

16 BOWEN TRC

The Bowen TRC consists of the main urban centre of Bowen situated to the north of the Whitsunday Islands (Figure 16.1).

BUSINESS PROFILES

Location and Use of Ports

Table 16.1 shows the number of licence holders within the Bowen 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 70 commercial fishers within this TRC and that we can be 95% confident that the population count of commercial fishers within the TRC is between 54 and 86.

Table 16.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Bowen	65	28	68	97.1
Gappalunga	0	1	2	2.9
Total TRC	65	29	70	100.0
95% Confidence Interval for Estimated TRC Count			54-86	
Percent of Total Active Licence Holders in QLD			2.9%	

Note: Adjusted database count is based on the postal address as recorded in the licencing information, which may not be the homeport of the fishing business. The adjusted database count reduces the count for latent licence holders (8.8%)
The estimated count adjusts the sample count by the sampling fraction of 2.444.

In addition to the use of Bowen as a homeport, numerous fishing businesses used the port of Bowen when travelling to or from fishing areas. Table 16.2 shows the majority of these businesses having their homeports in Bundaberg (19%), Townsville (19%) and Mackay (15%) and a wide range of other towns along the Queensland coast.

Table 16.2
Homeports of Businesses Using Bowen as a Port

Homeports	Sample Count	Percent
Bundaberg	8	19.5
Townsville	8	19.5
Mackay	6	14.6
Gladstone	4	9.8
Gold Coast	2	4.9
Hervey Bay	2	4.9
Southport	2	4.9
Amity Point	1	2.4
Cooktown	1	2.4
Glen Lomond	1	2.4
Lucinda	1	2.4
Mooloolaba	1	2.4
New South Wales	1	2.4
Stadbroke Island	1	2.4
Tin Can Bay	1	2.4
Urangan	1	2.4
Total Businesses	41	100.0

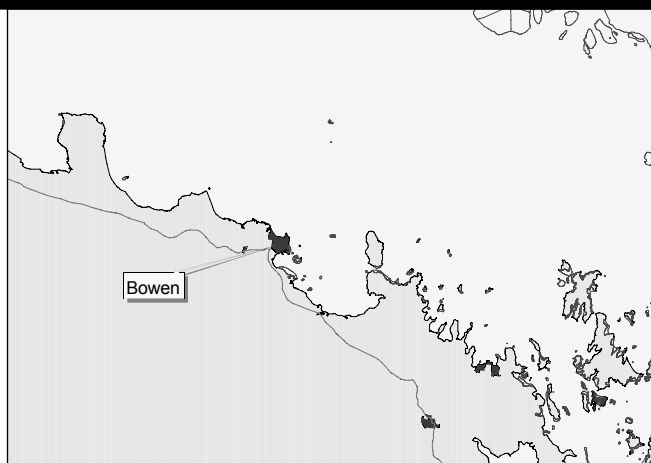


Figure 16.1 Location of the Bowen TRC

Fishing Activity and Type

Table 16.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Line fishing (86%) is the primary fishing activity by businesses from the Bowen TRC, followed by netting (41%), trawling (38%) and crabbing (31%).

Table 16.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Line fishing	25	86.2
Netting	12	41.4
Trawling	11	37.9
Crabbing	9	31.0
Total Sample	77	100.0

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

As shown in Table 16.4, trawling co-occurs predominantly with line fishing (73%). Crabbing co-occurs with line fishing (78%) and netting (89%), while netting co-occurs with line fishing (92%) and crabbing (67%).

Table 16.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	25 <i>100.0</i>	8 <i>72.7</i>	7 <i>77.8</i>	11 <i>91.7</i>
Trawling	8 <i>32.0</i>	11 <i>100.0</i>	3 <i>33.3</i>	5 <i>41.7</i>
Crabbing	7 <i>28.0</i>	3 <i>27.3</i>	9 <i>100.0</i>	8 <i>66.7</i>
Netting	11 <i>44.0</i>	5 <i>45.5</i>	8 <i>88.9</i>	12 <i>100.0</i>

Note: The co-occurrence table should be read by column. Column percentages are given as italics.

Table 16.7
Number of Employees

Number of Employees	Full-Time Count	Full-Time Percent	Part-Time Count	Part-Time Percent	Casual Count	Casual Percent
Peak Season						
Nil	2	6.9	22	75.9	23	79.3
1	8	27.6	2	6.9	3	10.3
2-3	11	37.9	3	10.3	2	6.9
4-5	7	24.1	0	0.0	1	3.4
6-7	1	3.4	1	3.4	0	0.0
8-9	0	0.0	1	3.4	0	0.0
Total Businesses	29	100.0	29	100.0	29	100.0
Total Employees	71		11		6.5	
Mean Number of Employees per Business (Peak)		3.1				
Estimated Number Employed within the TRC		217				
Off-Peak						
Nil	2	7.1	24	85.7	25	89.3
1	11	39.3	1	3.6	2	7.1
2-3	9	32.1	2	7.1	0	0.0
4-5	5	17.9	0	0.0	1	3.6
6-7	1	3.6	1	3.6	0	0.0
8-9	0	0.0	0	0.0	0	0.0
Total Businesses	28	100.0	28	100.0	28	100.0
Total Employees	61		6		3.5	
Mean Nos Employees per Business (Off-Peak)		2.5				
Estimated Number Employed within the TRC		175				

Note: Part-time and casual employment is recorded as 0.5 when contributing to total employment.
Total number of employees includes the owner-operator and is the number of full-time equivalent employees.
Estimates of total employment based on an estimated 70 fishing businesses (Table 16.1)

Location of Resource Use

Figure 16.2 shows the location of resource use by commercial fishing operations in the Bowen TRC. The primary resource catchment includes coastal areas between the Whitsunday Islands in the south and Cape Bowling Green in the north. In addition, Figure 16.2 also shows the primary catchment as being located on the inner reefal areas immediately adjacent to the Bowen TRC. The secondary resource catchment extends from many coastal and reefal areas from east of Mackay in the south to east of Cape Cleveland in the north.

There is also some indication of a secondary catchment occurring to the east of Hinchinbrook Island (Figure 16.2).

Fishing Industry Employees

Table 16.7 identifies the number of employees of commercial fishing businesses within this TRC for both peak and off-peak seasons. The majority of businesses within peak and off-peak seasons had between one and three full-time employees (which would include the owner or operator). There is little part-time or casual employment by these businesses. The average number of employees per business during the peak

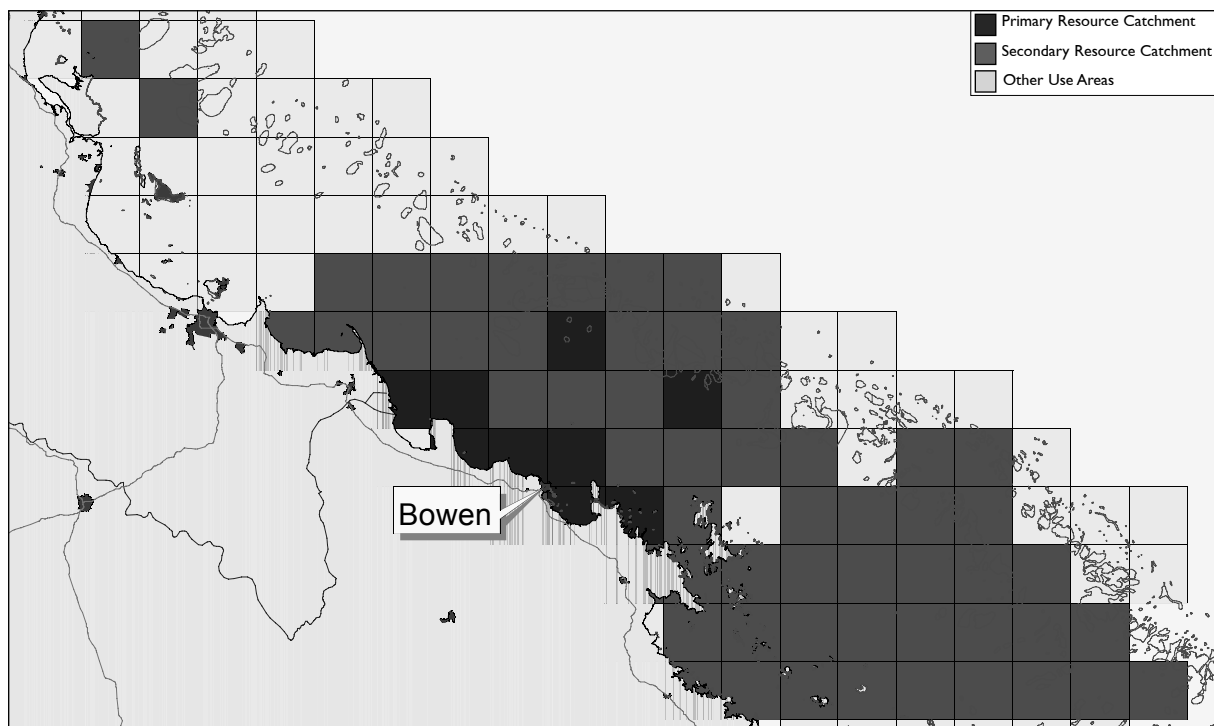


Figure 16.2 Bowen TRC: Location of Resource Use

season was 3.1 employees per business and in the off-peak season it was 2.5. In total, it is estimated that during the peak season there were 217 full-time equivalent employees while during the off-peak season there were an estimated 175 full-time equivalent employees.

Table 16.5 shows the peak months for fishing activity within the TRC to be between November and January to March.

Table 16.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	10	40.0	24.5
February	8	32.0	29.7
March	10	40.0	43.9
April	7	28.0	42.8
May	7	28.0	38.1
June	8	32.0	33.5
July	5	20.0	23.9
August	5	20.0	19.9
September	8	32.0	23.5
October	8	32.0	24.8
November	11	44.0	26.2
December	7	28.0	21.4

Table 16.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between May and December, trawling between January and March, crabbing between February and April and netting between June and September (Table 16.6).

Business Ownership and Size

Table 16.8 shows the number of years the current owner or operator has owned the fishing business. On average, businesses within this TRC had been owned for an average of 10.7 years, with 68% of businesses being owned by the current owner for less than 10 years.

Table 16.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	12	42.8	42.8
6-10	7	25.0	67.8
11-15	3	10.7	78.5
16-20	1	3.6	82.1
21-25	3	10.7	92.8
26-30	0	0.0	92.8
31+	2	7.1	100.0
Total	28	100.0	
Mean Number of Years owned or operated			10.7
Difference of TRC mean to QLD mean (14.6)			-3.9

Note: Standard errors for number of years ownership (sample = 2.0; QLD population = 0.37).

Table 16.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	14	56.0	64.6
February	13	52.0	64.3
March	13	52.0	68.1
April	13	52.0	70.4
May	19	76.0	74.7
June	19	76.0	78.7
July	19	76.0	82.0
August	19	76.0	80.8
September	23	92.0	79.7
October	23	92.0	79.7
November	24	96.0	78.2
December	19	76.0	70.6
Trawling			
January	9	81.8	76.0
February	9	81.8	79.0
March	9	81.8	91.2
April	8	72.7	91.6
May	8	72.7	89.3
June	8	72.7	88.7
July	7	63.6	82.7
August	7	63.6	83.1
September	8	72.7	85.0
October	8	72.7	84.4
November	7	63.6	85.0
December	6	54.5	77.1
Crabbing			
January	5	55.6	74.7
February	8	88.9	79.0
March	8	88.9	75.1
April	6	66.7	69.4
May	5	55.6	67.2
June	4	44.4	58.5
July	4	44.4	52.0
August	4	44.4	50.2
September	5	55.6	53.3
October	4	44.4	55.9
November	4	44.4	66.4
December	4	44.4	72.1
Netting			
January	4	33.3	57.5
February	7	58.3	72.9
March	8	66.7	73.9
April	8	66.7	74.2
May	7	58.3	77.6
June	10	83.3	79.9
July	10	83.3	75.9
August	10	83.3	73.9
September	9	75.0	69.6
October	6	50.0	64.2
November	4	33.3	55.9
December	3	25.0	54.5

The average number of years the business had been operating was 14.7 years (Table 16.9), which was 3.5 years less than the average for all Queensland fishing businesses (18.2 years).

Table 16.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	8	29.6	29.6
6-10	5	18.5	48.1
11-15	4	14.8	62.9
16-20	3	11.1	74.0
21-25	2	7.4	81.4
26-30	2	7.4	88.9
31+	3	11.1	100.0
Total	27	100.0	
Mean Number of Years owned or operated			14.7
Difference of TRC mean to QLD mean (18.2)			-3.5

Note: Standard errors for number of years operated (sample = 2.3; QLD population = 0.46)

Table 16.10 shows that the majority of fishing businesses within this TRC operated one boat (65%).

Table 16.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	19	65.5
2	4	13.8
3	3	10.3
4	1	3.4
5	0	0.0
6+	2	6.8
Total Number of Businesses	29	100.0
Mean Number of Boats Operated		1.8
Difference of TRC mean to QLD mean (1.7)		+0.1

Note: Standard errors for number of boats operated (sample = 0.3; QLD population = 0.05)

Table 16.11 shows the frequency distribution for length of boats, with 51% of boats being between 3 and 6 metres and a further 22% of boats being between 7 and 10 metres. The mean length of all boats and the mean length of the largest boat were also slightly lower than that of all boats in Queensland.

Table 16.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	28	50.9
7-10	12	21.8
11-14	8	14.5
15-18	5	9.1
19-22	1	1.8
23+	1	1.8
Total Number of Boats	55	100.0
Mean Length of Boats Operated (metres)		8.5
Difference of TRC mean to QLD mean (9.9)		-1.4
Mean Length of Largest Boat Operated (metres)		10.3
Difference of TRC mean to QLD mean (11.4)		-1.1

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.7; QLD population=0.14)

Value of Production and Location of Sales

Table 16.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Bowen TRC. In the Bowen TRC there is a higher percentage of businesses with production values between \$200,000 and \$300,000 per annum (28%) when compared to Queensland (16%). In addition, the median GVP for the Bowen TRC is somewhat higher than the Queensland median GVP.

Within the Bowen TRC it is estimated that the 70 fishing businesses had a gross value of production of approximately \$10.6 million, which is approximately 3.4% of the total value of production of the Queensland commercial fishing industry.

Table 16.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	13	44.8	42.8
\$101 - \$200	5	17.2	21.4
\$201 - \$300	8	27.6	16.2
\$301 - \$400	2	6.9	8.5
\$401 - \$500	0	0.0	3.8
\$501 - \$600	0	0.0	1.8
\$601 - \$700	0	0.0	1.3
\$701 - \$800	0	0.0	0.4
\$801 - \$900	0	0.0	1.0
\$901 - \$1,000	0	0.0	0.3
Over \$1,000	0	0.0	2.3
Total	29	100.0	100.0
Median GVP for TRC			\$150,900
Estimated Total GVP for TRC			\$10,563,000
Median GVP for QLD Population			\$128,629
Estimated Total GVP for QLD Population			\$314,241,000
Percent of Total Queensland Production			3.4%

Note: Estimated TRC population total is based on an estimate of 70 businesses within the TRC, with a median GVP of \$150,900. Queensland total GVP based on 2,443 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 16.13 shows the value of sales to specific locations within Australia for the sample of 29 businesses and the percentage of sales to each location. The sample percent of sales to each location has been used directly to estimate the total value of business sales to all locations. From Table 16.13, and as shown in Figure 16.3, 31% of sales (\$3.3 million) occurs directly to Bowen, \$1.3 million to Brisbane, while a further \$0.9 million is sold to the Gold Coast. It is probable that much of the sales to overseas markets (\$4.4 million) occurred firstly within Bowen and Brisbane, thereby increasing the total value of sales within these locations.

Table 16.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Bowen	1,024	30.9	3,264
Brisbane	419	12.6	1,331
Gold Coast	301	9.1	961
Townsville	79	2.4	254
Cairns	65	2.0	211
Bundaberg	30	0.9	95
Ayr	10	0.3	32
New South Wales	8	0.2	21
Mackay	4	0.1	11
Total Sales (Australia)	1,940	58.6	6,190
Total Sales (Overseas)	1,372	41.4	4,373
Total Sales	3,312	100.0	10,563

Note: The sample value of sales is based on GVP as reported by businesses in the survey.
The estimated value of business sales (Table 16.13) is proportionally distributed to all locations on the basis of sample percentages.

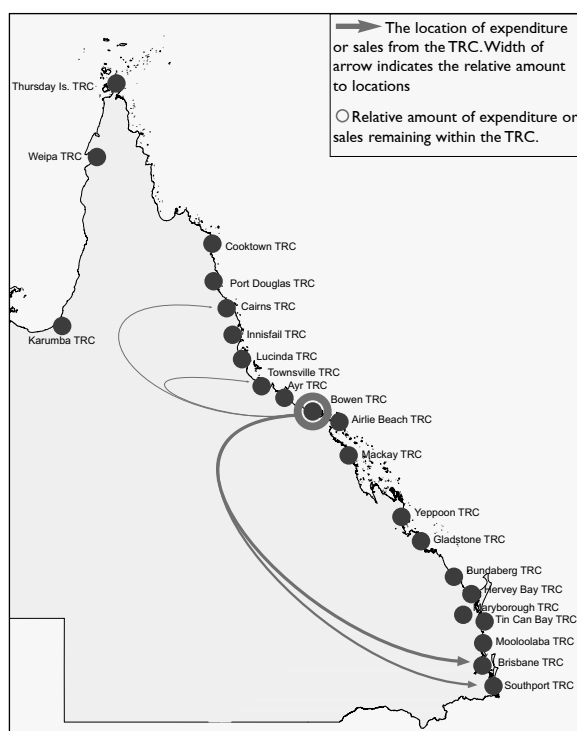


Figure 16.3 Bowen TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 16.14 shows that approximately \$5.5 million was spent by businesses in this TRC within the previous year on business goods and services (excluding salaries and wages). The majority of this expenditure occurred in the town of Bowen (\$4 million).

Table 16.14
Town Location of Business Expenditure
(All costs, excluding salaries and wages)

Location of Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Bowen	1,687	73.4	4,039
Townsville	178	7.7	424
Brisbane	167	7.3	402
Cairns	86	3.7	204
Innisfail	46	2.0	110
Mackay	44	1.9	105
Airlie Beach	25	1.1	61
Bundaberg	20	0.9	50
Gladstone	20	0.9	50
Yeppoon	20	0.9	50
Proserpine	2	0.1	6
Home Hill	1	0.1	6
New South Wales	1	0.1	6
Rockhampton	1	0.1	6
Total Expenditure	2,296	100.0	5,503

Note: Business expenditure includes all non labour expenditure (i.e., 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.

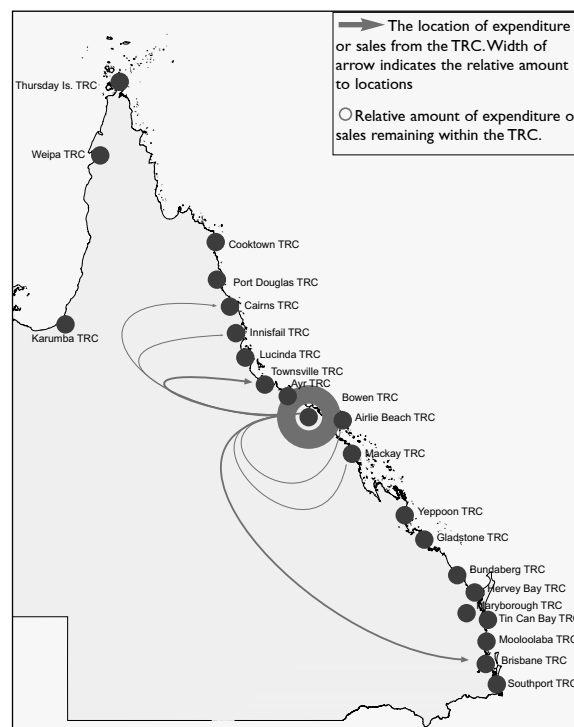


Figure 16.4 Bowen TRC: Location of Business Expenditure

Asking each business operator, what percentage of their business assets were not owned outright by their business, identified for the purpose of this study the level of business debt. Table 16.15 shows that 54% of businesses within the Bowen TRC had no debt. The mean debt level within the TRC was 17% of business assets, which was similar to the Queensland industry average of 16.6%.

Table 16.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	15	53.6	60.1
1 – 10%	1	3.6	6.4
11 – 20%	3	10.7	5.2
21 – 30%	3	10.7	6.4
31 – 40%	1	3.6	3.3
41 – 50%	3	10.7	9.6
51 – 60%	1	3.6	1.8
61 – 70%	0	0.0	1.2
71 – 80%	0	0.0	1.1
81 – 90%	1	3.6	1.6
91 – 100%	0	0.0	3.3
Total	28	100.0	100.0

Mean Debt Level for TRC 17.1%
Median Debt Level for QLD Population 16.6%
Difference of TRC Mean to QLD Mean (16.6) +0.5%

Note: Debt level defined as the percentage of total business assets not owned outright by the business.

EMPLOYEE PROFILES

Town of Residence

Table 16.16 indicates that the majority of employees reside within the City of Bowen (100%).

Table 16.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Bowen	43	100.0
Total	43	100.0

Months Employed in the Fishing Industry

Table 16.17 shows that during the past 12 months the majority of owner-operators and employees within this TRC were employed in the fishing industry between June and December.

Table 16.17
Months Employed in the Fishing Industry During Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	92.0	76.5	85.7	80.7
February	92.0	76.5	85.7	82.3
March	92.0	70.6	83.3	86.1
April	88.0	70.6	81.0	86.8
May	92.0	70.6	83.3	87.3
June	100.0	76.5	90.5	87.8
July	100.0	76.5	90.5	86.7
August	100.0	76.5	90.5	86.3
September	100.0	82.4	92.9	86.8
October	100.0	88.2	95.2	85.4
November	100.0	88.2	95.2	84.4
December	100.0	88.2	95.2	82.3

Note: Owner/operator sample of 26; employee sample of 17.

Location of Household Expenditure

Table 16.18 shows the location of household expenditure related to individual income derived from employment in the fishing industry. Bowen attracts 98% (\$3.6 million) of all annual employee household expenditure from within the TRC. As shown in Table 2.18 there is only relatively minor expenditure to other towns.

Table 16.18
Town Location of Household Expenditure (all commodities and services)

Location of Household Expenditure	Sample Value (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Bowen	709	97.9	3,575
Cairns	5	0.7	26
Ayr	3	0.4	15
Townsville	3	0.4	15
Mackay	2	0.3	11
Proserpine	2	0.3	11
Total Expenditure	724	100.0	3,653

Note: The gross individual annual income of fishers within this TRC was estimated as \$27,675 (Table 16.20). 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. Applying these percentages to the gross individual annual income of employees indicates that direct employee expenditure on household commodities and services to be \$16,835, with total household expenditure across all 217 (Table 16.7) employees to be \$3.7 million (Table 16.18)

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 16.19. As might be expected, Townsville (87%) is the primary town location for school and employment.

Table 16.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Bowen	90	90.9
New South Wales	3	3.0
Tewantin	2	2.0
Townsville	2	2.0
Other towns and interstate	2	2.0
Total Family Members	99	100.0

Note: Counts and percentages based on all family members. Other towns includes all towns with a frequency of one.

Employee Social and Demographic Profiles

Table 16.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 16.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	70	147	217	7,088
Mean age of fisher	43.2	31.1	38.4	37.3
Age range	21-60	17-51	17-60	15-79
Percent males	96.2	100.0	97.7	94.8
Mean years resident in town	24.3	19.6	22.4	19.1
Mean number of years in fishing industry	18.9	8.3	14.7	12.6
Median hours per week in fishing industry	60.0	65.0	62.5	60.0
Percent moved town to retain employment	19.2	17.6	18.6	20.5
Percent currently employed in other industry	42.3	35.3	39.5	34.2
Percent previously employed in other industry	75.0	76.5	75.6	69.2
Housing tenure				
Rent	22.8	52.6	28.9	33.6
Mortgage	28.1	10.5	23.7	20.1
Own home	40.4	15.8	35.5	31.1
Other (eg. live with parents, on boat)	8.8	21.1	11.8	15.2
Educational				
Year completed school				
Primary school	3.8	0.0	2.3	5.2
Year 8	7.7	5.9	7.0	8.0
Year 9	11.5	5.9	9.3	11.9
Year 10	57.5	41.2	51.2	44.0
Year 11	3.8	5.9	4.7	10.1
Year 12	15.4	41.2	25.6	20.2
Percent completed trade or TAFE certificate	53.8	29.4	39.5	37.7
Percent completed industry or business course	28.0	0.0	16.3	15.2
Percent with business plan ^c	28.0	—	28.0	22.9
Percent active fishing group member	43.9	5.9	34.9	25.7
Marital Status				
Percent married or relationship	80.8	52.9	69.8	62.0
Percent with partner employed in business ^d	60.0	—	60.0	56.1
Median hours per week employed in business	13.5	—	13.5	20.0
Partners Income^{de}				
Full-time employment	38.1	22.2	33.3	28.3
Part-time employment	38.1	22.2	33.3	18.5
Casual employment	0.0	11.1	3.3	11.6
Not employed	23.8	44.4	30.0	41.5
Family Composition				
Mean family size	3.8	2.5	3.3	2.6
Estimated number of total family members	266	367	716	18,429
Dependency Ratios				
Age Dependency Ratio ^f	37.5	46.2	49.9	33.4
Elderly Dependency Ratio	0.0	0.0	0.0	2.3
Child Dependency Ratio	37.5	46.2	49.9	31.2
Family Member Industry Dependency Ratio ^g	40.4	0.0	30.6	23.9
Gross Individual Income				
Less than \$16,000	16.0	53.3	30.0	34.6
\$16,000 - \$26,000	16.0	26.7	20.0	19.6
\$26,000 - \$36,000	28.0	20.0	25.0	22.1
\$36,000 - \$52,000	28.0	0.0	17.5	11.7
\$52,000 - \$78,000	4.0	0.0	2.5	6.6
Over \$78,000	8.0	5.9	4.7	5.4
Average Income (\$)	34,640	16,067	27,675	27,471

Note: ^a Owner/operator sample of 26, employee sample = 17.

^b Based on peak estimates derived in Table 16.7.

^c Percentages for owner-operators only.

^d Percentage based on those fishers with partners.

^e Includes partners income from all sources.

^f 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

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

All Queensland employees includes all owner-operators and employees. Value is the weighted sample of owner-operators (2.43) and employees (8.68).

