E</u> Y1. Y2. Y3. Palm Islands Group Y4. 44.5 ha Aboriginal Reserve R.216. (part) (Gov.Gaz. 1968-2-734). Y6. Geologically, a high continental island. Has a wooded and grassy summit Y8. which slopes to a sandy point at its' N end. Shares reef with Falcon Island. Y10. Elevation, 70 m Yll. Townsville City Council [153.] X1. 18-063 Chilcott Rocks Reef X2. 18º 47'S 146° 43'E X4. 1 ha X5. Incipient fringing reef. [154.] Y1. 18-063-Y044 Chilcott Rocks Y2. 18° 47.5'S 146° 43.9'E Y8. Geologically high continental; two rocks lying close together, steep and devoid of vegetation. Y10. Elevation, 2 m [155.]X1. 18-091 Lynch's Reef X2. 18º 47'S 147º 43'E Χ4. 3690 ha X5. Reef patches. X62. Moderately popular with user groups (Domm 1977).

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[156.] X1. 18-094 U/N X2. 18° 47'S 147° 52'E X4. 440 ha

X5. Reef patches.

18° 48'S

[157.] X1. 18-095 Wheeler Reef

X2. 18º 48'S 147º 32'E

X4. 190 ha

- X5. Planar reef with sand cay. Characteristic of a reef just reaching planar stage. Reef flat is very close to tidal datum, and consists of small coral colonies of great species variety growing densely around the rim and becoming more scattered towards the lee side, where a sandy floor is interspersed. Small areas of algal pavement on E side. Small unvegetated sand cay is present on leeward side of reef.
- X20. Very good diving.
- X62. More popular with user groups (Domm 1977).
- X63. A small unvegetated cay on the reef was destroyed by cyclone Althea in 1971, burying several ha of coral. <u>Acropora</u> beds in up to 20 m depth were fragmented by the storm (Hopley 1982).
- X64. Harvey (1978); Hopley (1978a); Hopley (1978b); Isdale (1978).
- X65. Olafson (1978) found trace levels of lindane & DDE in <u>Acropora</u> and <u>Fungia</u> corals; and lindane in fish and <u>Tridacna</u> clams. Wheeler Reef was the most frequently nominated by respondents in Domm's (1977) survey as worthy of marine national park status, and one where clashes between different user groups could occur.

[158.]

- X1. 18-097 U/N
- X2. 18° 48'S 147° 59'E
- X4. 20 ha
- X5. Submerged reef.

18º 49'S

[159.]

- X1. 18-051 Pandora Reef
- X2. 18º 49'S 146º 26'E

X4. 60 ha

X5. Planar reef with shingle cay. Reef is 1-2 km long on a E-W axis. Much of the reef flat is shingle covered and rubble covered. Low shingle ramparts occur towards the windward margin of the flat. The reef contains a linear unvegetated sand cay (Pandora Cay).

X62. Moderately popular with user groups (Domm 1977).

X64. Done (1982)

Williams (1982)

18-064-Y045 Fly Island 18° 49.8'S 146° 31.6'E See Fly Island Reef, 18° 50'S 146° 32'E

[160.] X1. 18-107 U/N 148º 02'E 18º 49'S Χ2. X4. 60 ha X5. Reef patches.

[161.] 18-064 X1. Fly Island Reef Χ2. 18º 50'S 146º 32'E 10 ha Χ4. X5. Fringing reef.

[162.] Y1. 18-064-Y045 Fly Island Y2. 18° 49.8'S 146° 31.6'E Y3. Palm Islands Group 2.8 ha Y4. Vacant Crown Land Y6. Geologically, a high continental island covered with a low scrub. Y8. Rainfall, 1650 mm Y9. Y10. Elevation, 35 m Yll. Townsville City Council

[163.] X1. 18-065 Havannah Island Reef 146° 33'E 18º 50'S X2. 30 ha Χ4. X5. Fringing reef. X62. Less popular with user groups (Domm, 1977).

[164.] 18-065-Y046 Havannah Island Y1. Y2. 18° 50.5'S 146° 32.6'E

Y4. 130 ha

Y6.

Aboriginal Reserve R. 216 (part) (Gov. Gaz. 1968-2-734) Geologically, a high continental island. Island has two peaks separated by Y8. a low saddle. The NW peak has a flattish top and slopes to a sandy point at the NW end of the island.

Y9. Rainfall, 1780 mm

Y10. Elevation, 155 m

Yll. Townsville City Council

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18° 50'S

[165.] X1. 18-096 Davies Reef 18º 50'S 147º 39'E X2⁻. Χ4. 1380 ha A laqoonal platform reef with condsiderable back reef development, X5. measuring 5.8 x 2.6 km. Wilkinson (1981) recorded over 20 spp. sponges on the reef slope. Χ6. X19. Good diving. X24. Good sheltered anchorage, X62. More popular with user groups in this region (Domm, 1977). X64. Gentien (1981). X65. Olafson (1978) found trace amounts of lindane, heptachlor and heptachlor epoxide in Acropora and Fungia corals; lindane and dieldrin in fish; and lindane in Tridacna clams. [166.] X1. 18-098 U/N 18º 50'S 147º 58'E X2. Χ4. 20 ha Submerged reef. X5. [167.] X1. 18-109 U/N X2. 18º 50'S 148° 04'E Χ4. 10 ha X5. Submerged reef. [168.] X1. 18-108 U/N 18º 50'S X2. 148° 07'E Χ4. 40 ha Χ5. Submerged reef. 18° 51'S [169.] X1. 18-110 U/N 18º 51'S 148° 04'E Χ2. 20 ha Χ4. X5. Submerged reef.

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[170.]

- X1. 18-111 Eagle Reef
- 18º 51'S 148° 09'E X2.

Χ4. 120 ha

Χ5. Crescentic reef.

Wells (1955) noted the following coral genera present: Oxypora, Pectinia, Pachyseris, Duncanopsammia, Polyphyliia, Moseleya, Euphyllia, Alveopora, Mycedium, Merulina, Seriatopora, Galaxea, Leptoria, Symphyllia, Hydnophora, Stylophora, Lobophyllia, Goniastrea, Leptastrea, Porites, Fungia, Cycloseris, Goniopora, Favia, Acropora, Platygyra, Favites, Montipora, Cyphastrea, Pavona, Pocillopora, Turbinaria.

18º 52'S

[171.] X1. 18-099 U/N X2. 18º 52'S 147º 53'E X4. 1250 ha X5. Crescentic reef.

[172.]

- X1. 18-112 Viper Reef
- 18º 52'S 148º 12'E X2.
- Χ4. 190 ha
- Χ5. Crescentic reef.
- Wallace (1978) noted the following Acropora corals: A. abrotanoides, A. Χ6. formosa, A. hyacinthus, A. cytherea, A. cerealis, A. florida, A. squarrosa and A. austera.

18º 53'S

[173.] X1. 18-113 U/N X2. 18º 53'S 148º 14'E Χ4. 10 ha X5. Submerged reef.

18° 54'S

[174.] X1. 18-104 U/N X2. 18º 54'S 147° 52'E X4. 60 ha X5. Submerged reef.

[175.]			
X1.	18-103	U/N	
X2.	18º 54'S	147º 54'E	
Χ4.	60 ha		
X5.	Reef patches	5.	

[176.] X1. 18-102 U/N X2. 18° 54'S 147° 55'E X4. 60 ha X5. Submerged reef.

[177.]

- X1. 18-114 U/N X2. 18° 54'S 148° 14'E X4. 10 ha
- X5. Submerged reef.

## 18º 55'S

[178.]
X1. 18-100 Big Broadhurst Reef
X2. A, 18° 55'S 147° 45'E
B, 18° 55'S 147° 45'E
NW co-ordinates, 18° 55'S 147° 45'E
X4. A, 8120 ha

B, 120 ha Total, 8240 ha

- X5. A, crescentic reef; B, submerged reef. Wallace and Bull (1981) distinguished four major zones: (1.) outer reef flat, with high diversity, high cover, dominated by <u>Acropora</u>; (2.) reef crest, with high cover but lower diversity than the flat or slope, and dominated by <u>A</u>. <u>hyacinthus</u> and <u>A</u>. <u>intermedia</u>; (3.) upper slope, to 9m depth, with high cover and diversity dominated by <u>Acropora</u>; (4.) mid-slope, 9-15m depth, with slightly lower diversity and much lower cover, and where <u>Acropora</u> does not dominate.
- X6. <u>Acropora multiacuta</u> abundant only here (J.E. Veron, pers. comm.) Wallace (1978) recorded 34 spp. of <u>Acropora</u> corals (not including the latter sp.).
- X15. Very good reef fishing.
- X20. Very good diving.
- X24. Good sheltered anchorage.
- X62. Comfortable anchorage along NW and W faces of the reef. Popular with fishing charter boats (Lucas, 1974). More popular with user groups in this region (Domm, 1977).
- X63. Only slightly affected by the Crown-of-Thorns (Domm, 1977).
- X64. Wallace (1982)
- X65. Olafson (1978) found trace quantities of lindane in <u>Acropora</u> and <u>Fungia</u> corals, fish and Tridacna clams.

[179.]
X1. 18-105 U/N
X2. A, 18° 55'S 147° 54'E
 B, 18° 56'S 147° 55'E
 NW co-ordinates, 18° 55'S 147° 54'E
X4. A, 380 ha
 B, 250 ha
 Total, 630 ha
X5. Reef patches.

[180.] X1. 18-101 U/N X2. 18° 55'S 147° 57'E X4. 1940 ha X5. Crescentic reef.

18-105 U/N Reef B 18° 56'S 147° 55'E See U/N Reef A, 18° 55'S 147° 54'E

[181.] X1. 18-115 <u>Jupiter Reef</u> X2. 18° 56'S <u>148° 15'E</u> X4. 190 ha X5. Crescentic reef.

[182.] X1. 18-116 U/N X2. 18° 56'S 148° 20'E X4. 40 ha X5. Submerged reef.

[183.]
X1. 18-118 Shrimp Reef
X2. 18° 57'S 148° 05'E
X4. 750 ha
X5. Crescentic reef.
X62. Less popular with user groups (Domm, 1977).

18º 57'S

18º 56'S

[184.] X1. 18-117 U/N X2. 18° 57'S 148° 17'E X4. 120 ha X5. Submerged reef.

[185.] X1. 18-119 Lion Reef X2. 18° 57'S 148° 22'E X4. 60 ha X5. Reef patches.

[186.]
X1. 18-067 Phillips Reef
X2. 18° 58'S 146° 37'E
X4. 10 ha
X5. Submerged reef.
X62. Used as bombing range.

[187.]

- Y1. 18-067-Y047 U/N Rock
- Y2. 18° 58.7'S 146° 37.1'E

Y8. Geologically high continental; submerged rock on Phillips Reef.

18º 58'S

[189.] Yl. 18-066-Y048 Acheron Island

Y2. 18º 58.0'S 146º 38.3'E

Y4. 283 ha

- Y6. Vacant Crown Land
- Y7. RAAF bombing and gunnery range.
- Y8. Geologically, a high continental island. E tip of island is steep and rocks fringe the S side of island. Two grassy hills, one on E and the other on the W of the island are separated by a valley with a small hillock in its centre.
- Y9. Rainfall, 1525 mm
- Y10. Elevation, 57 m
- Yll. Thuringowa Shire Council

[190.] X1. 18-106 <u>Little Broadhurst Reef</u> X2. 18° 58'S <u>147° 42'E</u>

X4. 1250 ha

X5. Lagoonal reef.

X62. Less popular with user groups (Domm, 1977).

18º 59'S

[191.] X1. 18-068 <u>Cordella Rocks Reef</u> X2. 18° 59'S 146° 41'E X4. 10 ha X5. Fringing reef.

[192.]

Y1. 18-068-Y049 Cordella Rocks

Y2. 18° 59.8'S 146° 41.0'E

Y5. Formerly an RAAF gunnery and bombing range.

Y6. Vacant Crown Land

Y8. Geologically, high continental; two rocks, the SW of which is the highest, lying close together and joined by a coral reef.

Y9. Rainfall, 1525 mm

Y10. Elevation, 24 m

Yll. Thuringowa Shire Council

[193.] X1. 18-120 Jaguar Reef X2. 18° 59'S 148° 25'E X4. 380 ha

X5. Crescentic reef.

19º 01'S

[194.] X1. 19-001 <u>Bramble Rock Reef</u> X2. 19° 01'S 146° 37'E X4. 1 ha X5. Incipient fringing reef.

[195.] Y1. 19-001-Y001 Bramble Rock Y2. 19° 01.5'S 146° 37.7'E Y5. Previously part of an air gunnery and bombing range. Y6. Vacant Crown Land. Y8. Geologically high continental; fringed with rocks. Y10. Elevation, 6 m Y11. Thuringowa Shire Council

19-002-Y002 Herald Island 19° 01.8'S 146° 38.1'E See Herald Island Reef, 19° 02'S 146° 38'E

[196.] X1. 19-024 Prawn Reef X2. 19° 01'S 148° 07'E X4. 1380 ha X5. Crescentic reef. X6. Wallace (1978) noted <u>Acropora aculeus</u> on the reef flat. X62. Less popular with user groups (Domm 1977).

[197.] X1. 19-025 <u>Castor Reef</u> X2. 19° 01'S 148° 20'E X4. 440 ha X5. Reef patches.

[198.] X1. 19-004 <u>Lorne Reef</u> X2. 19° 02'S 146° 35'E X4. 1 ha X5. Incipient fringing reef. 19º 02'S

19º 02.3'S 146º 34.8'E Y2. Y5. Bombing range. Y8. Geologically high continental; on Lorne Reef. [200.] X1. 19-003 Rattlesnake Island Reef X2. 19º 02'S 146° 37'E X4. 120 ha Fringing reef, the majority of which is covered by dead coral which appears Χ5. to have been recently killed (Hopley, 1982). [201.] Y1. 19-003-Y004 Rattlesnake Island Y2. 19º 02.1'S 146º 36.6'E Y4. 202 ha Y5. Previously an air gunnery and bombing range. Y6. 2 tenure areas: 1. Freehold C.T. Vol.N. 250, Folio 245 Area, 20.3 ha; owner, D.V. Logan, 25 Simla Rd., West Ryde, 2114. 2. Vacant Crown Land. Area, 182 ha Y8. Geologically high continental; E tip of island is steep, and the island rises to a rounded grassy summit. Y9. Rainfall, 1525 mm Y10. Elevation, 121 m Yll. Thuringowa Shire Council Y18. Anchorage in SE winds may be found 1 km NW of the island in 7-9 m depth. [202.] X1. 19-002 Herald Island Reef X2. 19º 02'S 146° 38'E Χ4. 60 ha Χ5. Fringing reef. [203.] Y1. 19-002-Y002 Herald Island Y2. 19° 01.8'S 146° 38.1'E Y5. Formerly a bombing and gunnery range for RAAF. Y6. Vacant Crown Land. Geologically high continental island. NE coastline is steep and the S coast Y8. is rock-fringed with drying reef extending from its' W side. SW extremity of the island is a sandy point. The island rises to form two rounded grassy hills. Y9. Rainfall, 1525 mm

Y10. Elevation, 53 m

[199.]

Y1. 19-004-Y003 U/N Rock

- Yll. Thuringowa Shire Council
- Y18. Anchorage is medium over shoaling sand and reef patches towards beach on SW extremity of island.

[204.] X1. 19-019 <u>Bowden Reef</u> X2. 19° 02'S 147° 56'E X4. 940 ha X5. Crescentic reef.

[205.	.]		
X1.	19-049	Lynx	Reef
X2.	19º 02'S	148°	34 'E
Χ4.	120 ha		
X5.	Crescentic	reef.	

[206.] X1. 19-027 <u>Pollux Reef</u> X2. 19° 03'S <u>147° 19'E</u> X4. 500 ha X5. Reef patches.

[207.] Xl. 19-026 U/N X2. 19°03'S 148°27'E X4. 120 ha X5. Reef patches.

[208.] X1. 19-028 <u>Shell Reef</u> X2. 19° 04'S <u>147° 11'E</u> X4. 250 ha X5. Crescentic reef.

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19-029	Mid Reef
19º 04'S	148° 05'E
620 ha	
Crescentic	reef.
	] 19-029 19° 04'S 620 ha Crescentic

ı

19º 03'S

[210.] X1. 19-030 U/N X2. 19º 05'S 148º 12'E 120 ha Χ4. X5. Reef patches.

[211	.]	
X1.	19-031	Crotan Reef
X2.	19º 05'S	148º 14'E
Χ4.	250 ha	
Χ5.	Reef patches	5.

[212.] X1. 19-035 U/N Χ2. 19º 05'S 148° 26'E X4. 250 ha X5. Submerged reef.

19º 06'S

[213.]			
X1.	19-005	Paluma Shoals	
X2.	19º 06'S	146° 33'E	
Χ4.	190 ha		
Χ5.	Submerged	reef.	

[214.]

- X1. 19-009 White Rock (Magnetic Island G) Reef
- Χ2. 19º 06'S 146° 50'E

Χ4. 60 ha

X5. Incipient fringing reef of Magnetic Island. Wells (1955) noted the following coral genera present: Synaraea, Caulastrea, Pectinia, Euphyllia, Echinophyllia, Merulina, Astreopora, Millepora, Echinopora, Leptoria, Hydnophora, Stylophora, Lobophyllia, Porites, Cycloseris, Acropora, Favites, Montipora, Cyphastrea, Pavona, Pocillopora, Turbinaria.

[215.]

- Y1. 19-009-Y005 White Rock
- Y2. 19º 06.4'S 146º 50.0'E
- Y3. Palm Islands
- Y7. Navigational light.
- Y8. Geologically, high continental; unvegetated island on White Rock (Magnetic Island G) Reef.
- Y9. Rainfall, 1780 mm
- YlO. Elevation, 8 m Yll. Townsville City Council

[216.] 19-009 X1. Magnetic Island Reefs B (Nelly Bay Reef), 19º 10'S 146° 51'E X2. D (Arthur or Florence Bay Reef), 19° 08'S 146° 53'E E (Gowrie Bay Reef), 19° 07'S 146° 53'E F (Balding Bay Reef), 19º 06'S 146° 52'E NW co-ordinates, 19° 06'S 146° 52'E Χ4. B, 120 ha D, 60 ha E, 60 ha F, 120 ha Total, 360 ha X5. Fringing reefs. Other fringing reefs listed separately. Wells (1955) noted the following coral genera present: Oxypora, Pectinia, Pachyseris, Duncanopsammia, Polyphyliia, Moseleya, Euphyllia, Alveopora, Mycedium, Merulina, Seriatopora, Galaxea, Leptoria, Symphyllia, Hydnophora, Stylophora, Lobophyllia, Goniastrea, Leptastrea, Porites, Fungia, Cycloseris, Goniopora, Favia, Acropora, Platygyra, Favites, Montipora, Cyphastrea, Pavona, Pocillopora, Turbinaria. X62. Less popular with user groups (Domm, 1977). X63. From 1961 dredges began dumping large guantities of silt close to Magnetic Island, resulting in the destruction of many reefs in the E bays of the island (Brown, 1973; Bennett, 1971). X64. Bull (1982); Smith (1978);

Willis (1982); Withers (1930).

[217.]

X1. 19-009 Geoffrey Bay (Magnetic Island C) Reef

X2. 19º 09'S 146º 52'E

X4. 120 ha

X5. Fringing reef. The reef slope extends over 150 m from the reef crest, behind which the reef flat extends a further 150 m. There is extensive back reef sand/mud flats. Coral cover only averages 5% on the reef flat and crest, mainly <u>Goniastrea aspera</u>, <u>Platygyra sinensis</u> and <u>Montipora ramosa</u>, with <u>Porites australensis</u>, <u>P. solida</u>, <u>P. lobata</u>, <u>Symphyllia recta</u>, <u>Goniastrea favulus</u>, <u>Platygyra pini</u> and <u>Turbinaria mesenterina</u> also being present. Macroalgae were an important feature.

On the reef slope <u>Acropora</u> spp. (specifically <u>A</u>. <u>formosa</u> and <u>A</u>. <u>hyacynthus</u>) and <u>Montipora</u> sp. were dominant. Other spp. present included other tabulate and arborescent <u>Acropora</u>, other foliose and encrusting <u>Montipora</u> spp., also <u>Favia</u> <u>speciosa</u>, <u>Stylophora</u> <u>pistillata</u> and <u>Pachyseris</u> <u>speciosa</u>. Coral cover averaged 26%.

X64. Bull (1982); Morrissey (1980).

[218.]

X1. 19-009 Cockle Bay (Magnetic Island A) Reef

X2. 19º 11'S 146º 49'E

X4. 620 ha

X5. Fringing reef of Magnetic Island. The reef in this bay is generally reduced in terms of number of species and has a lower coral cover on the reef slope, compared to Geoffrey Bay, because of markedly greater siltation and turbidity here. The reef slope, dominated by Goniopora tenuidens, averages 13% coral cover. Other spp. present include <u>Porites mayeri</u>, <u>Favia favus</u>, <u>Turbinaria mesentaria</u> and <u>Merulina ampliata</u>. On the outer reef flat and crest, cover averages 10%, mainly <u>Platygyra sinensis</u> and <u>Symphyllia recta</u> with <u>Lobophyllia hemprichii</u>, <u>Turbinaria mesenterata</u> and <u>Porites lobata</u>. On the inner reef flat, coral cover averages 33%, mainly <u>Montipora ramosa</u>, with some <u>Goniastrea</u> aspera and <u>Porites lobata</u>.

X64. Bull (1982).

[219.]

- Yl. 19-009-Y009 Magnetic Island
- Y2. 19º 08.4'S 146º 49.8'E
- Y4. 5184 ha
- Y5. Named by Capt. Cook because of a magnetic anomaly in the area. First permanent resident was Harry Butler (in 1877) who set up a quarantine station for immigrants. First settlements were at Nelly Bay (Bright family growing tropical fruits), Horseshoe Bay (group of farmers established pineapple plantations) and Geoffrey Bay (where the Hayles family bought in 1899).

Much of the island within the National Park was destroyed by a 1972 bushfire.

Y6. Major tenure area is National Park 456 (Gov. Gaz. 1954-2-1364); area, 2533 ha. Other areas (hundreds of lease and freehold allotments for commercial and residential purposes) make up approximately half of total area. Recommended Buffer Zone (Beach Prot. Auth.) on shoreline (Lands Dept. Batch 1435).

Proposed National Park extensions on NE and NW coastal plains (see File 75.2392, Forestry Dept.).

- Y7. Settlements at Horseshoe Bay, Alma Bay, Nelly Bay, Picnic Bay, Bolger Bay and West Point on E and S sides. Motels and/or flats at Alma Bay (1), Arcadia (8), Horseshoe Bay (3), Nelly Bay (1) and Picnic Bay (3) plus state school, post office, shops. There is a resort at Nelly Bay and Radical Bay. Population approximately 2000 (permanent).
- Y8. Geologically high continental, large granite island, roughly triangular in shape, with 40 km of coastline. Centre of island is steep and rugged and virtually untouched. There are areas of rainforest in the central part, while on W-NW side is a large area of open eucalypt forest and mangroves. Hoop pines dominate the granite ridges and headlands.
- Y9. Rainfall, 1270 mm
- Y10. Elevation, 495 m
- Yll. Townsville City Council
- Y12. No camping allowed in National Park, although there is a Boy Scout camping area at Florence Bay. No camping areas elsewhere on the island.
- Y13. Scenic value 3
- Yl4. Naturalness value 2
- Y15. 142 spp. of birds recorded here (Edgecombe, 1977) as well as 7 spp. of frogs, 16 spp. of butterflies. Mammals include Brush-tailed Possum, Plain Rock Wallaby, Echidna, Water Rat, Koala (introduced from mainland). Feral cats are a serious problem, also goats and pigs. Although Edgecombe (1977) did not identify bird species, below are 62 spp.

from Kikkawa (1976): 7 spp. sea or shore birds: breeding - Reef Heron, White-breasted Sea Fagle

7 spp. sea or shore birds: breeding - Reef Heron, White-breasted Sea Eagle, Red-backed Sea Eagle, Southern Stonecurlew; non-breeding - Pied Oystercatcher, Little Whimbrel, Common Sandpiper.

55 spp. land birds: breeding - Green-winged Pigeon, Diamond Dove, Peaceful Dove, Brown Pigeon, Sulphur-crested Cockatoo, Pheasant Coucal, Blue-winged Kookaburra, Forest Kingfisher, Welcome Swallow, Black-faced Cuckoo-Shrike, White-throated Warbler, Spectacled Flycatcher, Leaden Flycatcher, Shining Flycatcher, Rufous Shrike-Thrush, Rufous Whistler, Rufous Fantail, Mistletoe Bird, Yellow-breasted Sunbird, Grey-breasted Silvereye, Dusky Honeyeater, Noisy Friarbird, Helmeted Friarbird, Red-browed Finch, Banded Finch, Olive-backed Oriole, Yellow Figbird, Magpie Lark, Pied Butcher-bird, Pied Currawong; non-breeding - Jabiru, Australian Goshawk, Wedge-tailed Eagle, Nankeen Kestrel, Dusky Moorhen, Swamphen, Eastern Golden Plover, Torres Strait Pigeon, Bar-shouldered Dove, Rainbow Lorikeet, Pallid Cuckoo, Koel, Boobook Owl, Sacred Kingfisher, Rainbow Bird, Dollarbird, Fairy Martin, White-eared Flycatcher, Black-faced Flycatcher, Satin Flycatcher, Grey Fantail, Willie Wagtail, Silver-crowned Friarbird, Southern Figbird, Spangled Drongo.

- Y16. Blue Ulysses and Cairns Birdwing butterflies rare species. Birds: Diamond Dove - 1 of 2 GBR breeding sites; Peaceful Dove - 1 of 3 GBR breeding sites; Brown Pigeon - 1 of 2 GBR records and breeding sites; Pallid Cuckoo - only GBR record; Koel - 1 of 2 GBR breeding sites; Bluewinged Kookaburra - only GBR breeding site; Fairy Martin - 1 of 3 GBR records; White-throated Warbler - only GBR record and breeding site; Shining Flycatcher - 1 of 2 records; Rufous Fantail - 1 of 3 GBR breeding sites; Noisy Friarbird - 1 of 3 GBR records; Helmeted Friarbird - 1 of 2 GBR records; Red-browed Finch - only GBR record; Banded Finch - only GBR record; Yellow Figbird - 1 of 2 GBR breeding sites; Southern Figbird - only GBR breeding site; Spangled Drongo - 1 of 2 GBR breeding sites; Pied Butcher-bird - 1 of 2 GBR records.
- Y17. Jetty at Bremer Point.
- Y18. Anchorage in 5 m water over sand in Horseshoe Bay.
- Y19. Heinsohn (1973); Maitland (1892); Spenceley (1982); Withers (1930).
- Y20. 22 km of walking tracks on the island.

[220.]

- Zl. 19-009-Z009-1 Mediterranean Holiday Village
- Z2. Magnetic Island
- Z10. Initial establishment costs \$2 million
- Zl2a. Maximum overnight accomodation 250
- Z28. Golf

Z29. Swimming

- Z35. Water from mainland supply.
- Z39. Electricity drawn from mainland grid.
- Z48. Phone number (077) 785 200; telex Medvil 47000
- Z50. Other resort activies include sauna.

[221.] Z1. 19-009-Z009-2 <u>Radical Bay Resort</u> Z2. Magnetic Island Z20. Coral viewing Z21. Bushwalks Z22. Line fishing Z35. Water from mainland supply. Z39. Electricity drawn from mainland grid. Z47. Address - c/- P.O. Arcadia Q 4816 Z48. Phone number - (077) 785 294 [222.] X1. 19-006 <u>Orchard Rocks Reef</u> X2. 19° 06'S <u>146° 53'E</u> X4. 1 ha X5. Incipient fringing reef.

[223.] Yl. 19-006-Y006 Orchard Rocks Y2. 19° 06.7'S 146° 52.9'E Y6. Vacant Crown Land Y8. Geologically high continental. Y10. Elevation, 18 m Y11. Townsville City Council

[224.] X1. 19-032 U/N X2. 19° 06'S 148° 15'E X4. 190 ha X5. Reef patches.

[225.] X1. 19-033 U/N X2. 19° 06'S 148° 16'E X4. 60 ha X5. Reef patches.

[226.] Xl. 19-034 U/N X2. 19°06'S 148°17'E X4. 440 ha X5. Crescentic reef.

[227.] Xl. 19-036 U/N X2. 19° 06'S 148° 19'E X4. 440 ha X5. Reef patches.

[228.] X1. 19-050 <u>Leopold Reef</u> X2. 19° 06'S 148° 42'E X4. 500 ha X5. Reef patches. 19-008-Y007 <u>Burdekin Rock</u> 19° 07.8'S 146° 42.5'E See Burdekin Rock Reef, 19° 08'S 146° 42'E

[229.] X1. 19-007 Bay Rock Reef Χ2. 146° 45'F 19º 07'S X4. l ha Χ5. Incipient fringing reef. Wells (1955) noted the following coral genera present: Oxypora, Pectinia, Pachyseris, Duncanopsammia, Polyphyliia, Moseleya, Euphyllia, Alveopora, Mycedium, Merulina, Seriatopora, Galaxea, Leptoria, Symphyllia, Hydnophora, Stylophora, Lobophyllia, Goniastrea, Leptastrea, Porites, Fungia, Cycloseris, Goniopora, Favia, Acropora, Platygyra, Favites, Montipora, Cyphastrea, Pavona, Pocillopora, Turbinaria. X16. Reputed to be excellent mackerel fishing. X21. No sheltered anchorage. [230.] Y1. 19-007-Y008 Bay Rock Y2. 19° 07.1'S 146° 45.3'E Y4. 2 ha Y5. One of the earliest manned lighthouses on this section of coast. Y6. Lighthouse Transferred Property No. 10 (Commonwealth of Australia). Y7. Unmanned navigational light. Geologically high continental. Y8. Y10. Elevation, 24 m Yll. Townsville City Council [231.] X1. 19-037 U/N 148º 18'E 19º 07'S X2. Χ4. 120 ha Χ5. Reef patches. [232.] X1. 19-038 Dingo Reef A, 19º 13'S Χ2. 148º 19'E B, 19º 11'S 148º 22'E C, 19º 09'S 148º 19'E D (Tabias, Tobias Reef), 19° 07'S 148° 21'E E, 19º 07'S 148° 22'E F, 19º 07'S 148º 22'E NW co-ordinates, 19º 07'S 148º 21'E Χ4. A, 2440 ha Β, 4610 ha С, 1750 ha 690 ha D, 1060 ha Ε, F, 13830 ha

19º 07'S

Total, 24,380 ha

X5. A, laqoonal reef.

B, crescentic reef.

C, D, E and F, reef patches.

A drying reef on the middle of the S side of an oval-shaped reef enclosing a lagoon studded with boulders.

[233.] X1. 19-051 Tiger Reef X2. 19º 07'S 148º 42'E X4. 310 ha X5. Reef patches.

19º 08'S

- [234.] X1. 19-008 Burdekin Rock Reef X2. 19º 08'S 146° 42'E X4. 1 ha X5. Incipient fringing reef.

[235.] Y1. 19-008-Y007 Burdekin Rock Y2. 19º 07.8'S 146º 42.5'E Y6. Vacant Crown Land.

- Yll. Townsville City Council
- 19-009-Y009 Magnetic Island 19° 08.4'S 146° 49.8'E See Magnetic Island Reef G, 19º 06'S 146º 50'E

[236.] X1. 19-039 U/N X2. 19º 08'S 148º 11'E X4. 120 ha X5. Crescentic reef.

[237.] X1. 19-040 U/N X2. 19º 08'S 148º 11'E X4. 60 ha X5. Reef patches.

[238.] X1. 19-052 U/N X2. 19° 08'S 148° 55'E X4. 250 ha X5. Reef patches.

[239.] X1. 19-053 U/N X2. 19° 08'S 148° 55'E X4. 120 ha X5. Reef patches.

19º 09'S

19-009 <u>Geoffrey Bay (Magnetic Island C) Reef</u> 19° 09'S 146° 52'E See Magnetic Island Reefs, 19° 06'S 146° 50'E

[240.] X1. 19-020 <u>Morinda Shoal</u> X2. 19° 09'S <u>147° 38'E</u> X4. 120 ha X5. Submerged reef. X62. Less popular with user groups (Domm, 1977).

19-038 <u>Dingo Reef C</u> 19° 09'S 148° 19'E See Dingo Reef D (Tabias, Tobias), 19° 07'S 148° 21'E

[241.] X1. 19-055 U/N X2. 19° 09'S 148° 52'E X4. 60 ha X5. Submerged reef.

19º 10'S

19-013-Y010 U/N Rock 19° 10.9'S 147° 03.6'E See Salamander Reef, 19° 11'S 147° 04'E [242.] X1. 19-056 U/N X2. 19°10'S 148°56'E X4. 120 ha X5. Reef patches.

19º 11'S

19-009 <u>Cockle Bay (Magnetic Island A) Reef</u> 19° 11'S 146° 49'E See Magnetic Island Reefs, 19° 06'S 146° 50'E

[243.] X1. 19-010 U/N X2. 19°11'S 146°50'E X4. 120 ha X5. Submerged reef.

[244.]

X1. 19-230 Cape Cleveland Reef

X2. 19º 11'S 147º 01'E

X5. Wells (1955) noted the following coral genera present: <u>Podabacia</u>, <u>Oxypora</u>, <u>Trachyphyliia</u>, <u>Pseudosiderastrea</u>, <u>Moseleya</u>, <u>Montipora</u>, <u>Pavona</u>, <u>Plesiastrea</u>.

19-015-Y011 <u>Twenty Foot Rock</u> 19° 11.9'S 147° 01.8'E See Twenty Foot Rock Reef, 19° 12'S 147° 02'E

[245.] X1. 19-014 <u>Four Foot Rock Reef</u> X2. 19° 11'S 147° 03'E X4. 1 ha

X5. Incipient fringing reef.

[246.] Y1. 19-014-Y012 <u>Four Foot Rock</u> Y2. 19° 11.5'S <u>147° 02.9'E</u> Y6. Vacant Crown Land.

Y8. Geologically high continental.

Yll. Thuringowa Shire Council

[247.]
X1. 19-013 Salamander Reef
X2. 19°11'S 147°04'E
X4. 60 ha
X5. Incipient fringing reef.
X62. Less popular with user groups (Domm, 1977).

[248.] Y1. 19-013-Y010 U/N Rock Y2. 19° 10.9'S 147° 03.6'E Y8. Geologically high continental; on Salamander Reef. Y10. Elevation, -2.3 m

[249.] Y1. 19-013-Y013 U/N Rock Y2. 19° 11.1'S 147° 03.4'E Y8. Geologically high continental; on Salamander Reef. Y10. Elevation, -1.7 m

- [250.] X1. 19-041 U/N X2. 19° 11'S 148° 09'E X4. 120 ha X5. Lagoonal reef.
- 19-039 <u>Dingo Reef B</u> 19° 11'S 148° 22'E See Dingo Reef D (Tabias, Tobias), 19° 07'S 148° 21'E

[251.] X1. 19-058 U/N X2. 19° 11'S 148° 57'E X4. 120 ha X5. Crescentic reef.

[252.] X1. 19-011 <u>Middle Reef</u> X2. 19° 12'S 146° 49'E X4. 120 ha X5. Planar reef. X62. Light and beacon on reef. 19º 12'S

[253	•]	
X1.	19-015	Twenty Foot Rock Reef
X2.	19º 12'S	147º 02'E
Χ4.	l ha	
Χ5.	Incipient	fringing reef.

[254.] Y1. 19-015-Y011 Twenty Foot Rock 19º 11.9'S 147º 01.8'E Y2. Y6. Vacant Crown Land. Geologically high continental. Y8. Yll. Thuringowa Shire Council

[255.] X1. 19-057 U/N 148º 36'E Χ2. 19º 12'S Χ4. 120 ha Χ5. Reef patches.

[256.] Xl. 19-059 U/N 148° 52'E Χ2. 19º 12'S Χ4. 120 ha X5. Crescentic reef.

[257.] 19-012 Virago Shoal 19º 13'S 146º 47'E 120 ha

X5. Submerged reef.

X1.

Χ2.

Χ4.

[258.]					
X1.	19-042	U/N			
X2.	19º 13'S	1480	05'E		
Χ4.	120 ha				
Χ5.	Reef patches	s.			

[259.] X1. 19-043 Darley Reef 19º 13'S 148º 10'E Χ2. X4. 8130 ha X5. Lagoonal reef. Χ6. Wallace (1978) noted 21 spp. of Acropora corals on this reef. X18. Moderate diving value. X62. Moderately popular with user groups in this region (Domm, 1977). Reef is subject to very clouded water, even in moderate weather (Wallace, 1979).

19-038 <u>Dingo Reef A</u> 19° 13'S 148° 19'E See Dingo Reef D (Tabias, Tobias), 19° 07'S 148° 21'E

[260.]

- X1. 19-054 Kangaroo Reef
- X2. 19º 13'S 148º 33'E

X4. 4250 ha

X5. Crescentic/submerged reef. A diamond-shaped drying reef which encloses a lagoon of foul ground.

[261.] X1. 19-060 U/N X2. 19° 13'S 148° 36'E X4. 60 ha X5. Submerged reef.

[262.] X1. 19-062 U/N X2. 19º 13'S 148º 49'E X4. 120 ha X5. Submerged reef.

[263.] X1. 19-061 <u>Jacqueline Reef</u> X2. 19° 13'S 148° 54'E X4. 620 ha X5. Crescentic reef.

[264,	]			
	19-077	U/N	· .	
X2.	19º 13'S	149°	01'E	
Χ4.	380 ha			
X5.	Crescentic	reef.		

[265.] X1. 19-078 U/N X2. 19°13'S 149°06'E X4. 120 ha X5. Crescentic reef. 19-016-Y014 Bray Islet 19° 14.9'S 147° 04.0'E See Bray Islet Reef, 19° 15'S 147° 04'E

[266.]
X1. 19-063 U/N
X2. A, 19° 14'S 148° 35'E
 B, 19° 16'S 148° 40'E
 NW co-ordinates, 19° 14'S 148° 35'E
X4. A, 3060 ha
 B, 4690 ha
 Total, 7750 ha
X5. Reef patches.

[267.] X1. 19-016 <u>Bray Islet Reef</u> X2. 19° 15'S 147° 04'E X4. 60 ha X5. Incipient fringing reef.

[268.] Y1. 19-016-Y014 Bray Islet Y2. 19° 14.9'S 147° 04.0'E Y4. 2.4 ha Y6. Vacant Crown Land. Y8. Geologically high continental; steep. Y9. Rainfall, 1270 mm Y10. Elevation, 12 m Y11. Thuringowa Shire Council

[269.] Xl. 19-017 <u>Bare Islet Reef</u> X2. 19° 15'S 147° 04'E X4. 60 ha X5. Incipient fringing reef.

[270.] Y1. 19-017-Y015 Bare Islet Y2. 19° 15.6'S 147° 04.4'E Y4. 2 ha Y6. Vacant Crown Land. Y8. Geologically high continental; steep. Y9. Rainfall, 1270 mm Y10. Elevation, 9 m Y11. Thuringowa Shire Council 19º 15'S

## - 64 -

19º 16'S

[271.] X1. 19-018 <u>Bald Islet Reef</u> X2. 19° 16'S <u>147° 04'E</u> X4. 60 ha X5. Incipient fringing reef.

[272.]
Y1. 19-018-Y016 Bald Islet
Y2. 19° 16.5'S 147° 03.9'E
Y4. 2 ha
Y6. Vacant Crown Land.
Y8. Geologically high continental.
Y9. Rainfall, 1270 mm
Y10. Elevation, 3 m
Y11. Thuringowa Shire Council

19-063 U/N Reef B 19° 16'S 148° 40'E See U/N Reef A, 19° 14'S 148° 35'E

19º 17'S

[273.] X1. 19-044 <u>Faith Reef</u> X2. 19° 17'S <u>148° 21'E</u> X4. 380 ha X5. Crescentic reef. X62. Less popular with user groups (Domm, 1977).

[274.] Xl. 19-064 U/N X2. 19° 17'S 148° 59'E X4. 880 ha X5. Submerged reef.

[275.] X1. 19-080 U/N X2. 19° 17'S 149° 03'E X4. 60 ha X5. Submerged reef. [276.] X1. 19-079 U/N X2. 19º 17'S 149º 06'E X4. 120 ha X5. Submerged reef.

[277.] X1. 19-045 Stanley Reef 19º 18'S 148° 05'E X2. Χ4. 5810 ha Crescentic reef approximately 12 km long. A 400m-wide reef flat surrounds Χ5. 45% of the reef and is continued as a submerged feature around a further 30% of the reef. Algal pavements are developed only on windward side. Scattered reef patches are found in the lagoon, with a major feature being a deep channel in the SE rim. X6. Four boulders on S end. X62. Moderately popular with user groups (Domm, 1977). X65. Geochemical analysis of cores from this reef (Hopley, 1982). [278.] Y1. 19-045-Y018 U/N Boulder Y2. 19º 19.2'S 148º 06.8'E Y8. On Stanley Reef. [279.] Y1. 19-045-Y019 U/N Boulder Y2. 19º 19.2'S 148º 07.0'E Y8. On Stanley Reef. [280.] Y1. 19-045-Y020 U/N Boulder 19º 19.2'S 148º 07.2'E Y2. Y8. On Stanley Reef. [281.] 19-045-Y021 U/N Boulder Y1. Y2. 19º 19.2'S 148º 07.4'E Y8. On Stanley Reef.

19º 19'S

[282.]

- Yl. 19-000-Y017 Russel (Cape Bowling Green) Island
- Y2. 19º 19.0'S 147º 25.2'E
- Y4. 2.4 ha
- Y6. Vacant Crown Land.
- Y8. Tree-covered island linked to the mainland at low tide by a drying bank. No fringing reef.
- Y9. Rainfall, 1270 mm
- Y10. Elevation, 12 m (tree line)
- Yll. Burdekin Shire Council
- Y18. Anchorage from SE winds under lee of island in 4m of water over shifting sand.
- 19-045-Y018 U/N Boulder 19° 19.2'S 148° 06.8'E See Stanley Reef, 19° 18'S 148° 05'E
- 19-045-Y019 U/N Boulder 19° 19.2'S 148° 07.0'E See Stanley Reef, 19° 18'S 148° 05'E
- 19-045-Y020 U/N Boulder 19° 19.2'S 148° 07.2'E See Stanley Reef, 19° 18'S 148° 05'E
- 19-045-Y021 U/N Boulder 19° 19.2'S 148° 07.4'E See Stanley Reef, 19° 18'S 148° 05'E

[283.] X1. 19-081 <u>Ellen Reef</u> X2. 19º 19'S <u>149º 15'E</u> X4. 250 ha X5. Reef patches.

[284.] Yl. 19-000-Y022 <u>Sand Island</u> Y2. 19° 20.5'S 147° 22.4'E Y4. 64.7 ha Y6. Vacant Crown Land Y9. Rainfall, 1270 mm Y10. Elevation, -1.5 m Y11. Burdekin Shire Council 19º 20'S

[285.] X1. 19-046 <u>Hope Reef</u> X2. 19° 20'S 148° 24'E X4. 380 ha X5. Crescentic reef.

[286.] Xl. 19-065 U/N X2. 19° 20'S 148° 38'E X4. 380 ha X5. Reef patches.

[287.] X1. 19-082

- X2. 19º 20'S 149º 03'E
- X4. 750 ha
- X5. Crescentic reef.
- X6. <u>Acropora levelli</u> abundant only here and on Middleton Reef (J.E. Veron, pers. comm.). Undescribed sp. of <u>Merulina</u> known only from (and abundant) here and
  - Middleton Reef (J.E. Veron, pers. comm.).

Elizabeth Reef

[288.	.]			
X1.	19-0	)83	U/N	
X2.	19°	20'S	149°	11'E
Χ4.	120	ha		
X5.	Subr	nerged	reef.	

19º 21'S

[289.] X1. 19-066 U/N X2. 19° 21'S 148° 38'E X4. 190 ha X5. Planar reef.

[290.] X1. 19-069 U/N X2. 19°21'S 149°00'E X4. 120 ha X5. Submerged reef. [291.] X1. 19-085 U/N X2. 19°21'S 149°09'E X4. 60 ha X5. Submerged reef.

[292.] X1. 19-084 U/N X2. 19°21'S 149°13'E X4. 190 ha X5. Submerged reef.

[293.] X1. 19-091 <u>Eulalie Reef</u> X2. 19° 21'S <u>149° 25'E</u> X4. 120 ha X5. Crescentic reef.

[294.] X1. 19-021 <u>Tink Shoal</u> X2. 19° 22'S 147° 51'E X4. 120 ha X5. Submerged reef.

[295.] X1. 19-022 <u>Wilson Shoal</u> X2. 19° 22'S 147° 57'E X4. 120 ha X5. Submerged reef. X6. Less popular with user groups (Domm, 1977).

[296.] X1. 19-047 <u>Charity Reef</u> X2. 19° 22'S 148° 20'E X4. 380 ha X5. Crescentic reef.

[297.] X1. 19-067 U/N X2. 19° 22'S 148° 38'E X4. 120 ha X5. Planar reef.

[298.] X1. 19-068 U/N X2. 19º 22'S 148º 148° 41'E X2. 19º 22'S X4. 1000 ha X5. Crescentic reef. [299.] X1. 19-070 U/N X2. 19° 22'S 148° 43'E X4. 60 ha X5. Submerged reef. [300.] 
 X1.
 19-086
 U/N

 X2.
 19°
 22'S
 149°
 149º 01'E X4. 60 ha X5. Submerged reef. [301.] U/N X1. 19-088 149º 06'E X2. 19º 22'S X4. 120 ha X5. Submerged reef. [302.] X1. 19-089 U/N X2. 19º 22'S 149º 07'E X4. 120 ha X5. Submerged reef. [303.] X1. 19-087 U/N X2. 19º 23'S 149° 02'E X4. 60 ha X5. Submerged reef. [304.] U/N X1. 19-090 X2. 19º 23'S 149° 04'E

X4. 620 ha

X5. Submerged reef.

19º 23'S

[305.] 19-092 U/N X1. 19º 23'S 149º 12'E X2. Χ4. 380 ha X5. Submerged reef.

19º 24'S

[306.] X1. 19-048 Old Reef 19º 24'S 148° 05'E X2. 6130 ha ·X4. Lagoonal reef. X5. Two boulders. Χ6. X62. Moderately popular with user groups in this region (Domm, 1977). X65. Olafson (1978) found trace levels of lindane in Acropora and Fungia corals, fish and Tridacna clams.

[307.] Y1. 19-048-Y023 U/N Boulder 19º 25.9'S 148º 06.8'E Y2. On Old Reef. Y8. Y10. Elevation, -1.1 m

[308.] Y1. 19-048-Y024 U/N Boulder Y2. 19º 25.9'S 148º 08.0'E On Old Reef. Y8. Y10. Elevation, -0.8 m

[309.] X1. 19-074 Cobham Reef A Χ2. 19º 24'S 148º 52'E Χ4. 4560 ha Reef patches. Shares common reef platform with Gould Reef (B). X5.

[310.] 19-074 X1. Gould Reef B Χ2. 19º 28'S 148º 52'E Χ4. 8060 ha

Crescentic reef. A drying reef enclosing a boulder-studded lagoon. Χ5. Shares a common reef platform with Cobham Reef (A). X65. Olafson (1978) found trace levels of lindane and dieldrin in <u>Fungia</u> and

Acropora corals, lindane, DDE, DDT in fish.

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[311	.]			
X1.	19-093	U/N		
X2.	19º 24'S	149°	02'E	
Χ4.	60 ha			
٧S	Submorged	roof		

X5. Submerged reef.

19º 25'S

- 19-048-Y023 U/N Boulder 19° 25.9'S 148° 06.8'E See Old Reef, 19° 24'S 148° 05'E
- 19-048-Y024 U/N Boulder 19° 25.9'S 148° 08.0'E See Old Reef, 19° 24'S 148° 05'E

[312.] 19-072 U/N X1. A, 19° 25'S 148° 46'E Χ2. B, 19° 26'S C, 19° 31'S D, 19° 31'S 148º 43'E 148º 44'E D, 19° 31'S 148° 47'E E, 19° 27'S 148° 48'E NW co-ordinates, 19º 25'S 148º 46'E Χ4. A, 3310 ha B, 4630 ha C, 2500 ha D, 2750 ha E, 2380 ha Total, 15,570 ha A, B and E - reef patches; Χ5. C and D - crescentic reefs.

[313.] X1. 19-073 U/N X2. 19° 25'S 149° 00'E X4. 60 ha X5. Submerged reef.

[314.] X1. 19-071 <u>Wallaby Reef</u> X2. 19° 26'S 148° 40'E X4. 4500 ha X5. Crescentic reef. 19º 26'S

19-072 U/N Reef B 19° 26'S 148° 43'E See U/N Reef A, 19° 25'S 148° 46'E

19º 27'S

19-072 U/N Reef E 19° 27'S 148° 48'E See U/N Reef A, 19° 25'S 148° 46'E

[316.] X1. 19-094 U/N X2. 19° 27'S 149° 28'E X4. 120 ha X5. Submerged reef.

19-074 <u>Gould Reef B</u> 19° 28'S 148° 52'E See Cobham Reef A, 19° 24'S 148° 52'E 19º 28'5

[317.] X1. 19-095 U/N X2. 19° 28'S 149° 13'E X4. 3560 ha X5. Reef patches.

[318.] X1. 19-099 <u>Joist Reef</u> X2. 19° 28'S <u>149° 39'E</u> X4. 190 ha X5. Crescentic reef.

19º 29'S

[319.] Xl. 19-075 <u>Martin Reef</u> X2. 19° 29'S 148° 49'E X4. 690 ha X5. Lagoonal reef.

[320.] X1. 19-096 <u>Kennedy Reef</u> X2. 19° 29'S 149° 10'E X4. 6250 ha X5. Lagoonal reef and patch reefs.

19º 30'S

[321.]

X1. 19-076 Showers Reef

X2. 19º 30'S 148º 54'E

X4. 880 ha

X5. Lagoonal reef. Typical lagoonal reef with large isolated reef patches. The central lagoon has a maximum depth of approximately 10 m.

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[322.]

X1. 19-097 Net Reef

X2. 19º 30'S 149º 03'E

X4. 12,250 ha

X5. Lagoonal reef. Numerous boulders lie above-water on the edge of the reef. Tidal streams set at a considerable rate through channels in the vicinity of Net Reef and along its shallow edges, the flood setting S and the ebb N.

19º 31'S

- 19-072 U/N Reef C 19° 31'S 148° 44'E See U/N Reef A, 19° 25'S 148° 46'E
- 19-072 U/N Reef D 19° 31'S 148° 47'E See U/N Reef A, 19° 25'S 148° 46'E

[323.] X1. 19-098 U/N X2. 19º 31'S 149º 07'E X4. 500 ha X5. Lagoonal reef. [324.] X1.19-111U/NX2.19°31'S149°13'E X4. 60 ha X5. Planar reef. [325.] X1. 19-139 U/N X2. 19º 31'S 149º 35'E X4. 120 ha X5. Reef patches. [326.] U/N X1. 19-140 X2. 19º 31'S 149º 44'E X4. 60 ha X5. Reef patches. [327.] X1. 19-108 U/N X2. 19° 32'S 148° 53'E X4. 250 ha X5. Planar reef. [328.] X1. 19-109 Fairey Reef A, 19º 32'S 148º 57'E Χ2. B, 19º 34'S C, 19º 35'S 148° 56'E 148° 56'E NW co-ordinates, 19° 32'S 148° 57'E X4. A, 880 ha B, 250 ha C, 60 ha Total, 1,190 ha A and B - lagoonal reefs; X5. C - planar reef.

19º 32'S

X1.19-107Seagull ReefX2.19°32'S148°148°59'E X4. 1500 ha X5. Lagoonal reef. [330.] X2. 19° 32'S 149° X4. 6° 149º 00'E X4. 60 ha X5. Planar reef. [331.] X1. 19-112 U/N X2. 19° 32'S 149° 14'E X4. 60 ha X5. Planar reef. [332.] U/N X1. 19-117 X2. 19º 32'S 149º 22'E X4. 190 ha X5. Planar reef. [333.] X1. 19–118 U/N X2. 19° 32'S 149° 24'E X4. 60 ha X5. Reef patches. [334.] X1. 19-114 U/N X2. 19° 33'S 149° 149º 02'E X4. 250 ha X5. Reef patches. [335.] X1. 19-115 U/N X2. 19º 33'S 149º 02'E X4. 60 ha X5. Submerged reef.

[329.]

19º 33'S

L 336	•]	
X1.	19-116	Knuckle Reef
X2.	19º 33'S	149º 16'E
Χ4.	2560 ha	
Χ5.	Lagoonal	reef.

[337.] X1. 19-120 <u>Oublier Reef</u> X2. 19° 33'S 149° 21'E X4. 690 ha X5. Lagoonal reef.

[338.] X1. 19-119 U/N X2. 19°33'S 149°22'E X4. 120 ha X5. Planar reef.

[339.] Xl. 19-121 U/N X2. 19°33'S 149°26'E X4. 690 ha X5. Submerged reef.

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19-109 <u>Fairey Reef B</u> 19° 34'S 148° 56'E See Fairey Reef A, 19° 32'S 148° 57'E

[340.] X1. 19-141 <u>Stucco Reef</u> X2. 19° 34'S <u>149° 36'E</u> X4. 1060 ha X5. Lagoonal reef. 19º 34'S

19-109 <u>Fairey Reef C</u> 19° 35'S 148° 56'E See Fairey Reef A, 19° 32'S 148° 57'E 19º 35'S

[341.] X1. 19–122 U/N X2. 19° 35'S 149° 15'E X4. 250 ha X5. Reef patches. [342.] X1. 19–124 U/N X2. 19° 35'S 149° 30'E X4. 120 ha X5. Reef patches. [343.] X1. 19-144 U/N X2. 19º 35'S 149º 35'E X4. 60 ha X5. Reef patches. [344.] X1. 19-142 Lath Reef <u>Lath Reef</u> 149º 39'E X2. 19º 35'S X4. 380 ha X5. Reef patches. [345.] X1. 19-143 U/N X2. 19° 35'S 149° 42'E X4. 120 ha X5. Submerged reef. [346.]

X1.	19-123	U/N	
X2.	19º 36'S	149°	14'E
Χ4.	190 ha		
X5.	Crescentic	reef.	

[347.] X1. 19-125 U/N X2. 19°36'S 149°25'E X4. 190 ha X5. Submerged reef. 19º 36'S

[348.] X1. 19-145 U/N X2. 19°36'S 149°30'E X4. 120 ha X5. Reef patches.

[349.] X1. 19-146 <u>Rafter Reef</u> X2. 19° 36'S 149° 38'E X4. 620 ha X5. Reef patches.

[350.] X1. 19-148 U/N X2. 19° 36'S 149° 46'E X4. 120 ha X5. Crescentic reef.

19º 37'S

[351.] X1. 19-149 U/N X2. 19° 37'S 149° 43'E X4. 250 ha X5. Lagoonal reef.

[352.] X1. 19-151 U/N X2. 19° 37'S 149° 51'E X4. 620 ha X5. Lagoonal reef.

19º 38'S

[353.] X1. 19-147 <u>Plaster Reef</u> X2. 19° 38'S 149° 40'E X4. 2000 ha X5. Reef patches. X62. Less popular with user groups in this region (Domm, 1977). [354.] X1. 19-150 U/N X2. 19° 38'S 149° 43'E X4. 60 ha X5. Reef patches.

[355.] X1. 19-152 U/N X2. 19° 38'S 149° 52'E X4. 190 ha X5. Lagoonal reef.

[356.] X1. 19-126 U/N X2. 19° 39'S 149° 25'E X4. 1690 ha X5. Reef patches.

## [357.] X1. 19-153 U/N X2. 19° 39'S 149° 45'E X4. 60 ha X5. Crescentic reef.

[358.] X1. 19-154 U/N X2. 19° 39'S 149° 50'E X4. 60 ha X5. Planar reef.

[359.] X1. 19-157 <u>Little Reef</u> X2. 19° 40'S 149° 35'E X4. 190 ha X5. Planar reef. 19º 39'S

19º 40'S

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[360.] X1. 19-155 U/N X2. 19°40'S 149°43'E X4. 190 ha X5. Reef patches.

[361.] X1. 19-156 U/N X2. 19°40'S 149°45'E X4. 880 ha X5. Reef patches.

[362.] Xl. 19-159 U/N X2. 19°40'S 149°55'E X4. 380 ha X5. Lagoonal reef.

[363.] Xl. 19-160 U/N X2. 19°40'S 149°57'E X4. 120 ha X5. Submerged reef.

[364.] X1. 19-162 U/N X2. 19°41'S 149°31'E X4. 120 ha X5. Reef patches.

[365.] Xl. 19-161 U/N X2. 19°41'S 149°40'E X4. 500 ha X5. Crescentic reef.

[366.] X1. 19-158 U/N X2. 19°41'S 149°42'E X4. 190 ha X5. Reef patches. 19º 41'S

[367.] X1. 19-100 <u>White Topped Rock Reef</u> X2. 19° 42'S 147° 45'E X4. 10 ha X5. Incipient fringing reef.

[368.] Y1. 19-100-Y025 <u>White Topped Rock</u> Y2. 19° 42.3'S 147° 45.0'E Y8. Geologically high continental. Y10. Elevation, 7 m Y11. Bowen Shire Council

[369.] X1. 19-128 <u>Line Reef</u> X2. 19° 42'S 149° 12'E X4. 2190 ha X5. Ribbon reef.

[370.] X1. 19-163 U/N X2. 19° 42'S 149° 32'E X4. 120 ha X5. Submerged reef.

[371.	]		
X1.	19-164	U/N	
X2.	19º 42'S	149º	43'E
Χ4.	1190 ha		
X5.	Reef patches	S.	

[372.] X1. 19-165 U/N X2. 19°42'S 149°47'E X4. 1810 ha X5. Reef patches.

[373.] X1. 19-166 U/N X2. 19°42'S 149°54'E X4. 60 ha X5. Reef patches. 19º 42'S

[374.] Xl. 19-167 U/N X2. 19º 42'S 149º 59'E X4. 190 ha X5. Planar reef.

19º 43'S

19-103-Y026 Holbourne Island 19° 43.7'S 148° 21.5'E See Holbourne Island Reef, 19° 44'S 148° 22'E

[375.] X1. 19-133 <u>Sinker Reef</u> X2. 19°43'S 149°12'E X4. 60 ha X5. Planar reef.

[376.] X1. 19-129 U/N X2. 19°43'S 149°18'E X4. 190 ha X5. Planar reef with sand cay.

[377.] X1. 19-168 U/N X2. 19°43'S 149°36'E X4. 60 ha X5. Planar reef.

[378.] Xl. 19-170 U/N X2. 19°43'S 149°41'E X4. 120 ha X5. Submerged reef.

[379.] X1. 19-171 U/N X2. 19° 43'S 149° 44'E X4. 120 ha X5. Crescentic reef. - 83 -

[380.] 19-172 U/N 19º 43'S 149º 45'E X1. 19-172 X2. X4. 120 ha X5. Reef patches. [381.] X1. 19-173 U/N 19º 43'S X2. 149° 46'E X4. 120 ha X5. Submerged reef. [382.] X1. 19-174 U/N X2. 19º 43'S 149° 48'E X4. 190 ha Χ5. Submerged reef. [383.] X1. 19-175 19° 43'S U/N X2. 149º 55'E X4. 60 ha X5. Planar reef. [384.] X1. 19-176 U/N X2. 19º 43'S 149° 58'E X4. 190 ha X5. Reef patches. [385.] X1. 19-206 U/N 150° 00'E X2. 19º 43'S X4. 190 ha Reef patches. Χ5.

[386.] X1. 19-101 U/N X2. 19° 44'S 147° 45'E X4. 120 ha X5. Incipient coastal fringing reef. 19º 44'S

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[387.]

- X1. 19-103 Holbourne Island Reef
- X2. 19º 44'S 148º 22'E

X4. 120 ha

- X5. Fringing reef. Wells (1955) noted the following coral genera present: <u>Caulastrea</u>, <u>Herpolitha</u>, <u>Moseleya</u>, <u>Echinophyllia</u>, <u>Stylocoeniella</u>, <u>Seriatopora</u>, <u>Echinopora</u>, <u>Leptastrea</u>, <u>Porites</u>, <u>Tubipora</u>, <u>Fungia</u>, <u>Cycloseris</u>, <u>Acropora</u>, <u>Favites</u>, <u>Montipora</u>, <u>Cyphastrea</u>. Hopley (1982) noted that the reef displays a well-developed basset edge.
- X23. Moderate sheltered anchorage.
- X62. Less popular with user groups in this region (Domm, 1977). Temporary anchorage with fair shelter from SE winds NW of beach on W side of island. Tidal streams are strong.
- X63. Shingle ramparts were breached in 1918 (by cyclone?) causing a drop in lagoon water levels and changes in coral communities. Marshall (1924) noted that "To zoologists, it [the reef] is famous as the type locality of many marine invertebrates ... obtained for the Godeffroy Museum in 1868 by Frau Amalie Dietrich".

[388.]

- Yl. 19-103-Y026 Holbourne Island
- Y2. 19º 43.7'S 148º 21.5'E
- Y4. 34 ha
- Y5. Named by Capt. Cook after Admiral F. Holbourne, commander of North American fleet in which Cook served in 1757. Phosphate deposits were worked for a short time in 1925.
- Y6. 2 tenure areas:
  - 1. Special Lease 39395
    Area, 0.2 ha; rent, \$10 (whole term); terms, 30 years expires 30/6/2004;
    lessee, Commonwealth of Australia.
  - 2. National Park 417 (Gov. Gaz. 1982-2-2511) Area, 33.7 ha.
- Y7. Unmanned navigational light.
- Y8. Geologically high continental. Roughly in the shape of a right-angled triangle, the E apex of which is rough granite cliffs. These cliffs continue along the W and E sides of the island, the exception being a low coral-sand beach on the N corner. There are two bare hills (the higher situated in the E corner of the island) separated by a low divide running E-W. The E half of the island is of a fine-to-medium grained pink granite transversed by several dark-bluish felsitic dykes. On the W side, approximately one-third of the island is a phosphate-bearing coral rock 3m thick, overlain by 0.5m guano soil. Small trees, mainly <u>Pisonia</u> and <u>Ficus</u>, grow at the back of the small N beach.
- Y9. Rainfall, 1015 mm
- Y10. Elevation, 111 m
- Yll. Bowen Shire Council
- Y15. Silver Gull breeding site.
- Aerial QNPWS survey in 1980 indicated the island was suitable for tern nesting.
- Y19. Marshall (1924).

[389.]

- X1. 19-127 Black Reef
- X2. 19º 44'S 149º 23'E

X4. 15,880 ha

X5. Lagoonal reef. Comprises a number of drying reefs, the two largest of which enclose lagoons studded with boulders.

[390.] X1. 19-169 U/N X2. 19°44'S 149°36'E X4. 120 ha X5. Planar reef.

[391.] X1. 19-177 U/N X2. 19° 44'S 149° 42'E X4. 190 ha X5. Crescentic reef.

19º 45'S

[392.] X1. 19-130 U/N X2. 19° 45'S 149° 20'E X4. 120 ha X5. Planar reef.

[393.] X1. 19-134 <u>Black Reef East</u> X2. 19° 45'S <u>149° 30'E</u> X4. 14,000 ha X5. Lagoonal reef with sand cay.

[394.	]		
X1.	19-181	U/N	
X2.	19º 45'S	149°	36'E
Χ4.	120 ha		
X5.	Submerged	reef.	

[395.] X1. 19-180 U/N X2. 19° 45'S 149° 41'E X4. 500 ha X5. Crescentic reef. [396.] X1. 19-179 U/N X2. 19°45'S 149°47'E X4. 620 ha X5. Reef patches.

[397.] X1. 19-178 U/N X2. 19°45'S 149°57'E X4. 250 ha X5. Reef patches.

19º 46'S

[ 398 .	.]	
X1.	19-104	Nares Rock Reef
X2.	19º 46'S	148º 22'E
Χ4.	l ha	
X5.	Incipient	fringing reef.

[399.]

Y1. 19-104-Y027 Nares Rock

Y2. 19º 46.3'S 148º 21.4'E

Y5. Named after a well known cruising yacht from Shute Harbour.

Y8. Geologically high continental rock; bare and steep.

Y10. Elevation, 8 m

[400.]

- X1. 19-135 Hardy Reef
- X2. 19º 46'S 149º 14'E

X4. 4190 ha

X5. Lagoonal reef. Wells (1955) noted the following coral genera present: <u>Caulastrea</u>, <u>Herpolitha</u>, <u>Moseleya</u>, <u>Echinophyllia</u>, <u>Stylocoeniella</u>, <u>Seriatopora</u>, <u>Echinopora</u>, <u>Leptastrea</u>, <u>Porites</u>, <u>Tubipora</u>, <u>Fungia</u>, <u>Cycloseris</u>, <u>Acropora</u>, <u>Favites</u>, <u>Montipora</u>, <u>Cyphastrea</u>.
X62. Used by tourist cruiser 'Reef Encounter' which caters for up to 25 guests

X62. Used by tourist cruiser 'Reef Encounter' which caters for up to 25 guests (with 9 crew), and linked to mainland by amphibious planes of Air Whitsunday. Activities offered include glass-bottomed boats, snorkelling, reef walking, fishing and skindiving. The boat is semi-permanently anchored in the reef's lagoon.

[401.] X1. 19-131 U/N X2. 19° 46'S 149° 22'E X4. 560 ha X5. Lagoonal reef. [402.] 19–132 U/N 19°46'S 149°24'E X1. 19-132 X2. X4. 60 ha X5. Planar reef. [403.] Xl. 19-183 U/N-X2. 19º 46'S 149° 39'E 120 ha Χ4. X5. Submerged reef. [404.] U/N 149° 39'E X1. 19-184 X2. 19º 46'S X4. 120 ha X5. Reef patches. [405.] X1. 19-185 U/N X2. 19° 46'S 149° 39'E X4. 60 ha X5. Submerged reef. [406.] X1. 19–186 U/N X2. 19° 46'S 149° 43'E X4. 60 ha X5. Planar reef. [407.] X1. 19-182 U/N X2. 19º 46'S 149º 44'E

Χ4.

Χ5.

440 ha

Reef patches.

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- 88

[408	.]	•	
X1.	19-207	Hyde.	Reef
X2.	19º 46'S	150°	05'E
Χ4.	1250 ha		
Χ5.	Lagoonal	reef.	

[409.] X1. 19–188 U/N 19º 47'S Χ2. 149º 46'E 380 ha Χ4. Χ5. Crescentic reef.

19º 48'S

19º 47'S

[410	.]		
X1.	19–136 Hook Reef		
X2.	A, 19º 50'S 149º 14'E		
	B, 19º 49'S 149º 07'E		
	C, 19º 48'S 149º 10'E		
	NW co-ordinates, 19º 48'S	149°	10'E
Χ4.	A, 5630 ha		
	B, 120 ha		
	C, 190 ha		
	Total, 5940 ha		
Χ5.	A, crescentic reef;		
	B, planar reef;		

C, submerged reef.

A large horseshoe-shaped reef open on its W side. 3 associated reefs. X62. 4 daymark beacons on reef top: No. 3 on SE extremity; No. 1 on a detached reef close W to the SW tip of Hook Reef; Nos. 2 and 4 one km apart on NE extremity.

Tidal streams between Hook and Bait Reefs attain 2 knots, setting S with a flood and N on an ebb tide.

[411.] X1. 19-187 Hewitt Reef 19º 48'S 149º 38'E X2. X4. 4150 ha X5. Lagoonal reef.

[412.] X1. 19-189 U/N 19º 48'S 149º 42'E Χ2. X4. 440 ha X5. Reef patches.

[413.] X1. 19-208 U/N X2. 19°48'S 150°08'E X4. 880 ha X5. Reef patches.

19º 49'5

[414.] X1. 19-137 Bait Reef 19º 49'S Χ2. 149º 04'E Χ4. 560 ha Χ5. Lagoonal reef. X62. Tidal streams between Bait Reef and SW tip of Hook Reef approach 2 knots, the flood setting S and the ebb  $\ensuremath{\mathsf{N}}\xspace.$ X65. Olafson (1978) reported trace quantities of lindane and DDT in Acropora sp. corals, and lindane in Fungia sp. corals. 19-136 Hook Reef B 19° 49'S 149° 07'E See Hook Reef C, 19° 48'S 149° 10'E [415.] X1. 19-138 U/N X2. 19° 49'S 149º 25'E X4. 250 ha X5. Lagoonal reef. [416.] X1. 19-192 U/N 149º 37'E X2. 19º 49'S X4. 120 ha X5. Planar reef. [417.] X1. 19-190 U/N X2. 19º 49'S 149° 42'E 250 ha Χ4. Χ5. Reef patches.

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[418.] X1. 19-191 U/N X2. 19° 49'S 149° 43'E X4. 60 ha X5. Submerged reef.

[419.] X1. 19-210 U/N X2. 19° 49'S 150° 06'E X4. 190 ha X5. Reef patches.

[420.] X1. 19-209 <u>Bebe Reef</u> X2. 19° 49'S 150° 09'E X4. 810 ha X5. Planar reef.

19º 50'S

19-102-Y028 Camp Islet 19° 50.9'S 147° 54.1'E See Camp Islet Reef, 19° 52'S 147° 54'E

19-136 Hook Reef A 19° 50'S 149° 14'E See Hook Reef C, 19° 48'S 149° 10'E

[421.] X1. 19-193 U/N X2. 19° 50'S 149° 45'E X4. 620 ha X5. Submerged reef.

[422.] X1. 19-194 U/N X2. 19° 50'S 149° 46'E X4. 190 ha X5. Crescentic reef. - 92 -

[423.	.]	
X1.	19-211	Wackett Reef
X2.	19° 50'S	150° 05'E
Χ4.	810 ha	
Χ5.	Lagoonal	reef.

[424.] X1. 19-212 <u>Oom Reef</u> X2. 19° 50'S 150° 11'E X4. 120 ha X5. Planar reef.

[425.] X1. 19-195 <u>Napier Reef</u> X2. 19°51'S 149°53'E X4. 380 ha X5. Lagoonal reef.

[426.] X1. 19-213 U/N X2. 19°51'S 150°06'E X4. 120 ha X5. Submerged reef.

[427.] Xl. 19-102 <u>Camp Islet Reef</u> X2. 19° 52'S 147° 54'E X4. 120 ha X5. Fringing reef.

[428.] Yl. 19-102-Y028 Camp Islet Y2. 19° 50.9'S 147° 54.1'E Y4. 10.7 ha Y6. Vacant Crown Land. Y8. Geologically high continental. Y9. Rainfall, 965 mm Y10. Elevation, 40 m Y11. Bowen Shire Council 19º 51'S

19º 52'S

[429.] X1. 19-196 U/N X2. 19°52'S 149°36'E X4. 60 ha X5. Reef patches.

19º 53'S

19-105-Y029 U/N Rock 19° 53.4'S 148° 15.8'E See North Rock Reef, 19° 58'S 148° 16'E

[430.]
X1. 19-197 Ross Reef
X2. 19° 53'S 149° 35'E
X4. 1310 ha
X5. Lagoonal reef. A pear-shaped drying reef enclosing a lagoon.

[431.] X1. 19-198 U/N X2. 19° 53'S 149° 43'E X4. 190 ha X5. Crescentic reef and reef patches.

[432.] X1. 19-214 <u>Wyatt Earp Reef</u> X2. 19° 53'S 150° 14'E X4. 800 ha X5. Reef patches.

[433.] X1. 19-215 <u>Sharon Shoal</u> X2. 19° 53'S <u>150° 17'E</u> X4. 120 ha X5. Submerged reef.

[434.] X1. 19-199 U/N X2. 19° 54'S 149° 42'E X4. 190 ha X5. Submerged reef. 19º 54'S

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[435.] Xl. 19-216 U/N X2. 19°54'S 150°15'E X4. 500 ha X5. Lagoonal reef.

[436.] X1. 19-217 U/N X2. 19° 54'S 150° 18'E X4. 120 ha X5. Submerged reef.

[437.] X1. 19-200 U/N X2. 19° 55'S 149° 50'E X4. 440 ha X5. Submerged reef.

[438.] X1. 19-218 <u>Williams Reef</u> X2. 19° 55'S 150° 10'E X4. 380 ha X5. Lagoonal reef.

[439.] X1. 19-219 <u>Mc Intyre Reef</u> X2. 19° 55'S 150° 12'E X4. 880 ha X5. Lagoonal reef.

[440.] X1. 19-220 <u>White Tip Reef</u> X2. 19° 55'S 150° 16'E X4. 1130 ha X5. Lagoonal reef.

[441.] X1. 19-229 <u>Scribes Shoal</u> X2. 19° 55'S 150° 19'E X4. 120 ha X5. Submerged reef. 19º 55'S

[442.] X1. 19-221 <u>Bond Reef</u> X2. 19° 56'S 150° 19'E X4. 120 ha X5. Planar reef.

[443.] X1. 19-201 U/N X2. 19°57'S 149°46'E X4. 120 ha X5. Submerged reef.

[444.] X1. 19-202 U/N X2. 19° 57'S 149° 47'E X4. 120 ha X5. Submerged reef.

[445.] X1. 19-223 U/N X2. 19°57'S 150°11'E X4. 190 ha X5. Submerged reef.

[446.] X1. 19-222 <u>Abbott Reef</u> X2. 19° 57'S <u>150° 20'E</u> X4. 120 ha X5. Lagoonal reef.

[447.	.]		
X1.	19-224	U/N	
X2.	19º 57'S	150°	20'E
Χ4.	120 ha		
X5.	Reef patches	5.	

19º 56'S

19º 57'S

19º 58'S

[448.] X1. 19-105 North Rock Reef X2. 19º 58'S 148º 16'E Χ4. 120 ha Χ5. Incipient coastal fringing reef. Wells (1955) noted the following coral genera present: Oxypora, Pectinia, Pachyseris, Trachyphyliia, Euphyllia, Mycedium, Merulina, Seriatopora, Galaxea, Echinopora, Leptoria, Symphyllia, Hydnophora, Lobophyllia, Porites, Tubipora, Cycloseris, Favia, Acropora, Montipora, Cyphastrea, Pavona, Turbinaria. Extends to mainland (Cape Edgecombe). X6. [449.] Y1. 19-105-Y030 North Rock 19º 58.4'S 148º 15.9'E Y2. Y6. Vacant Crown Land. Y8. Geologically high continental. Y10. Elevation, 1.5 m Yll. Bowen Shire Council [450.] Y1. 19-105-Y029 U/N Rock Y2. 19º 53.4'S 148º 15.8'E Y8. Geologically high continental; on North Rock Reef. [451.] X1. 19-204 Round Reef X2. 19º 58'S 149º 37'E Χ4. 250 ha X5. Crescentic reef. [452.] X1. 19-203 U/N X2. 19º 58'S 149º 43'E Χ4. 690 ha X5. Submerged reef. [453.] X1. 19-226 James Reef X2. 19º 58'S 150° 13'E

X4. 880 ha

X5. Lagoonal reef.

[454.] Xl. 19-225 U/N X2. 19° 58'S 150° 21'E X4. 690 ha X5. Lagoonal reef.

[455.] X1. 19-106 <u>Middle Island Reef</u>

X2. 19º 59'S 148º 22'E

X4. 60 ha

X5. Fringing reef. A drying fringing reef extending ¹/₂ km S from the island. X63. In 1918 the reef was completely destroyed by freshwater inundation and storms associated with a cyclone. Surface destruction down to 3 metres (Stanley, 1927). Bennett (1971) noted that only along more favourably situated shores was any significant coral regrowth found.

[456.]

- Yl. 19-106-Y031 Middle Island
- Y2. 19º 59.2'S 148º 21.9'E
- Y6. Nat. Park 255 (part) (Gov. Gaz. 1982-2-2511).
- Y8. Geologically high continental. The island is rocky, of reddish colour, rather flat-topped and sparsely wooded. The N side is quite steep.

Y9. Rainfall, 1015 mm

- Y10. Elevation, 55 m
- Yll. Bowen Shire Council

[457.] X1. 19-110 <u>Rattray Island Reef</u> X2. 19° 59'S 148° 34'E X4. 60 ha X5. Fringing reef.

[458.]

- Yl. 19-110-Y032 Rattray Island
- Y2. 19º 59.7'S 148º 33.5'E

Y4. 23.5 ha

- Y6. Vacant Crown Land.
- Y8. Geologically high continental. A long narrow island composed of volcanic rocks. The island is broken by a low saddle near its N end, into two blocks. The N, E and SE faces exhibit many cliffs which become less pronounced towards the SW end. Here there is a sandy flat behind which the island is uncliffed. On all sides it is dissected by steep gullies.
- Y9. Rainfall, 1015 mm
- Y10. Elevation, 111 m
- Yll. Bowen Shire Council
- Y18. Anchorage in 18 m over mud of W side of island, and in 11-15 m over mud of S side.
- Y20. Strong tidal rips off N tip of the island during flood tide.

[459	.]
X1.	19-205 Tideway Reef
X2.	A, 20° 02'S 149° 44'E
	B, 20° 00'S 149° 45'E
	C, 19º 59'S 149º 43'E
	NW co-ordinates, 19º 59'S 149º 43'E
Χ4.	A, 1440 ha
	B, 440 ha
	C, 1060 ha
	Total, 2940 ha
X5.	A, crescentic reef;
	B, reef patches;
	C, reef patches with sand cay.

[460.] X1. 19-228 U/N X2. 19° 59'S 150° 14'E X4. 120 ha X5. Planar reef.

[461.] X1. 19-227 U/N X2. 19° 59'S 150° 21'E X4. 120 ha X5. Planar reef.

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GEOGRAPHICAL LISTING OF REEFS, ISLANDS, ETC. IN TOWNSVILLE SECTION, 17° 48'S to 19° 59'S

-		17º 48'S to 19º 59'S		e
Runn- ing No	Inventory . Code No.	Name	Latitude	Longitude
[ 1.]	17-049	U/N	17º 48'S	17° 48'S 146° 06'E 17° 49'S
[ 2.]	17-050	U/N	17º 50'S	17° 50'S 146° 06'E 17° 51'S
[ 3.]	17-052	U/N	17º 52'S	17° 52'S 146° 07'E
[ 4.] [ 5.]	17-066 17-065	<u>Yamacutta Reef</u> U/N	17º 53'S 17º 53'S	17° 53'S 146° 35'E 146° 44'E
				17º 54'5
[ 9.]	17-053-YOO1	Mound Island	17º 55.6'S	17º 55'S 146º 08.1'E
[7.]	17-053-Y002	Dunk Island	17º 56.7'S	17° 56'S 146° 09.4'E
[ 6.] [10.] [11.] [13.]		Dunk Island Reef Mung-um-gnackum Island Kumboola Island Moss Reef	17° 57'S 17° 57.1'S 17° 57.4'S 17° 57'S	17° 57'S 146° 09'E 146° 08.5'E 146° 08.5'E 146° 48'E
[14.] [19.] [12.] [15.]	17–054 17–055–Y005 17–053–Y006 17–067	U/N U/N Island <u>Woln-Garin Island</u> U/N	17º 58'S 17º 58.8'S 17º 58.2'S 17º 58'S	17° 58'S 146° 08'E 146° 08.4'E 146° 10.7'E 146° 36'E
[16.] [17.] [18.] [24.] [20.]	17–056 17–055 17–055–Y007 18–001–Y008 17–069	U/N <u>Thorpe Island Reef</u> <u>Thorpe Island</u> U/N Island U/N	17º 59'S 17º 59'S 17º 59.0'S 17º 59.8'S 17º 59'S	17° 59'S 146° 06'E 146° 08'E 146° 08.1'E 146° 09.01'E 146° 46'E

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# GEOGRAPHICAL LISTING OF REEFS, ISLANDS, ETC. IN TOWNSVILLE SECTION

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	[22.] [21.] [26.]	18-001	Richards (Bedarra) Island Richards (Bedarra) Island Reef Battleship Rock	18° 00.4'S 18° 00'S 18° 00.6'S	146°	18° 00'S 08.8'E 09'E 09.4'E
	[31.] [25.]	18-002	Wheeler (Toolgbar) Island Battleship Rock (Pee-Rahm-Ah Is.) Reef	18º 01.7'E 18º 01'S	146°	
	[27.]	18-016	U/N	18º 01'S	146°	50'E
	[28.] [29.] [30.] [33.] [32.] [36.] [35.]	18-004 18-005-Y007		18° 02.2'S 18° 02.1'S 18° 02'S 18° 02.4'S 18° 02'S 18° 02.6'S 18° 02.3'S	146° 146° 146° 146° 146°	18° 02'S 03.0'E 03.2'E 10'E 10.5'E 11'E 11.8'E 11.9'E
				,		18º 03'S
-	[34.] [37.] [38.] [39.]	18-017	Smith (Bowden, Kurrambah, Budg-joo Island Reef Hudson (Bird, Coolah) Island Reef Hudson (Bird, Coolah) Island U/N	18° 03'S 18° 03'S 18° 03.1'S 18° 03'S	146º 146º 146º	12'E 12'E 12.0'E 47'E
	[40.]	18-019	Barnett Patches	18º 03'S	146°	52'E
	[41.]	18-018	<u>Otter Reef</u>	18º 04'S	146°	18º 04'S 34'E
	[42.]	18-007	Kennedy Shoal	18º 05'S	146°	18º 05'S 27'E
	[43.]	18-020	Duncan Reef	18º 06'S	146°	18º 06'S 47'E
	[44.] [45.]	18-021 18-022	U/N U/N	18º 07'S 18º 07'S		18° 07'S 44'E 46'E
	[50.] [51.] [46.]		North Island Tween Island U/N	18° 08.5'S 18° 08.4'S 18° 08'S	146º	18° 08'S 16.8'E 17.1'E 58'E
	[47.] [52.] [49.] [53.]	18-008	Goold Island Reef Middle Island Brook Islands Reef South (South Brook) Island	18° 09'S 18° 09.0'S 18° 09'S 18° 09.5'S	146º 146º	18° 09'S 10'E 17.3'E 18'E 18.2'E
	[48.] [54.] [55.]	18-010-Y014 18-000-Y015 18-009	<u>Goold Island</u> U/N Island Brook Shoal	18º 10.0'S 18º 10.1'S 18º 10'S	146°	18° 10'S 10.2'E 11.6'E 16'E

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[58.] [60.] [56.] [57.] [59.]	18-011-Y016 18-012-Y017 18-000-Y018 18-011 18-012		18° 11.1'S 18° 11.4'S 18° 11.1'S 18° 11.1'S 18° 11'S 18° 11'S	18° 11'5 146° 08.6'E 146° 08.6'E 146° 08.7'E 146° 09'E 146° 09'E 146° 09'E 18° 12'S
[61.]	18-033	Pith Reef	18º 13'S	<u>18º 13'S</u> 147º 02'E
[62.] [64.] [63.] [65.]	18-013 18-013-Y019 18-013-Y020 18-024	<u>Eva Island (Channel Rock) Reef</u> <u>Channel Rock</u> <u>Eva Island</u> Britomart Reef	18º 14'S 18º 14.2'S 18º 14.2'S 18º 14.2'S	18° 14'S 146° 19'E 146° 19.1'E 146° 19.3'E 146° 44'E
				18º 15'S
[66.] [67.]	18-025 18-034	U/N Myrmidon Reef	18º 16'S 18º 16'S	18° 16'S 146° 54'E 147° 23'E 18° 17'S
				<u>18º 18'S</u>
	•			<u>18º 19'S</u>
[68.]	18-026	U/N	18º 20'S	18º 20'S 146º 45'E
[69.] [70.]	18-014	Mangrove Island Hinchinbrook Island Reef	18º 21.0'S 18º 21'S 18º 21 4'S	18° 21'S 146° 07.5'E 146° 19'E

[,0.]	10 014	HINCHINDIOUK ISTAND NEET	TO	21 J	140	
[75.]	18-015-Y022	Agnes Island	18º	21.4'S	146°	19.6'E
[74.]	18-015	Agnes Island Reef	18º	21'S	146°	20'E
[76.]	18-036	Urchin Shoal	18º	21'S	147º	05'E
[77.]	18-035	Thread Shoal	18º	21'S	147º	11'E
						18º 22'S
[71.]	18-014-Y023	Hinchinbrook Island	18º	22.0'S	146º	
	18-014-Y023 18-014-Y024			22.0'S 22.5'S		15.0'E
[73.]		U/N Island	18°		146°	15.0'E 20.0'E
[73.] [78.]	18-014-Y024 18-027	U/N Island	18º 18º	22.5'S	146º 146º	15.0'E 20.0'E 50'E

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	18-028 18-038	U/N Thimble Shoal	18º 23'S 18º 23'S	18° 23'S 146° 46'E 147° 16'E
				18º 24'S
[83.] [84.]	18-000-Y025 18-029 18-040 18-039	U/N Island Bramble Reef Arab Reef Dip Reef	18º 25.6'S 18º 25'S 18º 25'S 18º 25'S	18° 25'S 146° 21.1'E 146° 43'E 147° 09'E 147° 27'E
[87.] [88.]	18-030 18-042 18-041 18-046	<u>Kelso Reef</u> <u>Slashers Reefs</u> <u>Faraday Reef</u> <u>Coil Reef</u>	18º 26'S 18º 26'S 18º 26'S 18º 26'S	18° 26'S         147° 00'E         147° 04'E         147° 21'E         147° 31'E
				18º 27'S
[90.]	18-000-Y026	U/N Island	18º 28.4'S	18º 28'S 146º 13.0'E
[92.]	18-031 18-045 18-032	<u>Little Kelso Reef</u> U/N <u>Rib Reef</u>	18º 29'S 18º 29'S 18º 29'S	18° 29'S 147° 00'E 147° 24'E 147° 53'E
[94.] [96.] [97.]	18-047-Y027 18-047 18-043 18-044 18-070	<u>Oyster Rock</u> <u>Oyster Rock Reef</u> <u>Slashers Reefs</u> <u>Slashers Reefs</u> <u>Arc Reef</u>	18° 30.3'S 18° 30'S 18° 30'S 18° 30'S 18° 30'S 18° 30'S	18° 30'S         146° 17.9'E         146° 18'E         147° 03'E         147° 06'E         147° 27'E
[99.]	18-080	Bowl Reef	18º 31'S	18° 31'S 147° 32'E
	18-069 18-071	<u>Slashers Reefs</u> <u>Glow Reef</u>	18° 32'S 18° 32'S	18° 32'S 147° 09'E 147° 24'E
	18-048-Y028 18-072	<u>Pelorus (North Palm, Yanooa)</u> <u>Island</u> U/N	18° 33.2'S 18° 33'S	18° 33'S 146° 29.7'E 147° 14'E
[105.]	18-048 18-073 18-074	<u>Pelorus (North Palm, Yanooa)</u> <u>Island Reef</u> <u>Hopkinson Reef</u> Yankee Reef	18° 34'S 18° 34'S 18° 34'S	18° 34'S 146° 29'E 147° 12'E 147° 30'E

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[107.] 18-081 [108.] 18-082	<u>Knife Reef</u> U/N	18º 35'S 18º 35'S	18° 35'S 147° 34'E 147° 51'E
[109.] 18-049	Orpheus (Goolboddi) Island Reefs	18º 36'S	18° 36'S 146° 29'E
[110.] 18-049-Y029 [112.] 18-083 [113.] 18-084	Orpheus (Goolboddi) Island Fork Reef Cup Reef	18° 37.0'S 18° 37'S 18° 37'S	18° 37'S 146° 29.6'E 147° 34'E 147° 37°E
[114.] 18-075 [115.] 18-076 [116.] 18-077	John Brewer (Watt) Reef Helix Reef Grub Reef	18° 38'S 18° 38'S 18° 38'S	18° 38'S 147° 04'E 147° 18'E 147° 25'E
[113.] 18-084	<u>Cup Reef B</u>	18º 39'S	18° 39'S 147° 35'E
[118.] 18-052-Y030 [117.] 18-052 [119.] 18-085 [113.] 18-084 [120.] 18-086	<u>Curacoa (Noogoo) Island</u> <u>Curacoa (Noogoo) Island Reef</u> <u>Spoon Reef</u> <u>Cup Reef C (Saucer Reef)</u> <u>Chicken Reef</u>	18° 40.0'S 18° 40'S 18° 40'S 18° 40'S 18° 40'S 18° 40'S	18° 40'S         146° 33.2'E         146° 34'E         147° 34'E         147° 36'E         147° 43'E
[121.] 18-050 [122.] 18-053 [123.] 18-053-Y031 [124.] 18-054	Lady Elliot Reef Fantome (Eumilli) Island Reef Fantome (Eumilli) Island Great Palm Island Reefs	18° 41'S 18° 41'S 18° 41.2'S 18° 41.2'S	18° 41'S 146° 20'E 146° 31'E 146° 31.2'E 146° 35'E
[128.] 18-078 [129.] 18-087	<u>Lodestone Reef</u> U/N	18º 42'S 18º 42'S	18° 42'S 147° 06'E 147° 52'E
			18º 43'S
<pre>[125.] 18-054-Y032 [131]. 18-055-Y033 [130.] 18-055 [132.] 18-088 [133.] 18-090 [134.] 18-089</pre>		18° 44.5'S 18° 44.5'S 18° 44'S 18° 44'S 18° 44'S 18° 44'S 18° 44'S	18° 44'S 146° 36.6'E 146° 41.5'E 146° 42'E 147° 32'E 147° 51'E 147° 53'E
[126.] 18-054-Y034 [135.] 18-056 [136.] 18-056-Y035 [137.] 18-079 [138.] 18-092	Paluma Rock Reef	18° 45.6'S 18° 45'S 18° 45.2'S 18° 45'S 18° 45'S	18° 45'S 146° 41.6'E 146° 42'E 146° 42.0'E 147° 16'E 147° 57'E

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						18º 46'S
	[149.]	18-060-Y036	Dido Rock	18º 46.6'S	146°	30.6'E
		18-059	Esk (Soopun) Island Reef	18º 46'S	146°	
			Esk (Soopun) Island	18º 46.3'5		31.1'E
			Falcon (Carbooroo) Island	18º 46.2'S		31.9'E
		18-058	Eclipse (Garoogubbee) Island Reef		146°	
			Eclipse (Garoogubbee) Island	18º 46.3'S		33.1'E
	$\begin{bmatrix} 1 + 2 \cdot \end{bmatrix}$	18-054-Y040	U/N Jolopd	18º 46.7'S		38.6'E
			Barber (Boodthean) Islet	18º 46.7'S		39.9'E
				18° 46'S	146° 146°	
		18-061	Barber (Boodthean) Islet Reef			
		18-057	Albino (White) Rock Reef	18º 46'S	146°	
		18-057-Y042		18º 46.4'S		43.1'E
	[14/.]	18-093	U/N	18º 46'S	147°	56'E
						18º 47'S
	[148.]	18-060	Dido Rock Reef	18º 47'S	146º	
		18-062	Brisk, Falcon (Carboordo, Culgaroo		140	
	[]		Islands Reef	18º 47'S	146°	32'F
	[152]	18-062-00/3	Brisk (Culgarool) Island	18º 47.2'S		32.4'E
		18-063	Chilcott Rocks Reef	18º 47'S	146°	
		18-063-Y044		18º 47.5'S		43.9'E
	[155.]			18º 47.9 3	148°	
			Lynch's Reef			
	[120.]	18-094	U/N -	18º 47'S	147º	52'E
•,						18º 48'S
	[157.]	18-095	Wheeler Reef	18º 48'S	147º	
	[158.]		U/N	18º 48'S	147°	
	[1/0•]	10-077		10 40 5	141	)) L
						18º 49'S
	[159.]	18-051	Pandora Reef	18º 49'S	146°	
		18-064-Y045		18° 49.8'5		31.6'E
	[160.]	'	U/N	18º 49'S	1480	
	[100.]	10 101	6,	10 47 0	140	02 2
						18º 50'S
	[161.]	18-064	Fly Island Reef	18° 50'S	146º	32'E
	[164.]	18-065-Y046	Havannah Island	18º 50.5'S	146º	32.6'E
		18-065	Havannah Island Reef		146°	
	[165.]		Davies Reef	18º 50'S	1470	
	[166.]		U/N		1470	
	[167.]				148°	
	[168.]		U/N	18º 50'S	148º	
	[100.]	10 100	0,11	10 00 0	140	07 L
						18º 51'S
	[169.]	18-110	U/N	18º 51'S	148°	
	[170.]		Eagle Reef	18º 51'S	148°	
	[1,01]			10 91 0	140	0, 5
						18º 52'S
	[171.]	18-099	U/N	18º 52'S	147º	53'E
	[172.]		Viper Reef	18º 52'S	148°	
		-		· · · · · · · · · · · · · · · · · · ·		-
	_					18º 53'S
	[173.]	18-113	U/N	18º 53'S	148°	14'E
						100 5
	[174.]	10 104	11 /N	100 5410	1/70	18º 54'S
	[175.]			18º 54'S	147°	
	[176.]		U/N	18º 54'S	147°	
			U/N	18º 54'S	147º	
	[177.]	10-114	U/N	18º 54'S	148°	14'E

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[178.] 18-100 [179.] 18-105 [180.] 18-101	<u>Big Broadhurst Reef</u> U/N U/N	18º 55'S 18º 55'S 18º 55'S	18° 55'S 147° 45'E 147° 54'E 147° 57'E
[179.] 18-105 [181.] 18-115 [182.] 18-116	U/N Reef B <u>Jupiter Reef</u> U/N	18º 56'S 18º 56'S 18º 56'S	18° 56'S 147° 55'E 148° 15'E 148° 20'E
[183.] 18-118 [184.] 18-117 [185.] 18-119	<u>Shrimp Reef</u> U/N Lion Reef	18º 57'S 18º 57'S 18º 57'S	18° 57'S 148° 05'E 148° 17'E 148° 22'E
[186.] 18-067 [187.] 18-067-Y04 [188.] 18-066 [189.] 18-066-Y044 [190.] 18-106	Acheron Island Reef	18° 58'S 18° 58.7'S 18° 58'S 18° 58.0'S 18° 58'S	18° 58'S 146° 37'E 146° 37.1'E 146° 38'E 146° 38.3'E 147° 42'E
[191.] 18-068 [192.] 18-068-Y04 [193.] 18-120	Cordella Rocks Reef Cordella Rocks Jaguar Reef	18º 59'S 18º 59.8'S 18º 59'S	18° 59'S 146° 41'E 146° 41.0'E 148° 25'E 19° 00'S
[194.] 19-001 [195.] 19-001-Y003 [203.] 19-002-Y003 [196.] 19-024 [197.] 19-025		19° 01'S 19° 01.5'S 19° 01.8'S 19° 01'S 19° 01'S	19° 01'S 146° 37'E 146° 37.7'E 146° 38.1'E 148° 07'E 148° 20'E
[195.] 19-001-Y00 [203.] 19-002-Y002 [196.] 19-024 [197.] 19-025 [199.] 19-004-Y002 [198.] 19-004	Bramble Rock Herald Island Prawn Reef Castor Reef	19º 01.5'S 19º 01.8'S 19º 01'S	146° 37'E 146° 37.7'E 146° 38.1'E 148° 07'E
[195.] 19-001-Y00 [203.] 19-002-Y00 [196.] 19-024 [197.] 19-025 [197.] 19-004-Y00 [198.] 19-004 [201.] 19-003 [200.] 19-003 [202.] 19-002 [204.] 19-019	Bramble Rock Herald Island Prawn Reef Castor Reef U/N Rock Lorne Reef Rattlesnake Island Rattlesnake Island Reef Herald Island Reef Bowden Reef	19° 01.5'S 19° 01.8'S 19° 01'S 19° 01'S 19° 02.3'S 19° 02'S 19° 02'S 19° 02'S 19° 02'S 19° 02'S 19° 02'S	146° 37'E 146° 37.7'E 146° 38.1'E 148° 07'E 148° 20'E 148° 20'E 146° 34.8'E 146° 34.8'E 146° 35'E 146° 36.6'E 146° 37'E 146° 38'E 147° 56'E
<pre>[195.] 19-001-Y00] [203.] 19-002-Y002 [196.] 19-024 [197.] 19-024 [197.] 19-004-Y002 [198.] 19-004 [201.] 19-003 [200.] 19-003 [202.] 19-002 [204.] 19-019 [205.] 19-049</pre>	<ul> <li>Bramble Rock</li> <li>Herald Island</li> <li>Prawn Reef</li> <li>Castor Reef</li> <li>U/N Rock</li> <li>Lorne Reef</li> <li>Rattlesnake Island</li> <li>Rattlesnake Island Reef</li> <li>Herald Island Reef</li> <li>Bowden Reef</li> <li>Lynx Reef</li> </ul>	19° 01.5'S 19° 01.8'S 19° 01'S 19° 01'S 19° 02.3'S 19° 02'S 19° 02'S 19° 02'S 19° 02'S 19° 02'S 19° 02'S 19° 02'S 19° 02'S	146° 37'E 146° 37.7'E 146° 38.1'E 148° 20'E 148° 20'E 148° 34.8'E 146° 34.8'E 146° 35'E 146° 36.6'E 146° 38'E 146° 38'E 147° 56'E 148° 34'E 19° 03'S 147° 19'E

		19º 06'S	<u>19° 06'S</u> 146° 33'E
[213.] 19-005 [214.] 19-009	Paluma Shoals White Rock (Magnetic Island G) Re	ef 19º 06'S	146° 50'E
[215.] 19-009-Y005		19º 06.4'S 19º 06'S	146° 50.0'E 146° 52'E
[216.] 19-009 [223.] 19-006-Y006	Magnetic Island Reefs	19° 06.7'S	146° 52.9'E
[222.] 19-006	Orchard Rocks Reef	19º 06'S	<u>146° 53'E</u>
[224.] 19-032	U/N	19º 06'S	148º 15'E 148º 16'E
[225.] 19-033 [226.] 19-034	U/N U/N	19º 06'S 19º 06'S	148º 17'E
[227.] 19-036	U/N	19º 06'S	148º 19'E
[228.] 19-050	Leopold Reef	19º 06'S	148° 42'E
			<u>19º 07'S</u>
[235.] 19-008-Y007 [229.] 19-007		19º 07.8'S 19º 07'S	146° 42.5'E 146° 45'E
[230.] 19-007-Y008	Bay Rock Reef Bay Rock	19º 07.1'S	146° 45.3'E
[231.] 19-037	U/N	19º 07'S	148° 18'E
[232.] 19-038	Dingo Reef	19º 07'S 19º 07'S	148° 21'E 148° 42'E
[233.] 19-051	Tiger Reef	190 07.5	
		100 0010	19° 08'S
[234.] 19-008 [219.] 19-009-Y009	Burdekin Rock Reef	19º 08'S 19º 08:4'S	146° 42'E 146° 49.8'E
[236.] 19-039	U/N	19º 08'S	148º 11'E
[237.] 19-040	U/N	19º 08'S	148º 11'E
[238.] 19-052 [239.] 19-053	U/N U/N	19º 08'S 19º 08'S	148° 55'E 148° 55'E
[ムノフ・] エフーロノノ	0/ N	1, 00, 2	140 )) L
	Castfrow Day (Magnatic Jaland C)	Poof 190 091	19° 09'S
[217.] 19-009 [240.] 19-020	<u>Geoffrey Bay (Magnetic Island C)</u> Morinda Shoal	<u>Reef</u> 19º 09': 19º 09'S	S 146° 52'E
[240.] 19-020 [232.] 19-038	<u>Morinda Shoal</u> Dingo Reef C	19º 09'S 19º 09'S	5 146° 52'E 147° 38'E 148° 19'E
[240.] 19-020	Morinda Shoal	19º 09'S	S 146° 52'E 147° 38'E
[240.] 19-020 [232.] 19-038 [241.] 19-055	<u>Morinda Shoal</u> Dingo Reef C U/N	19° 09'S 19° 09'S 19° 09'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E <u>19° 10'S</u>
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010	<u>Morinda Shoal</u> <u>Dingo Reef C</u> U/N U/N Rock	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E <u>19° 10'S</u> 147° 03.6'E
[240.] 19-020 [232.] 19-038 [241.] 19-055	<u>Morinda Shoal</u> Dingo Reef C U/N	19° 09'S 19° 09'S 19° 09'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E <u>19° 10'S</u> 147° 03.6'E 148° 56'E
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056	<u>Morinda Shoal</u> <u>Dingo Reef C</u> U/N U/N Rock U/N	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10.9'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E 19° 10'S 147° 03.6'E 148° 56'E 19° 11'S
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009	<u>Morinda Shoal</u> <u>Dingo Reef C</u> U/N U/N Rock	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10.9'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E <u>19° 10'S</u> 147° 03.6'E 148° 56'E
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230	Morinda Shoal <u>Dingo Reef C</u> U/N U/N Rock U/N <u>Cockle Bay (Magnetic Island A) R</u> U/N <u>Cape Cleveland Reef</u>	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 10'S <u>eef</u> 19° 11'S 19° 11'S 19° 11'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E 19° 10'S 147° 03.6'E 148° 56'E 148° 56'E 19° 11'S 146° 49'E 146° 50'E 147° 01'E
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230 [254.] 19-015-Y011	Morinda Shoal <u>Dingo Reef C</u> U/N U/N Rock U/N <u>Cockle Bay (Magnetic Island A) R</u> U/N <u>Cape Cleveland Reef</u> <u>Twenty Foot Rock</u>	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 10'S <u>eef</u> 19° 11'S 19° 11'S 19° 11'S 19° 11.9'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E 19° 10'S 147° 03.6'E 148° 56'E 148° 56'E 146° 49'E 146° 49'E 146° 50'E 147° 01'E 147° 01.8'E
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230 [254.] 19-015-Y011 [246.] 19-014-Y012	Morinda Shoal <u>Dingo Reef C</u> U/N U/N Rock U/N <u>Cockle Bay (Magnetic Island A) R</u> U/N <u>Cape Cleveland Reef</u> <u>Twenty Foot Rock</u> <u>Four Foot Rock</u>	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 10'S 19° 11'S 19° 11'S 19° 11'S 19° 11.9'S 19° 11.9'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E 19° 10'S 147° 03.6'E 148° 56'E 148° 56'E 146° 49'E 146° 49'E 146° 50'E 147° 01.8'E 147° 02.9'E
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230 [254.] 19-015-Y011	Morinda Shoal <u>Dingo Reef C</u> U/N U/N Rock U/N <u>Cockle Bay (Magnetic Island A) R</u> U/N <u>Cape Cleveland Reef</u> <u>Twenty Foot Rock</u> <u>Four Foot Rock</u> <u>Four Foot Rock</u> <u>Four Foot Rock</u> <u>Four Foot Rock</u> <u>Four Foot Rock</u> <u>Four Foot Rock</u>	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 10'S <u>eef</u> 19° 11'S 19° 11'S 19° 11'S 19° 11.9'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E 19° 10'S 147° 03.6'E 148° 56'E 148° 56'E 146° 49'E 146° 49'E 146° 50'E 147° 01'E 147° 01.8'E
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230 [254.] 19-015-Y011 [246.] 19-015-Y011 [245.] 19-014-Y012 [245.] 19-014 [249.] 19-013-Y013 [247.] 19-013	Morinda Shoal Dingo Reef C U/N U/N Rock U/N Cockle Bay (Magnetic Island A) R U/N Cape Cleveland Reef Twenty Foot Rock Four Foot Rock Four Foot Rock Four Foot Rock Four Foot Rock Salamander Reef	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 11'S 19° 11'S 19° 11'S 19° 11.9'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.1'S 19° 11.1'S 19° 11.5'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E 148° 52'E 147° 03.6'E 147° 03.6'E 148° 56'E 146° 49'E 146° 50'E 147° 01'E 147° 01.8'E 147° 03.4'E 147° 03.4'E 147° 04'E
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230 [254.] 19-015-Y011 [246.] 19-015-Y011 [246.] 19-014-Y012 [245.] 19-014 [249.] 19-013 [247.] 19-013 [250.] 19-041	Morinda Shoal Dingo Reef C U/N U/N Rock U/N Cockle Bay (Magnetic Island A) R U/N Cape Cleveland Reef Twenty Foot Rock Four Foot Rock Four Foot Rock Four Foot Rock Four Foot Rock Salamander Reef U/N	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 11'S 19° 11'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.1'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E 19° 10'S 147° 03.6'E 148° 56'E 148° 56'E 146° 49'E 146° 49'E 146° 50'E 147° 01'E 147° 01.8'E 147° 02.9'E 147° 03.4'E 147° 04'E 148° 09'E
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230 [254.] 19-015-Y011 [246.] 19-015-Y011 [245.] 19-014-Y012 [245.] 19-014 [249.] 19-013-Y013 [247.] 19-013	Morinda Shoal Dingo Reef C U/N U/N Rock U/N Cockle Bay (Magnetic Island A) R U/N Cape Cleveland Reef Twenty Foot Rock Four Foot Rock Four Foot Rock Four Foot Rock Four Foot Rock Salamander Reef	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 11'S 19° 11'S 19° 11'S 19° 11.9'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.1'S 19° 11.1'S 19° 11.5'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E 148° 52'E 147° 03.6'E 147° 03.6'E 148° 56'E 146° 49'E 146° 50'E 147° 01'E 147° 01.8'E 147° 03.4'E 147° 03.4'E 147° 04'E
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230 [254.] 19-015-Y011 [246.] 19-015-Y011 [246.] 19-014-Y012 [245.] 19-014 [247.] 19-013 [250.] 19-041 [232.] 19-039	Morinda Shoal <u>Dingo Reef C</u> U/N U/N Rock U/N <u>Cockle Bay (Magnetic Island A) R</u> U/N <u>Cape Cleveland Reef</u> <u>Twenty Foot Rock</u> <u>Four Foot Rock</u> <u>Four Foot Rock Reef</u> U/N Rock <u>Salamander Reef</u> U/N <u>Dingo Reef B</u>	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 11'S 19° 11'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.1'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S	5 146° 52'E 147° 38'E 148° 19'E 148° 52'E 148° 52'E 147° 03.6'E 148° 56'E 148° 56'E 146° 49'E 146° 49'E 146° 50'E 147° 01.8'E 147° 02.9'E 147° 03.4'E 147° 04'E 148° 09'E 148° 09'E 148° 22'E
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230 [254.] 19-015-Y011 [246.] 19-014-Y012 [245.] 19-014 [249.] 19-013-Y013 [247.] 19-013 [250.] 19-041 [232.] 19-039 [251.] 19-058 [252.] 19-011	Morinda Shoal Dingo Reef C U/N U/N Rock U/N Cockle Bay (Magnetic Island A) R U/N Cape Cleveland Reef Twenty Foot Rock Four Foot Rock Four Foot Rock Reef U/N Rock Salamander Reef U/N Dingo Reef B U/N Middle Reef	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 11'S 19° 11'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S	$ \begin{array}{c} 146^{\circ} 52'E \\ 147^{\circ} 38'E \\ 148^{\circ} 19'E \\ 148^{\circ} 52'E \\ \hline 19^{\circ} 10'S \\ 147^{\circ} 03.6'E \\ 148^{\circ} 56'E \\ \hline 19^{\circ} 11'S \\ 146^{\circ} 49'E \\ 146^{\circ} 50'E \\ 147^{\circ} 01'E \\ 147^{\circ} 01.8'E \\ 147^{\circ} 02.9'E \\ 147^{\circ} 03.4'E \\ 147^{\circ} 03.4'E \\ 147^{\circ} 04'E \\ 148^{\circ} 09'E \\ 148^{\circ} 22'E \\ 148^{\circ} 57'E \\ \hline 19^{\circ} 12'S \\ 146^{\circ} 49'E \\ \end{array} $
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230 [254.] 19-015-Y011 [246.] 19-015-Y011 [246.] 19-014-Y012 [245.] 19-014 [249.] 19-013-Y013 [247.] 19-013 [250.] 19-041 [232.] 19-039 [251.] 19-058 [252.] 19-011 [253.] 19-015	Morinda Shoal Dingo Reef C U/N U/N Rock U/N Cockle Bay (Magnetic Island A) R U/N Cape Cleveland Reef Twenty Foot Rock Four Foot Rock Four Foot Rock Reef U/N Rock Salamander Reef U/N Dingo Reef B U/N Middle Reef Twenty Foot Rock Reef	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 11'S 19° 11'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S 19° 12'S 19° 12'S	$5 146^{\circ} 52'E$ $147^{\circ} 38'E$ $148^{\circ} 19'E$ $148^{\circ} 52'E$ $19^{\circ} 10'S$ $147^{\circ} 03.6'E$ $148^{\circ} 56'E$ $148^{\circ} 56'E$ $147^{\circ} 01'E$ $146^{\circ} 49'E$ $147^{\circ} 01.8'E$ $147^{\circ} 02.9'E$ $147^{\circ} 03.4'E$ $147^{\circ} 03.4'E$ $147^{\circ} 04'E$ $148^{\circ} 09'E$ $148^{\circ} 22'E$ $148^{\circ} 57'E$ $19^{\circ} 12'S$ $146^{\circ} 49'E$ $147^{\circ} 02'E$
[240.] 19-020 [232.] 19-038 [241.] 19-055 [248.] 19-013-Y010 [242.] 19-056 [218.] 19-009 [243.] 19-010 [244.] 19-230 [254.] 19-015-Y011 [246.] 19-014-Y012 [245.] 19-014 [249.] 19-013-Y013 [247.] 19-013 [250.] 19-041 [232.] 19-039 [251.] 19-058 [252.] 19-011	Morinda Shoal Dingo Reef C U/N U/N Rock U/N Cockle Bay (Magnetic Island A) R U/N Cape Cleveland Reef Twenty Foot Rock Four Foot Rock Four Foot Rock Reef U/N Rock Salamander Reef U/N Dingo Reef B U/N Middle Reef	19° 09'S 19° 09'S 19° 09'S 19° 10.9'S 19° 10'S 19° 11'S 19° 11'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11.5'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S 19° 11'S	$ \begin{array}{c} 146^{\circ} 52'E \\ 147^{\circ} 38'E \\ 148^{\circ} 19'E \\ 148^{\circ} 52'E \\ \hline 19^{\circ} 10'S \\ 147^{\circ} 03.6'E \\ 148^{\circ} 56'E \\ \hline 19^{\circ} 11'S \\ 146^{\circ} 49'E \\ 146^{\circ} 50'E \\ 147^{\circ} 01'E \\ 147^{\circ} 01.8'E \\ 147^{\circ} 02.9'E \\ 147^{\circ} 03.4'E \\ 147^{\circ} 03.4'E \\ 147^{\circ} 04'E \\ 148^{\circ} 09'E \\ 148^{\circ} 22'E \\ 148^{\circ} 57'E \\ \hline 19^{\circ} 12'S \\ 146^{\circ} 49'E \\ \end{array} $

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190 13'5 19º 13'S 146° 47'E [257.] 19-012 Virago Shoal [258.] 19-042 19º 13'S 148° 05'E U/N [259.] 19-043 19º 13'S 148º 10'E Darley Reef 148º 19'E [232.] 19-038 19º 13'S Dingo Reef A 19º 13'S 148° 33'E [260.] 19-054 Kangaroo Reef 19º 13'S 148º 36'E [261.] 19-060 U/N 19º 13'S 148° 49'E [262.] 19-062 U/N 19º 13'S 148° 54'E [263.] 19-061 Jacqueline Reef 19º 13'S 149° 01'E [264.] 19-077 U/N 19º 13'S 149º 06'E [265.] 19-078 U/N 19º 14'S 19º 14.9'S 147º 04.0'E [268.] 19-016-Y014 Bray Islet 148º 35'F 19º 14'S [266.] 19-063 U/N 19º 15'S [267.] 19-016 19º 15'S 147º 04'E Bray Islet Reef 19º 15'S 147° 04'E [269.] 19-017 Bare Islet Reef [270.] 19-017-Y015 Bare Islet 147º 04.4'E 19º 15.6'S 19º 16'S 19º 16.5'S 147º 03.9'E [272.] 19-018-Y016 Bald Islet 19º 16'S 147º 04'E [271.] 19-018 Bald Islet Reef 19º 16'S 148° 40'E U/N Reef B [266.] 19-063 19º 17'S [273.] 19-044 19º 17'S 148° 21'E Faith Reef 19º 17'S 148° 59'E [274.] 19-064 U/N [275.] 19-080 19º 17'S 149° 03'E U/N 19º 17'S 149° 06'E [276.] 19-079 U/N 19º 18'S 19º 18'S 148° 05'E [277.] 19-045 Stanley Reef 19º 19'S 147º 25.2'E [282.] 19-000-Y017 Russel (Cape Bowling Green) Island 19º 19.0'S [278.] 19-045-Y018 U/N Boulder 19º 19.2'S 148° 06.8'E [279.] 19-045-Y019 U/N Boulder 19º 19.2'S 148º 07.0'E 19º 19.2'S 148° 07.2'E [280.] 19-045-Y020 U/N Boulder [281.] 19-045-Y021 U/N Boulder 19º 19.2'S 148° 07.4'E [283.] 19-081 19º 19'S 149º 15'E Ellen Reef 19º 20'S [284.] 19-000-Y022 Sand Island 19º 20.5'S 147º 22.4'E 19º 20'S 148° 24'E [285.] 19-046 Hope Reef [286.] 19-065 . 19º 20'S 148° 38'E U/N 149° 03'E [287.] 19-082 19º 20'S Elizabeth Reef 19º 20'S 149º 11'E [288.] 19-083 U/N 19º 21'S 19º 21'S [289.] 19-066 U/N 148° 38'E [290.] 19-069 U/N 19º 21'S 149° 00'E [291.] 19-085 19º 21'S 149° 09'E U/N

19º 21'S

19º 21'S

149º 13'E

149º 25'F

[292.] 19-084

[293.] 19-091

U/N

Eulalie Reef

[294.] 19-021 [295.] 19-022 [296.] 19-047 [297.] 19-067 [298.] 19-068 [299.] 19-070 [300.] 19-086 [301.] 19-088 [302.] 19-089	<u>Tink Shoal</u> <u>Wilson Shoal</u> <u>Charity Reef</u> U/N U/N U/N U/N U/N U/N	19° 22'S 19° 22'S 19° 22'S 19° 22'S 19° 22'S 19° 22'S 19° 22'S 19° 22'S 19° 22'S 19° 22'S	19° 22'S         147° 51'E         147° 57'E         148° 20'E         148° 38'E         148° 41'E         148° 01'E         149° 01'E         149° 06'E         149° 07'E
[303.] 19-087 [304.] 19-090 [305.] 19-092	U/N U/N U/N	19º 23'S 19º 23'S 19º 23'S	19° 23'S 149° 02'E 149° 04'E 149° 12'E
[306.] 19-048 [309.] 19-074 [311.] 19-093	<u>Old Reef</u> Cobham Reef A U/N	19º 24'S 19º 24'S 19º 24'S	19° 24'S 148° 05'E 148° 52'E 149° 02'E
[307.] 19-048-Y023 [308.] 19-048-Y024 [312.] 19-072 [313.] 19-073	•	19º 25.9'S 19º 25.9'S 19º 25'S 19º 25'S	19° 25'S 148° 06.8'E 148° 08.0'E 148° 46'E 149° 00'E
[314.] 19-071 [312.] 19-072	<u>Wallaby Reef</u> U/N Reef B	19º 26'5 19º 26'5	19º 26'S 148º 40'E 148º 43'E
[315.] 19-023 [312.] 19-072 [316.] 19-094	<u>Pakhoi Bank</u> U/N Reef E U/N	19º 27'S 19º 27'S 19º 27'S	19° 27'S 147° 53'E 148° 48'E 149° 28'E
[310.] 19-074 [317.] 19-095 [318.] 19-099	<u>Gould Reef B</u> U/N Joist Reef	19º 28'S 19º 28'S 19º 28'S	19° 28'S 148° 52'E 149° 13'E 149° 39'E
[319.] 19-075 [320.] 19-096	<u>Martin Reef</u> Kennedy Reef	19º 29'S 19º 29'S	19º 29'S 148º 49'E 149º 10'E
[321.] 19-076 [322.] 19-097	<u>Showers Reef</u> Net Reef	19º 30'S 19º 30'S	19° 30'S 148° 54'E 149° 03'E
[312.] 19-072 [312.] 19-072 [323.] 19-098 [324.] 19-111 [325.] 19-139 [326.] 19-140	U/N Reef C U/N Reef D U/N U/N U/N U/N	19° 31'S 19° 31'S 19° 31'S 19° 31'S 19° 31'S 19° 31'S 19° 31'S	19° 31'S 148° 44'E 148° 47'E 149° 07'E 149° 13'E 149° 35'E 149° 44'E

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[327.] 19-108 [328.] 19-109 [329.] 19-107 [330.] 19-113 [331.] 19-112 [332.] 19-117 [333.] 19-118	U/N <u>Fairey Reef</u> <u>Seagull Reef</u> U/N U/N U/N U/N	19° 32'S 19° 32'S 19° 32'S 19° 32'S 19° 32'S 19° 32'S 19° 32'S 19° 32'S
[334.] 19-114 [335.] 19-115 [336.] 19-116 [337.] 19-120 [338.] 19-119 [339.] 19-121	U/N U/N <u>Knuckle Reef</u> <u>Oublier Reef</u> U/N U/N	19° 33'S 19° 33'S 19° 33'S 19° 33'S 19° 33'S 19° 33'S 19° 33'S
[328.] 19-109 [340.] 19-141	Fairey Reef B Stucco Reef	19º 34'S 19º 34'S

[228.] 19-109	Fairey Reef L	19° 22.2	140° 36'E
[341.] 19-122	U/N	19º 35'S	149º 15'E
[342.] 19-124	U/N	19º 35'S	149º 30'E
[343.] 19-144	U/N	19º 35'S	149º 35'E
[344.] 19-142	Lath Reef	19º 35'S	149º 39'E
[345.] 19-143	U/N	19º 35'S	149º 42'E
			19º 36'S
[346.] 19-123	U/N	19º 36'S	149º 14'E
[347.] 19-125	U/N	19º 36'S	149º 25'E
[348.] 19–145	U/N	19º 36'S	149º 30'E
[349.] 19-146	Rafter Reef	19º 36'S	149º 38'E
[350.] 19-148	U/N	19º 36'S	149º 46'E
			100.7710
			19º 37'S
[351.] 19-149	U/N	19º 37'S	149º 43'E
[352.] 19-151	U/N	19º 37'S	149º 51'E
			19º 38'S
[353.] 19-147	Diastan Poof	19º 38'S	149° 40'E
	Plaster Reef		
[354.] 19-150	U/N	19º 38'S	149º 43'E
[355.] 19-152	U/N	19º 38'S	149º 52'E

149º 24'E [333.] 19-1 19º 33'S 149° 02'E [334.] 19-149° 02'E [335.] 19-149º 16'E [336.] 19-[337.] 19-149º 21'E [338.] 19-[339.] 19-149º 22'E 149º 26'E 19º 34'S 148° 56'E [328.] 19-149º 36'E [340.] 19-19º 35'S 148º 56'F [328]] 19-109 190 3515 Fairey Reef C

[357.] 19-153 19º 39'S U/N 19º 39'S 149° 50'E [358.] 19-154 U/N 19º 40'S 19º 40'S [359.] 19-157 149º 35'E Little Reef [360.] 19-155 19º 40'S 149° 43'E U/N 149° 45'E [361.] 19-156 U/N 19º 40'S [362.] 19-159 19º 40'S 149º 55'E U/N 19º 40'S 149º 57'E [363.] 19-160 U/N

19º 39'S

[356.] 19-126

U/N

19º 32'S

19º 39'S

149° 25'E

149° 45'E

148° 53'E

148° 57'E

148° 59'E

149° 00'E

149º 14'E 149º 22'E

			4	
				19º 41'S
<b>F - - - - -</b>			100 (110	
[364.]		U/N	19º 41'S	149° 31'E
[365.]	19-161	U/N	19º 41'S	149° 40'E
[366.]	19-158	U/N ·	19º 41'S	149º 42'E
[]001]				
				19º 42'S
[			100 /010	
[367.]		<u>White Topped Rock Reef</u>	19º 42'S	147º 45'E
[368.]	19-100-Y025	White Topped Rock	19º 42.3'S	147º 45.0'E
[369.]	19-128	Line Reef	19º 42'S	149º 12'E
[370.]		<u></u> U/N	19º 42'S	149º 32'E
		•	19º 42'S	149º 43'E
[371.]		U/N		
[372.]		U/N	19º 42'S	149° 47'E
[373.]	19–166	U/N	19º 42'S	149º 54'E
[374.]	19-167	U/N	19º 42'S	149º 59'E
		,		
				19º 43'S
	10 107 1000	· · · · · · · · ·	100 /7 710	
		Holbourne Island	19º 43.7'S	148º 21.5'E
[375.]	19-133	Sinker Reef	19° 43'S	149º 12'E
[376.]	19-129	U/N	19º 43'S	149º 18'E
[377.]		U/N	19º 43'S	149º 36'E
			19º 43'S	149º 41'E
[378.]		U/N		
[379.]		U/N	19º 43'S	149º 44'E
[380.]	19–172	U/N	19° 43'S	149º 45'E
[381.]	19-173	U/N	19º 43'S	149º 46'E
[382.]		U/N	19° 43'S	149º 48'E
			19º 43'S	149º 55'E
[383.]		U/N		
[384.]		U/N	19º 43'S	149º 58'E
	10 007			
[385.]	19-206	U/N	19° 43'S	150° 00'E
[385.]	19-206	U/N	19" 43'S	150° 00'E
[385.]	19-206	U/N	19" 43'S	150° 00'E <u>19° 44'S</u>
				19º 44'S
[386.]	19-101	U/N	19º 44'S	19° 44'S 147° 45'E
[386.] [387.]	19-101 19-103	U/N Holbourne Island Reef	19º 44'S 19º 44'S	19° 44'S 147° 45'E 148° 22'E
[386.] [387.] [389.]	19–101 19–103 19–127	U/N <u>Holbourne Island Reef</u> <u>Black Reef</u>	19º 44'S 19º 44'S 19º 44'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E
[386.] [387.]	19–101 19–103 19–127	U/N Holbourne Island Reef	19º 44'S 19º 44'S	19° 44'S 147° 45'E 148° 22'E
[386.] [387.] [389.] [390.]	19–101 19–103 19–127 19–169	U/N <u>Holbourne Island Reef</u> <u>Black Reef</u> U/N	19º 44'S 19º 44'S 19º 44'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E
[386.] [387.] [389.]	19–101 19–103 19–127 19–169	U/N <u>Holbourne Island Reef</u> <u>Black Reef</u>	19° 44'S 19° 44'S 19° 44'S 19° 44'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E 149° 36'E
[386.] [387.] [389.] [390.]	19–101 19–103 19–127 19–169	U/N <u>Holbourne Island Reef</u> <u>Black Reef</u> U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E 149° 36'E 149° 42'E
[386.] [387.] [389.] [390.] [391.]	19–101 19–103 19–127 19–169 19–177	U/N Holbourne Island Reef Black Reef U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E 149° 36'E 149° 42'E
[386.] [387.] [389.] [390.] [391.] [392.]	19–101 19–103 19–127 19–169 19–177 19–130	U/N <u>Holbourne Island Reef</u> <u>Black Reef</u> U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E 149° 36'E 149° 42'E 19° 45'S 149° 20'E
[386.] [387.] [389.] [390.] [391.] [392.] [393.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134	U/N <u>Holbourne_Island Reef</u> <u>Black_Reef</u> U/N U/N U/N Black_Reef_East	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E 149° 36'E 149° 42'E 149° 42'E 19° 45'S 149° 20'E 149° 30'E
[386.] [387.] [389.] [390.] [391.] [392.] [393.] [394.]	19–101 19–103 19–127 19–169 19–177 19–130 19–134 19–181	U/N Holbourne_Island_Reef Black_Reef U/N U/N U/N Black_Reef_East U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E 149° 36'E 149° 42'E 149° 42'E 149° 45'S 149° 20'E 149° 30'E 149° 36'E
[386.] [387.] [389.] [390.] [391.] [392.] [393.]	19–101 19–103 19–127 19–169 19–177 19–130 19–134 19–181	U/N <u>Holbourne_Island Reef</u> <u>Black_Reef</u> U/N U/N U/N Black_Reef_East	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E 149° 36'E 149° 42'E 149° 42'E 19° 45'S 149° 20'E 149° 30'E
[386.] [387.] [389.] [390.] [391.] [392.] [393.] [394.] [395.]	19-101 19-103 19-127 19-169 19-177 19-130 19-130 19-134 19-181 19-180	U/N <u>Holbourne Island Reef</u> <u>Black Reef</u> U/N U/N U/N <u>Black Reef East</u> U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E 149° 36'E 149° 42'E 149° 42'E 149° 45'S 149° 20'E 149° 30'E 149° 36'E
[386.] [387.] [389.] [390.] [391.] [392.] [393.] [394.] [395.] [396.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179	U/N Holbourne Island Reef Black Reef U/N U/N U/N Black Reef East U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\   \end{array} $
[386.] [387.] [389.] [390.] [391.] [392.] [393.] [394.] [395.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179	U/N <u>Holbourne Island Reef</u> <u>Black Reef</u> U/N U/N U/N <u>Black Reef East</u> U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E 149° 36'E 149° 42'E 149° 42'E 149° 20'E 149° 20'E 149° 30'E 149° 36'E 149° 36'E 149° 36'E
[386.] [387.] [389.] [390.] [391.] [392.] [393.] [394.] [395.] [396.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179	U/N Holbourne Island Reef Black Reef U/N U/N U/N Black Reef East U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S	19° 44'S 147° 45'E 148° 22'E 149° 23'E 149° 36'E 149° 42'E 19° 45'S 149° 20'E 149° 20'E 149° 30'E 149° 30'E 149° 36'E 149° 41'E 149° 47'E 149° 57'E
[386.] [387.] [389.] [390.] [391.] [391.] [393.] [393.] [394.] [395.] [396.] [397.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178	U/N Holbourne_Island_Reef Black_Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\     \end{array} $
[386.] [387.] [389.] [390.] [391.] [391.] [393.] [394.] [395.] [396.] [397.] [399.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-178	U/N Holbourne_Island_Reef Black_Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\   \end{array} $
[386.] [387.] [389.] [390.] [391.] [391.] [393.] [394.] [395.] [396.] [397.] [399.] [398.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-104-Y027 19-104	U/N Holbourne_Island_Reef Black_Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 41'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\       148^{\circ} 22'E \\   \end{array} $
[386.] [387.] [389.] [390.] [391.] [391.] [393.] [394.] [395.] [396.] [397.] [399.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-104-Y027 19-104	U/N Holbourne Island Reef Black Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\   \end{array} $
[386.] [387.] [389.] [390.] [391.] [392.] [393.] [393.] [394.] [395.] [396.] [397.] [399.] [398.] [400.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-178 19-104-Y027 19-104 19-135	U/N Holbourne Island Reef Black Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 41'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\       148^{\circ} 22'E \\       149^{\circ} 14'E \\       149^{\circ} 14'E \\       148^{\circ} 22'E \\       149^{\circ} 14'E \\       140^{\circ} 14'E \\    $
[386.] [387.] [389.] [390.] [390.] [391.] [392.] [393.] [394.] [395.] [396.] [397.] [398.] [400.] [400.] [401.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-178 19-104-Y027 19-104 19-135 19-131	U/N Holbourne Island Reef Black Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 46'S 19° 46'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\       148^{\circ} 22'E \\       149^{\circ} 14'E \\       149^{\circ} 14'E \\       149^{\circ} 14'E \\       149^{\circ} 22'E \\       148^{\circ} 22'E \\    $
[386.] [387.] [389.] [390.] [391.] [391.] [393.] [394.] [395.] [396.] [397.] [398.] [400.] [401.] [402.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-178 19-104-Y027 19-104 19-135 19-131 19-132	U/N Holbourne_Island_Reef Black_Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 22'E \\       148^{\circ} 22'E \\       149^{\circ} 14'E \\       149^{\circ} 22'E \\       149^{\circ} 24'E \\   \end{array} $
[386.] [387.] [389.] [390.] [391.] [391.] [393.] [394.] [395.] [396.] [397.] [397.] [398.] [400.] [401.] [402.] [403.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-178 19-104-Y027 19-104 19-135 19-131 19-132 19-183	U/N Holbourne_Island_Reef Black_Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\       148^{\circ} 22'E \\       149^{\circ} 14'E \\       149^{\circ} 22'E \\       149^{\circ} 24'E \\       149^{\circ} 24'E \\       149^{\circ} 39'E \\   \end{array} $
[386.] [387.] [389.] [390.] [391.] [391.] [393.] [394.] [395.] [396.] [397.] [397.] [398.] [400.] [401.] [402.] [403.] [404.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-178 19-104-Y027 19-104 19-135 19-131 19-132 19-183 19-184	U/N Holbourne_Island_Reef Black_Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\       148^{\circ} 22'E \\       149^{\circ} 14'E \\       149^{\circ} 22'E \\       149^{\circ} 24'E \\       149^{\circ} 24'E \\       149^{\circ} 39'E \\       149^{\circ} 39'E \\       149^{\circ} 39'E \\     \end{array} $
[386.] [387.] [389.] [390.] [391.] [391.] [393.] [394.] [395.] [396.] [397.] [397.] [398.] [400.] [401.] [402.] [403.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-178 19-104-Y027 19-104 19-135 19-131 19-132 19-183 19-184	U/N Holbourne_Island_Reef Black_Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\       148^{\circ} 22'E \\       149^{\circ} 14'E \\       149^{\circ} 22'E \\       149^{\circ} 24'E \\       149^{\circ} 24'E \\       149^{\circ} 39'E \\   \end{array} $
[386.] [387.] [389.] [390.] [390.] [391.] [393.] [393.] [394.] [395.] [396.] [397.] [397.] [398.] [400.] [401.] [402.] [403.] [404.] [405.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-178 19-178 19-104-Y027 19-104 19-135 19-131 19-132 19-183 19-184 19-185	U/N Holbourne_Island_Reef Black_Reef U/N U/N Black_Reef East U/N U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 41'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\       148^{\circ} 22'E \\       149^{\circ} 14'E \\       149^{\circ} 22'E \\       149^{\circ} 39'E \\    $
[386.] [387.] [387.] [390.] [390.] [391.] [393.] [393.] [394.] [395.] [396.] [397.] [398.] [400.] [400.] [401.] [402.] [403.] [404.] [405.] [406.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-179 19-178 19-104-Y027 19-104 19-135 19-131 19-132 19-183 19-184 19-185 19-186	U/N Holbourne_Island_Reef Black Reef U/N U/N U/N Black Reef East U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\       148^{\circ} 22'E \\       149^{\circ} 14'E \\       149^{\circ} 22'E \\       149^{\circ} 22'E \\       149^{\circ} 24'E \\       149^{\circ} 22'E \\       149^{\circ} 24'E \\       149^{\circ} 39'E \\       149^{\circ} 39'E \\       149^{\circ} 39'E \\       149^{\circ} 43'E \\       \end{array} $
[386.] [387.] [387.] [390.] [390.] [391.] [393.] [393.] [394.] [395.] [396.] [397.] [398.] [400.] [400.] [401.] [402.] [403.] [404.] [405.] [406.] [407.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-178 19-178 19-178 19-104 19-135 19-131 19-132 19-183 19-184 19-185 19-186 19-182	U/N Holbourne_Island_Reef Black_Reef U/N U/N U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S	$     \begin{array}{r}         & 19^{\circ} 44'S \\         & 45'E \\         & 44'S \\         & 22'E \\         & 49^{\circ} 23'E \\         & 49^{\circ} 36'E \\         & 49^{\circ} 42'E \\         & 19^{\circ} 45'S \\         & 19^{\circ} 45'S \\         & 149^{\circ} 30'E \\         & 49^{\circ} 30'E \\         & 49^{\circ} 30'E \\         & 49^{\circ} 36'E \\         & 49^{\circ} 41'E \\         & 49^{\circ} 41'E \\         & 49^{\circ} 57'E \\         & 19^{\circ} 46'S \\         & 149^{\circ} 57'E \\         & 19^{\circ} 46'S \\         & 148^{\circ} 22'E \\         & 149^{\circ} 14'E \\         & 149^{\circ} 22'E \\         & 149^{\circ} 22'E \\         & 149^{\circ} 24'E \\         & 149^{\circ} 39'E \\         & 149^{\circ} 39'E \\         & 149^{\circ} 39'E \\         & 149^{\circ} 43'E \\         & 149^{\circ} 44'E \\         & 149^{\circ} 44'E$
[386.] [387.] [387.] [390.] [390.] [391.] [393.] [393.] [394.] [395.] [396.] [397.] [398.] [400.] [400.] [401.] [402.] [403.] [404.] [405.] [406.]	19-101 19-103 19-127 19-169 19-177 19-130 19-134 19-181 19-180 19-179 19-178 19-178 19-178 19-178 19-104 19-135 19-131 19-132 19-183 19-184 19-185 19-186 19-182	U/N Holbourne_Island_Reef Black Reef U/N U/N U/N Black Reef East U/N U/N U/N U/N U/N U/N U/N U/N	19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 44'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 45'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S 19° 46'S	$     \begin{array}{r}       19^{\circ} 44'S \\       147^{\circ} 45'E \\       148^{\circ} 22'E \\       149^{\circ} 23'E \\       149^{\circ} 36'E \\       149^{\circ} 42'E \\       \hline       19^{\circ} 45'S \\       149^{\circ} 20'E \\       149^{\circ} 30'E \\       149^{\circ} 36'E \\       149^{\circ} 41'E \\       149^{\circ} 41'E \\       149^{\circ} 47'E \\       149^{\circ} 57'E \\       \hline       19^{\circ} 46'S \\       148^{\circ} 21.4'E \\       148^{\circ} 22'E \\       149^{\circ} 14'E \\       149^{\circ} 22'E \\       149^{\circ} 22'E \\       149^{\circ} 24'E \\       149^{\circ} 22'E \\       149^{\circ} 24'E \\       149^{\circ} 39'E \\       149^{\circ} 39'E \\       149^{\circ} 39'E \\       149^{\circ} 43'E \\       \end{array} $

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			19º 47'S
[409.] 19-188	U/N	19º 47'S	149º 46'E
	0,11		
			19º 48'S
[410.] 19-136	Hook Reef	19º 48'S	149º 10'E
[411.] 19–187	Hewitt Reef	19º 48'S	149º 38'E
[412.] 19–189	<u>U/N</u>	19º 48'S	149º 42'E
[413.] 19-208	U/N	19º 48'S	150° 08'E
			19° 49'S
[414.] 19-137	Bait Reef	19º 49'S	149º 04'E
[410.] 19–136	Hook Reef B	19º 49'S	149° 07'E
[415.] 19–138	U/N	19º 49'S	149º 25'E
[416.] 19-192	U/N	19º 49'S	149º 37'E
[417.] 19-190	U/N	19º 49'S	149° 42'E
[418.] 19-191	U/N	19º 49'S	149° 43'E
[419.] 19-210	U/N	19º 49'S	150° 06'E
[420.] 19-209	Bebe Reef	19º 49'S	150° 09'E
			19° 50'S
[428.] 19-102-Y028	Camp Islet	19º 50.9'S	147° 54.1'E
[410.] 19-136	Hook Reef A	19º 50'S	149º 14'E
[421.] 19–193	U/N	19º 50'S	149° 45'E
[422.] 19-194	U/N	19º 50'S	149° 46'E
[423.] 19-211	Wackett Reef	19º 50'S	150° 05'E
[424.] 19-212	Oom Reef	19º 50'S	150° 11'E
			19º 51'S
[425.] 19-195	Napier Reef	19º 51'S	149º 53'E
[426.] 19-213	U/N	19º 51'S	150° 06'E
			19º 52'S
[427.] 19-102	<u>Camp Islet Reef</u>	19º 52'S	147º 54'E
[429.] 19-196	U/N	19º 52'S	149º 36'E
			100 5710
			19º 53'S
[450.] 19-105-Y029			148º 15.8'E
[430.] 19-197	Ross Reef	19º 53'S	149º 35'E
[431.] 19-198	U/N	19º 53'S	149º 43'E
[432.] 19-214	Wyatt Earp Reef	19º 53'S	150º 14'E
[433.] 19-215	Sharon Shoal	19º 53'S	150º 17'E
			100 5/10
			19° 54'S
[434.] 19-199	U/N	19º 54'S	149º 42'E
[435.] 19-216	U/N	19º 54'S	150° 15'E
[436.] 19-217	U/N	19º 54'S	150° 18'E
	11 / 11		19° 55'S
[437.] 19-200	•	19º 55'S	149° 50'E
[438.] 19-218	Williams Reef	19º 55'S	150° 10'E
[439.] 19-219	Mc Intyre Reef	19º 55'S 19º 55'S	150° 12'E
[440.] 19-220	White Tip Reef	19° 55'S 19° 55'S	150° 16'E 150° 19'E
[441.] 19-229	<u>Scribes Shoal</u>	12- 22,2	170- 17 E
			19° 56'S
	Pand Paof	19º 56'S	19° 56'5 150° 19'E
[442.] 19-221	Bond Reef	T2- 20,2	TYO- TY'C

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				19° 57'S
[443.] 19-201	U/N	19º	57'S	149º 46'E
[444.] 19-202	U/N	19°	57'S	149° 47'E
[445.] 19-223	U/N	19°	57'S	150° 11'E
[446.] 19-222	Abbott Reef	19º	57'S	150° 20'E
[447.] 19-224	U/N	19º	57'S	150° 20'E
				<u>19° 58'S</u>
[449.] 19-105-Y030	North Rock	190	58.4'S	148º 15.9'E
[448.] 19-105	North Rock Reef		58'S	148º 16'E
[451.] 19-204	Round Reef		58'5	149º 37'E
[452.] 19-203			58'S	149º 43'E
[453.] 19-226	James Reef		58'S	150º 13'E
[454.] 19-225	U/N		58'S	150° 21'E
				100 5016
		100		19º 59'S
[456.] 19-106-Y031	the second		59.2'S	148° 21.9'E
[455.] 19-106	Middle Island Reef		59'S	148º 22'E
[458.] 19-110-Y032			59.7'S	148º 33.5'E
[457.] 19-110	<u>Rattray Island Reef</u>		59'S	148º 34'E
[459.] 19-205	Tideway Reef		59'S	149º 43'E
[460.] 19-228	U/N		59'S	150º 14'E
[461.] 19-227	U/N	19°	59'S	150° 21'E

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GEOGRAPHICAL LISTING OF ISLANDS IN TOWNSVILLE SECTION - 117. -

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# GEOGRAPHICAL LISTING OF ISLANDS, ROCKS ETC. IN TOWNSVILLE SECTION

#### <u>17º 48'S to 19º 59'S</u>

	Inventory Code No.	Name	Latitude	Longitude
				17º 48'S
[ 9.]	17-053-Y001	Mound Island	17º 55.6'S	
[7.]		Dunk Island	17º 56.7'S	146° 09.4'E
[10.]		Mung-um-gnackum Island	17º 57.1'S	146° 08.5'E
[11.]		Kumboola Island	17º 57.4'S	146° 08.5'E
[19.]	17-055-Y005		17º 58.8'S	146° 08.4'E
[12.]		Woln-Garin Island	17º 58.2'S	146º 10.7'E
		Thorpe Island	17º 59.0'S	146° 08.1'E
[18.]	17-077-1007 18-001-Y008		17º 59.8'S	146° 09.01'E
[24.]	10-001-1000		17 97.0 3	
			18º 00.4'S	18° 00'5 146° 08.8'E
[22.]		Richards (Bedarra) Island		146° 09.4'E
[26.]		Battleship Rock	18º 00.6'S	
[31.]		Wheeler (Toolgbar) Island	18º 01.7'E	146° 09.9'E
[28.]	18-000-Y004	•	18º 02.2'S	146° 03.0'E
[29.]	18-000-Y005		18º 02.1'S	146° 03.2'E
[33.]		Coombe Island	18º 02.4'S	146º 10.5'E
[36.]		<u>Bowden (Budg-joo) Island</u>	18º 02.6'S	146º 11.8'E
[35.]		Smith (Kurrambah) Island	18º 02.3'S	146º 11.9'E
[38.]		Hudson (Bird, Coolah) Island	18º 03.1'S	146º 12.0'E
[50.]		North Island	18º 08.5'S	146º 16.8'E
[51.]		Tween Island	18º 08.4'S	146º 17.1'E
[52.]		Middle Island	18º 09.0'S	146º 17.3'E
[53.]		South (South Brook) Island	18º 09.5'S	146º 18.2'E
[48.]		Goold Island	18º 10.0'S	146º 10.2'E
[54.]	18-000-Y015	U/N Island	18º 10.1'S	146º 11.6'E
[58.]		<u>Garden Island</u>	18º 11.1'S	146º 08.6'E
[60.]	18-012-Y017		18º 11.4'S	146º 08.6'E
[56.]	18-000-Y018	U/N Island	18º 11.1'S	
[64.]		Channel Rock	18º 14.2'S	
[63.]	18-013-Y020	Eva Island	18º 14.2'S	
[69.]		Mangrove Island	18º 21.0'S	146º 07.5'E
[75.]	18-015-Y022	Agnes Island		146º 19.6'E
		Hinchinbrook Island		146º 15.0'E
[73.]	18-014-Y024	U/N Island		146º 20.0'E
[82.]	18-000-Y025	U/N Island		146º 21.1'E
	18-000-Y026		18º 28.4'S	146º 13.0'E
		Oyster Rock	18º 30.3'S	146º 17.9'E
		Pelorus (North Palm, Yanooa)		
		Island	18º 33.2'S	146º 29.7'E
[110 <b>.</b> ]	18-049-Y029	Orpheus (Goolboddi) Island	18º 37.0'S	146º 29.6'E
		Curacoa (Nooqoo) Island	18º 40.0'S	146º 33.2'E
		Fantome (Eumilli) Island	18º 41.2'S	146º 31.2'E
		Great Palm Island	18º 44.5'S	
-		Hayman Rock	18º 44.5'S	
	18-054-Y034		18º 45.6'S	
		Paluma Rock	18º 45.2'S	
	18-060-Y036		18º 46.6'S	
		/ Esk (Soopun) Island	18º 46.3'S	
		Falcon (Carbooroo) Island	18º 46.2'S	
		Eclipse (Garoogubbee) Island	18º 46.3'S	
[142•]	10-070-1073	· LETTHSE (Garooyunnee) ISTAIN	10 40.7 0	7140 72+1 C

[127.] 18-054-YO40 U/N Island	18º 46.7'S 146º 38.6'E	
[144.] 18-061-Y041 Barber (Boodthean) Islet	18º 46.7'S 146º 39.9'E	
[146.] 18-057-Y042 Albino (White) Rock	18° 46.4'S 146° 43.1'E	
[152.] 18-062-Y043 Brisk (Culgarool) Island	18º 47.2'S 146º 32.4'E	
	18º 47.5'S 146º 43.9'E	
[154.] 18-063-Y044 Chilcott Rocks	18° 49.8'S 146° 31.6'E	
[162.] 18-064-Y045 Fly Island	18º 50.5'S 146º 32.6'E	
[164.] 18-065-Y046 Havannah Island	18° 58.7'S 146° 37.1'E	
[187.] 18-067-Y047 U/N Rock		
[189.] 18-066-Y048 <u>Acheron Island</u>	18° 58.0'S 146° 38.3'E	
[192.] 18-068-Y049 Cordella Rocks	18º 59.8'S 146º 41.0'E	
	100.0010	-
	19º 00'S	
[195.] 19-001-Y001 <u>Bramble Rock</u>	19º 01.5'S 146º 37.7'E	
[203.] 19-002-Y002 Herald Island	19º 01.8'S 146º 38.1'E	
[199.] 19-004-Y003 U/N Rock	19º 02.3'S 146º 34.8'E	
[201.] 19-003-Y004 Rattlesnake Island	19º 02.1'S 146º 36.6'E	
[215.] 19-009-Y005 White Rock	19º 06.4'S 146º 50.0'E	
[223.] 19-006-Y006 Orchard Rocks	19º 06.7'S 146º 52.9'E	
[235.] 19-008-Y007 Burdekin Rock	19º 07.8'S 146º 42.5'E	
[230.] 19-007-Y008 Bay Rock	19º 07.1'S 146º 45.3'E	
[219.] 19-009-Y009 Magnetic Island	19º 08.4'S 146º 49.8'E	
[248.] 19-013-Y010 U/N Rock	19º 10.9'S 147º 03.6'E	
[254.] 19-015-Y011 Twenty Foot Rock	19º 11.9'S 147º 01.8'E	
[246.] 19-014-Y012 Four Foot Rock	19º 11.5'S 147º 02.9'E	
[249.] 19-013-Y013 U/N Rock	19º 11.1'S 147º 03.4'E	
[268.] 19-016-Y014 Bray Islet	19º 14.9'S 147º 04.0'E	
[270.] 19-017-Y015 Bare Islet	19º 15.6'S 147º 04.4'E	
[270.] 19-017-1019 Bald Islet	19° 16.5'S 147° 03.9'E	
[272.] 19-010-Y016 Bard Islet [282.] 19-000-Y017 Russel (Cape Bowling Green		
	19° 19.2'S 148° 06.8'E	
[278.] 19-045-Y018 U/N Boulder	19° 19.2'S 148° 08.0'E	
[279.] 19-045-Y019 U/N Boulder		
[280.] 19-045-Y020 U/N Boulder		
[281.] 19-045-Y021 U/N Boulder	19º 19.2'S 148º 07.4'E	
[284.] 19-000-Y022 <u>Sand Island</u>	19º 20.5'S 147º 22.4'E	
[307.] 19-048-Y023 U/N Boulder	19º 25.9'S 148º 06.8'E	
[308.] 19-048-Y024 U/N Boulder	19º 25.9'S 148º 08.0'E	
[368.] 19-100-Y025 <u>White Topped Rock</u>	19º 42.3'S 147º 45.0'E	
[388.] 19–103–Y026 <u>Holbourne Island</u>	19º 43.7'S 148º 21.5'E	
[399.] 19-104-Y027 Nares Rock	19° 46.3'S 148° 21.4'E	
[428.] 19-102-Y028 Camp Islet	19º 50.9'S 147º 54.1'E	
[450.] 19-105-Y029 U/N Rock	19º 53.4'S 148º 15.8'E	
[449.] 19-105-Y030 North Rock	19º 58.4'S 148º 15.9'E	
[456.] 19–106–YO31 Middle Island	19º 59.2'S 148º 21.9'E	
[458.] 19-110-Y032 Rattray Island	19° 59.7'S 148° 33.5'E	

ALPHABETICAL LISTING OF ISLANDS IN TOWNSVILLE SECTION

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#### ALPHABETICAL LISTING OF ISLANDS, ROCKS ETC. IN TOWNSVILLE SECTION

### <u>17º 48'S to 19º 59'S</u>

Runn- Inventory ing No. Code No.	Name	Latitude	Longitude
[189.] 18-066-Y048 [75.] 18-015-Y022		18° 58.0'S 18° 21.4'S 18° 46.4'S	146° 38.3'E 146° 19.6'E 146° 43.1'E
[270.] 19-017-Y015 [26.] 18-002-Y002 [230.] 19-007-Y008 [36.] 18-005-Y007 [195.] 19-001-Y001 [268.] 19-016-Y014	Barber (Boodthean) Islet Bare Islet Battleship Rock Bay Rock Bowden (Budg-joo) Island Bramble Rock Bray Islet Brisk (Culgarool) Island	19° 16.5'S 18° 46.7'S 19° 15.6'S 18° 00.6'S 19° 07.1'S 18° 02.6'S 19° 01.5'S 19° 14.9'S 18° 47.2'S 19° 07.8'S	147° 03.9'E 146° 39.9'E 147° 04.4'E 146° 09.4'E 146° 45.3'E 146° 11.8'E 146° 37.7'E 147° 04.0'E 146° 32.4'E 146° 42.5'E
[428.] 19-102-Y028 [64.] 18-013-Y019 [154.] 18-063-Y044 [33.] 18-004-Y006 [192.] 18-068-Y049 [118.] 18-052-Y030	Channel Rock Chilcott Rocks Coombe Island	19° 50.9'S 18° 14.2'S 18° 47.5'S 18° 02.4'S 18° 59.8'S 18° 40.0'S	147° 54.1'E 146° 19.1'E 146° 43.9'E 146° 10.5'E 146° 41.0'E 146° 33.2'E
[149.] 18-060-Y036 [ 7.] 17-053-Y002		18º 46.6'S 17º 56.7'S	146° 30.6'E 146° 09.4'E
	Eclipse (Garoogubbee) Island Esk (Soopun) Island Eva Island	18º 46.3'S 18º 46.3'S 18º 14.2'S	146° 33.1'E 146° 31.1'E 146° 19.3'E
		18° 46.2'S 18° 41.2'S 18° 49.8'S 19° 11.5'S	146° 31.9'E 146° 31.2'E 146° 31.6'E 147° 02.9'E
[58.] 18-011-Y016 [48.] 18-010-Y014 [125.] 18-054-Y032	Goold Island	18º 11.1'S 18º 10.0'S 18º 44.5'S	146° 08.6'E 146° 10.2'E 146° 36.6'E
[388.] 19-103-Y026	Hayman Rock Herald Island Hinchinbrook Island	18° 50.5'S 18° 44.5'S 19° 01.8'S 18° 22.0'S 19° 43.7'S 18° 03.1'S	146° 32.6'E 146° 41.5'E 146° 38.1'E 146° 15.0'E 148° 21.5'E 146° 12.0'E
[11.] 17-053-YOO4	Kumboola Island	17º 57.4'S	146° 08.5'E

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<pre>[219.] 19-009-Y009 [69.] 18-000-Y021 [52.] 18-008-Y012 [456.] 19-106-Y031 [ 9.] 17-053-Y001 [10.] 17-053-Y003</pre>	Mangrove Island Middle Island Middle Island	18° 18° 19° 17°	21.0'S 09.0'S 59.2'S	146° 146° 148° 146°	49.8'E 07.5'E 17.3'E 21.9'E 08.1'E 08.5'E
[399.] 19-104-Y027 [50.] 18-008-Y010 [449.] 19-105-Y030	North Island	180	46.3'S 08.5'S 58.4'S	146°	21.4'E 16.8'E 15.9'E
[223.] 19-006-Y006 [110.] 18-049-Y029 [95.] 18-047-Y027	Orpheus (Goolboddi) Island	180	06.7'S 37.0'S 30.3'S	146°	29.6'E
[136.] 18-056-Y035 [104.] 18-048-Y028	<u>Paluma Rock</u> <u>Pelorus (North Palm, Yanooa)</u> <u>Island</u>		45.2'S 33.2'S		42.0'E 29.7'E
[458.] 19-110-Y032 [22.] 18-001-Y001	Rattlesnake Island Rattray Island Richards (Bedarra) Island Russel (Cape Bowling Green) Isla	19º 18º	02.1'S 59.7'S 00.4'S 9 19.0'S	148º 146º	33.5'E 08.8'E
		19º 18º	20.5'S	147º 146º	08.6'E 22.4'E 11.9'E 18.2'E
[18.] 17-055-Y007 [51.] 18-008-Y011 [254.] 19-015-Y011	Tween Island	180	59.0'S 08.4'S 11.9'S	146°	08.1'E 17.1'E 01.8'E
[215.] 19-009-Y005 [368.] 19-100-Y025		19º 19º		146º 147º	09.9'E 50.0'E 45.0'E 10.7'E

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# GEOGRAPHICAL LISTING OF UNNAMED ISLANDS ETC. IN TOWNSVILLE SECTION

## <u>17º 48'S to 19º 59'S</u>

Runn- Inventory	Name	Latitude	Longitude
ing No. Code No.			- -
J			·····
[19.] 17-055-YOO5	II/N Island	17º 58.8'S	146º 08.4'E
[24.] 18-001-Y008		17º 59.8'S	146° 09.01'E
[28.] 18-000-Y004	-	18º 02.2'S	146° 03.0'E
[29.] 18-000-Y005		18º 02.1'S	146º 03.2'E
[54.] 18-000-Y015		18º 10.1'S	146º 11.6'E
[56.] 18-000-Y018	-	18º 11.1'S	146º 08.7'E
[73.] 18-014-Y024		18º 22.5'S	146º 20.0'E
[82.] 18-000-Y025		18º 25.6'S	146º 21.1'E
[90.] 18-000-Y026		18º 28.4'S	146º 13.0'E
[126.] 18-054-Y034		18º 45.6'S	146º 41.6'E
[127.] 18-054-Y040		18º 46.7'S	146º 38.6'E
[187.] 18-067-Y047		18º 58.7'S	146º 37.1'E
[199.] 19-004-Y003		19º 02.3'S	146º 34.8'E
[248.] 19-013-Y010	U/N Rock	19º 10.9'S	147º 03.6'E
[249.] 19-013-Y013	U/N Rock	19º 11.1'S	147º 03.4'E
[278.] 19-045-Y018	U/N Boulder	19º 19.2'S	148° 06.8'E
[279.] 19-045-Y019	V U/N Boulder	19º 19.2'S	148° 07.0'E
[280.] 19-045-Y020	U/N Boulder	19º 19.2'S	148° 07.2'E
[281.] 19-045-Y021	U/N Boulder	19º 19.2'S	148º 07.4'E
[307.] 19-048-Y023	5 U/N Boulder	19º 25.9'S	148° 06.8'E
[308.] 19-048-Y024	U/N Boulder	19º 25.9'S	148° 08.0'E
[450.] 19-105-Y029	U/N Rock	19º 53.4'S	148º 15.8'E

GEOGRAPHIC INDEX OF ISLAND RESORTS IN TOWNSVILLE SECTION - 122 -

# GEOGRAPHIC INDEX OF ISLAND RESORTS IN TOWNSVILLE SECTION 17° 48'S to 19° 59'S

Runn- Inventory Resort ing No. Code No.	Name	Resort Island	Latitude & Longitude
[ 8.] 17-053-Z002 <u>Dunk Is</u>	land Resort	Dunk Island	17º 56.7'S 146º 09.4'E
[23.] 18-001-Z001 <u>Bedarra</u>	Island Hideaway Resort	Bedarra Island	18º 00.4'S 146º 08.8'E
[72.] 18-014-Z023 <u>Cape Ri</u>	chards Resort	Hinchinbrook Island	18º 22.0'S 146º 15.0'E
[111.] 18-049-Z029 <u>Orpheus</u>	Island Resort	Orpheus (Goolboddi) Island	18º 37.0'S 146º 29.6'E
[220.] 19-009-Z009-1 <u>Medit</u>	erranean Holiday Village	e Magnetic Island	19º 08.4'S 146º 49.8'E
[221.] 19-009-Z009-2 <u>Radic</u>	al Bay Resort	Magnetic Island	19° 08.4'S 146° 49.8'E