

8 MACKAY TRC

The Mackay TRC consists of the main urban centre of Mackay and smaller towns to the north including Cale, towns to the west including Finchhatten and towns to the south including St Lawrence.

BUSINESS PROFILES

Location and Use of Ports

Table 8.1 shows the number of license holders within the Mackay TRC and the number of survey respondents who reported having homeports within the TRC. On the basis of the sample count, it is estimated that there are 14 commercial harvesters within this TRC and there is a 95% confidence level that the correct population count is between 8 and 22. Figure 1 shows the geographic location of this TRC.

Table 8.1 Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Mackay UC	6	5	7	53.0
Sarina	2	2	3	20.0
Carmila	1	1	2	13.0
Alexandra	0	1	2	13.0
Total TRC	9	9	14	100.0
95% Confidence Interval for Estimated TRC Count				8-22
Percent of Total Active License Holders in QLD				8.9%

Note: Mackay Urban Centre (UC) includes Slade Point, North Mackay, Mackay, West Mackay, East Mackay, South Mackay, Blacks Beach, Eimeo, Shoal Point, Beaconsfield, Glenella, Farleigh, Walkerston, Bucasia, Andergrove and Pioneer River. Sarina includes Sarina Beach. Adjusted database count is based on the postal address as recorded in the licensing information, which may not be the homeport of the harvesting businesses. The adjusted database count reduces the count for latent license holders (22.5%). The estimated count adjusts the sample count by the sampling fraction of 1.525.

No other harvesters in Queensland used Mackay as a port.

Harvesting Activity and Type

Table 8.2 shows the type of harvesting activity undertaken by harvesting businesses within the Mackay TRC over the previous year. The collection of aquarium fish, shells, grit, and/or coral (78%) was the primary activity, followed by trochus and seacucumber (11%) and sandworms (11%). Harvesters from this TRC did not collect bloodworms, tubeworms or yabbies.

Table 8.2 Type of Harvesting Activity

Harvest Type	Sample Count	Percent within TRC
Aquarium fish, coral, shells, grit	7	77.8
Trochus and seacucumber	1	11.1
Sand worms	1	11.1
Bloodworms, yabbies & tubeworms	0	0.0
Tourist collections	0	0.0
Total Sample	9	100.0

Note: This is a multiple response table where all rows are independent.

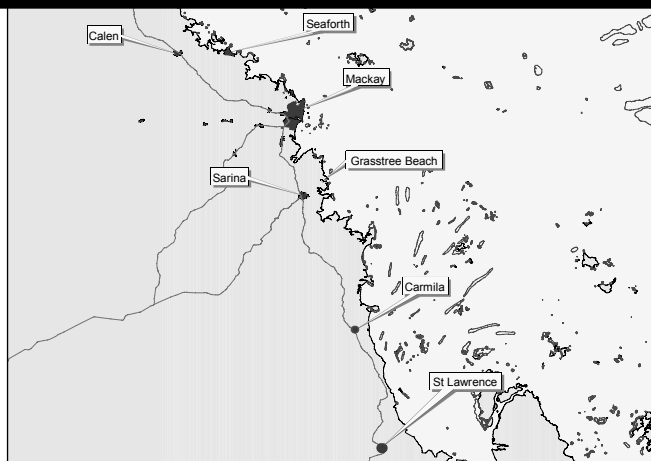


Figure 8.1 Location of the Mackay TRC

Table 8.3 shows that the peak months in this TRC were November, as well as June to August. The peak season for the overall Queensland fishery was between November and January.

Table 8.3 Peak Harvesting Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	2	25.0	37.6
February	1	12.5	18.8
March	1	12.5	15.3
April	2	25.0	21.2
May	0	0.0	12.9
June	3	37.5	18.8
July	3	37.5	28.2
August	3	37.5	31.8
September	1	12.5	28.2
October	2	25.0	30.6
November	4	50.0	34.1
December	2	25.0	48.2

Table 8.4 provides a more detailed description of the seasonal variation in harvesting activities by businesses in the Mackay TRC. Aquarium harvesting was most common between June and August, which was slightly earlier than the average Queensland season. Trochus and seacucumber were harvested only in October, November, and January, which coincided with, but was shorter than, the average Queensland peak season. Sandworms were collected between October and March. The peak months for the average Queensland sandworm season were December and January.

Location of Resource Use

Figure 8.2 shows the location of resource use by harvesting operations in the Mackay TRC. The location of resource use was predominantly in the Whitsunday Islands, as well as the outer reefs north and southeast of the islands.

Harvesting Industry Businesses

Table 8.5 identifies the number of harvesters within the Mackay TRC for the previous year. The majority of businesses had one full-time employee (the owner-operator) (62.5%). There was little part-time (37.5%) or casually (25%) employment, however 12.5% of businesses had over ten casual employees. The average number of fulltime equivalent employees was 2.5 per business. In total it is estimated that there were 54 harvesters in the Mackay TRC over the previous year.

Table 8.4 Seasonal Variations in Harvesting Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Aquarium fish, grit and shells			
January	1	16.7	21.2
February	1	16.7	18.2
March	1	16.7	21.2
April	0	0.0	15.2
May	2	33.3	18.2
June	3	50.0	27.3
July	3	50.0	30.3
August	3	50.0	42.4
September	1	16.7	27.3
October	1	16.7	39.4
November	2	33.3	42.4
December	1	16.7	24.2

Note: *Trochus, seacucumber and sandworm* information is not included since the sample sizes were too small

Business Ownership and Size

Table 8.6 shows the number of years the current owner-operator has had the harvesting business. Most businesses had been owned between 6-10 years (55.5%) and 78% of businesses were owned for less than 10 years. On average, businesses within the Mackay TRC have been owned for 10 years, which is 2 years less than the average Queensland harvesting business (12 years).

Table 8.6 Number of Years of Current Ownership of the Harvesting Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	22.2	22.2
6-10	5	55.5	77.7
11-15	1	11.1	88.8
16-20	0	0.0	88.8
21-25	1	11.1	100.0
26-30	0	0.0	0.0
31+	0	0.0	0.0
Total	9	100.0	100.0

Mean Number of Years owned 10.0
Difference of TRC Mean to QLD Mean (12.0) -2.0

Note: *Standard errors for number of years ownership (sample = 2.1; QLD population = 0.9).*

Table 8.5 Number of Harvesters

Number of Harvesters	Full-Time Count	Full-Time Percent	Part-Time Count	Part-Time Percent	Casual Count	Casual Percent
Nil	3	37.5	5	62.5	5	62.5
1	5	62.5	3	37.5	2	25.0
2-3	0	0.0	0	0.0	0	0.0
4-5	0	0.0	0	0.0	0	0.0
6-10	0	0.0	0	0.0	0	0.0
10+	0	0.0	0	0.0	1	12.5
Total Businesses	8	100.0	8	100.0	8	100.0
Total Harvesters	5		3		27	
Mean Number of Fulltime Harvesters per Business			2.5			
Estimated Number Employed within the TRC			54			

Note: *Part-time and casual employment is recorded as 0.5 when contributing to total employment. Total number of harvesters includes the respondent. Estimates of total employment based on an estimated 15 harvesting businesses (Table 8.1)*

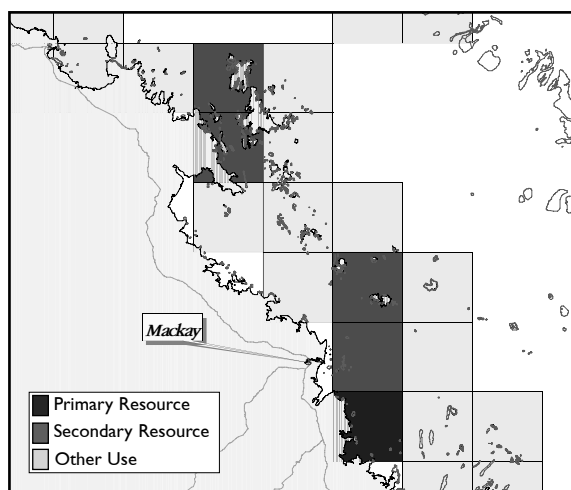


Figure 8.2 Mackay TRC: Location of Resource Use

Table 8.7 shows the number of years of operation of the harvest business, regardless of the owner. Businesses in the Mackay TRC have been operating for the same number of years as current ownership (10 years), which is 2.4 years less than the average Queensland harvesting business (12.4 years).

Table 8.7 Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	22.2	22.2
6-10	5	55.5	77.7
11-15	1	11.1	88.8
16-20	0	0.0	88.8
21-25	1	11.1	100.0
26-30	0	0.0	0.0
31+	0	0.0	0.0
Total	9	100.0	

Mean Number of Years owned or operated 10.0
Difference of Mean to Population Mean (12.4) -2.4

Note: *Standard errors for number of years operated (sample = 2.1; QLD population = 0.4)*

Table 8.8 shows that the majority of harvest businesses within the Mackay TRC operated with one boat (56%), and that over 22% of businesses did not use a boat. The average number of boats used in the Mackay TRC was 1.3, similar to the Queensland average (1.4).

Table 8.8 Number of Boats Operated by Harvesting Businesses

Number of Boats	Sample Count	Percent TRC
0	2	22.2
1	5	55.6
2	1	11.1
3	0	0.0
4+	1	11.1
Total Number of Businesses	9	100.0
Mean Number of Boats Operated		1.3
Difference of Mean to QLD Population Mean (1.4)		-0.1

Note: Standard errors for number of boats operated (sample = 0.5; QLD population = 0.1)

Table 8.9 shows the length of boats operated by businesses within the Mackay TRC. The majority of boats (58.3%) were small, varying in length between 2 and 6 metres. Nearly 25% were between 7-10 metres. The mean length of boats (7.7m), however, was larger than the Queensland average (7.4m), as was the mean length of the largest vessel owned (9.9m) compared with the Queensland average (7.6m).

Table 8.9 Length of Boats Operated by Businesses

Length of Boat (metres)	Sample Count	Percent TRC
2-6	7	58.3
7-10	3	24.9
11-14	1	8.3
15-18	0	0.0
18-24	1	8.3
24+	0	0.0
Total Number of Boats	12	100.0
Mean Length of Boats Operated (metres)		7.7
Difference of Mean to QLD Population Mean (7.4)		+0.3
Mean Length of Largest Boat Operated (metres)		9.9
Difference of Mean to QLD Population Mean (7.6)		+2.3

Note: Standard errors for mean length of boats (sample = 1.6 QLD population=0.1)
Standard errors for mean length of largest boats (sample = 2.5; QLD population=0.4)

Value of Production and Location of Sales

Table 8.10 shows the wholesale value of all products sold by harvesting businesses within the Mackay TRC for the 12 months prior to the survey. A majority of businesses (44.4%) produced less than \$50,000.

Harvest businesses in the Mackay TRC had an estimated gross value of production of approximately \$1.1 million, which was approximately 7.3% of the total value of production of the Queensland commercial harvesting industry.

Table 8.10 Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$25	3	33.3	45.9
\$25-50	1	11.1	24.5
\$50-75	3	33.3	8.2
\$75-100	0	0.0	5.1
\$100-125	0	0.0	5.1
\$125-150	0	0.0	0.0
\$150-175	0	0.0	2.0
\$175-200	1	11.1	2.0
\$200+	1	11.1	7.2
Total	9	100.0	100.0

Median GVP for TRC	\$50,000
Estimated Total GVP for TRC	\$1,065,000
Estimated Total GVP for QLD Population	\$14,554,000
Percent of Total Queensland Production	7.3%

Note: Estimated TRC population total is based on the sample GVP total multiplied by the sampling fraction of 1.524
Queensland total GVP based on sampled GVP from all TRCs multiplied by the sampling fraction of 1.524

Table 8.11 shows the value and location of sales for businesses within the Mackay TRC. The estimated value of harvest products sold within Australia was \$710,000. Some 33% of products were exported overseas, estimated at \$355,000. Most of the product sold in Australia was sold to Brisbane (54%) and Mackay (22.2%).

Table 8.11 Sales to Customers

Location of Sales	Sample Value of Sales (\$'000)	Mean Percent	Estimated Value (\$'000)
Brisbane	254	54.4	386
Mackay	104	22.2	158
Melbourne	52	11.1	79
Cairns	31	6.7	48
Sydney	26	5.5	39
Total Sales (in Aust.)	467	66.7	710
Total Sales (Overseas)	233	33.3	355
Total Sales	700	100.0	1,065

Note: The sample value of sales is based on GVP as reported by businesses in the survey.
The estimated value of business sales is proportionally distributed to all locations on the basis of sample percentages.
Source: CRC Reef (2000)

Business Expenditure

Table 8.12 shows that an estimated \$555,000 was spent on business goods and services (excluding salaries and wages) by harvesters in the Mackay TRC over the previous year. The majority of this expenditure (73.4%) occurred in Mackay (estimated at \$407,000), with some being spent in Brisbane (11.8%) and Hervey Bay (8.3%).

Table 8.12 Town Location of Business Expenditure
(All costs, excluding salaries and wages)

Location of Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Value (\$'000)
Mackay	269	73.4	407
Brisbane	43	11.8	65
Hervey Bay	30	8.3	46
Maryborough	6	1.6	9
Bowen	3	1.0	6
Other towns (<1%)	14	3.1	22
Total Expenditure	365	100.0	555

Note: Business expenditure includes all non labour expenditure (ie. fuel, equipment, repairs etc)
Coefficients from the QLD input-output table for 1992-1993 indicate that expenditure on local intermediate purchases and imports, accounted for 52.1% of total revenue. The amount of business expenditure occurring within specific locations is based on 52.1% of the estimated GVP for the business.

Source: CRC Reef (2000)

HARVESTER PROFILES

Town of Residence

Table 8.13 shows the towns of residence for harvesters from the Mackay TRC. Harvesters in this TRC resided primarily within the town of Mackay (55.6%). Other harvesters lived in Armstrong Beach (11.1%), Carmila (11.1%), Sarina (11.1%) and Hervey Bay (11.1%).

Table 8.13 Town of Residence

Town of Residence	Sample Count	Percent of Sample
Mackay	5	55.6
Armstrong Beach	1	11.1
Carmila	1	11.1
Sarina	1	11.1
Hervey Bay	1	11.1
Total	9	100.0

Months Employed in the Harvesting Industry

Table 8.14 shows the months in which harvesters were employed over the previous year. The majority of owner-operators within the Mackay TRC worked especially during November. The minimum percentage of harvesters working during other months of the year (66.7%) was lower than the Queensland average (82.3%).

Table 8.14 Months Employed in the Harvesting Industry During the Past 12 Months

Months	Owner/ Operators	All QLD
January	77.8	85.4
February	66.7	91.3
March	66.7	84.4
April	66.7	82.3
May	77.8	85.4
June	77.8	82.3
July	77.8	86.5
August	66.7	87.5
September	77.8	89.6
October	77.8	87.5
November	88.9	90.6
December	77.8	90.6

Location of Household Expenditure

Table 8.15 shows the estimated value and location of household expenditure by harvesters in the Mackay TRC. An estimated \$269,000 was spent on household items. Over 81% of expenditure occurred in Mackay. Around 10% was also spent in Hervey Bay, 5.7% in Sarina, and 2.6% in Maryborough.

Table 8.15 Town Location of Household Expenditure (all commodities and services)

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Est. Value of Expenditure (\$'000)
Mackay	144	81.2	219
Hervey Bay	18	10.5	28
Sarina	10	5.7	15
Maryborough	4	2.6	7
Total Expenditure	\$176	100.0	\$269

Note: The sample total personal income for the Mackay TRC was \$229,500 (average income multiplied by a sample size of 9). The Household Expenditure Survey for Queensland: 1993-1994 (ABS, 1996) indicates that for households in non-metropolitan areas 79% of gross weekly income was related to commodity and service purchases. Furthermore, of the total expenditure on commodities and services purchased by households, Queensland Input-Output tables indicate that 77% of expenditure occurs within Queensland, with the balance contributing to taxes and imports from outside Queensland. The sample value of expenditure was therefore calculated to be \$176,500. Estimated value of expenditure was calculated by multiplying the sample value of expenditure by 1.525

School and Employment Locations of Family Members

The town locations in which family members attended school or were employed are shown in Table 8.16. The main locations were Mackay (27.8%) and Brisbane (16.7%). Several family members also attended school or work in Armstrong Beach (11.1%), Hervey Bay (11.1%), Sarina (11.1%), Townsville (11.1%), Carmila (5.6%) and Sydney (5.6%).

Table 8.16 School and Employment Locations of Family Members

Location	Sample Count	Percent of Sample
Mackay	5	27.8
Brisbane	3	16.7
Armstrong Beach	2	11.1
Hervey Bay	2	11.1
Sarina	2	11.1
Townsville	2	11.1
Carmila	1	5.6
Sydney	1	5.6
Total Family Members	18	100.0

Note: Counts and percentages based on all family members.

Owner-Operator Social and Demographic Profiles

Table 8.17 provides profile information of harvesters within the Mackay TRC. Harvesters were generally similar to the average Queensland harvesters. Harvesters in the Mackay TRC, however, had not been in the industry for as long, worked fewer hours per week, were more likely to work in another industry, had worked in another industry, had fewer dependents, and earned less than the average Queensland harvester.

Table 8.17. Owner-Operator Profiles for the Mackay TRC

Profile	Owner/ Operators	All QLD Employees
Estimated Number of Harvesters	14	163
Mean age of fisher	47.1	46.9
Age range	27-65	21-72
Percent males	88.9	93.9
Mean years resident in town	19.0	19.5
Mean number of years in harvesting industry	12.1	16.4
Median hours per week in harvesting industry	20.0	29.0
Percent moved town to retain employment	0.0	14.4
Percent currently employed in other industry	44.4	37.8
Percent previously employed in other industry	100	87.6
Housing tenure (%)		
Rent	22.2	33.0
Mortgage	11.1	24.7
Own home	66.7	42.3
Other (eg, live with parents, on boat)	0.0	0.0
Educational		
Year completed school (%)		
Primary school	11.1	13.7
Year 8	11.1	6.3
Year 9	11.1	10.5
Year 10	33.3	27.4
Year 11	11.1	9.5
Year 12	22.2	32.7
Percent completed trade or TAFE certificate	33.3	24.7
Percent completed industry or business course	0.0	11.9
Percent with business plan	44.4	29.6
Marital Status		
Percent married or relationship	66.7	64.3
Partner' Income*		
Full-time employment	33.3	39.1
Part-time employment	50.0	25.0
Casual employment	0.0	9.4
Not employed	16.7	26.6
Family Composition		
Mean family size	1.4	2.1
Estimated number of total family members	13.0	215
Dependency Ratios		
Age Dependency Ratio**	4.8	19.6
Elderly Dependency Ratio	4.8	2.3
Child Dependency Ratio	0.0	17.3
Family Member Industry Dependency Ratio***	14.3	14.7
Gross Individual Income (%)		
Less than \$16,000	37.5	25.0
\$16,000 - \$26,000	12.5	19.3
\$26,000 - \$36,000	37.5	15.9
\$36,000 - \$52,000	0.0	23.9
\$52,000 - \$78,000	12.5	8.0
Over \$78,000	0.0	8.0
Average Income (\$)	\$25,500	\$33,600

Note: * Percentage based on those fishers with partners. Includes partners income from all sources.

**The age dependency ratio is the number of children (below 15 years) and elderly persons (above 65 years) to every 100 persons in the population.

*** The industry dependency ratio is the number of persons in the family who are over 15 years of age and working in the harvest industry (excluding the direct industry employee) as a proportion of all family members over 15 years of age.

