

A Guide to the Fishers of Queensland

Part A: TRC-Analysis and Social Profiles of Queensland's Commercial Fishing Industry

D. Mark Fenton and Nadine A. Marshall

A report funded by the CRC Reef Research Centre.

The CRC Reef Research Centre was established under the Australian Government's Cooperative Research Centres Program. CRC Reef provides strategic scientific information, education and training to enhance reef-based industry and management of the Great Barrier Reef World Heritage Area. Partner Organisations are:

Association of Marine Park Tourism Operators
Australian Institute of Marine Science
Great Barrier Reef Marine Park Authority
James Cook University
Queensland Department of Primary Industries
Queensland Seafood Industry Association
SUNFISH Queensland Inc.

CRC Reef Research Centre
c/- James Cook University
TOWNSVILLE QLD 4811
Phone: 07 4781 4976
Fax: 07 4781 4099
Email: crcreef@jcu.edu.au
Web: www.reef.crc.org.au

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World Heritage Area.

National Library of Australia Cataloguing-in-Publication
entry

Fenton, D. Mark.

A Guide to the Fishers of Queensland. Part A: TRC-
Analysis and Social Profiles of Queensland's Commercial
Fishing Industry.

Bibliography.

Includes index.

ISBN 1 876054 82 4

1. Fisheries - Queensland - Statistics. 2. Fisheries -
Queensland. 3. Fisheries - Economic aspects - Queensland
- Statistics. 4. Fisheries - Economic aspects - Queensland. 5.
Queensland - Social conditions - 20th century - Statistics. 6.
Queensland - Social conditions - 20th century. I. Marshall,
Nadine A. II. Cooperative Research Centre for the Great
Barrier Reef World Heritage Area. III. Title. (Series: CRC
Reef Research Centre technical report; no.36).

338.372709943

This publication should be cited as:

Fenton, D. M., Marshall, N.A. (2001).

A Guide to the Fishers of Queensland. Part A: TRC-
Analysis and Social Profiles of Queensland's Commercial
Fishing Industry.

CRC Reef Research Centre

Technical Report No. 36.

Townsville; CRC Reef Research Centre, 207 pp.

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Published by the Cooperative Research Centre for the Great
Barrier Reef World Heritage Area 2001.

Further copies may be obtained from CRC Reef Research
Centre, PO Box 772, Townsville, QLD 4810.

Printed by James Cook University.

Acknowledgments

The authors would like to acknowledge the support of all Queensland commercial fishers who gave their time to be interviewed and provided valuable information to develop the social profiles in this report.

Acknowledgement is also given to the organisations that supported this research including the Great Barrier Reef Marine Park Authority, the Queensland Seafood Industries Association, the Queensland Department of Primary Industries, the Queensland Fisheries Service and the Association of Marine Park Tourism Operators.

The authors would also like to acknowledge the assistance of the following interviewers in undertaking interviews with harvest fishers.

Vwendle Baumann
Line Bay
Lisa Baynes
Kyi Bean
Charmaine Bennett
Jo Burden
Tamara Cameron
Liz Clayton
Diane Coccioloni
Ramona Dalla Pozza
Shelley Derida
Debbie Dickinson
Janelle Downie
Sharon Girdham

Jo Harris
Michelle Horn
Neischea Horseman
Sue Johnson
Vimoksalehi Lukoschek
Briony Merret
Mike Merrett
Louise Oliver
Tania Ray
Jackie Sanders
Veronica Sculac
Selina Stoute
Karen Tutt
Nevenka Zuvelek

TRC-Analysis is a trademark of Environment and Behaviour Consultants.

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Executive Summary

This report describes the social and financial characteristics of the commercial fishing industry in Queensland. It also identifies the social and financial relationships between the fisheries resource and coastal communities within a research framework known as TRC-Analysis.

This report provides a comprehensive profile of the commercial industry in Queensland to help assess potential social and financial impacts associated with changes in fisheries policy and management. The information provided in the report is not a social impact assessment but provides basic social and financial profiles of the fishing industry that may assist in identifying social impacts associated with later changes in resource use.

In this report, commercial fishers are defined as trawlers, line fishers, netters, or crabbers, and included Master licence holders as well as crew.

Social and financial information was collected from fishers using structured telephone interviews. The interview included questions on the fishing business and the use of the marine resource, the location of homeports, years of business operation, number of boats, size of boats, type of fishing activity and seasonal variations in fishing. Questions also included the number of employees, the value and location of sales and the town locations for business expenditure, as well as the location of resource use and the use of coastal ports when accessing different areas of resource use.

To develop social profiles of fishers within the industry, business owners and employees gave information about their family, including age, gender, marital status, housing tenure, education, place of residence, hours worked in the industry, as well as the towns from which they purchased household goods and services.

Eighty-nine percent of fishers that could be contacted participated in the research (1,008 questionnaires), representing 41.2% of the industry. Of the 2,679 Master licence holders that exist in Queensland, 236 (8.8%) were considered latent, and had not been actively engaged in commercial fishing within the last year.

The profiles were analysed using a recently developed framework for social assessment in natural resource management known as Town Resource Cluster Analysis (TRC-Analysis). This framework allows the relationship between resource systems and human social systems to be described and examined. Specifically, the analysis identifies clusters of mutually interdependent towns and communities (TRCs) that have relationships to specific areas of marine resource use.

Twenty-two TRCs were identified along the Queensland coast from Karumba in the north of Queensland, to Southport in the south. A detailed description of the social and financial profiles within each TRC is provided in the report.

The majority of fishing businesses in Queensland were in the Brisbane, Bundaberg, Mooloolaba and Cairns TRCs (Table A). Some of the oldest fishing businesses owned by the current owner were found in the Southport and Thursday Island TRCs, whereas some of the newest-owned fishing businesses in Queensland were found in the Weipa and Cooktown TRCs. Businesses that had the most boats were in the Maryborough, Ayr and Weipa TRCs, whereas the largest boats were in the Hervey Bay, Thursday Island, Townsville and Karumba TRCs. Those businesses that had the greatest Gross value of Production (GVP) were found in the Thursday Island, Cairns, Townsville and Mackay TRCs. The lowest GVPs per business were found in the Ayr, Airlie Beach and Maryborough TRCs. Debt was greatest in the Weipa, Port Douglas and Townsville TRCs. In total, those TRCs in which the greatest total GVP was recorded were Thursday Island, Cairns, Townsville and Bundaberg.

There are distinctive characteristics of the social profiles of Master fishers (Table B) in different TRCs. For example, the youngest fishers were found in the Weipa TRC, and the oldest were found in the Southport and Yeppoon TRCs. Those that relied on income predominately from the fishing industry were from the Cooktown, Townsville, Maryborough and Tin Can Bay TRCs. Interestingly, fewer fishers in the Weipa, Cairns, and Mackay TRCs had a formal education to Year 12, and those fishers with the biggest families were from the south, in particular the Mooloolaba, Brisbane, Southport and Maryborough TRCs. The lowest incomes were from the Weipa, Port Douglas, and Karumba TRCs.

Employees, or crew, also showed distinct characteristics between TRCs (Table C). Crew in Karumba and Innisfail TRCs were, on average, older, and those in Tin Can Bay, Cooktown and Innisfail TRCs had been in the industry for longer. All crew in Ayr had employment elsewhere, whereas those in the Karumba, Cairns and Cooktown TRCs were less likely to have other employment. In addition, less crew owned their own home in the Maryborough, Cooktown and Mackay TRCs. Family sizes were also larger in the Airlie Beach, Karumba and Hervey Bay TRCs.

While the social and financial profiles of commercial fishing businesses may be of interest in their own right, they are most useful developed further in terms of indicators of sensitivity to change. For example, characteristics such as age, income, and years in the industry can be used to describe how sensitive businesses and fishers may be to changes in fisheries policy or changes that affect the quality of the resource. 'Indicators of sensitivity to change' will be developed in future reports in this research series.

Table A. Summary of Commercial Fishing Business Characteristics for each TRC.

TRC	No. of Businesses	No. of Employees	Predominant Activity	Mean Years Owned	Mean No. of Boats	Mean Boat Length	GVP (\$'000)	Median GVP	Total GVP (\$'000)
Karumba	31	99	C, N	13.8	1.5	11.4	90	3.4	2,790
Weipa	16	50	C, N	8.4	2.0	8.2	175	40.0	2,795
Thursday Is	19	77	L	20.3	1.1	11.9	278	11.2	5,278
Cooktown	15	42	L, C	7.6	1.5	8.3	100	6.0	1,502
Port Douglas	34	26	L, N	12.4	1.1	9.4	139	40.0	4,729
Cairns	192	787	T, L, C, N	13.4	1.6	13.1	277	10.0	53,195
Innisfail	134	40	T, L, C, N	15.6	1.5	10.1	94	19.4	12,611
Lucinda	36	68	L, C, N	16.0	1.9	6.9	95	nd	3,427
Townsville	153	428	T, L, C, N	12.5	1.6	11.9	232	23.6	35,487
Ayr	16	27	C, N	12.2	2.6	5.6	50	nd	798
Bowen	70	217	L, C, N	10.7	1.8	8.5	151	22.1	10,563
Airlie Beach	14	35	L, C	18.2	1.7	5.9	24	17.1	333
Mackay	119	464	T, L, C, N	13.5	1.8	8.9	237	1.2	28,220
Yeppoon	102	214	T, L, C, N	18.0	1.9	9.9	70	13.7	7,183
Gladstone	131	354	T, L, C, N	10.9	1.7	9.9	218	17.0	28,436
Bundaberg	307	829	T, L, C, N	12.4	1.7	10.2	121	19.3	37,065
Hervey Bay	111	377	T, L, C, N	14.6	1.8	12.0	179	19.4	19,874
Maryborough	36	61	C, N	18.0	3.0	6.1	50	5.0	1,815
Tin Can Bay	78	195	T, L, C, N	14.0	1.5	10.9	179	19.0	13,946
Mooloolaba	218	676	T, L, C, N	15.1	1.9	10.7	113	20.5	13,288
Brisbane	382	1,070	T, L, C, N	16.6	1.7	8.4	87	12.2	33,167
Southport	98	225	T, L, C, N	21.3	1.5	10.3	189	10.3	18,481

Note: C=Crabbing; N=Netting; T=Trawling; L=Line. nd=no data

Source: CRC Reef

Table B. Owner-Operator Summary Profiles for each TRC.

TRC	Mean Age	Years in Home town	Years in Industry	% Employed Elsewhere	% Own Own Home	% Completed Year 12	Percent Married	Mean Family Size	Total Family Size	Mean Income (\$'000)
Karumba	44.2	14.9	14.4	20.0	70.0	20.0	70.0	2.4	74	33
Weipa	34.8	17.0	10.2	50.0	16.7	0.0	83.3	3.8	61	26
Thursday Is.	47.6	27.9	22.0	14.3	85.7	28.6	100.0	4.3	82	42
Cooktown	47.2	17.2	17.2	0.0	33.3	33.3	66.7	2.3	34	22
Port Douglas	44.3	21.5	15.7	16.7	25.0	8.3	58.3	2.9	99	28
Cairns	44.5	21.7	21.7	17.1	42.9	7.1	81.2	3.3	628	49
Innisfail	45.9	21.3	21.7	26.4	53.7	11.1	81.5	3.4	456	38
Lucinda	43.8	25.8	22.3	44.4	50.0	23.5	88.2	3.5	126	43
Townsville	45.6	22.4	18.2	8.8	40.4	21.8	78.9	3.5	535	40
Ayr	41.9	28.3	17.8	71.4	57.1	14.3	85.7	2.6	42	45
Bowen	43.2	24.3	18.9	42.3	40.4	15.4	80.8	3.8	266	35
Airlie Beach	49.6	23.3	20.5	25.0	62.5	50.0	87.5	2.9	41	35
Mackay	47.7	26.0	20.6	18.4	53.1	2.0	87.5	3.6	423	43
Yeppoon	50.0	25.8	22.7	17.1	53.7	10.0	72.5	3.0	303	36
Gladstone	41.7	17.3	17.4	12.2	44.0	16.0	77.6	3.0	393	41
Bundaberg	43.0	21.8	20.5	16.7	48.7	14.3	83.1	3.2	982	38
Hervey Bay	40.6	19.3	20.9	18.6	37.2	19.3	78.6	3.3	366	47
Maryborough	44.2	25.8	21.8	5.9	52.9	11.8	88.2	3.6	130	38
Tin Can Bay	43.7	28.4	21.0	8.7	60.9	13.0	69.6	2.7	211	49
Mooloolaba	46.7	18.4	20.2	19.4	45.7	18.3	87.1	3.7	802	38
Brisbane	45.2	28.3	22.1	16.7	54.5	21.3	87.7	3.7	1,413	37
Southport	51.9	30.3	26.0	14.3	50.0	17.1	82.9	3.6	353	40

Source: CRC Reef

Table C. Employee/Crew Summary Profiles for each TRC.

TRC	No. of Crew	Mean Age	Years in Home town	Years in Industry	% Employed Elsewhere	% Own Own Home	% Completed Year 12	Percent Married	Family Size	Famile Members	Income (\$'000)
Karumba	68	40.2	14.4	10.8	20.0	60.0	25.0	80.0	2.8	190	32
Weipa	34	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Thursday Is	58	34.0	11.4	7.6	50.0	14.3	37.5	25.0	1.6	93	31
Cooktown	27	38.9	11.3	11.3	22.2	11.1	33.3	55.6	2.3	62	21
Port Douglas	28	31.2	10.3	9.4	26.7	26.7	26.7	46.7	2.3	64	29
Cairns	595	32.8	14.2	10.0	21.4	15.4	29.6	50.0	2.3	1,381	30
Innisfail	268	40.4	22.7	11.3	63.0	51.9	29.6	74.1	2.6	697	23
Lucinda	32	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Townsville	275	33.3	20.5	9.2	40.0	15.8	26.3	50.0	1.9	522	20
Ayr	11	33.3	19.5	7.4	100.0	50.0	10.0	60.0	2.5	27	23
Bowen	147	31.1	19.6	8.3	35.3	15.8	41.2	52.9	2.5	367	16
Airlie Beach	21	30.1	19.7	7.6	42.9	28.6	28.6	71.4	3.3	69	29
Mackay	345	32.5	14.1	6.8	48.6	13.0	33.3	52.2	2.2	770	17
Yeppoon	112	32.6	20.1	5.1	40.0	20.0	22.2	45.0	2.4	274	11
Gladstone	223	33.8	16.6	7.8	41.7	17.1	25.7	52.8	2.4	535	19
Bundaberg	522	31.6	17.6	6.7	45.1	22.5	17.1	46.5	2.3	1,201	20
Hervey Bay	266	36.4	10.3	8.1	31.3	25.0	6.3	68.8	2.5	655	28
Maryborough	25	26.7	16.0	4.8	28.6	0.0	14.3	42.9	1.3	32	22
Tin Can Bay	117	39.0	16.0	12.2	16.7	20.0	0.0	83.3	2.3	269	32
Mooloolaba	458	30.8	15.3	8.9	36.6	17.1	19.5	41.5	1.9	882	23
Brisbane	688	33.1	21.2	9.7	46.3	17.9	22.4	47.8	2.1	1,445	16
Southport	127	33.0	16.4	9.1	50.0	25.0	37.5	43.8	2.2	279	25

Source: CRC Reef

I Introduction

This report is the outcome of the first phase of a social assessment research project, which examines the commercial fishing industry in Queensland. This first report provides a descriptive overview of the social and financial characteristics of Queensland's commercial fishing industries, the harvest, and tourism fishing charter industries. It summarises the findings of survey research undertaken with the commercial fishing industry using a recently developed framework for social assessment in natural resource management known as Town Resource Cluster (TRC) Analysis.

This report examines the commercial fishing industry in Queensland including the trawl, line fishing, net and crab fisheries. Separate reports will be undertaken for the harvest fisheries and the tourism charter fisheries (Figure 1.1).

Further research in the fisheries social assessment research project will (a) develop specific social indicators of vulnerability and sensitivity to change using survey research data in this report and additional secondary data and information, and (b) conduct a more detailed assessment and analysis of the location and patterns of marine resource use as identified in the current survey research and by assessing fishing industry log book data (Figure 1.1).

In addition, much of the social profile and financial information in this report is being developed into a database which will allow specific queries about the use of fisheries resources (Figure 1.1).

The current report is only the first phase of the fisheries social assessment research project. The report presents basic social assessment profiles of the fishing industry and employees within the industry. It has not been developed to assess the social and financial impacts of any specific future changes in fisheries management, but simply provides descriptive profiles which may be useful in understanding how changes may impact coastal communities and the fishing industry.

This report consists of several chapters:

Chapter 2: An overview of social assessment and the application of Town Resource Cluster Analysis (TRC-Analysis) in natural resource management.

Chapter 3: A description of the survey research methodology used in the current study

Chapter 4: A description of the Town Resource Clusters (TRCs) and their identification.

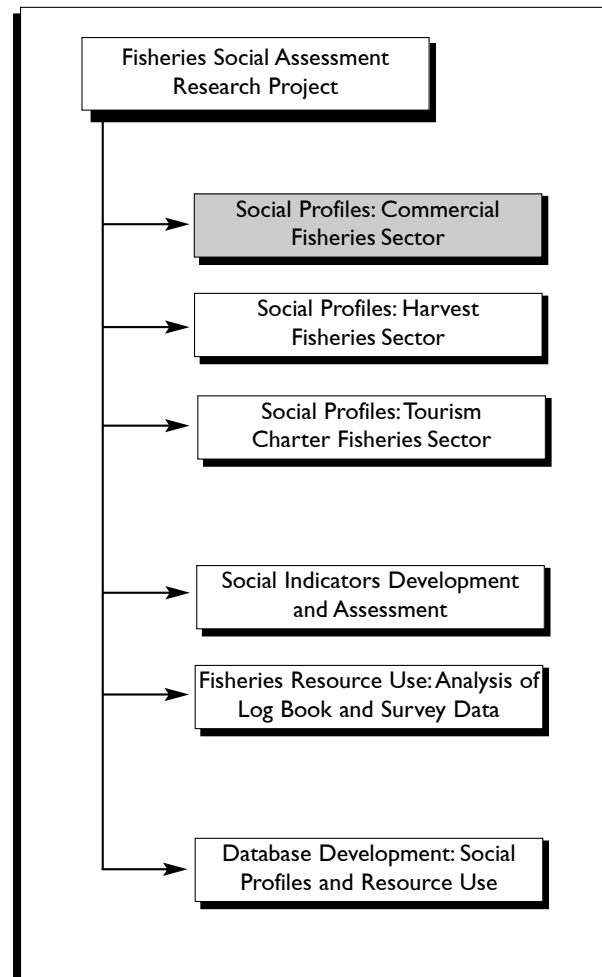


Figure 1.1 Social Assessment Research Projects

Chapter 5: A description of the social profiles of the harvest fishing industry on a statewide basis and a comparison of profiles across the identified TRCs.

Chapter 6 - 12: A description of the social and financial profiles of the harvest industry within each of the seven identified TRCs.

2 Social Assessment and TRC-Analysis

This chapter is a brief overview of social assessment in natural resource management. It describes the procedure used in social impact assessment and the use of Town Resource Cluster (TRC) Analysis as a framework for organising social assessment information in a resource management context.

Social Assessment

Social Assessment is an applied interdisciplinary field that emerged within the social sciences. Social impact assessment methods are tools used to predict the future effects of proposals on people, i.e. their way of life (how they live, work and interact with each other); their culture (norms and traditions); and their community (institutions and structures) (Armour, 1990).

To date, there is no generic method that can be used to identify and predict the social impacts associated with development proposals or changes in land and marine use or management. In addition, social impact assessment is a distinct process, in terms of its methodology and objectives to economic impact assessment. While there is considerable interaction between economic and social impacts, they are nevertheless distinct fields with different techniques, methods and objectives.

Although there is no generic method applicable to social impact assessment, the process has a number of procedural steps or stages which include:

1. Assessment
 - 1.1 Scoping
 - 1.2 Profiling
2. Prediction
3. Mitigation
4. Monitoring

The assessment component identifies the potential impacts of a proposal or project before the change has actually taken place. In other words, social assessment attempts to predict the likely impacts, at a community, individual and family level, that may result from some specific change. The assessment phase consists of two key activities: scoping and profiling.

Scoping identifies important issues that relate to the proposed change and determines the timing, depth and extent of analysis that may be required. This entails selecting variables necessary for social analysis; identifying possible and likely social impacts (both positive and negative); and identifying the geography or boundaries of any potential impacts. Scoping is one of the most important activities in the social assessment process because it focuses the assessment on issues of immediate relevance and importance to stakeholders and communities.

Profiling describes the social environment in order to provide a basis for assessing and understanding potential changes. Profiling may be used to develop a more detailed understanding of the demography of the area through the use of social indicators and the analysis of census data, or it may be used to describe the historical changes and processes that have occurred within the community. Profiling may also be used to identify contemporary issues within communities and to better understand the political and social structures that exist within a community or region.

After collecting detailed information about a particular community or region, the prediction component of social assessment uses existing information and social data to identify impacts that may result from the change. This can be achieved through different participatory mechanisms, such as discussions or interviews with community residents, community workshops and/or surveys, or through more quantitative social assessment techniques such as multi-criteria analysis or computer modelling. These impacts are evaluated to determine the probability of occurrence, the importance of impacts to those affected and the distribution of impact across groups and geographic areas.

As with any type of change, some individuals or groups within the community may benefit, while others may experience costs. If negative impacts are predicted, it is the role of the social impact assessment to determine how such impacts may be ameliorated or mitigated to produce the minimum degree of social disruption to those affected.

Monitoring is also a key component of the social assessment process. For any particular project or policy, a monitoring program should be developed to identify deviations from the proposed action, and to document any unanticipated impacts that may arise when a policy process or change is implemented. It is only through detailed monitoring that future predictions of impact can be enhanced.

One of the critical questions that confronts any social assessment process concerns the unit or units of analysis that are used in the assessment. Depending on the context and the objectives of the social assessment process, it may be appropriate to undertake the assessment at different institutional levels such as that of family, industry, stakeholder interest groups or through grouping specific types of resource users. Indeed, within a single social assessment process, the unit of analysis may vary depending on the specific research objectives that are to be addressed.

When undertaking a large scale regional social assessment process, one of the core questions that arises is that of defining community. In the context of a large regional social impact assessment, should community be defined in terms of a single town, hamlet or regional area? In a regional context, where changes may occur in the use of natural resources, a direct impact on one town may have consequent and flow-on impacts on other towns in the region. In this example, should

community be defined as a collection of inter-dependent towns within a region? If this is the case, then questions arise as to how we define the boundaries of community and distinguish one community, or collection of towns or communities from another? This issue is one of the more basic questions underlying social impact assessment. It again focuses on what the appropriate 'unit of analysis' is in the social impact assessment process.

This overview of the social impact assessment emphasises that there are multiple stages or processes within the assessment. Therefore the current study is not a complete social impact assessment, but simply one component of it. It is part of the profiling phase of the social assessment process, where communities and their relationship to marine fishery resources are defined and described.

The information in this report is a first step if potential social impacts associated with changes in fisheries resource use and management are to be understood. Through the framework of TRC-Analysis, this report provides 'baseline' descriptive information about the commercial fishing industry in coastal communities and the relationship between these communities and areas of fisheries resource use.

The report may provide useful information in understanding who might be impacted by future changes in fisheries resource use or management and the regional and community locations of these impacts. However, this study does not constitute a complete social impact assessment. Given a specific change in fisheries resource use or management, additional social assessment research will be required and would be based not only on the quantitative assessments as presented in this report but often extensive qualitative and participatory research with those potentially affected within communities. The current report provides information on which to base more extensive and focussed social impact assessment research and participatory programs where required.

Town Resource Cluster Analysis

TRC-Analysis is a methodological framework for examining the social impacts of changes in resource use or management in a regional planning context. The approach is based on several core conceptual and methodological principles, but may be modified to meet the needs of specific impact assessment and resource management contexts (Fenton, in press). TRC-Analysis is not an alternative to any specific and established social impact assessment techniques. It provides a framework in which existing assessment techniques may be usefully included and embedded.

Objectives of TRC-Analysis

There are three core objectives of TRC-Analysis, which include (i) the identification of Town Resource Clusters (TRCs), (ii) an assessment of the relationship of TRCs to specific areas of natural resource, and (iii) a description of TRCs in relation to specific indices of vulnerability, resilience or sensitivity to change.

Resource Dependency

Resource dependency indicates a relationship between social and resource systems, to the extent that the maintenance of social systems are in some way reliant on one or more resource systems. Previous research undertaken in resource dependent communities (see for example Randall & Ironside, 1996 for a review of this research) adopted a similar definition of resource

dependency. However, resource dependency is only one component of the relationship between social systems and broader environmental and resource systems.

In the marine environment, resource dependency may include extractive use of the resource (ie., fishing, hunting, mining) or non-extractive use of the resource (ie., specific leisure, tourism and recreational uses) (Figure 2.1). In addition, the relationship to social systems may be more broadly focussed on environmental rather than resource systems. Therefore, the relationship between social and environmental systems may be defined in terms of the associations people have with the marine environment, which may include symbolic and place meanings as well as specific environmental values.

The current research focuses on one component of the relationship between social and marine environmental systems. While the research focus is on the dependency of social systems on marine fisheries resources, the TRC-Analysis framework also enables broader environmental associations, meanings and values to be examined.

In understanding the relationship between social and resource systems within the context of resource dependency, there are three core issues that need to be examined. The first issue concerns the issue of defining the social system. In the context of TRC-Analysis as a regional planning framework this essentially becomes a question of defining community for the

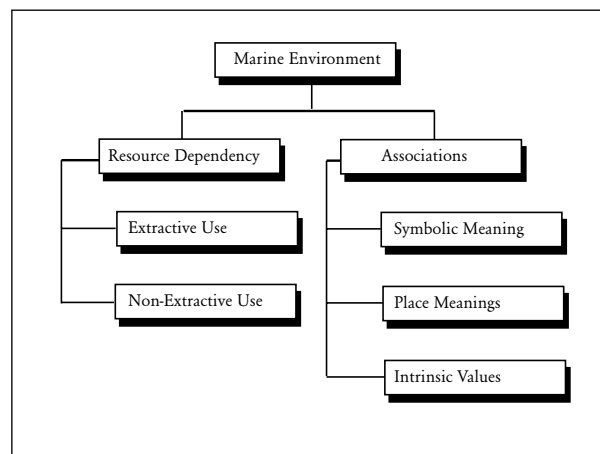


Figure 2.1 Resource Dependencies and Associations

purpose of identifying some level of resource dependency. The second question concerns how we define the resource and the geographic location of the resource. Finally, and given some operational definition of both community and resource, there is a need to describe the 'linkage' between the resource dependent community and the resource itself.

Resource Dependent Communities

TRC-Analysis aims to define meaningful spatial units on which to ground later social impact and assessment processes. Such locationally and geographically distinct social units are referred to as Town Resource Clusters (TRCs). Many natural resource management units used by natural resource management agencies are clearly defined on the basis of specific ecological and resource management characteristics, but there is no corresponding unit associated with the social environment. Without a locationally distinct unit which defines the social environment, any attempt to understand social and community processes, particularly in the context of

natural resource management will be fragmented and disparate (Murphy, 1991).

In defining resource dependent communities, there is an issue of what defines community. There is also an issue of defining communities which are at some level identified as resource dependent. In the first instance, conceptual and methodological issues associated with the definition of community continue to be problematic and depending on the research context, and often issues of data availability, community has been defined in various ways from town to county or Local Government Area to regions (Machlis & Force, 1988; Machlis, Force and Balice, 1990). More meaningful boundary definitions are required in relation to community. Definitions of community should be meaningful in relation to prevailing social structures, levels of community organisation and interdependence. They should not be defined purely on the basis of convenient administration boundaries or data availability.

Machlis & Force (1988) suggested that to better understand resource dependent communities, community may need to be considered as a hierarchical or nested concept. This approach is similar to that considered in central place theory (Fairbairn and May) where in a regional context, a network of central places or towns exist in relation to specific trade areas and the supply and consumption of goods and services. As Cramer, Kennedy, Krannich & Quigley (1993) have emphasised in the context of timber production and natural resource dependency, changes in resource availability often lead to “chain reactions...affecting not only loggers and mill workers, but businesses, social services and people not generally involved in timber production” (p. 477).

A recognition of the ‘mutual interdependence’ of communities and townships in a regional resource planning and management context is given in Mayfield’s (1996) study on the relationship between small farms and the location from which farm goods and services were purchased. This research suggested significant micro-economic and financial interdependence among farming communities. Through better understanding the interdependencies amongst communities, clusters of mutually interdependent townships (Town Resource Clusters) can be identified, providing a more appropriate theoretical and conceptual rationale for defining community.

This approach defines community as what is commonly referred to as social catchments, which are interdependent towns and communities dispersed throughout a region. The towns, at the same time, can also be hierarchically arranged as is the case in central place theory. Based on previous research in several natural resource management contexts (Fenton, 2000, 1999a, 1999b, 1998) the interdependencies among towns were defined on the basis of (a) the location of business purchases, (b) the location of purchases of household goods and services and (c) the location from which social infrastructure services and facilities were used. This locational information was used as the basis for identifying clusters of towns and communities which are referred to as Town Resource Clusters (TRCs).

In the current study, the description of communities by the identifying Town Resource Clusters (TRCs) used locational information from survey data collected from interviews with commercial fishers. Therefore, the number of fishing businesses and location of their use of services and facilities, and purchase of goods and services, was used to define the

TRCs. Although the TRCs were defined within the context of commercial fishing, these TRCs are probably relatively constant across industry groups and sectors within the community. Distance between townships plays a significant role in the use of services and the purchase of goods and it is unlikely that there would be significant variation across different industry and occupational groups.

The Resource

Much research has focused on the resource dependent community, and not on issues related to the resource itself. The resource is often defined in terms of a simple resource typology, to the effect that communities are dependent upon fishing, native timber harvesting, mining or agriculture. Concurrent consideration given to defining and describing resource systems on which communities depend is also needed. This requires considerable integration of conceptual and theoretical approaches between the social and natural sciences. Typical of such an integrative approach is research on social and ecological resilience (Adger, 2000) where consideration is given to defining resilience within social and resource systems, and to how changes in the resilience of either systems may impact alternate systems.

Questions also arise about defining the resource on which communities depend. This is particularly the case in resource contexts such as fishing, forestry and the use of water resources where the resource itself may be dispersed throughout a geographic area.

In the management of natural resources, geographic areas are often delineated. For instance, in the management of water resources, specific water catchments are often geographically defined. Forest resources are often defined on the basis of Forest Management Areas, timber supply zones or other resource-based units. Marine resources on the Great Barrier Reef are delineated by a zoning system which specifies the permitted use of reef resources. Similarly, several states manage their natural resources on the basis of spatially defined biogeographic regions which encompass the entire state.

There were no a priori regional classifications of marine coastal areas in Queensland to assist in defining the spatial extent of the resource. Therefore, the spatial extent of the marine resource used for commercial fishing was defined on the basis of the use of the resource by the commercial fishing businesses. Information drawn from interviews with commercial fishers on the location of resource use was recorded on a 15-minute grid overlay. Each 15 minute grid provided information about the number of commercial fishing businesses using the resource.

For Queensland as a whole, the analysis of information within the 15-minute grids provided information about the density of fisheries resource use within specific areas. However, it was also important to examine the spatial extent and density of fisheries resource use to each of the defined TRCs. Analysis of resource use among fishers from each TRC provided consistently meaningful spatial patterns of resource use associated with each one. In all cases and based on the count of fishing businesses using an area, resource areas of high, moderate and low use were identified. In the majority of cases, 15-minute grids with high use were spatially proximate and adjacent, as were grids associated with moderate use. Areas of high use associated with each TRC were referred to as primary resource catchments, while areas of moderate resource use were referred to as secondary resource catchments.

Resource Dependent Linkages

Another objective of TRC-Analysis is to establish a relationship between the use of natural resources and specific Town Resource Clusters (TRCs). This allows an understanding of what communities and townships are likely to be affected by changes in the management and use of natural resources and to determine the values that individuals and groups place on particular resource areas. As such, this establishes a core 'linkage' between the natural resource and the TRC, such that given a change in the status of the natural resource, the probable location of any potential social impacts and changes may be clearly identified.

Defining a TRC and understanding the spatial location of the primary and secondary resource catchments associated with the TRC provides a better understanding of how changes in the resource system may impact on associated social systems and conversely how changes in the social system may impact on resource systems.

Figure 2.2 shows the linkage between the natural resource and the TRC. On the one hand, changes in natural resource management may have identifiable impacts on specific TRCs, given the identified dependency of communities within the TRC on specific areas of natural resource (ie., primary and secondary catchments). Conversely, knowing the characteristics or profiles of communities within TRCs, and in particular their level of sensitivity to change and their resilience to change, can provide important information along with environmental and ecological criteria to assist in the management of areas of natural resource. The TRC represents the social unit in which potential social change may be identified and managed.

Identifying social units (TRCs) and concurrently understanding the relationship or level of dependency between the TRC and areas of natural resource enables managers to better consider the social impacts and consequences of changes to natural resource management.

Although dependency on fisheries resources is the focus for the current TRC-Analysis, there are nevertheless other significant social and community relationships with the marine environment as discussed earlier and as shown in Figure 2.1. The current study has only examined marine resource dependency of specific communities, and in particular dependency as defined through extractive resource use based on the commercial fishing industry. In understanding the broader linkages between communities and the marine resource other forms of marine resource dependency would need to be examined as well as the specific associations between individuals and groups in communities in relation to the marine environment.

Describing Town Resource Clusters

Defining a TRC and its associated primary and secondary resource catchments provides the framework to develop further social impact assessment procedures including community involvement programs and the use of additional quantitative social assessment techniques. For instance, community involvement programs can be more effectively directed at those communities where a known relationship exists between the area of resource use and the community.

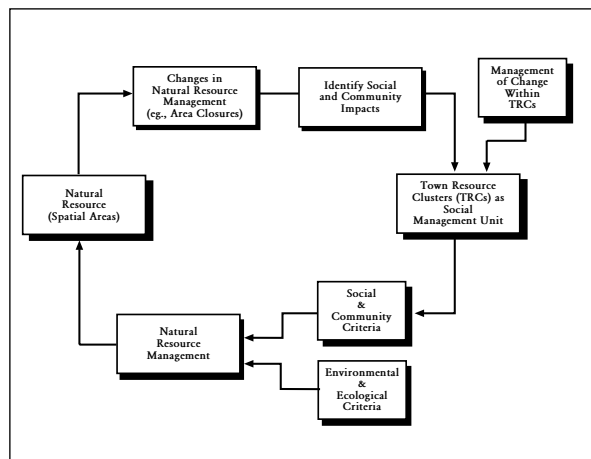


Figure 2.2 Social Assessment Research Projects

Ecosystems within the primary and secondary resource catchments can be described by ecological indicators, such as those of ecosystem health, resilience and biodiversity. Such descriptions are important in monitoring the condition of ecosystems and evaluating the impact of human activities.

TRCs and communities within TRCs can be described using a range of social indicators. Of particular importance in this context is the description of TRCs on the basis of indicators which provide information on resource dependency and social resilience or sensitivity to change. Although such social indicators are not developed, analyzed and presented in the current report they are nevertheless an important part of the current research program (Figure 1.1) and will be developed in a later research report.

The current study has collected considerable social and financial profile information about harvest businesses within TRCs. The profile information provides research information for a variety of uses. The information collected in developing of profiles can also be used later to develop social indicators of resource dependency, social resilience and sensitivity to change.

The current study adopts a TRC framework for undertaking social assessment of the harvest fishing industry in Queensland. This report is the first stage in this assessment which includes basic descriptive information to identify and describe TRCs. Within the TRC framework this report (a) identifies specific TRCs, (b) identifies primary and secondary resource catchments associated with TRCs and (c) provides basic profiles of fishing businesses and employees within the defined TRCs.

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3 Research Methodology

Given the paucity of social information about the commercial fishing industry and employees in Queensland, primary data collection through survey research was required in order to develop basic social, demographic and descriptive profiles of fishing businesses and employees.

Questionnaire Design

The questionnaires used in this study were based on similar questionnaires used to assess changes in forest resource management in Victoria and Queensland (Fenton, 1998, 1999). Although questionnaires used in previous studies had been designed for self-completion, the questionnaires used in the current study were designed to be completed through telephone interviews. Two questionnaires were constructed. The first questionnaire was administered to licenced master fishermen in Queensland and sought information in relation to the fishing business and social and demographic characteristics of the business operator and their family. The second questionnaire was administered to business employees other than the owner-operator of the businesses and included information about the social and demographic characteristics of the employee and their family.

Fishing Business Questionnaire

There were approximately fifty questions, in three sections, were included in the questionnaire. In the first section, fishers with a Masters license were asked questions about their fishing business and fishing practices. This included questions on the location of their homeport, years of business operation, number of boats, size of boats, type of fishing activity, seasonal variations in fishing, number of employees, the value and location of sales and the town locations for business expenditure.

The second section of the questionnaire included questions about the location of resource use and the use of coastal ports when accessing different areas of resource use. When asking questions about the location of resource use, interviewers used detailed coastal maps to assist in the identification of areas of resource use, with resource use often being identified in relation to specific reefal areas or in relation to specific towns along the Queensland coast.

In the third section of the questionnaire, all fishers were asked for information in relation to their town of residence, years of residence, hours worked in the industry, usual months in which they worked in the fishing industry and the location of towns from which they purchased household goods and services. This section also included questions which provided information about the social and demographic profiles of employees and their families, including for instance the age, gender, marital status, housing tenure and educational levels of family members.

Fishing Business Employees Questionnaire

In comparison to the Fishing Business Questionnaire, the Employee Questionnaire was considerably shorter as it only focussed on obtaining social and demographic information about the employee and their family. As such this Questionnaire essentially replicated the third section of the Fishing Business Questionnaire

Specific and detailed questions relating to the financial characteristics of the fishing business and employees were not included in the current survey, as the Queensland Department of Primary Industries had also conducted an economic survey of fishing businesses within Queensland over a comparable time period.

Questionnaire Pre-testing

Before conducting interviews, the questionnaires were pre-tested with members of the fishing industry. A small number of commercial fishermen were asked if they could assess the questionnaire in terms of the appropriateness of the questions and the terminology used in the questionnaire. The questionnaire was also reviewed by staff at the Great Barrier Reef Marine Park Authority.

Perhaps the most difficult question required fishermen to recall the location of their fishing activities over the previous 12 months. This information had to be recorded at sufficient detail through a telephone interview so that it could be transferred with reasonable accuracy to a 15-minute grid overlay. The pre-test indicated this was possible and that accuracy could be improved by ensuring that all interviewers had detailed coastal maps available to them when asking questions about the location of resource use.

Survey Sampling and Administration

The objective of the sampling procedures was to obtain a full census of all commercial fishing businesses in Queensland as identified in the database of licenced master fishermen. The Queensland Fisheries Service provided a database of 2,679 names, addresses and telephone numbers of commercial fishers. Due to the 'dynamic' nature of contact databases, it was not possible to contact all fishers as many contact details, including addresses and telephone numbers, were either out of date or incorrect.

During the evenings, weekends and occasionally weekdays of August 1999 to April 2000, trained interviewers contacted fishers and made appointments for interviews at convenient times. The response for each fisher was recorded as either: surveyed, refused, unable to be contacted, or insufficient contact information. Considerable effort was made to locate each fishermen identified on the database. The questionnaire took approximately 30-45 minutes to complete, depending on the extent to which individual fishermen wished to discuss specific issues.

Fishers were informed of the research prior to being interviewed. All fishers received a letter by mail informing them of the study and inviting them to participate. The research was also advertised in the QCFO and AMPTO newsletters before commencing interviews.

Questionnaire Response Rates

The characteristics of the fishing industry make it especially difficult to contact owner-operators and employees, because many fishermen may live on boats, be away for extended periods, or when in port have no fixed address.

Furthermore employment amongst fishing boat crews and deckies is often extremely transient and, as such, locating crew is extremely difficult. There is a very large turnover of employment within the industry, and many crew may obtain a license even if they are only going to crew for a very limited period. For example, many crew are teenage children that help their parents during holiday periods. There is no compulsion, therefore to ensure that the licensing body (QFS in this case), is kept informed of their whereabouts. As such, only 33% of crew could be contacted. However, of these, 93% were willing to be interviewed, which provided 536 completed questionnaires. This sample was of a sufficiently large size and had sufficient geographic spread in terms of location of residence that it could be used to identify the social and demographic profiles of fishing industry employees within each of the identified TRCs.

Table 3.1 shows the response rate and characteristics for the survey of commercial fishing businesses in Queensland. A total of 1,008 were completed. This represented a response rate of 89% of those commercial fishermen who were able to be contacted. Table 3.1 also shows that 52.4% of fishermen identified on the database were unable to be contacted because we had incorrect phone numbers, they were away at sea, or there was no answer when they were called (Table 3.1).

Of the 2,679 licence holders, 235 (8.8%) were considered latent licence holders. There were 5 (0.2%) licence holders who were deceased and 230 (8.6%) licence holders who reported they were no longer in business or had retired. For the purpose of further analysis, it is assumed that there are therefore 2,444 active commercial fishing licences in Queensland.

Table 3.1. Response Rates: Commercial Fishing Businesses

Response	Frequency	Percent
Completed Questionnaires	1,008	37.6
Incorrect phone number	846	31.6
No answer to telephone	187	7.0
Away at sea	229	8.5
No English	9	0.3
Deceased	5	0.2
Total Unable to Contact	1,276	52.4
No longer in business or retired	230	8.6
New to industry	5	0.2
Leased out / partner in business	36	1.4
Total Not in or New to Industry	271	10.2
Refusal	124	4.6
Total	2,679	100.0
Response Rate ¹		89.0
Industry Representation ²		41.2

Note: ¹The response rate is the number of completed questionnaires to the total number of businesses excluding those unable to be contacted or those not in or new to the industry.

²Industry representation is the number of completed questionnaires to the total number of businesses excluding those deceased and those no longer in business or retired.

¹Fenton, D.M. (1999). Forest industry activity and linkages for the West CRA region. Report prepared for the Social Assessment Unit, AFFA, Canberra.

Fenton, D.M. (1998). Resource, Forest Industry and Employee Catchment Analysis for the South East Queensland RFA Region. Report prepared for the Department of Primary Industries and Energy (Canberra).

4 Identification of Town Resource Clusters

Identification of TRCs

Town Resource Clusters (TRCs) represent clusters of mutually interdependent towns or communities which have a clear relationship to a specific geographic region or area of marine resource use.

The identification of TRCs was based on the homeports of commercial fishing businesses because it was considered that much of the business expenditure, the residential location of employees, the household expenditure patterns of employees and the use of social infrastructure services among employees would centre around the homeports of fishing businesses.

An examination of all homeports of fishing businesses as identified in the survey questionnaire indicated that the majority of fishing businesses were located in major regional and sub-regional centres on the Queensland coast. In some instances suburban localities within the regional centre were identified as the homeport. However, suburb locations were classified as part of an identified regional centre on the basis of the Australian Bureau of Statistics definition of urban centres and localities.

Table 4.1 identifies the major regional centres which were used to define the 22 TRCs. Where the homeport of a fishing business was not located within a major regional centre, the location of business expenditure and the residential town location of the business operator was used to classify the business within a TRC. Many of the TRCs consisted of a major regional centre in which the majority of fishing businesses were located and smaller towns and communities surrounding the regional centre in which other fishing businesses were also located.

As shown in Table 4.1, this procedure classified 96% of fishing businesses within a TRC. Of the remaining fishing businesses, 34 (3%) had homeports in New South Wales and 10 (1%) were unable to be classified within a TRC. A fishing business could not be classified primarily due to no homeport being reported at the time of the interview.

Once the initial TRCs had been defined using information about the location of the homeports of fishing businesses, the location of employee hometowns were also located within these TRCs. This was undertaken using a similar procedure used in locating the homeports of fishing businesses. Where the employee hometown was not a homeport within a TRC as previously identified, the town location of household expenditure and use of social infrastructure services was examined in locating the employee hometown within a TRC.

Table 4.2 shows that 93% of all employee hometowns could be located within the 22 TRCs. An additional 37 (2%) employees had their hometown in NSW, while 66 (4%) employees were unclassifiable within a specific TRC. The primary reason that employees could not be classified within a TRC was that no hometown was given at the time of the interview.

Table 4.1. Commercial Fishing Businesses in TRCs

TRC	Frequency	Percent
Karumba	13	1.3
Weipa	7	0.7
Thursday Island	8	0.8
Cooktown	6	0.6
Port Douglas	14	1.4
Cairns	79	7.9
Innisfail	55	5.5
Lucinda	15	1.5
Townsville	63	6.3
Ayr	7	0.7
Bowen	29	2.9
Airlie Beach	6	0.6
Mackay	49	4.9
Yeppoon	42	4.2
Gladstone	55	5.5
Bundaberg	128	12.7
Hervey Bay	46	4.6
Maryborough	15	1.5
Tin Can Bay	32	3.2
Mooloolaba	93	9.3
Brisbane	158	15.7
Southport	40	4.0
Total Classifiable	960	95.6
New South Wales	34	3.4
Unclassifiable	10	1.0
Total Fishers	1004	100.0

Note: Unclassifiable includes respondents who did not identify a homeport.

Table 4.2 Number of Employees within TRCs

TRC	Frequency	Percent
Karumba	15	1.0
Weipa	6	0.4
Thursday Island	16	1.0
Cooktown	16	1.0
Port Douglas	27	1.8
Cairns	97	6.3
Innisfail	82	5.3
Lucinda	20	1.3
Townsville	77	5.0
Ayr	17	1.1
Bowen	43	2.8
Airlie Beach	14	0.9
Mackay	119	7.7
Yeppoon	61	4.0
Gladstone	86	5.6
Bundaberg	195	12.7
Hervey Bay	60	3.9
Maryborough	24	1.6
Tin Can Bay	29	1.9
Mooloolaba	144	9.4
Brisbane	236	15.3
Southport	52	3.4
Total Classifiable	1,436	93.3
New South Wales	37	2.4
Unclassifiable	66	4.3
Total Employees	1,539	100.0

Note: Unclassifiable includes respondents who did not identify a hometown

The level of interdependence among the 22 TRCs is shown in the TRC connectivity matrix presented in Table 4.3. For each TRC represented in the columns of the matrix, the values represent the mean percentage across industry expenditure, household expenditure, family employment and educational locations. Higher values indicate higher levels of expenditure, employment and use of educational services occurring within the TRC. The diagonal of the connectivity matrix indicates high levels of expenditure, employment and service use occurring within each of the TRCs. In some cases, values adjacent to the diagonal are also relatively high, indicating some level of dependence on geographically adjacent TRCs.

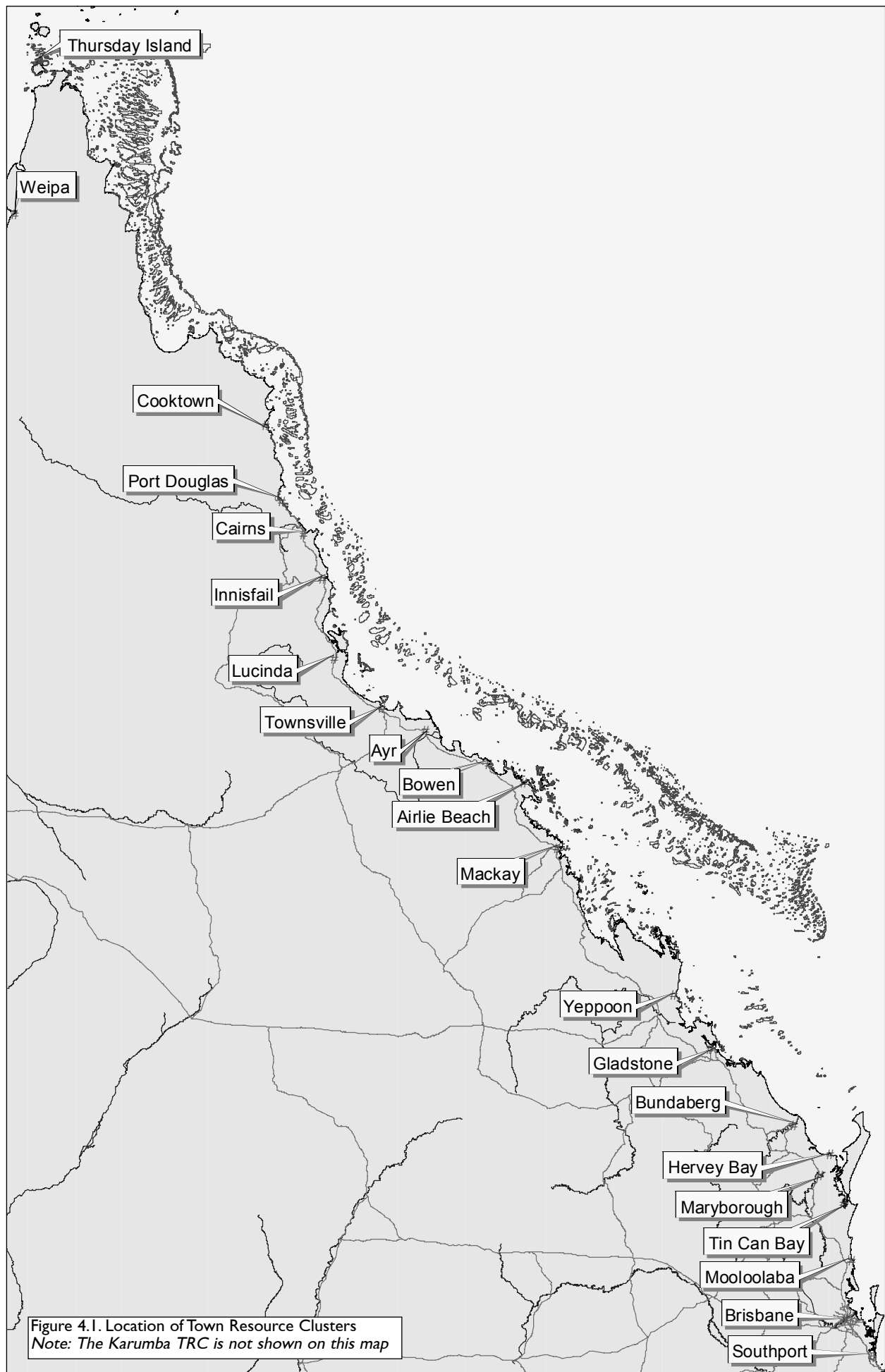
For instance, Port Douglas and Innisfail show some dependence on Cairns, while Lucinda and Ayr show some dependence on Townsville.

The Sum Link column is the sum of each of the rows in the matrix and provides an indication of TRCs from which many other TRCs source goods and services. Cairns is one of the major higher order coastal TRCs with many TRCs in the north from Karumba to Innisfail dependent on the Cairns TRC. Townsville is an additional higher order centre servicing TRCs from Lucinda to Ayr.

Table 4.3. TRC Connectivity Matrix

TRCs	Sum Link	Karumba	Weipa	Thursday Is.	Cooktown	Port Douglas	Cairns	Innisfail	Lucinda	Townsville	Ayr	Bowen
Karumba	67.4	65.6	0.0	0.0	0.0	1.1	0.2	0.1	0.0	0.2	0.0	0.0
Weipa	80.3	1.0	77.3	0.0	0.0	1.4	0.4	0.0	0.0	0.0	0.0	0.0
Thursday Island	79.4	0.0	0.0	79.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Cooktown	73.0	0.0	0.0	0.0	71.7	0.5	0.2	0.1	0.0	0.2	0.0	0.0
Port Douglas	71.6	0.0	0.0	0.0	0.0	71.0	0.3	0.0	0.0	0.0	0.0	0.0
Cairns	262.7	18.7	22.7	19.8	21.5	20.4	94.3	16.5	2.5	7.1	0.0	1.5
Innisfail	89.1	0.0	0.0	0.0	0.0	0.0	0.1	77.2	2.3	0.3	0.0	0.7
Lucinda	78.8	0.0	0.0	0.0	0.0	0.4	0.0	1.0	77.1	0.0	0.0	0.0
Townsville	137.6	8.2	0.0	0.0	2.3	0.0	0.6	0.9	11.3	85.5	11.2	3.4
Ayr	83.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	83.5	0.2
Bowen	93.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	87.4
Airlie Beach	91.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5
Mackay	94.3	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.7
Yeppoon	86.3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.3
Gladstone	99.5	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.5	0.0	0.3
Bundaberg	94.9	0.0	0.0	0.0	0.0	0.9	0.1	0.2	2.1	0.2	0.0	0.3
Hervey Bay	94.6	0.0	0.0	0.0	0.0	0.8	0.2	0.0	0.0	0.4	0.0	0.0
Maryborough	86.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tin Can Bay	55.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mooloolaba	101.5	2.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brisbane	135.1	0.3	0.0	1.1	4.0	1.7	1.6	1.0	2.1	1.8	1.1	3.1
Southport	88.1	1.9	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
NSW	7.8	0.0	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.2	0.0	1.0
Other Locations	48.6	2.1	0.0	0.0	0.2	0.0	0.9	1.9	2.4	2.7	4.2	0.7

TRCs	Sum Link	Airlie Beach	Mackay	Yeppoon	Gladstone	Bundaberg	Hervey Bay	Maryborough	Tin Can Bay	Mooloolaba	Brisbane	Southport
Karumba	67.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Weipa	80.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Thursday Island	79.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cooktown	73.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Port Douglas	71.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Cairns	262.7	0.0	2.2	1.8	0.2	5.9	4.9	0.7	7.9	3.6	10.1	0.4
Innisfail	89.1	0.0	1.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	5.8
Lucinda	78.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Townsville	137.6	0.0	3.0	1.0	1.4	1.1	0.5	0.0	4.0	1.0	0.5	1.5
Ayr	83.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bowen	93.2	0.5	0.3	0.0	0.5	0.3	0.3	0.0	0.4	0.4	0.6	2.0
Airlie Beach	91.1	90.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mackay	94.3	0.6	89.6	0.0	0.8	0.7	0.1	0.0	0.0	0.0	0.3	0.9
Yeppoon	86.3	0.0	0.8	83.1	0.5	0.8	0.1	0.1	0.0	0.3	0.0	0.0
Gladstone	99.5	0.0	0.1	0.2	89.0	1.3	0.9	1.5	1.0	3.2	0.7	0.2
Bundaberg	94.9	0.0	0.1	0.0	1.6	85.5	0.4	1.2	1.2	0.4	0.4	0.2
Hervey Bay	94.6	0.0	0.0	0.0	0.0	0.6	87.1	3.4	1.3	0.3	0.6	0.2
Maryborough	86.2	0.0	0.0	0.0	0.0	0.0	0.5	83.6	2.0	0.0	0.0	0.0
Tin Can Bay	55.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	53.3	0.3	0.6	0.0
Mooloolaba	101.5	0.0	0.0	0.2	0.2	0.0	0.1	1.3	15.2	81.4	0.6	0.2
Brisbane	135.1	4.5	1.0	4.5	3.2	2.2	2.5	5.3	3.9	4.1	83.2	3.1
Southport	88.1	0.0	0.3	0.1	0.0	0.2	0.1	0.4	0.4	1.0	1.2	81.0
NSW	7.8	0.0	0.1	0.0	0.2	0.2	1.1	0.0	0.9	0.5	0.2	2.7
Other	48.6	4.3	1.4	7.2	2.3	1.2	1.2	2.0	8.6	2.9	0.8	1.6



5 Queensland Fishing Industry and Employee Profiles

The following analyses are undertaken for all fishing businesses and all employees throughout Queensland. Where appropriate, comparisons across the 22 TRCs are also presented.

BUSINESS PROFILES

Number of Fishing Businesses

There were 2,679 individual licence holders identified in the Queensland Fisheries Service database of master fishers (Table 3.1). It was estimated that there was 8.8% latency within the database; fishers were either deceased or reported they were no longer in business or had retired. Therefore in the past 12 months, there were 2,444 active licence holders in Queensland.

Table 5.1 and Figure 5.1 show the estimated count and percentage distribution of fishing businesses within the 22 TRCs. The Bundaberg TRC has the highest number of fishing businesses (13%), with TRCs from Mackay to Hervey Bay accounting for a third (33%) of all fishing businesses in Queensland. Other regions with significant numbers of fishing businesses include the Cairns (8%) and Innisfail (6%) TRCs, which account for 14% of all fishing businesses and TRCs from Mooloolaba to Southport which account for an additional 30% of all fishing businesses.

Table 5.1 also shows that those TRCs that are directly adjacent to the boundaries of the Great Barrier Reef Marine Park (from Cooktown to Gladstone) include 44% of all fishing businesses. The balance of fishing businesses (56%) are located in TRCs in the Gulf of Carpentaria and south of Bundaberg.

Table 5.1. Number of Fishing Businesses by TRC

TRCs	Estimated Count	Percent of all Businesses
Karumba	31	1.3
Weipa	16	0.7
Thursday Island	19	0.8
Cooktown	15	0.6
Port Douglas	34	1.5
Cairns	192	8.3
Innisfail	134	5.8
Lucinda	36	1.6
Townsville	153	6.6
Ayr	16	0.7
Bowen	70	3.0
Airlie Beach	14	0.6
Mackay	119	5.1
Yeppoon	102	4.4
Gladstone	131	5.7
Bundaberg	307	13.3
Hervey Bay	111	4.8
Maryborough	36	1.6
Tin Can Bay	78	3.4
Mooloolaba	218	9.4
Brisbane	382	16.5
Southport	98	4.2
Total	2,312	100.0

Note: The total estimated count does not sum to 2,444 as it is based on the sum of individual estimates from within each TRC.

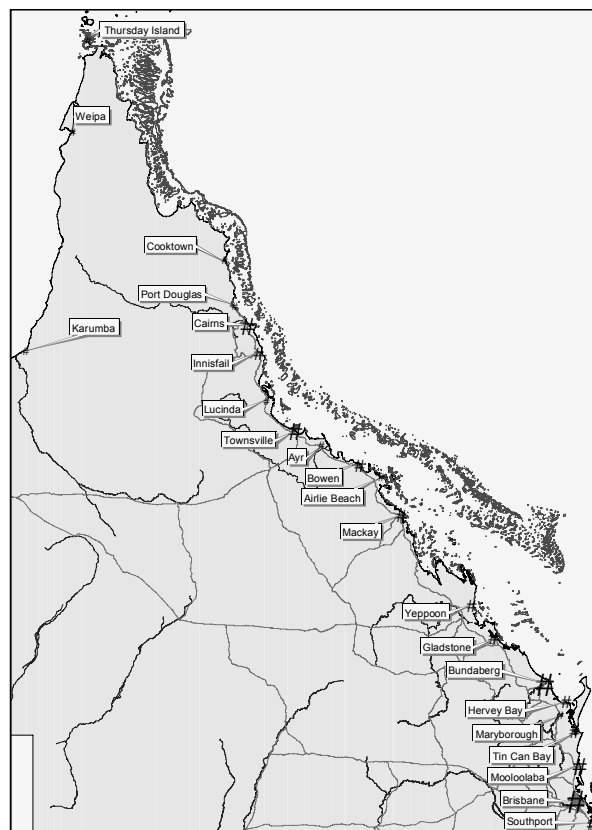


Figure 5.1 Percentage of Fishing Businesses within TRCs

Fishing Activity and Type

Table 5.2 shows the type of fishing activity undertaken within the last year by fishing businesses in Queensland. Trawling (47%) and line fishing (42%) are the most common fishing activities, followed by netting (31%) and crabbing (24%).

Table 5.2
Queensland State: Type of Fishing Activity
(During the last 12 months)

Fishing Type	Sample Count	Sample Percent	Estimated Population Count
Trawl	471	47.3	1,157
Line Fishing	414	41.6	1,016
Netting	306	30.8	752
Crabbing	237	23.8	581
Spanner Crabs	90	9.0	220
Lobster	11	1.1	27
Pearl	5	0.5	12
Total	12	100.0	2,444

Note: All rows are independent, percentages should not be summed.

Table 5.3 and Figure 5.2 show the percentage of fishing businesses undertaking trawl, line, netting or crabbing activities across each of the 22 identified TRCs. Trawl fishing is most common amongst fishing businesses from the five TRCs of Brisbane (18%), Bundaberg (13%), Cairns (12%), Mooloolaba (10%) and Townsville (9%) which together accounts for 62% of all trawl fishing businesses in Queensland.

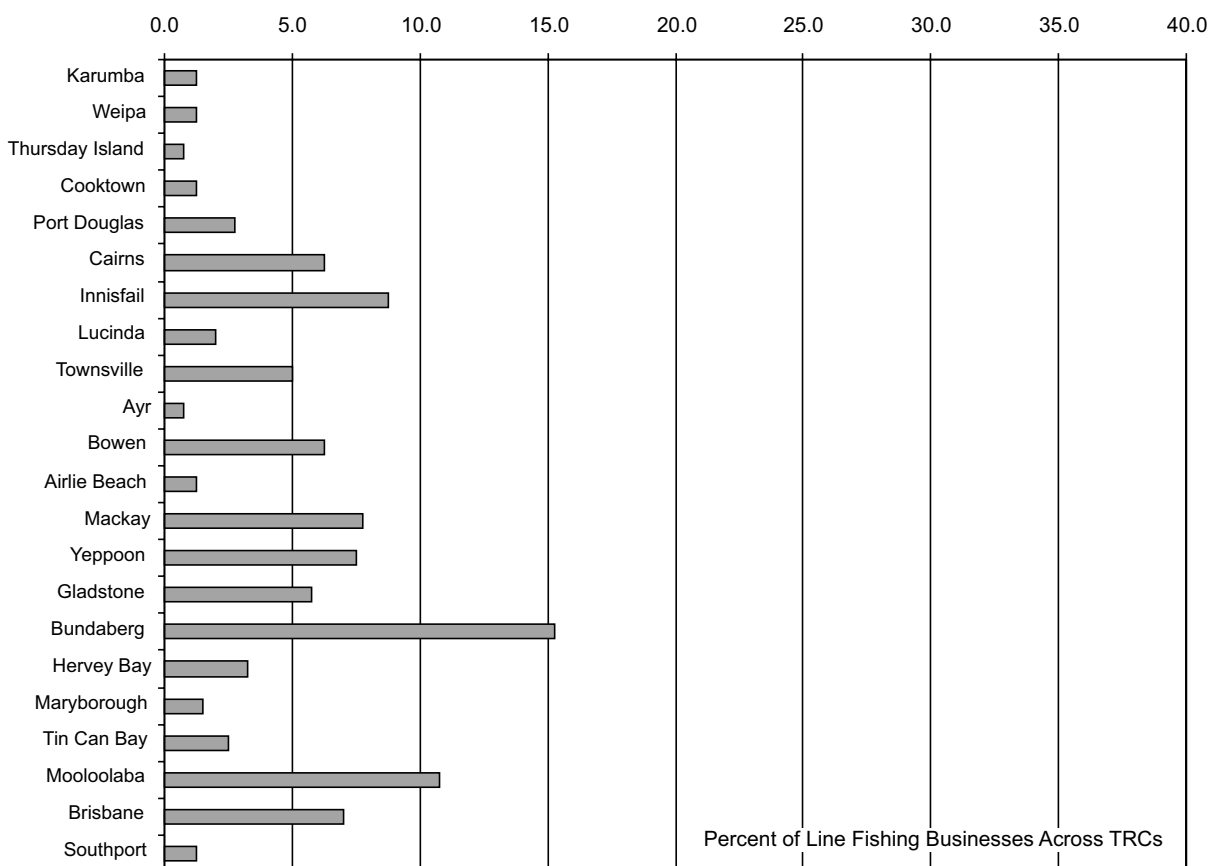
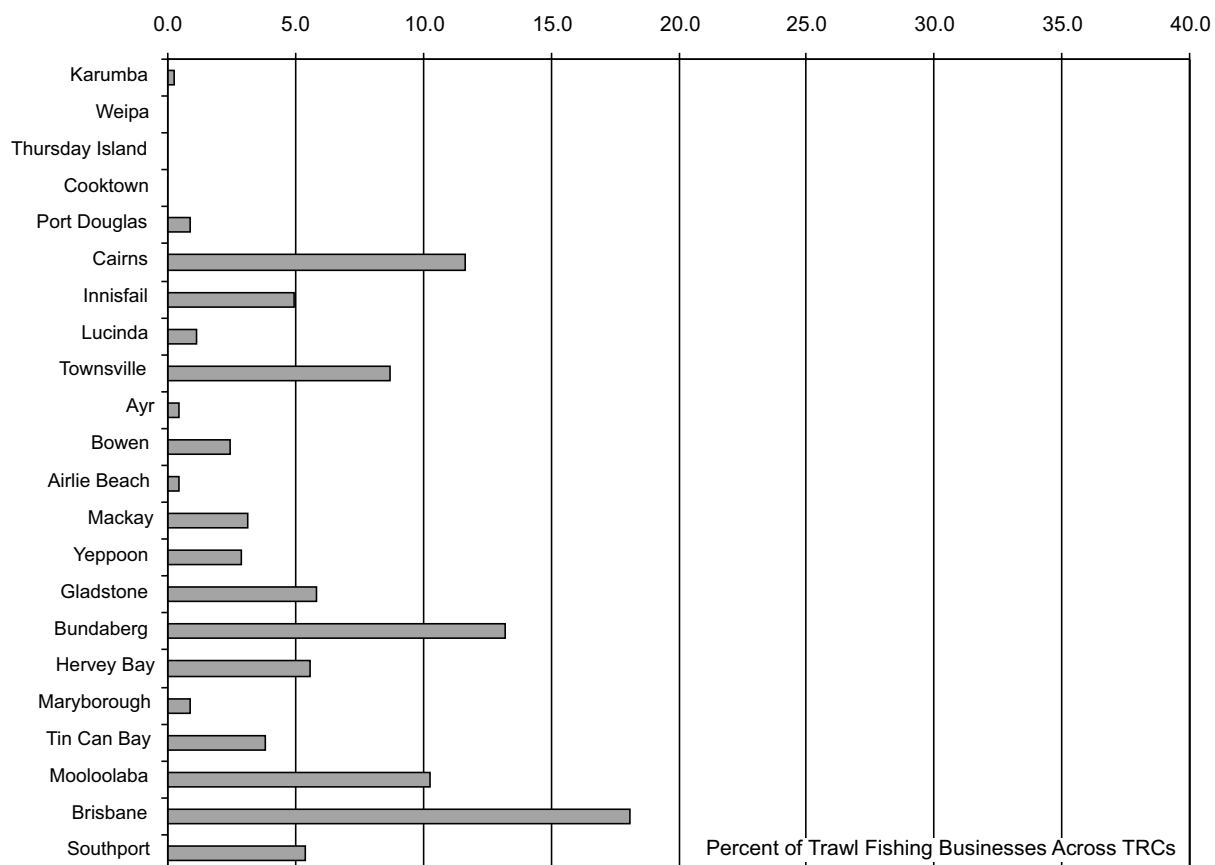


Figure 5.2 Percentage of Fishing Business Undertaking Fishing Activities Across TRCs.

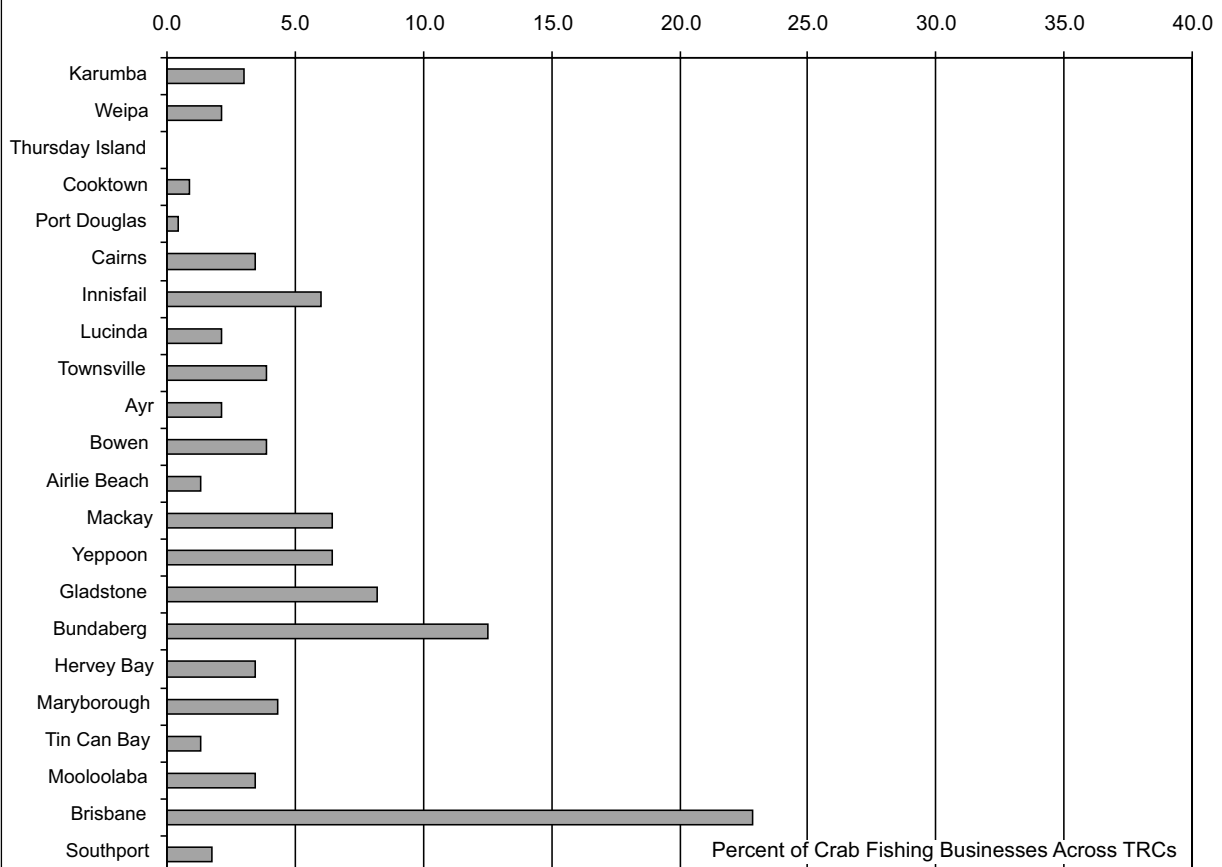
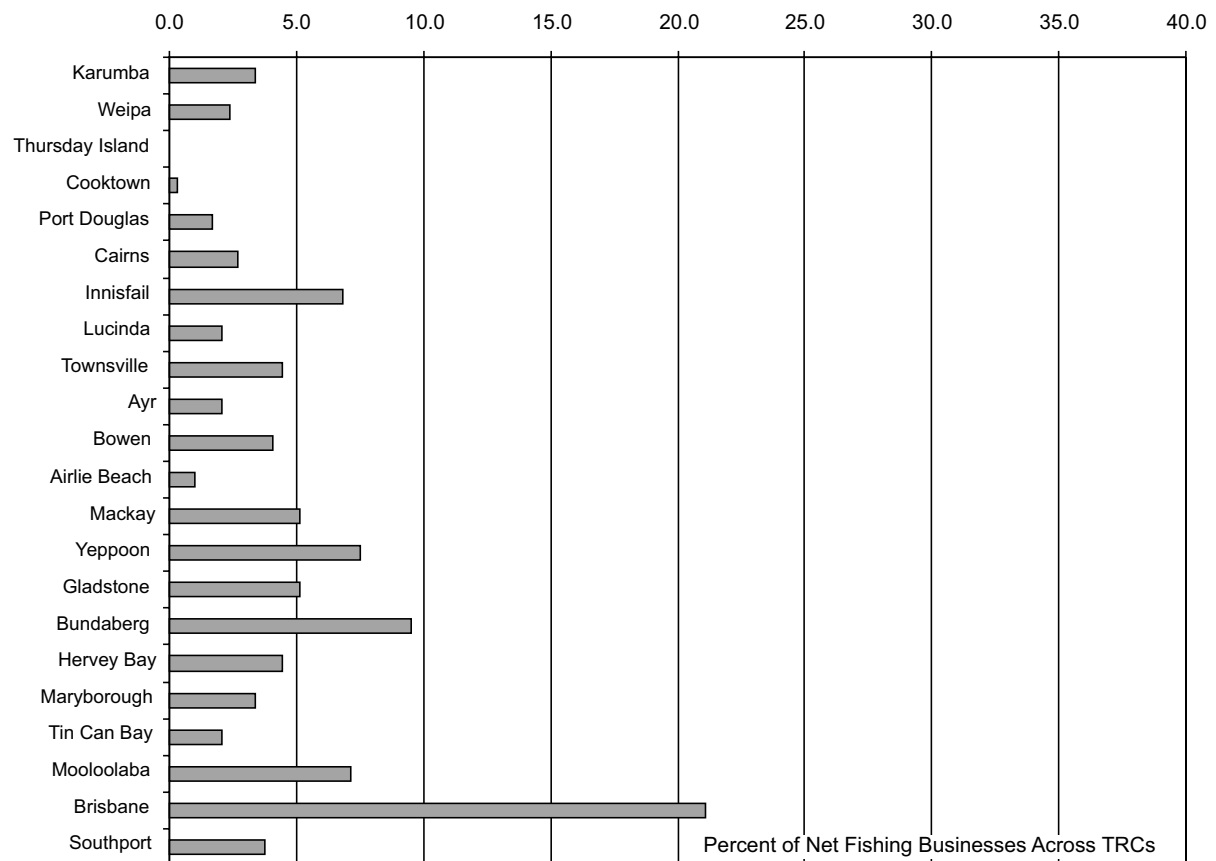


Figure 5.2 Percentage of Fishing Business Undertaking Fishing Activities Across TRCs.

Line fishing is most common from homeports within the Bundaberg (15%) and Mooloolaba (11%) TRCs, while crabbing occurs most commonly from businesses located in the TRCs of Bundaberg (13%) and Brisbane (23%). Netting occurs most commonly from the Brisbane TRC (21%), although it is also reasonably common within the Bundaberg (9%) and Innisfail (7%) TRCs.

Table 5.3. Type of Fishing Activity Across TRCs

TRC	Percent Trawl	Percent Line	Percent Crab	Percent Net
Karumba	0.2	1.3	3.0	3.4
Weipa	0.0	1.3	2.2	2.4
Thursday Island	0.0	0.8	0.0	0.0
Cooktown	0.0	1.3	0.9	0.3
Port Douglas	0.9	2.8	0.4	1.7
Cairns	11.6	6.3	3.4	2.7
Innisfail	4.9	8.8	6.0	6.8
Lucinda	1.1	2.0	2.2	2.0
Townsville	8.7	5.0	3.9	4.4
Ayr	0.4	0.8	2.2	2.0
Bowen	2.5	6.3	3.9	4.1
Airlie Beach	0.4	1.3	1.3	1.0
Mackay	3.1	7.8	6.5	5.1
Yeppoon	2.9	7.5	6.5	7.5
Gladstone	5.8	5.8	8.2	5.1
Bundaberg	13.2	15.3	12.5	9.5
Hervey Bay	5.6	3.3	3.4	4.4
Maryborough	0.9	1.5	4.3	3.4
Tin Can Bay	3.8	2.5	1.3	2.0
Mooloolaba	10.3	10.8	3.4	7.1
Brisbane	18.1	7.0	22.8	21.1
Southport	5.4	1.3	1.7	3.7
Total	100.0	100.0	100.0	100.0

Fishing activities are not undertaken independently and during a 12 month period many fishers engaged in other fishing activities. Table 5.4 shows the percentage co-occurrence of fishing activities within the past 12 months. For instance, of those fishers who undertook line fishing within the past 12 months, 32% also engaged in netting, 28% in crabbing and 24% in trawling. Further examination of Table 5.4 shows considerable co-occurrence of fishing activities, with 67% of those engaged in crabbing also engaged in netting and 46% of those fishing for spanner crabs also engaged in line fishing.

**Table 5.4
Queensland State: Co-occurrence of Fishing Activities**

	Line Fishing	Trawl	Crabbing	Netting	Spanner Crabs
Line fishing	414 <i>100.0</i>	100 <i>21.2</i>	116 <i>48.9</i>	131 <i>42.8</i>	41 <i>45.6</i>
Trawl	100 <i>24.2</i>	471 <i>100.0</i>	47 <i>19.8</i>	63 <i>20.6</i>	13 <i>14.4</i>
Crabbing	116 <i>28.0</i>	47 <i>10.0</i>	237 <i>100.0</i>	160 <i>52.3</i>	37 <i>41.1</i>
Netting	131 <i>31.6</i>	63 <i>13.4</i>	160 <i>67.5</i>	306 <i>100.0</i>	21 <i>23.3</i>
Spanner crabs	41 <i>9.9</i>	13 <i>2.8</i>	37 <i>15.6</i>	21 <i>6.9</i>	90 <i>100.0</i>

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

Table 5.5 and Figure 5.3 show the frequency of fishing activity for all fishing business in Queensland across of fisheries. Most fishing activity occurs between March and June, with the lowest frequency of fishing activity in August and December.

Table 5.5 Queensland State: Peak Fishing Months During the Past 12 Months

Months	Sample Count	Percent of Fishery
January	224	24.5
February	271	29.7
March	401	43.9
April	391	42.8
May	348	38.1
June	306	33.5
July	218	23.9
August	182	19.9
September	215	23.5
October	226	24.8
November	239	26.2
December	195	21.4

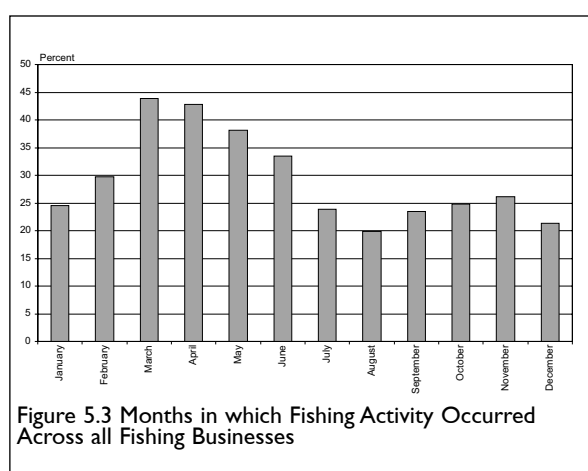


Figure 5.3 Months in which Fishing Activity Occurred Across all Fishing Businesses

Table 5.6 and Figure 5.4 provides a description of the seasonal variation in fishing activities by businesses. The frequency with which trawl fishing occurs throughout the state appears to be reasonably constant throughout the year, although there is a tendency for trawl fishing to be somewhat less frequent between December and February.

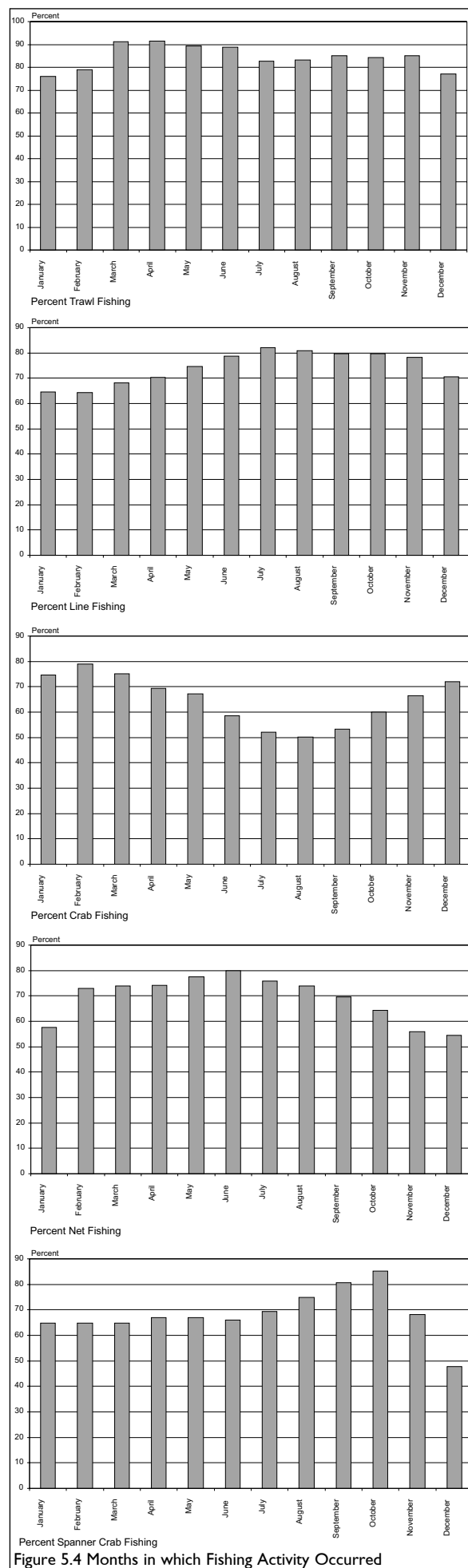
There is a trend in frequency of line fishing across the 12 months from relatively low frequencies in January and February to high frequencies of occurrence through July to November.

In general, crab fishing and line fishing do not occur at the same time of the year. Crab fishing is most common between January and March and least common in the months from July to September. Net fishing is most common between February and September, with November to January being the least common months for net fishing. Spanner crab fishing is relatively constant throughout the first six months of the year, peaking in September and October and is less frequent in December (Figure 5.4).

Table 5.6
Queensland State: Seasonal Variations in Fishing Activity

Months	Sample Count	Percent of Fishery
Line Fishing		
January	255	64.6
February	254	64.3
March	269	68.1
April	278	70.4
May	295	74.7
June	311	78.7
July	324	82.0
August	319	80.8
September	315	79.7
October	315	79.7
November	309	78.2
December	279	70.6
Trawl		
January	355	76.0
February	369	79.0
March	426	91.2
April	428	91.6
May	417	89.3
June	414	88.7
July	386	82.7
August	388	83.1
September	397	85.0
October	394	84.4
November	397	85.0
December	360	77.1
Crabbing		
January	171	74.7
February	181	79.0
March	172	75.1
April	159	69.4
May	154	67.2
June	134	58.5
July	119	52.0
August	115	50.2
September	122	53.3
October	128	59.9
November	152	66.4
December	165	72.1
Netting		
January	172	57.5
February	218	72.9
March	221	73.9
April	222	74.2
May	232	77.6
June	239	79.9
July	227	75.9
August	221	73.9
September	208	69.6
October	192	64.2
November	167	55.9
December	163	54.5
Spanner Crabs		
January	57	64.8
February	57	64.8
March	57	64.8
April	59	67.0
May	59	67.0
June	58	65.9
July	61	69.3
August	66	75.0
September	71	80.7
October	75	85.2
November	60	68.2
December	42	47.7

Note: Seasonal variation in lobster and pearl fishing has been excluded given the low sample count.



Location of Resource Use

Figure 5.5 shows the location of resource use among across all commercial fishing operations in Queensland. High density use is found in coastal areas between Tin Can Bay and Yeppoon, Townsville and Bowen, and Cooktown to Cairns.

Figures 5.6 to 5.9 show the location of resource use for specific fishing activities, including trawl, netting, line fishing and crabbing. In relation to trawl fishing, high density use is found in Moreton Bay and Princess Charlotte Bay and coastal areas between Port Douglas and Cairns, Innisfail and Bowen and between Yeppoon and Hervey Bay (Figure 5.6).

The distribution of resource use among line fishers is shown in Figure 5.7. Areas of relatively high resource use include the Swains Reefs and reefal areas to the east of Mackay. Other areas of relatively significant resource use include coastal areas between Moreton Bay and Yeppoon and numerous coastal areas between Airlie Beach and Port Douglas.

Figure 5.8 shows the location of resource use among net fishers in Queensland. The identification of many non coastal areas of resource use among net fishers is due to net fishing co-occurring with other fishing activities. However, Figure 5.8 shows areas of relatively high resource use to be located in Moreton Bay, areas surrounding Fraser Island, Hervey Bay and Tin Can Bay and coastal areas between Yeppoon and Gladstone.

Relatively high densities for crabbing occurs in similar locations to that of net fishing, with again high levels of

resource use found in Moreton Bay, areas surrounding Fraser Island and coastal areas between Yeppoon and Gladstone.

Fishing Industry Employees

Table 5.7 identifies the number of employees of commercial fishing businesses within Queensland for both peak and off-peak seasons. The majority of businesses in both peak and off peak seasons have between two and three full-time employees (inc. the owner or operator). There is little part-time or casual employment by these businesses. The average number of employees per business during their peak season for that business is 2.9, while in the off-peak season it is 2.5. In total it is estimated that during the peak season there are 7,088 full-time equivalent employees while in the off-peak season there are 6,110 full-time equivalent employees.

Table 5.8 and Figure 5.10 show the number of full-time equivalent employees for both peak and off-peak seasons in all 22 TRCs in Queensland. Relatively high levels of peak employment occur within the TRCs of Brisbane (16%), Bundaberg (12%), Cairns (12%) and Mooloolaba (10%). Together these four TRCs account for 50% of all peak employment in Queensland's commercial fishing industry.

Table 5.8 also shows that in several TRCs the number of full-time equivalent employees vary significantly between peak and off-peak seasons. For instance, in the TRCs of Weipa, Lucinda, Ayr, Airlie Beach and Mooloolaba employment is reduced by 20% and 25% between peak and off-peak periods.

Table 5.7. Queensland State: 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	46	4.7	863	86.6	877	93.3
1	289	29.0	77	7.7	58	0.0
2-3	463	46.4	41	4.1	42	6.7
4-5	114	11.4	9	0.9	8	0.0
6-7	47	4.7	3	0.3	5	0.0
8-9	15	1.5	3	0.3	3	0.0
10-11	3	0.3	0	0.0	3	0.0
12-13	9	0.9	0	0.0	0	0.0
14+	11	1.1	1	0.1	1	0.0
Total Businesses	997	100.0	997	100.0	997	100.0
Total Employees	2,652		267		297	
Mean Number of Employees per Business (Peak)		2.9				
Estimated Number Employed in Queensland		7,088				
Off-Peak						
Nil	68	6.8	902	90.8	904	91.0
1	331	33.3	51	5.1	53	5.3
2-3	438	44.1	29	2.9	23	2.3
4-5	94	9.5	6	0.6	5	0.5
6-7	30	3.0	3	0.3	3	0.3
8-9	12	1.2	1	0.1	2	0.2
10-11	4	0.4	0	0.0	2	0.2
12-13	8	0.8	0	0.0	0	0.0
14+	8	0.8	1	0.1	1	0.1
Total Businesses	993	100.0	993	100.0	993	100.0
Total Employees	2,321		188		205	
Mean Number of Employees per Business (Off-Peak)		2.5				
Estimated Number Employed within the TRC		6,110				

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 2,444 fishing businesses.

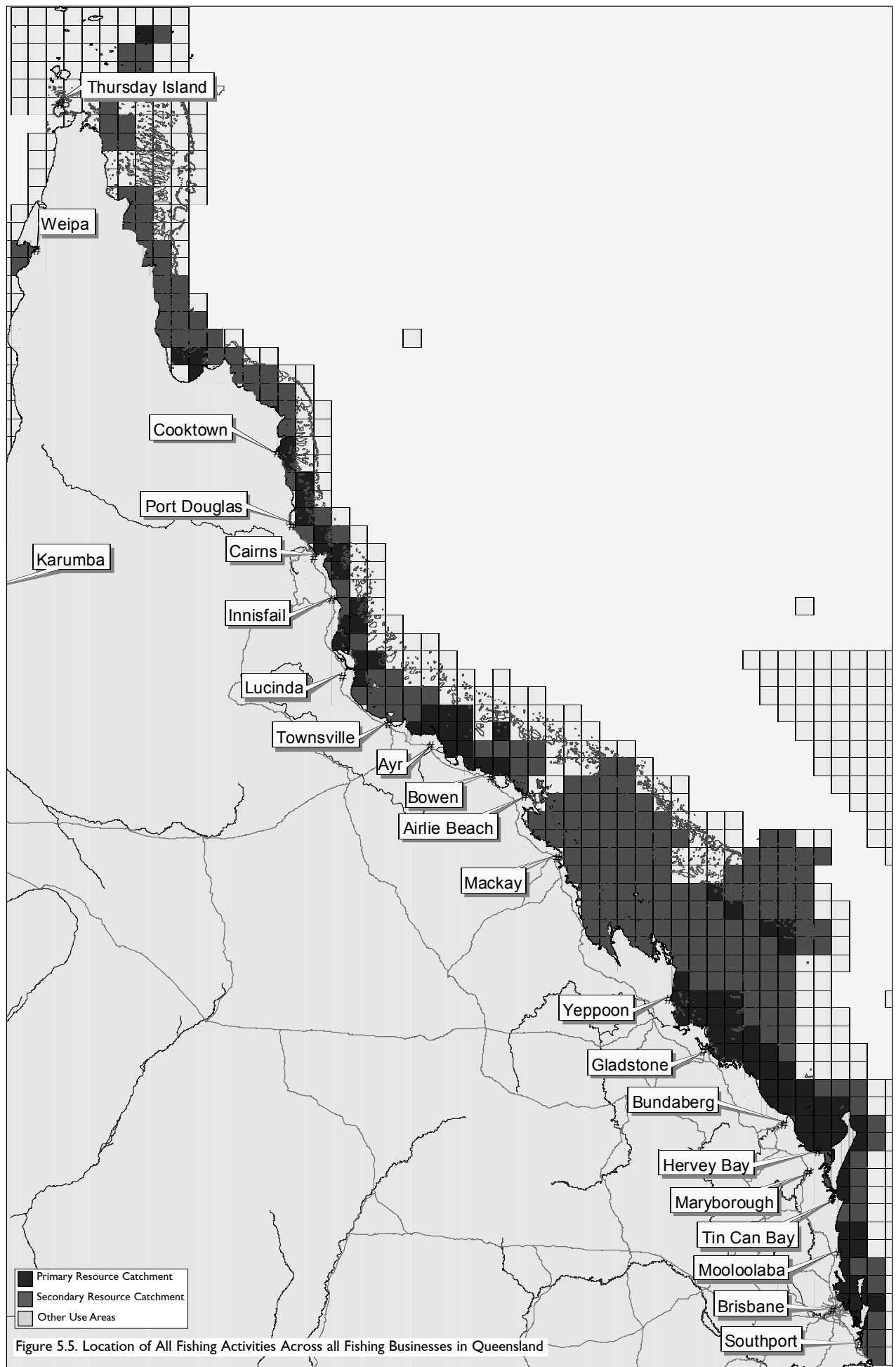


Figure 5.5. Location of All Fishing Activities Across all Fishing Businesses in Queensland

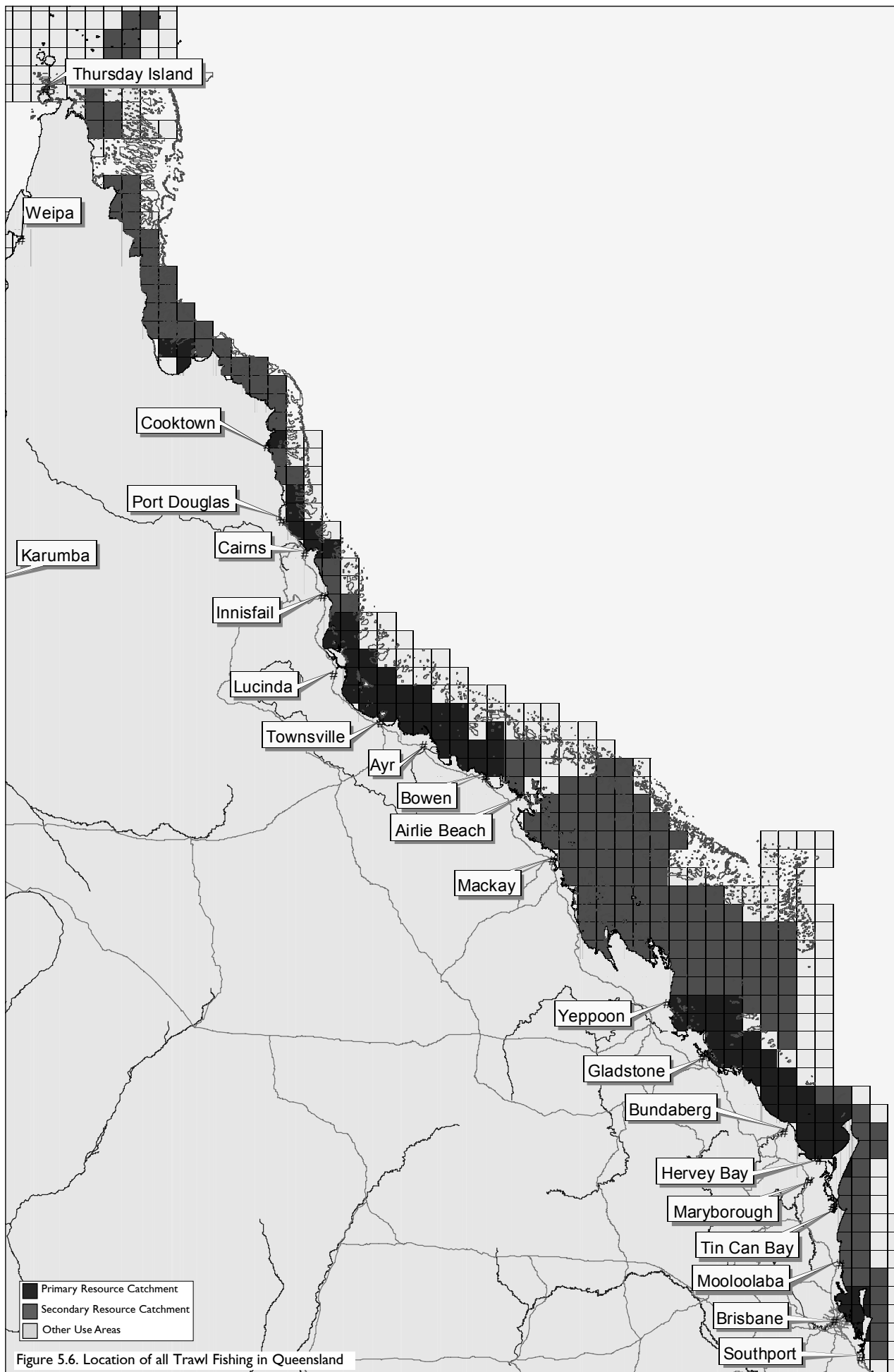


Figure 5.6. Location of all Trawl Fishing in Queensland

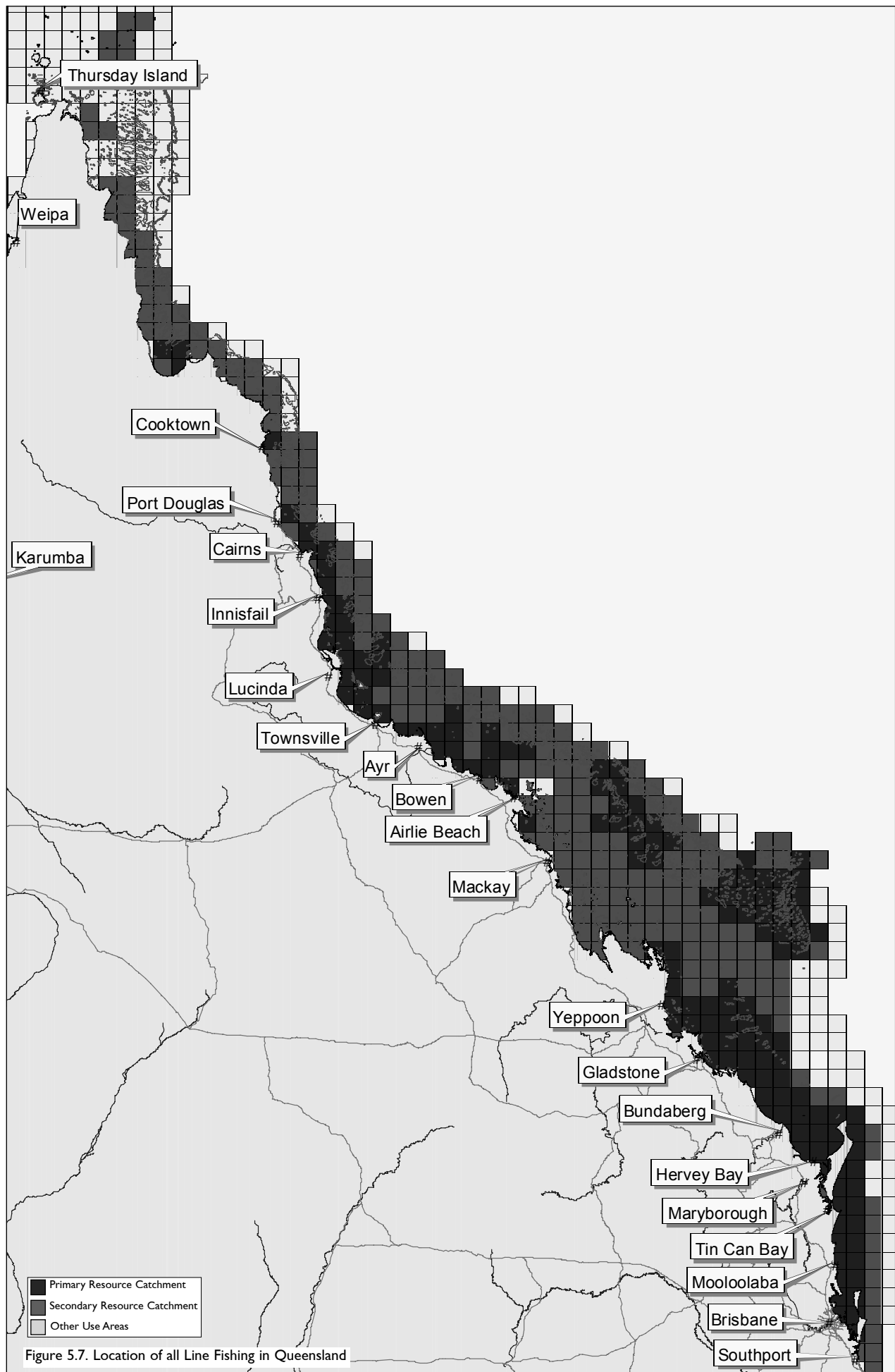
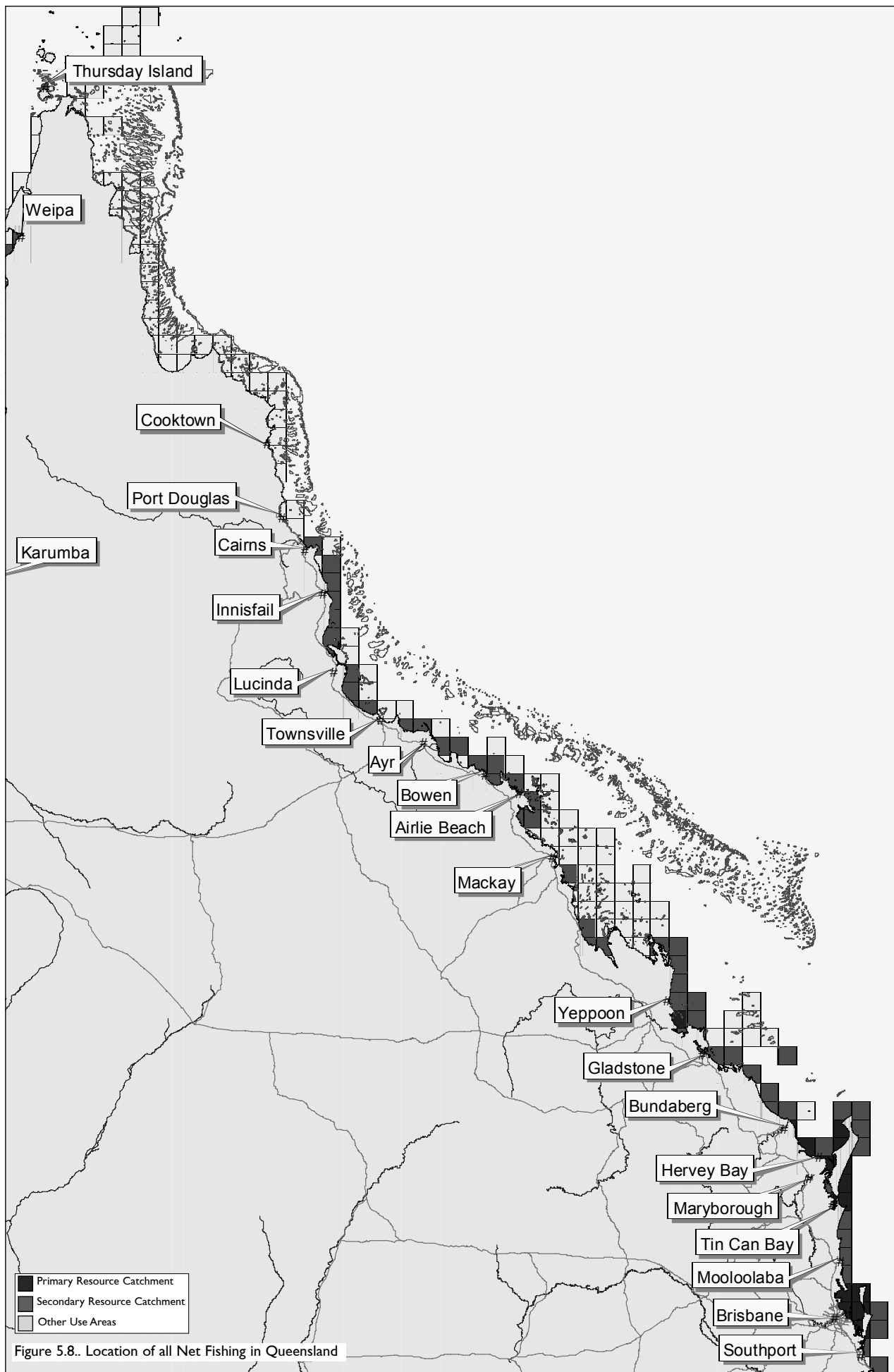


Figure 5.7. Location of all Line Fishing in Queensland



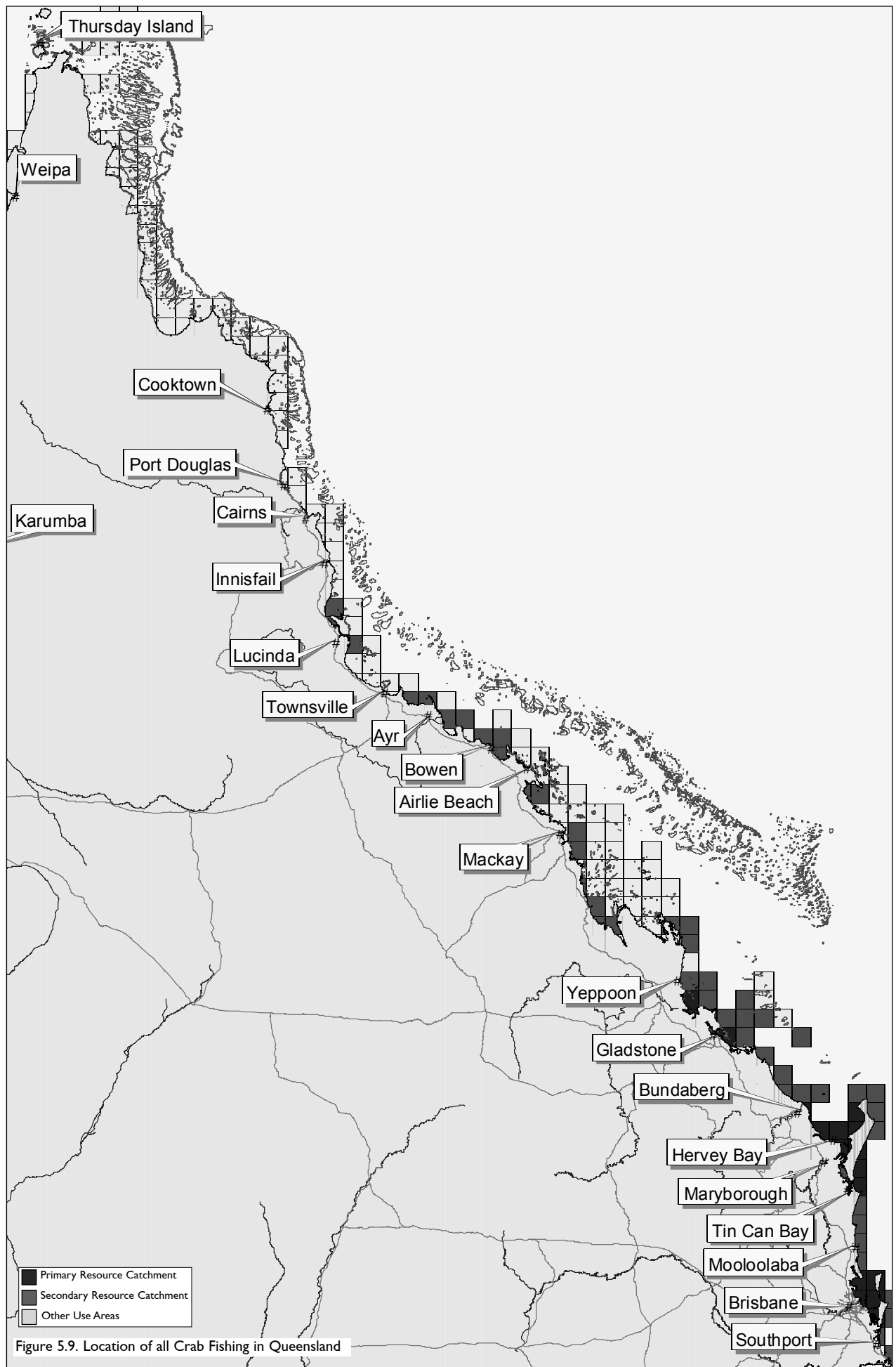


Figure 5.9. Location of all Crab Fishing in Queensland

Table 5.8
Number of Full-Time equivalent Employees Across TRCs

TRC	Peak Employment		Off-Peak Employment		Percent Change
	Count	%	Count	%	
Karumba	99	1.5	84	1.4	-15.2
Weipa	50	0.7	38	0.7	-24.0
Thursday Island	77	1.1	75	1.3	-2.6
Cooktown	42	0.6	37	0.6	-11.9
Port Douglas	62	0.9	62	1.1	0.0
Cairns	787	11.6	633	10.9	-19.6
Innisfail	402	5.9	348	6.0	-13.4
Lucinda	68	1.0	50	0.9	-26.5
Townsville	428	6.3	352	6.0	-17.8
Ayr	27	0.4	21	0.4	-22.2
Bowen	217	3.2	175	3.0	-19.4
Airlie Beach	35	0.5	27	0.5	-22.9
Mackay	464	6.9	440	7.5	-5.2
Yeppoon	214	3.2	184	3.2	-14.0
Gladstone	354	5.2	341	5.8	-3.7
Bundaberg	829	12.3	737	12.6	-11.1
Hervey Bay	377	5.6	355	6.1	-5.8
Maryborough	61	0.9	58	1.0	-4.9
Tin Can Bay	195	2.9	179	3.1	-8.2
Mooloolaba	676	10.0	523	9.0	-22.6
Brisbane	1,070	15.8	917	15.7	-14.3
Southport	225	3.3	196	3.4	-12.9
Total	6,759	100.0	5,832	100.0	-13.7

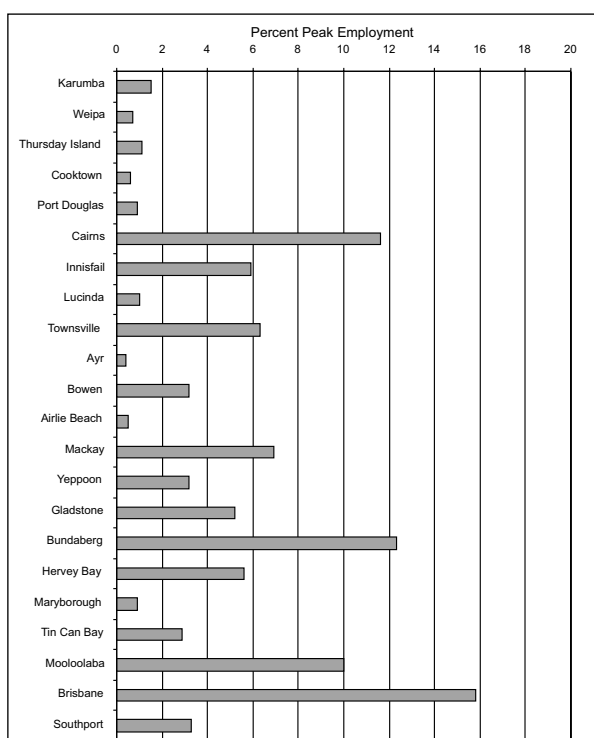


Figure 5.10. Percentage Peak Employment Across TRCs

Business Ownership and Size

Table 5.9 shows the number of years the current owner or operator has owned the fishing business. On average fishing businesses within Queensland had been owned for 14.6 years. Approximately 50% of fishing businesses had been owned for less than 10 years, with a further 28% being owned for less than five years.

Table 5.9
Queensland State: Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent	Cumulative Percent
1-5	277	28.0	28.0
6-10	197	19.9	47.9
11-15	135	13.6	61.5
16-20	116	11.7	73.2
21-25	99	10.0	83.2
26-30	81	8.2	91.5
30+	84	8.5	100.0
Total	989	100.0	

Mean Number of years owned or operated 14.6

Note: Standard error of 0.37 for number of years ownership

Table 5.10 and Figure 5.11 shows the mean number of years of ownership by the current owner of the fishing business across TRCs. Businesses in Cooktown and Weipa have been owned by their current owner for an average of approximately eight years, while in contrast businesses in Mooloolaba and Southport have been owned for 15 and 21 years respectively.

Table 5.10
Mean Years of Current Ownership of the Fishing Business by TRC

TRCs	Mean Years	Standard Error
Karumba	13.8	2.8
Weipa	8.4	2.8
Thursday Island	20.3	1.7
Cooktown	7.6	2.9
Port Douglas	12.4	2.0
Cairns	13.4	1.4
Innisfail	15.6	1.7
Lucinda	16.0	3.3
Townsville	12.5	1.1
Ayr	12.2	4.2
Bowen	10.7	2.0
Airlie Beach	18.2	6.3
Mackay	13.5	1.2
Yeppoon	18.0	1.7
Gladstone	10.9	1.3
Bundaberg	12.4	1.1
Hervey Bay	14.6	1.7
Maryborough	18.0	3.4
Tin Can Bay	14.0	2.7
Mooloolaba	15.1	1.2
Brisbane	16.6	0.9
Southport	21.3	2.1

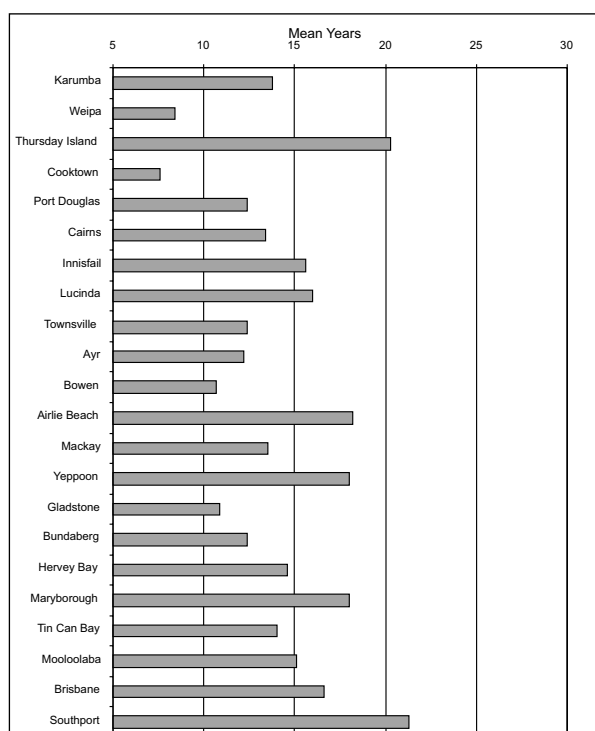


Figure 5.11. Mean Years Business Ownership Across TRCs

The average number of years all fishing businesses in Queensland had been operating was 18.2 years (Table 5.9). Approximately one-third of all businesses had operated for less than 10 years, with nearly half of all businesses having operated for less than 10 years.

Table 5.11
Queensland State: Number of Years Business has been Operating

Number of Years	Sample Count	Percent	Cumulative Percent
1-5	178	18.4	18.4
6-10	161	16.7	35.1
11-15	133	13.8	48.9
16-20	155	16.1	65.0
21-25	108	11.2	76.2
26-30	116	12.0	88.2
31-35	30	3.1	91.3
36+	84	8.7	100.0
Total	965	100.0	

Mean Number of years owned or operated 18.2

Note: Standard errors of 0.46 for number of years operated

Table 5.11 and Figure 5.12 shows the mean number of years fishing business had been operating, irrespective of its current ownership, across all TRCs. Businesses in Maryborough and Southport appear to have operated longer than many other businesses found within other TRCs.

Table 5.13 shows that the majority of fishing businesses within Queensland (64%) operated only one fishing boat.

Table 5.12
Mean Years of Business Operating by TRC

TRCs	Mean Years	Standard Error
Karumba	19.4	4.9
Weipa	13.6	3.4
Thursday Island	19.8	1.8
Cooktown	14.3	5.5
Port Douglas	17.5	3.8
Cairns	18.0	1.6
Innisfail	18.5	2.1
Lucinda	19.3	2.8
Townsville	16.7	1.2
Ayr	14.6	4.1
Bowen	14.7	2.3
Airlie Beach	18.2	6.3
Mackay	17.7	1.8
Yeppoon	21.3	1.9
Gladstone	15.0	1.5
Bundaberg	14.8	1.1
Hervey Bay	18.2	1.9
Maryborough	25.0	9.3
Tin Can Bay	17.2	2.8
Mooloolaba	19.1	1.8
Brisbane	20.2	1.3
Southport	24.1	2.8

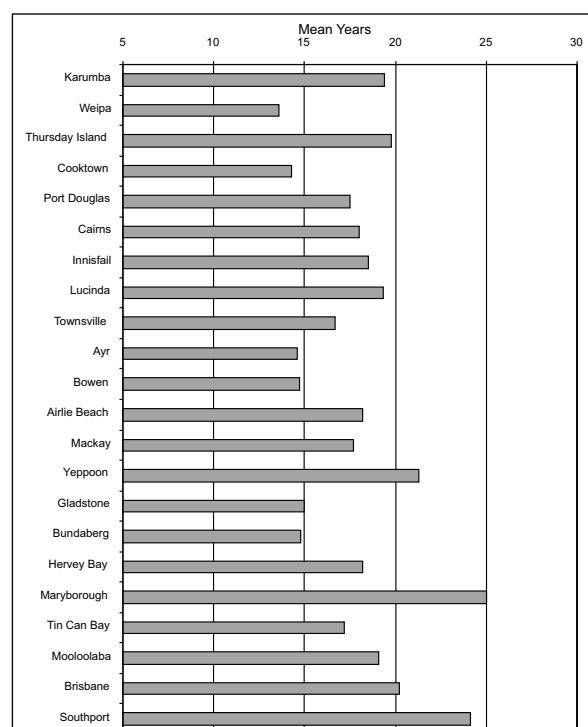


Figure 5.12. Mean Years Business Operating Across TRCs

Table 5.13
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent
0	6	0.6
1	641	64.5
2	164	16.5
3	96	9.7
4	38	3.8
5	17	1.7
6 or more	32	3.2
Total Number of Businesses	994	100.0
Mean Number of Boats Operated		1.7

Note: Standard errors of .05 for number of boats operated.

The mean number of boats operated by fishing businesses across each of the 22 TRCs is shown in Table 5.14 and Figure 5.13. With the exception of Weipa, Ayr and Maryborough which operate a relatively high number of boats, all other TRCs operate similar number of boats.

Table 5.14
Mean Years of Business Operating by TRC

TRCs	Mean Number of Boats	Standard Error
Karumba	1.5	0.3
Weipa	2.0	0.4
Thursday Island	1.1	0.1
Cooktown	1.5	0.3
Port Douglas	1.1	0.1
Cairns	1.6	0.1
Innisfail	1.5	0.1
Lucinda	1.9	0.4
Townsville	1.6	0.2
Ayr	2.6	0.6
Bowen	1.8	0.3
Airlie Beach	1.7	0.3
Mackay	1.8	0.2
Yeppoon	1.9	0.3
Gladstone	1.7	0.2
Bundaberg	1.7	0.1
Hervey Bay	1.8	0.2
Maryborough	3.0	0.6
Tin Can Bay	1.5	0.2
Mooloolaba	1.9	0.2
Brisbane	1.7	0.1
Southport	1.5	0.2

The majority of boats (61%) operated by businesses were between 3 and 10 metres, with over 37% of all boats being less than 6 metres (Table 5.15). Only 6% of boats were over 19 metres, with the mean length of the largest boat operated by a business being 11.4 metres.

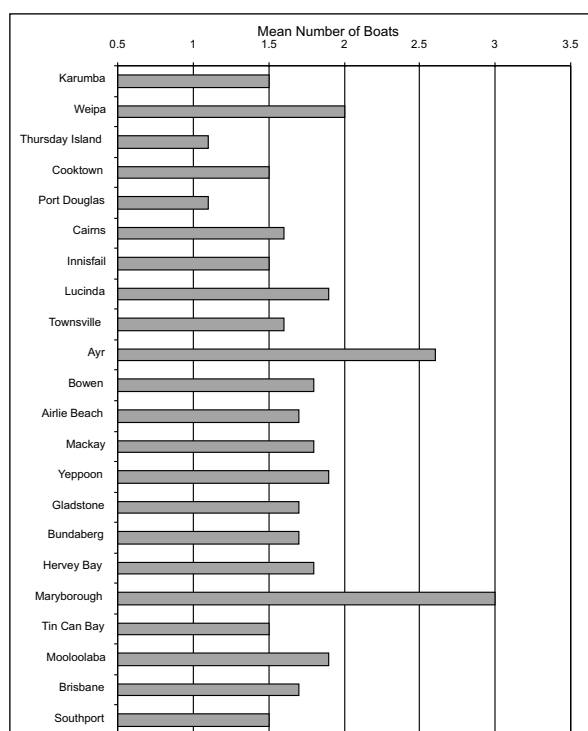


Figure 5.13. Mean Number of Boats Across TRCs

Table 5.15
Queensland State: Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent
3-6	621	36.9
7-10	406	24.1
11-14	285	16.9
15-18	274	16.3
19-22	76	4.5
23-26	22	1.3
Total Number of Boats	1,684	100.0
Mean Length of Boats Operated (metres)		9.9
Mean Length of Largest Boat Operated (metres)		11.4

*Note: As mean length of boats in a multiple response, standard errors cannot be computed.
Standard error of 0.14 for mean length of largest boat*

Table 5.16 shows the mean length of boats with each TRC and the mean length of the largest boat owned by each fishing business within each TRC (Figure 5.14). Smaller boats tend to be operated out of the TRCs of Lucinda, Ayr, Airlie Beach and Maryborough, while relatively larger boats operate from the TRCs of Cairns, Townsville, Gladstone, Hervey Bay, Tin Can Bay and Southport.

Table 5.16
Mean Length of Boats and Largest Boat by TRC

TRCs	Mean Length of Boats (Metres)	Mean Length of Largest Boat (Metres)
Karumba	11.4	11.6
Weipa	8.2	10.6
Thursday Island	11.9	11.5
Cooktown	8.3	10.1
Port Douglas	9.4	10.1
Cairns	13.1	14.6
Innisfail	10.1	10.6
Lucinda	6.9	9.4
Townsville	11.9	13.5
Ayr	5.6	7.1
Bowen	8.5	10.3
Airlie Beach	5.9	8.1
Mackay	8.9	11.3
Yeppoon	9.9	9.9
Gladstone	9.9	12.1
Bundaberg	10.2	11.3
Hervey Bay	12.0	13.2
Maryborough	6.2	7.7
Tin Can Bay	10.9	12.2
Mooloolaba	10.7	11.7
Brisbane	8.4	10.0
Southport	10.3	12.0

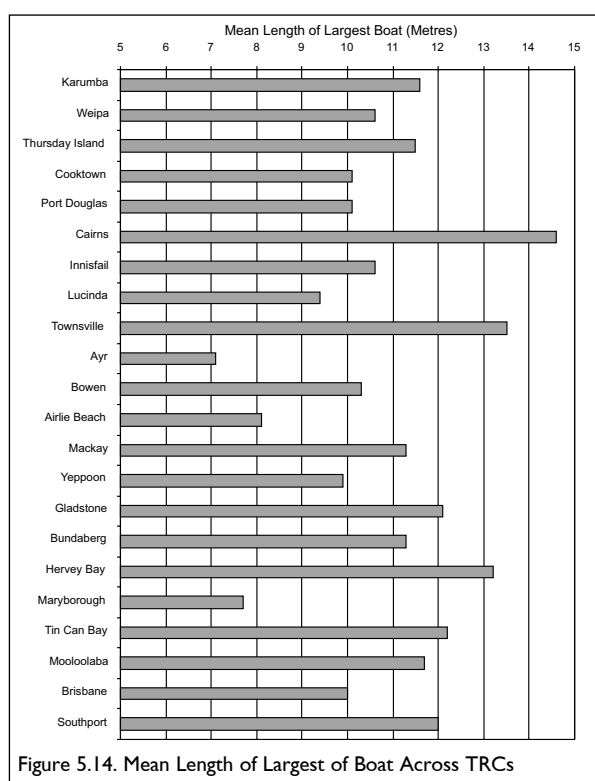


Figure 5.14. Mean Length of Largest of Boat Across TRCs

Value of Production and Debt Levels

Table 5.17 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses in Queensland. Forty-three percent of businesses within Queensland had production values less than \$100,000 for the previous 12 months, while 80% of businesses had production values of less than \$300,000 during the previous 12 months.

It is estimated that the 2,443 commercial fishing businesses in Queensland have a gross value of production of approximately \$314 million, with the median gross value of production for each business being \$129,000.

Table 5.17
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Cumulative Percent
Less than \$100	427	42.8	42.8
\$101 - \$200	214	21.4	64.2
\$201 - \$300	162	16.2	80.5
\$301 - \$400	85	8.5	89.0
\$401 - \$500	38	3.8	92.8
\$501 - \$600	18	1.8	94.6
\$601 - \$700	13	1.3	95.9
\$701 - \$800	4	0.4	96.3
\$801 - \$900	10	1.0	97.3
\$901 - \$1,000	3	0.3	97.6
Over \$1,000	23	2.3	100.0
Total	998	100.0	

Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000

Note: Queensland total GVP based on 2,443 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 5.18 and Figures 5.15 and 5.16 show the Annual Gross Value of Production (GVP) and the median annual GVP of all 22 TRCs. The TRCs of Cairns (\$53 million), Bundaberg (\$37 million), Townsville (\$35 million) and Brisbane (\$33 million) together account for \$158 million in production, which is approximately half of the commercial fishing GVP for Queensland.

Furthermore, Table 5.18 and Figure 5.16 shows the TRCs of Thursday Island, Cairns, Townsville, Mackay and Gladstone to have a relatively high median annual gross value of production when compared to the remaining TRCs.

Table 5.18
Annual GVP and Median GVP for Businesses by TRC

TRCs	Annual GVP ('000)	Median GVP ('000)
Karumba	2,790	90
Weipa	2,795	175
Thursday Island	5,278	278
Cooktown	1,502	100
Port Douglas	4,729	139
Cairns	53,195	277
Innisfail	12,611	94
Lucinda	3,427	95
Townsville	35,487	232
Ayr	798	50
Bowen	10,563	151
Airlie Beach	333	24
Mackay	28,220	237
Yeppoon	7,183	70
Gladstone	28,436	218
Bundaberg	37,065	121
Hervey Bay	19,874	179
Maryborough	1,815	50
Tin Can Bay	13,946	179
Mooloolaba	13,288	113
Brisbane	33,167	87
Southport	18,481	189

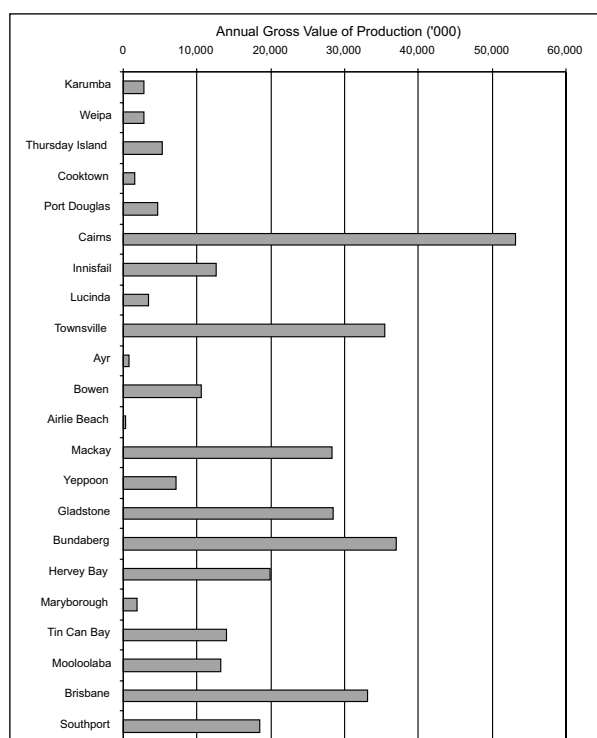


Figure 5.15. Annual Gross Value of Production Across TRCs

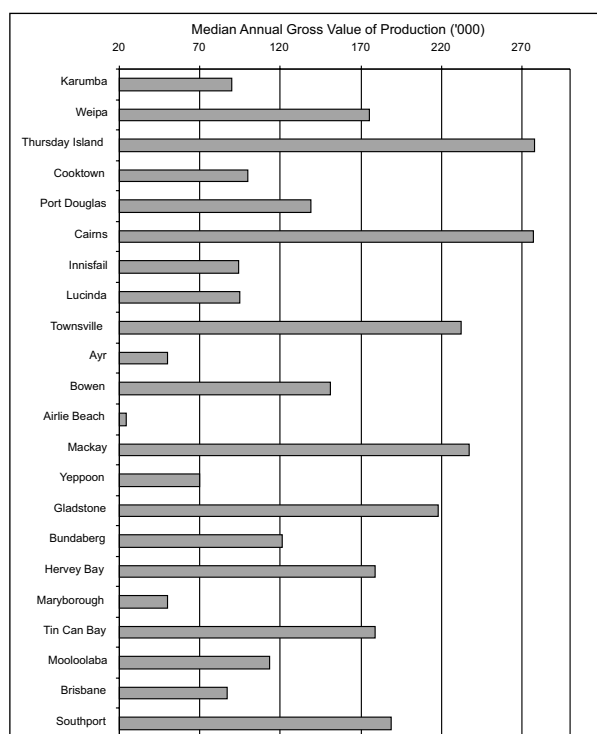


Figure 5.16. Median Gross Value of Production Across TRCs

All fishing business operators were asked what percentage of their business assets were not owned outright by their business. This provided a general indication of the level of business debt. Table 5.19 shows that 60% of businesses within Queensland reported no debt. The overall median debt level within Queensland was 16.6% of business assets.

Table 5.19
Queensland State: Business Debt Levels

Percent of Assets Not Owned	Sample Count	Percent
Nil	495	60.1
1 – 10%	53	6.4
11 – 20%	43	5.2
21 – 30%	53	6.4
31 – 40%	27	3.3
41 – 50%	79	9.6
51 – 60%	15	1.8
61 – 70%	10	1.2
71 – 80%	9	1.1
81 – 90%	13	1.6
91 – 100%	27	3.3
Total	824	100.0
Median Debt Level for QLD Population		16.6%

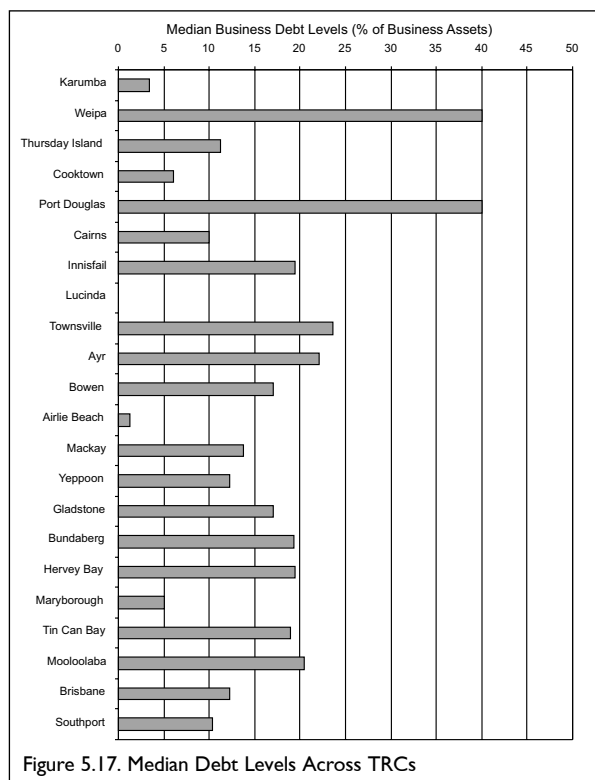
Note: Debt level defined as the percentage of total business assets not owned outright by the business.

Table 5.20 and Figure 5.17 shows the median percentage debt levels across all TRCs. The highest median debt levels are found in the Weipa and Port Douglas TRCs, while the lowest median debt levels are found in the Karumba, Cooktown, Airlie Beach and Karumba TRCs.

Table 5.20
Median Debt Levels by TRC (Percent of business assets)

TRCs	Median Debt (%)
Karumba	3.4
Weipa	40.0
Thursday Island	11.2
Cooktown	6.0
Port Douglas	40.0
Cairns	10.0
Innisfail	19.4
Lucinda	-
Townsville	23.6
Ayr	22.1
Bowen	17.1
Airlie Beach	1.2
Mackay	13.7
Yeppoon	12.3
Gladstone	17.0
Bundaberg	19.3
Hervey Bay	19.4
Maryborough	5.0
Tin Can Bay	19.0
Mooloolaba	20.5
Brisbane	12.2
Southport	10.3

Note: Median debt level for Lucinda is not reported as there were insufficient data.



EMPLOYEE PROFILES

Table 5.21 provides basic demographic and social profile information of owner-operators and employees throughout Queensland. Information shown in these profiles will be used in further studies to develop indices of sensitivity to change for both owner-operators and employees.

Table 5.2I
Queensland State: Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employees	All QLD
Estimated Number of Employees ^b	2,444	4,644	7,088
Mean age of fisher	45.3	33.1	37.3
Age range	19-79	15-79	15-79
Percent males	98.5	94.7	94.8
Mean years resident in town	23.2	16.9	19.1
Mean number of years in fishing industry	20.9	8.3	12.6
Median hours per week in fishing industry	70.0	60.0	60.0
Percent moved town to retain employment	26.2	17.5	20.5
Percent currently employed in other industry	17.9	42.8	34.2
Percent previously employed in other industry	73.6	66.9	69.2
Housing tenure			
Rent	17.1	42.4	33.6
Mortgage	29.7	14.9	20.1
Own home	49.8	21.0	31.1
Other (eg, live with parents, on boat)	3.4	21.6	15.2
Education			
Year completed school			
Primary school	9.3	3.3	5.2
Year 8	9.4	7.3	8.0
Year 9	13.0	11.4	11.9
Year 10	45.7	43.7	44.4
Year 11	6.9	11.8	10.1
Year 12	15.8	22.5	20.2
Percent completed trade or TAFE certificate	37.4	37.8	37.7
Percent completed industry or business course	17.5	14.0	15.2
Percent with business plan ^c	22.9	—	22.9
Percent active fishing group member	46.5	14.8	25.7
Marital Status			
Percent married or relationship	82.8	51.0	62.0
Percent with partner employed in business ^d	56.1	—	56.1
Median hours per week employed in business	20.0	—	20.0
Partners Income^{de}			
Full-time employment	31.8	25.6	28.3
Part-time employment	19.9	17.4	18.5
Casual employment	9.4	13.3	11.6
Not employed	38.9	43.7	41.5
Family Composition			
Mean family size	4.0	2.2	2.6
Estimated number of total family members	9,776	10,217	18,429
Dependency Ratios			
Age Dependency Ratio ^f	32.3	34.4	33.4
Elderly Dependency Ratio	2.9	1.7	2.3
Child Dependency Ratio	29.4	32.7	31.2
Family Member Industry Dependency Ratio ^g	35.5	9.5	23.9
Gross Individual Income			
Less than \$16,000	14.6	46.1	34.6
\$16,000 - \$26,000	16.3	21.5	19.6
\$26,000 - \$36,000	20.7	22.9	22.1
\$36,000 - \$52,000	23.2	5.1	11.7
\$52,000 - \$78,000	13.3	2.8	6.6
Over \$78,000	11.9	1.6	5.4
Average Income (\$)	39,420	20,653	27,471

Note: ^a Owner/operator sample of 1008, employee sample of 536.

^b Based on estimates derived in Table 5.7.

^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 includes all owner-operators and employees. Value is based on the weighted sample of owner-operators (2.43) and employees (8.68).

6 KARUMBA TRC

The Karumba TRC consists of the towns of Karumba, Normanton and Burketown located in the southern Gulf of Carpentaria. Burketown has been included in this TRC because of its proximity to the port town of Karumba.

BUSINESS PROFILES

Location and Use of Ports

Table 6.1 shows the number of licence holders giving their address as Karumba, Normanton and Burketown and the number of survey respondents who reported these towns as their homeports. On the basis of the sample count, it is estimated that there are 31 commercial fishers using towns within this TRC as their homeport and that we can be 95% confident that the population count of commercial fishers within the TRC is between 20 and 42. Figure 6.1 shows the geographic location of this TRC.

Table 6.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Karumba	47	12	29	93.5
Normanton	4	1	2	6.5
Burketown	2	0	0	0.0
Total TRC	53	13	31	100.0
95% Confidence Interval for Estimated TRC Count				20-42
Percent of Total Active Licence Holders in QLD				1.3%

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 Karumba as a homeport, several fishing businesses used Karumba as a port when travelling to or from fishing areas. Table 6.2 shows that the majority of these businesses (58%) had their homeport in Cairns.

Table 6.2
Homeports of Businesses Using Karumba as a Port

Homeports	Sample Count	Percent
Cairns	7	58.3
Yeppoon	1	8.3
Port Douglas	1	8.3
Townsville	1	8.3
Innisfail	1	8.3
NSW	1	8.3
Total Businesses	12	100.0

Fishing Activity and Type

Table 6.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Netting and crabbing are the primary activities undertaken by businesses within this TRC, with less than 10% of businesses undertaking trawling activities within the last year.

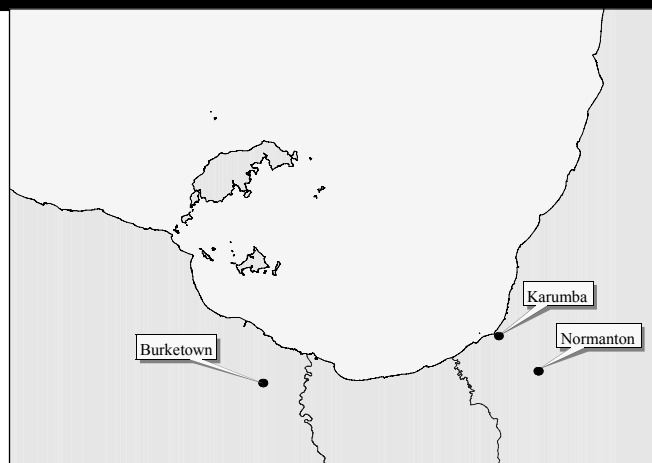


Figure 6.1 Location of the Karumba TRC

Table 6.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Netting	10	76.9
Crabbing	7	53.8
Line fishing	5	38.5
Trawl	1	7.7
Total Sample	12	100.0

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

As shown in Table 6.4, activities such as line fishing, crabbing and netting tend to co-occur within this TRC, while trawling is undertaken independently of all other fishing activities. For instance, of the five fishers within the sample who undertook line fishing within the last year, all of these fishers also engaged in netting and four (80%) also engaged in crabbing.

Table 6.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawl	Crabbing	Netting
Line fishing	5 <i>100.0</i>	0 <i>0.0</i>	4 <i>57.1</i>	4 <i>40.0</i>
Trawl	0 <i>0.0</i>	1 <i>100.0</i>	0 <i>0.0</i>	0 <i>0.0</i>
Crabbing	4 <i>80.0</i>	0 <i>0.0</i>	7 <i>100.0</i>	5 <i>50.0</i>
Netting	4 <i>80.0</i>	0 <i>0.0</i>	5 <i>71.4</i>	10 <i>100.0</i>

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

Table 6.5 shows March nad April are the peak months for fishing activity within the TRC. These are also the peak months for fishing activity across all fishing businesses in Queensland (Table 6.5).

Table 6.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	1	8.3	24.5
February	3	25.0	29.7
March	9	75.0	43.9
April	8	66.7	42.8
May	4	33.3	38.1
June	4	33.3	33.5
July	2	16.7	23.9
August	1	8.3	19.9
September	1	8.3	23.5
October	1	8.3	24.8
November	1	8.3	26.2
December	1	8.3	21.4

Table 6.6 provides a description of the seasonal variation in fishing activities by businesses. Line fishing is most common between June and November, crabbing between February and September and netting between February and May.

Table 6.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	1	20.0	64.6
February	1	20.0	64.3
March	1	20.0	68.1
April	2	40.0	70.4
May	2	40.0	74.7
June	4	80.0	78.7
July	4	80.0	82.0
August	5	100.0	80.8
September	3	60.0	79.7
October	3	60.0	79.7
November	3	60.0	78.2
December	2	40.0	70.6
Crabbing			
January	2	28.6	74.7
February	3	42.9	79.0
March	4	57.1	75.1
April	3	42.9	69.4
May	4	57.1	67.2
June	4	57.1	58.5
July	3	42.9	52.0
August	4	57.1	50.2
September	5	71.4	53.3
October	2	28.6	59.9
November	2	28.6	66.4
December	2	28.6	72.1
Netting			
January	3	30.0	57.5
February	10	100.0	72.9
March	10	100.0	73.9
April	10	100.0	74.2
May	10	100.0	77.6
June	7	70.0	79.9
July	7	70.0	75.9
August	8	80.0	73.9
September	8	80.0	69.6
October	5	50.0	64.2
November	4	40.0	55.9
December	3	30.0	54.5

Note: Seasonal variation in trawling activity has been excluded given the low sample count.

Location of Resource Use

Figure 6.2 shows the location of resource use by commercial fishing operations with their homeports in the Karumba TRC. The location of resource use is restricted to the Gulf of Carpentaria and, in particular, coastal areas of the Gulf where netting and crabbing occur. As might be expected, given the high percentage of netting and crabbing activity within this TRC, the primary resource catchment is located in coastal areas to the north and south of Karumba.

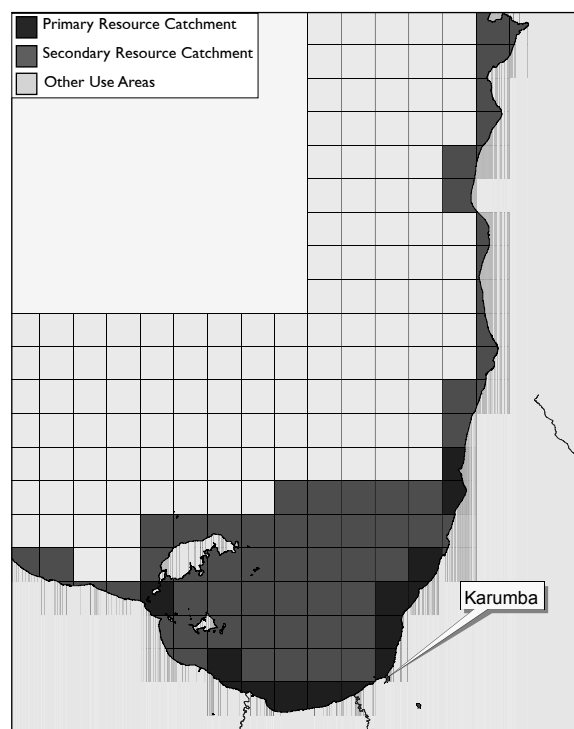


Figure 6.2. Karumba TRC: Location of Resource Use

Fishing Industry Employees

Table 6.7 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 have between two and three full-time employees (inc. the owner or operator). There appears to be little part-time or casual employment by these businesses. The average number of employees per business during the peak season for that business is 3.2, while in the off-peak season it is 2.7. In total, it is estimated that during the peak season there are 99 full-time equivalent employees while in the off-peak season there are 84 full-time equivalent employees.

Business Ownership and Size

Table 6.8 shows the number of years the current owner or operator has owned the fishing business. Businesses within this TRC had been owned for an average of 13.8 years, which was not significantly different to the average for all Queensland commercial fishing businesses. There is some evidence, as shown in Table 6.8, for a bimodal distribution in relation to years of ownership, with approximately a third of all businesses having current ownership of five years or less, while an additional third of all businesses have been owned for between 21 and 25 years.

Table 6.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	4	30.8	30.8
6-10	3	23.1	53.9
11-15	0	0.0	53.9
16-20	1	7.7	61.6
21-25	4	30.8	92.4
26-30	1	7.7	100.0
Total	13	100.0	
Mean Number of years owned or operated			13.8
Difference of TRC mean to QLD mean (14.6)			-0.8

Note: Standard errors for number of years ownership (sample = 2.8; QLD population = 0.37).

The average number of years the business had been operating was 19.4 years, which was not significantly different to that of all Queensland fishing businesses (18.2 years). Table 6.9 shows that 23% of businesses had been operating for five years or less and approximately 50% had operated for 20 years or less.

Table 6.7
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	0	0.0	13	100.0	13	0.0
1	1	7.7	0	0.0	0	0.0
2-3	10	77.0	0	0.0	0	0.0
4-5	0	0.0	0	0.0	0	0.0
6-7	1	7.7	0	0.0	0	0.0
8-9	1	7.7	0	0.0	0	0.0
Total Businesses	13	100.0	13	100.0	13	100.0
Total Employees	41		0		0	
Mean Number of Employees per Business (Peak)		3.2				
Estimated Number Employed within the TRC		99				
Off-Peak Season						
Nil	0	0.0	13	100.0	13	0.0
1	2	15.4	0	0.0	0	0.0
2-3	9	69.2	0	0.0	0	0.0
4-5	1	0.0	0	0.0	0	0.0
6-7	0	7.7	0	0.0	0	0.0
8-9	1	7.7	0	0.0	0	0.0
Total Businesses	13	100.0	13	100.0	13	100.0
Total Employees	35					
Mean Nos Employees per Business (Off-Peak)		2.7				
Estimated Number Employed within the TRC		84				

Note: Total number of employees includes the owner-operator and is the number of full-time equivalent employees. Part-time and casual employment is recorded as 0.5 when contributing to total employment. Estimates of total employment based on an estimated 31 fishing businesses (Table 6.1)

Table 6.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	3	23.1	23.1
6-10	2	15.4	38.5
11-15	1	7.7	46.2
16-20	1	7.7	53.9
21-25	4	30.8	84.7
26-30	1	7.7	92.4
31-35	0	0.0	92.4
36+	1	7.7	100.0
Total	13	100.0	
Mean Number of years owned or operated			19.4
Difference of TRC mean to QLD mean (18.2)			+1.2

Note: Standard errors for number of years operating (sample = 4.9; QLD population = 0.46)

Table 6.10 shows that the majority of fishing businesses within this TRC (77%) operated only one boat.

Table 6.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	10	76.9
2	1	7.7
3	1	7.7
4	0	0.0
5	1	7.7
Total Number of Businesses	13	100.0
Mean Number of Boats Operated		1.5
Difference of TRC mean to QLD mean (1.7)		-0.2

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

The majority of boats (47.6%) operated by businesses were between 7 and 10 metres, with over 50% of all boats being 10 metres or less (Table 6.11).

Table 6.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	2	9.5
7-10	10	47.6
11-14	5	23.8
15-18	3	14.2
19-22	0	0.0
23-26	1	4.7
Total Number of Boats	21	100.0
Mean Length of Boats Operated (metres)		11.4
Difference of TRC mean to QLD mean (9.9)		+1.5
Mean Length of Largest Boat Operated (metres)		11.6
Difference of TRC mean to QLD mean (11.4)		+0.2

*Note: As mean length of boats in a multiple response, standard errors cannot be computed.
Standard errors for mean length of largest boat (sample = 1.47; QLD population=0.14)*

Value of Production and Location of Sales

Table 6.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Karumba TRC. Fifty-four percent of businesses within this TRC had production values less than \$100,000 for the previous 12 months, while 84% of businesses had production values of less than \$200,000 during the previous 12 months.

Within the Karumba TRC, it is estimated that the 31 fishing businesses have a gross value of production of approximately \$2.8 million, which is approximately 0.9% of the total value of production of the Queensland commercial fishing industry.

Table 6.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	QLD Percent
Less than \$100	7	53.8	42.8
\$101 - \$200	4	30.7	21.4
\$201 - \$300	1	7.6	16.2
\$301 - \$400	0	0.0	8.5
\$401 - \$500	0	0.0	3.8
\$501 - \$600	1	7.6	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	13	100.0	100.0

Median GVP for TRC	\$90,000
Estimated Total GVP for TRC	\$2,790,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	0.9%

*Note: Estimated TRC population total is based on an estimate of 31 businesses within the TRC, with a median GVP of \$90,000.
Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.*

None of the fishers located within this TRC indicated they had direct sales of products to overseas markets. Table 6.13 shows the value of sales to specific locations for the sample of 13 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 6.13, and as shown in Figure 6.3, 43% of sales (\$1.2 million) occur directly to Brisbane with a further \$0.8 million sold within Karumba.

Table 6.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Brisbane	842	42.7	1,191
Karumba	544	27.6	770
Townsville	311	15.8	441
Cairns	193	9.8	273
Gladstone	84	4.1	115
Total Sales	1,974	100.0	2,790

Note: The sample value of sales is based on value of production as reported by businesses in the survey. The estimated value of business sales (Table 6.12) is proportionally distributed to all locations on the basis of sample percentages.

Business Expenditure and Debt Levels

Table 6.14 shows that approximately \$1.4 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 (62%) or \$906,000 occurred in Karumba and a further 31% or \$458,000 occurred in Cairns (Figure 6.4)

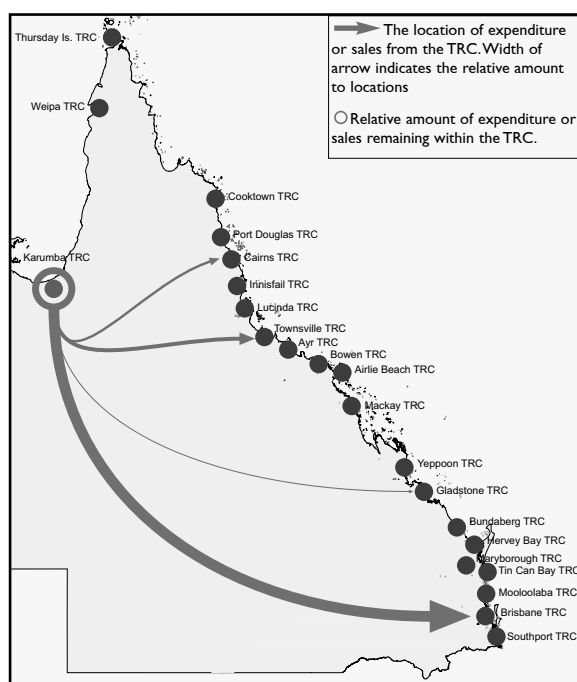


Figure 6.3 Karumba TRC: Location of Business Sales

Table 6.14
Town Location of Business Expenditure
(All costs, excluding salaries and wages)

Location of Expenditure	Sample Value Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Karumba	641	62.3	906
Cairns	324	31.5	458
Mooloolaba	27	2.6	38
Townsville	27	2.6	38
Brisbane	9	0.9	14
Total Expenditure	1,028	100.0	1,454

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.

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 6.15 shows that 70% of businesses within the Kurumba TRC had no debt. The overall debt level within the TRC was 3.4% of business assets, which is significantly lower than the 16.6% as reported across all commercial fishing businesses in Queensland.

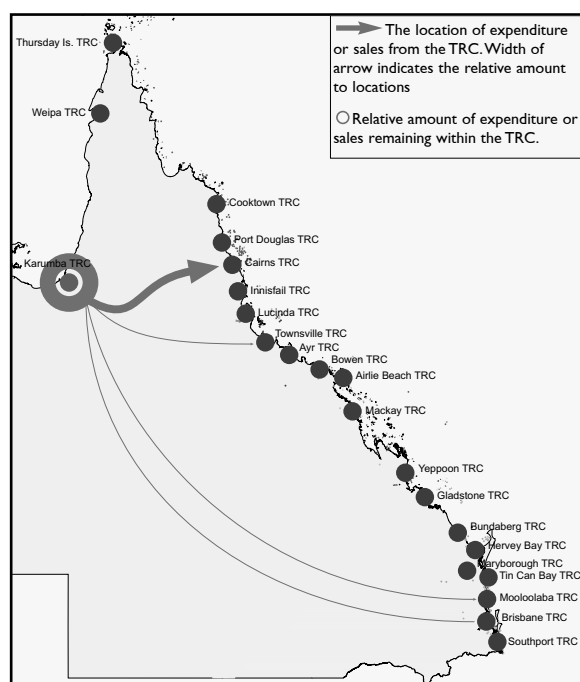


Figure 6.4 Karumba TRC: Location of Business Expenditure

Table 6.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	7	70.0	60.1
1 - 10%	2	20.0	6.4
11 - 20%	0	0.0	5.2
21 - 30%	1	10.0	6.4
31 - 40%	0	0.0	3.3
41 - 50%	0	0.0	9.6
51 - 60%	0	0.0	1.8
61 - 70%	0	0.0	1.2
71 - 80%	0	0.0	1.1
81 - 90%	0	0.0	1.6
91 - 100%	0	0.0	3.3
Total	10	100.0	100.0

Median Debt Level for TRC	3.4%
Median Debt Level for QLD Population	16.6%
Difference of TRC mean to QLD mean (16.6)	-13.2%

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

EMPLOYEE PROFILES

Town of Residence

The primary town of residence for employees within the fishing industry in this TRC is Karumba (87%) (Table 6.16).

Table 6.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Karumba	13	86.7
Normanton	2	13.3
Total	15	100.0

Months Employed in the Fishing Industry

Table 6.17 shows that during the past 12 months the majority of employees within this TRC were employed in the fishing industry between May and September, which is similar to the profile for all Queensland employees.

Table 6.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	66.7	60.0	64.3	80.7
February	100.0	60.0	85.7	82.3
March	100.0	60.0	85.7	86.1
April	88.9	60.0	78.6	86.8
May	88.9	100.0	92.9	87.3
June	88.9	100.0	92.9	87.8
July	77.8	100.0	85.7	86.7
August	88.9	100.0	92.9	86.3
September	88.9	100.0	92.9	86.8
October	77.8	80.0	78.6	85.4
November	66.7	40.0	57.1	84.4
December	66.7	60.0	64.3	82.3

Note: Owner/operator sample of 10, employee sample of 5

Location of Household Expenditure

Table 6.18 and Figure 6.5 show the location of household expenditure related to individual income derived from

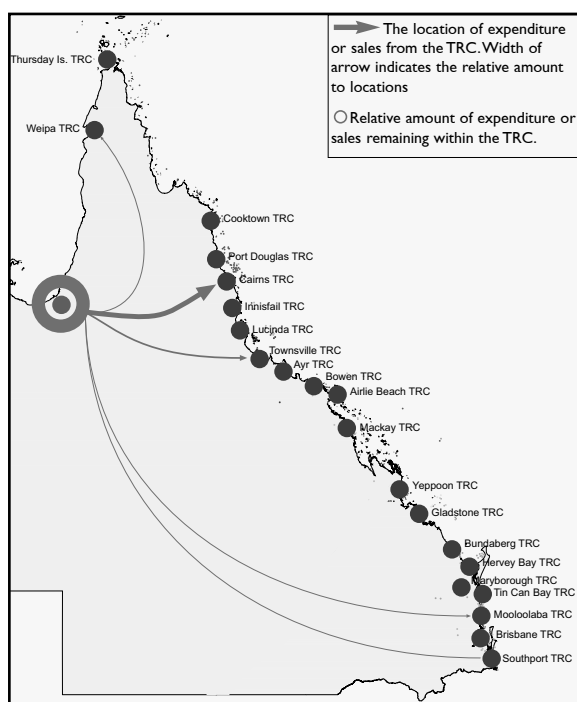


Figure 6.5 Karumba TRC: Location of Household Expenditure

employment in the fishing industry. As might be expected, the majority (53%) of industry-related household expenditure occurs within the town of Karumba (\$1 million) with a further 20% or \$0.4 million occurring within Cairns.

Table 6.18
Town Location of Household Expenditure
(all commodities and services)

Location	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Karumba	136	52.7	1,037
Cairns	51	19.6	386
Normanton	18	6.9	136
Townsville	18	6.9	136
Mt Isa	17	6.2	121
Mooloolaba	10	3.8	76
Weipa	8	3.1	61
Gold Coast	2	0.8	15
Total	258	100.0	1,967

Note: The gross individual annual income of fishers within this TRC was estimated as \$32,666 (Table 6.20). 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 \$19,871, with total household expenditure across all 99 (Table 6.20) employees to be \$2 million (Table 6.18)

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 6.19. As might be expected, Karumba is the primary location for school and employment (55%).

Table 6.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Karumba	11	55.0
Normanton	4	20.0
Townsville	3	15.0
Cairns	1	5.0
Gold Coast	1	5.0
Total Family Members	20	100.0

Note: Counts and percentages based on all family members.

Employee Social and Demographic Profiles

Table 6.20 provides profile information in relation to employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 6.20.
Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employees	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	31	68	99	7,088
Mean age of fisher	44.2	40.2	42.7	37.3
Age range	24-59	18-56	18-59	15-79
Percent males	90.0	40.0	78.6	94.8
Mean years resident in town	14.9	14.4	14.7	19.1
Mean number of years in fishing industry	14.4	10.8	13.2	12.6
Median hours per week in fishing industry	85.0	82.0	82.0	60.0
Percent moved town to retain employment	0.0	0.0	0.0	20.5
Percent currently employed in other industry	20.0	20.0	20.0	34.2
Percent previously employed in other industry	80.0	80.0	80.0	69.2
Housing tenure				
Rent	10.0	20.0	6.7	33.6
Mortgage	0.0	0.0	6.7	20.1
Own home	70.0	60.0	66.7	31.1
Other (eg, live with parents, on boat)	20.0	20.0	20.0	15.2
Education				
Year completed school				
Primary school	20.0	0.0	14.3	5.2
Year 8	10.0	25.0	14.3	8.0
Year 9	20.0	25.0	21.4	11.9
Year 10	30.0	25.0	28.6	44.4
Year 11	0.0	0.0	0.0	10.1
Year 12	20.0	25.0	21.4	20.2
Percent completed trade or TAFE certificate	20.0	40.0	26.7	37.7
Percent completed industry or business course	10.0	20.0	13.3	15.2
Percent with business plan ^c	10.0	—	10.0	22.9
Percent active fishing group member	60.0	0.0	40.0	25.7
Marital Status				
Percent married or relationship	70.0	80.0	73.3	62.0
Percent with partner employed in business ^d	71.4	0.0	71.4	56.1
Median hours per week employed in business	70.0	—	70.0	20.0
Partners Income^{de}				
Full-time employment	66.7	50.0	60.0	28.3
Part-time employment	16.7	25.0	20.0	18.5
Casual employment	0.0	0.0	0.0	11.6
Not employed	16.7	25.0	20.0	41.5
Family Composition				
Mean family size	2.4	2.8	2.6	2.6
Estimated number of total family members	74	190	257	18,429
Dependency Ratios				
Age Dependency Ratio ^f	10.5	55.5	25.0	33.4
Elderly Dependency Ratio	0.0	11.1	3.5	2.3
Child Dependency Ratio	10.5	44.4	21.4	31.2
Family Member Industry Dependency Ratio ^g	45.4	60.0	50.0	23.9
Gross Individual Income				
Less than \$16,000	50.0	0.0	33.3	34.6
\$16,000 - \$26,000	0.0	25.0	8.3	19.6
\$26,000 - \$36,000	0.0	50.0	16.7	22.1
\$36,000 - \$52,000	25.0	25.0	25.0	11.7
\$52,000 - \$78,000	12.5	0.0	8.3	6.6
Over \$78,000	12.5	0.0	8.3	5.4
Average Income (\$)	33,125	31,750	32,666	27,471

Note: a Owner/operator sample of 10, employee sample of 5

b Based on estimates derived in Table 6.7.

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).

7 WEIPA TRC

The Weipa TRC consists of the towns of Weipa, Aurukun and Pormpuraaw located on the eastern coast of the Gulf of Carpentaria (Figure 7.1). These towns are generally independent and are not necessarily mutually interdependent. However, they have been included as a single TRC given their inter-town proximity and the remoteness of the region.

BUSINESS PROFILES

Location and Use of Ports

Table 7.1 shows the number of licence holders giving their town address as Weipa, Aurukun and Pormpuraaw and the number of survey respondents who reported these towns as their homeports. On the basis of the sample count, it is estimated that there are 16 commercial fishers using towns within this TRC as their homeport and that we can be 95% confident that the population count of commercial fishers within the TRC is between 8 and 24.

Table 7.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Weipa	14	5	12	75.0
Aurukun	3	1	2	12.5
Pormpuraaw	1	1	2	12.5
Total TRC	18	7	16	100.0

95% Confidence Interval for Estimated TRC Count 8-24
Percent of Total Active Licence Holders in QLD 0.7%

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 Weipa as a homeport, several fishing businesses used Weipa as a port when travelling to or from fishing areas. Table 7.2 shows that the majority of these businesses (42%) had their homeport in Cairns.

Table 7.2
Homeports of Businesses Using Weipa as a Port

Homeports	Sample Count	Percent
Cairns	8	42.1
Karumba	2	10.6
Innisfail	1	5.3
Mossman	1	5.3
Port Douglas	1	5.3
Sandgate	1	5.3
Redcliffe	1	5.3
NSW	1	5.3
Total Businesses	19	100.0

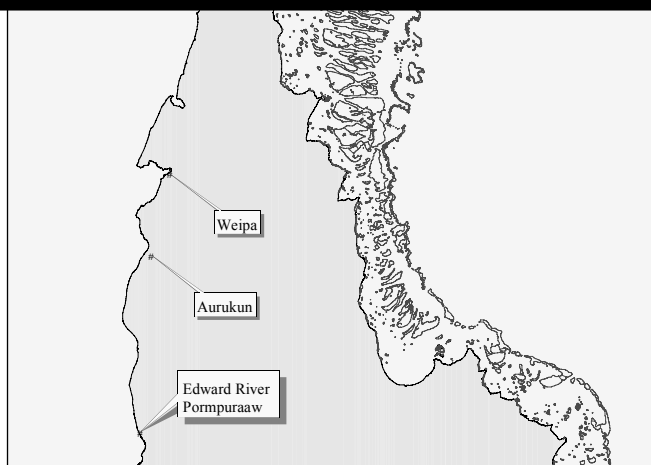


Figure 7.1 Location of the Weipa TRC

Fishing Activity and Type

Table 7.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Netting, crabbing and line fishing are all primary activities undertaken by businesses within this TRC, with no business identified using homeports within this TRC for trawling.

Table 7.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Netting	7	100.0
Crabbing	5	71.4
Line fishing	5	71.4
Trawl	0	0.0
Total Sample	12	100.0

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

Activities such as line fishing, crabbing and netting tend to co-occur within this TRC (Table 7.4). Of the five fishers within the sample who undertook line fishing within the last year, all of these fishers also engaged in netting and crabbing. Similarly of the seven fishers within the sample who undertook netting within the last year, five also undertook line fishing and five also undertook crabbing.

Table 7.4
Co-occurrence of Fishing Activities

	Line Fishing	Crabbing	Netting
Line fishing	5 <i>100.0</i>	5 <i>100.0</i>	5 <i>71.4</i>
Crabbing	5 <i>100.0</i>	5 <i>100.0</i>	5 <i>71.4</i>
Netting	5 <i>100.0</i>	5 <i>100.0</i>	7 <i>100.0</i>

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

March and April were the peak months for fishing activity within the TRC (Table 7.5). These are also the peak months for fishing activity within the Kurumba TRC (also located within the Gulf) and for all fishing businesses in Queensland (Table 7.5).

Table 7.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	1	16.7	24.5
February	3	50.0	29.7
March	5	83.3	43.9
April	6	100.0	42.8
May	4	66.7	38.1
June	2	33.3	33.5
July	0	0.0	23.9
August	0	8.3	19.9
September	0	8.3	23.5
October	1	16.7	24.8
November	1	16.7	26.2
December	1	16.7	21.4

Table 7.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between August and November, crabbing between February and August, and netting between February and September.

Table 7.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	1	20.0	64.6
February	1	20.0	64.3
March	1	20.0	68.1
April	1	20.0	70.4
May	1	20.0	74.7
June	0	0.0	78.7
July	2	40.0	82.0
August	3	60.0	80.8
September	3	60.0	79.7
October	5	100.0	79.7
November	5	100.0	78.2
December	2	40.0	70.6
Crabbing			
January	2	40.0	74.7
February	4	80.0	79.0
March	4	80.0	75.1
April	4	80.0	69.4
May	4	80.0	67.2
June	4	80.0	58.5
July	4	80.0	52.0
August	4	80.0	50.2
September	2	40.0	53.3
October	1	20.0	59.9
November	1	20.0	66.4
December	1	20.0	72.1
Netting			
January	4	57.1	57.5
February	6	85.7	72.9
March	6	85.7	73.9
April	7	100.0	74.2
May	7	100.0	77.6
June	5	71.4	79.9
July	6	85.7	75.9
August	6	85.7	73.9
September	6	85.7	69.6
October	4	57.1	64.2
November	1	14.3	55.9
December	1	14.3	54.5

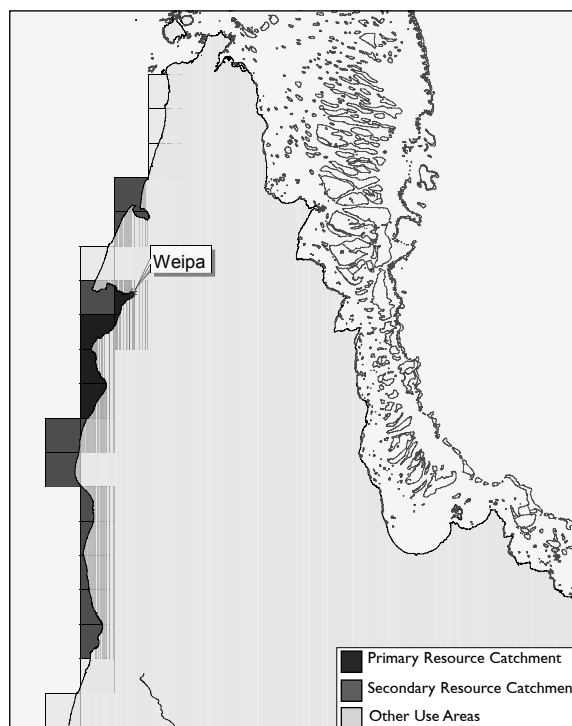


Figure 7.2 Weipa TRC: Location of Resource Use

Location of Resource Use

Figure 7.2 shows the location of resource use by commercial fishing operations with their homeports in the Weipa TRC. The location of resource use is restricted to the Gulf of Carpentaria and, in particular, coastal areas to the south of Weipa where netting and crabbing occur. The primary resource catchment consists of coastal areas within Albatross Bay and coastal areas south to Aurukun and the Cohen River.

Fishing Industry Employees

Table 7.7 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 have between two and three full-time employees (inc. 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 season is 3.1, while in the off-peak season it is 2.4. In total, it is estimated that during the peak season there are 50 full-time equivalent employees while in the off-peak season there are 38 full-time equivalent employees.

Business Ownership and Size

Table 7.8 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 8.4 years, which was significantly lower than the average of 14.6 years for all Queensland commercial fishing businesses.

Table 7.7. 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	1	14.3	6	85.7	6	85.7
1	0	0.0	0	0.0	0	0.0
2-3	5	71.5	0	0.0	1	14.3
4-5	1	14.3	1	14.3	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
Total Businesses	7	100.0	7	100.0	7	100.0
Total Employees	18		4		3	
Mean Number of Employees per Business (Peak)		3.1				
Estimated Number Employed within the TRC		50				
Off-Peak Season						
Nil	2	28.6	6	85.7	7	100.0
1	0	0.0	0	0.0	0	0.0
2-3	4	57.2	0	0.0	0	0.0
4-5	1	14.3	1	14.3	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
Total Businesses	7	100.0	7	100.0	7	100.0
Total Employees	15		4		0	
Mean Nos Employees per Business (Off-Peak)		2.4				
Estimated Number Employed within the TRC		38				

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 16 fishing businesses (Table 7.1)

Table 7.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	3	42.9	42.9
6-10	3	42.9	85.8
11-15	0	0.0	85.8
16-20	0	0.0	85.8
21-25	1	14.3	100.0
Total	7	100.0	
Mean Number of Years owned or operated		8.4	
Difference of TRC mean to QLD mean (14.6)		-6.2	

Note: Standard errors for number of years ownership
(sample = 2.8; QLD population = 0.37).

The average number of years the business had been operating was 13.6 years, which was significantly lower than that for all Queensland fishing businesses (18.2 years). Table 7.9 shows that 29% of businesses had been operating for five years or less and approximately 57% had operated for 10 years or less.

Table 7.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	28.6	28.6
6-10	2	28.6	57.2
11-15	0	0.0	0.0
16-20	1	14.3	71.5
21-25	1	14.3	85.8
26-30	1	14.3	100.0
Total	7	100.0	
Mean Number of Years owned or operated		13.6	
Difference of TRC mean to QLD mean (18.2)		-4.6	

Note: Standard errors for number of years operated
(sample = 3.4; QLD population = 0.46)

Table 7.10 shows that the majority of fishing businesses within this TRC operated either one (43%) or two (29%) boats.

Table 7.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	3	42.9
2	2	28.6
3	1	14.3
4	1	14.3
Total Number of Businesses	7	100.0

Mean Number of Boats Operated 2.0
Difference of TRC mean to QLD mean (1.7) +0.3

Note: Standard errors for number of boats operated
(sample = 0.4; QLD population = 0.05)

The majority of boats (50%) operated by businesses were between 7 and 10 metres, with over 86% of all boats being 10 metres or less (Table 7.11).

Table 7.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	5	35.7
7-10	7	50.0
11-14	2	14.3
Total Number of Boats	14	100.0
Mean Length of Boats Operated (metres)		8.2
Difference of TRC mean to QLD mean (9.9)		-1.7
Mean Length of Largest Boat Operated (metres)		10.6
Difference of TRC mean to QLD mean (11.4)		-0.8

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.48; QLD population=0.14)

Value of Production and Location of Sales

Table 7.12 shows the wholesale value of all products sold by fishing businesses within the Weipa TRC. Seventy-one percent of businesses within this TRC had production values of between \$100,000 and \$200,000 for the previous 12 months.

Within the Weipa TRC, it is estimated that the 16 fishing businesses had a gross value of production of approximately \$2.8 million, which is approximately 0.9% of the total value of production of the Queensland commercial fishing industry.

Table 7.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$'000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	0	0.0	42.8
\$101 - \$200	5	71.4	21.4
\$201 - \$300	1	14.3	16.2
\$301 - \$400	1	14.3	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	7	100.0	100.0

Median GVP for TRC	\$174,686
Estimated Total GVP for TRC	\$2,795,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	0.9%

Note: Estimated TRC population total is based on an estimate of 16 businesses within the TRC, with a median GVP of \$174,686. Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Only one fisher located within this TRC had direct sales of products to overseas markets, representing 35% of their total value of production. Table 7.13 shows the value of sales to specific locations within Australia for the sample of seven 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 7.13, and as shown in Figure 7.3, 70% of sales (\$1.9 million) occurs directly to Cairns.

Table 7.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Cairns	925	70.5	1,933
Mackay	105	8.0	219
Brisbane	87	6.6	181
Townsville	87	6.6	181
Karumba	69	5.3	145
Weipa	39	3.0	82
Total Sales	1,312	100.0	2,742

Note: The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of all business sales is the total GVP for the TRC, excluding the percentage value of overseas exports. The estimated value of business sales (Table 7.12) is proportionally distributed to all locations on the basis of sample percentages.

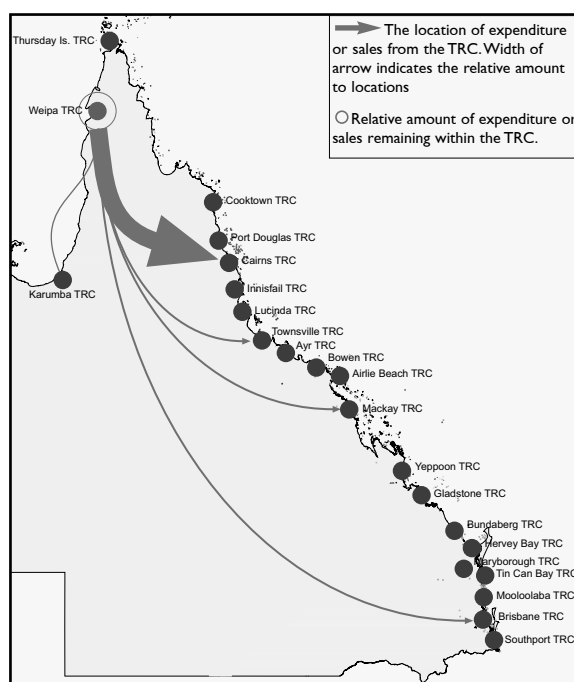


Figure 7.3 Weipa TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 7.14 shows that approximately \$1.5 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 (58%) or \$840,000 occurred within the town of Weipa and a further 42% or \$616,000 occurred within Cairns (Figure 7.4).

Table 7.14
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)
Weipa	411	57.7	840
Cairns	301	42.3	616
Total Expenditure	712	100.0	1,456

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.

Business operators were asked what percentage of their business assets were not owned outright by their business. For the purpose of this study, this identified the level of business debt. Table 7.15 shows that 43% of businesses within the Weipa TRC had no debt. However, the overall debt level within the TRC was 40% of business assets, which is significantly higher than the 16.6% as reported across all commercial fishing businesses in Queensland.

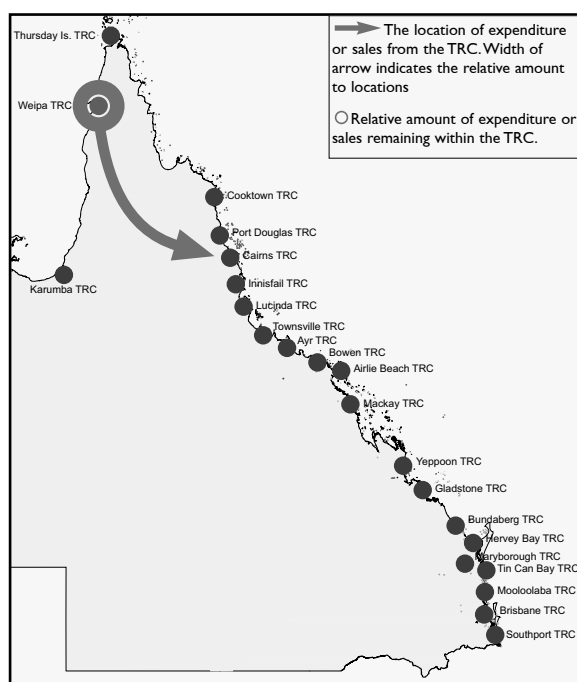


Figure 7.4 Weipa TRC: Location of Business Expenditure

Table 7.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	3	42.9	60.1
1 – 10%	0	0.0	6.4
11 – 20%	0	0.0	5.2
21 – 30%	0	0.0	6.4
31 – 40%	2	28.6	3.3
41 – 50%	0	0.0	9.6
51 – 60%	1	14.3	1.8
61 – 70%	0	0.0	1.2
71 – 80%	0	0.0	1.1
81 – 90%	0	0.0	1.6
91 – 100%	1	14.3	3.3
Total	7	100.0	100.0

Median Debt Level for TRC	40.0%
Median Debt Level for QLD Population	16.6%
Difference of TRC Mean to QLD Mean (16.6%)	-23.4%

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

EMPLOYEE PROFILES

Town of Residence

Table 7.16 indicate the primary town of residence for employees within the fishing industry in this TRC is Weipa (83%).

Table 7.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Weipa	5	83.3
Aurukun	1	16.7
Total	6	100.0

Months Employed in the Fishing Industry

Table 7.17 shows that during the past 12 months the majority of owner-operators within this TRC were employed in the fishing industry between February and September.

Table 7.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	60.0	nd	60.0	80.7
February	100.0	nd	100.0	82.3
March	100.0	nd	100.0	86.1
April	100.0	nd	100.0	86.8
May	100.0	nd	100.0	87.3
June	100.0	nd	100.0	87.8
July	100.0	nd	100.0	86.7
August	100.0	nd	100.0	86.3
September	100.0	nd	100.0	86.8
October	80.0	nd	80.0	85.4
November	60.0	nd	60.0	84.4
December	60.0	nd	60.0	82.3

Note: Owner/operator sample of 10, nd = no data or low sample count

Location of Household Expenditure

Table 7.18 and Figure 7.5 shows the location of household expenditure related to individual income derived from employment in the fishing industry. As might be expected, the majority (80%) of industry related household expenditure occurs in Weipa (\$0.6 million) with a further 20% or \$0.2 million occurring within Cairns.

Table 7.18
Town Location of Household Expenditure (all commodities and services)

Location of	Sample Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Weipa	76	80.0	633
Cairns	19	20.0	158
Total	95	100.0	791

Note: The gross individual annual income of fishers within this TRC was estimated as \$26,000 (Table 7.20). 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 \$15,815, with total household expenditure across all 50 (Table 7.7) employees to be \$0.8 million (Table 7.18)

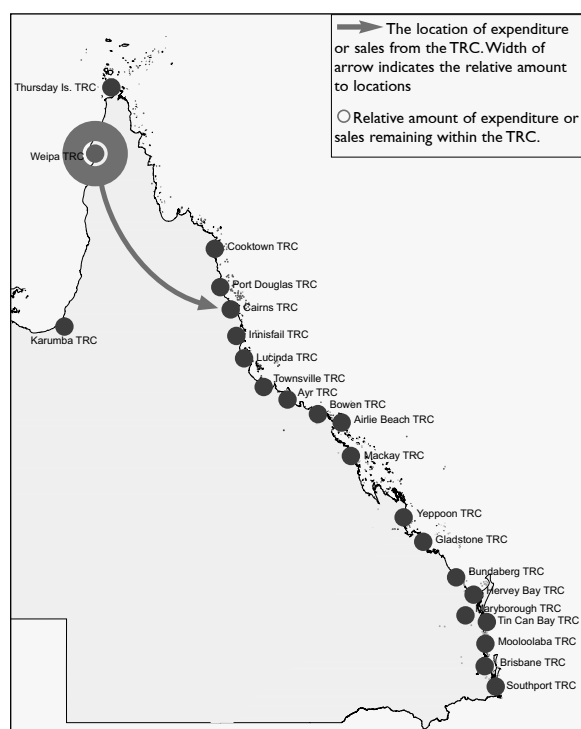


Figure 7.5 Weipa TRC: Location of Household Expenditure School and Employment Locations of Family Members
The towns in which family members attend school and are employed are shown in Table 7.19. As might be expected, Weipa is the primary location for school and employment (88%).

Table 7.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Weipa	15	88.2
Aurukun	1	5.9
Cairns	1	5.9
Total Family Members	17	100.0

Note: Counts and percentages based on all family members.

Employee Social and Demographic Profiles

Table 7.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 7.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	16	34	50	7,088
Mean age of fisher	34.8	nd	34.8	37.3
Age range	27-47	nd	27-47	15-79
Percent males	90.0	nd	83.3	94.8
Mean years resident in town	17.0	nd	17.0	19.1
Mean number of years in fishing industry	10.2	nd	10.2	12.6
Median hours per week in fishing industry	89.0	nd	89.0	60.0
Percent moved town to retain employment	16.7	nd	16.7	20.5
Percent currently employed in other industry	50.0	nd	50.0	34.2
Percent previously employed in other industry	50.0	nd	50.0	69.2
Housing tenure				
Rent	50.0	nd	50.0	33.6
Mortgage	33.3	nd	33.3	20.1
Own home	16.7	nd	16.7	31.1
Other (eg, live with parents, on boat)	0.0	nd	0.0	15.2
Educational				
Year completed school				
Primary school	0.0	nd	0.0	5.2
Year 8	0.0	nd	0.0	8.0
Year 9	0.0	nd	0.0	11.9
Year 10	83.3	nd	83.3	44.4
Year 11	16.7	nd	16.7	10.1
Year 12	0.0	nd	0.0	20.2
Percent completed trade or TAFE certificate	66.7	nd	66.7	37.7
Percent completed industry or business course	33.3	nd	33.3	15.2
Percent with business plan ^c	0.0	nd	0.0	22.9
Percent active fishing group member	16.7	nd	16.7	25.7
Marital Status				
Percent married or relationship	83.3	nd	83.3	62.0
Percent with partner employed in business ^d	50.0	nd	50.0	56.1
Median hours per week employed in business	48.0	nd	48.0	20.0
Partners Income^{de}				
Full-time employment	25.0	nd	25.0	28.3
Part-time employment	25.0	nd	25.0	18.5
Casual employment	25.0	nd	25.0	11.6
Not employed	25.0	nd	25.0	41.5
Family Composition				
Mean family size	3.8	nd	3.8	2.6
Estimated number of total family members	61	nd	61	18,429
Dependency Ratios				
Age Dependency Ratio ^f	60.0	nd	60.0	33.4
Elderly Dependency Ratio	0.0	nd	0.0	2.3
Child Dependency Ratio	60.0	nd	60.0	31.2
Family Member Industry Dependency Ratio ^g	33.3	nd	33.3	23.9
Gross Individual Income				
Less than \$16,000	50.0	nd	50.0	34.6
\$16,000 - \$26,000	16.7	nd	16.7	19.6
\$26,000 - \$36,000	16.7	nd	16.7	22.1
\$36,000 - \$52,000	0.0	nd	0.0	11.7
\$52,000 - \$78,000	0.0	nd	0.0	6.6
Over \$78,000	16.7	nd	16.7	5.4
Average Income (\$)	26,000	nd	26,000	27,471

Note: ^a Owner/operator sample of 5; nd = no data or low sample count.

^b Based on peak estimates derived in Table 7.7.

^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).

8 THURSDAY ISLAND TRC

THURSDAY ISLAND TRC

The Thursday Island TRC consists of Thursday Island in the Torres Strait.

BUSINESS PROFILES

Location and Use of Ports

Table 8.1 shows the number of licence holders giving their town address as Thursday Island and the number of survey respondents who reported Thursday Island as their homeport. On the basis of the sample count, it is estimated that there are 19 commercial fishers with Thursday Island as their homeport and that the 95% confidence interval for the population count is between 11 and 27. Figure 8.1 shows the geographic location of this TRC.

Table 8.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Thursday Island	12	8	19	100.0
Total TRC	12	8	19	100.0

95% Confidence Interval for Estimated TRC Count 11-27
Percent of Total Active Licence Holders in QLD 0.8%

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.

Only one fishing business used Thursday Island as a port when travelling to or from fishing areas. This fishing business had its homeport in Cairns.

Fishing Activity and Type

Table 8.2 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Lobster fishing is the primary fishing activity undertaken by businesses within the TRC, followed by line fishing and pearling.

Table 8.2
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Lobster fishing	7	100.0
Line fishing	3	42.8
Pearl	2	28.6
Netting	0	0.0
Crabbing	0	0.0
Trawl	0	0.0
Total Sample	7	100.0

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

As shown in Table 8.3, activities such as pearling, lobster and line fishing are relatively independent activities within this TRC. For instance, of the seven lobster fishers, three also engaged in line fishing and two in pearling.

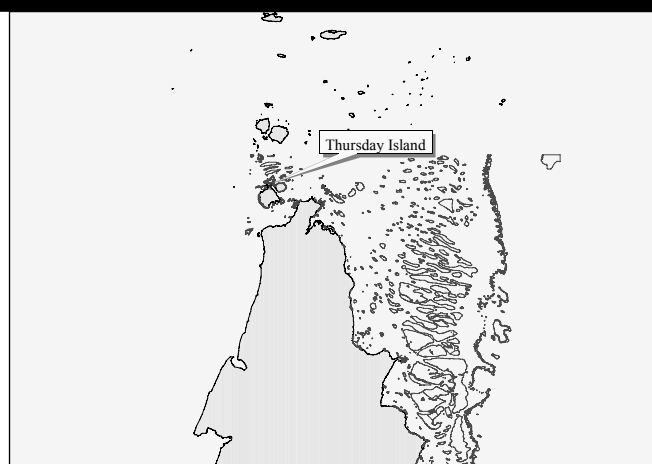


Figure 8.1 Location of the Thursday Island TRC

Table 8.3
Co-occurrence of Fishing Activities

	Line Fishing	Lobster Fishing	Pearling
Line Fishing	3 100.0	3 42.9	1 50.0
Lobster Fishing	3 100.0	7 100.0	2 100.0
Pearling	1 33.3	2 28.6	2 100.0

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

Table 8.4 shows the peak months for fishing activity within the TRC to be June and July, compared with the Queensland average of March and April.

Table 8.4
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	2	28.6	24.5
February	2	28.6	29.7
March	2	28.6	43.9
April	3	42.9	42.8
May	2	28.6	38.1
June	4	57.1	33.5
July	5	71.4	23.9
August	3	42.9	19.9
September	2	28.6	23.5
October	2	28.6	24.8
November	2	28.6	26.2
December	2	28.6	21.4

Table 8.5 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between February and July, lobster fishing between March and August, and pearling between January and August.

Table 8.5. Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	1	50.0	64.6
February	2	100.0	64.3
March	2	100.0	68.1
April	2	100.0	70.4
May	2	100.0	74.7
June	2	100.0	78.7
July	2	100.0	82.0
August	1	50.0	80.8
September	2	100.0	79.7
October	0	0.0	79.7
November	0	0.0	78.2
December	2	100.0	70.6
Lobster Fishing			
January	4	57.1	41.7
February	5	71.4	50.0
March	7	100.0	66.7
April	7	100.0	66.7
May	7	100.0	66.7
June	7	100.0	66.7
July	7	100.0	66.7
August	7	100.0	75.0
September	6	85.7	66.7
October	3	42.9	50.0
November	2	28.6	50.0
December	5	71.4	66.7
Pearling			
January	2	100.0	75.0
February	2	100.0	100.0
March	2	100.0	100.0
April	2	100.0	100.0
May	2	100.0	100.0
June	2	100.0	75.0
July	2	100.0	75.0
August	2	100.0	75.0
September	1	50.0	75.0
October	0	0.0	50.0
November	1	50.0	75.0
December	1	50.0	75.0

Location of Resource Use

Figure 8.2 shows the location of resource use by commercial fishing operations with their homeports at Thursday Island. The primary resource catchment is restricted to the Torres Strait, although the secondary resource catchment extends south along the northern section of the Great Barrier reef to Princess Charlotte Bay.

Fishing Industry Employees

Table 8.6 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 have between two and five full-time employees (inc. the owner or operator), with few part-time or casual employees. The average number of employees per business during the peak season is 4.8, while in the off-peak season it is 4.7. It is estimated that during the peak season there are 77 full-time equivalent employees while in the off-peak season there are 75 full-time equivalent employees.

Business Ownership and Size

Table 8.7 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 20.3 years, which was significantly higher than the average for all Queensland commercial fishing businesses. In addition, Table 8.7 shows no ownership of less than 13 years.

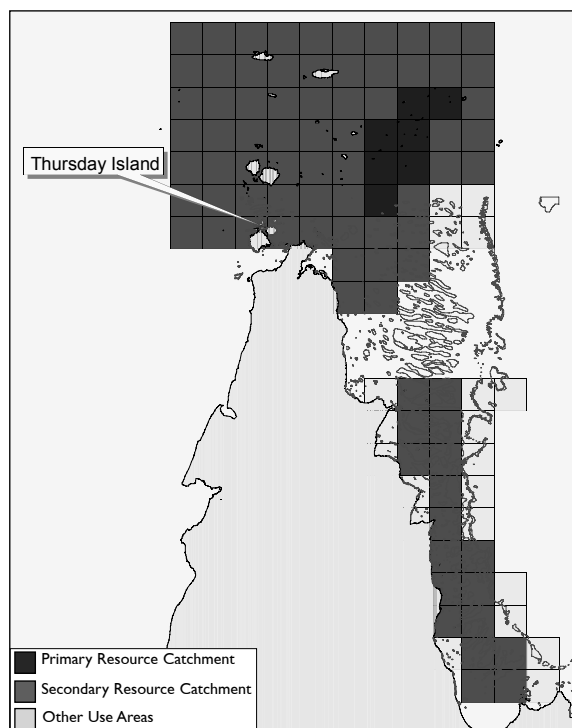


Figure 8.2 Thursday Island TRC: Location of Resource Use

Table 8.7
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	0	0.0	0.0
6-10	0	0.0	0.0
11-15	1	14.3	14.3
16-20	4	57.1	71.4
21-25	0	0.0	71.4
26-30	2	28.6	100.0
Total	7	100.0	

Mean Number of Years owned or operated	20.3
Difference of TRC Mean to QLD Mean (14.6)	+5.7

Note: Standard errors for number of years ownership
(sample = 1.7; QLD population = 0.37).

The average number of years the business had been operating was 19.8 years, which was similar to that for all Queensland fishing businesses (18.2 years). Table 8.8 shows that 62% of businesses had been operating their business for between 16 and 20 years and that 88% of businesses had operated for over 17 years.

Table 8.8
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	0	0.0	0.0
6-10	1	12.5	12.5
11-15	0	0.0	12.5
16-20	5	62.5	75.0
21-25	0	0.0	75.0
26-30	2	25.0	100.0
Total	8	100.0	

Mean Number of Years owned or operated	19.8
Difference of TRC mean to QLD mean (18.2)	+1.6

Note: Standard errors for number of years operated
(sample = 1.8; QLD population = 0.46)

Table 8.6
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	1	12.5	8	85.7	6	75.0
1	1	0.0	0	0.0	1	12.5
2-3	3	37.5	0	0.0	0	0.0
4-5	2	25.0	0	14.3	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	1	12.5	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.0	1	12.5
Total Businesses	8	100.0	8	100.0	8	100.0
Total Employees	29		0		19	
Off-Peak Season						
Nil	1	12.5	8	100.0	6	100.0
1	1	12.5	0	0.0	1	12.5
2-3	3	37.5	0	0.0	0	0.0
4-5	2	25.0	0	0.0	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	1	12.5	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.0	1	12.5
Total Businesses	8	100.0	8	100.0	8	100.0
Total Employees	28		0		19	
Mean Number of Employees per Business (Peak)		4.8				
Estimated Number Employed within the TRC		77				
Mean Nos Employees per Business (Off-Peak)		4.7				
Estimated Number Employed within the TRC		75				

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 19 fishing businesses (Table 8.1)

Table 8.9 shows that the majority of fishing businesses within this TRC operated only one boat (87%).

Table 8.9
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	7	87.5
2	1	12.5
Total Number of Businesses	8	100.0
Mean Number of Boats Operated		1.1
Difference of TRC mean to QLD mean (1.7)		-0.4

Note: Standard errors for number of boats operated (sample = 0.1; QLD population = 0.05)

The majority of boats (56%) operated by businesses were between 7 and 10 metres, with an additional 33% being between 15 and 18 metres (Table 8.10).

Table 8.10
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	1	11.1
7-10	5	55.6
11-14	0	0.0
15-18	3	33.3
Total Number of Boats	9	100.0
Mean Length of Boats Operated (metres)		11.9
Difference of TRC mean to QLD mean (9.9)		+2.0
Mean Length of Largest Boat Operated (metres)		11.5
Difference of TRC mean to QLD mean (11.4)		+0.1

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 1.5; QLD population=0.14)

Value of Production and Location of Sales

Table 8.11 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Thursday Island TRC. Seventy-five percent of businesses within this TRC had production values of up to \$300,000 for the previous 12 months. In addition, there are several businesses within this TRC with production values in excess of \$500,000 per annum (Table 8.11).

Within the Thursday Island TRC it is estimated that the 19 fishing businesses had a gross value of production of approximately \$5.3 million, which is approximately 1.7% of the total value of production of the Queensland commercial fishing industry.

Table 8.11
Wholesale Value of Product (Annual value)

Wholesale Value (\$'000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	2	25.0	42.8
\$101 - \$200	2	25.0	21.4
\$201 - \$300	2	25.0	16.2
\$301 - \$400	0	0.0	8.5
\$401 - \$500	0	0.0	3.8
\$501 - \$600	1	16.6	1.8
\$601 - \$700	0	0.0	1.3
\$701 - \$800	0	0.0	0.4
\$801 - \$900	1	16.6	1.0
\$901 - \$1,000	0	0.0	0.3
Over \$1,000	0	0.0	2.3
Total	8	100.0	100.0

Median GVP for TRC	\$277,815
Estimated Total GVP for TRC	\$5,278,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	1.7%

Note: Estimated TRC population total is based on an estimate of 19 businesses within the TRC, with a median GVP of \$277,815. Queensland total GVP based on 2,443 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Within this TRC, three (37%) of the fishers surveyed indicated they sold their entire product to overseas markets. Table 8.12 shows the value of sales to specific locations within Australia for the sample of eight 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 8.13, and as shown in Figure 8.3, 41% of sales (\$2.2 million) occur within Thursday Island and a further 36% or \$1.9 million occur directly to Cairns. It is probable that the \$1 million in sales to overseas markets occurred firstly within Thursday Island or to Cairns, thereby increasing the value of sales to these locations.

Table 8.12
Town Location of Sales (\$'000)

Location of Sales	Sample Value Sales	Percent of Sample	Estimated Sales
Thursday Island	909	40.9	2,159
Cairns	790	35.6	1,879
Western Australia	83	3.7	195
Total (Australia)	1,782	80.2	4,233
Total (Overseas)	441	19.8	1,045
Total Sales	2,223	100.0	5,278

Note: The sample value of sales is based on GVP as reported by businesses in the survey.

The estimated value of business sales (Table 8.11) is proportionally distributed to all locations on the basis of sample percentages.

Business Expenditure and Debt Levels

Table 8.13 shows that approximately \$2.7 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 (54%) or \$1.5 million occurred in Thursday Island and a further 42% or \$616,000 occurred within Cairns (Figure 8.4).

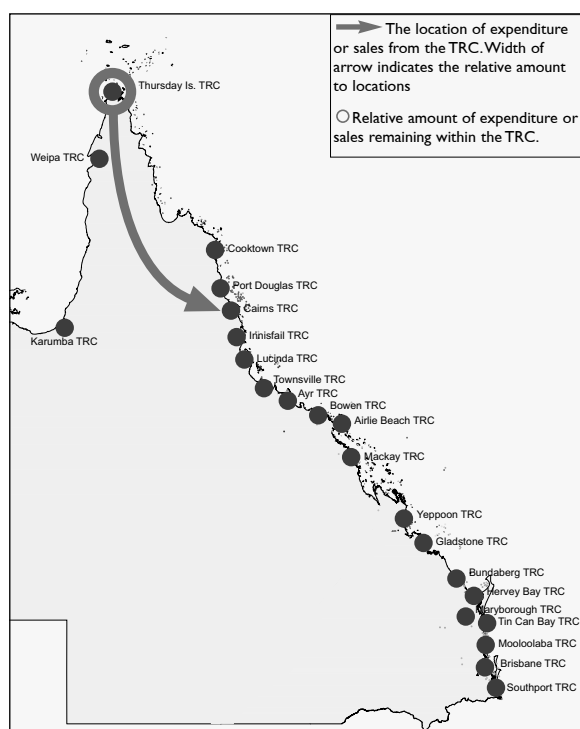


Figure 8.3 Thursday Is TRC: Location of Business Sales

Table 8.13
Town Location of Business Expenditure (All costs, excluding salaries and wages)

Location of Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Value of Expenditure (\$'000)
Thursday Island	626	54.1	1,488
Cairns	532	45.9	1,262
Total Expenditure	1,158	100.0	2,750

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.

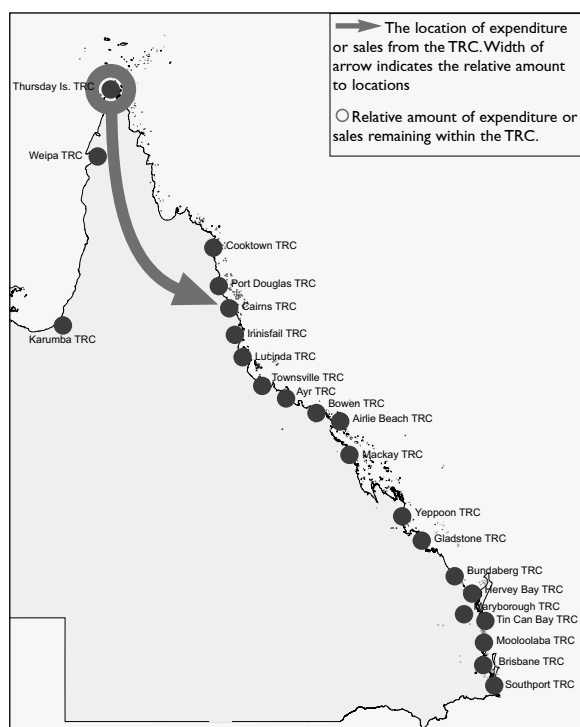


Figure 8.4 Thursday Island TRC: Location of Expenditure

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 8.14 shows that 75% of businesses within the Thursday Island TRC had no debt. The overall debt level within the TRC was 11% of business assets, which is somewhat lower than the 16.6% as reported across all commercial fishing businesses in Queensland.

Table 8.14
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	6	75.0	60.1
1 – 10%	0	0.0	6.4
11 – 20%	0	0.0	5.2
21 – 30%	0	0.0	6.4
31 – 40%	1	12.5	3.3
41 – 50%	1	12.5	9.6
51 – 60%	0	0.0	1.8
61 – 70%	0	0.0	1.2
71 – 80%	0	0.0	1.1
81 – 90%	0	0.0	1.6
91 – 100%	0	0.0	3.3
Total	8	100.0	100.0
Median Debt Level for TRC			11.2%
Median Debt Level for QLD Population			16.6%
Difference of TRC mean to QLD mean (16.6)			-5.4%

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

EMPLOYEE PROFILES

Town of Residence

All employees within the Thursday Island TRC resided on Thursday Island.

Months Employed in the Fishing Industry

Table 8.15 shows that during the past 12 months the majority of owner/operators and employees within this TRC were employed in the fishing industry between April and July. This is similar to the profile for all Queensland employees.

Table 8.15
Months Employed in the Fishing Industry During Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	100.0	87.5	93.3	80.7
February	100.0	75.0	86.7	82.3
March	100.0	87.5	93.3	86.1
April	100.0	100.0	100.0	86.8
May	100.0	100.0	100.0	87.3
June	100.0	100.0	100.0	87.8
July	100.0	100.0	100.0	86.7
August	100.0	87.5	93.3	86.3
September	100.0	87.5	93.3	86.8
October	85.7	62.5	73.3	85.4
November	65.7	37.5	60.0	84.4
December	100.0	62.5	80.0	82.3

Note: Owner/operator sample of 7; employee sample of 9

Location of Household Expenditure

Table 8.16 and Figure 8.5 show the location of household expenditure related to individual income derived from employment in the fishing industry. As might be expected, the majority (93%) of industry related household expenditure occurs in Thursday Island (\$1.6 million) with a further 7% or \$0.1 million occurring within Cairns.

Table 8.16
Town Location of Household Expenditure
(all commodities and services)

Location of	Sample Value (\$'000)	Percent of Sample	Estimated Value (\$'000)
Thursday Island	283	93.1	1,557
Cairns	21	6.9	115
Total	304	100.0	1,672

Note: The gross individual annual income of fishers within this TRC was estimated as \$35,692 (Table 8.18). 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 \$21,711, with total household expenditure across all 77 (Table 8.6) employees to be \$1.7 million (Table 8.16)

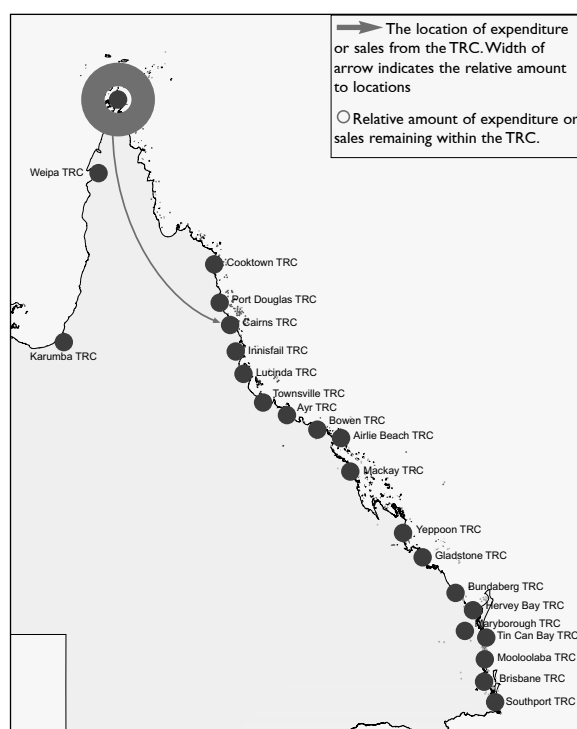


Figure 8.5 Thursday Island TRC: Location of Household Expenditure

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 7.17. As might be expected, Thursday Island is the primary location for school and employment (90%).

Table 7.17
School and Employment Locations of
Family Members

Location of Employment or School	Sample Count	Percent of Sample
Thursday Island	28	90.3
Cairns	2	6.5
Brisbane	1	3.2
Total Family Members	17	100.0

Note: Counts and percentages based on all family members.

Employee Social and Demographic Profiles

Table 7.18 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 7.18. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	19	58	77	7,088
Mean age of fisher	47.6	34.0	40.3	37.3
Age range	33-55	20-56	20-56	15-79
Percent males	100.0	87.5	93.3	94.8
Mean years resident in town	27.9	11.4	19.1	19.1
Mean number of years in fishing industry	22.0	7.6	14.3	12.6
Median hours per week in fishing industry	54.0	59.5	56.8	60.0
Percent moved town to retain employment	28.6	12.5	20.0	20.5
Percent currently employed in other industry	14.3	50.0	33.3	34.2
Percent previously employed in other industry	85.7	75.0	80.0	69.2
Housing tenure				
Rent	14.3	71.4	42.9	33.6
Mortgage	0.0	0.0	0.0	20.1
Own home	85.7	14.3	50.0	31.1
Other (eg, live with parents, on boat)	0.0	14.3	7.1	15.2
Educational				
Year completed school				
Primary school	14.3	0.0	6.7	5.2
Year 8	0.0	0.0	0.0	8.0
Year 9	14.3	0.0	6.7	11.9
Year 10	14.3	37.5	26.7	44.4
Year 11	28.6	25.0	26.7	10.1
Year 12	28.6	37.5	33.3	20.2
Percent completed trade or TAFE certificate	28.6	25.0	26.7	37.7
Percent completed industry or business course	0.0	37.5	20.0	15.2
Percent with business plan ^c	0.0	—	0.0	22.9
Percent active fishing group member	85.7	62.5	73.3	25.7
Marital Status				
Percent married or relationship	100.0	25.0	60.0	60.0
Percent with partner employed in business ^d	71.4	nd	nd	56.1
Median hours per week employed in business	23.7	nd	nd	20.0
Partners Income^{de}				
Full-time employment	57.1	50.0	55.6	28.3
Part-time employment	42.9	50.0	44.4	18.5
Casual employment	0.0	0.0	0.0	11.6
Not employed	0.0	0.0	0.0	41.5
Family Composition				
Mean family size	4.3	1.6	2.9	2.6
Estimated number of total family members	82	93	175	18,429
Dependency Ratios				
Age Dependency Ratio ^f	42.9	8.3	30.3	33.4
Elderly Dependency Ratio	0.0	0.0	0.0	2.3
Child Dependency Ratio	42.9	8.3	30.3	31.2
Family Member Industry Dependency Ratio ^g	46.7	25.0	42.1	23.9
Gross Individual Income				
Less than \$16,000	0.0	14.3	7.7	34.6
\$16,000 - \$26,000	16.7	28.6	23.1	19.6
\$26,000 - \$36,000	33.3	14.3	23.1	22.1
\$36,000 - \$52,000	33.3	42.9	38.5	11.7
\$52,000 - \$78,000	0.0	0.0	0.0	6.6
Over \$78,000	16.7	0.0	7.7	5.4
Average Income (\$)	41,833	30,429	35,692	27,471

Note: ^a Owner/operator sample of 7; employee sample of 9.

^b Based on peak estimates derived in Table 8.6.

^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).

9 COOKTOWN TRC

The Cooktown TRC consists of the town of Cooktown north Queensland Coast to the south of Princess Charlotte Bay and to the north of Port Douglas (Figure 9.1). Cooktown is the main regional centre within this TRC and the primary homeport location of commercial fishers.

BUSINESS PROFILES

Location and Use of Ports

Table 9.1 shows the number of licence holders giving their town address as Cooktown and the number of survey respondents who reported Cooktown as their homeport. On the basis of the sample count, it is estimated that there are 15 commercial fishers within this TRC and that we can be 95% confident that the population count of commercial fishers within the TRC is between 7 and 23. Figure 9.1 shows the geographic location of this TRC.

Table 9.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Cooktown	15	6	15	100.0
Total TRC	15	6	15	100.0
95% Confidence Interval for Estimated TRC Count				7-23
Percent of Total Active Licence Holders in QLD				0.6%

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 Cooktown as a homeport, fishing businesses used Cooktown as a port when travelling to or from fishing areas. Table 9.2 shows a significant number of fishing businesses using Cooktown as a port, with the majority of these businesses having their homeports in Cairns (35%) and Townsville (13%).

Table 9.2
Homeports of Businesses Using Cooktown as a Port

Homeports	Sample Count	Percent
Cairns	11	35.5
Townsville	4	12.9
Innisfail	3	9.7
Mackay	2	6.5
Mourilyan	2	6.5
Brisbane	1	3.2
Bundaberg	1	3.2
Maryborough	1	3.2
Mooloolaba	1	3.2
Mossman	1	3.2
Port Douglas	1	3.2
Sandgate	1	3.2
Tin Can Bay	1	3.2
Wondalli	1	3.2
Total Businesses	31	100.0



Figure 9.1 Location of the Cooktown TRC

Fishing Activity and Type

Table 9.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Line fishing is the primary fishing activity by businesses from the homeport of Cooktown within this TRC.

Table 9.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Line fishing	5	83.3
Crabbing	2	33.3
Netting	1	16.7
Total Sample	12	100.0

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

As shown in Table 9.4, line fishing as the primary fishing activity does not generally co-occur with other fishing activities such as crabbing and netting within this TRC. For instance, of the five fishers within the sample who undertook line fishing within the last year, only one fisher also engaged in netting and crabbing.

Table 9.4
Co-occurrence of Fishing Activities

	Line Fishing	Crabbing	Netting
Line fishing	5 <i>100.0</i>	1 <i>50.0</i>	1 <i>100.0</i>
Crabbing	1 <i>20.0</i>	2 <i>100.0</i>	1 <i>100.0</i>
Netting	1 <i>20.0</i>	1 <i>50.0</i>	1 <i>100.0</i>

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

Although the sample size is low, Table 9.5 shows the peak months for fishing activity within the TRC is most likely between July and February.

Table 9.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	2	40.0	24.5
February	2	40.0	29.7
March	0	0.0	43.9
April	0	0.0	42.8
May	0	0.0	38.1
June	0	0.0	33.5
July	1	20.0	23.9
August	1	20.0	19.9
September	1	20.0	23.5
October	2	40.0	24.8
November	1	20.0	26.2
December	1	20.0	21.4

Table 9.6 provides a detailed description of the seasonal variation in line fishing, where it is found to be most common between January and April. Other fishing activities such as crabbing and netting have low sample counts which do not permit meaningful analysis.

Table 9.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	4	80.0	64.6
February	4	80.0	64.3
March	5	100.0	68.1
April	4	80.0	70.4
May	3	60.0	74.7
June	3	60.0	78.7
July	3	60.0	82.0
August	3	60.0	80.8
September	3	60.0	79.7
October	3	60.0	79.7
November	2	40.0	78.2
December	3	60.0	70.6

Note: Insufficient sample size for an analysis of net and crabbing activity.

Location of Resource Use

Figure 9.2 shows the location of resource use by commercial fishing operations in the Cooktown TRC. The resource catchments are highly localised, with the primary resource catchment consisting of coastal and reefal areas in immediate proximity to the town of Cooktown. The secondary resource catchment extends northward and includes coastal and reefal areas north to those reefal areas east of Cape Melville.

Fishing Industry Employees

Table 9.7 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 seasons have one full-time employee (the owner or operator). There is little part-time or casual employment by these businesses. The average number of employees during the peak season is 2.8, while in the off-peak season it is 2.5. It is estimated that during the peak season there are 42 full-time equivalent employees while in the off-peak season there are 37.5 full-time equivalent employees.

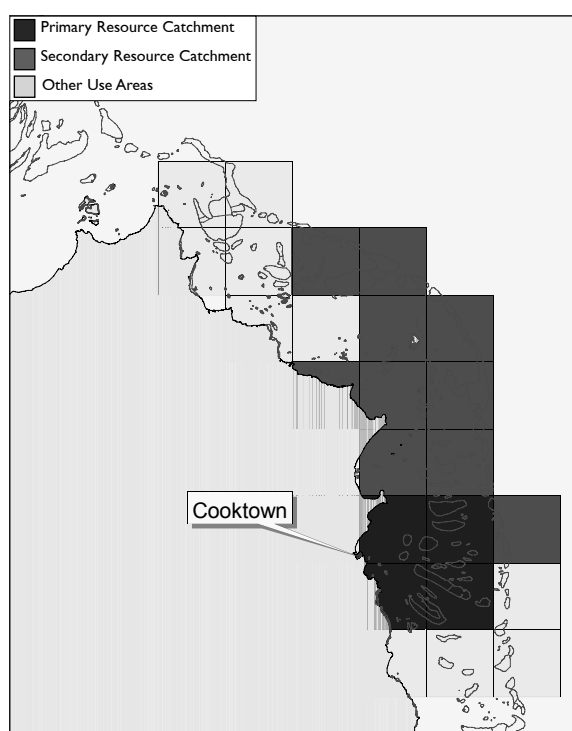


Figure 9.2 Cooktown TRC: Location of Resource Use

Business Ownership and Size

Table 9.8 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 7.6 years, which was significantly lower than the average for all Queensland commercial fishing businesses.

Table 9.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	33.3	33.3
6-10	3	50.0	83.3
11-15	0	0.0	83.3
16-20	1	16.7	100.0
21-25	0	0.0	100.0
Total	6	100.0	

Mean Number of Years owned or operated	7.6
Difference of TRC mean to QLD mean (14.6)	-7.0

Note: Standard errors for number of years ownership (sample = 2.9; QLD population = 0.37).

The average number of years the business had been operating was 14.3 years (Table 9.9), which was also significantly lower than all Queensland fishing businesses (18.2 years).

Table 9.9 Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	33.3	28.6
6-10	1	16.7	57.2
11-15	0	0.0	0.0
16-20	1	16.7	71.5
21-25	0	0.0	85.8
26-30	2	33.3	100.0
Total	6	100.0	

Mean Number of Years owned or operated	14.3
Difference of TRC mean to QLD mean (18.2)	-3.9

Note: Standard errors for number of years operated (sample = 5.5; QLD population = 0.46)

Table 9.7
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	1	16.7	6	100.0	5	83.3
1	3	50.0	0	0.0	1	16.7
2-3	1	16.7	0	0.0	0	0.0
4-5	0	0.0	0	0.0	0	0.0
6-7	1	16.7	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
Total Businesses	6	100.0	6	100.0	6	100.0
Total Employees	16		0		0.5	
Mean Number of Employees per Business (Peak)		2.8				
Estimated Number Employed within the TRC		42				
Off-Peak Season						
Nil	2	33.3	6	100.0	6	100.0
1	2	33.3	0	0.0	0	0.0
2-3	1	16.7	0	0.0	0	0.0
4-5	0	0.0	0	0.0	0	0.0
6-7	1	16.7	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
Total Businesses	6	100.0	6	100.0	6	100.0
Total Employees	15		0		0	
Mean Nos Employees per Business (Off-Peak)		2.5				
Estimated Number Employed within the TRC		37.5				

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 15 fishing businesses (Table 9.1)

Table 9.10 shows that the majority of fishing businesses within this TRC operated one boat (67%).

Table 9.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	4	66.7
2	1	16.7
3	1	16.7
4	0	0.0
Total Number of Businesses	6	100.0
Mean Number of Boats Operated		1.5
Difference of TRC mean to QLD mean (1.7)		-0.2

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

The majority of boats (75%) operated by businesses were between 3 and 10 metres (Table 9.11).

Table 9.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	3	37.5
7-10	3	37.5
11-14	1	12.5
15-18	1	12.5
Total Number of Boats	8	100.0
Mean Length of Boats Operated (metres)		8.3
Difference of TRC mean to QLD mean (9.9)		-1.6
Mean Length of Largest Boat Operated (metres)		10.1
Difference of TRC mean to QLD mean (11.4)		-1.3

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 1.6; QLD population=0.14)

Value of Production and Location of Sales

Table 9.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Cooktown TRC. Eighty-three percent of businesses within this TRC had production values of less than \$200,000 for the previous 12 months, with 50% having production values less than \$100,000.

Within the Cooktown TRC it is estimated that the 15 fishing businesses had a gross value of production of approximately \$1.5 million, which is approximately 0.5% of the total value of production of the Queensland commercial fishing industry.

Table 9.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	3	50.0	42.8
\$101 - \$200	2	33.4	21.4
\$201 - \$300	0	0.0	16.2
\$301 - \$400	0	0.0	8.5
\$401 - \$500	1	16.7	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	6	100.0	100.0
Median GVP for TRC			\$100,166
Estimated Total GVP for TRC			\$1,502,000
Median GVP for QLD Population			\$128,629
Estimated Total GVP for QLD Population			\$314,241,000
Percent of Total Queensland Production			0.5%

Note: Estimated TRC population total is based on an estimate of 15 businesses within the TRC, with a median GVP of \$100,166.
Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 9.13 shows the value of sales to specific locations within Australia for the sample of six 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 9.13, and as shown in Figure 9.3, 53% of sales (\$0.8 million) occur directly to Cairns. Although \$0.6 million of sales is reported as occurring to overseas markets it is probable that the majority of these sales occur firstly through Cairns, thereby increasing the total value of sales through Cairns.

Table 9.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Cairns	427	52.8	793
New South Wales	39	4.8	72
Mooloolaba	5	0.6	9
Victoria	4	0.5	7
Total Sales (Australia)	475	58.8	883
Total Sales (Overseas)	333	41.2	619
Total Sales	808	100.0	1,502

Note: The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 10.12) is proportionally distributed to all locations on the basis of sample percentages.

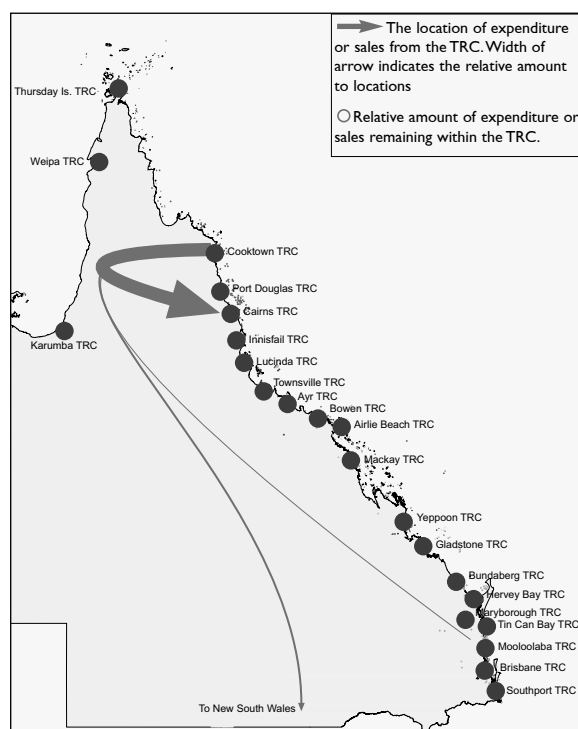


Figure 9.3 Cooktown TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 9.14 shows that approximately \$0.8 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 (49%) or \$0.4 million occurred within Cairns and a further 44% or \$0.3 million occurred within Cooktown (Figure 9.4).

Table 9.14
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)
Cairns	205	48.7	382
Cooktown	184	43.6	342
Brisbane	29	6.9	54
Sunshine Coast	2	0.6	4
New South Wales	1	0.1	1
Total Expenditure	712	100.0	783

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.

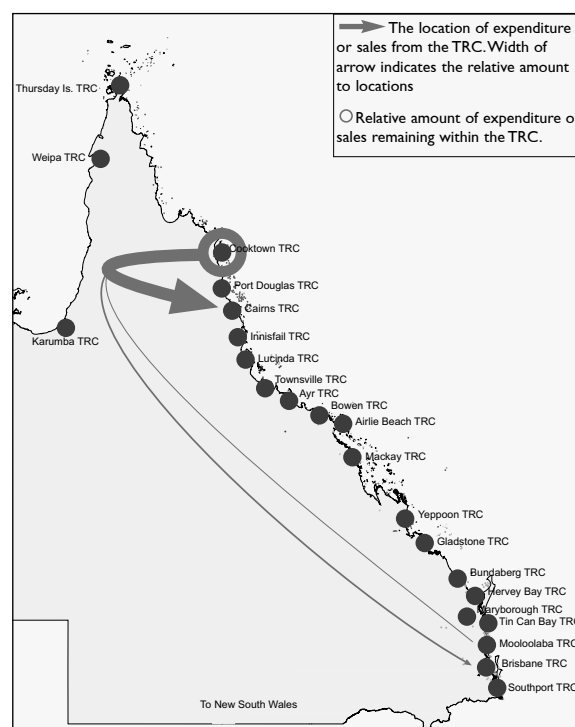


Figure 9.4 Cooktown TRC: Location of Business Expenditure

Each business operator, was asked what percentage of their business assets were not owned outright by their business, which identified for the purpose of this study the level of business debt. Table 9.15 shows that 80% of businesses within the Cooktown TRC had no debt. Although based on a small sample count, the overall debt level within the TRC was 6% of business assets.

Table 9.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	4	80.0	60.1
1 – 10%	0	0.0	6.4
11 – 20%	0	0.0	5.2
21 – 30%	1	20.0	6.4
31 – 40%	0	0.0	3.3
41 – 50%	0	0.0	9.6
51 – 60%	0	0.0	1.8
61 – 70%	0	0.0	1.2
71 – 80%	0	0.0	1.1
81 – 90%	0	0.0	1.6
91 – 100%	0	0.0	3.3
Total	5	100.0	100.0

Median Debt Level for TRC	6%
Median Debt Level for QLD Population	16.6%
Difference of TRC mean to QLD mean (16.6)	-10.6%

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

EMPLOYEE PROFILES

Town of Residence

Table 9.16 shows that within this TRC the survey of fishing industry employees found that all employees resided in the town of Cooktown (100%).

Table 9.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Cooktown	16	100.0
Total	16	100.0

Months Employed in the Fishing Industry

Table 9.17 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 October, which is also similar to the profile for all Queensland employees.

Table 9.17
Months Employed in the Fishing Industry
During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	83.3	25.0	50.0	80.7
February	83.3	25.0	50.0	82.3
March	100.0	50.0	71.4	86.1
April	100.0	62.5	78.6	86.8
May	100.0	62.5	78.6	87.3
June	100.0	75.0	85.7	87.8
July	100.0	87.5	92.9	86.7
August	100.0	87.5	92.9	86.3
September	100.0	87.5	92.9	86.8
October	100.0	75.0	85.7	85.4
November	83.3	75.0	78.6	84.4
December	83.3	75.0	78.6	82.3

Note: Owner/operator sample of 6, employee sample of 10

Location of Household Expenditure

Table 9.18 shows the location of household expenditure related to individual income derived from employment in the fishing industry. As might be expected, the majority (87%) of industry related household expenditure occurs in Cooktown (\$0.5 million) with a further 11% occurring within Cairns (\$0.6 million).

Table 2.18
Town Location of Household Expenditure
(all commodities and services)

Location	Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Cooktown	175	86.6	490
Cairns	22	10.9	62
Townsville	4	2.0	11
Milla Milla	1	0.5	3
Total	202	100.0	566

Note: The gross individual annual income of fishers within this TRC was estimated as \$22,167 (Table 9.20). 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 \$13,484, with total household expenditure across all 42 (Table 9.7) employees to be \$0.6 million (Table 9.18)

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 9.19. As might be expected, Cooktown is the primary location for school and employment (85%).

Table 9.19
School and Employment Locations of
Family Members

Location of Employment or School	Sample Count	Percent of Sample
Cooktown	17	85.0
Townsville	1	5.0
Cairns	1	5.0
Brisbane	1	5.0
Total Family Members	20	100.0

Note: Counts and percentages based on all family members.

Employee Social and Demographic Profiles

Table 9.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 9.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	15	27	42	7,088
Mean age of fisher	47.2	38.9	42.2	37.3
Age range	30-64	26-66	26-66	15-79
Percent males	100.0	88.9	93.3	94.8
Mean years resident in town	9.2	11.3	10.4	19.1
Mean number of years in fishing industry	17.2	11.3	13.7	12.6
Median hours per week in fishing industry	51.7	72.5	63.6	60.0
Percent moved town to retain employment	50.0	50.0	50.0	20.5
Percent currently employed in other industry	0.0	22.2	13.3	34.2
Percent previously employed in other industry	100.0	100.0	100.0	69.2
Housing tenure				
Rent	33.3	55.6	46.7	33.6
Mortgage	33.3	0.0	13.3	20.1
Own home	33.3	11.1	20.0	31.1
Other (eg, live with parents, on boat)	0.0	33.3	20.0	15.2
Educational				
Year completed school				
Primary school	0.0	11.1	6.7	5.2
Year 8	0.0	22.2	13.3	8.0
Year 9	33.3	0.0	13.3	11.9
Year 10	33.3	22.2	26.7	44.4
Year 11	0.0	11.1	6.7	10.1
Year 12	33.3	33.3	33.3	20.2
Percent completed trade or TAFE certificate	66.7	44.4	46.7	37.7
Percent completed industry or business course	0.0	33.3	20.0	15.2
Percent with business plan ^c	50.0	—	50.0	22.9
Percent active fishing group member	33.3	44.4	40.0	25.7
Marital Status				
Percent married or relationship	66.7	55.6	83.3	62.0
Percent with partner employed in business ^d	50.0	—	50.0	56.1
Median hours per week employed in business	15.0	—	15.0	20.0
Partners Income^{de}				
Full-time employment	75.0	80.0	25.0	28.3
Part-time employment	0.0	0.0	25.0	18.5
Casual employment	0.0	0.0	25.0	11.6
Not employed	25.0	20.0	25.0	41.5
Family Composition				
Mean family size	2.3	2.3	2.3	2.6
Estimated number of total family members	34	62	96	18,429
Dependency Ratios				
Age Dependency Ratio ^f	7.7	83.3	40.0	33.4
Elderly Dependency Ratio	0.0	8.3	4.0	2.3
Child Dependency Ratio	7.7	66.7	36.0	31.2
Family Member Industry Dependency Ratio ^g	57.1	25.0	45.5	23.9
Gross Individual Income				
Less than \$16,000	33.3	25.0	50.0	34.6
\$16,000 - \$26,000	33.3	37.5	16.7	19.6
\$26,000 - \$36,000	16.7	37.5	16.7	22.1
\$36,000 - \$52,000	16.7	0.0	0.0	11.7
\$52,000 - \$78,000	0.0	0.0	0.0	6.6
Over \$78,000	0.0	0.0	16.7	5.4
Average Income (\$)	22,167	21,500	22,167	27,471

Note: ^a Owner/operator sample of 6, employee sample = 10.

^b Based on peak estimates derived in Table 9.7

^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).

10 PORT DOUGLAS TRC

The Port Douglas TRC consists of the main towns of Port Douglas, Mossman and Wonga located on the north Queensland Coast to the north of Cairns (Figure 10.1). Port Douglas is the main township within this TRC and the primary homeport location of commercial fishers.

BUSINESS PROFILES

Location and Use of Ports

Table 10.1 shows the number of licence holders within the Port Douglas 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 34 commercial fishers within this TRC and that the 95% confidence interval places an estimate for the number of commercial fishers within the TRC as being between 23 and 45.

Table 10.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Port Douglas	24	9	22	64.3
Mossman	15	3	7	21.4
Wonga	2	2	5	14.3
Newell Beach	1	0	0	0.0
Total TRC	42	14	34	100.0
95% Confidence Interval for Estimated TRC Count				23-45
Percent of Total Active Licence Holders in QLD				1.4%

Note: Adjusted database count is based on the postal address as recorded in the licensing 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 Port Douglas as a homeport, several fishing businesses used Port Douglas as a port when travelling to or from fishing areas. Table 10.2 shows the majority of these businesses having their homeports in Cairns (60%).

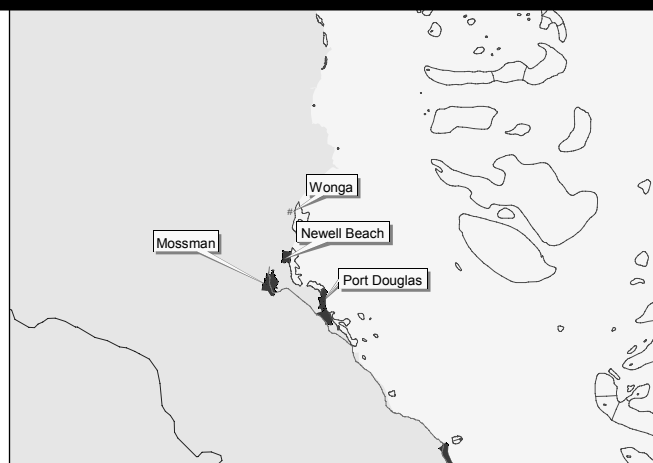


Figure 10.1 Location of the Port Douglas TRC

Table 10.2
Homeports of Businesses Using Port Douglas as a Port

Homeports	Sample Count	Percent
Cairns	3	60.0
Mackay	1	20.0
Wondalli	1	20.0
Total Businesses	5	100.0

Fishing Activity and Type

Table 10.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Line fishing (79%) is the primary fishing activity by businesses from homeports within this TRC, followed by netting (36%) and trawling (29%).

Table 10.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Line fishing	11	78.6
Netting	5	35.7
Trawling	4	28.6
Crabbing	1	7.1
Pearl	1	7.1
Lobster	1	7.1
Total Sample	14	100.0

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

Table 10.4. Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting	Lobster Fishing	Pearl Fishing
Line fishing	11 100.0	1 25.0	1 100.0	4 80.0	1 100.0	1 100.0
Trawling	1 9.1	4 100.0	0 0.0	1 20.0	0 0.0	0 0.0
Crabbing	1 9.1	0 0.0	1 100.0	1 20.0	0 0.0	0 0.0
Netting	4 36.4	1 25.0	1 100.0	5 100.0	0 0.0	0 0.0
Lobster fishing	1 9.1	0 0.0	0 0.0	0 0.0	1 100.0	0 0.0
Pearl fishing	1 9.1	0 0.0	0 0.0	0 0.0	0 0.0	1 100.0

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

As shown in Table 10.4, line fishing as the primary fishing activity only co-occurs in some instances with netting within this TRC. For instance, of the 11 fishers within the sample who undertook line fishing within the last year, four of these fisher (36%) also engaged in netting. All other fishing activities were generally independent.

Table 10.5 shows the peak months for fishing activity within the TRC to be July to November, which is very dissimilar to the overall Queensland fishery, which has its peak season between March and May.

Table 10.5.
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	1	7.1	24.5
February	1	7.1	29.7
March	3	21.4	43.9
April	3	21.4	42.8
May	3	21.4	38.1
June	3	21.4	33.5
July	4	28.6	23.9
August	3	21.4	19.9
September	6	42.9	23.5
October	5	35.7	24.8
November	4	28.6	26.2
December	1	7.1	21.4

Table 10.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between October and January, netting between February and April and trawling between March and November.

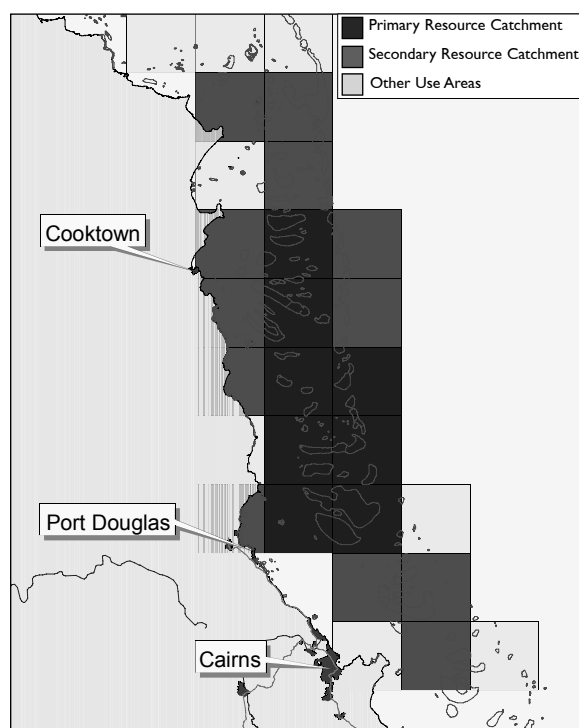


Figure 10.2 Port Douglas TRC: Location of Resource Use

Table 10.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	9	90.0	64.6
February	7	70.0	64.3
March	6	60.0	68.1
April	7	70.0	70.4
May	8	80.0	74.7
June	8	80.0	78.7
July	8	80.0	82.0
August	7	70.0	80.8
September	8	80.0	79.7
October	9	90.0	79.7
November	9	90.0	78.2
December	10	100.0	70.6
Netting			
January	1	25.0	57.5
February	4	100.0	72.9
March	4	100.0	73.9
April	4	100.0	74.2
May	2	50.0	77.6
June	2	50.0	79.9
July	2	50.0	75.9
August	2	50.0	73.9
September	2	50.0	69.6
October	2	50.0	64.2
November	1	25.0	55.9
December	1	25.0	54.5
Trawling			
January	1	25.0	76.0
February	2	50.0	79.0
March	3	75.0	91.2
April	3	75.0	91.6
May	3	75.0	89.3
June	4	100.0	88.7
July	3	75.0	82.7
August	4	100.0	83.1
September	3	75.0	85.0
October	3	75.0	84.4
November	3	75.0	85.0
December	2	50.0	77.1

Note: Insufficient sample size for an analysis of crab, pearl and lobster activity.

Location of Resource Use

Figure 10.2 shows the location of resource use by commercial fishing operations in Port Douglas and the Port Douglas TRC. The primary resource catchment extends from Port Douglas north to reefal areas east of Cape Bedford. The secondary resource catchment, extends south to the reefal areas east of Cairns and north to coastal and reefal areas east of Cape Flattery.

Fishing Industry Employees

Table 10.7 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 have between one and three full-time employees (inc. 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 and off-peak seasons is 1.8. In total, it is estimated that during both the peak and off-peak seasons there are 62 full-time equivalent employees.

Table 10.7
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	1	7.1	14	100.0	11	78.6
1	6	42.9	0	0.0	1	7.1
2-3	7	50.0	0	0.0	2	14.2
4-5	0	0.0	0	0.0	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
Total Businesses	14	100.0	14	100.0	14	100.0
Total Employees	24		0		1.5	
Mean Number of Employees per Business (Peak)		1.8				
Estimated Number Employed within the TRC		62				
Off-Peak Season						
Nil	1	7.1	14	100.0	11	78.6
1	6	42.9	0	0.0	1	7.1
2-3	7	50.0	0	0.0	2	14.2
4-5	0	0.0	0	0.0	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
Total Businesses	14	100.0	14	100.0	14	100.0
Total Employees	24		0		1.5	
Mean Nos Employees per Business (Off-Peak)		1.8				
Estimated Number Employed within the TRC		62				

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 34 fishing businesses (Table 10.1)

Business Ownership and Size

Table 10.8 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 12.4 years, which is similar to the average of 14.6 years for all Queensland commercial fishing businesses.

Table 10.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	4	28.6	28.6
6-10	1	7.1	35.7
11-15	3	21.4	57.1
16-20	5	35.7	92.9
21-25	1	7.1	100.0
Total	14	100.0	
Mean Number of Years owned or operated			12.4
Difference of TRC mean to QLD mean (14.6)			-2.2

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

The average number of years the business had been operating was 17.5 years, which was similar to that for all Queensland fishing businesses (18.2 years).

Table 10.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	3	23.1	23.1
6-10	1	7.7	30.8
11-15	2	15.4	46.2
16-20	5	38.5	84.6
21+	2	15.4	100.0
Total	13	100.0	
Mean Number of Years owned or operated			17.5
Difference of TRC mean to QLD mean (18.2)			-0.7

Note: Standard errors for number of years operated (sample = 3.8; QLD population = 0.46)

Table 10.10 shows that the majority of fishing businesses within this TRC operated one boat (86%).

Table 10.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	12	85.7
2	2	14.3
3	0	0.0
4	0	0.0
Total Number of Businesses	14	100.0
Mean Number of Boats Operated		1.1
Difference of TRC mean to QLD mean (1.7)		-0.6

Note: Standard errors for number of boats operated (sample = 0.1; QLD population = 0.05)

The majority of boats operated by businesses within this TRC varied in length between 4.2 metres and 14 metres (Table 10.11).

Table 10.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	5	31.2
7-10	4	25.0
11-14	6	37.5
15-18	1	6.3
Total Number of Boats	16	100.0
Mean Length of Boats Operated (metres)		9.4
Difference of TRC mean to QLD mean (9.9)		-0.5
Mean Length of Largest Boat Operated (metres)		10.1
Difference of Mean to QLD Mean (11.4)		-1.3

Note: As mean length of boats in a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.9; QLD population=0.14)

Value of Production and Location of Sales

Table 10.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Port Douglas TRC. Forty-six percent of businesses within this TRC had production values of less than \$100,000 for the previous 12 months.

Within the Port Douglas TRC it is estimated that the 34 fishing businesses had a gross value of production of approximately \$4.7 million, which is approximately 1.5% of the total value of production of the Queensland commercial fishing industry.

Table 10.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$'000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	6	46.2	42.8
\$101 - \$200	3	23.1	21.4
\$201 - \$300	3	23.1	16.2
\$301 - \$400	1	7.7	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	13	100.0	100.0

Median GVP for TRC	\$139,077
Estimated Total GVP for TRC	\$4,729,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	1.5%

Note: Estimated TRC population total is based on an estimate of 34 businesses within the TRC, with a median GVP of \$139,077. Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 10.13 shows the value of sales to specific locations within Australia for the sample of 13 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 10.13, and as shown in Figure 10.3, 69% of sales (\$3.3 million) occur directly to Cairns, \$0.5 million occurs directly

within Port Douglas, while a further \$0.5 million was reported as being sold to overseas markets. However, it is likely that the sales to overseas markets were represented by a first point of sale within Cairns.

Table 10.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Cairns	1,244	68.8	3,254
Port Douglas	200	11.1	523
Karumba	90	5.0	235
Bundaberg	24	1.3	63
Yeppoon	24	1.3	63
Total Sales (Australia)	1,621	89.7	4,240
Total Sales (Overseas)	187	10.3	489
Total Sales	1,808	100.0	4,729

Note: Cairns includes sales to Gordonvale.

The sample value of sales is based on GVP as reported by businesses in the survey.

The estimated value of business sales (Table 10.12) is proportionally distributed to all locations on the basis of sample percentages.

Business Expenditure and Debt Levels

Table 10.14 shows that approximately \$2.5 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 three locations (Figure 10.4), which included Port Douglas (\$0.9 million), Cairns (\$0.8 million) and Mossman (\$0.4 million).

Table 10.14
Town Location of Business Expenditure
(All costs, excluding salaries and wages)

Location of Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Value of all Expenditure (\$'000)
Port Douglas	351	37.5	923
Cairns	310	33.1	815
Mossman	143	15.3	376
Weipa	40	4.3	105
Karumba	30	3.2	79
Bundaberg	25	2.7	66
Cooktown	13	1.4	34
Ingham	6	0.6	16
Lucinda	6	0.6	16
Yeppoon	6	0.6	16
New South Wales	4	0.4	11
Caboolture	3	0.3	8
Total Expenditure	942	100.0	2,464

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.

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 10.15 shows that 60% of businesses within the Port Douglas TRC had no debt. Although based on a small sample count, the overall debt level within the TRC was 40% of business assets.

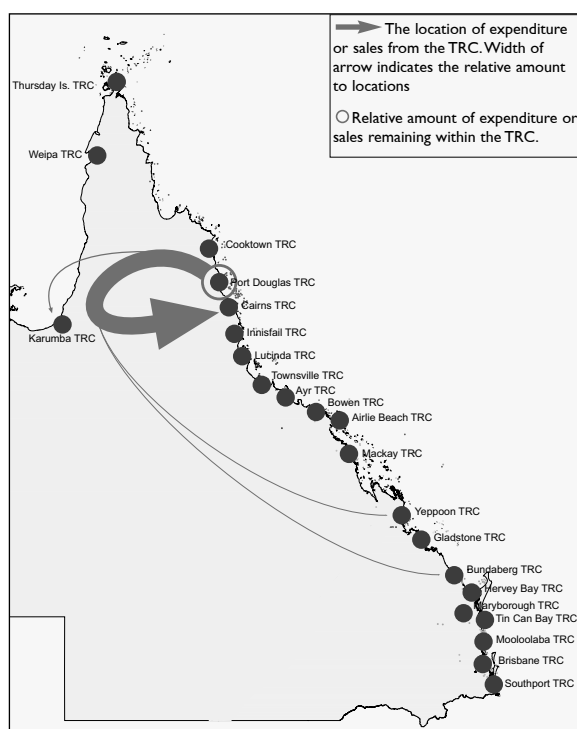


Figure 10.3 Port Douglas TRC: Location of Business Sales

Table 10.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	4	57.1	60.1
1 – 10%	0	0.0	6.4
11 – 20%	0	0.0	5.2
21 – 30%	0	0.0	6.4
31 – 40%	0	0.0	3.3
41 – 50%	0	0.0	9.6
51 – 60%	0	0.0	1.8
61 – 70%	0	0.0	1.2
71 – 80%	0	0.0	1.1
81 – 90%	2	28.6	1.6
91 – 100%	1	14.3	3.3
Total	7	100.0	100.0
Median Debt Level for TRC			40%
Median Debt Level for QLD Population			16.6%
Difference of TRC Mean to QLD Mean (16.6)			+23.4%

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

EMPLOYEE PROFILES

Town of Residence

Table 10.16 indicates that although Port Douglas is the homeport of fishing businesses within this TRC, employees reside primarily at either Port Douglas (48%) or Mossman (37%).

Table 10.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Port Douglas	13	48.1
Mossman	10	37.0
Wonga	4	14.9
Total	27	100.0

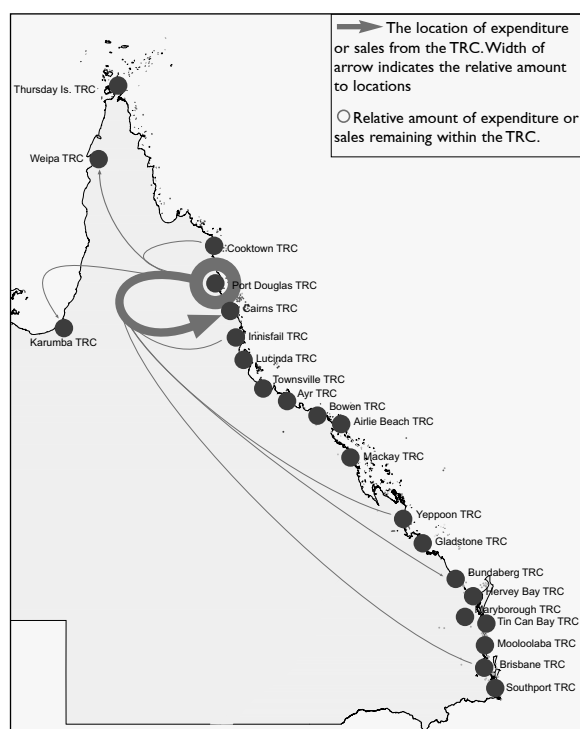


Figure 10.4 Port Douglas TRC: Location of Business Expenditure

Months Employed in the Fishing Industry

Table 10.17 shows that during the past 12 months the majority of owner/operators and employees within this TRC were employed in the fishing industry throughout the year, with no seasonal employment patterns evident.

Table 10.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	81.8	71.4	76.0	80.7
February	90.9	78.6	84.0	82.3
March	90.9	92.9	92.0	86.1
April	72.7	71.4	72.0	86.8
May	63.6	71.4	68.0	87.3
June	72.7	78.6	76.0	87.8
July	72.7	78.6	76.0	86.7
August	81.8	92.9	88.0	86.3
September	63.6	78.6	72.0	86.8
October	72.7	78.6	76.0	85.4
November	72.7	71.4	72.0	84.4
December	72.7	64.3	68.0	82.3

Note: Owner/operator sample of 12; employee sample of 15

Location of Household Expenditure

Table 10.18 and Figure 10.5 show the location of household expenditure related to individual income derived from employment in the fishing industry. Although Port Douglas is the homeport for most fishing businesses within this TRC, the town of Mossman attracts 42% (\$0.5 million) of all annual employee household expenditure, while Port Douglas attracts 32% (\$0.3 million) of annual household expenditure.

Table 10.18
Town Location of Household Expenditure
(all commodities and services)

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Mossman	193	42.5	460
Port Douglas	144	31.7	343
Cairns	117	25.8	279
Total Expenditure	454	100.0	1,082

Note: The gross individual annual income of fishers within this TRC was estimated as \$28,684 (Table 10.20). 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 \$17,448, with total household expenditure across all 62 (Table 10.7) employees to be \$1.1 million (Table 10.18)

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 10.19. Port Douglas (44%) and Mossman (33%) are the primary towns for school and employment.

Table 10.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Port Douglas	19	44.2
Mossman	14	32.6
Wonga	4	9.3
Brisbane	2	4.7
Gold Coast	2	4.7
Cairns	1	2.3
Hervey Bay	1	2.3
Total Family Members	43	100.0

Note: Counts and percentages based on all family members.

Employee Social and Demographic Profiles

Table 10.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

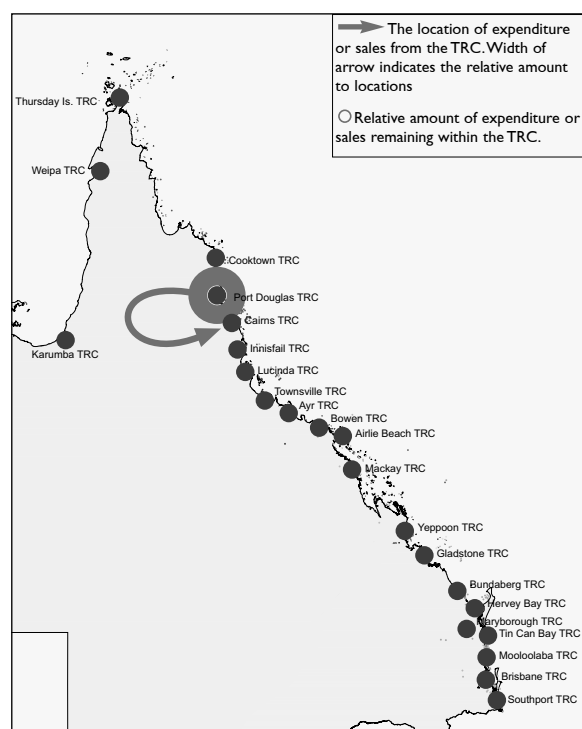


Figure 10.5 Port Douglas TRC: Location of Household Expenditure

Table 10.20 Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	34	28	62	7,088
Mean age of fisher	44.3	31.2	37.3	37.3
Age range	30-58	15-49	15-58	15-79
Percent males	100.0	93.3	96.3	94.8
Mean years resident in town	21.5	10.3	15.3	19.1
Mean number of years in fishing industry	15.7	9.4	12.2	12.6
Median hours per week in fishing industry	70.0	60.0	60.0	60.0
Percent moved town to retain employment	16.7	20.0	18.5	20.5
Percent currently employed in other industry	16.7	26.7	22.2	34.2
Percent previously employed in other industry	83.3	66.7	74.1	69.2
Housing tenure				
Rent	41.7	46.7	44.4	33.6
Mortgage	25.0	26.7	25.9	20.1
Own home	25.0	26.7	25.9	31.1
Other (eg, live with parents, on boat)	8.3	0.0	3.7	15.2
Educational				
Year completed school				
Primary school	0.0	6.7	3.7	5.2
Year 8	8.3	6.7	7.4	8.0
Year 9	16.7	6.7	11.1	11.9
Year 10	66.7	20.0	40.7	44.4
Year 11	0.0	33.3	18.5	10.1
Year 12	8.3	26.7	18.5	20.2
Percent completed trade or TAFE certificate	54.5	53.3	53.8	37.7
Percent completed industry or business course	16.7	20.0	18.5	15.2
Percent with business plan ^c	18.2	—	18.2	22.9
Percent active fishing group member	81.8	13.3	40.7	25.7
Marital Status				
Percent married or relationship	58.3	46.7	51.9	62.0
Percent with partner employed in business ^d	57.1	—	57.1	56.1
Median hours per week employed in business	70.0	—	70.0	20.0
Partners Income^{de}				
Full-time employment	57.1	42.9	50.0	28.3
Part-time employment	14.3	28.6	21.4	18.5
Casual employment	14.3	0.0	7.1	11.6
Not employed	14.3	28.6	21.4	41.5
Family Composition				
Mean family size	2.9	2.3	2.6	2.6
Estimated number of total family members	99	64	163	18,429
Dependency Ratios				
Age Dependency Ratio ^f	20.7	68.4	39.6	33.4
Elderly Dependency Ratio	3.4	0.0	2.1	2.3
Child Dependency Ratio	17.2	68.4	37.5	31.2
Family Member Industry Dependency Ratio ^g	35.0	16.7	30.8	23.9
Gross Individual Income				
Less than \$16,000	11.1	10.0	50.0	34.6
\$16,000 - \$26,000	33.3	20.0	16.7	19.6
\$26,000 - \$36,000	33.3	50.0	16.7	22.1
\$36,000 - \$52,000	22.2	20.0	0.0	11.7
\$52,000 - \$78,000	0.0	0.0	0.0	6.6
Over \$78,000	0.0	0.0	16.7	5.4
Average Income (\$)	28,000	29,300	28,684	27,471

Note: ^a Owner/operator sample of 12, employee sample = 15.

^b Based on peak estimates derived in Table 10.7.

^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).

CAIRNS TRC

The Cairns TRC consists of the main urban centre of Cairns and several smaller surrounding urban centres including those of the Northern Beaches, Gordonvale, Kuranda and Smithfield (Figure 11.1).

BUSINESS PROFILES

Location and Use of Ports

Table 11.1 shows the number of licence holders within the Cairns 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 192 commercial fishing businesses within this TRC and that the 95% confidence interval places the count of commercial fishers within the TRC as between 168 and 216.

Table 11.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Cairns UC	180	79	192	100.0
Cairns Nth Beach UC	16	0	0	0.0
Gordonvale	12	0	0	0.0
Kuranda	4	0	0	0.0
Smithfield	2	0	0	0.0
Aloomba	1	0	0	0.0
Total TRC	215	78	192	100.0

95% Confidence Interval for Estimated TRC Count 168-216
Percent of Total Active Licence Holders in QLD 7.9%

*Note: Cairns Northern Beaches Urban Centre includes Clifton Beach, Palm Beach, Trinity Beach and Yorkey's Knob.
Cairns Urban Centre includes all suburbs of Cairns.
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 Cairns as a homeport, numerous fishing businesses used Cairns as a port when travelling to or from fishing areas. Table 11.2 shows the majority of these businesses having their homeports in Townsville (21%), Bundaberg (17%) and Tin Can Bay (11%).

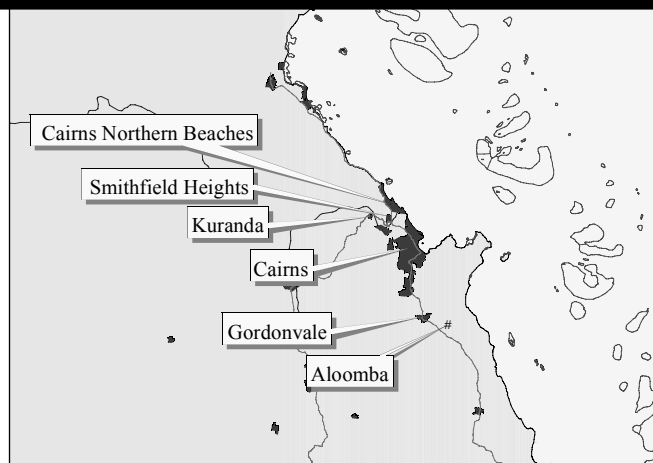


Figure 11.1 Location of the Cairns TRC

Table 11.2
Homeports of Businesses Using Cairns as a Port

Homeports	Sample Count	Percent
Townsville	10	21.3
Bundaberg	8	17.0
Tin Can Bay	5	10.6
Hervy Bay	3	6.4
Mackay	3	6.4
Brisbane	2	4.2
Gold Coast	2	4.2
Innisfail	2	4.2
Mooloolaba	2	4.2
New South Wales	2	4.2
Amity Point	1	2.1
Bowen	1	2.1
Karumba	1	2.1
Lucinda	1	2.1
Port Douglas	1	2.1
Stradbroke Island	1	2.1
Tully	1	2.1
Wonga	1	2.1
Total Businesses	47	100.0

Fishing Activity and Type

Table 11.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Trawling (67%) is the primary fishing activity by businesses from homeports within this TRC, followed by line fishing (32%), netting (10%) and crabbing (10%).

Table 11.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Trawling	52	67.5
Line fishing	25	32.5
Netting	8	10.4
Crabbing	8	10.4
Pearl	2	2.6
Lobster	1	1.3
Total Sample	77	100.0

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

As shown in Table 11.4, trawling as the primary fishing activity is relatively independent of other fishing activities and only co-occurs in some instances with line fishing (10%). Although netting co-occurs with crabbing and line fishing, most other fishing activities generally occur independently.

Table 11.4. Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting	Lobster Fishing	Pearl Fishing
Line fishing	25 <i>100.0</i>	5 <i>9.6</i>	6 <i>75.0</i>	7 <i>87.5</i>	0 <i>0.0</i>	0 <i>0.0</i>
Trawling	5 <i>20.0</i>	52 <i>100.0</i>	1 <i>12.5</i>	2 <i>25.0</i>	0 <i>0.0</i>	0 <i>0.0</i>
Crabbing	6 <i>24.0</i>	0 <i>0.0</i>	8 <i>100.0</i>	5 <i>62.5</i>	0 <i>0.0</i>	0 <i>0.0</i>
Netting	7 <i>28.0</i>	2 <i>3.8</i>	5 <i>62.5</i>	8 <i>100.0</i>	0 <i>0.0</i>	0 <i>0.0</i>
Lobster fishing	0 <i>9.1</i>	0 <i>0.0</i>	0 <i>0.0</i>	0 <i>0.0</i>	1 <i>100.0</i>	0 <i>0.0</i>
Pearl	0 <i>9.1</i>	0 <i>0.0</i>	0 <i>0.0</i>	0 <i>0.0</i>	0 <i>0.0</i>	2 <i>100.0</i>

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

Table 11.5 shows the peak months for fishing activity within the TRC to be March to April, which is very similar to the overall Queensland fishery, which has its peak season between March and May.

Table 11.5 Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	4	5.6	24.5
February	9	12.7	29.7
March	43	60.6	43.9
April	44	62.0	42.8
May	33	46.5	38.1
June	19	26.8	33.5
July	12	16.9	23.9
August	17	23.9	19.9
September	20	28.2	23.5
October	20	28.2	24.8
November	17	23.9	26.2
December	8	11.3	21.4

Table 11.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between July and December, trawling between March and November, crabbing between February and June and netting between February and July.

Table 11.6. Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	11	45.8	64.6
February	13	54.2	64.3
March	14	58.3	68.1
April	13	54.2	70.4
May	15	62.5	74.7
June	16	66.7	78.7
July	18	75.0	82.0
August	21	87.5	80.8
September	22	91.7	79.7
October	23	95.8	79.7
November	22	91.7	78.2
December	17	70.8	70.6
Trawling			
January	20	39.2	76.0
February	23	45.1	79.0
March	46	90.2	91.2
April	47	92.2	91.6
May	49	96.1	89.3
June	48	94.1	88.7
July	44	86.3	82.7
August	49	96.1	83.1
September	49	96.1	85.0
October	49	96.1	84.4
November	48	94.1	85.0
December	35	68.6	77.1
Crabbing			
January	4	50.0	74.7
February	7	87.5	79.0
March	6	75.0	75.1
April	5	62.5	69.4
May	6	75.0	67.2
June	6	75.0	58.5
July	4	50.0	52.0
August	4	50.0	50.2
September	4	50.0	53.3
October	4	50.0	55.9
November	3	37.5	66.4
December	3	37.5	72.1
Netting			
January	2	25.0	57.5
February	6	75.0	72.9
March	8	100.0	73.9
April	7	87.5	74.2
May	7	87.5	77.6
June	7	87.5	79.9
July	6	75.0	75.9
August	5	62.5	73.9
September	5	62.5	69.6
October	5	62.5	64.2
November	3	37.5	55.9
December	1	12.5	54.5

Note: Insufficient sample size for an analysis of pearl and lobster activity.

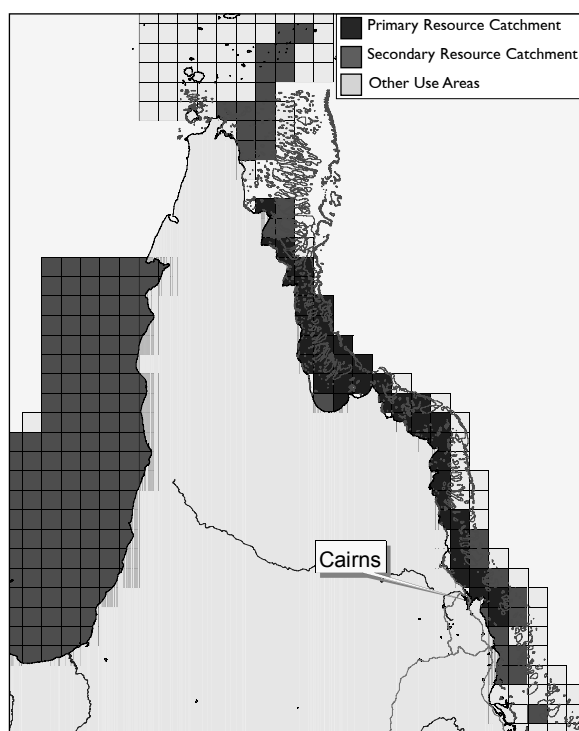


Figure 11.2 Cairns TRC: Location of Resource Use

Location of Resource Use

Figure 11.2 shows the location of resource use by commercial fishing operations in the Cairns TRC. The predominance of trawl operations from the homeport of Cairns explains the large geographic area covered by the primary and secondary resource catchments, which extend to Torres Strait and the Gulf of Carpentaria. As with many resource catchments, both primary and secondary resource catchments extend in a northerly direction from the TRC and homeport in which the fishing businesses are based. The primary resource catchment, while it extends to some reefal areas to the south of Cairns essentially covers all reefal and coastal areas from Cairns to Cape Grenville and Portland Roads in the north. On the other hand, the secondary resource catchment extends south of Cairns to coastal and reefal areas east of Innisfail and to Torres Strait and the Gulf of Carpentaria in the north.

Fishing Industry Employees

Table 11.7 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 have between one and three full-time employees (inc. the owner or operator), with there being little part-time or casual employment. The average number of employees per business during the peak season is 4.1, while in the off-peak season employment per business falls to 3.3 full-time equivalents. It is estimated that during the peak season there are 787 full-time equivalent employees, and in the off-peak season there are 633 full-time equivalent employees.

Table 11.7
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	2.6	59	76.7	70	90.9
1	14	18.2	13	16.9	3	3.9
2-3	37	48.1	2	2.6	1	1.3
4-5	11	14.3	2	2.6	1	1.3
6-7	5	6.5	1	1.3	1	1.3
8-9	2	2.6	0	0.0	0	0.0
10-11	1	1.3	0	0.0	1	1.3
12-13	3	3.9	0	0.0	0	0.0
14+	2	2.6	0	0.0	0	0.0
Total Businesses	77	100.0	77	100.0	77	100.0
Total Employees	286		33		26	
Mean Number of Employees per Business (Peak)		4.1				
Estimated Number Employed within the TRC		787				
Off-Peak						
Nil	4	1.7	69	89.6	71	78.6
1	17	7.2	6	7.8	2	7.1
2-3	38	16.1	0	0.0	2	14.2
4-5	9	3.8	1	1.3	1	0.0
6-7	2	2.6	1	1.3	0	0.0
8-9	2	2.6	0	0.0	1	0.0
10-11	2	2.6	0	0.0	0	0.0
12-13	2	2.6	0	0.0	0	0.0
14+	1	1.3	0	0.0	0	0.0
Total Businesses	77	100.0	77	100.0	77	100.0
Total Employees	236		17		19	
Mean Nos Employees per Business (Off-Peak)		3.3				
Estimated Number Employed within the TRC		633				

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 192 fishing businesses (Table 11.1)

Business Ownership and Size

Table 11.8 shows the number of years the current owner or operator has owned the fishing business. Businesses within this TRC had been owned by their current owner for an average of 13.4 years, with 57% of businesses being owned by the current owner for less than 10 years.

Table 11.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	23	29.9	29.9
6-10	21	27.3	57.2
11-15	6	7.8	65.0
16-20	10	13.0	78.0
21-25	4	5.2	83.2
26-30	6	7.8	91.0
31+	7	9.0	100.0
Total	77	100.0	
Mean Number of Years owned or operated			13.4
Difference of TRC mean to QLD mean (14.6)			-1.2

Note: Standard errors for number of years ownership (sample = 1.4; QLD population = 0.37).

The average number of years the business had been operating was 18.0 years (Table 11.9), which was similar to that for all Queensland fishing businesses (18.2 years).

Table 11.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	14	17.7	17.7
6-10	13	16.5	34.2
11-15	10	12.7	46.9
16-20	16	20.3	67.2
21-25	4	5.1	72.3
26-30	11	13.9	86.2
31+	9	11.4	100.0
Total	13	100.0	
Mean Number of Years owned or operated			18.0
Difference of TRC mean to QLD mean (18.2)			-0.2

Note: Standard errors for number of years operated (sample = 1.6; QLD population = 0.46).

Table 11.10 shows that the majority of fishing businesses within this TRC operated one boat (63%).

Table 11.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	50	63.3
2	14	17.7
3	12	15.2
4	3	3.8
Total Number of Businesses	79	100.0
Mean Number of Boats Operated		1.6
Difference of TRC mean to QLD mean (1.7)		-0.1

Note: Standard errors for number of boats operated (sample = 0.1; QLD population = 0.05).

The majority of boats (52%) operated by businesses within this TRC varied in length between 11 metres and 18 metres (Table 11.11).

Table 11.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	23	18.4
7-10	18	14.4
11-14	27	21.6
15-18	38	30.4
19-22	15	12.0
23+	3	2.4
Total Number of Boats	125	100.0
Mean Length of Boats Operated (metres)		13.1
Difference of Mean to QLD Mean (9.9)		+3.2
Mean Length of Largest Boat Operated (metres)		14.6
Difference of Mean to QLD Mean (11.4)		+3.2

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.5; QLD population = 0.14).

Value of Production and Location of Sales

Table 11.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Cairns TRC. The profile for the Cairns TRC is markedly different to the overall profile for Queensland. In the Cairns TRC there is a significantly higher percentage of businesses with production values in excess of \$300,000 per annum when compared to Queensland. In addition, the median GVP for the Cairns TRC is more than twice the Queensland average.

Within the Cairns TRC it is estimated that the 192 fishing businesses had a gross value of production of approximately \$53.2 million, which is approximately 17% of the total value of production of the Queensland commercial fishing industry.

Table 11.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	15	19.0	42.8
\$101 - \$200	11	13.9	21.4
\$201 - \$300	18	22.8	16.2
\$301 - \$400	11	13.9	8.5
\$401 - \$500	8	10.1	3.8
\$501 - \$600	4	5.1	1.8
\$601 - \$700	1	1.3	1.3
\$701 - \$800	2	2.5	0.4
\$801 - \$900	1	1.3	1.0
\$901 - \$1,000	0	0.0	0.3
Over \$1,000	8	10.1	2.3
Total	13	100.0	100.0
Median GVP for TRC			\$277,059
Estimated Total GVP for TRC			\$53,195,000
Median GVP for QLD Population			\$128,629
Estimated Total GVP for QLD Population			\$314,241,000
Percent of Total Queensland Production			16.9%

Note: Estimated TRC population total is based on an estimate of 192 businesses within the TRC, with a median GVP of \$277,059. Queensland total GVP based on 2,443 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 11.13 shows the value of sales to specific locations within Australia for the sample of 78 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 11.13, and as shown in Figure 11.3, 46% of sales (\$24.6 million) occur directly to Cairns, \$4.6 million to Brisbane, while a further \$21.8 million occurred directly to overseas markets. It is probable that much of the sale to overseas markets also occurred firstly within Cairns, thereby increasing the total value of sales within Cairns.

Table 11.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Cairns	12,925	46.2	24,576
Brisbane	2,429	8.7	4,628
New South Wales	501	1.8	958
Hervy Bay	196	0.7	372
Noosa	118	0.4	213
South Australia	110	0.4	213
Victoria	82	0.3	160
Bundaberg	48	0.2	106
Gladstone	48	0.2	106
Townsville	32	0.1	53
Northern Territory	13	0.1	53
Port Douglas	1	0.1	53
Total Sales (Australia)	16,503	59.0	31,385
Total Sales (Overseas)	11,467	41.0	21,810
Total Sales	27,970	100.0	53,195

Note: The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 11.12) is proportionally distributed to all locations on the basis of sample percentages.

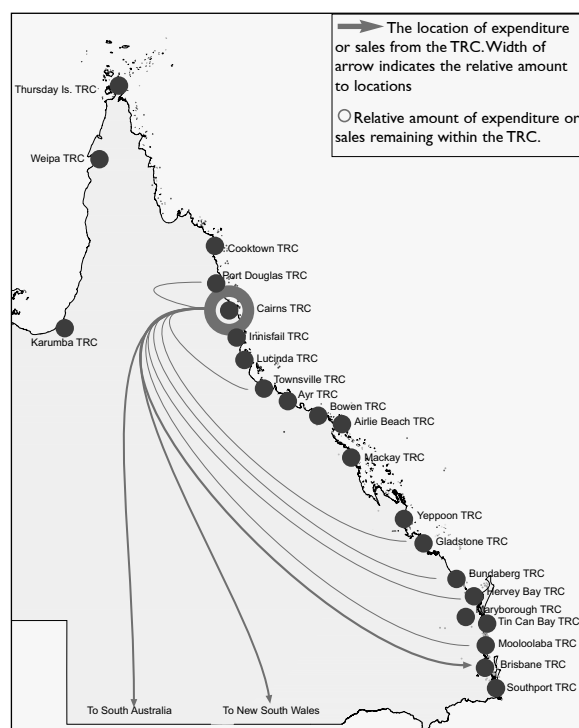


Figure 11.3 Cairns TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 11.14 shows that approximately \$27.7 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 within Cairns (\$25.6 million), with only minimum expenditure to other towns and locations along the Queensland coast.

Table 11.14
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)
Cairns	14,155	92.2	25,553
Brisbane	363	2.4	665
Mackay	202	1.3	360
Townsville	133	0.9	249
NSW	129	0.8	222
Karumba	81	0.5	139
Cooktown	71	0.5	139
Bundaberg	40	0.3	83
Mothership (Out at sea)	35	0.2	55
Innisfail	30	0.2	55
Northern Territory	29	0.2	55
Victoria	8	0.1	28
Gladstone	6	0.1	28
Ingham	6	0.1	28
Thursday Island	6	0.1	28
Western Australia	5	0.1	28
Weipa	1	0.1	28
Total Expenditure	15,300	100.0	27,715

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.

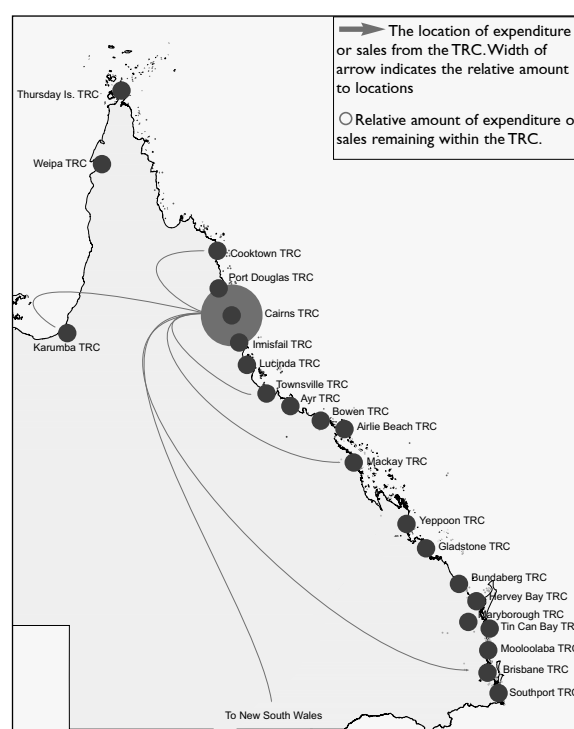


Figure 11.4 Cairns TRC: Location of Business Expenditure

The level of business debt was defined by asking each business operator what percentage of their business assets were not owned outright by their business. Table 11.15 shows that 43% of businesses within the Cairns TRC had no debt. The median debt level within the TRC was 10% of business assets which is significantly less than the debt level of 16.6% across all Queensland fishing businesses.

Table 11.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	26	42.6	60.1
1 – 10%	6	9.8	6.4
11 – 20%	7	11.5	5.2
21 – 30%	5	8.2	6.4
31 – 40%	2	3.3	3.3
41 – 50%	8	13.1	9.6
51 – 60%	2	3.3	1.8
61 – 70%	1	1.6	1.2
71 – 80%	0	0.0	1.1
81 – 90%	2	3.3	1.6
91 – 100%	2	3.3	3.3
Total	61	100.0	100.0

Median Debt Level for TRC	10%
Median Debt Level for QLD Population	16.6%
Difference of TRC mean to QLD mean (16.6)	-6.6%

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

EMPLOYEE PROFILES

Town of Residence

Table 11.16 indicates that employees reside primarily in Cairns (90%). Although several employees did provide a suburb of residence it is clear that reference to Cairns as the town of residence would include a number of suburbs within the Cairns urban centre.

Table 11.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Cairns	88	89.8
Edmonton	4	4.1
Gordonvale	2	2.0
Deeral	1	1.0
Trinity	1	1.0
Wangetti	1	1.0
Bayview Heights	1	1.0
Total	98	100.0

Note: The majority of respondents who have provided Cairns as their town of residence rather than identifying a specific suburb within the Cairns urban centre.

Months Employed in the Fishing Industry

Table 11.17 shows that during the past 12 months the majority of owner/operators and employees within this TRC were employed in the fishing industry between March and November, while employees were more likely to be employed in the months August to October. What is apparent in Table 11.17 is the relatively low level of owner/operator and employee activity in the fishing industry between December and February.

Table 11.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/Operators	Employee	Total Within TRC	All QLD Employees
January	65.7	46.4	60.0	80.7
February	77.6	46.4	68.4	82.3
March	92.5	53.6	81.1	86.1
April	92.5	57.1	82.1	86.8
May	94.0	60.7	84.2	87.3
June	88.1	64.3	81.1	87.8
July	86.6	67.9	81.1	86.7
August	97.0	78.6	91.6	86.3
September	97.0	75.0	90.5	86.8
October	95.5	71.4	88.4	85.4
November	94.0	67.9	86.3	84.4
December	77.6	67.9	74.7	82.3

Note: Owner/operator sample of 71; employee sample of 26

Location of Household Expenditure

Table 11.18 shows the location of household expenditure related to individual income derived from employment in the fishing industry. As might be expected, Cairns attracts 97% (\$20.4 million) of all annual employee household expenditure, with only very minor 'seepage' to Townsville, Deeral, Mossman, Cooktown and Brisbane (Figure 11.5).

Table 11.18
Town Location of Household Expenditure (all commodities and services)

Location of Household Expenditure	Sample Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Cairns Urban Centre	2,173	97.2	20,412
Townsville	23	1.0	210
Deeral	22	1.0	210
Mossman	11	0.5	105
Cooktown	5	0.2	42
Brisbane	1	0.1	21
Total Expenditure	2,235	100.0	21,000

Note: The gross individual annual income of fishers within this TRC was estimated as \$43,865 (Table 2.20). 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 \$26,683, with total household expenditure across all 787 (Table 11.7) employees to be \$21 million (Table 11.18)

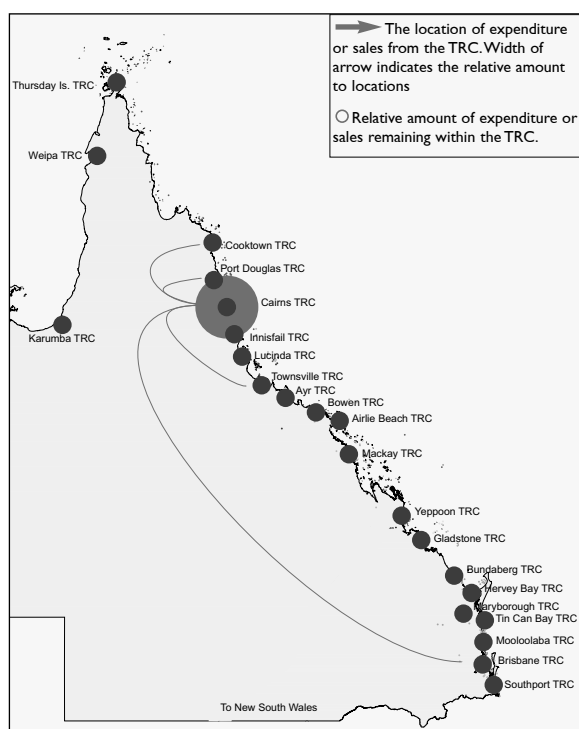


Figure 11.5 Cairns TRC: Location of Household Expenditure

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 11.19. As might be expected, the Cairns urban centre (92%) is the primary town location for school and employment.

Table 11.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Cairns urban centre	171	92.4
Brisbane	4	2.2
Overseas	3	1.6
Weipa	2	1.1
Hervey Bay	1	0.5
New South Wales	1	0.5
Port Douglas	1	0.5
Thursday Island	1	0.5
Victoria	1	0.5
Total Family Members	185	100.0

Note: Counts and percentages based on all family members.

Employee Social and Demographic Profiles

Table 11.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 11.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	192	595	787	7,088
Mean age of fisher	44.5	32.8	41.2	37.3
Age range	26-67	18-57	18-67	15-79
Percent males	98.6	92.9	96.9	94.8
Mean years resident in town	19.6	14.2	18.1	19.1
Mean number of years in fishing industry	21.7	10.0	18.3	12.6
Median hours per week in fishing industry	80.0	60.0	77.5	60.0
Percent moved town to retain employment	29.9	25.0	28.4	20.5
Percent currently employed in other industry	17.1	21.4	18.4	34.2
Percent previously employed in other industry	64.3	64.3	64.3	69.2
Housing tenure				
Rent	15.7	46.2	24.0	33.6
Mortgage	40.0	11.5	32.3	20.1
Own home	42.9	15.4	35.4	31.1
Other (eg, live with parents, on boat)	1.4	26.9	8.3	15.2
Educational				
Year completed school				
Primary school	5.7	14.8	7.2	5.2
Year 8	15.7	7.4	13.4	8.0
Year 9	18.6	7.4	15.5	11.9
Year 10	47.1	29.6	42.3	44.4
Year 11	5.7	11.1	7.2	10.1
Year 12	7.1	29.6	13.4	20.2
Percent completed trade or TAFE certificate	30.0	21.4	27.6	37.7
Percent completed industry or business course	27.1	10.7	22.4	15.2
Percent with business plan ^c	26.6	—	26.6	22.9
Percent active fishing group member	49.3	10.7	38.1	25.7
Marital Status				
Percent married or relationship	81.2	50.0	72.2	62.0
Percent with partner employed in business ^d	66.0	—	66.0	56.1
Median hours per week employed in business	30.0	—	30.0	20.0
Partners Income^{de}				
Full-time employment	36.4	35.7	36.2	28.3
Part-time employment	29.1	21.4	27.5	18.5
Casual employment	16.4	7.1	14.5	11.6
Not employed	18.2	35.7	21.7	41.5
Family Composition				
Mean family size	3.3	2.3	3.0	2.6
Estimated number of total family members	628	1,381	2,009	18,429
Dependency Ratios				
Age Dependency Ratio ^f	35.3	39.1	36.1	33.4
Elderly Dependency Ratio	2.9	0.0	2.9	2.3
Child Dependency Ratio	32.4	39.1	36.1	31.2
Family Member Industry Dependency Ratio ^g	33.6	15.8	31.1	23.9
Gross Individual Income				
Less than \$16,000	6.7	27.3	12.2	34.6
\$16,000 - \$26,000	18.3	22.7	19.5	19.6
\$26,000 - \$36,000	13.3	31.8	18.3	22.1
\$36,000 - \$52,000	15.0	0.0	11.0	11.7
\$52,000 - \$78,000	23.3	9.1	19.5	6.6
Over \$78,000	23.3	9.1	19.5	5.4
Average Income (\$)	48,950	30,000	43,865	27,471

Note: ^a Owner/operator sample of 71, employee sample = 26.

^b Based on peak estimates derived in Table 11.7.

^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).

12 INNISFAIL TRC

The Innisfail TRC consists of the main urban centre of Innisfail, with Babinda in the north of the TRC and Cardwell to the south of the TRC. As shown in Figure 12.1 there are numerous small coastal and regional communities which comprise this TRC.

BUSINESS PROFILES

Location and Use of Ports

Table 12.1 shows the number of licence holders within the Innisfail 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 134 commercial fishers within this TRC, with a 95% confidence interval indicating the population count for commercial fishers within the TRC to be between 113 and 155. While two-thirds of businesses are located in the town of Innisfail, businesses are also located in Mourilyan, Kurrimine, Cardwell, Tully and Tully Heads.

Table 12.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Innisfail	51	36	88	65.7
Mourilyan	5	5	12	8.9
Kurrimine	14	3	7	5.2
Tully	6	3	7	5.2
Cardwell	11	2	5	3.7
Tully Heads	0	2	5	3.7
Silkwood	5	2	5	3.7
Mission Beach South	0	1	2	1.5
Bingil Bay	0	1	2	1.5
Flying Fish Point	3	0	0	0.0
South Johnstone	3	0	0	0.0
Babinda	3	0	0	0.0
Mission Beach	2	0	0	0.0
Japoonvale	2	0	0	0.0
Euramo	2	0	0	0.0
Kennedy	1	0	0	0.0
Mena Creek	1	0	0	0.0
Total TRC	109	55	134	100.0

95% Confidence Interval for Estimated TRC Count 113-155
Percent of Total Active Licence Holders in QLD 5.5%

Note: Innisfail includes East Innisfail. Kurrimine includes Kurrimine Beach. Mourilyan includes Mourilyan Harbour. 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 Innisfail as a homeport, numerous fishing businesses used the ports of Innisfail, Mourilyan and to a lesser extent Cardwell when travelling to or from fishing areas. Table 12.2 shows the majority of these businesses having their homeports in Townsville (37%), and to a lesser extent Mackay (12%) and Bowen (12%).

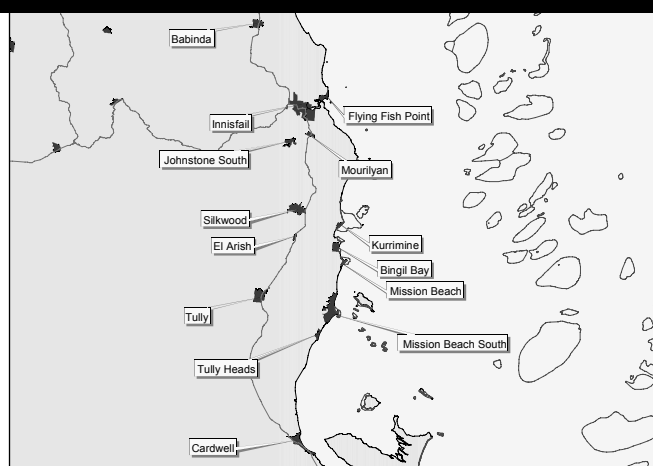


Figure 12.1 Location of the Innisfail TRC

Table 12.2
Homeports of Businesses Using Innisfail, Mourilyan and Cardwell as a Port

Homeports	Sample Count	Percent
Townsville	6	37.5
Mackay	2	12.5
Bowen	2	12.5
New South Wales	1	6.2
Mooloolaba	1	6.2
Gold Coast	1	6.2
Glen Lomond	1	6.2
Cairns	1	6.2
Amity Point	1	6.2
Total Businesses	16	100.0

Fishing Activity and Type

Table 12.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Line fishing (64%) is the primary fishing activity by businesses from homeports within this TRC, followed by trawling (40%), netting (36%) and crabbing (25%).

Table 12.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Line fishing	35	63.6
Trawling	22	40.0
Netting	20	36.4
Crabbing	14	25.5
Spanner Crabs	1	1.8
Total Sample	77	100.0

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

As shown in Table 12.4, line fishing as the primary fishing activity co-occurs with netting (40%), trawling (26%) and crabbing (23%). Trawling co-occurs primarily with line fishing (41%), while crabbing co-occurs with line fishing (57%) and netting (79%).

Table 12.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting	Spanner Fishing
Line fishing	35 <i>100.0</i>	9 <i>40.9</i>	8 <i>57.1</i>	14 <i>70.0</i>	0 <i>0.0</i>
Trawling	9 <i>25.7</i>	22 <i>100.0</i>	2 <i>14.3</i>	2 <i>10.0</i>	0 <i>0.0</i>
Crabbing	8 <i>22.9</i>	2 <i>9.1</i>	14 <i>100.0</i>	11 <i>55.0</i>	1 <i>100.0</i>
Netting	14 <i>40.0</i>	2 <i>9.1</i>	11 <i>78.6</i>	20 <i>100.0</i>	0 <i>0.0</i>
Spanner fishing	0 <i>9.1</i>	0 <i>0.0</i>	1 <i>7.1</i>	0 <i>0.0</i>	1 <i>100.0</i>

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

Table 12.5 shows the peak months for fishing activity within the TRC to be March to October.

Table 2.5
Peak Fishing Months During the Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	6	11.1	24.5
February	9	16.7	29.7
March	23	42.6	43.9
April	26	48.1	42.8
May	19	35.2	38.1
June	15	27.8	33.5
July	17	31.5	23.9
August	22	40.7	19.9
September	23	42.6	23.5
October	17	31.5	24.8
November	11	20.4	26.2
December	8	14.8	21.4

Table 12.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between June and November, trawling between March and October and crabbing between December and May. There is no clear seasonal pattern for netting activity although Table 12.6 suggest it may occur most commonly in February and March.

Table 12.6
Seasonal Variations in Fishing Activity

Sample Months	Percent Count	Percent of within TRC	Fishery
Line Fishing			
January	27	81.8	64.6
February	26	78.8	64.3
March	26	78.8	68.1
April	25	75.8	70.4
May	26	78.8	74.7
June	28	84.8	78.7
July	28	84.8	82.0
August	28	84.8	80.8
September	29	87.9	79.7
October	29	87.9	79.7
November	28	84.8	78.2
December	26	78.8	70.6
Trawling			
January	12	54.5	76.0
February	12	54.5	79.0
March	19	86.4	91.2
April	18	81.8	91.6
May	18	81.8	89.3
June	20	90.9	88.7
July	17	77.3	82.7
August	18	81.8	83.1
September	20	90.9	85.0
October	18	81.8	84.4
November	15	68.2	85.0
December	11	50.0	77.1
Crabbing			
January	10	71.4	74.7
February	8	57.1	79.0
March	8	57.1	75.1
April	9	64.3	69.4
May	8	57.1	67.2
June	6	42.9	58.5
July	6	42.9	52.0
August	6	42.9	50.2
September	5	35.7	53.3
October	5	35.7	59.9
November	7	50.0	66.4
December	8	57.1	72.1
Netting			
January	10	52.6	57.5
February	15	78.9	72.9
March	12	63.2	73.9
April	10	52.6	74.2
May	9	47.4	77.6
June	10	52.6	79.9
July	10	52.6	75.9
August	9	47.4	73.9
September	9	47.4	69.6
October	12	63.2	64.2
November	9	47.4	55.9
December	10	52.6	54.5

Note: Insufficient sample size for an analysis of spanner crab fishing activity.

Location of Resource Use

Figure 12.2 shows the location of resource use by commercial fishing operations in the Innisfail TRC. While the primary catchment extends from Princess Charlotte Bay in the north to coastal and reefal areas east of Cardwell in the south, there is nevertheless a northerly emphasis to the use of resource by commercial fishers within the Innisfail TRC. The secondary resource catchment extends further south to coastal and reefal areas east of Lucinda and in the north includes areas within the Torres Strait and coastal and inshore areas of the Gulf of Carpentaria.

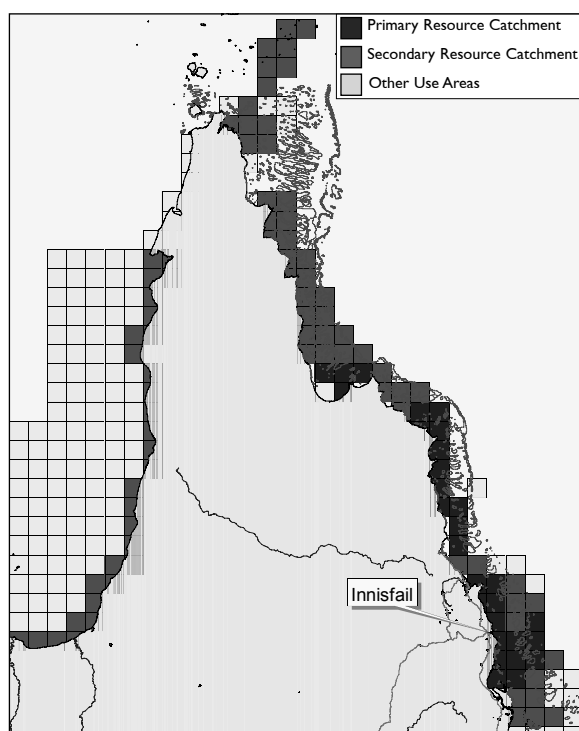


Figure 12.2 Innisfail TRC: Location of Resource Use

Fishing Industry Employees

Table 12.7 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 have only one full-time employee (which would include the owner or operator), with these businesses having little part-time or casual employment. The average number

Table 12.7. Number of Employees

Employees	Full-Time Count	Full-Time Percent	Part-Time Count	Part-Time Percent	Casual Count	Casual Percent
Peak Season						
Nil	2	3.6	50	90.9	47	85.5
1	24	43.6	3	5.4	5	9.1
2-3	14	25.5	2	3.6	2	3.6
4-5	8	14.5	0	0.0	1	1.8
6-7	3	5.5	0	0.0	0	0.0
8-9	2	3.6	0	0.0	0	0.0
10-11	1	1.8	0	0.0	0	0.0
12-13	1	1.8	0	0.0	0	0.0
14+	0	0.0	0	0.0	0	0.0
Total Businesses	55	100.0	55	100.0	55	100.0
Total Employees	153		3.5		7	
Mean Number of Employees per Business (Peak)		3.0				
Estimated Number Employed within the TRC		402				
Off-Peak						
Nil	3	5.5	51	92.7	48	87.3
1	25	45.5	2	3.6	4	7.3
2-3	14	25.5	2	3.6	3	5.5
4-5	8	14.5	0	0.0	0	0.0
6-7	1	1.8	0	0.0	0	0.0
8-9	3	5.5	0	0.0	0	0.0
10-11	2	3.6	0	0.0	0	0.0
12-13	1	1.8	0	0.0	0	0.0
14+	0	0.0	0	0.0	0	0.0
Total Businesses	55	100.0	55	100.0	55	100.0
Total Employees	134		3		5.5	
Mean Nos Employees per Business (Off-Peak)		2.6				
Estimated Number Employed within the TRC		348				

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 134 fishing businesses (Table 12.1)

of employees per business during the peak season was 3.0 and in the off-peak season it was 2.6. In total, it is estimated that during the peak season there were 402 full-time equivalent employees while during the off-peak season there were an estimated 348 full-time equivalent employees.

Business Ownership and Size

Table 12.8 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 15.6 years, with 47% of businesses being owned by the current owner for less than 10 years. The distribution shown in Table 12.8 is interesting insofar as the distribution peaks at 1-10 years, 16-20 years and over 26 years.

Table 12.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	17	32.1	32.1
6-10	8	15.1	47.2
11-15	5	9.4	56.6
16-20	7	13.2	69.8
21-25	2	3.8	73.6
26-30	6	11.3	84.9
31+	8	15.1	100.0
Total	53	100.0	

Mean Number of Years owned or operated	15.6
Difference of TRC mean to QLD mean (14.6)	+1.0

Note: Standard errors for number of years ownership
(sample = 1.7; QLD population = 0.37).

The average number of years the business had been operating was 18.5 years (Table 12.9), which was similar to that for all Queensland fishing businesses (18.2 years).

Table 12.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	14	29.2	29.2
6-10	4	8.3	37.5
11-15	5	10.4	47.9
16-20	8	16.7	64.6
21-25	2	4.2	68.8
26-30	6	12.5	81.3
31+	9	18.7	100.0
Total	48	100.0	
Mean Number of Years owned or operated			18.5
Difference of TRC mean to QLD mean (18.2)			+0.3

Note: Standard errors for number of years operated
(sample = 2.1; QLD population = 0.46)

Table 12.10 shows that the majority of fishing businesses within this TRC operated one boat (69%).

Table 12.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	38	69.1
2	8	14.5
3	6	10.9
4	2	3.6
5	1	1.8
Total Number of Businesses	55	100.0
Mean Number of Boats Operated		1.5
Difference of TRC mean to QLD mean (1.7)		-0.2

Note: Standard errors for number of boats operated
(sample = 0.1; QLD population = 0.05)

The majority of boats (60%) operated by businesses within this TRC were less than 10 metres in length (Table 12.11).

Table 12.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	23	27.7
7-10	27	32.5
11-14	18	21.7
15-18	13	15.7
19-23	2	2.4
23+	0	0.0
Total Number of Boats	83	100.0
Mean Length of Boats Operated (metres)		10.1
Difference of TRC mean to QLD mean (9.9)		+0.2
Mean Length of Largest Boat Operated (metres)		10.6
Difference of TRC mean to QLD mean (11.4)		-0.8

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.5; QLD population=0.14)

Value of Production and Location of Sales

Table 12.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Innisfail TRC. The profile for the Innisfail TRC is markedly different to the overall profile for Queensland. In the Innisfail TRC there is a significantly higher percentage of businesses with production values less than \$100,000 per annum (53%) when compared to Queensland (43%). In addition, the median GVP for the Innisfail TRC is somewhat lower than the Queensland average.

Within the Innisfail TRC it is estimated that the 134 fishing businesses had a gross value of production of approximately \$12.6 million, which is approximately 4% of the total value of production of the Queensland commercial fishing industry.

Table 12.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	29	52.7	42.8
\$101 - \$200	8	14.5	21.4
\$201 - \$300	5	9.1	16.2
\$301 - \$400	7	12.7	8.5
\$401 - \$500	2	3.6	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	1	1.8	1.0
\$901 - \$1,000	0	0.0	0.3
Over \$1,000	3	5.5	2.3
Total	55	100.0	100.0
Median GVP for TRC			\$94,110
Estimated Total GVP for TRC			\$12,611,000
Median GVP for QLD Population			\$128,629
Estimated Total GVP for QLD Population			\$314,241,000
Percent of Total Queensland Production			4.0%

Note: Estimated TRC population total is based on an estimate of 134 businesses within the TRC, with a median GVP of \$94,110.
Queensland total GVP based on 2,443 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 12.13 shows the value of sales to specific locations within Australia for the sample of 53 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 12.13, and as shown in Figure 12.3, 28% of sales (\$3.5 million) occur directly to Cairns, \$2.1 million to Innisfail, while a further \$5.2 million was reported as being sold to overseas markets. It is probable that much of the sale to overseas markets occurred firstly within Cairns and to a lesser extent Innisfail, thereby increasing the total value of sales within Cairns and Innisfail.

Table 12.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Cairns	3,422	27.8	3,506
Innisfail	2,136	17.4	2,194
NSW	336	2.7	340
Townsville	296	2.4	303
Brisbane	206	1.7	214
Bundaberg	171	1.4	177
South Mission Beach	98	0.8	101
Karumba	41	0.3	38
Tully	35	0.3	38
Ayr	32	0.3	38
Gold Coast	32	0.3	38
Mackay	32	0.3	38
Mission Beach	32	0.3	38
Proserpine	23	0.2	25
Cardwell	6	0.1	13
Kurrimine Beach	4	0.1	13
Total Sales (Australia)	6,902	59.0	7,440
Total Sales (Overseas)	5,382	41.0	5,171
Total Sales	12,284	100.0	12,611

Note: The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 12.12) is proportionally distributed to all locations on the basis of sample percentages.

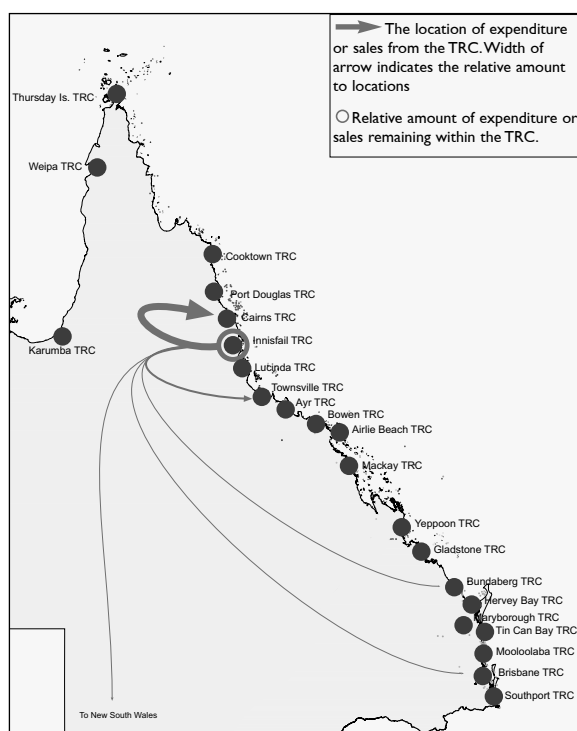


Figure 12.3 Innisfail TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 12.14 shows that approximately \$6.6 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 (Figure 12.4) occurred in the towns of Innisfail (\$3.4 million) and Cairns (\$2.7 million).

Table 2.14
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)
Innisfail	3,334	51.5	3,384
Cairns	2,616	40.4	2,654
Mourilyan	160	2.5	164
Brisbane	155	2.4	158
Bribie Island	33	0.5	33
Bundaberg	33	0.5	33
Gladstone	33	0.5	33
Tully	26	0.4	26
Cardwell	24	0.4	26
Ingham	23	0.3	20
Karumba	11	0.2	13
Normanton	11	0.2	13
NSW	4	0.1	7
Townsville	2	0.1	7
Kurrimine Beach	1	0.1	7
Lucinda	1	0.1	7
Yeppoon	1	0.1	7
Total Expenditure	6,468	100.0	6,570

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.

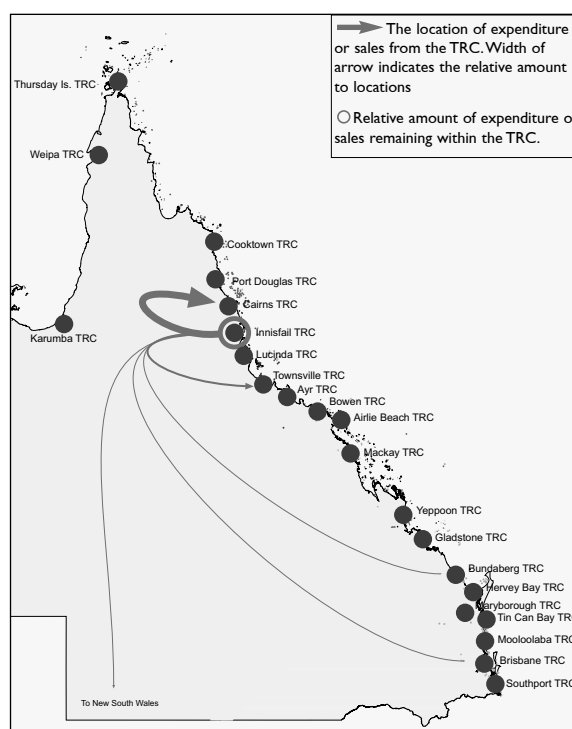


Figure 12.4 Innisfail TRC: Location of Business Expenditure

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 12.15 shows that 60% of businesses within the Innisfail TRC had no debt. The mean debt level within the TRC was 19% of business assets which is similar to that of the industry throughout all Queensland fishery businesses.

Table 12.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	29	60.4	60.1
1 – 10%	0	0.0	6.4
11 – 20%	3	6.2	5.2
21 – 30%	4	8.3	6.4
31 – 40%	0	0.0	3.3
41 – 50%	7	14.6	9.6
51 – 60%	1	2.1	1.8
61 – 70%	0	0.0	1.2
71 – 80%	1	0.0	1.1
81 – 90%	1	2.1	1.6
91 – 100%	2	4.2	3.3
Total	48	100.0	100.0
Mean Debt Level for TRC			19.4%
Median Debt Level for QLD Population			16.6%
Difference of TRC Mean to QLD Mean (16.6)			2.8%

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

EMPLOYEE PROFILES

Town of Residence

Table 12.16 indicates that the majority of employees reside within the towns of Innisfail (52%) and Tully (11%) within this TRC.

Table 12.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Innisfail	42	51.9
Tully	9	11.1
Kurramine Beach	8	9.9
Mourilyan	6	7.4
Silkwood	6	7.4
Cardwell	5	6.2
Babinda	1	1.2
El Arish	1	1.2
South Mission Beach	1	1.2
Tully Heads	1	1.2
Wangan	1	1.2
Total	81	100.0

Note: Mourilyan includes Mourilyan harbour.

Months Employed in the Fishing Industry

Table 12.17 shows that during the past 12 months the majority of owner/operators and employees within this TRC were employed in the fishing industry between March and November, while employees were more likely to be employed in the months May to October. What is apparent in Table 12.17 is the relatively low level of owner/operator and employee activity in the fishing industry between December and February.

Table 12.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	82.7	58.3	75.0	80.7
February	84.6	66.7	78.9	82.3
March	96.2	66.7	86.8	86.1
April	96.2	70.8	88.2	86.8
May	94.2	75.0	88.2	87.3
June	96.2	75.0	89.5	87.8
July	98.1	75.0	90.8	86.7
August	90.4	70.8	84.2	86.3
September	94.2	79.2	89.5	86.8
October	94.2	75.0	88.2	85.4
November	90.4	66.7	82.9	84.4
December	86.5	62.5	78.9	82.3

Note: Owner/operator sample of 52; employee sample of 24.

Location of Household Expenditure

Table 12.18 and Figure 12.5 show the location of household expenditure related to individual income derived from employment in the fishing industry. Innisfail attracts 77% (\$6.2 million) of all annual employee household expenditure, with relatively less expenditure to the towns of Tully (\$0.8 million), Cairns (\$0.5 million) and Cardwell (\$0.2 million).

Table 12.18
Town Location of Household Expenditure (all commodities and services)

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Value (\$'000)
Innisfail	1,279	76.9	6,279
Tully	153	9.2	751
Cairns	102	6.1	498
Cardwell	46	2.8	229
Ingham	42	2.5	204
Townsville	22	1.3	106
Silkwood	12	0.7	57
Babinda	4	0.2	16
Cooktown	4	0.2	16
Total Expenditure	1,664	100.0	8,165

Note: The gross individual annual income of fishers within this TRC was estimated as \$33,391 (Table 2.20). 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 \$20,312, with total household expenditure across all 402 (Table 12.7) employees to be \$8 million (Table 12.18)

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 12.19. As might be expected, Innisfail (59%) is the primary town location for school and employment, followed by Tully (7%) and Silkwood (7%)

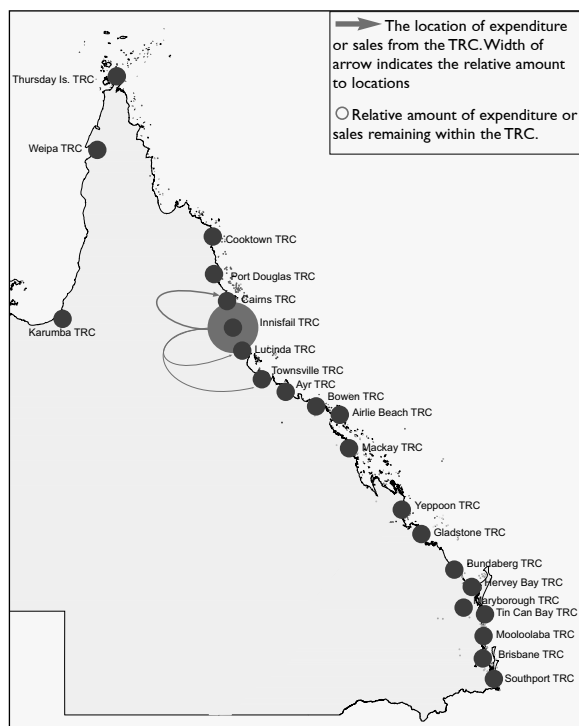


Figure 12.5 Innisfail TRC: Employee Household Expenditure

Table 12.19
School and Employment Locations of Family Members

Location of Employment	Sample	Percentage
97	59.1	Innisfail
Tully	12	7.3
Silkwood	11	6.7
Kurramine Beach	9	5.5
Cardwell	9	5.5
Mourilyan	5	3.0
Cairns	3	1.8
Townsville	2	1.2
Gladstone	2	1.2
Other towns and interstate	9	14.4
Total Family Members	164	100.0

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

Employee Social and Demographic Profiles

Table 12.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 12.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	134	268	402	7,088
Mean age of fisher	45.9	40.4	44.0	37.3
Age range	24-72	18-77	18-77	15-79
Percent males	96.3	92.6	95.1	94.8
Mean years resident in town	21.3	22.7	21.7	19.1
Mean number of years in fishing industry	21.7	11.3	18.3	12.6
Median hours per week in fishing industry	64.6	62.0	63.9	60.0
Percent moved town to retain employment	17.0	14.8	16.3	20.5
Percent currently employed in other industry	26.4	63.0	38.8	34.2
Percent previously employed in other industry	82.7	66.7	77.2	69.2
Housing tenure				
Rent	20.4	11.1	17.3	33.6
Mortgage	22.2	14.8	19.8	20.1
Own home	53.7	51.9	53.1	31.1
Other (eg, live with parents, on boat)	3.7	22.2	9.2	15.2
Educational				
Year completed school				
Primary school	11.1	14.8	12.3	5.2
Year 8	13.0	3.7	9.9	8.0
Year 9	16.7	7.4	13.6	11.9
Year 10	33.3	33.3	33.3	44.4
Year 11	14.8	11.1	13.6	10.1
Year 12	11.1	29.6	17.3	20.2
Percent completed trade or TAFE certificate	41.5	33.3	38.8	37.7
Percent completed industry or business course	20.4	11.1	17.3	15.2
Percent with business plan ^c	29.4	—	29.4	22.9
Percent active fishing group member	45.3	11.1	33.8	25.7
Marital Status				
Percent married or relationship	81.5	74.1	79.0	62.0
Percent with partner employed in business ^d	59.1	—	59.1	56.1
Median hours per week employed in business	20.0	—	20.0	20.0
Partners Income^{de}				
Full-time employment	36.4	20.0	31.3	28.3
Part-time employment	22.7	10.0	18.8	18.5
Casual employment	11.4	10.0	10.9	11.6
Not employed	29.5	60.0	39.1	41.5
Family Composition				
Mean family size	3.4	2.6	3.2	2.6
Estimated number of total family members	456	697	1,153	18,429
Dependency Ratios				
Age Dependency Ratio ^f	33.7	39.2	35.3	33.4
Elderly Dependency Ratio	4.3	7.8	5.3	2.3
Child Dependency Ratio	29.4	31.3	30.0	31.2
Family Member Industry Dependency Ratio ^g	37.5	10.3	31.2	23.9
Gross Individual Income				
Less than \$16,000	20.4	50.0	29.0	34.6
\$16,000 - \$26,000	18.4	15.0	17.4	19.6
\$26,000 - \$36,000	22.4	20.0	21.7	22.1
\$36,000 - \$52,000	14.3	5.0	11.6	11.7
\$52,000 - \$78,000	4.1	5.0	4.3	6.6
Over \$78,000	20.4	5.0	15.9	5.4
Average Income (\$)	37,714	22,800	33,391	27,471

Note: ^a Owner/operator sample of 54, employee sample = 27.

^b Based on peak estimates derived in Table 12.7.

^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).

13 LUCINDA TRC

The Lucinda TRC, located to the south of Hinchinbrook Island, consists of the main urban centre of Ingham, with Lucinda as the main coastal port. Smaller towns within the TRC include Halifax, Taylors Beach and Allingham (Figure 13.1).

BUSINESS PROFILES

Location and Use of Ports

Table 13.1 shows the number of licence holders within the Lucinda 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 36 commercial fishers within this TRC, with a 95% confidence interval indicating the population count of commercial fishers within the TRC as being between 24 and 48.

Table 13.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Lucinda	17	10	24	66.7
Halifax	5	2	5	13.9
Ingham	10	2	5	13.9
Dungeness	0	1	2	5.6
Allingham	1	0	0	0.0
Mutarnee	1	0	0	0.0
Total TRC	34	15	36	100.0

95% Confidence Interval for Estimated TRC Count 24-48
Percent of Total Active Licence Holders in QLD 1.5%

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 Lucinda as a homeport, several fishing businesses used the port of Lucinda when travelling to or from fishing areas. Table 13.2 shows the homeports of these businesses.

Table 13.2
Homeports of Businesses Using Lucinda as a Port

Homeports	Sample Count	Percent
Townsville	2	25.0
Yeppoon	1	12.5
Buderim	1	12.5
Cairns	1	12.5
Bundaberg	1	12.5
Bowen	1	12.5
Agnes Waters	1	12.5
Total Businesses	8	100.0

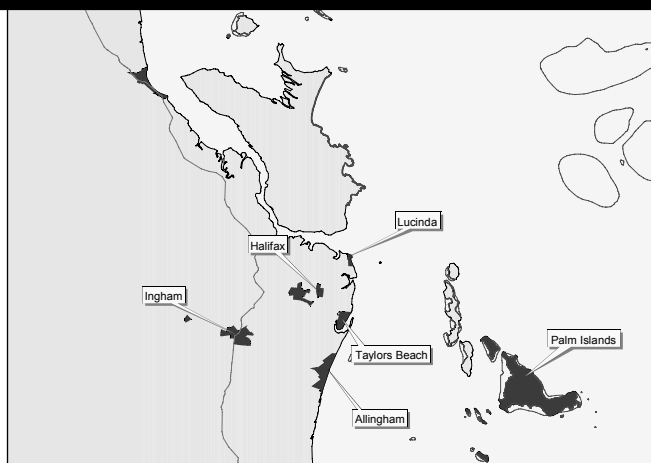


Figure 13.1 Location of the Lucinda TRC

Fishing Activity and Type

Table 13.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Although line fishing (53%) is the most common fishing activity by businesses from homeports within this TRC, other activities such as netting (40%), trawling (33%) and crabbing (33%) are also common.

Table 13.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Line fishing	8	53.3
Netting	6	40.0
Trawling	5	33.3
Crabbing	5	33.3
Total Sample	15	100.0

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

As shown in Table 13.4, line fishing as the primary fishing activity co-occurs with trawling (25%), crabbing (37%) and netting (37%). Crabbing co-occurs with line fishing (60%) and netting (80%). Trawling is reasonably independent of other fishing activities with only two of the five trawlers also engaged in line fishing.

Table 13.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	8 100.0	2 40.0	3 60.0	3 50.0
Trawling	2 25.0	5 100.0	0 0.0	0 0.0
Crabbing	3 37.5	0 0.0	5 100.0	4 66.7
Netting	3 37.5	0 0.0	4 80.0	6 100.0

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

Table 13.5 shows the peak months for fishing within the TRC to be March through to May and September through to November.

Table 13.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	4	30.8	24.5
February	3	23.1	29.7
March	5	38.5	43.9
April	6	46.2	42.8
May	5	38.5	38.1
June	3	23.1	33.5
July	2	15.4	23.9
August	2	15.4	19.9
September	5	38.5	23.5
October	5	38.5	24.8
November	4	30.8	26.2
December	2	15.4	21.4

Location of Resource Use

Figure 13.2 shows the location of resource use by commercial fishing operations with homeports within the Lucinda TRC. What is apparent from Figure 13.2 is the highly localised primary catchment which extends from Balgal Beach in the south to Mission beach in the north and includes the Palm Islands group, Hinchinbrook Island and the inner reefs to the east of Lucinda. On the other hand, the secondary catchment, which would include predominantly trawl and line fishing extends in a southerly direction to Bowen and in a northerly direction to Port Douglas. With the exception of areas to the immediate east of Lucinda, the secondary catchment generally includes areas between the coast and inner reefs.

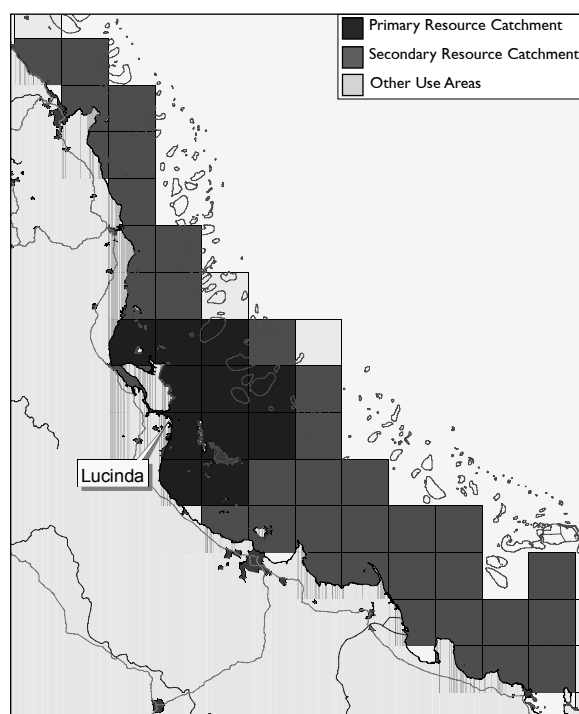


Figure 13.2 Lucinda TRC: Location of Resource Use

Table 13.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between September and December, trawling between March and June, crabbing between April and May and netting between February and March.

Table 13.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	3	37.5	64.6
February	4	50.0	64.3
March	4	50.0	68.1
April	5	62.5	70.4
May	5	62.5	74.7
June	3	37.5	78.7
July	3	37.5	82.0
August	4	50.0	80.8
September	5	62.5	79.7
October	6	75.0	79.7
November	6	75.0	78.2
December	5	62.5	70.6
Trawling			
January	4	80.0	76.0
February	4	80.0	79.0
March	5	100.0	91.2
April	5	100.0	91.6
May	5	100.0	89.3
June	5	100.0	88.7
July	4	80.0	82.7
August	4	80.0	83.1
September	4	80.0	85.0
October	3	60.0	84.4
November	2	20.0	85.0
December	2	20.0	77.1
Crabbing			
January	4	80.0	74.7
February	4	80.0	79.0
March	4	80.0	75.1
April	5	100.0	69.4
May	5	100.0	67.2
June	4	80.0	58.5
July	4	80.0	52.0
August	3	60.0	50.2
September	4	80.0	53.3
October	4	80.0	59.9
November	4	80.0	66.4
December	4	80.0	72.1
Netting			
January	1	16.7	57.5
February	6	100.0	72.9
March	5	83.3	73.9
April	4	66.7	74.2
May	4	66.7	77.6
June	3	50.0	79.9
July	3	50.0	75.9
August	3	50.0	73.9
September	3	50.0	69.6
October	3	50.0	64.2
November	1	16.7	55.9
December	1	16.7	54.5

Fishing Industry Employees

Table 13.7 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 have only one full-time employee (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 season was 1.9 employees per business and in the off-peak season it was 1.4. It is estimated that during the peak season there were 68 full-time equivalent employees, while during the off-peak season there were an estimated 50 full-time equivalent employees.

Table 13.7
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	1	6.7	13	86.7	14	93.3
1	8	53.3	0	0.0	0	0.0
2-3	6	40.0	2	13.3	1	6.7
4-5	0	0.0	0	0.0	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14+	0	0.0	0	0.0	0	0.0
Total Businesses	15	100.0	15	100.0	15	100.0
Total Employees	25		2		1	
Off-Peak						
Nil	1	6.7	14	93.3	15	100.0
1	8	53.3	1	6.7	0	0.0
2-3	6	40.0	0	0.0	0	0.0
4-5	0	0.0	0	0.0	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14+	0	0.0	0	0.0	0	0.0
Total Businesses	15	100.0	15	100.0	15	100.0
Total Employees	21		0.5		0	
Summary						
Mean Number of Employees per Business (Peak)		1.9				
Estimated Number Employed within the TRC		68				
Mean Number of Employees per Business (Off-Peak)		1.4				
Estimated Number Employed within the TRC		50				

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 36 fishing businesses (Table 13.1)

Business Ownership and Size

Table 13.8 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 16 years, with 60% of businesses being owned by the current owner for less than 10 years. The distribution in Table 13.8 is bimodal and shows peaks in years of ownership between 6 and 10 years and between 26 and 30 years.

Table 13.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	3	20.0	32.1
6-10	6	40.0	47.2
11-15	0	0.0	56.6
16-20	0	0.0	69.8
21-25	1	6.7	73.6
26-30	4	26.7	84.9
31+	1	6.7	100.0
Total	15	100.0	
Summary			
Mean Number of Years owned or operated		16.0	
Difference of TRC mean to QLD mean (14.6)		+1.4	

Note: Standard errors for number of years ownership (sample = 3.3; QLD population = 0.37).

The average number of years the business had been operating was 19.3 years (Table 13.9), which was similar to that for all Queensland fishing businesses (18.2 years).

Table 13.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	0	0.0	29.2
6-10	6	40.0	37.5
11-15	1	6.7	47.9
16-20	1	6.7	64.6
21-25	2	13.3	68.8
26-30	4	26.6	81.3
31+	1	6.7	100.0
Total	15	100.0	
Summary			
Mean Number of Years owned or operated		19.3	
Difference of TRC mean to QLD mean (18.2)		+1.1	

Note: Standard errors for number of years operated (sample = 2.8; QLD population = 0.46)

Table 13.10 shows that the majority of fishing businesses within this TRC operated one boat (60%).

Table 13.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	9	60.0
2	2	13.3
3	3	20.0
4	0	0.0
5	0	0.0
6	0	0.0
7	1	6.7
Total	55	100.0
Mean Number of Boats Operated		1.9
Difference of TRC mean to QLD mean (1.7)		+0.3

Note: Standard errors for number of boats operated (sample = 0.4; QLD population = 0.05)

The majority of boats (62%) operated by businesses within this TRC were less than 6 metres in length (Table 13.11), with the mean length of boats (6.9 metres) being significantly less than that of the Queensland population mean (9.9 metres). In addition, the mean length of the largest boat owned by the business (9.4 metres) was also found to be significantly less than all Queensland fishing businesses (11.4 metres).

Table 13.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	18	62.1
7-10	5	17.2
11-14	4	13.8
15-18	2	6.9
Total Number of Boats	29	100.0
Mean Length of Boats Operated (metres)		6.9
Difference of TRC mean to QLD mean (9.9)		-3.0
Mean Length of Largest Boat Operated (metres)		9.4
Difference of TRC mean to QLD mean (11.4)		-2.0

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.9; QLD population=0.14)

Value of Production and Location of Sales

Table 13.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Lucinda TRC. The profile for the Lucinda TRC is markedly different to the overall profile for Queensland. In the Lucinda TRC there is a significantly higher percentage of businesses with production values less than \$100,000 per annum (73%) when compared to Queensland (43%). In addition, the median GVP for Queensland is \$35,000 higher than that of this TRC.

Within the Lucinda TRC it is estimated that the 36 fishing businesses had a gross value of production of approximately \$3.4 million, which is approximately 1.1% of the total value of production of the Queensland commercial fishing industry.

Table 13.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	11	73.3	42.8
\$101 - \$200	2	13.3	21.4
\$201 - \$300	2	13.3	16.2
\$301 - \$400	0	0.0	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	15	100.0	100.0

Median GVP for TRC	\$95,182
Estimated Total GVP for TRC	\$3,427,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	1.1%

Note: Estimated TRC population total is based on an estimate of 36 businesses within the TRC, with a median GVP of \$95,182. Queensland total GVP based on 2,443 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 13.13 shows the value of sales to specific locations within Australia for the sample of 15 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 13.13, and as shown in Figure 13.3, 53% of sales (\$1.8 million) occur directly to Townsville. It is also probable that much of the sale to overseas markets occurred firstly within Townsville and to a lesser extent Cairns, thereby increasing the total value of sales within Townsville and Cairns.

Table 13.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value Sales	Percent of Sample	Estimated Sales
Townsville	761	53.3	1,827
Cairns	165	11.5	720
Lucinda	115	8.0	274
Brisbane	94	6.6	226
Ingham	68	4.8	164
New South Wales	22	1.5	51
Total Sales (Australia)	1,225	85.8	7,440
Total Sales (Overseas)	203	14.2	5,171
Total Sales	1,428	100.0	3,427

Note: The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 2.12) is proportionally distributed to all locations on the basis of sample percentages.

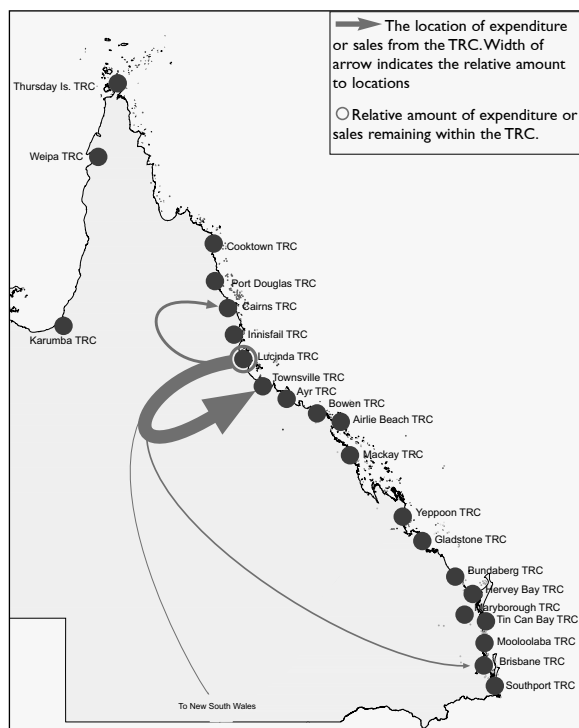


Figure 13.3 Lucinda TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 13.14 shows that approximately \$1.8 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 within the towns of Ingham (\$0.8 million) and Townsville (\$0.4 million).

Table 13.14
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)
Ingham	326	45.3	809
Townsville	174	24.2	432
Lucinda	74	10.3	184
Cairns	55	7.6	136
Bundaberg	46	6.4	114
Dungeness	23	3.2	57
Brisbane	11	1.5	27
Innisfail	10	1.5	27
Total Expenditure	720	100.0	1,785

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.

Business operators were asked what percentage of their business assets were not owned outright by their business. This was used in this study as an indicator of the level of business debt. Only one business identified themselves as having debt at 80% of their business assets.

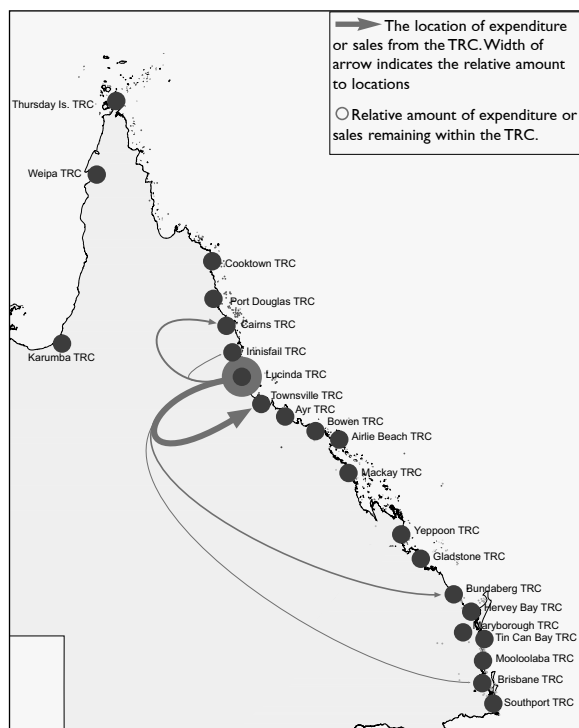


Figure 13.4 Lucinda TRC: Location of Business Expenditure

EMPLOYEE PROFILES

Town of Residence

Table 13.16 indicates that the majority of employees reside within the towns of Ingham (40%) and Lucinda (40%) within this TRC.

Table 13.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Ingham	8	40.0
Lucinda	8	40.0
Halifax	4	20.0
Total	20	100.0

Months Employed in the Fishing Industry

Table 13.17 shows that during the past 12 months the majority of owner-operators were employed in the fishing industry between January and June. Only 50% indicated employment in the industry in October and November.

Table 13.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	81.3	nd	82.4	80.7
February	81.3	nd	82.4	82.3
March	75.0	nd	76.5	86.1
April	75.0	nd	76.5	86.8
May	75.0	nd	76.5	87.3
June	75.0	nd	76.5	87.8
July	62.5	nd	64.7	86.7
August	62.5	nd	64.7	86.3
September	62.5	nd	64.7	86.8
October	50.0	nd	52.9	85.4
November	50.0	nd	52.9	84.4
December	62.5	nd	64.7	82.3

Note: Owner/operator sample of 18; employees sample is too low for meaningful analyses (nd).

Location of Household Expenditure

Table 13.18 shows the location of household expenditure related to individual income derived from employment in the fishing industry. Ingham attracts 85% (\$1.4 million) of all annual employee household expenditure, with relatively less expenditure to the towns of Innisfail (\$0.1 million), Halifax (\$0.1 million) and Lucinda (\$0.1 million).

Table 13.18

Town Location of Household Expenditure
(all commodities and services)

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Ingham	402	85.3	1,436
Innisfail	25	5.3	128
Halifax	17	3.6	61
Lucinda	15	3.2	54
Townsville	12	2.5	42
Total Expenditure	471	100.0	1,684

Note: The gross individual annual income of fishers within this TRC was estimated as \$40,772 (Table 13.20). 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 \$24,771, with total household expenditure across all 68 (Table 13.7) employees to be \$1.7 million (Table 13.18)

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 13.19. As might be expected, Ingham (34%) and Lucinda (32%) are the primary towns for school and employment, followed by Halifax (15%) and Townsville (7%)

Table 13.19

School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Ingham	14	34.1
Lucinda	13	31.7
Halifax	6	14.6
Townsville	3	7.3
Brisbane	2	4.9
Other towns and interstate	3	7.3
Total Family Members	41	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 13.20 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.

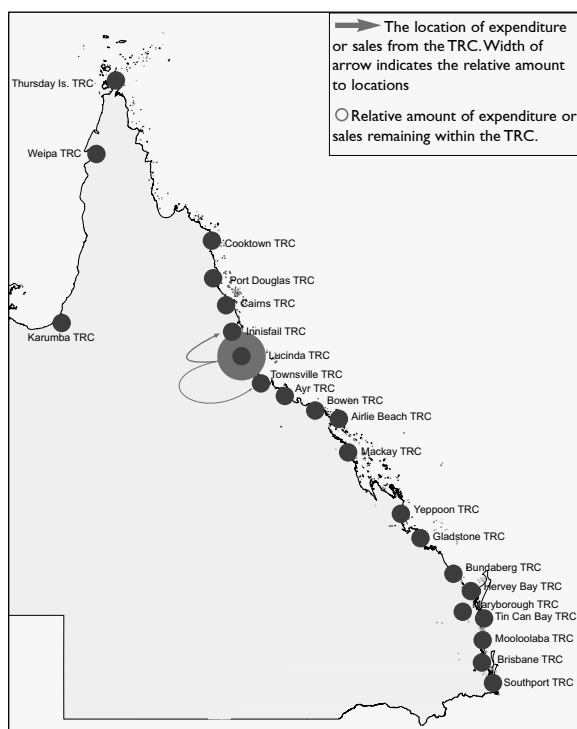


Figure 13.5 Lucinda TRC: Location of Household Expenditure

Table 13.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	36	32	68	7,088
Mean age of fisher	43.8	nd	41.6	37.3
Age range	19-65	nd	19-65	15-79
Percent males	100.0	nd	100.0	94.8
Mean years resident in town	25.8	nd	25.6	19.1
Mean number of years in fishing industry	22.3	nd	20.2	12.6
Median hours per week in fishing industry	65.0	nd	60.0	60.0
Percent moved town to retain employment	29.4	nd	31.6	20.5
Percent currently employed in other industry	44.4	nd	50.0	34.2
Percent previously employed in other industry	62.5	nd	61.1	69.2
Housing tenure				
Rent	22.0	nd	20.0	33.6
Mortgage	16.7	nd	15.0	20.1
Own home	50.0	nd	45.0	31.1
Other (eg, live with parents, on boat)	11.1	nd	20.0	15.2
Educational				
Year completed school				
Primary school	5.9	nd	5.6	5.2
Year 8	5.9	nd	5.6	8.0
Year 9	11.8	nd	11.1	11.9
Year 10	52.9	nd	55.6	44.4
Year 11	0.0	nd	0.0	10.1
Year 12	23.5	nd	22.2	20.2
Percent completed trade or TAFE certificate	29.4	nd	36.8	37.7
Percent completed industry or business course	18.8	nd	16.7	15.2
Percent with business plan ^c	25.0	—	25.0	22.9
Percent active fishing group member	82.4	nd	78.9	25.7
Marital Status				
Percent married or relationship	88.2	nd	78.9	62.0
Percent with partner employed in business ^d	53.3	—	53.3	56.1
Median hours per week employed in business	10.0	—	10.0	20.0
Partners Income^{de}				
Full-time employment	21.4	nd	21.4	28.3
Part-time employment	21.4	nd	21.4	18.5
Casual employment	0.0	nd	0.0	11.6
Not employed	57.1	nd	57.1	41.5
Family Composition				
Mean family size	3.5	nd	3.2	2.6
Estimated number of total family members	126	nd	218	18,429
Dependency Ratios				
Age Dependency Ratio ^f	10.9	nd	10.9	33.4
Elderly Dependency Ratio	1.8	nd	1.8	2.3
Child Dependency Ratio	9.1	nd	9.1	31.2
Family Member Industry Dependency Ratio ^g	27.0	nd	27.0	23.9
Gross Individual Income				
Less than \$16,000	17.6	nd	22.2	34.6
\$16,000 - \$26,000	5.9	nd	5.6	19.6
\$26,000 - \$36,000	35.3	nd	33.3	22.1
\$36,000 - \$52,000	5.9	nd	5.6	11.7
\$52,000 - \$78,000	11.8	nd	11.1	6.6
Over \$78,000	23.5	nd	22.1	5.4
Average Income (\$)	42,647	nd	40,722	27,471

Note: ^a Owner/operator sample of 18; employee sample has insufficient data to allow meaningful analyses.

^b Based on peak estimates derived in Table 13.7.

^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).

14 TOWNSVILLE TRC

The Townsville TRC consists of the main urban centre of Townsville, which includes all suburbs of the City of Townsville. The Townsville TRC extends north to Balgal Beach and also includes Magnetic Island. Figure 14.1 shows the geographic location of this TRC.

BUSINESS PROFILES

Location and Use of Ports

Table 14.1 shows the number of licence holders within the Townsville 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 153 commercial fishing businesses within this TRC and that we can be 95% confident that the population count of commercial fishers within the TRC is between 131 and 175.

Table 14.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Townsville UC	131	63	153	100.0
Balgal Beach UC	3	0	0	0.0
Total TRC	134	63	153	100.0

95% Confidence Interval for Estimated TRC Count 131-175
Percent of Total Active Licence Holders in QLD 6.3%

Note: Townsville Urban Centre includes all suburbs within the Townsville UC and the localities of Pallarenda, Alligator Creek, Magnetic Island, Alice River and the Bohle Plains.
Balgal Beach Urban Centre includes Rollingstone and Balgal Beach.
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 Townsville as a homeport, numerous fishing businesses also used the port of Townsville when travelling to or from fishing areas. Table 14.2 shows the majority of these businesses having their homeports in Mackay (14%), Bowen (13%) and Bundaberg (11%) and a wide range of other towns along the Queensland coast.

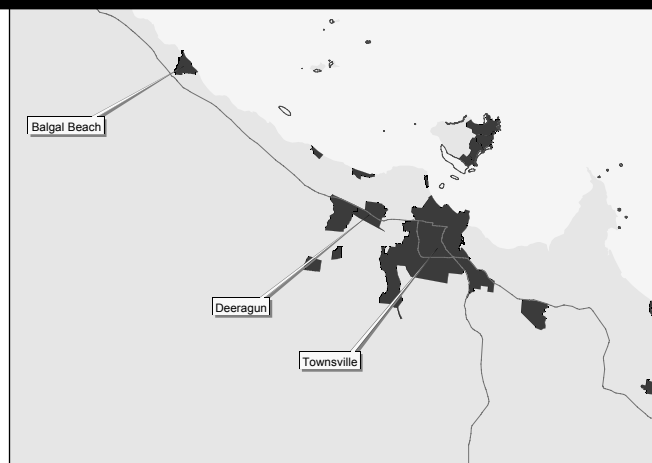


Figure 14.1 Location of the Townsville TRC

Table 14.2
Homeports of Businesses Using Townsville as a Port

Homeports	Sample Count	Percent
Mackay	8	14.5
Bowen	7	12.7
Bundaberg	6	10.9
Gladstone	4	7.3
Southport	4	7.3
Tin Can Bay	4	7.3
Gold Coast	3	5.5
Lucinda	3	5.5
Mooloolaba	3	5.5
Cairns	2	3.6
Hervey Bay	2	3.6
Amity Point	1	1.8
Mourilyan	1	1.8
Port Douglas	1	1.8
Scarborough	1	1.8
Stradbroke Island	1	1.8
Tully	1	1.8
Urangan	1	1.8
Wonga	1	1.8
Yeppoon	1	1.8
Total Businesses	55	100.0

Fishing Activity and Type

Table 14.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Trawling (62%) is the primary fishing activity by businesses from the Townsville TRC, followed by line fishing (32%), netting (21%) and crabbing (14%).

Table 14.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Trawling	39	61.9
Line fishing	20	31.7
Netting	13	20.6
Crabbing	9	14.3
Total Sample	77	100.0

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

As shown in Table 14.4, trawling as the primary fishing activity, co-occurs predominantly with line fishing (13%). Crabbing co-occurs with netting (67%), while netting co-occurs with line fishing (38%) and crabbing (46%).

Table 14.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	20 <i>100.0</i>	5 <i>12.8</i>	3 <i>33.3</i>	5 <i>38.5</i>
Trawling	5 <i>25.0</i>	39 <i>100.0</i>	0 <i>0.0</i>	1 <i>7.7</i>
Crabbing	3 <i>15.0</i>	0 <i>0.0</i>	9 <i>100.0</i>	6 <i>46.2</i>
Netting	5 <i>25.0</i>	1 <i>2.6</i>	6 <i>66.7</i>	13 <i>100.0</i>

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

Table 14.5 shows the peak months for fishing activity within the TRC to be March to May, with very low fishing activity occurring between October and January.

Table 14.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	5	8.2	24.5
February	11	18.0	29.7
March	30	49.2	43.9
April	30	49.2	42.8
May	31	50.8	38.1
June	20	32.8	33.5
July	14	23.0	23.9
August	10	16.4	19.9
September	13	21.3	23.5
October	8	13.1	24.8
November	11	18.0	26.2
December	8	13.1	21.4

Table 14.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between July and November, trawling between March and November and crabbing between January and July. Netting activity appears most common between February and October (Table 14.6).

Table 14.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	11	57.9	64.6
February	12	63.2	64.3
March	14	73.7	68.1
April	14	73.7	70.4
May	15	78.9	74.7
June	13	68.4	78.7
July	17	89.5	82.0
August	18	94.7	80.8
September	17	89.5	79.7
October	17	89.5	79.7
November	19	100.0	78.2
December	14	73.7	70.6
Trawling			
January	26	65.0	76.0
February	27	67.5	79.0
March	38	95.0	91.2
April	39	97.5	91.6
May	38	95.0	89.3
June	39	97.5	88.7
July	36	90.0	82.7
August	38	95.0	83.1
September	37	92.5	85.0
October	37	92.5	84.4
November	39	97.5	85.0
December	31	77.5	77.1
Crabbing			
January	6	75.0	74.7
February	6	75.0	79.0
March	7	87.5	75.1
April	6	75.0	69.4
May	5	62.5	67.2
June	6	75.0	58.5
July	6	75.0	52.0
August	5	62.5	50.2
September	4	50.0	53.3
October	4	50.0	55.9
November	4	50.0	66.4
December	5	62.5	72.1
Netting			
January	5	38.5	57.5
February	10	76.9	72.9
March	12	92.3	73.9
April	12	92.3	74.2
May	11	84.6	77.6
June	11	84.6	79.9
July	8	61.5	75.9
August	8	61.5	73.9
September	10	76.9	69.6
October	10	76.9	64.2
November	4	30.8	55.9
December	3	23.1	54.5

Location of Resource Use

The location of resource use by commercial fishing operations in the Townsville TRC is shown in Figure 14.2. Although resource use by businesses within the Townsville TRC extends along the entire Queensland coast and into the Gulf of Carpentaria, the primary and secondary catchments associated with resource use are more defined. For instance, the primary resource catchment extends as far south as Bowen and to Innisfail in the north and generally includes all areas between the coast and inner reef. On the other hand, the secondary resource catchment extends from the Torres Strait in the north to Mackay in the south.

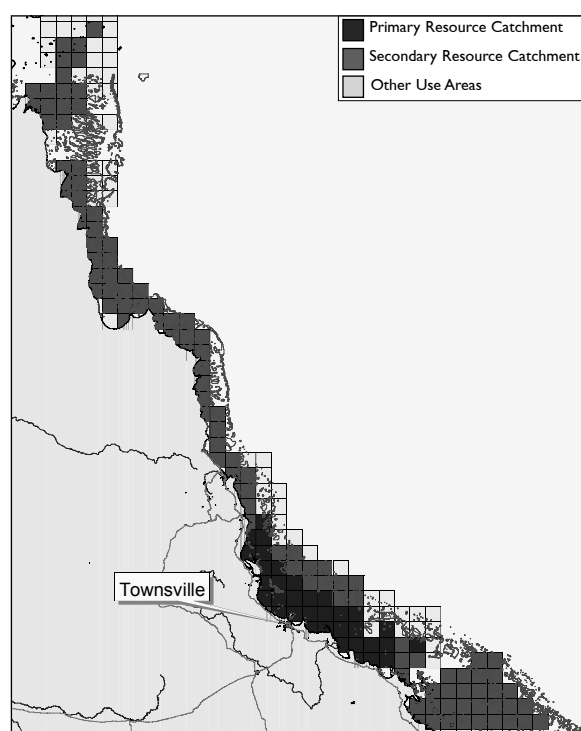


Figure 14.2 Townsville TRC: Location of Resource Use

Fishing Industry Employees

Table 14.7 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 two and three full-time employees (which would include the owner or operator). Over 90% of businesses had no part-time employees and over 87% of businesses had no casual employees. The average number of employees per business during the peak season was 2.8 and in the off-peak season it was 2.3. It is estimated that during

the peak season there were 428 employees, while during the off-peak season there were an estimated 352 employees.

Business Ownership and Size

Table 14.8 shows the number of years the current owner or operator has owned the fishing business. Businesses within this TRC had been owned for an average of 12.5 years, with 51% of businesses being owned by the current owner for less than 10 years.

Table 14.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	22	34.9	34.9
6-10	10	15.9	50.8
11-15	9	14.3	65.1
16-20	11	17.5	82.6
21-25	5	7.9	90.5
26-30	4	6.3	96.8
31+	2	3.2	100.0
Total	63	100.0	
Mean Number of Years owned or operated			12.5
Difference of TRC mean to QLD mean (14.6)			-2.1

Note: Standard errors for number of years ownership
(sample = 1.1; QLD population = 0.37).

Table 14.7. Number of Employees

Table 14.7: 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	3	4.8	56	90.3	55	88.7
1	14	22.6	4	6.5	5	8.1
2-3	29	46.8	1	1.6	2	3.2
4-5	11	17.7	1	1.6	0	0.0
6-7	3	4.8	0	0.0	0	0.0
8-9	2	3.2	0	0.0	0	0.0
Total Businesses	62	100.0	62	100.0	62	100.0
Total Employees	165		5.5		5	
Mean Number of Employees per Business (Peak)		2.8				
Estimated Number Employed within the TRC		428				
Off-Peak Season						
Nil	7	11.3	58	93.5	54	87.1
1	17	27.4	2	3.2	7	11.3
2-3	26	41.9	1	1.6	1	1.6
4-5	10	16.1	1	1.6	0	0.0
6-7	1	1.6	0	0.0	0	0.0
8-9	1	1.6	0	0.0	0	0.0
Total Businesses	62	100.0	62	100.0	62	100.0
Total Employees	134		4		4.5	
Mean Nos Employees per Business (Off-Peak)		2.3				
Estimated Number Employed within the TRC		352				

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 153 fishing businesses (Table 14.1)

The average number of years the business had been operating was 16.7 years (Table 14.9), which was similar to that for all Queensland fishing businesses (18.2 years).

Table 14.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	13	20.6	20.6
6-10	7	11.1	31.7
11-15	10	15.9	47.6
16-20	14	22.2	69.8
21-25	5	7.9	77.7
26-30	9	14.3	92.1
31+	5	7.9	100.0
Total	63	100.0	
Mean Number of Years owned or operated			16.7
Difference of TRC mean to QLD mean (18.2)			-1.5

Note: Standard errors for number of years operated
(sample = 1.2; QLD population = 0.46)

Table 14.10 shows that the majority of fishing businesses within this TRC operated one boat (68%).

Table 14.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	42	67.7
2	9	14.5
3	7	11.3
4	2	3.2
5	1	1.6
6+	1	1.6
Total Number of Businesses	62	100.0
Mean Number of Boats Operated		1.6
Difference of TRC mean to QLD mean (1.7)		-0.1

Note: Standard errors for number of boats operated
(sample = 0.2; QLD population = 0.05)

Table 14.11 shows the distribution for length of boats to be bimodal, with 26% of boats being between 3 and 6 metres and a 38% of boats being between 15 and 18 metres. The mean length of all boats and the mean length of the largest boat were also higher than that of all boats in Queensland.

Table 14.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	26	26.3
7-10	14	14.1
11-14	17	17.2
15-18	38	38.4
19-23	2	2.0
23+	2	2.0
Total Number of Boats	99	100.0
Mean Length of Boats Operated (metres)		11.9
Difference of TRC mean to QLD mean (9.9)		+2.0
Mean Length of Largest Boat Operated (metres)		13.5
Difference of TRC mean to QLD mean (11.4)		+2.1

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.6; QLD population = 0.14)

Value of Production and Location of Sales

Table 14.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Townsville TRC. The profile for the Townsville TRC is markedly different to the overall profile for Queensland. In the Townsville TRC there is a significantly higher percentage of businesses with production values between \$200,000 and \$300,000 per annum (33%) when compared to Queensland (16%). In addition, the median GVP for the Townsville TRC is nearly twice the Queensland median GVP.

Within the Townsville TRC it is estimated that the 153 fishing businesses had a gross value of production of approximately \$35.5 million, which is approximately 11% of the total value of production of the Queensland commercial fishing industry.

Table 14.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	14	23.3	42.8
\$101 - \$200	11	18.3	21.4
\$201 - \$300	20	33.3	16.2
\$301 - \$400	6	10.0	8.5
\$401 - \$500	4	6.7	3.8
\$501 - \$600	2	3.3	1.8
\$601 - \$700	1	1.7	1.3
\$701 - \$800	0	0.0	0.4
\$801 - \$900	1	1.7	1.0
\$901 - \$1,000	0	0.0	0.3
Over \$1,000	1	1.7	2.3
Total	60	100.0	100.0

Median GVP for TRC	\$231,941
Estimated Total GVP for TRC	\$35,487,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	11.3%

Note: Estimated TRC population total is based on an estimate of 153 businesses within the TRC, with a median GVP of \$231,941.
Queensland total GVP based on 2,443 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 14.13 shows the value of sales to specific locations within Australia for the sample of 63 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 14.13, and as shown in Figure 3, 45% of sales (\$16.1 million) occurs directly to Townsville, \$4.8 million to Cairns, while a further \$2.3 million is sold to Brisbane. It is probable that much of the sale to overseas markets (\$11.1 million) occurred firstly within Townsville and to a lesser extent Cairns and Brisbane, thereby increasing the total value of sales within these locations.

Table 14.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value Sales	Percent of Sample	Estimated Sales
Townsville	6,790	45.5	16,147
Cairns	2,031	13.6	4,826
Brisbane	956	6.4	2,271
Gladstone	175	1.2	426
New South Wales	95	0.6	213
Bowen	85	0.6	213
Gold Coast	45	0.3	106
Bundaberg	38	0.2	71
Innisfail	29	0.2	71
Total Sales (Australia)	10,244	68.7	24,380
Total Sales (Overseas)	4,664	31.3	11,107
Total Sales	14,908	100.0	35,487

Note: The sample value of sales is based on GVP as reported by businesses in the survey.
The estimated value of business sales (Table 14.12) is proportionally distributed to all locations on the basis of sample percentages.

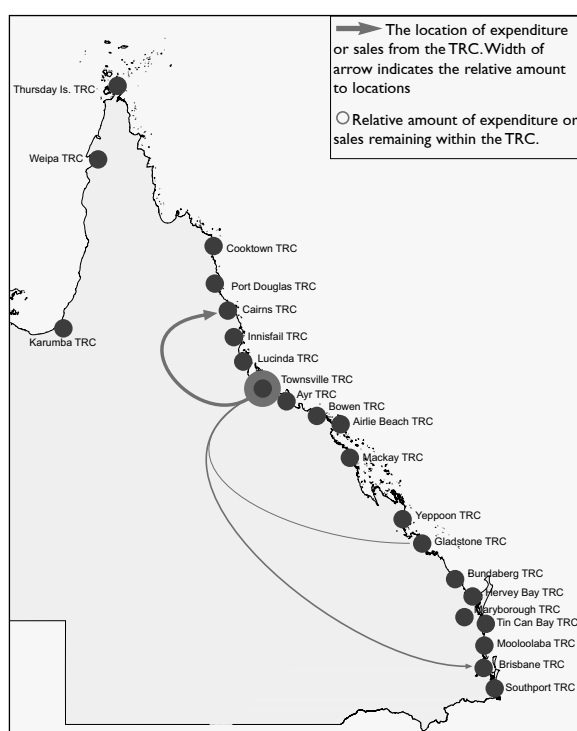


Figure 14.3 Townsville TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 4.14 shows that approximately \$18.5 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 towns of Townsville (\$13 million) and Cairns (\$3.4 million).

Table 14.14
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)
Townsville	5,538	70.3	12,998
Cairns	1,462	18.6	3,439
Brisbane	221	2.8	518
Bowen	132	1.7	314
Hervey Bay	88	1.1	203
Gladstone	84	1.1	203
Mackay	52	0.7	129
Bundaberg	51	0.7	129
Northern Territory	51	0.7	129
New South Wales	49	0.6	111
Innisfail	39	0.5	92
Cooktown	38	0.5	92
Mourilyan	36	0.4	74
Ayr	16	0.2	37
Yeppoon	13	0.2	37
Proserpine	3	0.1	18
Airlie Beach	1	0.1	18
Karumba	1	0.1	18
Lucinda	1	0.1	18
Total Expenditure	7,876	100.0	18,489

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.

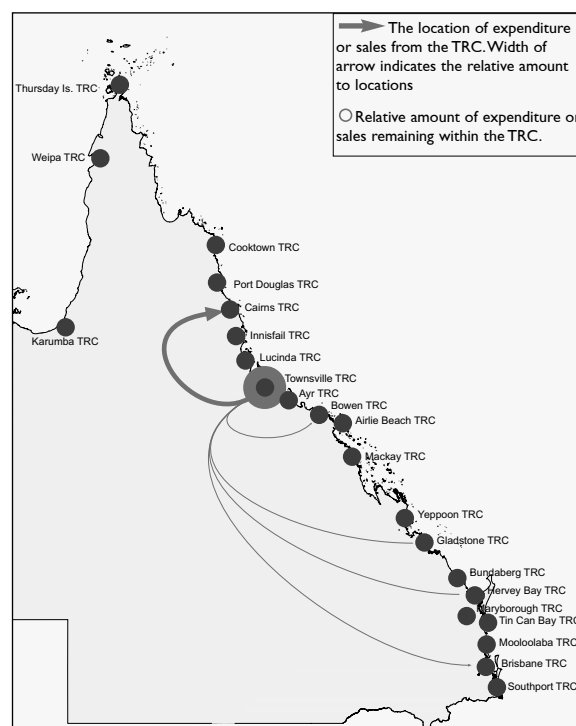


Figure 14.4 Townsville TRC: Location of Business Expenditure

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 14.15 shows that 55% of businesses within the Townsville TRC had no debt. The mean debt level within the TRC was 24% of business assets, which was 7% higher than the Queensland industry average.

Table 14.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	26	55.3	60.1
1 – 10%	1	2.1	6.4
11 – 20%	2	4.2	5.2
21 – 30%	4	8.4	6.4
31 – 40%	2	4.2	3.3
41 – 50%	4	8.4	9.6
51 – 60%	0	0.0	1.8
61 – 70%	2	4.2	1.2
71 – 80%	2	4.2	1.1
81 – 90%	1	2.1	1.6
91 – 100%	3	6.4	3.3
Total	47	100.0	100.0

Mean Debt Level for TRC	23.6%
Median Debt Level for QLD Population	16.6%
Difference of TRC mean to QLD mean (16.6)	+7.0%

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

EMPLOYEE PROFILES

Town of Residence

Table 14.16 indicates that the majority of employees reside within the Townsville urban centre (97%).

Table 14.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Townsville UC	75	97.4
Balgil	2	2.6
Total	77	100.0

Note: Townsville Urban Centre includes all suburbs within the Townsville UC and the localities of Pallarenda, Alligator Creek, Magnetic Island, Alice River and the Bohle Plains.

Months Employed in the Fishing Industry

Table 14.17 shows that during the past 12 months the owner-operators and employees within this TRC were employed in the fishing industry between March and October.

Table 14.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	90.7	66.7	84.7	80.7
February	90.7	72.2	86.1	82.3
March	98.1	66.7	90.3	86.1
April	100.0	77.8	94.4	86.8
May	100.0	66.7	91.7	87.3
June	98.1	66.7	90.3	87.8
July	98.1	72.2	91.7	86.7
August	98.1	66.7	90.3	86.3
September	96.3	83.3	93.1	86.8
October	98.1	72.2	91.7	85.4
November	90.7	66.7	84.7	84.4
December	92.6	66.7	86.1	82.3

Note: Owner/operator sample of 57; employee sample of 20.

Location of Household Expenditure

Table 14.18 and Figure 14.5 show the location of household expenditure related to individual income derived from employment in the fishing industry. Townsville attracts 96% (\$8.5 million) of all annual employee household expenditure from within the TRC. As shown in Table 14.18 there is only relatively minor expenditure to other towns, including Cairns which receives 3% or \$0.2 million in annual household expenditure.

Table 14.18
Town Location of Household Expenditure (all commodities and services)

Location	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Townsville	1,529	95.7	8,500
Cairns	42	2.6	231
Karumba	10	0.6	53
Rollingstone	10	0.6	53
Gladstone	6	0.4	36
Brisbane	1	0.1	9
Total Expenditure	1,598	100.0	8,882

Note: The gross individual annual income of fishers within this TRC was estimated as \$34,115 (Table 2.20). 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 \$20,752, with total household expenditure across all 428 (Table 14.7) employees to be \$8.9 million (Table 14.18).

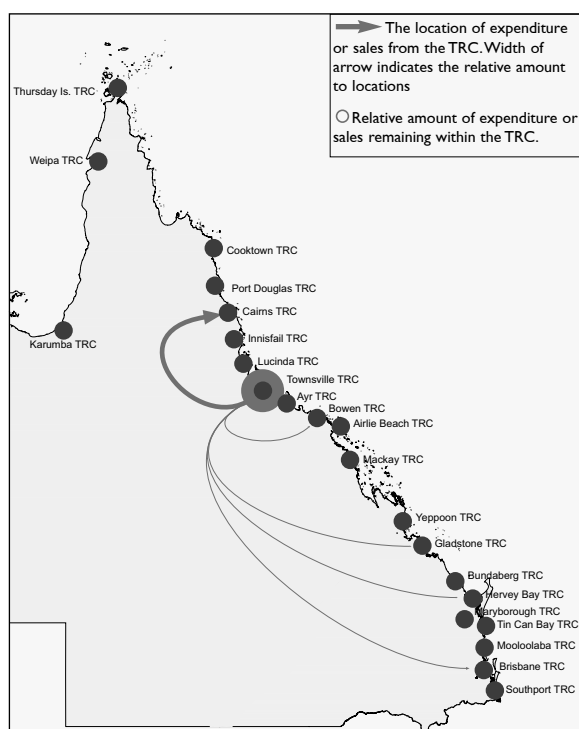


Figure 14.5 Townsville TRC: Location of Household Expenditure

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 14.19. As might be expected, Townsville (87%) is the primary town location for school and employment.

Table 14.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Townsville	140	87.5
Rollingstone	4	2.5
Brisbane	4	2.5
Other towns and interstate	12	7.5
Total Family Members	160	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 14.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 14.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	153	275	428	7,088
Mean age of fisher	45.6	33.3	42.4	37.3
Age range	19-68	18-62	18-68	15-79
Percent males	96.5	90.0	94.8	94.8
Mean years resident in town	22.4	20.5	21.9	19.1
Mean number of years in fishing industry	18.2	9.2	15.9	12.6
Median hours per week in fishing industry	70.0	65.0	70.0	60.0
Percent moved town to retain employment	28.6	20.0	26.3	20.5
Percent currently employed in other industry	8.8	40.0	16.9	34.2
Percent previously employed in other industry	84.2	65.0	79.2	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	7.3	5.3	6.8	5.2
Year 8	3.6	0.0	2.7	8.0
Year 9	10.9	0.0	8.1	11.9
Year 10	41.8	63.2	47.3	44.4
Year 11	14.5	5.3	12.2	10.1
Year 12	21.8	26.3	23.0	20.2
Percent completed trade or TAFE certificate	42.9	55.0	46.1	37.7
Percent completed industry or business course	15.8	20.0	16.9	15.2
Percent with business plan ^c	32.7	—	32.7	22.9
Percent active fishing group member	43.9	5.0	33.8	25.7
Marital Status				
Percent married or relationship	78.9	50.0	71.4	62.0
Percent with partner employed in business ^d	60.0	—	60.0	56.1
Median hours per week employed in business	17.5	—	17.5	20.0
Partners Income^e				
Full-time employment	32.6	30.0	32.1	28.3
Part-time employment	14.0	20.0	15.1	18.5
Casual employment	9.3	30.0	13.2	11.6
Not employed	44.2	20.0	39.6	41.5
Family Composition				
Mean family size	3.5	1.9	3.1	2.6
Estimated number of total family members	535	522	1,327	18,429
Dependency Ratios				
Age Dependency Ratio ^f	38.3	13.1	33.4	33.4
Elderly Dependency Ratio	1.2	0.0	1.2	2.3
Child Dependency Ratio	28.3	11.8	25.4	31.2
Family Member Industry Dependency Ratio ^g	36.3	14.3	33.6	23.9
Gross Individual Income				
Less than \$16,000	18.2	52.9	27.9	34.6
\$16,000 - \$26,000	11.4	23.5	14.8	19.6
\$26,000 - \$36,000	13.6	17.6	14.8	22.1
\$36,000 - \$52,000	29.5	0.0	21.3	11.7
\$52,000 - \$78,000	20.5	0.0	14.8	6.6
Over \$78,000	6.8	5.9	6.6	5.4
Average Income (\$)	39,818	19,353	34,115	27,471

Note: ^a Owner/operator sample of 57, employee sample = 20.

^b Based on peak estimates derived in Table 14.7.

^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).

15 AYR TRC

The Ayr TRC consists of the main urban towns of Ayr, Home Hill and Giru. This small TRC is located between the two larger TRCs of Townsville in the north and Bowen in the South. Figure 15.1 shows the geographic location of this TRC.

BUSINESS PROFILES

Location and Use of Ports

Table 15.1 shows the number of licence holders within the Ayr 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 16 commercial fishers within this TRC and that the 95% confidence interval places the population count of commercial fishers within the TRC as being between 8 and 24.

Table 15.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Ayr	24	5	12	75.0
Home Hill	7	1	2	12.5
Giru	1	0	0	0.0
Hullhole Creek	0	1	2	12.5
Total TRC	32	7	16	100.0

95% Confidence Interval for Estimated TRC Count 8-24
Percent of Total Active Licence Holders in QLD 0.6%

Note: Adjusted database count is based on the postal address as recorded in the licensing 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.

Only one fishing business was found to use Ayr as a port when operating to or from fishing grounds. This business had Townsville as its homeport.

Fishing Activity and Type

Table 15.2 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Netting (86%) and crabbing (71%) are the primary fishing activities by businesses from the Ayr TRC, followed by line fishing (43%) and trawling (29%).

Table 15.2
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Netting	6	85.7
Crabbing	5	71.4
Line fishing	3	42.9
Trawling	2	28.6
Total Sample	7	100.0

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

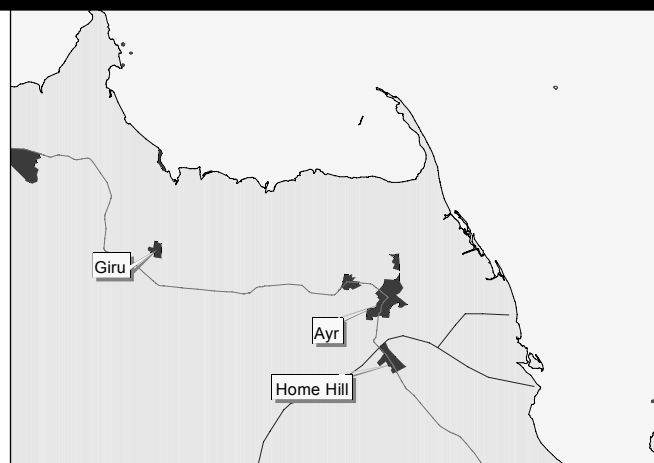


Figure 15.1 Location of the Ayr TRC

As shown in Table 15.3, netting as the primary fishing activity co-occurs predominantly with crabbing (83%) while all line fishers also crab and net.

Table 15.3
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	3 100.0	0 0.0	3 60.0	3 50.0
Trawling	0 0.0	2 100.0	0 0.0	1 16.7
Crabbing	3 100.0	0 0.0	5 100.0	5 83.3
Netting	3 100.0	1 50.0	5 100.0	6 100.0

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

Table 15.4 shows January and May to be the peak months for fishing activity within the TRC, with very low fishing activity occurring between September and December.

Table 15.4
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	6	85.7	24.5
February	6	85.7	29.7
March	7	100.0	43.9
April	5	71.4	42.8
May	4	57.1	38.1
June	3	42.9	33.5
July	1	14.3	23.9
August	2	28.6	19.9
September	1	14.3	23.5
October	1	14.3	24.8
November	1	14.3	26.2
December	1	14.3	21.4

Table 15.5 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between October and November, crabbing occurs throughout the year and netting activity occurs most commonly between February and September.

Table 15.5
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	1	33.3	64.6
February	1	33.3	64.3
March	1	33.3	68.1
April	1	33.3	70.4
May	1	33.3	74.7
June	1	33.3	78.7
July	1	33.3	82.0
August	1	33.3	80.8
September	1	33.3	79.7
October	3	100.0	79.7
November	3	100.0	78.2
December	1	33.3	70.6
Crabbing			
January	5	100.0	74.7
February	5	100.0	79.0
March	5	100.0	75.1
April	5	100.0	69.4
May	5	100.0	67.2
June	5	100.0	58.5
July	5	100.0	52.0
August	5	100.0	50.2
September	5	100.0	53.3
October	5	100.0	55.9
November	5	100.0	66.4
December	5	100.0	72.1
Netting			
January	2	33.3	57.5
February	6	100.0	72.9
March	6	100.0	73.9
April	6	100.0	74.2
May	6	100.0	77.6
June	6	100.0	79.9
July	6	100.0	75.9
August	6	100.0	73.9
September	6	100.0	69.6
October	5	83.3	64.2
November	4	66.7	55.9
December	3	50.0	54.5

Note: Trawling has not been provided due to the low sample count for this activity.

Location of Resource Use

Figure 15.2 shows the location of resource use by commercial fishing operations in the Ayr TRC. Given the emphasis on netting and crabbing activities within this TRC it is not surprising that both primary and secondary resource catchments are small and localised to the coastal areas between Cape Bowling Green and Cape Upstart.

Fishing Industry Employees

Table 15.6 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 two and three full-time employees (which includes the owner or operator). Few businesses had part-time or casual employment. The average number of employees per business during the peak season was 1.7 employees per business and in the off-peak season it was 1.3. It is estimated that during the peak season there were 27 employees while during the off-peak season there were an estimated 21 employees.

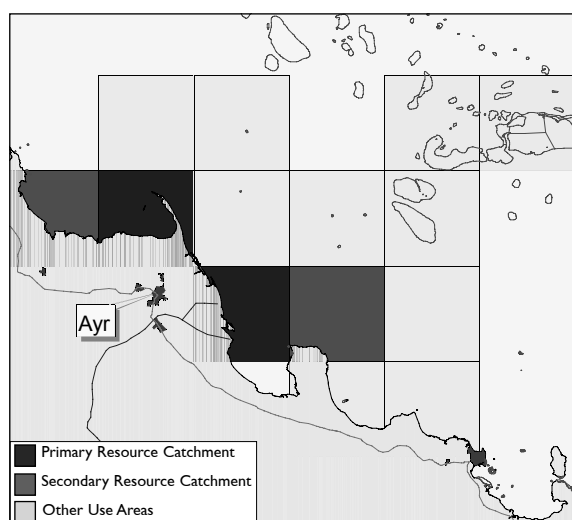


Figure 15.2 Ayr TRC: Location of Resource Use

Business Ownership and Size

Table 15.7 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 12.4 years, with 57% of businesses being owned by the current owner for less than 10 years.

Table 15.7
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	3	42.8	42.8
6-10	1	14.3	57.1
11-15	1	14.3	71.4
16-20	0	0.0	71.4
21-25	1	14.3	85.7
26-30	0	0.0	85.7
31+	1	14.3	100.0
Total	7	100.0	
Mean Number of Years owned or operated			12.4
Difference of TRC mean to QLD mean (14.6)			-2.2

Note: Standard errors for number of years ownership (sample = 4.2; QLD population = 0.37).

The average number of years the business had been operating was 14.6 years (Figure 15.8), which was somewhat lower to that for all Queensland fishing businesses (18.2 years).

Table 15.8
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	28.6	28.6
6-10	1	14.3	42.9
11-15	1	14.3	57.2
16-20	1	14.3	71.5
21-25	1	14.3	85.8
26-30	0	0.0	85.8
31+	1	14.3	100.0
Total	7	100.0	
Mean Number of Years owned or operated			14.6
Difference of TRC mean to QLD mean (18.2)			-3.6

Note: Standard errors for number of years operated (sample = 4.1; QLD population = 0.46)

Table 15.6
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	0	0.0	5	71.4	7	100.0
1	3	42.8	2	28.6	0	0.0
2-3	4	57.2	0	0.0	0	0.0
4-5	0	0.0	0	0.0	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
Total Businesses	7	100.0	7	100.0	7	100.0
Total Employees	11		1		0	
Mean Number of Employees per Business (Peak)		1.7				
Estimated Number Employed within the TRC		27				
Off-Peak						
Nil	1	11.3	6	85.7	7	100.0
1	4	27.4	1	14.3	0	0.0
2-3	2	41.9	0	1.6	0	0.0
4-5	0	16.1	0	1.6	0	0.0
6-7	0	1.6	0	0.0	0	0.0
8-9	0	1.6	0	0.0	0	0.0
Total Businesses	7	100.0	7	100.0	7	100.0
Total Employees	8		1		0	
Mean Number of Employees per Business (Off-Peak)			1.3			
Estimated Number Employed within the TRC		21				

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 153 fishing businesses (Table 15.1)

Table 15.9 shows that the majority of fishing businesses within this TRC operated either one or two boats (57%).

Table 15.9
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	3	42.8
2	1	14.3
3	0	0.0
4	2	28.6
5	1	14.3
6+	0	0.0
Total Number of Businesses	7	100.0
Mean Number of Boats Operated		2.6
Difference of TRC mean to QLD mean (1.7)		+0.9

Note: Standard errors for number of boats operated
(sample = 0.6; QLD population = 0.05)

Table 15.10 shows the frequency distribution for length of boats, with 83% of boats being between 3 and 6 metres and a further 17% of boats being between 7 and 10 metres. The mean length of all boats and the mean length of the largest boat were also significantly lower than that of all boats in Queensland.

Table 15.10
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	15	83.3
7-10	3	16.7
11-14	0	0.0
15-18	0	0.0
19-23	0	0.0
24+	0	0.0
Total Number of Boats	18	100.0

Mean Length of Boats Operated (metres) 5.6
Difference of TRC mean to QLD mean (9.9) -4.3

Mean Length of Largest Boat Operated (metres) 7.1
Difference of TRC mean to QLD mean (11.4) -4.3

Note: As mean length of boats in a multiple response, standard errors cannot be computed.
Standard errors for mean length of largest boat
(sample = 0.9; QLD population=0.14)

Value of Production and Location of Sales

Table 15.11 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Ayr TRC. The profile for the Ayr TRC is markedly different to the overall profile for Queensland, with all fishing businesses having production values of less than \$100,000. In addition, the median GVP of \$50,000 for the Ayr TRC is less than half the median GVP for Queensland.

Within the Ayr TRC it is estimated that the 16 fishing businesses had a gross value of production of approximately \$0.8 million, which is approximately 0.3% of the total value of production of the Queensland commercial fishing industry.

Table 15.11
Wholesale Value of Product (Annual value)

Wholesale Value (\$'000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	7	100.0	42.8
\$101 - \$200	0	0.0	21.4
\$201 - \$300	0	0.0	16.2
\$301 - \$400	0	0.0	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	7	100.0	100.0

Median GVP for TRC	\$49,906
Estimated Total GVP for TRC	\$798,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	0.3%

Note: Estimated TRC population total is based on an estimate of 16 businesses within the TRC, with a median GVP of \$49,906. Queensland total GVP based on 2,443 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 15.12 shows the value of sales to specific locations within Australia for the sample of 16 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 15.12, and as shown in Figure 15.3, 55% of sales (\$0.4 million) occurs directly to Ayr, \$0.1 million to NSW, while a further \$0.1 million is sold in Home Hill.

Table 15.12
Town Location of Sales (\$'000)

Location of Sales	Sample Value Sales (\$'000)	Percent of Sample	Estimated Sales
Ayr	192	55.0	439
New South Wales	61	17.5	140
Home Hill	60	17.2	137
Victoria	20	5.7	45
Brisbane	10	2.9	23
Townsville	4	1.1	9
Cairns	2	0.6	5
Total Sales (Australia)	349	100.0	798
Total Sales (Overseas)	0	0.0	0
Total Sales	349	100.0	798

Note: The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 15.11) is proportionally distributed to all locations on the basis of sample percentages.

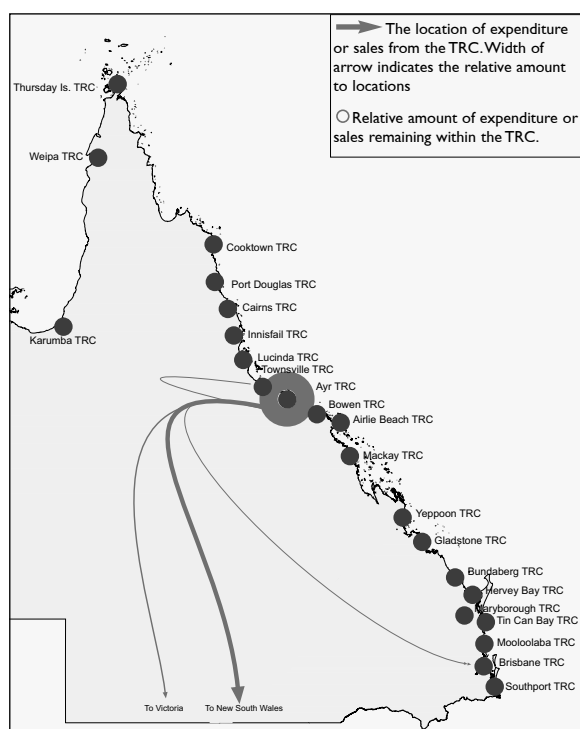


Figure 15.3 Ayr TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 15.13 shows that approximately \$0.4 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 Ayr (\$0.3 million).

Table 15.13
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)
Ayr	110	60.4	251
Townsville	39	21.4	89
Home Hill	27	14.8	62
Brisbane	6	3.4	14
Total Expenditure	182	100.0	416

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.

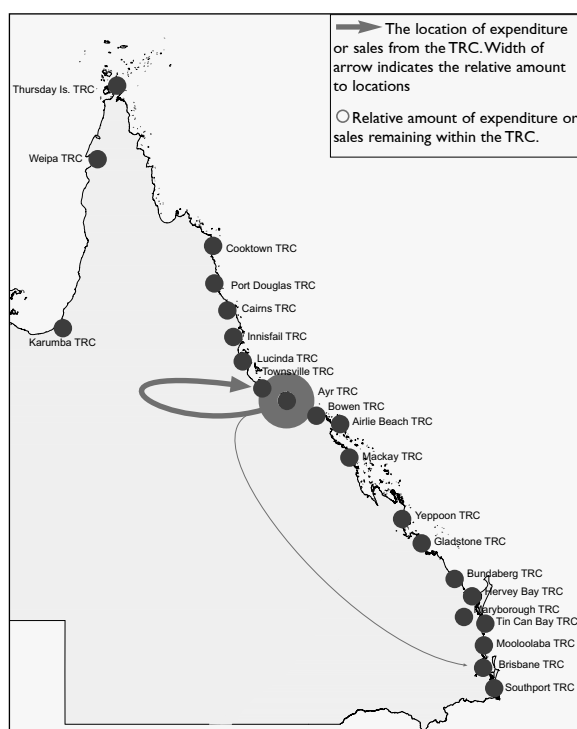


Figure 15.4 Ayr TRC: Location of Business Expenditure

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 15.14 shows that 29% of businesses within the Ayr TRC had no debt. The mean debt level within the TRC was 22% of business assets, which was 5% higher than the Queensland industry average.

Table 15.14
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	2	28.6	60.1
1 – 10%	0	0.0	6.4
11 – 20%	1	14.3	5.2
21 – 30%	2	28.6	6.4
31 – 40%	2	28.6	3.3
41 – 50%	0	0.0	9.6
51 – 60%	0	0.0	1.8
61 – 70%	0	0.0	1.2
71 – 80%	0	0.0	1.1
81 – 90%	0	0.0	1.6
91 – 100%	0	0.0	3.3
Total	7	100.0	100.0

Mean Debt Level for TRC	22.1%
Median Debt Level for QLD Population	16.6%
Difference of TRC Mean to QLD Mean (16.6)	+7.0%

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

EMPLOYEE PROFILES

Town of Residence

Table 15.15 indicates that the majority of employees reside in Ayr (65%).

Table 15.15
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Ayr	11	64.7
Home Hill	3	17.6
Alva	2	11.8
Giru	1	5.9
Total	17	100.0

Months Employed in the Fishing Industry

Table 15.16 shows that during the past 12 months the majority of owner/operators and employees within this TRC were employed in the fishing industry between February and June.

Table 15.16
Months Employed in the Fishing Industry During Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	85.7	62.5	73.3	80.7
February	85.7	75.0	80.0	82.3
March	100.0	75.0	86.7	86.1
April	100.0	75.0	86.7	86.8
May	85.7	62.5	73.3	87.3
June	85.7	75.0	80.0	87.8
July	85.7	72.2	73.3	86.7
August	85.7	62.5	73.3	86.3
September	85.7	62.5	73.3	86.8
October	85.7	62.5	73.3	85.4
November	85.7	62.5	73.3	84.4
December	85.7	50.0	66.7	82.3

Note: Owner-operator sample of 7; employee sample of 10.

Location of Household Expenditure

Table 15.17 and Figure 15.5 show the location of household expenditure related to individual income derived from employment in the fishing industry. Ayr attracts 82% (\$0.5 million) of all annual employee household expenditure from within the TRC, while Home Hill attracts 14% (\$0.1 million).

Table 15.17
Town Location of Household Expenditure
(all commodities and services)

Location of Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Ayr	290	81.9	461
Home Hill	50	14.1	79
Townsville	14	4.0	23
Total Expenditure	354	100.0	563

Note: The gross individual annual income of fishers within this TRC was estimated as \$34,250 (Table 15.19). 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 \$20,834, with total household expenditure across all 27 (Table 15.6) employees to be \$0.6 million (Table 15.17).

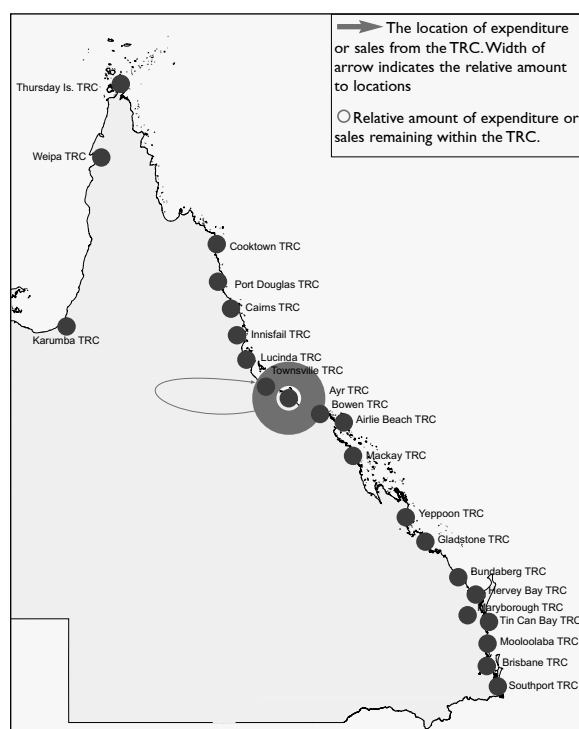


Figure 15.5 Ayr TRC: Location of Household Expenditure

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 15.18. As might be expected, Ayr (62%) and Home Hill (17%) are the primary towns for school and employment.

Table 15.18
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Ayr	15	62.5
Home Hill	4	16.7
Townsville	2	8.3
Other towns and interstate	3	12.5
Total Family Members	160	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 15.19 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 15.19. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	16	11	27	7,088
Mean age of fisher	41.9	33.3	36.8	37.3
Age range	30-55	20-50	20-55	15-79
Percent males	100.0	80.0	88.2	94.8
Mean years resident in town	28.3	19.5	23.1	19.1
Mean number of years in fishing industry	17.8	7.4	11.7	12.6
Median hours per week in fishing industry	80.0	32.5	48.0	60.0
Percent moved town to retain employment	28.6	10.0	17.6	20.5
Percent currently employed in other industry	71.4	100.0	88.2	34.2
Percent previously employed in other industry	100.0	70.0	81.3	69.2
Housing tenure				
Rent	14.3	0.0	5.9	33.6
Mortgage	28.6	30.0	29.4	20.1
Own home	57.1	50.0	52.9	31.1
Other (eg. live with parents, on boat)	0.0	20.0	11.8	15.2
Educational				
Year completed school				
Primary school	0.0	0.0	0.0	5.2
Year 8	14.3	10.0	11.8	8.0
Year 9	14.3	10.0	11.8	11.9
Year 10	57.1	50.0	52.9	44.4
Year 11	0.0	20.0	11.8	10.1
Year 12	14.3	10.0	11.8	20.2
Percent completed trade or TAFE certificate	42.9	60.0	52.9	37.7
Percent completed industry or business course	14.3	0.0	5.9	15.2
Percent with business plan ^c	28.6	—	28.6	22.9
Percent active fishing group member	42.9	20.0	29.4	25.7
Marital Status				
Percent married or relationship	85.7	60.0	70.6	62.0
Percent with partner employed in business ^d	50.0	—	50.0	56.1
Median hours per week employed in business	40.0	—	40.0	20.0
Partners Income^{de}				
Full-time employment	20.0	33.3	27.3	28.3
Part-time employment	40.0	33.3	36.4	18.5
Casual employment	0.0	33.3	18.2	11.6
Not employed	40.0	0.0	18.2	41.5
Family Composition				
Mean family size	2.6	2.5	2.5	2.6
Estimated number of total family members	42	27	67	18,429
Dependency Ratios				
Age Dependency Ratio ^f	6.2	9.5	8.1	33.4
Elderly Dependency Ratio	0.0	0.0	0.0	2.3
Child Dependency Ratio	6.2	9.5	8.1	31.2
Family Member Industry Dependency Ratio ^g	30.0	7.7	17.4	23.9
Gross Individual Income				
Less than \$16,000	0.0	66.7	33.3	34.6
\$16,000 - \$26,000	16.7	0.0	8.3	19.6
\$26,000 - \$36,000	16.7	0.0	8.3	22.1
\$36,000 - \$52,000	33.3	16.7	25.0	11.7
\$52,000 - \$78,000	33.3	16.7	25.0	6.6
Over \$78,000	0.0	0.0	0.0	5.4
Average Income (\$)	45,000	23,500	34,250	27,471

Note: ^a Owner/operator sample of 7; employee sample = 10.

^b Based on peak estimates derived in Table 15.6.

^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).

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
Hervy 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

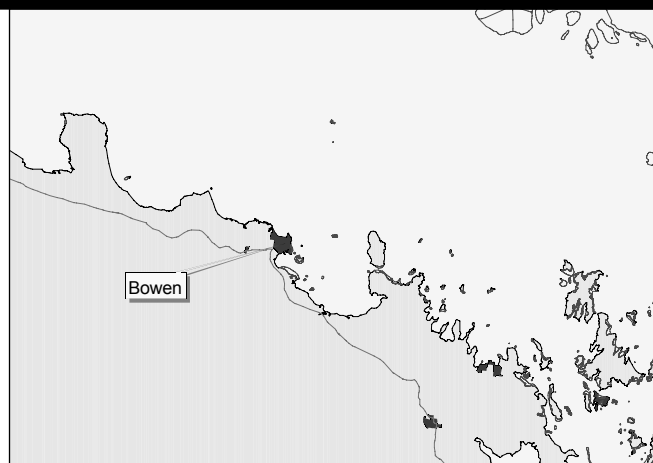


Figure 16.1 Location of the Bowen TRC

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

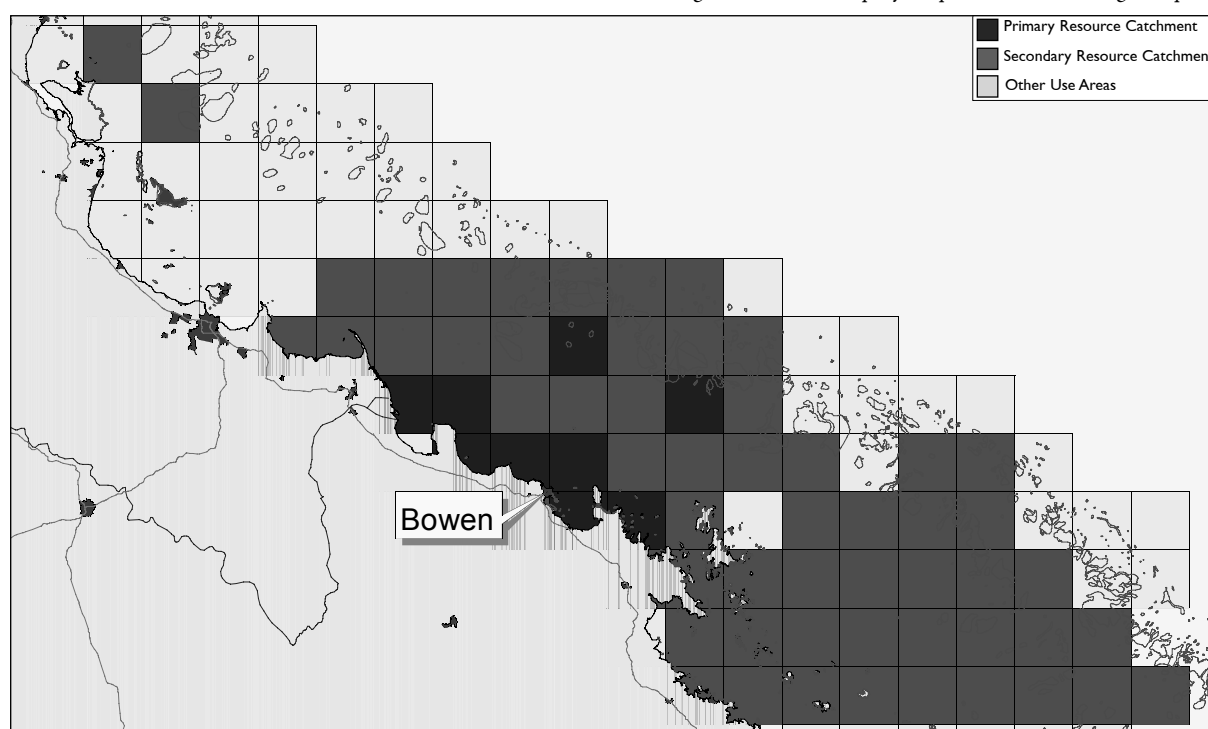


Figure 16.2 Bowen TRC: Location of Resource Use

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.

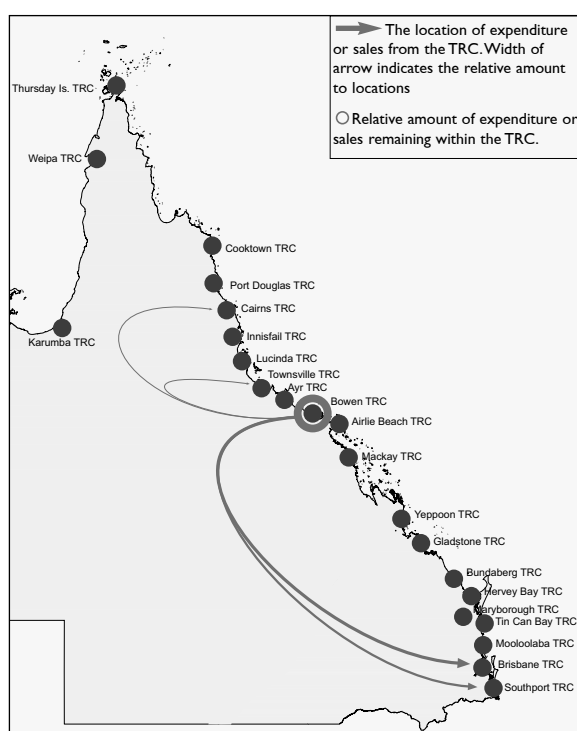


Figure 16.3 Bowen TRC: Location of Business Sales

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 (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.

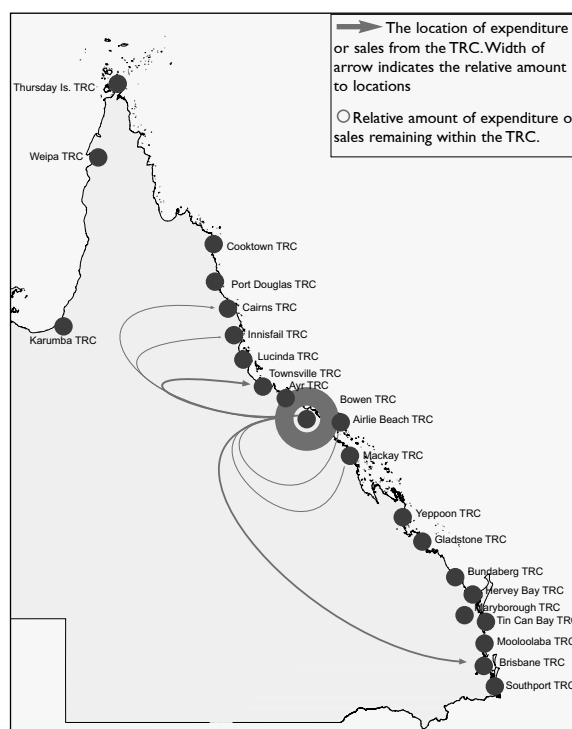


Figure 16.4 Bowen TRC: Location of Business Expenditure

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).

17 AIRLIE BEACH TRC

The Airlie Beach TRC consists of the main urban centre of Airlie Beach, Cannonvale and Proserpine. Figure 17.1 shows the geographic location of this TRC.

BUSINESS PROFILES

Location and Use of Ports

Table 17.1 shows the number of licence holders within the Airlie Beach 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 fishers within this TRC and that we can be 95% confident that the population count of commercial fishers within the TRC is between 7 and 21.

Table 17.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Airlie Beach	9	3	7	50.0
Midge Point	0	2	5	35.7
Proserpine	6	1	2	14.3
Cannonvale	2	0	0	0.0
Total TRC	17	6	14	100.0
95% Confidence Interval for Estimated TRC Count				7-21
Percent of Total Active Licence Holders in QLD				0.6%

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 Airlie Beach as a homeport, a limited number of fishing businesses used Airlie Beach and the Whitsunday Islands when travelling to or from fishing areas. These fishing businesses were found to have their homeports in Bowen, Sandgate and Mackay.

Fishing Activity and Type

Table 17.2 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Line fishing (83%) is the primary fishing activity by businesses from the Airlie Beach TRC, followed by netting (50%), crabbing (50%) and trawling (33%).

Table 17.2
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Line fishing	5	83.3
Netting	3	50.0
Crabbing	3	50.0
Trawling	2	33.3
Total Sample	6	100.0

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

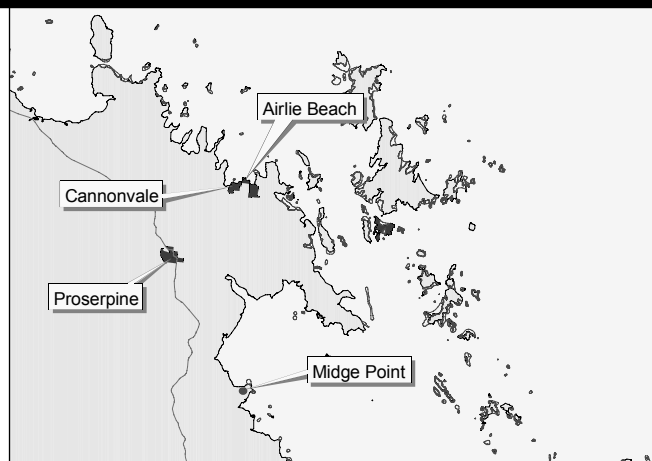


Figure 17.1 Location of the Airlie Beach TRC

As shown in Table 17.3, line fishing co-occurs predominantly with netting (60%). Trawling co-occurs with line fishing (100%) and crabbing (100%), crabbing co-occurs with line fishing (67%) and trawling (67%), while netting co-occurs with line fishing (100%).

Table 17.3
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	5 <i>100.0</i>	2 <i>40.0</i>	2 <i>66.7</i>	3 <i>100.0</i>
Trawling	2 <i>40.0</i>	2 <i>100.0</i>	2 <i>66.7</i>	1 <i>33.3</i>
Crabbing	2 <i>40.0</i>	2 <i>100.0</i>	3 <i>100.0</i>	1 <i>33.3</i>
Netting	3 <i>60.0</i>	1 <i>50.0</i>	1 <i>33.3</i>	3 <i>100.0</i>

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

Although based on a very limited sample count, Table 17.4 suggests the peak months for fishing activity within the TRC may be between May and November.

Table 17.4
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	0	0.0	24.5
February	0	0.0	29.7
March	0	0.0	43.9
April	0	0.0	42.8
May	1	20.0	38.1
June	1	20.0	33.5
July	1	20.0	23.9
August	1	20.0	19.9
September	1	20.0	23.5
October	2	40.0	24.8
November	1	20.0	26.2
December	0	0.0	21.4

Table 17.5 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between May and October, crabbing between January and May, while netting appears reasonably distributed throughout the year (Table 17.5).

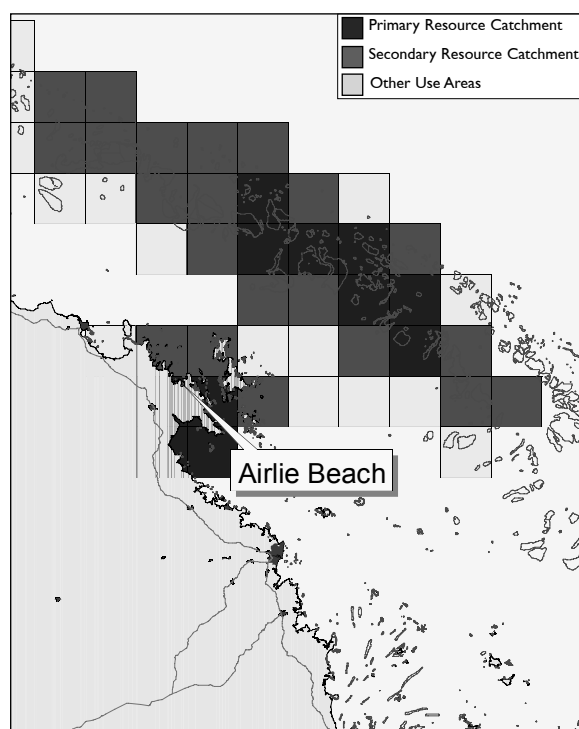


Figure 17.2 Airlie Beach TRC: Location of Resource Use

Table 17.5 Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	2	40.0	64.6
February	2	40.0	64.3
March	2	40.0	68.1
April	2	40.0	70.4
May	4	80.0	74.7
June	5	100.0	78.7
July	5	100.0	82.0
August	5	100.0	80.8
September	4	80.0	79.7
October	4	80.0	79.7
November	2	40.0	78.2
December	2	40.0	70.6
Crabbing			
January	2	100.0	74.7
February	2	100.0	79.0
March	2	100.0	75.1
April	2	100.0	69.4
May	2	100.0	67.2
June	1	50.0	58.5
July	1	50.0	52.0
August	0	0.0	50.2
September	0	0.0	53.3
October	0	0.0	55.9
November	0	0.0	66.4
December	0	0.0	72.1
Netting			
January	1	25.0	57.5
February	3	75.0	72.9
March	3	75.0	73.9
April	2	50.0	74.2
May	2	50.0	77.6
June	2	50.0	79.9
July	1	25.0	75.9
August	2	50.0	73.9
September	2	50.0	69.6
October	3	75.0	64.2
November	3	75.0	55.9
December	2	50.0	54.5

Note: Sample size for trawl is too small to allow meaningful analyses.

Location of Resource Use

Figure 17.2 shows the location of resource use by commercial fishing operations in the Airlie Beach TRC. Two primary resource catchments can be identified in Figure 17.2. One is located in the coastal areas of Repulse Bay and the Whitsunday Passage, while the second is located on reefal areas between Edgell Reef in the south and Elizabeth Reef in the north. The secondary catchment includes areas surrounding the Whitsunday Islands group and those reefal areas between Bax Reef in the south and Viper Reef in the north.

Fishing Industry Employees

Table 17.6 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 with little if any part-time or casual employment. The average number of employees per business during the peak season was 2.5 and in the off-peak season it was 1.9. It is estimated that during the peak season there were 35 full-time equivalent employees, while during the off-peak season there were an estimated 27 full-time equivalent employees.

Business Ownership and Size

Table 17.7 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 18.2 years, with 50% of businesses being owned by the current owner for less than 10 years.

Table 17.7
Number of Years Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	33.3	33.3
6-10	1	16.7	50.0
11-15	0	0.0	50.0
16-20	0	0.0	50.0
21-25	0	0.0	50.0
26-30	1	16.7	66.7
31+	2	33.3	100.0
Total	6	100.0	

Mean Number of Years owned or operated	18.2
Difference of TRC mean to QLD mean (14.6)	+3.6

Note: Standard errors for number of years ownership (sample = 6.3; QLD population = 0.37).

The average number of years the business had been operating was 18.2 years (Table 17.8), which was the same as the average for all Queensland fishing businesses (18.2 years).

Table 17.8. Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	33.3	33.3
6-10	1	16.7	50.0
11-15	0	0.0	50.0
16-20	0	0.0	50.0
21-25	0	0.0	50.0
26-30	1	16.7	66.7
31+	2	33.3	100.0
Total	27	100.0	

Mean Number of Years owned or operated	18.2
Difference of TRC mean to QLD mean (18.2)	0.0

Note: Standard errors for number of years operated (sample = 6.3; QLD population = 0.46)

Table 17.6
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	0	0.0	6	100.0	5	83.3
1	2	33.3	0	0.0	0	0.0
2-3	3	50.0	0	0.0	1	16.7
4-5	1	16.7	0	0.0	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
Total Businesses	6	100.0	6	100.0	6	100.0
Total Employees	14		0		1	
Mean Number of Employees per Business (Peak)		2.5				
Estimated Number Employed within the TRC		35				
Off-Peak						
Nil	0	0.0	6	100.0	5	83.3
1	2	33.3	0	0.0	1	16.7
2-3	4	66.6	0	0.0	0	0.0
4-5	0	0.0	0	0.0	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
Total Businesses	6	100.0	6	100.0	6	100.0
Total Employees	11		0		0.5	
Mean Nos Employees per Business (Off-Peak)		1.9				
Estimated Number Employed within the TRC		27				

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 14 fishing businesses (Table 17.1)

Table 17.9 shows that the majority of fishing businesses within this TRC operated one boat (67%).

Table 17.9
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	4	66.7
2	0	0.0
3	2	33.3
4	0	0.0
5	0	0.0
6+	0	0.0
Total Number of Businesses	6	100.0
Mean Number of Boats Operated		1.7
Difference of TRC mean to QLD mean (1.7)		0.0

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

Table 17.10 shows the frequency distribution for length of boats, with 61% of boats being between 3 and 6 metres and a further 38% of boats being between 7 and 10 metres. The mean length of all boats and the mean length of the largest boat were also lower than that of all boats in Queensland.

Table 17.10
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	8	61.5
7-10	5	38.5
11-14	0	0.0
15-18	0	0.0
19-22	0	0.0
23+	0	0.0
Total Number of Boats	13	100.0
Mean Length of Boats Operated (metres)		5.9
Difference of TRC mean to QLD mean (9.9)		-4.0
Mean Length of Largest Boat Operated (metres)		8.1
Difference of TRC mean to QLD mean (11.4)		-3.3

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.8; QLD population=0.14)

Value of Production and Location of Sales

Table 17.11 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Airlie Beach TRC. In the Airlie Beach TRC the majority of businesses have production values of less than \$100,000 per annum. In addition, the median GVP for the Airlie Beach TRC is significantly lower than the Queensland median GVP.

Within the Airlie Beach TRC it is estimated that the 14 fishing businesses had a gross value of production of approximately \$0.3 million, which is approximately 0.1% of the total value of production of the Queensland commercial fishing industry.

Table 17.11
Wholesale Value of Product (Annual value)

Wholesale Value (\$'000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	4	66.7	42.8
\$101 - \$200	2	33.3	21.4
\$201 - \$300	0	0.0	16.2
\$301 - \$400	0	0.0	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	6	100.0	100.0

Median GVP for TRC	\$23,750
Estimated Total GVP for TRC	\$333,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	0.1%

Note: Estimated TRC population total is based on an estimate of 14 businesses within the TRC, with a median GVP of \$23,750.
Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 17.12 shows the value of sales to specific locations within Australia for the sample of six businesses in the sample 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 17.12, and as shown in Figure 17.3, 50% of sales (\$0.2 million) occur directly to Brisbane, with only \$0.1 million occurring within Airlie Beach.

Table 17.12
Town Location of Sales (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Brisbane	179	50.4	168
Airlie Beach	94	26.5	88
Proserpine	29	8.2	27
Mackay	26	7.3	24
Bowen	22	6.2	21
Cannonvale	5	1.4	5
Total Sales (Australia)	355	100.0	333
Total Sales (Overseas)	0	0.0	0
Total Sales	355	100.0	333

Note: The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 17.12) is proportionally distributed to all locations on the basis of sample percentages.

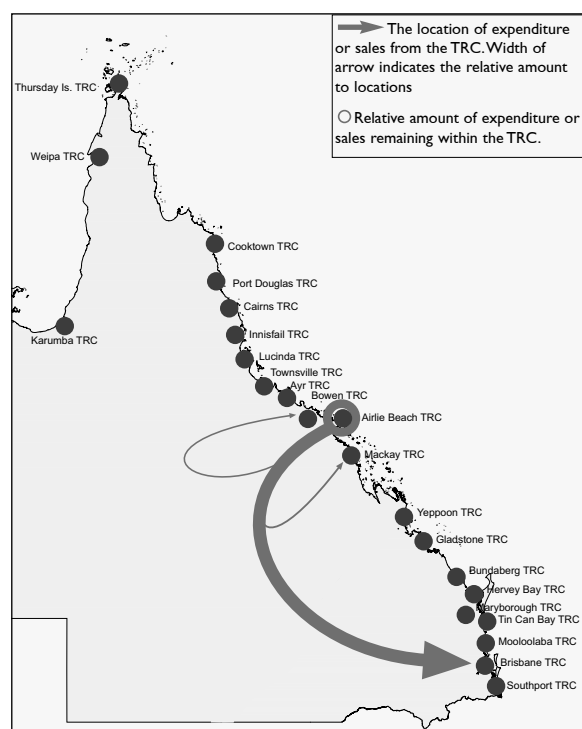


Figure 17.3 Airlie Beach TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 17.13 and Figure 17.4 show that approximately \$0.2 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 Airlie Beach (\$0.1 million).

Table 17.13
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)
Airlie Beach	99	51.0	88
Proserpine	39	20.1	35
Brisbane	26	13.4	23
Midge Point	26	13.4	23
Bowen	3	1.6	3
Mackay	1	0.5	1
Total Expenditure	194	100.0	173

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.

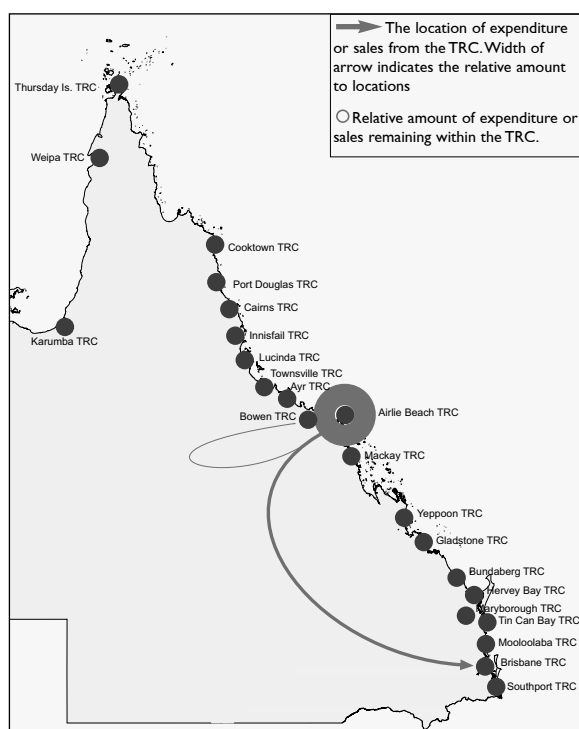


Figure 17.4 Airlie Beach TRC: Location of Business Expenditure

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 17.14 shows that 75% of businesses within the Airlie Beach TRC had no debt. The mean debt level within the TRC was 1.2% of business assets, which was significantly lower than the Queensland industry average of 16.6%.

**Table 17.14
Business Debt Levels**

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	3	75.0	60.1
1 – 10%	1	25.0	6.4
11 – 20%	0	0.0	5.2
21 – 30%	0	0.0	6.4
31 – 40%	0	0.0	3.3
41 – 50%	0	0.0	9.6
51 – 60%	0	0.0	1.8
61 – 70%	0	0.0	1.2
71 – 80%	0	0.0	1.1
81 – 90%	0	0.0	1.6
91 – 100%	0	0.0	3.3
Total	4	100.0	100.0

Mean Debt Level for TRC 1.2%

Median Debt Level for QLD Population 16.6%

Difference of TRC Mean to QLD Mean (16.6) -15.3%

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

EMPLOYEE PROFILES

Town of Residence

Table 17.15 indicates that the majority of employees reside within Airlie Beach (33%) and Proserpine (33%).

**Table 17.15
Town of Residence**

Town of Residence	Sample Count	Percent of Sample
Airlie Beach	5	33.3
Proserpine	5	33.3
Cannonvale	2	13.3
Bloomsbury	1	6.7
Midge Point	1	6.7
Whitsunday	1	6.7
Total	15	100.0

Months Employed in the Fishing Industry

Table 17.16 shows that during the past 12 months the majority of owner/operators and employees within this TRC were employed in the fishing industry between August and October.

**Table 17.16
Months Employed in the Fishing Industry During the Past 12 Months**

Months	Owner/Operators	Employee	Total Within TRC	All QLD Employees
January	87.5	71.4	80.0	80.7
February	87.5	57.1	73.3	82.3
March	87.5	71.4	80.0	86.1
April	87.5	42.9	66.7	86.8
May	100.0	42.9	73.3	87.3
June	100.0	42.9	73.3	87.8
July	100.0	57.1	80.0	86.7
August	100.0	71.4	86.7	86.3
September	100.0	71.4	86.7	86.8
October	100.0	71.4	86.7	85.4
November	75.0	71.4	73.3	84.4
December	87.5	71.4	80.0	82.3

Note: Owner/operator sample of 7; employee sample of 7.

Location of Household Expenditure

Table 17.17 shows the location of household expenditure related to individual income derived from employment in the fishing industry. Proserpine attracts 57% (\$0.4 million) of all annual employee household expenditure from within the TRC.

**Table 17.17
Town Location of Household Expenditure
(all commodities and services)**

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Proserpine	149	57.3	401
Cannonvale	50	19.2	134
Airlie Beach	38	14.6	102
Whitsunday	20	7.7	54
Mackay	3	1.2	8
Total Expenditure	260	100.0	699

Note: The gross individual annual income of fishers within this TRC was estimated as \$32,818 (Table 17.19). 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 \$19,963, with total household expenditure across all 35 (Table 17.6) employees to be \$0.7 million (Table 17.19).

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 17.18. As might be expected, Airlie Beach (35%) and Proserpine (35%) are the primary towns for school and employment.

Table 17.18
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Airlie Beach	11	35.5
Proserpine	11	35.5
Midge Point	3	9.7
Bloomsbury	2	6.4
Other towns and interstate	4	12.9
Total Family Members	31	0.0

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 17.19 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 17.19. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	14	21	35	7,088
Mean age of fisher	49.6	30.1	40.5	37.3
Age range	33-66	17-45	17-66	15-79
Percent males	100.0	100.0	100.0	94.8
Mean years resident in town	23.3	19.7	21.6	19.1
Mean number of years in fishing industry	20.5	7.6	14.5	12.6
Median hours per week in fishing industry	55.0	80.0	60.0	60.0
Percent moved town to retain employment	12.5	28.6	20.0	20.5
Percent currently employed in other industry	25.0	42.9	33.3	34.2
Percent previously employed in other industry	85.7	57.1	71.4	69.2
Housing tenure				
Rent	0.0	42.9	20.0	33.6
Mortgage	25.0	0.0	13.3	20.1
Own home	62.5	28.6	46.7	31.1
Other (eg, live with parents, on boat)	12.5	28.6	20.0	15.2
Educational				
Year completed school				
Primary school	25.0	0.0	13.3	5.2
Year 8	0.0	0.0	0.0	8.0
Year 9	0.0	28.6	13.3	11.9
Year 10	25.0	28.6	26.7	44.4
Year 11	0.0	14.3	6.7	10.1
Year 12	50.0	28.6	40.0	20.2
Percent completed trade or TAFE certificate	50.0	57.1	53.3	37.7
Percent completed industry or business course	25.0	0.0	13.3	15.2
Percent with business plan ^c	12.5	—	12.5	22.9
Percent active fishing group member	37.5	14.3	26.7	25.7
Marital Status				
Percent married or relationship	87.5	71.4	80.0	62.0
Percent with partner employed in business ^d	50.0	—	50.0	56.1
Median hours per week employed in business	10.0	—	10.0	20.0
Partners Income^{de}				
Full-time employment	20.0	0.0	10.0	28.3
Part-time employment	0.0	20.0	10.0	18.5
Casual employment	0.0	0.0	0.0	11.6
Not employed	80.0	80.0	80.0	41.5
Family Composition				
Mean family size	2.9	3.3	3.1	2.6
Estimated number of total family members	41	69	109	18,429
Dependency Ratios				
Age Dependency Ratio ^f	35.2	77.0	53.3	33.4
Elderly Dependency Ratio	5.9	0.0	3.3	2.3
Child Dependency Ratio	29.4	77.0	50.0	31.2
Family Member Industry Dependency Ratio ^g	40.0	0.0	25.0	23.9
Gross Individual Income				
Less than \$16,000	14.3	50.0	27.3	34.6
\$16,000 - \$26,000	14.3	25.0	18.2	19.6
\$26,000 - \$36,000	28.6	0.0	18.2	22.1
\$36,000 - \$52,000	28.6	0.0	18.2	11.7
\$52,000 - \$78,000	12.5	0.0	9.1	6.6
Over \$78,000	0.0	25.0	9.1	5.4
Average Income (\$)	34,857	29,250	32,818	27,471

Note: ^a Owner/operator sample of 7, employee sample = 7.

^b Based on peak estimates derived in Table 17.6

^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).

18 MACKAY TRC

The Mackay TRC consists of the main urban centre of Mackay and smaller towns to the north including Calen, towns to the west including Finchhatten and towns to the south including St Lawrence. Figure 18.1 shows the geographic location of this TRC.

BUSINESS PROFILES

Location and Use of Ports

Table 18.1 shows the number of licence 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 119 commercial fishers within this TRC, with the 95% confidence interval indicating the population count of commercial fishers within the TRC as being between 99 and 139.

Table 18.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Mackay UC	79	40	97	81.5
Sarina	14	4	10	8.4
St Lawrence	2	2	5	4.2
Grasstree Beach	1	2	5	4.2
Carmila	2	1	2	1.7
Calen	2	0	0	0.0
Armstrong Beach	1	0	0	0.0
Finchhatten	1	0	0	0.0
Koumala	1	0	0	0.0
Kuttabul	1	0	0	0.0
The Gap	1	0	0	0.0
Yakapari	1	0	0	0.0
Total TRC	106	49	119	100.0

95% Confidence Interval for Estimated TRC Count 99-139
Percent of Total Active Licence Holders in QLD 2.9%

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, B Bucasia, Andergrove and Pioneer River
Sarina includes Sarina Beach
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 Mackay as a homeport, numerous fishing businesses used the port of Mackay when travelling to or from fishing areas. Table 18.2 shows the majority of these businesses having their homeports in Townsville (28%), Bundaberg (16%) and Gladstone (16%).

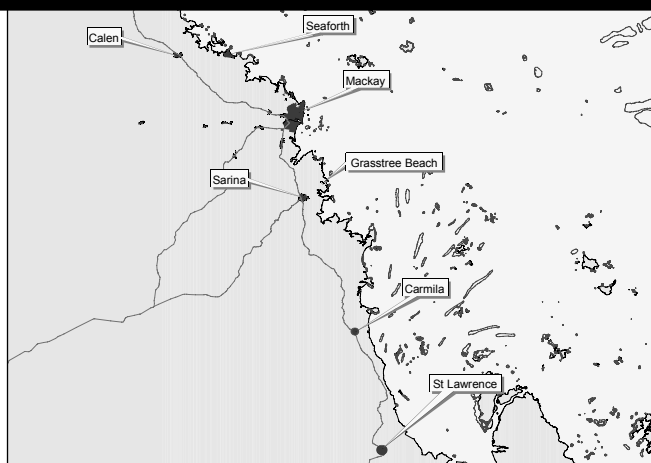


Figure 18.1 Location of the Mackay TRC

Table 18.2
Homeports of Businesses Using Mackay as a Port

Homeports	Sample Count	Percent
Townsville	7	28.0
Bundaberg	4	16.0
Gladstone	4	16.0
Yeppoon	2	8.0
Bowen	1	4.0
Cairns	1	4.0
Mooloolaba	1	4.0
New South Wales	1	4.0
Scarborough	1	4.0
Southport	1	4.0
Stradbroke Island	1	4.0
Urangan	1	4.0
Total Businesses	25	100.0

Fishing Activity and Type

Table 18.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Line fishing (63%) is the most common activity, followed by netting (31%), crabbing (31%) and trawling (29%).

Table 18.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Line fishing	31	63.3
Netting	15	30.6
Crabbing	15	30.6
Trawling	14	28.6
Spanner crabs	1	2.0
Lobster	1	2.0
Total Sample	49	100.0

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

With the exception of crabbing and netting, which tend to co-occur, most other fishing activities are generally independent, although there is some indication that trawling co-occurs with line fishing (43%) and crabbing (43%).

Table 18.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	31 <i>100.0</i>	6 <i>42.9</i>	4 <i>26.7</i>	4 <i>26.7</i>
Trawling	6 <i>19.4</i>	14 <i>100.0</i>	6 <i>40.0</i>	5 <i>33.3</i>
Crabbing	4 <i>12.9</i>	6 <i>42.9</i>	15 <i>100.0</i>	13 <i>86.7</i>
Netting	4 <i>12.9</i>	5 <i>35.7</i>	13 <i>86.7</i>	15 <i>100.0</i>

Note: *Spanner crabs and lobster fishing have been excluded given the low sample count.*
The co-occurrence table should be read by column.
Column percentages are given as italics.

Table 18.5 shows the peak months for fishing activity within the TRC to be between October and May.

Table 18.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	13	27.7	24.5
February	18	38.3	29.7
March	23	48.9	43.9
April	19	40.4	42.8
May	13	27.7	38.1
June	8	17.0	33.5
July	6	12.8	23.9
August	5	10.6	19.9
September	7	14.9	23.5
October	15	31.9	24.8
November	21	44.7	26.2
December	15	31.9	21.4

Table 18.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between April and December, trawling between November and April, crabbing between November and March and netting between January and September (Table 18.6).

Table 18.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	22	71.0	64.6
February	23	74.2	64.3
March	23	74.2	68.1
April	26	83.9	70.4
May	29	93.5	74.7
June	31	100.0	78.7
July	29	93.5	82.0
August	28	90.3	80.8
September	29	93.5	79.7
October	28	90.3	79.7
November	28	90.3	78.2
December	27	87.1	70.6
Trawling			
January	11	84.6	76.0
February	12	92.3	79.0
March	10	76.9	91.2
April	10	76.9	91.6
May	9	69.2	89.3
June	9	69.2	88.7
July	8	61.5	82.7
August	7	53.8	83.1
September	8	61.5	85.0
October	8	61.5	84.4
November	11	84.6	85.0
December	12	92.3	77.1
Crabbing			
January	10	66.7	74.7
February	11	73.3	79.0
March	12	80.0	75.1
April	8	53.3	69.4
May	8	53.3	67.2
June	7	46.7	58.5
July	5	33.3	52.0
August	5	33.3	50.2
September	5	33.3	53.3
October	8	53.3	55.9
November	11	73.3	66.4
December	13	86.7	72.1
Netting			
January	13	81.3	57.5
February	14	87.5	72.9
March	14	87.5	73.9
April	13	81.3	74.2
May	12	75.0	77.6
June	11	68.8	79.9
July	12	75.0	75.9
August	13	81.3	73.9
September	13	81.3	69.6
October	9	56.3	64.2
November	8	50.0	55.9
December	8	50.0	54.5

Location of Resource Use

The resource catchments identified in Figure 18.2 show a primary resource catchment located in three distinct areas. The primary resource catchment includes coastal areas from Cape Palmerston in the south, the Cumberland Island Group to the east of Mackay and Repulse Bay and Cape Conway in the north. The primary resource catchment also includes coastal areas from Yarrowonga Point south of Mackay through to coastal areas in Broad Sound. Reefal areas are also included in the primary resource catchment which extends from Hook reef in the north to the northerly portion of the Swains Reefs in the south.

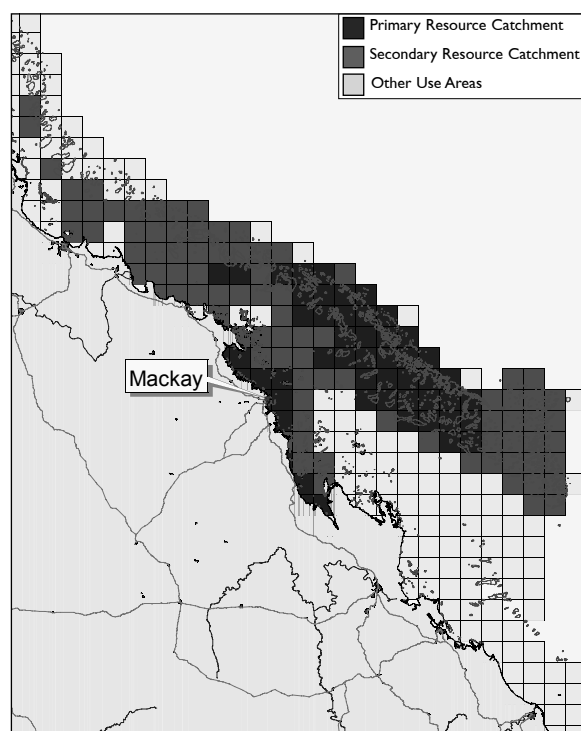


Figure 18.2 Mackay TRC: Location of Resource Use

Fishing Industry Employees

Table 18.7 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 five full-time employees, with less than 10% of these businesses having any part-time or casual employment. The average number of employees per business during the peak season was 3.9 employees and in the off-peak season it was 3.7. In total, it is estimated that during the peak season there were 464 full-time equivalent employees while during the off-peak season there were an estimated 440 full-time equivalent employees.

Business Ownership and Size

Table 18.8 shows the number of years the current owner or operator has owned the fishing business. Businesses within this TRC had been owned for an average of 13.5 years, with 47% of businesses being owned by the current owner for less than 10 years.

Table 18.7
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	0	0.0	45	91.8	46	93.9
1	10	20.5	2	4.1	1	2.0
2-3	18	36.8	1	2.0	2	4.1
4-5	11	22.4	0	0.0	0	0.0
6-7	7	14.3	0	0.0	0	0.0
8-9	0	0.0	1	2.0	0	0.0
10-11	1	2.0	0	0.0	0	0.0
12-13	1	2.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	1	2.0	0	0.0	0	0.0
Total Businesses	49	100.0	49	100.0	49	100.0
Total Employees	185		6		2.5	
Mean Number of Employees per Business (Peak)		3.9				
Estimated Number Employed within the TRC		464				
Off-Peak						
Nil	0	0.0	46	93.9	49	100.0
1	16	32.6	1	2.0	0	0.0
2-3	12	24.5	1	2.0	0	0.0
4-5	12	24.5	0	0.0	0	0.0
6-7	6	12.2	0	0.0	0	0.0
8-9	0	0.0	1	2.0	0	0.0
10-11	1	2.0	0	0.0	0	0.0
12-13	1	2.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	1	2.0	0	0.0	0	0.0
Total Businesses	49	100.0	49	100.0	28	100.0
Total Employees	174		5.5		0	
Mean Nos Employees per Business (Off-Peak)		3.7				
Estimated Number Employed within the TRC		440				

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 119 fishing businesses (Table 18.1)

Table 18.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	7	14.3	14.3
6-10	15	30.6	46.9
11-15	12	24.5	71.4
16-20	6	12.2	83.6
21-25	5	10.2	93.8
26-30	2	4.0	97.8
31+	2	4.0	100.0
Total	49	100.0	
Mean Number of Years owned or operated			13.5
Difference of TRC mean to QLD mean (14.6)			-1.1

Note: Standard errors for number of years ownership (sample = 1.2; QLD population = 0.37).

The average number of years the business had been operating was 17.7 years (Table 18.9), which was 0.5 years less than the average for all Queensland fishing businesses (18.2 years).

Table 18.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	5	10.4	10.4
6-10	10	20.9	31.3
11-15	11	22.9	54.2
16-20	8	16.7	70.9
21-25	7	14.6	85.5
26-30	2	4.0	89.5
31+	5	10.4	100.0
Total	48	100.0	
Mean Number of Years owned or operated			17.7
Difference of TRC mean to QLD mean (18.2)			-0.5

Note: Standard errors for number of years operated (sample = 1.8; QLD population = 0.46)

Table 18.10 shows that the majority of fishing businesses within this TRC operated one boat (65%).

Table 18.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	31	64.6
2	7	14.6
3	4	8.3
4	3	6.3
5	2	4.2
6+	1	2.1
Total Number of Businesses	48	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 = 0.2; QLD population = 0.05)

Table 18.11 shows the frequency distribution for length of boats, with 49% of boats being between 3 and 6 metres and a further 21% of boats being between 11 and 14 metres. The mean length of all boats and the mean length of the largest boat were similar to that of all boats in Queensland.

Table 18.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	42	49.4
7-10	9	10.6
11-14	18	21.2
15-18	15	17.6
19-22	0	0.0
23+	1	1.2
Total Number of Boats	85	100.0
Mean Length of Boats Operated (metres)		8.9
Difference of TRC mean to QLD mean (9.9)		-1.0
Mean Length of Largest Boat Operated (metres)		11.3
Difference of TRC mean to QLD mean (11.4)		-0.1

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.6; QLD population = 0.14)

Value of Production and Location of Sales

Table 18.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Mackay TRC. In the Mackay TRC there is a higher percentage of businesses with production values between \$200,000 and \$500,000 per annum (39%) when compared to Queensland (28%). In addition, the median GVP for the Mackay TRC is nearly double the Queensland median GVP.

Within the Mackay TRC it is estimated that the 119 fishing businesses had a gross value of production of approximately \$28.2 million, which is approximately 9% of the total value of production of the Queensland commercial fishing industry.

Table 18.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	17	34.7	42.8
\$101 - \$200	8	16.3	21.4
\$201 - \$300	10	20.4	16.2
\$301 - \$400	5	10.2	8.5
\$401 - \$500	4	8.2	3.8
\$501 - \$600	1	2.0	1.8
\$601 - \$700	2	4.1	1.3
\$701 - \$800	0	0.0	0.4
\$801 - \$900	1	2.0	1.0
\$901 - \$1,000	1	2.0	0.3
Over \$1,000	0	0.0	2.3
Total	49	100.0	100.0
Median GVP for TRC		\$237,142	
Estimated Total GVP for TRC		\$28,220,000	
Median GVP for QLD Population		\$128,629	
Estimated Total GVP for QLD Population		\$314,241,000	
Percent of Total Queensland Production		9.0%	

Note: Estimated TRC population total is based on an estimate of 119 businesses within the TRC, with a median GVP of \$237,142. Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 18.13 shows the value of sales to specific locations within Australia for the sample of 49 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 18.13, and as shown in Figure 18.3, 44% of sales (\$12.6 million) occurs directly to Mackay, \$1.8 million to Tin Can Bay, while a further \$1.0 million is sold in Grasstree Beach. It is probable that much of the sales to overseas markets (\$4.2 million) occurred firstly within Mackay and Brisbane, thereby increasing the total value of sales within these locations.

Table 18.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Mackay	4,910	44.5	12,558
Tin Can Bay	700	6.3	1,778
Grasstree Beach	389	3.5	988
Brisbane	317	2.9	818
Cairns	217	2.0	564
Bowen	130	1.2	339
Sarina	65	0.6	169
Townsville	31	0.3	85
New South Wales	28	0.3	85
Moore Park	14	0.1	28
Total Sales (Australia)	6,801	61.6	17,384
Total Sales (Overseas)	4,238	38.4	10,836
Total Sales	11,039	100.0	28,220

Note: The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 18.12) is proportionally distributed to all locations on the basis of sample percentages.

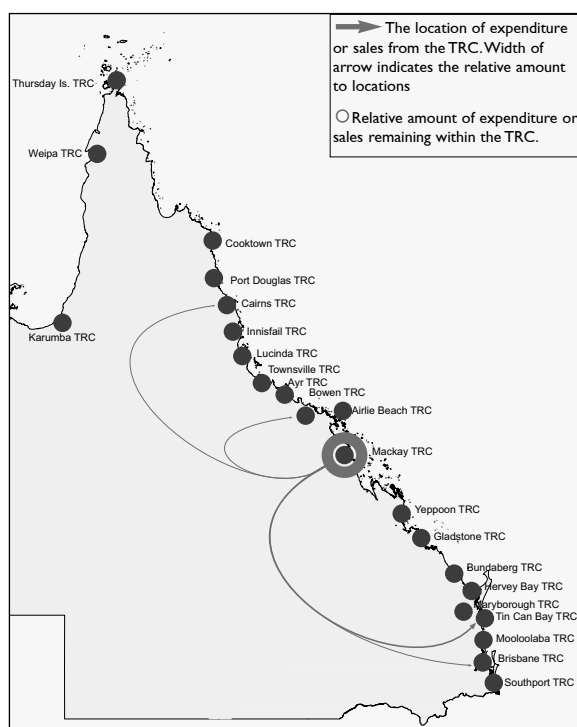


Figure 18.3 Mackay TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 2.14 and Figure 18.4 show that approximately \$14.7 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 Mackay (\$11.4 million).

Table 18.14
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)
Mackay	4,298	78.1	11,483
Townsville	436	7.9	1,162
Cairns	323	5.9	867
Brisbane	113	2.0	294
Innisfail	104	1.9	279
Sarina	98	1.8	265
Bowen	54	1.0	147
Bundaberg	16	0.3	44
Carmila	16	0.3	44
NSW	14	0.2	29
Rockhampton	10	0.2	29
Gladstone	6	0.1	15
Cooktown	5	0.1	15
Agnes Water	2	0.1	15
St Lawrence	2	0.1	15
Western Australia	1	0.1	15
Total Expenditure	5,499	100.0	14,703

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.

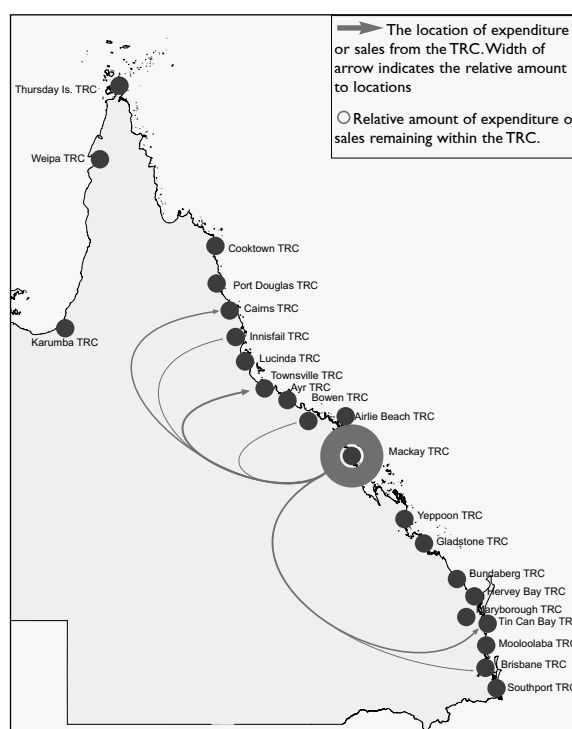


Figure 18.4 Mackay TRC: Location of Business Expenditure

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 18.15 shows that 64% of businesses within the Mackay TRC had no debt. The mean debt level within the TRC was 14% of business assets, which was similar to the Queensland industry average of 16.6%.

Table 18.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	25	64.1	60.1
1 – 10%	4	10.2	6.4
11 – 20%	2	5.1	5.2
21 – 30%	1	2.6	6.4
31 – 40%	1	2.6	3.3
41 – 50%	4	10.2	9.6
51 – 60%	0	0.0	1.8
61 – 70%	0	0.0	1.2
71 – 80%	0	0.0	1.1
81 – 90%	1	2.6	1.6
91 – 100%	1	2.6	3.3
Total	39	100.0	100.0

Mean Debt Level for TRC	13.7%
Median Debt Level for QLD Population	16.6%
Difference of TRC mean to QLD mean (16.6)	-2.9%

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

EMPLOYEE PROFILES

Town of Residence

Table 18.16 indicates that the majority of employees reside within the Mackay urban centre, which includes the suburbs of Mackay (78%).

Table 18.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Mackay UC	93	78.1
Sarina	15	12.6
Grasstree Beach	3	2.6
Seaforth UC	3	2.6
St Lawrence	2	1.7
Alexandra	1	0.8
Carmila	1	0.8
Koumala	1	0.8
Total	119	100.0

Note: Mackay Urban Centre (UC) includes Andergrove, Bucasia, Glenella, Slade Point and Walkerston.
Seaforth UC includes Ball Bay

Months Employed in the Fishing Industry

Table 18.17 shows that during the past 12 months the majority of owner-operators and employees within this TRC were employed in the fishing industry between September and December.

Table 18.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	87.8	70.1	77.6	80.7
February	91.8	65.7	76.7	82.3
March	91.8	64.2	75.9	86.1
April	93.9	67.2	78.4	86.8
May	93.9	65.7	77.6	87.3
June	95.9	67.2	79.3	87.8
July	91.8	62.7	75.0	86.7
August	87.8	68.7	76.7	86.3
September	93.9	68.7	79.3	86.8
October	93.9	73.1	81.9	85.4
November	91.8	76.1	82.8	84.4
December	93.9	73.1	81.9	82.3

Note: Owner/operator sample of 49; employee sample of 70.

Location of Household Expenditure

Table 18.18 shows the location of household expenditure related to individual income derived from employment in the fishing industry. Mackay attracts 84% (\$6.7 million) of all annual employee household expenditure from within the TRC. As shown in Table 18.18 and Figure 18.5, there is only relatively minor expenditure to other towns, which includes \$0.8 million annually to the town of Sarina.

Table 18.18
Town Location of Household Expenditure (all commodities and services)

Location of	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Mackay UC	1,420	83.9	6,659
Sarina	161	9.5	754
Rockhampton	19	1.1	87
Alexandra	17	1.0	80
Seaforth	17	1.0	80
Table Mountain	17	1.0	80
Townsville	17	1.0	80
Cairns	11	0.6	49
Gladstone	6	0.3	24
Carmila	3	0.2	17
Innisfail	3	0.2	17
Koumala	2	0.1	9
Total Expenditure	1,693	100.0	7,936

Note: The gross individual annual income of fishers within this TRC was estimated as \$28,118 (Table 18.20). 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 \$17,104, with total household expenditure across all 464 (Table 18.7) employees to be \$7.9 million (Table 18.18)

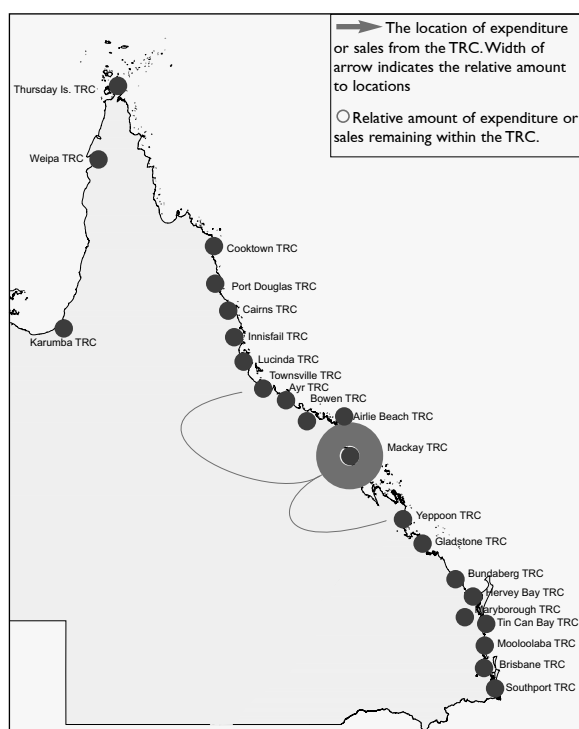


Figure 18.5 Mackay TRC: Location of Household Expenditure

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 18.19. As might be expected, Mackay (79%) is the primary town location for school and employment.

Table 18.19
School and Employment Locations of
Family Members

Location of Employment or School	Sample Count	Percent of Sample
Mackay	169	79.0
Sarina	15	7.0
Other Towns	7	3.3
Carmila	4	1.9
Seaforth	4	1.9
St Lawrence	4	1.9
Brisbane	2	0.9
Coolangatta	2	0.9
Grasstree Beach	2	0.9
Tully	2	0.9
Sydney	2	0.9
Total Family Members	214	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 18.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 18.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	119	345	464	7,088
Mean age of fisher	47.7	32.5	38.8	37.3
Age range	30-65	17-55	17-65	15-79
Percent males	100.0	98.6	99.2	94.8
Mean years resident in town	26.0	14.1	19.0	19.1
Mean number of years in fishing industry	20.6	6.8	12.4	12.6
Median hours per week in fishing industry	70.0	67.5	70.0	60.0
Percent moved town to retain employment	27.1	8.6	16.1	20.5
Percent currently employed in other industry	18.4	48.6	36.1	34.2
Percent previously employed in other industry	87.2	74.3	79.5	69.2
Housing tenure				
Rent	20.4	56.5	41.5	33.6
Mortgage	26.5	14.5	19.5	20.1
Own home	53.1	13.0	29.7	31.1
Other (eg, live with parents, on boat)	0.0	15.7	9.3	15.2
Educational				
Year completed school				
Primary school	12.2	0.0	5.1	5.2
Year 8	2.0	1.5	1.7	8.0
Year 9	20.4	10.3	14.5	11.9
Year 10	57.1	63.2	60.7	44.4
Year 11	6.1	7.4	6.8	10.1
Year 12	2.0	17.6	11.1	20.2
Percent completed trade or TAFE certificate	32.7	33.3	33.1	37.7
Percent completed industry or business course	14.6	13.0	13.7	15.2
Percent with business plan ^c	21.7	—	21.7	22.9
Percent active fishing group member	41.7	11.6	23.9	25.7
Marital Status				
Percent married or relationship	87.5	52.2	66.7	62.0
Percent with partner employed in business ^d	65.0	—	65.0	56.1
Median hours per week employed in business	15.0	—	15.0	20.0
Partner's Income ^e				
Full-time employment	23.8	25.0	24.4	28.3
Part-time employment	7.1	16.7	11.5	18.5
Casual employment	9.5	11.1	10.3	11.6
Not employed	59.5	47.2	53.8	41.5
Family Composition				
Mean family size	3.6	2.2	2.8	2.6
Estimated number of total family members	423	770	1,290	18,429
Dependency Ratios				
Age Dependency Ratio ^f	35.3	35.1	35.2	33.4
Elderly Dependency Ratio	0.7	0.0	0.4	2.3
Child Dependency Ratio	34.6	35.1	34.8	31.2
Family Member Industry Dependency Ratio ^g	39.1	0.0	25.4	23.9
Gross Individual Income				
Less than \$16,000	6.3	54.8	33.6	34.6
\$16,000 - \$26,000	14.6	24.2	20.0	19.6
\$26,000 - \$36,000	29.2	19.4	23.6	22.1
\$36,000 - \$52,000	22.9	0.0	10.0	11.7
\$52,000 - \$78,000	10.4	0.0	4.5	6.6
Over \$78,000	16.7	1.6	8.2	5.4
Average Income (\$)	42,792	16,758	28,118	27,471

Note: ^a Owner/operator sample of 49, employee sample = 70.

^b Based on peak estimates derived in Table 18.7.

^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. 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).

19 YEPPOON TRC

The Yeppoon TRC consists of the main urban centres of Yeppoon and Rockhampton and smaller towns to the southwest including Bouldercombe, Mount Morgan and Gracemere. Figure 19.1 shows the geographic location of this TRC.

BUSINESS PROFILES

Location and Use of Ports

Table 19.1 shows the number of licence holders within the Yeppoon 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 102 commercial fishers within this TRC and that we can be 95% confident that the population count of commercial fishers within the TRC is between 83 and 121.

Table 19.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Yeppoon	47	30	73	72.0
Rockhampton UC	30	10	24	24.0
Rosslyn Bay	0	2	5	5.0
Emu Park	3	0	0	0.0
Gracemere	2	0	0	0.0
Keppel Sands	2	0	0	0.0
Bouldercombe	1	0	0	0.0
Cooee Bay	1	0	0	0.0
Kunwarara	1	0	0	0.0
Mount Morgan	1	0	0	0.0
Total TRC	88	42	102	100.0

95% Confidence Interval for Estimated TRC Count 83-121
Percent of Total Active Licence Holders in QLD 4.2%

*Note: Rockhampton Urban Centre (UC) includes North Rockhampton and Kawana.
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 Yeppoon and Rosslyn Bay as a homeport, numerous fishing businesses used the port of Yeppoon and Rosslyn Bay when travelling to or from fishing areas. Table 19.2 shows the majority of these businesses having their homeports in Bundaberg (34%), Ayr (17%) and Gladstone (10%).

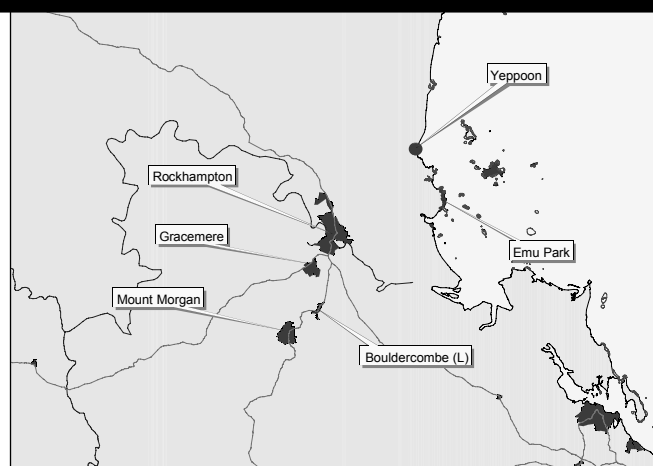


Figure 19.1 Location of the Yeppoon TRC

Table 19.2
Homeports of Businesses Using Yeppoon and Rosslyn Bay as a Port

Homeports	Sample Count	Percent
Bundaberg	10	34.5
Ayr	5	17.2
Gladstone	3	10.3
Bowen	1	3.4
Cairns	1	3.4
Gold Coast	1	3.4
Hervey Bay	1	3.4
Home Hill	1	3.4
Hullhole Creek	1	3.4
Mackay	1	3.4
Mooloolaba	1	3.4
Rockhampton	1	3.4
Tin Can Bay	1	3.4
Townsville	1	3.4
Total Businesses	29	100.0

Fishing Activity and Type

Table 19.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Line fishing (73%) is the primary fishing activity by businesses from the Yeppoon TRC, followed by netting (54%), crabbing (37%) and trawling (32%).

Table 19.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Line fishing	30	73.2
Netting	22	53.7
Crabbing	15	36.6
Trawling	13	31.7
Spanner crabs	3	7.3
Total Sample	49	100.0

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

Many fishing activities co-occurred within this TRC (Table 19.4). Of the sample of line fishers, 57% were engaged in netting and 40% in crabbing. Of the trawl fishers, 46% were engaged in line fishing and 46% also in netting. Similarly amongst those engaged in crabbing, 80% were line fishing and 93% netting.

Table 19.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	30 <i>100.0</i>	6 <i>46.2</i>	12 <i>80.0</i>	17 <i>77.3</i>
Trawling	6 <i>20.0</i>	13 <i>100.0</i>	4 <i>26.7</i>	6 <i>27.3</i>
Crabbing	12 <i>40.0</i>	4 <i>30.8</i>	15 <i>100.0</i>	14 <i>63.6</i>
Netting	17 <i>56.7</i>	6 <i>46.2</i>	14 <i>93.3</i>	22 <i>100.0</i>

Note: Spanner crabs and have been excluded given the low sample count.
The co-occurrence table should be read by column.
Column percentages are given as italics.

Table 19.5 shows the peak months for fishing activity within the TRC to be between March and July.

Table 19.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	10	26.3	24.5
February	12	31.6	29.7
March	14	36.8	43.9
April	15	39.5	42.8
May	18	47.4	38.1
June	20	52.6	33.5
July	14	36.8	23.9
August	8	21.1	19.9
September	7	18.4	23.5
October	12	31.6	24.8
November	11	28.9	26.2
December	9	23.7	21.4

Table 19.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing and trawling are most common between April and August, trawling between November and April, crabbing between December and June and netting between February and October (Table 19.6).

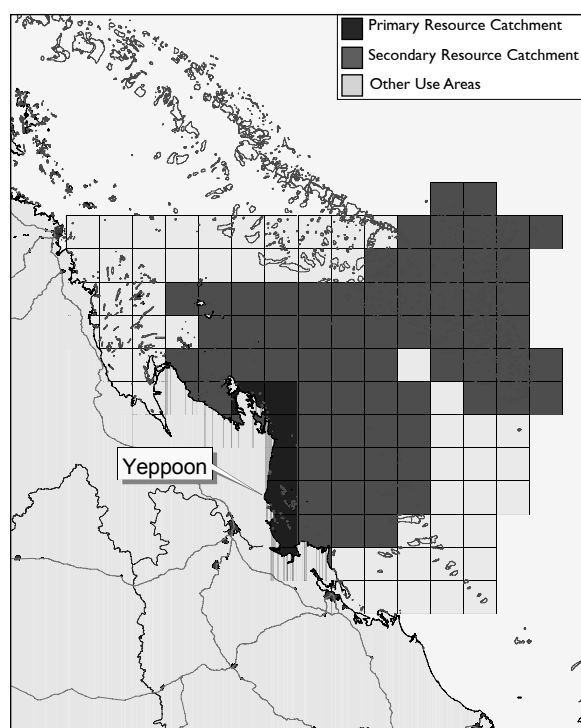


Figure 19.2 Yeppoon TRC: Location of Resource Use

Table 19.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	19	65.5	64.6
February	18	62.1	64.3
March	22	75.9	68.1
April	23	79.3	70.4
May	23	79.3	74.7
June	26	89.7	78.7
July	26	89.7	82.0
August	24	82.8	80.8
September	21	72.4	79.7
October	21	72.4	79.7
November	22	75.9	78.2
December	21	72.4	70.6
Trawling			
January	8	66.7	76.0
February	8	66.7	79.0
March	10	83.3	91.2
April	11	91.7	91.6
May	11	91.7	89.3
June	12	100.0	88.7
July	10	83.3	82.7
August	10	83.3	83.1
September	9	75.0	85.0
October	7	58.3	84.4
November	6	50.0	85.0
December	6	50.0	77.1
Crabbing			
January	10	71.4	74.7
February	12	85.7	79.0
March	10	71.4	75.1
April	10	71.4	69.4
May	11	78.6	67.2
June	10	71.4	58.5
July	6	42.9	52.0
August	7	50.0	50.2
September	6	42.9	53.3
October	6	42.9	55.9
November	9	64.3	66.4
December	10	71.4	72.1
Netting			
January	7	35.0	57.5
February	14	70.0	72.9
March	13	65.0	73.9
April	11	55.0	74.2
May	9	45.0	77.6
June	10	50.0	79.9
July	10	50.0	75.9
August	9	45.0	73.9
September	11	55.0	69.6
October	12	60.0	64.2
November	9	45.0	55.9
December	6	30.0	54.5

Note: Spanner crabs and have been excluded given the low sample count.

Location of Resource Use

Figure 19.2 shows the location of resource use by commercial fishing operations in the Cairns TRC. The primary resource catchment is restricted to coastal areas between Keppel Bay in the South and Cape Townsend in the north. The secondary resource catchment includes the Swains Reefs and coastal areas between Cape Capricorn in the south and Arthur Point in the north.

Table 19.7
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	5	12.2	34	82.9	34	82.9
1	20	48.8	3	7.3	2	4.9
2-3	12	29.3	3	7.3	3	7.3
4-5	3	7.3	1	2.4	1	2.4
6-7	0	0.0	0	0.0	1	2.4
8-9	1	2.4	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
Total Businesses	41	100.0	41	100.0	41	100.0
Total Employees	70		7.5		10.0	
Mean Number of Employees per Business (Peak)		2.1				
Estimated Number Employed within the TRC		214				
Off-Peak Season						
Nil	6	14.6	34	82.9	37	90.2
1	22	53.6	3	7.3	1	2.4
2-3	9	21.9	3	7.3	3	7.3
4-5	4	9.8	1	2.4	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
Total Businesses	41	100.0	41	100.0	41	100.0
Total Employees	62		7.5		4.5	
Mean Nos Employees per Business (Off-Peak)		1.8				
Estimated Number Employed within the TRC		184				

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 102 fishing businesses (Table 19.1)

Fishing Industry Employees

Table 19.7 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). Less than 20% of businesses have part-time or casual employment. The average number of employees per business during the peak season was 2.1 employees per business and in the off-peak season it was 1.8. It is estimated that during the peak season there were 214 full-time equivalent employees while during the off-peak season there were an estimated 184 full-time equivalent employees.

Business Ownership and Size

Table 19.8 shows the number of years the current owner or operator has owned the fishing business. Businesses within this TRC had been owned for an average of 18.0 years, with 51% of businesses being owned by the current owner for less than 15 years.

Table 19.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	5	12.2	12.2
6-10	8	19.5	31.7
11-15	8	19.5	51.2
16-20	4	9.7	60.9
21-25	5	12.2	73.1
26-30	9	21.9	95.0
31+	2	4.9	100.0
Total	41	100.0	
Mean Number of Years owned or operated			18.0
Difference of TRC mean to QLD mean (14.6)			+3.4

Note: Standard errors for number of years ownership (sample =1.7; QLD population = 0.37).

The average number of years the business had been operating was 21.3 years (Table 19.9), which was 3.1 years higher than the average for all Queensland fishing businesses (18.2 years).

Table 19.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	4.8	4.8
6-10	9	21.4	26.2
11-15	5	11.9	38.1
16-20	6	14.3	52.4
21-25	6	14.3	66.7
26-30	10	23.8	90.5
31+	4	9.5	100.0
Total	42	100.0	
Mean Number of Years owned or operated			21.3
Difference of TRC mean to QLD mean (18.2)			+3.1

Note: Standard errors for number of years operated (sample = 1.9; QLD population = 0.46)

Table 19.10 shows that the majority of fishing businesses within this TRC operated one boat (62%).

Table 19.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	26	61.9
2	6	14.3
3	5	11.9
4	3	7.1
5	0	0.0
6+	2	4.8
Total Number of Businesses	48	100.0
Mean Number of Boats Operated		1.9
Difference of Mean to QLD Mean (1.7)		+0.2

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

Table 19.11 shows the frequency distribution for length of boats, with 39% of boats being between 3 and 6 metres and a further 32% of boats being between 11 and 14 metres. The mean length of all boats and the mean length of the largest boat were similar to that of all boats in Queensland.

Table 19.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	29	39.2
7-10	24	32.4
11-14	11	14.9
15-18	0	0.0
19-22	1	1.3
23+	9	12.2
Total Number of Boats	74	100.0
Mean Length of Boats Operated (metres)		9.9
Difference of TRC mean to QLD mean (9.9)		0.0
Mean Length of Largest Boat Operated (metres)		9.9
Difference of length of boats is a (11.4)		-1.5

Note: As mean length of boats is a multiple response, standard errors cannot be computed.
Standard errors for mean length of largest boat (sample = 0.6; QLD population=0.14)

Value of Production and Location of Sales

Table 19.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Yeppoon TRC. In the Yeppoon TRC there is a higher percentage of businesses with production values less than \$100,000 per annum (71%) when compared to Queensland (43%). In addition, the median GVP of \$70,419 for the Yeppoon TRC is significantly less than the Queensland median GVP of \$128,629.

Within the Yeppoon TRC it is estimated that the 102 fishing businesses had a gross value of production of approximately \$7.2 million, which is approximately 2.3% of the total value of production of the Queensland commercial fishing industry.

Table 19.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	30	71.4	42.8
\$101 - \$200	7	16.7	21.4
\$201 - \$300	3	7.1	16.2
\$301 - \$400	1	2.4	8.5
\$401 - \$500	0	0.0	3.8
\$501 - \$600	0	0.0	1.8
\$601 - \$700	1	2.4	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	42	100.0	100.0
Median GVP for TRC			\$70,419
Estimated Total GVP for TRC			\$7,183,000
Median GVP for QLD Population			\$128,629
Estimated Total GVP for QLD Population			\$314,241,000
Percent of Total Queensland Production			2.3%

Note: Estimated TRC population total is based on an estimate of 102 businesses within the TRC, with a median GVP of \$70,419.
Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 19.13 shows the value of sales to specific locations within Australia for the sample of 42 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 19.13, and as shown in Figure 19.3, 33% of sales (\$2.4 million) occurs directly to Yeppoon, \$1.8 million to Brisbane, while a further \$0.8 million is sold in Rockhampton. It is probable that much of the sale to overseas markets (\$1.2 million) occurred firstly within Brisbane and Rockhampton, thereby increasing the total value of sales within these locations.

Table 19.13
Town Location of Sales (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Yeppoon	1,023	32.9	2,364
Brisbane	767	24.7	1,774
Rockhampton	356	11.5	826
Roslyn Bay	256	8.2	589
Townsville	76	2.4	172
Innisfail	63	2.0	144
Cairns	40	1.3	93
Mooloolaba	12	0.4	29
New South Wales	5	0.2	14
Cooktown	2	0.1	7
Total Sales (Australia)	2,600	83.7	6,012
Total Sales (Overseas)	505	16.3	1,171
Total Sales	3,105	100.0	7,183

Note: The sample value of sales is based on GVP as reported by businesses in the survey.
The estimated value of business sales (Table 19.13) is proportionally distributed to all locations on the basis of sample percentages.

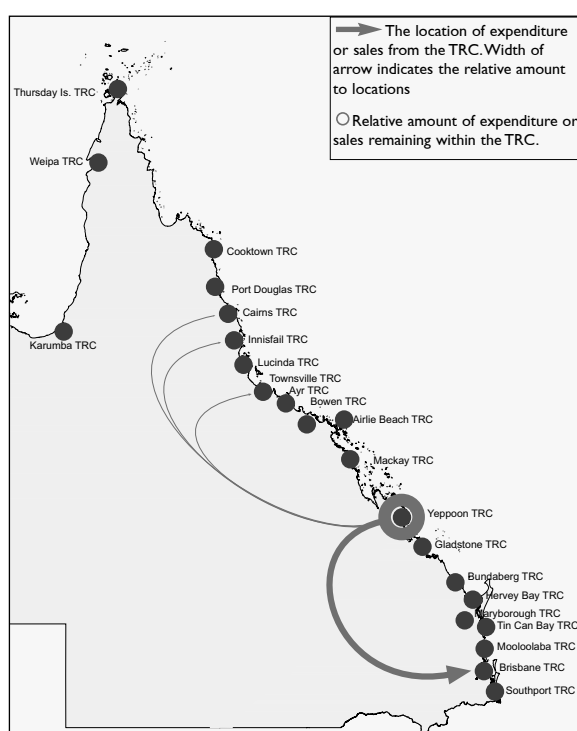


Figure 19.3 Yeppoon TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 2.14 shows that approximately \$3.7 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 towns of Yeppoon (\$1.5 million) and Rockhampton (\$0.9 million).

Table 19.14
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)
Yeppoon	869	40.4	1,512
Rockhampton	545	25.3	947
Northern Territory	299	13.9	520
Brisbane	163	7.6	284
Innisfail	97	4.5	168
Townsville	66	3.1	116
Cairns	56	2.6	97
Gladstone	13	0.6	22
Cooktown	12	0.6	22
Mooloolaba	12	0.6	22
Coolangatta	8	0.4	15
Redcliffe	8	0.4	15
Caloundra	2	0.1	4
Airlie Beach	1	0.1	4
Stannies Bay	1	0.1	4
Total Expenditure	2,153	100.0	3,742

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.

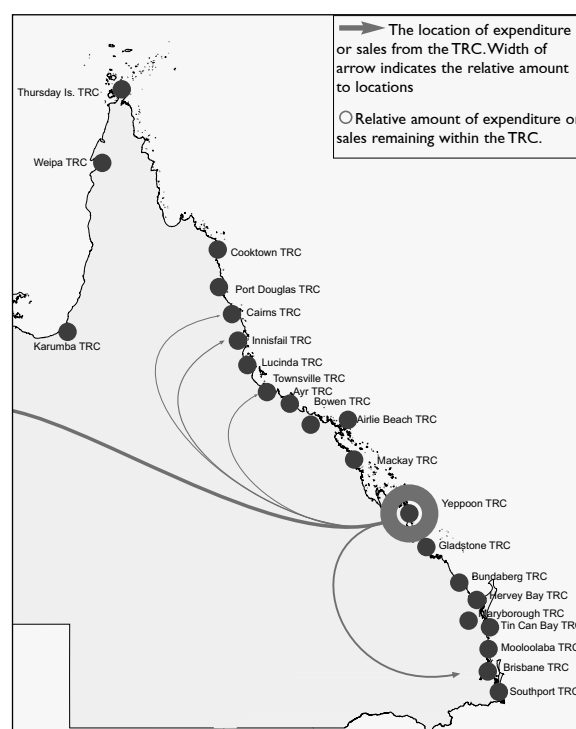


Figure 19.4 Yeppoon TRC: Location of Business Expenditure

Businesses were asked what percentage of their business assets were not owned outright by their business, which identified for the purpose of this study the level of business debt. Table 2.15 shows that 68% of businesses within the Yeppoon TRC had no debt. The mean debt level within the TRC was 12% of business assets, which was somewhat lower than the Queensland industry average of 16.6%.

Table 19.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	25	67.6	60.1
1 – 10%	4	10.8	6.4
11 – 20%	1	2.7	5.2
21 – 30%	2	5.4	6.4
31 – 40%	0	0.0	3.3
41 – 50%	1	2.7	9.6
51 – 60%	1	2.7	1.8
61 – 70%	1	2.7	1.2
71 – 80%	1	2.7	1.1
81 – 90%	0	0.0	1.6
91 – 100%	1	2.7	3.3
Total	37	100.0	100.0

Mean Debt Level for TRC	12.3%
Median Debt Level for QLD Population	16.6%
Difference of TRC mean to QLD mean (16.6)	-4.3%

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

EMPLOYEE PROFILES

Town of Residence

Table 19.16 indicates that the majority of employees reside within the towns of Yeppoon (55%) and Rockhampton (40%).

Table 19.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Yeppoon	34	54.8
Rockhampton UC	25	40.3
Keppel Island	1	1.6
Keppel Sands	1	1.6
Emu Park	1	1.6
Total	62	100.0

Note: Mackay Urban Centre (UC) includes Kawana.

Months Employed in the Fishing Industry

Table 19.17 shows that during the past 12 months owner-operators were employed in the fishing industry equally throughout the year. On the other hand employees were more commonly employed between April and August.

Table 19.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	87.8	66.7	80.6	80.7
February	90.2	61.9	80.6	82.3
March	92.7	57.1	80.6	86.1
April	90.2	71.4	83.9	86.8
May	90.2	71.4	83.9	87.3
June	92.7	81.0	88.7	87.8
July	92.7	76.2	87.1	86.7
August	87.8	71.4	82.3	86.3
September	87.8	61.9	79.0	86.8
October	87.8	52.4	75.8	85.4
November	90.2	57.1	79.0	84.4
December	87.8	52.4	75.8	82.3

Note: Owner/operator sample of 40; employee sample of 21.

Location of Household Expenditure

Table 19.18 shows the location of household expenditure related to individual income derived from employment in the fishing industry. Rockhampton attracts 51% (\$1.9 million) and Yeppoon attracts 46% (\$1.7 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 19.18
Town Location of Household Expenditure
(all commodities and services)

Location	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Rockhampton UC	541	51.5	1,929
Yeppoon	483	45.9	1,719
Brisbane UC	26	2.5	93
Innisfail	1	0.1	4
Total Expenditure	1,051	100.0	3,745

Note: The gross individual annual income of fishers within this TRC was estimated as \$28,771 (Table 19.20). 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 \$17,501, with total household expenditure across all 214 (Table 19.7) employees to be \$3.7 million (Table 19.18).
Brisbane UC includes Wynnum West.
Rockhampton UC includes Kawana

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 2.19. As might be expected, Yeppoon (48%) and Rockhampton (36%) are the primary towns for school and employment.

Table 2.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Yeppoon	49	48.0
Rockhampton UC	37	36.3
Cairns	3	2.9
Brisbane UC	3	2.9
Keppel Island	2	2.0
Other Towns	8	7.8
Total Family Members	102	100.0

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

Employee Social and Demographic Profiles

Table 2.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 19.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators ^a	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	102	112	214	7,088
Mean age of fisher	50.0	32.6	44.1	37.3
Age range	29-77	17-61	17-77	15-79
Percent males	100.0	95.0	98.3	94.8
Mean years resident in town	25.8	20.1	23.9	19.1
Mean number of years in fishing industry	22.7	5.1	16.6	12.6
Median hours per week in fishing industry	60.0	52.0	60.0	60.0
Percent moved town to retain employment	22.0	10.0	18.0	20.5
Percent currently employed in other industry	17.1	40.0	24.6	34.2
Percent previously employed in other industry	75.6	70.0	73.8	69.2
Housing tenure				
Rent	12.2	35.0	19.7	33.6
Mortgage	29.3	20.0	26.2	20.1
Own home	53.7	20.0	42.6	31.1
Other (eg, live with parents, on boat)	4.9	25.0	11.5	15.2
Educational				
Year completed school				
Primary school	15.0	0.0	10.3	5.2
Year 8	12.5	11.1	12.1	8.0
Year 9	7.5	16.7	10.3	11.9
Year 10	47.5	44.4	46.6	44.4
Year 11	7.5	5.6	6.9	10.1
Year 12	10.0	22.2	13.8	20.2
Percent completed trade or TAFE certificate	39.0	30.0	36.1	37.7
Percent completed industry or business course	24.4	5.0	18.0	15.2
Percent with business plan ^c	22.0	—	22.0	22.9
Percent active fishing group member	35.0	10.0	26.7	25.7
Marital Status				
Percent married or relationship	72.5	45.0	63.3	62.0
Percent with partner employed in business ^d	41.4	—	41.4	56.1
Median hours per week employed in business	28.0	—	28.0	20.0
Partners Income^{de}				
Full-time employment	28.6	0.0	21.6	28.3
Part-time employment	14.3	33.3	18.9	18.5
Casual employment	14.3	11.1	13.5	11.6
Not employed	42.9	55.6	45.9	41.5
Family Composition				
Mean family size	3.0	2.4	2.8	2.6
Estimated number of total family members	303	274	599	18,429
Dependency Ratios				
Age Dependency Ratio ^f	30.0	60.0	37.2	33.4
Elderly Dependency Ratio	11.0	3.3	9.1	2.3
Child Dependency Ratio	18.7	56.7	34.8	31.2
Family Member Industry Dependency Ratio ^g	29.0	15.4	26.7	23.9
Gross Individual Income				
Less than \$16,000	11.8	85.7	33.3	34.6
\$16,000 - \$26,000	26.5	7.1	20.8	19.6
\$26,000 - \$36,000	23.5	7.1	18.8	22.1
\$36,000 - \$52,000	17.6	0.0	12.5	11.7
\$52,000 - \$78,000	11.8	0.0	8.3	6.6
Over \$78,000	8.8	0.0	6.3	5.4
Average Income (\$)	36,265	10,571	28,771	27,471

Note: ^a Owner/operator sample of 40, employee sample = 21.

^b Based on peak estimates derived in Table 19.7.

^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).

20 GLADSTONE TRC

The Gladstone TRC consists of the main urban centre of Gladstone and smaller towns to the north including Mt Larcom and towns to the south including Benaraby. Figure 20.1 shows the geographic location of this TRC.

BUSINESS PROFILES

Location and Use of Ports

Table 20.1 shows the number of licence holders within the Gladstone TRC and the number of survey respondents who reported having homeports within the TRC. On the basis of the sample, it is estimated that there are 131 commercial fishers within this TRC, with a confidence interval of 95% indicating the true population count of commercial fishers within the TRC is between 110 and 152.

Table 20.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Gladstone UC	89	49	119	90.8
Tannum Sands	10	0	0	0.0
Boyne Island	8	1	2	1.5
Calliope	7	1	2	1.5
Yarwun	5	0	0	0.0
\Benaraby	2	0	0	0.0
Bororen	2	0	0	0.0
Wurdong Heights	1	0	0	0.0
Turkey beach	1	1	2	1.5
Ambrose	1	0	0	0.0
Mt Larcom	0	1	2	1.5
Port Alma	0	1	2	1.5
Raglan	0	1	2	1.5
Total TRC	126	55	131	100.0

95% Confidence Interval for Estimated TRC Count 110-152
Percent of Total Active Licence Holders in QLD 5.4%

*Note: Gladstone UC includes Kin Kora and Barney Point
Adjusted database count is based on the postal address as recorded in the licencing information, which may not be the homeport of the fishing businesses. 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 Gladstone as a homeport, numerous fishing businesses used the port of Gladstone when travelling to or from fishing areas. Table 20.2 shows the majority of these businesses having their homeports in Bundaberg (31%), Hervey Bay (13%) and Tin Can Bay (11%).

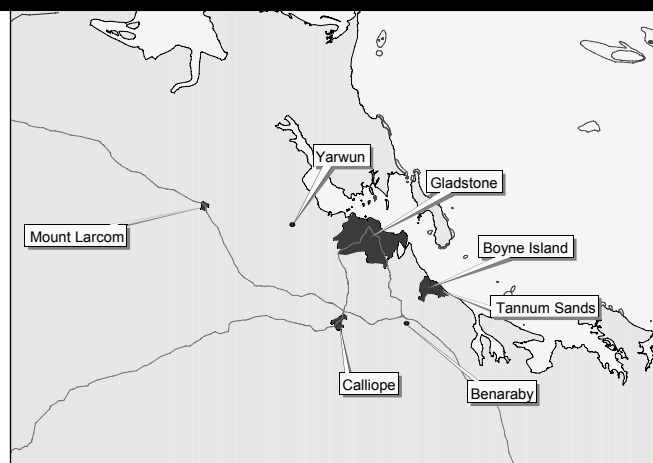


Figure 20.1 Location of the Gladstone TRC

Table 20.2
Homeports of Businesses Using Gladstone as a Port

Homeports	Sample Count	Percent
Bundaberg	14	31.1
Hervey Bay	6	13.3
Tin Can Bay	5	11.1
Seventeen Seventy	3	6.7
Townsville	3	6.7
Brisbane	2	4.4
Burnett Heads	2	4.4
Mooloolaba	2	4.4
Noosa	2	4.4
Bowen	1	2.2
Gold Coast	1	2.2
Maryborough	1	2.2
Moorrobie	1	2.2
Rainbow Beach	1	2.2
Southport	1	2.2
Total Businesses	45	100.0

Fishing Activity and Type

Table 20.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Trawling (48%) is the primary fishing activity by businesses from the Gladstone TRC, followed by line fishing (43%), crabbing (35%) and netting (28%).

Table 20.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Trawling	26	48.1
Line fishing	23	42.6
Crabbing	19	35.2
Netting	15	27.8
Spanner crabs	1	1.9
Total Sample	54	100.0

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

Many fishing activities co-occurred within this TRC (Table 20.4). Of the sample of line fishers, 35% were engaged in netting and crabbing. Of the trawl fishers, 23% were engaged in line fishing and among those engaged in crabbing, 42% were line fishing and 68% netting. Of those fishers engaged in netting, 53% were also line fishing and 87% were also crabbing.

Table 20.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	23 <i>100.0</i>	6 <i>23.1</i>	8 <i>42.1</i>	8 <i>53.3</i>
Trawling	6 <i>26.1</i>	26 <i>100.0</i>	4 <i>21.1</i>	4 <i>26.7</i>
Crabbing	8 <i>34.8</i>	4 <i>15.4</i>	19 <i>100.0</i>	13 <i>86.7</i>
Netting	8 <i>34.8</i>	4 <i>15.4</i>	13 <i>68.4</i>	15 <i>100.0</i>

*Note: Spanner crabs and have been excluded given the low sample count.
The co-occurrence table should be read by column.
Column percentages are given as italics.*

Table 20.5 shows the peak months for fishing activity within the TRC to be between January and June.

Table 20.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	22	43.1	24.5
February	20	39.2	29.7
March	20	39.2	43.9
April	18	35.3	42.8
May	21	41.2	38.1
June	22	43.1	33.5
July	14	27.5	23.9
August	9	17.6	19.9
September	7	13.7	23.5
October	12	23.5	24.8
November	17	33.3	26.2
December	17	33.3	21.4

Table 20.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing and trawling are most common between March and November, trawling between June and November, crabbing between November and May and netting between May and September (Table 20.6).

Location of Resource Use

Figure 20.2 shows the location of resource use by commercial fishing operations in the Gladstone TRC. The primary catchment includes coastal areas and areas immediately adjacent to the coast from Cape Townsend in the north to Cape Bustard in the south. In addition, the primary catchment also includes reefal areas on the western side of the Swains reef. The secondary resource catchment, is in relation to the primary resource catchment, significantly larger and extends from east of Lucinda in the north to east of Bustard Bay in the south. While the secondary resource catchment includes areas of the coastal lagoon it also includes the Swain Reefs and reefal areas east of Mackay.

Fishing Industry Employees

Table 20.7 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 two 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 season was 2.7 employees per business and in the off-peak season it was 2.6. It is estimated that during the peak season there were 354 full-time equivalent employees while during

the off-peak season there were an estimated 341 full-time equivalent employees.

Table 20.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	13	59.1	64.6
February	15	68.2	64.3
March	16	72.7	68.1
April	17	77.3	70.4
May	17	77.3	74.7
June	18	81.8	78.7
July	19	86.4	82.0
August	18	81.8	80.8
September	17	77.3	79.7
October	17	77.3	79.7
November	16	72.7	78.2
December	15	68.2	70.6
Trawling			
January	20	80.0	76.0
February	20	80.0	79.0
March	20	80.0	91.2
April	21	84.0	91.6
May	22	88.0	89.3
June	23	92.0	88.7
July	22	88.0	82.7
August	23	92.0	83.1
September	23	92.0	85.0
October	23	92.0	84.4
November	23	92.0	85.0
December	21	84.0	77.1
Crabbing			
January	18	100.0	74.7
February	17	94.4	79.0
March	17	94.4	75.1
April	18	100.0	69.4
May	18	100.0	67.2
June	16	88.9	58.5
July	12	66.7	52.0
August	8	44.4	50.2
September	8	44.4	53.3
October	8	44.4	55.9
November	17	94.4	66.4
December	17	94.4	72.1
Netting			
January	5	35.7	57.5
February	7	50.0	72.9
March	7	50.0	73.9
April	8	57.1	74.2
May	11	78.6	77.6
June	11	78.6	79.9
July	9	64.3	75.9
August	10	71.4	73.9
September	10	71.4	69.6
October	9	64.3	64.2
November	6	42.9	55.9
December	5	35.7	54.5

Note: Spanner crabs and have been excluded given the low sample count.

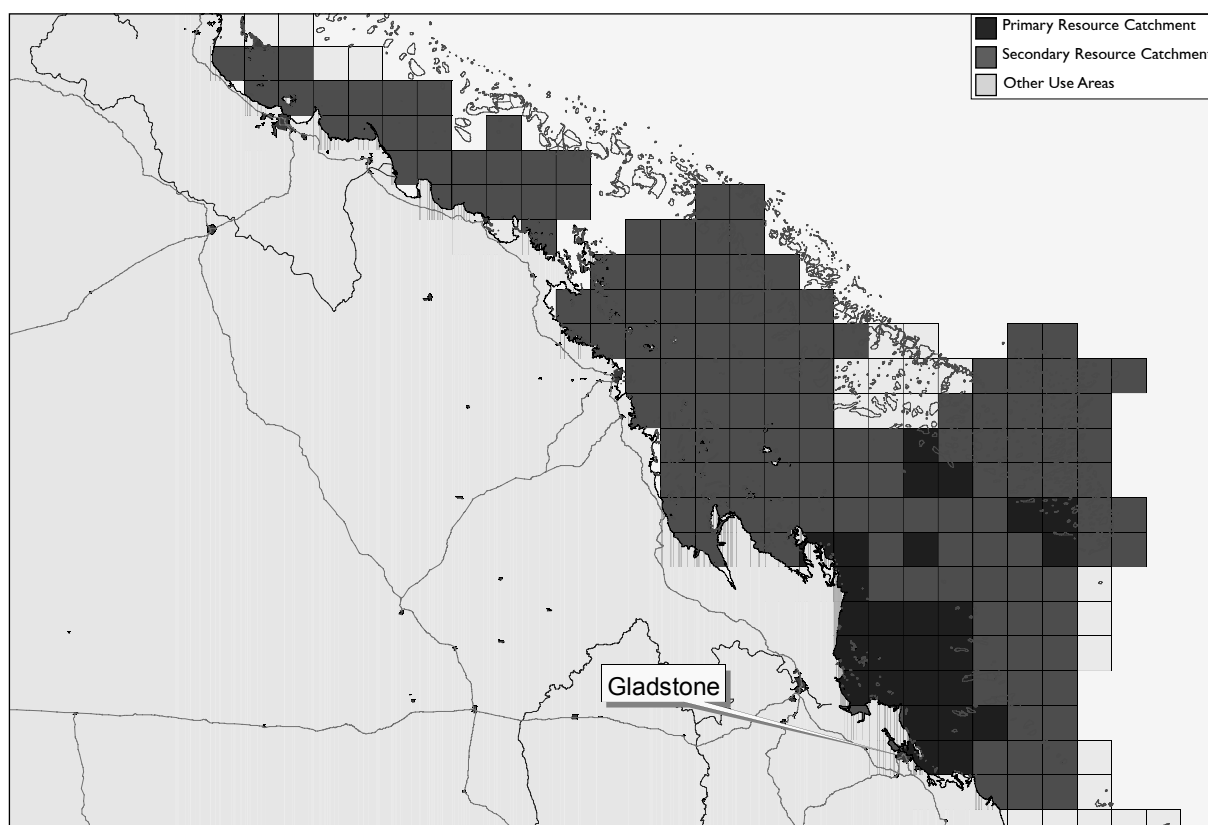


Figure 20.2 Gladstone TRC: Location of Resource Use

Table 20.7
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	3.7	49	90.7	50	92.6
1	15	27.8	3	5.6	2	3.7
2-3	25	46.3	2	3.7	2	3.7
4-5	7	23.0	0	0.0	0	0.0
6-7	4	7.4	0	0.0	0	0.0
8-9	1	2.8	0	0.0	0	0.0
10-11		0.0	0	0.0	0	0.0
12-13		0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
Total Businesses	54	100.0	54	100.0	54	100.0
Total Employees	141		3.5		4	
Mean Number of Employees per Business (Peak)		2.7				
Estimated Number Employed within the TRC		354				
Off-Peak Season						
Nil	2	3.7	51	94.4	49	90.7
1	14	25.9	2	3.7	2	3.7
2-3	29	53.7	1	2.8	3	5.6
4-5	5	9.2	0	0.0	0	0.0
6-7	3	5.6	0	0.0	0	0.0
8-9	1	2.8	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
Total Businesses	54	100.0	54	100.0	54	100.0
Total Employees	133		2		5	
Mean Nos Employees per Business (Off-Peak)		2.6				
Estimated Number Employed within the TRC		341				

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 131 fishing businesses (Table 20.1)

Business Ownership and Size

Table 20.8 shows the number of years the current owner or operator has owned the fishing business. Businesses within this TRC had been owned for an average of 10.9 years, with 63% of businesses being owned by the current owner for less than 10 years.

Table 20.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	19	35.2	35.2
6-10	15	27.8	63.0
11-15	9	16.7	79.7
16-20	3	5.6	85.3
21-25	2	3.7	89.0
26-30	2	3.7	92.7
31+	4	7.4	100.0
Total	54	100.0	
Mean Number of Years owned or operated			10.9
Difference of TRC mean to QLD mean (14.6)			-3.7

Note: Standard errors for number of years ownership (sample = 1.3; QLD population = 0.37).

The average number of years the business had been operating was 15 years (Table 20.9), which was 3.2 years less than the average for all Queensland fishing businesses (18.2 years).

Table 20.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	8	15.7	15.7
6-10	15	29.4	45.1
11-15	9	17.6	62.7
16-20	5	9.8	72.5
21-25	3	5.9	78.4
26-30	7	13.7	92.1
31+	4	7.8	100.0
Total	51	100.0	
Mean Number of Years owned or operated			15.0
Difference of TRC Mean to QLD Mean (18.2)			-3.2

Note: Standard errors for number of years operated (sample = 1.5; QLD population = 0.46)

Table 20.10 shows that the majority of fishing businesses within this TRC operated one boat (62%).

Table 20.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	34	61.8
2	11	20.0
3	6	10.9
4	1	1.8
5	2	3.6
6+	1	1.8
Total Number of Businesses	48	100.0
Mean Number of Boats Operated		1.7
Difference of TRC mean to QLD mean (1.7)		0.0

Note: Standard errors for number of boats operated (sample = 0.2; QLD population = 0.05)

Table 20.11 shows the frequency distribution for length of boats, with 38% 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 similar to that of all boats in Queensland.

Table 20.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	35	38.0
7-10	20	21.7
11-14	19	20.6
15-18	15	16.3
19-23	1	1.1
23+	2	2.2
Total Number of Boats	92	100.0
Mean Length of Boats Operated (metres)		9.9
Difference of TRC mean to QLD mean (9.9)		0.0
Mean Length of Largest Boat Operated (metres)		12.1
Difference of TRC mean to QLD mean (11.4)		+0.7

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.6; QLD population = 0.14)

Value of Production and Location of Sales

Table 20.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Gladstone TRC. In the Gladstone TRC there is a higher percentage of businesses with production values between \$200,000 and \$400,000 per annum (51%) when compared to Queensland (25%). In addition, the median GVP of \$217,068 for the Gladstone TRC is significantly higher than the Queensland median GVP of \$128,629.

Within the Gladstone TRC it is estimated that the 131 fishing businesses had a gross value of production of approximately \$28.4 million, which is approximately 9% of the total value of production of the Queensland commercial fishing industry.

Table 20.12 Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	15	27.3	42.8
\$101 - \$200	12	21.8	21.4
\$201 - \$300	16	29.1	16.2
\$301 - \$400	7	12.7	8.5
\$401 - \$500	2	3.6	3.8
\$501 - \$600	1	1.8	1.8
\$601 - \$700	2	3.6	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	55	100.0	100.0
Median GVP for TRC			\$217,068
Estimated Total GVP for TRC			\$28,436,000
Median GVP for QLD Population			\$128,629
Estimated Total GVP for QLD Population			\$314,241,000
Percent of Total Queensland Production			9.0%

Note: Estimated TRC population total is based on an estimate of 131 businesses within the TRC, with a median GVP of \$217,068. Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 20.13 shows the value of sales to specific locations within Australia for the sample of 55 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 2.13, and as shown in Figure 20.3, 38% of sales (\$10.8 million) occurs directly to Gladstone, \$5.9 million to Brisbane, while a further \$2.5 million is sold in New South Wales. It is probable that much of the sale to overseas markets (\$2.6 million) occurred firstly within Gladstone and Brisbane, thereby increasing the total value of sales within these locations.

Table 20.13
Town Location of Sales to Customers (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Gladstone	4,155	38.1	10,834
Brisbane	2,260	20.7	5,886
New South Wales	975	8.9	2,531
Townsville	245	2.2	626
Mackay	199	1.8	512
Bowen	192	1.8	512
Gold Coast	108	1.0	284
Hervey Bay	52	0.5	142
Sunshine Coast	37	0.3	85
Victoria	36	0.3	85
Cairns	22	0.2	57
Bundaberg	7	0.1	28
Total Sales (Australia)	8,288	76.1	21,640
Total Sales (Overseas)	2,605	23.9	6,796
Total Sales	10,893	100.0	28,436

Note: The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 20.13) is proportionally distributed to all locations on the basis of sample percentages.

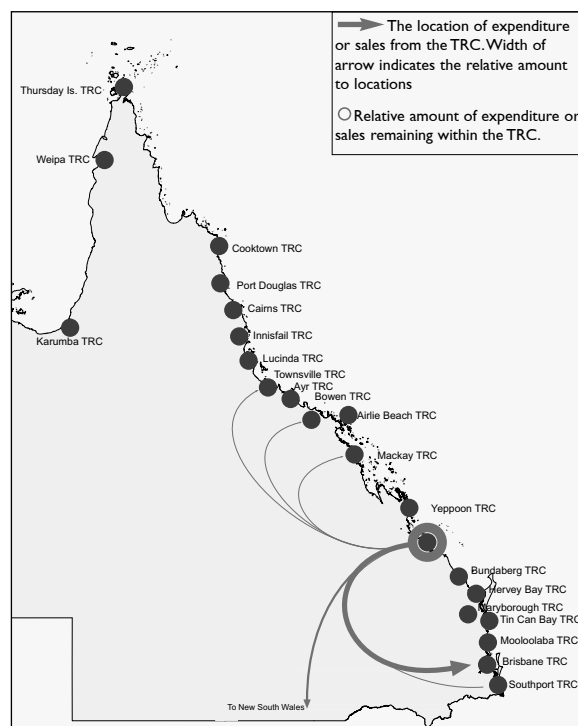


Figure 20.3 Gladstone TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 20.14 shows that approximately \$14.8 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 within the town of Gladstone (\$12.1 million).

Table 20.14
Town Location of Business Expenditure
(All costs, excluding salaries and wages)

Location of Expenditure	Sample Value of Sales (\$'000)	Percent of Sample	Value of all Business Sales
Gladstone	4,970	81.6	12,089
Brisbane	232	3.8	563
Townsville	229	3.8	563
Bundaberg	176	2.9	430
Mt Lacom	131	2.2	326
Mackay	129	2.2	326
Bowen	60	1.0	148
New South Wales	43	0.7	104
Cairns	40	0.6	89
Yeppoon	39	0.6	89
Mooloolaba	25	0.4	59
Boyne Island	7	0.1	15
Victoria	4	0.1	15
Gympie	2	0.1	15
Total Expenditure	6,087	100.0	14,815

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.

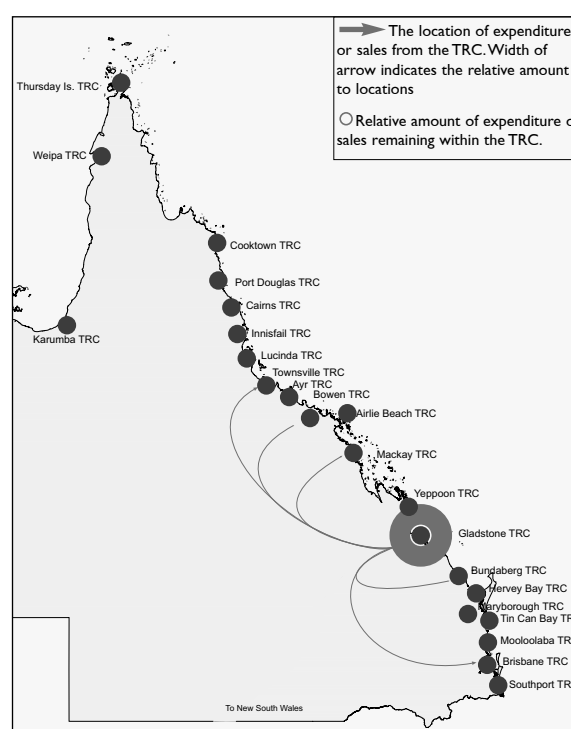


Figure 20.4 Gladstone TRC: Location of Business Expenditure

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 20.15 shows that 52% of businesses within the Gladstone TRC had no debt. The mean debt level within the TRC was 17% of business assets, which was somewhat lower than the Queensland industry average of 16.6%.

Table 20.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	21	52.5	60.1
1 – 10%	3	7.5	6.4
11 – 20%	2	5.0	5.2
21 – 30%	4	10.0	6.4
31 – 40%	3	7.5	3.3
41 – 50%	6	15.0	9.6
51 – 60%	0	2.7	1.8
61 – 70%	0	2.7	1.2
71 – 80%	0	2.7	1.1
81 – 90%	0	0.0	1.6
91 – 100%	1	2.5	3.3
Total	40	100.0	100.0

Mean Debt Level for TRC	17.0%
Median Debt Level for QLD Population	16.6%
Difference of TRC mean to QLD mean (16.6)	+0.4%

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

EMPLOYEE PROFILES

Town of Residence

Table 20.16 indicates that the majority of employees reside within the town of Gladstone (78%).

Table 20.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Gladstone	67	77.9
Boyne Island	5	5.8
Tannum Sands	4	4.7
Calliope	3	3.5
Yarwun	2	2.3
Benaraby	1	1.2
Mt Larcom	1	1.2
Port Alma	1	1.2
Raglan	1	1.2
Turkey Beach	1	1.2
Total	86	100.0

Months Employed in the Fishing Industry

Table 20.17 shows that during the past 12 months owner/operators and employees were employed in the fishing industry equally throughout the year.

Table 20.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	89.8	57.1	76.2	80.7
February	93.9	60.0	79.8	82.3
March	95.9	71.4	85.7	86.1
April	98.0	71.4	86.9	86.8
May	100.0	65.7	85.7	87.3
June	98.0	77.1	89.3	87.8
July	98.0	71.4	86.9	86.7
August	93.9	62.9	81.0	86.3
September	91.8	74.3	84.5	86.8
October	89.8	62.9	78.6	85.4
November	93.9	68.6	83.3	84.4
December	91.8	65.7	81.0	82.3

Note: Owner/operator sample of 50, employee sample of 36.

Location of Household Expenditure

Table 20.18 and Figure 20.5 shows the location of household expenditure related to individual income derived from employment in the fishing industry. Gladstone attracts 87% (\$6.1 million) of all annual employee household expenditure from within the TRC. As shown in Table 20.18 there is only relatively minor expenditure to other towns.

Table 20.18
Town Location of Household Expenditure
(all commodities and services)

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Gladstone	1,490	87.3	6,133
Boyne Island	77	4.5	316
Tannum Sands	40	2.3	162
Bundaberg	32	1.9	133
Calliope	19	1.1	77
Rockhampton	18	1.0	70
Bowen	10	0.6	42
Townsville	9	0.5	35
Brisbane	7	0.4	28
Mackay	5	0.3	21
Sunshine Coast	1	0.1	7
Total Household Expenditure	1,707	100.0	7,025

Note: The gross individual annual income of fishers within this TRC was estimated as \$32,622 (Table 20.20). 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 \$19,844, with total household expenditure across all 354 (Table 20.7) employees to be \$7 million (Table 20.20).

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 20.19. As might be expected, Gladstone (71%) is the primary town location for school and employment.

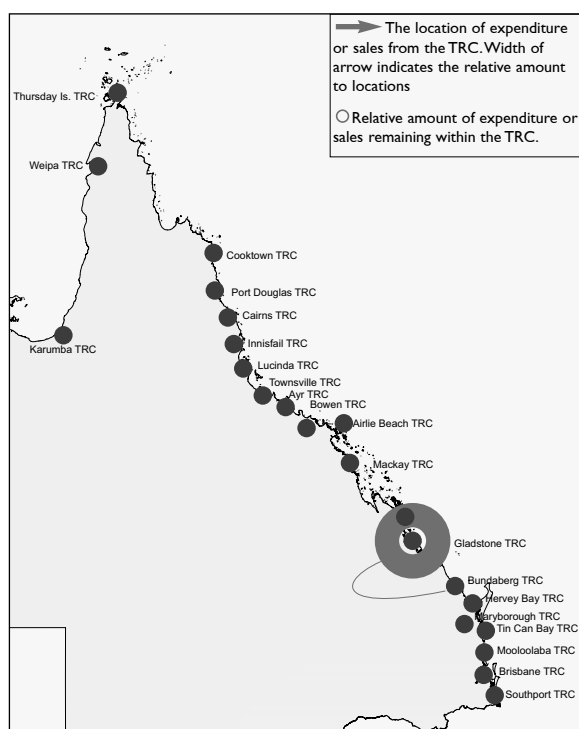


Figure 20.5. Gladstone TRC: Location of Household Expenditure

Table 20.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Gladstone	106	71.1
Boyne Island	12	8.0
Brisbane UC	8	5.4
Calliope	3	2.0
Tannum Sands	6	4.0
Yarwun	4	2.7
Other Towns	10	6.7
Total Family Members	149	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 20.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 20.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	131	223	354	7,088
Mean age of fisher	41.7	33.8	38.4	37.3
Age range	21-63	15-74	15-74	15-79
Percent males	100.0	97.2	98.8	94.8
Mean years resident in town	17.3	16.6	17.0	19.1
Mean number of years in fishing industry	17.4	7.8	13.4	12.6
Median hours per week in fishing industry	80.0	60.0	70.0	60.0
Percent moved town to retain employment	32.0	25.0	29.1	20.5
Percent currently employed in other industry	12.2	41.7	24.7	34.2
Percent previously employed in other industry	67.3	61.1	64.7	69.2
Housing tenure				
Rent	20.0	45.7	30.6	33.6
Mortgage	36.0	5.7	23.5	20.1
Own home	44.0	17.1	32.9	31.1
Other (eg, live with parents, on boat)	0.0	31.5	13.0	15.2
Educational				
Year completed school				
Primary school	10.0	2.9	7.1	5.2
Year 8	8.0	14.3	10.6	8.0
Year 9	10.0	14.3	11.8	11.9
Year 10	46.0	37.1	42.4	44.4
Year 11	10.0	5.7	8.2	10.1
Year 12	16.0	25.7	20.0	20.2
Percent completed trade or TAFE certificate	38.8	38.9	38.8	37.7
Percent completed industry or business course	10.0	11.1	10.5	15.2
Percent with business plan ^c	25.6	—	25.6	22.9
Percent active fishing group member	36.0	13.9	26.7	25.7
Marital Status				
Percent married or relationship	77.6	52.8	67.1	62.0
Percent with partner employed in business ^d	79.4	—	79.4	56.1
Median hours per week employed in business	20.0	—	20.0	20.0
Partners Income^{de}				
Full-time employment	24.3	10.5	19.6	28.3
Part-time employment	18.9	15.8	17.9	18.5
Casual employment	10.8	15.8	12.5	11.6
Not employed	45.9	57.9	50.0	41.5
Family Composition				
Mean family size	3.0	2.4	2.8	2.6
Estimated number of total family members	393	535	991	18,429
Dependency Ratios				
Age Dependency Ratio ^f	27.0	35.4	29.9	33.4
Elderly Dependency Ratio	0.0	3.1	0.1	2.3
Child Dependency Ratio	27.0	32.3	28.8	31.2
Family Member Industry Dependency Ratio ^g	41.9	2.9	29.6	23.9
Gross Individual Income				
Less than \$16,000	15.2	50.0	28.4	34.6
\$16,000 - \$26,000	10.9	14.3	12.2	19.6
\$26,000 - \$36,000	21.7	25.0	23.0	22.1
\$36,000 - \$52,000	26.1	10.7	20.3	11.7
\$52,000 - \$78,000	13.0	0.0	8.1	6.6
Over \$78,000	13.0	0.0	8.1	5.4
Average Income (\$)	40,630	19,464	32,622	27,471

Note: a Owner/operator sample of 50, employee sample = 36.

b Based on peak estimates derived in Table 20.7.

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).

21 BUNDABERG TRC

The Bundaberg TRC consists of the main urban centre of Bundaberg, Burnett Heads and Bargara. Smaller towns to the north include the town of Seventeen Seventy and Agnes Waters, while towns to the south include Childers and Burrum Heads. Figure 21.1 shows the geographic location of this TRC.

BUSINESS PROFILES

Location and Use of Ports

The number of licence holders within the Bundaberg TRC and the number of survey respondents who reported having homeports within the TRC is shown in Table 21.1. On the basis of the sample, it is estimated that there are 307 commercial fishing businesses within this TRC, with the 95% confidence interval indicating the true population count of businesses within the TRC to be between 278 and 336.

Table 21.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Bundaberg UC	135	96	236	76.1
Burnett Heads UC	35	6	15	4.8
Agnes Waters	24	9	22	7.1
Bargara	11	0	0	0.0
Burrum Heads	6	2	5	1.6
Seventeen Seventy	4	10	24	7.7
Childers	3	0	0	0.0
Gin Gin	3	1	2	0.6
Yandaran	3	1	2	0.6
Elliot Heads	2	0	0	0.0
Moore Park	2	0	0	0.0
Avondale	1	0	0	0.0
Baffle Creek	1	0	0	0.0
Bulkyard	1	0	0	0.0
Coonarr	1	0	0	0.0
Invicta	1	0	0	0.0
Miriam Vale	1	1	2	0.6
Baffle Creek	0	1	2	0.6
Total TRC	234	128	307	100.0

95% Confidence Interval for Estimated TRC Count 278-336
Percent of Total Active Licence Holders in QLD 12.6%

Note: Bundaberg UC includes Avenell Heights, Burnett Heads UC includes Kepnock, East Bundaberg, North Bundaberg, Port Bundaberg and West Bundaberg. Adjusted database count is based on the postal address as recorded in the licencing information, which may not be the homeport of the fishing businesses. 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 Bundaberg, Burnett Heads and Seventeen Seventy as homeports, numerous fishing businesses used these ports when travelling to or from fishing areas. Table 21.2 shows the majority of these businesses having their homeports in Tin Can Bay (22%), Hervey Bay (17%) and Mooloolaba (13%).

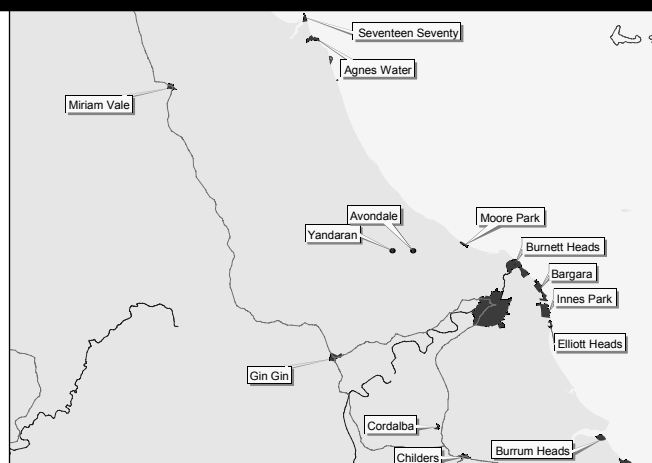


Figure 21.1 Location of the Bundaberg TRC

Table 21.2
Homeports of Businesses Using Bundaberg, Burnett Heads and Seventeen Seventy as a Port

Homeports	Sample Count	Percent
Tin Can Bay	5	21.7
Hervey Bay	4	17.4
Mooloolaba	3	13.0
Noosa	2	8.7
Redcliffe	2	8.7
Bribie Island	1	4.3
Brisbane	1	4.3
Maryborough	1	4.3
New South Wales	1	4.3
Rainbow Beach	1	4.3
Scarborough	1	4.3
Sunshine Coast	1	4.3
Total Businesses	23	100.0

Fishing Activity and Type

Table 21.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Line fishing (48%) and trawling are the primary fishing activities by businesses from the Bundaberg TRC, followed by crabbing (23%), netting (22%) and fishing for spanner crabs (21%).

Table 21.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Line fishing	61	48.4
Trawling	59	46.8
Crabbing	29	23.0
Netting	28	22.2
Spanner crabs	26	20.6
Lobster	1	0.8
Total Sample	126	100.0

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

Many fishing activities co-occurred within this TRC (Table 21.4). Of the sample of line fishers, 31% were engaged in trawling and 33% in crabbing. Of the trawl fishers, 32% were engaged in line fishing and among those engaged in crabbing, 69% were line fishing and 38% netting. Of those fishers engaged in netting, 50% were also line fishing, while of those fishing for spanner crabs, 50% were also line fishing.

Table 21.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting	Spanner Crabs
Line fishing	61 <i>100.0</i>	19 <i>32.2</i>	20 <i>69.0</i>	14 <i>50.0</i>	13 <i>50.0</i>
Trawling	19 <i>31.1</i>	59 <i>100.0</i>	8 <i>27.6</i>	9 <i>32.1</i>	5 <i>19.2</i>
Crabbing	20 <i>32.8</i>	8 <i>13.6</i>	29 <i>100.0</i>	11 <i>39.3</i>	6 <i>23.1</i>
Netting	14 <i>23.0</i>	9 <i>15.3</i>	11 <i>37.9</i>	28 <i>100.0</i>	3 <i>11.5</i>
Spanner crabs	13 <i>21.3</i>	5 <i>8.5</i>	6 <i>20.7</i>	3 <i>10.7</i>	26 <i>100.0</i>

Note: Lobster fishing has been excluded given the low sample count.
The co-occurrence table should be read by column.
Column percentages are given as italics.

Table 21.5 shows the peak months for fishing activity within the TRC to be between March and April and between September and November.

Table 2.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	25	21.7	24.5
February	28	24.3	29.7
March	41	35.7	43.9
April	39	33.9	42.8
May	32	27.8	38.1
June	26	22.6	33.5
July	16	13.9	23.9
August	19	16.5	19.9
September	42	36.5	23.5
October	49	42.6	24.8
November	44	38.3	26.2
December	30	26.1	21.4

A more detailed description of the seasonal variation in fishing activities by businesses is shown in Table 21.6. Line fishing is most common between March and December, trawling between March and July, crabbing between October and March, netting between December and July and fishing for spanner crabs between August and October (Table 21.6).

Location of Resource Use

Figure 21.2 shows the location of resource use by commercial fishing operations in the Bundaberg TRC. The large number of fishing businesses within this TRC and that many of these businesses are engaged in trawl and line fishing activities, produces a secondary resource catchment which includes four separate coastal areas along the Queensland coast. These include, as shown in Figure 21.2, (i) areas in Torres Strait, (ii) areas to the immediate east of Cairns and (iii) areas to the east of Innisfail and Hinchinbrook Island. The fifth and largest area associated with the secondary resource catchment extends includes those areas between the coast and reef from the Cape Cleveland in the north to Tin Can Bay in the South.

While the secondary resource catchment extends to several areas along the Queensland coast, the primary resource catchment is narrowly focussed to those coastal areas immediately adjacent to the Bundaberg TRC. The primary resource catchment, as shown in Figure 21.2, includes those coastal areas between Cape Capricorn and the Capricorn Group of islands in the north and Hervey Bay in the south.

Table 21.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	39	67.2	64.6
February	38	65.5	64.3
March	42	72.4	68.1
April	44	75.9	70.4
May	41	70.7	74.7
June	43	74.1	78.7
July	48	82.8	82.0
August	44	75.9	80.8
September	43	74.1	79.7
October	42	72.4	79.7
November	46	79.3	78.2
December	45	77.6	70.6
Trawling			
January	52	88.1	76.0
February	52	88.1	79.0
March	56	94.9	91.2
April	57	96.6	91.6
May	56	94.9	89.3
June	55	93.2	88.7
July	53	89.8	82.7
August	49	83.1	83.1
September	48	81.4	85.0
October	48	81.4	84.4
November	50	84.7	85.0
December	50	84.7	77.1
Crabbing			
January	20	74.1	74.7
February	20	74.1	79.0
March	18	66.7	75.1
April	16	59.3	69.4
May	15	55.6	67.2
June	14	51.9	58.5
July	14	51.9	52.0
August	15	55.6	50.2
September	16	59.3	53.3
October	19	70.4	55.9
November	18	66.7	66.4
December	20	74.1	72.1
Netting			
January	19	73.1	57.5
February	20	76.9	72.9
March	20	76.9	73.9
April	21	80.8	74.2
May	20	76.9	77.6
June	22	84.6	79.9
July	22	84.6	75.9
August	17	65.4	73.9
September	16	61.5	69.6
October	15	57.7	64.2
November	18	69.2	55.9
December	20	76.9	54.5
Spanner Crabs			
January	19	73.1	64.8
February	18	69.2	64.8
March	18	69.2	64.8
April	18	69.2	67.0
May	17	65.4	67.0
June	17	65.4	65.9
July	18	69.2	69.3
August	19	73.1	75.0
September	20	76.9	80.7
October	20	76.9	85.2
November	17	65.4	68.2
December	13	50.0	47.7

Note: Lobsters have been excluded given the low sample count.

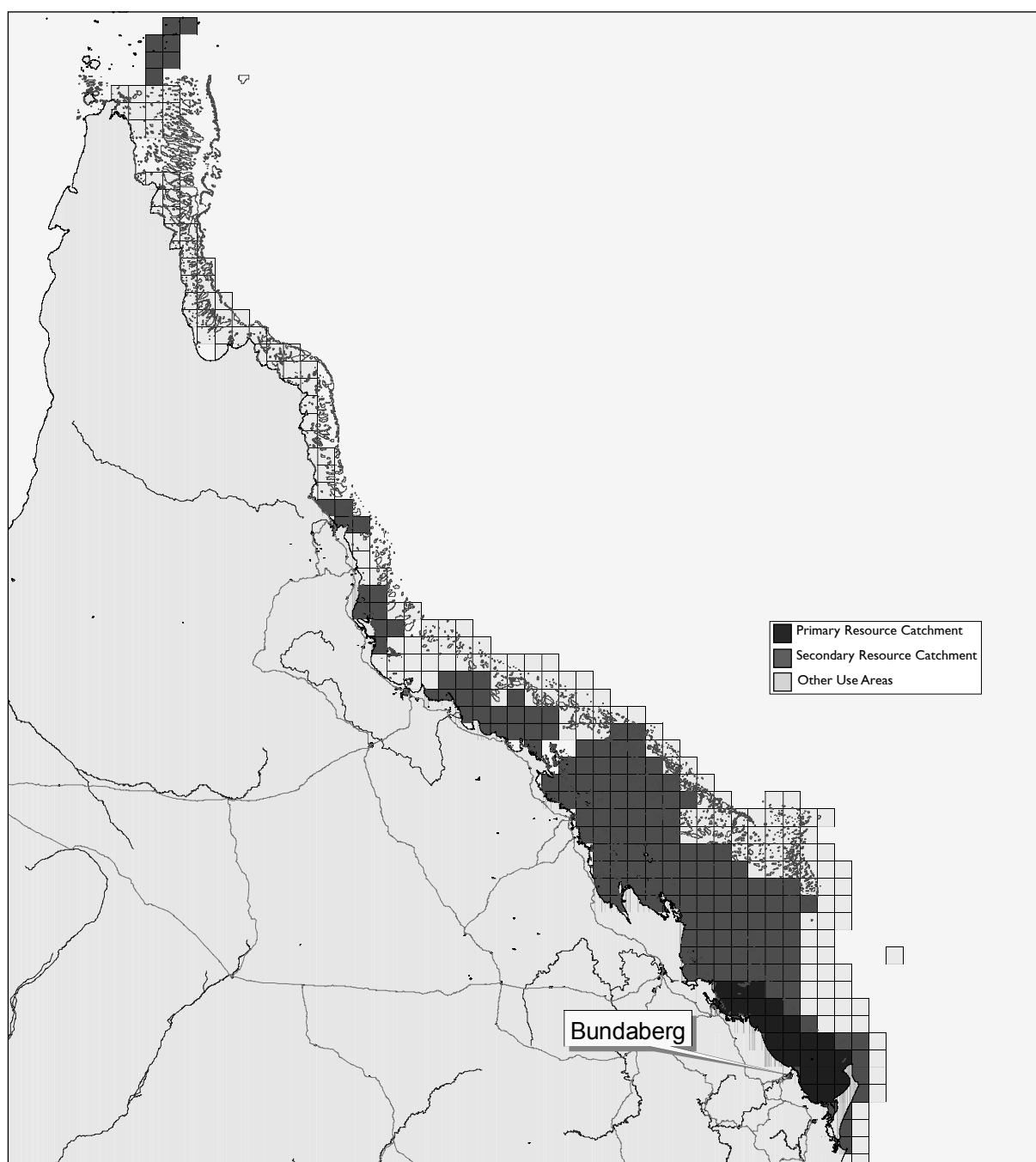


Figure 21.2 Bundaberg TRC: Location of Resource Use

Fishing Industry Employees

Table 21.7 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 two and three full-time employees (which would include the owner or operator). The average number of employees per business during the peak season was 2.7 employees per business and in the off-peak season it was 2.4. In total, it is estimated that during the peak season there were 829 full-time equivalent employees while during the off-peak season there were an estimated 737 full-time equivalent employees.

Business Ownership and Size

Table 21.8 shows the number of years the current owner or operator has owned the fishing business. Businesses within this TRC had been owned for an average of 12.4 years, with 63% of businesses being owned by the current owner for less than 10 years.

Table 21.8
Number of Years of Current Ownership of
the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	47	37.3	35.2
6-10	32	25.4	62.7
11-15	13	10.3	73.0
16-20	9	7.1	80.1
21-25	7	5.6	85.7
26-30	7	5.6	91.3
31+	11	8.7	100.0
Total	126	100.0	

Mean Number of Years owned or operated	12.4
Difference of TRC mean to QLD mean (14.6)	-2.2

Note: Standard errors for number of years ownership
(sample = 1.1 QLD population = 0.37).

Table 21.7
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	1.6	116	91.3	108	85.0
1	36	28.3	5	3.9	10	7.9
2-3	65	51.2	6	4.7	7	5.5
4-5	16	12.6	0	0.0	1	0.8
6-7	6	4.7	0	0.0	0	0.0
8-9	1	0.8	0	0.0	1	0.8
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.0	0	0.0
20-21	1	0.8	0	0.0		
Total Businesses	127	100.0	127	100.0	127	100.0
Total Employees	317		9.5		20	
Mean Number of Employees per Business (Peak)		2.7				
Estimated Number Employed within the TRC		829				
Off-Peak Season						
Nil	5	4.0	114	94.4	113	90.4
1	39	31.2	5	3.7	6	4.8
2-3	64	51.2	5	2.8	4	3.2
4-5	11	8.8	1	0.0	1	0.8
6-7	5	4.0	0	0.0	1	0.8
8-9	0	2.8	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
0		0.0				
20-21	1	0.8				
Total Businesses	125	100.0	125	100.0	125	100.0
Total Employees	281		11		14	
Mean Nos Employees per Business (Off-Peak)		2.4				
Estimated Number Employed within the TRC		737				

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 307 fishing businesses (Table 21.1)

The average number of years the business had been operating was 14.8 years (Table 21.9), which was 3.4 years less than the average for all Queensland fishing businesses (18.2 years).

Table 21.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	29	24.0	24.0
6-10	32	26.4	50.4
11-15	14	11.6	62.0
16-20	16	13.2	75.2
21-25	7	5.8	81.0
26-30	11	9.1	90.1
31+	12	9.9	100.0
Total	121	100.0	
Mean Number of Years owned or operated	14.8		
Difference of TRC mean to QLD Mean (18.2)	-3.4		

Note: Standard errors for number of years operated
(sample = 1.1; QLD population = 0.46)

Table 21.10 shows that the majority of fishing businesses within this TRC operated one boat (68%).

Table 21.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	84	68.3
2	18	14.6
3	12	9.7
4	1	0.8
5	2	1.6
6+	6	4.9
Total Number of Businesses	123	100.0

Mean Number of Boats Operated 1.7
Difference of TRC mean to QLD mean (1.7) 0.0

Note: Standard errors for number of boats operated
(sample = 0.1; QLD population = 0.05)

Table 21.11 shows the frequency distribution for length of boats, with 31% of boats being between 3 and 6 metres and a further 25% of boats being between 7 and 10 metres. The mean length of all boats and the mean length of the largest boat were similar to that of all boats in Queensland.

Table 21.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	50	30.9
7-10	41	25.3
11-14	44	27.2
15-18	19	11.7
19-23	7	4.3
23+	1	0.6
Total Number of Boats	162	100.0
Mean Length of Boats Operated (metres)		10.2
Difference of TRC mean to QLD mean (9.9)		+0.3
Mean Length of Largest Boat Operated (metres)		11.3
Difference of TRC mean to QLD mean (11.4)		-0.1

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.4; QLD population=0.14)

Value of Production and Location of Sales

Table 21.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Bundaberg TRC. The GVP profiles for businesses within this TRC are very similar to the Queensland profiles, although there is a slightly higher percentage of business with production values of between \$100,000 and \$200,000 when compared to the total Queensland profile.

Within the Bundaberg TRC it is estimated that the 307 fishing businesses had a gross value of production of approximately \$37.1 million, which is approximately 12% of the total value of production of the Queensland commercial fishing industry.

Table 21.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	50	39.4	42.8
\$101 - \$200	38	29.9	21.4
\$201 - \$300	18	14.2	16.2
\$301 - \$400	14	11.0	8.5
\$401 - \$500	1	0.8	3.8
\$501 - \$600	1	0.8	1.8
\$601 - \$700	2	1.6	1.3
\$701 - \$800	0	0.0	0.4
\$801 - \$900	1	0.8	1.0
\$901 - \$1,000	0	0.0	0.3
Over \$1,000	2	1.6	2.3
Total	127	100.0	100.0

Median GVP for TRC	\$120,733
Estimated Total GVP for TRC	\$37,065,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	11.8%

Note: Estimated TRC population total is based on an estimate of 307 businesses within the TRC, with a median GVP of \$120,733. Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 21.13 shows the value of sales to specific locations within Australia for the sample of 128 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 21.13, and as shown in Figure 21.3, 26% of sales (\$9.7 million) occurs directly within Bundaberg, \$4.2 million to Cairns, while a further \$3.2 million is sold in Brisbane. It is probable that much of the sale to overseas markets (\$14.3 million) occurred firstly within the towns of Bundaberg, Cairns and Brisbane, thereby increasing the total value of sales within these locations.

Table 21.13
Town Location of Sales to Customers (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Bundaberg	4,377	26.2	9,711
Cairns	1,911	11.4	4,225
Brisbane	1,453	8.7	3,225
Yeppoon	653	3.9	1,446
New South Wales	420	2.5	927
Townsville	286	1.7	630
Maryborough	273	1.6	593
Gold Coast	235	1.4	519
Hervey Bay	197	1.2	445
Mackay	97	0.6	222
Gladstone	89	0.5	185
Gympie	72	0.4	148
Bowen	42	0.2	74
Redcliffe	40	0.2	74
Tin Can Bay	40	0.2	74
Wide Bay	30	0.2	74
Mooloolah	27	0.2	74
Victoria	16	0.1	37
Urangan	6	0.1	37
Total Sales (Australia)	10,264	61.4	22,758
Total Sales (Overseas)	6,457	38.6	14,307
Total Sales	16,721	100.0	37,065

Note: The sample value of sales is based on GVP as reported by businesses in the survey.

The estimated value of business sales (Table 21.13) is proportionally distributed to all locations on the basis of sample percentages.

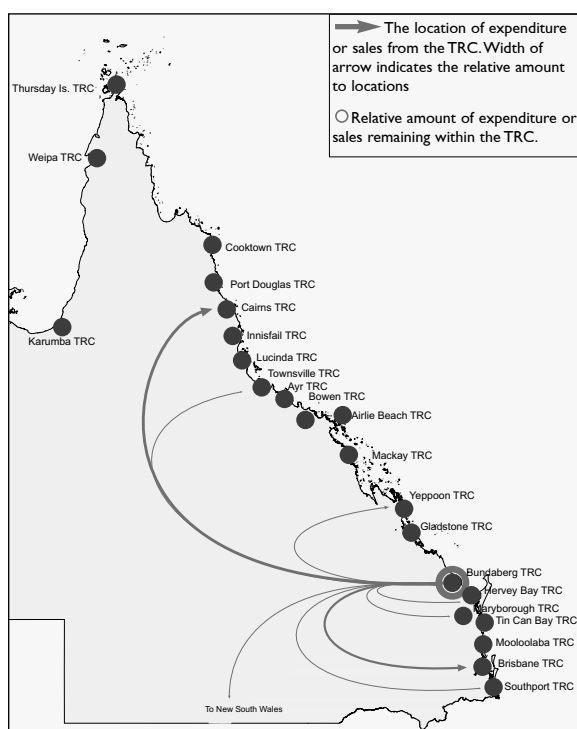


Figure 21.3 Bundaberg TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 21.14 shows that approximately \$19.3 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 within the towns of Bundaberg (\$12.4 million) and Cairns (\$3.4 million).

Table 21.14

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)
Bundaberg	6,050	64.0	12,359
Cairns	1,674	17.7	3,418
Townsville	316	3.3	637
Gladstone	222	2.3	444
Brisbane	219	2.3	444
Burnett Heads	195	2.1	406
Seventeen Seventy	186	2.0	386
Hervey Bay	167	1.8	348
Agnes Water	114	1.2	232
Bowen	72	0.8	154
Mackay	71	0.8	154
Yeppoon	70	0.8	154
Miriam Vale	29	0.3	58
Cooktown	16	0.2	39
Caboolture	15	0.2	39
Bargara	14	0.1	19
Mooloolah	12	0.1	19
Maryborough	5	0.1	19
New South Wales	4	0.1	19
Victoria	4	0.1	19
Western Australia	4	0.1	19
Total Expenditure	9,458	100.0	19,311

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.

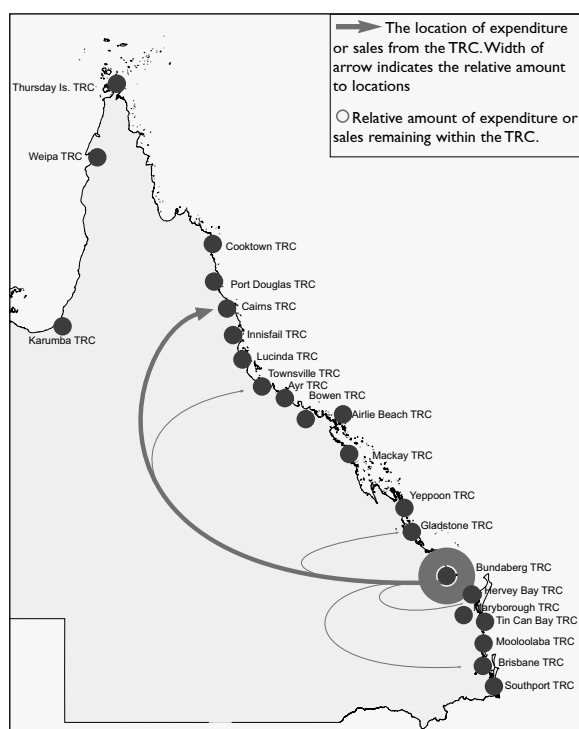


Figure 21.4 Bundaberg TRC: Location of Business Expenditure

Each business operator was asked what percentage of their business assets were not owned outright by their business, which identified for the purpose of this study the level of business debt. Table 21.15 shows that 60% of businesses within the Bundaberg TRC had no debt. The mean debt level within the TRC was 19% of business assets, which was slightly higher than the Queensland industry average of 16.6%.

Table 21.15

Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	53	55.8	60.1
1 – 10%	6	6.3	6.4
11 – 20%	3	3.2	5.2
21 – 30%	4	4.2	6.4
31 – 40%	3	7.5	3.3
41 – 50%	19	20.0	9.6
51 – 60%	1	1.1	1.8
61 – 70%	1	1.1	1.2
71 – 80%	0	2.7	1.1
81 – 90%	2	2.1	1.6
91 – 100%	3	3.2	3.3
Total	95	100.0	100.0
Mean Debt Level for TRC			19.3%
Median Debt Level for QLD Population			16.6%
Difference of TRC mean to QLD mean (16.6)			+2.7%

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

EMPLOYEE PROFILES

Town of Residence

Table 21.16 indicates that the majority of employees reside within the town of Bundaberg (76%).

Table 21.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Bundaberg	145	75.9
Agnes Waters	19	9.9
Burnett Heads	12	6.3
Bargara	3	1.6
Gin Gin	3	1.6
Seventeen Seventy	3	1.6
Childers	2	1.0
Yandaran	2	1.0
Baffle Creek	1	0.5
Wallaville	1	0.5
Total	191	100.0

Months Employed in the Fishing Industry

Table 21.17 shows that during the past 12 months owner-operators and employees were employed in the fishing industry somewhat more commonly between March and August.

Table 21.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	92.2	76.5	86.4	80.7
February	93.1	79.4	88.0	82.3
March	94.8	82.4	90.2	86.1
April	94.0	83.8	90.2	86.8
May	92.2	83.8	89.1	87.3
June	91.4	89.7	90.8	87.8
July	92.2	89.7	91.3	86.7
August	89.7	91.2	90.2	86.3
September	89.7	85.3	88.0	86.8
October	89.7	86.8	88.6	85.4
November	90.5	82.4	87.5	84.4
December	87.1	79.4	84.2	82.3

Note: Owner-operator sample of 123; employee sample of 72.

Location of Household Expenditure

Table 21.18 and Figure 21.5 show the location of household expenditure related to individual income derived from employment in the fishing industry. Bundaberg attracts 93% (\$14.7 million) of all annual employee household expenditure from within the TRC. As shown in Table 21.18 there is only relatively minor expenditure to other towns.

Table 21.18
Town Location of Household Expenditure
(all commodities and services)

Location	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Bundaberg	1,763	92.8	14,656
Agnes Waters	70	3.7	584
Gladstone	24	1.3	205
Seventeen Seventy	23	1.2	190
Gin Gin	10	0.5	79
Mackay	6	0.3	47
Brisbane	2	0.1	16
Cairns	2	0.1	16
Total Expenditure	1,898	100.0	15,793

Note: The gross individual annual income of fishers within this TRC was estimated as \$31,319 (Table 21.20). 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 \$19,051, with total household expenditure across all 829 (Table 21.7) employees to be \$15.8 million (Table 2.18)

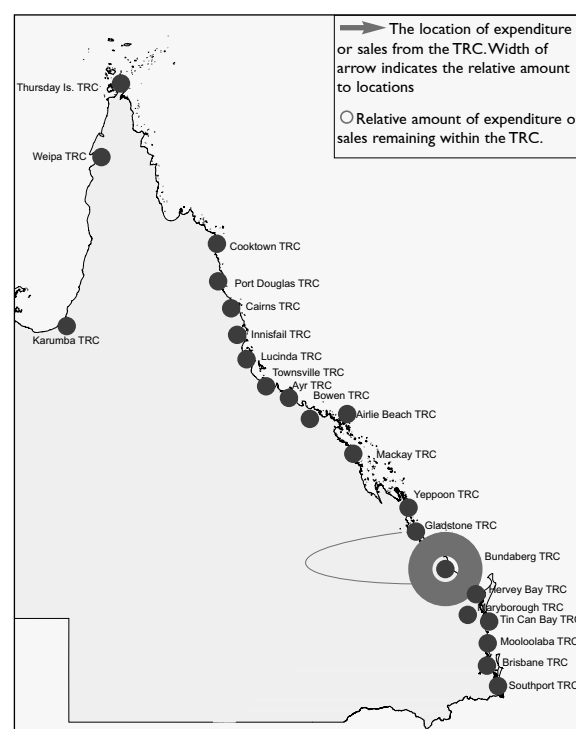


Figure 21.5 Bundaberg TRC: Location of Household Expenditure

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 21.19. As might be expected, Bundaberg (72%) is the primary town location for school and employment.

Table 21.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Bundaberg	245	72.1
Agnes Waters	24	7.1
Brisbane UC	12	3.5
Burnett Heads	12	3.5
Bargara	6	1.8
Seventeen Seventy	6	1.8
Rockhampton	5	1.5
Gin Gin	4	1.2
Mackay	3	0.9
Yandaran	3	0.9
Victoria	3	0.9
Childers	2	0.6
Gold Coast	2	0.6
Logan Village	2	0.6
New South Wales	2	0.6
Western Australia	2	0.6
Other Towns	7	2.1
Total Family Members	340	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

Profile information about employees within the TRC is presented in Table 21.20. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 21.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	307	522	829	7,088
Mean age of fisher	43.0	31.6	39.4	37.3
Age range	23-76	16-62	16-76	15-79
Percent males	97.5	95.7	96.8	94.8
Mean years resident in town	21.8	17.6	20.2	19.1
Mean number of years in fishing industry	20.5	6.7	15.4	12.6
Median hours per week in fishing industry	70.0	60.0	65.0	60.0
Percent moved town to retain employment	36.7	15.5	28.8	20.5
Percent currently employed in other industry	16.7	45.1	27.2	34.2
Percent previously employed in other industry	76.3	74.3	75.5	69.2
Housing tenure				
Rent	22.7	46.5	31.6	33.6
Mortgage	25.2	11.3	20.0	20.1
Own home	48.7	22.5	38.9	31.1
Other (eg, live with parents, on boat)	3.4	19.7	9.5	15.2
Educational				
Year completed school				
Primary school	10.1	1.4	6.9	5.2
Year 8	9.2	8.6	9.0	8.0
Year 9	8.4	17.1	11.6	11.9
Year 10	52.1	42.9	48.7	44.4
Year 11	5.9	12.9	8.5	10.1
Year 12	14.3	17.1	15.3	20.2
Percent completed trade or TAFE certificate	46.2	38.0	43.2	37.7
Percent completed industry or business course	20.0	11.3	16.8	15.2
Percent with business plan ^c	22.5	—	22.5	22.9
Percent active fishing group member	44.1	9.9	31.2	25.7
Marital Status				
Percent married or relationship	83.1	46.5	69.3	62.0
Percent with partner employed in business ^d	49.0	—	49.0	56.1
Median hours per week employed in business	20.0	—	20.0	20.0
Partners Income^{de}				
Full-time employment	41.9	20.6	36.2	28.3
Part-time employment	14.0	20.6	15.7	18.5
Casual employment	4.3	11.8	6.3	11.6
Not employed	39.8	47.1	41.7	41.5
Family Composition				
Mean family size	3.2	2.3	2.9	2.6
Estimated number of total family members	982	1,201	2,404	18,429
Dependency Ratios				
Age Dependency Ratio ^f	33.8	37.7	35.0	33.4
Elderly Dependency Ratio	3.5	0.0	2.5	2.3
Child Dependency Ratio	30.3	37.7	32.5	31.2
Family Member Industry Dependency Ratio ^g	38.8	9.6	32.2	23.9
Gross Individual Income				
Less than \$16,000	19.6	42.4	27.7	34.6
\$16,000 - \$26,000	15.0	30.5	20.5	19.6
\$26,000 - \$36,000	18.7	22.0	19.9	22.1
\$36,000 - \$52,000	23.4	1.7	15.7	11.7
\$52,000 - \$78,000	11.2	3.4	8.4	6.6
Over \$78,000	12.1	0.0	7.8	5.4
Average Income (\$)	37,794	19,576	31,319	27,471

Note: ^a Owner/operator sample of 123 employee sample = 72.

^b Based on peak estimates derived in Table 21.7.

^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).

22 HERVEY BAY TRC

The Hervey Bay TRC consists of the main urban centre of Hervey Bay, coastal towns to the north including Burrum Heads and the inland towns of Howard and Torbanlea. Figure 22.1 shows the geographic location of this TRC.

BUSINESS PROFILES

Location and Use of Ports

Table 22.1 shows the number of licence holders within the Hervey Bay TRC and the number of survey respondents who reported having homeports within the TRC. On the basis of the sample, it is estimated that there are 111 commercial fishing businesses within this TRC and that we can be 95% confident that the correct population count of commercial fishers within the TRC is between 92 and 130.

Table 22.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Hervey Bay	78	45	109	98.2
Howard	5	0	0	0.0
Booral	5	0	0	0.0
Pialba	4	0	0	0.0
Torbanlea	1	0	0	0.0
Toogoom	1	1	2	0.0
Total TRC	94	46	111	100.0

95% Confidence Interval for Estimated TRC Count 92-130
Percent of Total Active Licence Holders in QLD 4.5%

Note: Hervey Bay UC includes Point Vernon, Scarness, Torquay, Urangan
Adjusted database count is based on the postal address as recorded in the licencing information, which may not be the homeport of the fishing businesses. 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 Hervey Bay as a homeport, several fishing businesses used this port when travelling to or from fishing areas. Table 22.2 shows these businesses having their homeports in a number of towns south of Gladstone.

Table 22.2
Homeports of Businesses Using Hervey Bay as a Port

Homeports	Sample Count	Percent
Bundaberg	3	20.0
Tin Can Bay	2	13.3
Brisbane	1	6.7
Buderim	1	6.7
Gladstone	1	6.7
Gold Coast	1	6.7
Ningi	1	6.7
Rainbow Beach	1	6.7
Redcliffe	1	6.7
Scarborough	1	6.7
Seventeen Seventy	1	6.7
Sunshine Coast	1	6.7
Total Businesses	15	100.0

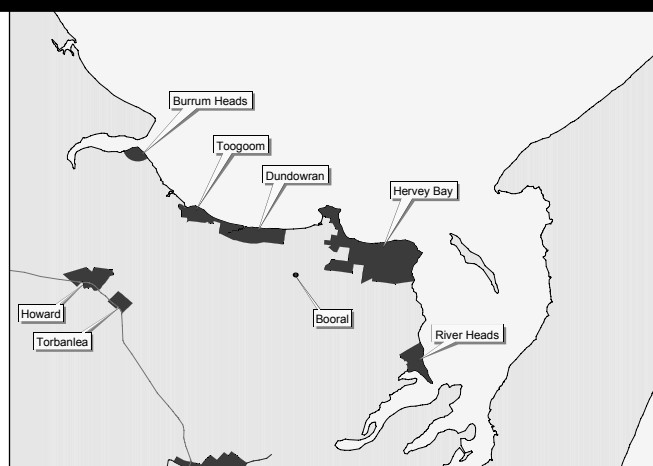


Figure 22.1 Location of the Hervey Bay TRC

Fishing Activity and Type

Table 22.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Trawling (56%) is the primary fishing activity by businesses from the Hervey Bay TRC, followed by line fishing (29%), netting (29%) and crabbing (18%).

Table 22.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Trawling	25	55.6
Line fishing	13	28.9
Netting	13	28.9
Crabbing	8	17.8
Total Sample	126	100.0

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

Crabbing and netting were the only fishing activities that co-occurred within this TRC (Table 22.4). Of the sample of crabbers, 75% were also engaged in netting while among those engaged in netting, 46% were also crabbing.

Table 22.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	13 100.0	3 12.0	2 25.0	3 23.1
Trawling	3 23.1	25 100.0	1 12.5	1 7.7
Crabbing	2 15.4	1 4.0	8 100.0	6 46.2
Netting	3 23.1	1 4.0	6 75.0	13 100.0

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

Table 22.5 shows the peak months for fishing activity within the TRC to be between March and June.

Table 22.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	11	27.5	24.5
February	11	27.5	29.7
March	16	40.0	43.9
April	18	45.0	42.8
May	14	35.0	38.1
June	18	45.0	33.5
July	11	27.5	23.9
August	8	20.0	19.9
September	7	17.5	23.5
October	6	15.0	24.8
November	13	32.5	26.2
December	10	25.0	21.4

Table 22.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing and trawling are most common between May and September, crabbing between October and May and netting between March and September (Table 22.6).

Location of Resource Use

Figure 22.2 shows the location of resource use by commercial fishing operations in the Hervey Bay TRC. The primary resource catchment is very much restricted to Hervey Bay itself, while the secondary resource catchment extends to the coastal areas east of Yeppoon in the north and to Tin Can Bay in the south.

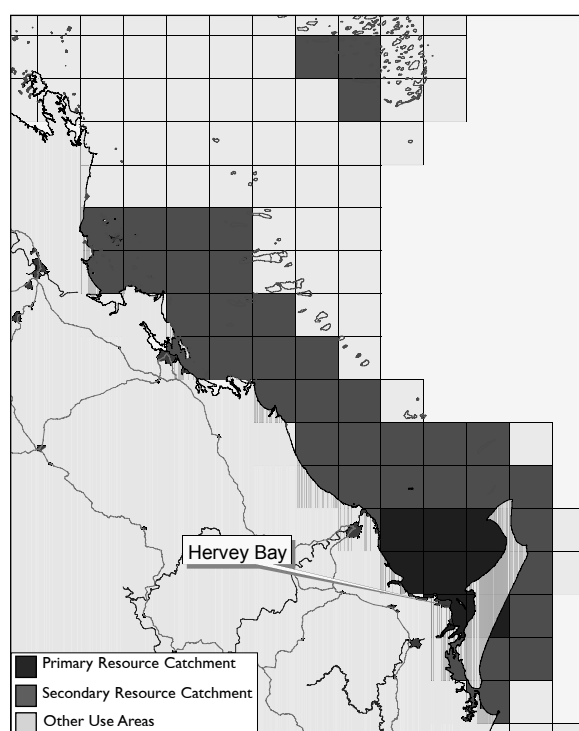


Figure 22.2. Hervey Bay TRC: Location of Resource Use

Table 22.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	6	60.0	64.6
February	6	60.0	64.3
March	7	70.0	68.1
April	8	80.0	70.4
May	10	100.0	74.7
June	10	100.0	78.7
July	10	100.0	82.0
August	9	90.0	80.8
September	9	90.0	79.7
October	8	80.0	79.7
November	7	70.0	78.2
December	6	60.0	70.6
Trawling			
January	23	88.5	76.0
February	24	92.3	79.0
March	24	92.3	91.2
April	24	92.3	91.6
May	26	100.0	89.3
June	26	100.0	88.7
July	26	100.0	82.7
August	26	100.0	83.1
September	25	96.2	85.0
October	23	88.5	84.4
November	24	92.3	85.0
December	23	88.5	77.1
Crabbing			
January	5	71.4	74.7
February	7	100.0	79.0
March	6	85.7	75.1
April	5	71.4	69.4
May	5	71.4	67.2
June	4	57.1	58.5
July	4	57.1	52.0
August	4	57.1	50.2
September	4	57.1	53.3
October	5	71.4	55.9
November	5	71.4	66.4
December	5	71.4	72.1
Netting			
January	8	61.5	57.5
February	9	69.2	72.9
March	11	84.6	73.9
April	11	84.6	74.2
May	10	76.9	77.6
June	12	92.3	79.9
July	11	84.6	75.9
August	11	84.6	73.9
September	10	76.9	69.6
October	8	61.5	64.2
November	9	69.2	55.9
December	9	69.2	54.5

Fishing Industry Employees

Table 22.7 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 two and three full-time employees (which would include the owner or operator). The average number of employees per business during the peak season was 3.4 employees per business and in the off-peak season it was 3.2. In total, it is estimated that during the peak season there were 377 full-time equivalent employees while during the off-peak season there were an estimated 355 full-time equivalent employees.

Table 22.7
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	1	2.2	43	95.6	40	88.9
1	11	24.4	0	0.0	2	4.4
2-3	21	46.7	2	4.4	2	4.4
4-5	6	13.3	0	0.0	0	0.0
6-7	3	6.7	0	0.0	1	2.2
8-9	1	2.2	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	1	2.2	0	0.0	0	0.0
16-17	1	2.2	0	0.0	0	0.0
18-19	0	0.0	0	0.0	0	0.0
20-21	0	0.8	0	0.0	0	0.0
Total Businesses	45	100.0	45	100.0	45	100.0
Total Employees	144		2.5		6.5	
Mean Number of Employees per Business (Peak)		3.4				
Estimated Number Employed within the TRC		377				
Off-Peak Season						
Nil	0	0.0	44	97.8	41	91.1
1	12	26.7	0	0.0	4	8.9
2-3	24	53.3	1	2.2	0	0.0
4-5	3	6.7	0	0.0	0	0.0
6-7	3	6.7	0	0.0	0	0.0
8-9	1	2.2	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	1	2.2	0	0.0	0	0.0
16-17	1	2.2	0	0.0	0	0.0
18-19	0	0.0	0	0.0	0	0.0
20-21	0	0.0	0	0.0	0	0.0
Total Businesses	45	100.0	45	100.0	45	100.0
Total Employees	139		1.5		2	
Mean Nos Employees per Business (Off-Peak)		3.2				
Estimated Number Employed within the TRC		355				

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 111 fishing businesses (Table 22.1)

Business Ownership and Size

Table 22.8 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 14.6 years, with 44% of businesses being owned by the current owner for less than 10 years.

Table 22.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	11	25.6	25.6
6-10	8	18.6	44.2
11-15	6	13.9	58.1
16-20	9	20.9	79.0
21-25	5	11.6	90.6
26-30	1	2.3	92.9
31+	3	7.0	100.0
Total	43	100.0	
Mean Number of Years owned or operated			14.6
Difference of TRC mean to QLD mean (14.6)			0.0

Note: Standard errors for number of years ownership (sample = 1.7; QLD population = 0.37).

The average number of years the business had been operating was 18.2 years (Table 22.9), which was the same as the average for all Queensland fishing businesses (18.2 years).

Table 22.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	7	16.3	16.3
6-10	7	16.3	32.6
11-15	6	13.9	46.5
16-20	10	23.3	69.8
21-25	5	11.6	81.4
26-30	3	7.0	88.4
31+	5	11.6	100.0
Total	43	100.0	
Mean Number of Years owned or operated			18.2
Difference of TRC mean to QLD Mean (18.2)			0.0

Note: Standard errors for number of years operated (sample = 1.9; QLD population = 0.46)

Table 22.10 shows that the majority of fishing businesses within this TRC operated one boat (58%).

Table 22.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	26	57.8
2	7	15.6
3	8	17.8
4	3	6.7
5	1	2.2
6+	0	0.0
Total Number of Businesses	45	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 = 0.2; QLD population = 0.05)

Table 22.11 shows the frequency distribution for length of boats, with 33% of boats being between 3 and 6 metres and a further 13% of boats being between 7 and 10 metres. The mean length of all boats and the mean length of the largest boat were somewhat higher than the Queensland average.

Table 22.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	26	32.9
7-10	10	12.7
11-14	11	13.9
15-18	16	20.2
19-23	16	20.2
23+	0	0.0
Total Number of Boats	79	100.0
Mean Length of Boats Operated (metres)		12.0
Difference of TRC mean to QLD mean (9.9)		+2.1
Mean Length of Largest Boat Operated (metres)		13.2
Difference of TRC mean to QLD mean (11.4)		+1.8

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.8; QLD population=0.14)

Value of Production and Location of Sales

Table 22.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Hervey Bay TRC. In the Hervey Bay TRC there is a higher percentage of businesses with production values between \$100,000 and \$200,000 per annum (31%) when compared to the Queensland average (21%). In addition, the median GVP of \$179,046 for the Hervey Bay TRC is somewhat higher than the Queensland median GVP of \$128,629.

Within the Hervey Bay TRC it is estimated that the 111 fishing businesses had a gross value of production of approximately \$19.9 million, which is approximately 6% of the total value of production of the Queensland commercial fishing industry.

Table 22.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	15	33.3	42.8
\$101 - \$200	14	31.1	21.4
\$201 - \$300	2	4.4	16.2
\$301 - \$400	5	11.1	8.5
\$401 - \$500	2	4.4	3.8
\$501 - \$600	1	2.2	1.8
\$601 - \$700	1	2.2	1.3
\$701 - \$800	2	4.4	0.4
\$801 - \$900	1	2.2	1.0
\$901 - \$1,000	0	0.0	0.3
Over \$1,000	2	4.4	2.3
Total	45	100.0	100.0

Median GVP for TRC	\$179,046
Estimated Total GVP for TRC	\$19,874,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	6.3%

Note: Estimated TRC population total is based on an estimate of 111 businesses within the TRC, with a median GVP of \$179,046. Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 22.13 shows the value of sales to specific locations within Australia for the sample of 46 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 22.13, and as shown in Figure 22.3, 31% of sales (\$6.2 million) occurs directly within Hervey Bay, \$2.7 million to Cairns, while a further \$1.4 million is sold in New South Wales. It is probable that much of the sale to overseas markets (\$5.7 million) occurred firstly within the towns of Hervey Bay, Cairns and New South Wales, thereby increasing the total value of sales within these locations.

Table 22.13
Town Location of Sales to Customers ('\$000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Hervey Bay	4,009	31.2	6,201
Cairns	1,762	13.7	2,723
New South Wales	910	7.1	1,411
Bundaberg	600	4.7	934
Brisbane	473	3.7	735
Bowen	365	2.8	556
Victoria	217	1.7	338
Sunshine Coast	106	0.8	159
Gladstone	77	0.6	119
Townsville	66	0.5	99
Port Douglas	27	0.2	40
Noosa	20	0.2	40
Maryborough	8	0.1	20
Total Sales (Australia)	9,142	71.1	14,130
Total Sales (Overseas)	3,712	28.9	5,744
Total Sales	12,854	100.0	19,874

Note: Hervey Bay includes Urangan. The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 22.13) is proportionally distributed to all locations on the basis of sample percentages.

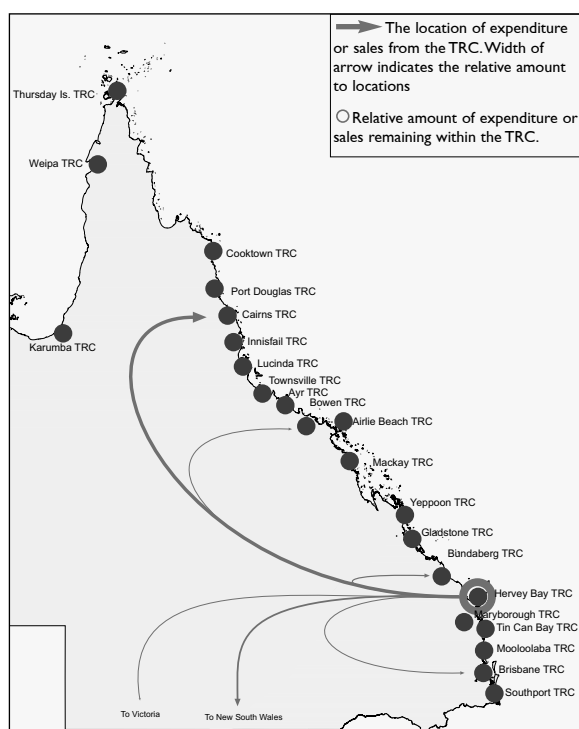


Figure 22.3 Hervey Bay TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 22.14 and Figure 22.4 show that approximately \$10.4 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 within the towns of Hervey Bay (\$7.4 million) and Cairns (\$1.4 million).

Table 22.14
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)
Hervey Bay	4,649	71.7	7,424
Cairns	902	13.9	1,439
Brisbane	377	5.8	601
Gladstone	181	2.8	290
Townsville	105	1.6	166
Maryborough	64	0.9	93
Bowen	57	0.9	93
Bundaberg	52	0.8	83
Toogoom	25	0.4	41
Mothership (at sea)	17	0.3	31
Mackay	11	0.2	21
Yeppoon	11	0.2	21
Gympie	7	0.1	10
Mooloolah	7	0.1	10
Rainbow Beach	4	0.1	10
Tin Can Bay	4	0.1	10
Ingham	3	0.1	10
Marlborough	3	0.1	10
Coolangatta	1	0.1	10
Total Expenditure	6,480	100.0	10,354

Note: Hervey Bay includes Uranang.

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.

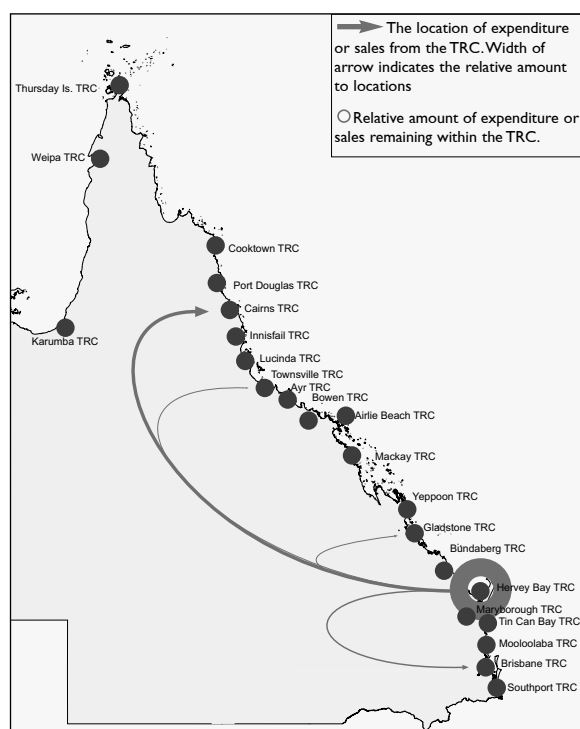


Figure 22.4 Hervey Bay TRC: Location of Business Expenditure

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 22.15 shows that 46% of businesses within the Hervey Bay TRC had no debt. The mean debt level within the TRC was 19% of business assets, which was slightly higher than the Queensland industry average of 16.6%.

Table 22.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	16	45.7	60.1
1 - 10%	4	11.4	6.4
11 - 20%	4	11.4	5.2
21 - 30%	2	5.7	6.4
31 - 40%	2	5.7	3.3
41 - 50%	4	11.4	9.6
51 - 60%	0	0.0	1.8
61 - 70%	1	2.9	1.2
71 - 80%	0	0.0	1.1
81 - 90%	0	0.0	1.6
91 - 100%	2	5.7	3.3
Total	35	100.0	100.0
Mean Debt Level for TRC			19.4%
Median Debt Level for QLD Population			16.6%
Difference of TRC mean to QLD mean (16.6)			+2.8%

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

EMPLOYEE PROFILES

Town of Residence

Table 22.16 indicates that the majority of employees reside within the town of Hervey Bay (98%).

Table 22.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Hervey Bay	59	98.3
Toogoom	1	1.7
Total	60	100.0

Note: Hervey Bay includes Urangan.

Months Employed in the Fishing Industry

Table 22.17 shows that during the past 12 months owner-operators and employees were employed in the fishing industry somewhat more commonly between March and September.

Table 22.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	79.1	93.3	82.8	80.7
February	86.0	93.3	87.9	82.3
March	93.0	86.7	91.4	86.1
April	95.3	86.7	93.1	86.8
May	95.3	86.7	93.1	87.3
June	95.3	80.0	91.4	87.8
July	95.3	93.3	94.8	86.7
August	95.3	100.0	96.6	86.3
September	93.0	93.3	93.1	86.8
October	90.7	80.0	87.9	85.4
November	90.5	86.7	87.9	84.4
December	87.1	86.7	87.9	82.3

Note: Owner-operator sample of 43, employee sample of 17.

Location of Household Expenditure

Table 22.18 shows the location of household expenditure related to individual income derived from employment in the fishing industry. Hervey Bay attracts 96% (\$9 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 22.18
Town Location of Household Expenditure
(all commodities and services)

Location	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Hervey Bay	1,415	96.5	9,046
Cairns	12	0.8	75
New South Wales	12	0.8	75
Rainbow Beach	12	0.8	75
Maryborough	9	0.6	56
Bundaberg	6	0.4	37
Gold Coast	1	0.1	9
Total Expenditure	1,467	100.0	9,374

Note: Hervey Bay includes Urangan.

The gross individual annual income of fishers within this TRC was estimated as \$40,878 (Table 22.20). 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 \$24,866, with total household expenditure across all 377 (Table 22.7) employees to be \$9.4 million (Table 22.18).

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 22.19. As might be expected, Hervey Bay (93%) is the primary town location for school and employment.

Table 22.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Hervey Bay	113	92.6
New South Wales	3	2.4
Brisbane	2	1.6
Victoria	2	1.6
Other towns	2	1.6
Total Family Members	122	100.0

Note: Hervey Bay includes Urangan.

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

Employee Social and Demographic Profiles

Table 22.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 22.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	111	266	377	7,088
Mean age of fisher	40.6	36.4	39.4	37.3
Age range	23-66	15-58	15-66	15-79
Percent males	100.0	93.8	98.3	94.8
Mean years resident in town	19.3	10.3	16.7	19.1
Mean number of years in fishing industry	20.9	8.1	17.2	12.6
Median hours per week in fishing industry	75.0	75.0	75.0	60.0
Percent moved town to retain employment	32.6	11.8	26.7	20.5
Percent currently employed in other industry	18.6	31.3	22.0	34.2
Percent previously employed in other industry	60.5	56.3	59.3	69.2
Housing tenure				
Rent	20.9	37.5	25.4	33.6
Mortgage	37.2	31.3	35.6	20.1
Own home	37.2	25.0	33.9	31.1
Other (eg, live with parents, on boat)	4.7	6.3	5.1	15.2
Educational				
Year completed school				
Primary school	4.7	6.3	5.1	5.2
Year 8	7.0	0.0	5.1	8.0
Year 9	9.3	12.5	10.2	11.9
Year 10	46.5	56.3	49.2	44.4
Year 11	19.3	18.8	16.9	10.1
Year 12	19.3	6.3	13.6	20.2
Percent completed trade or TAFE certificate	20.9	31.3	23.7	37.7
Percent completed industry or business course	18.6	12.5	16.9	15.2
Percent with business plan ^c	16.2	—	16.2	22.9
Percent active fishing group member	45.2	12.5	36.2	25.7
Marital Status				
Percent married or relationship	78.6	68.8	75.9	62.0
Percent with partner employed in business ^d	58.1	—	58.1	56.1
Median hours per week employed in business	25.0	—	25.0	20.0
Partners Income^{de}				
Full-time employment	30.0	27.3	29.3	28.3
Part-time employment	16.7	27.3	19.5	18.5
Casual employment	6.7	27.3	12.2	11.6
Not employed	46.7	18.2	39.0	41.5
Family Composition				
Mean family size	3.3	2.5	3.1	2.6
Estimated number of total family members	366	665	1,169	18,429
Dependency Ratios				
Age Dependency Ratio ^f	43.8	37.9	42.4	33.4
Elderly Dependency Ratio	5.2	0.0	4.0	2.3
Child Dependency Ratio	38.6	37.9	38.4	31.2
Family Member Industry Dependency Ratio ^g	38.7	21.4	35.5	23.9
Gross Individual Income				
Less than \$16,000	2.9	14.3	6.1	34.6
\$16,000 - \$26,000	11.4	28.6	16.3	19.6
\$26,000 - \$36,000	25.7	35.7	28.6	22.1
\$36,000 - \$52,000	28.6	21.4	26.5	11.7
\$52,000 - \$78,000	14.3	0.0	10.2	6.6
Over \$78,000	17.1	0.0	12.2	5.4
Average Income (\$)	46,171	27,643	40,878	27,471

Note: ^a Owner/operator sample of 43; employee sample = 17.

^b Based on peak estimates derived in Table 22.7.

^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).

23 MARYBOROUGH TRC

MARYBOROUGH TRC

The Maryborough TRC consists of the main urban centre of Maryborough (Figure 23.1).

BUSINESS PROFILES

Location and Use of Ports

Table 23.1 shows the number of licence holders within the Maryborough TRC and the number of survey respondents who reported having homeports within the TRC. It is estimated that there are 36 commercial fishing businesses within this TRC with the 95% confidence interval indicating that the true population count of commercial fishing businesses within the TRC as being between 24 and 48. Figure 23.1 shows the geographic location of this TRC.

Table 23.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Maryborough UC	32	12	29	80.6
Aldershot	1	1	2	5.6
Eurong	0	2	5	13.8
Total TRC	33	15	36	100.0

95% Confidence Interval for Estimated TRC Count 24-48
Percent of Total Active Licence Holders in QLD 1.5%

*Note: The Maryborough UC includes Granville and Tinana.
Adjusted database count is based on the postal address as recorded in the licencing information, which may not be the homeport of the fishing businesses. 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.*

Fishing Activity and Type

Table 23.2 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Netting (67%) and crabbing (67%) are the primary fishing activities within the Maryborough TRC.

Table 23.2
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Netting	10	66.7
Crabbing	10	66.7
Line fishing	6	40.0
Trawling	4	26.7
Spanner Crabs	1	6.7
Total Sample	15	100.0

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

Crabbing and netting were the primary fishing activities that co-occurred within this TRC (Table 23.2). Of the sample of crabbers, 70% were also engaged in netting, while among those engaged in netting, 70% were also crabbing.



Figure 23.1 Location of the Maryborough TRC

Table 23.3
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	6 <i>100.0</i>	0 <i>0.0</i>	4 <i>40.0</i>	3 <i>30.0</i>
Trawling	0 <i>0.0</i>	4 <i>100.0</i>	3 <i>30.0</i>	3 <i>30.0</i>
Crabbing	4 <i>66.7</i>	3 <i>75.0</i>	10 <i>100.0</i>	7 <i>70.0</i>
Netting	3 <i>50.0</i>	3 <i>75.0</i>	7 <i>70.0</i>	10 <i>100.0</i>

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

Table 23.4 shows the peak months for fishing activity within the TRC to be between February and July.

Table 23.4
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	5	35.7	24.5
February	7	50.0	29.7
March	7	50.0	43.9
April	7	50.0	42.8
May	7	50.0	38.1
June	9	64.3	33.5
July	6	42.9	23.9
August	1	7.1	19.9
September	1	7.1	23.5
October	1	7.1	24.8
November	3	21.4	26.2
December	5	35.7	21.4

Table 23.5 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between April and August, crabbing between August and November and netting between June and December (Table 23.5).

Table 23.5
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	3	50.0	64.6
February	2	33.3	64.3
March	3	50.0	68.1
April	5	83.3	70.4
May	5	83.3	74.7
June	4	66.7	78.7
July	4	66.7	82.0
August	4	66.7	80.8
September	3	50.0	79.7
October	3	50.0	79.7
November	2	33.3	78.2
December	3	50.0	70.6
Crabbing			
January	6	66.7	74.7
February	7	77.8	79.0
March	7	77.8	75.1
April	6	66.7	69.4
May	6	66.7	67.2
June	6	66.7	58.5
July	7	77.8	52.0
August	9	100.0	50.2
September	8	88.9	53.3
October	8	88.9	55.9
November	8	88.9	66.4
December	6	66.7	72.1
Netting			
January	9	90.0	57.5
February	8	80.0	72.9
March	9	90.0	73.9
April	9	90.0	74.2
May	9	90.0	77.6
June	10	100.0	79.9
July	10	100.0	75.9
August	10	100.0	73.9
September	10	100.0	69.6
October	10	100.0	64.2
November	10	100.0	55.9
December	10	100.0	54.5

Note: Trawling has been excluded due to the low sample count

Location of Resource Use

Figure 23.2 shows the location of resource use by commercial fishing operations in the Maryborough TRC. Both the primary and secondary resource catchments are restricted to the Hervey Bay region. The primary resource catchment includes areas at the north and southern ends of the Great Sandy Straits, while the secondary catchment includes Hervey Bay, the Great Sandy Straits and Rainbow Beach in the south.

Fishing Industry Employees

Table 23.6 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 only one full-time employee (which would include the owner or operator). The average number of employees per business during the peak season was 1.7 employees per business and in the off-peak season it was 1.6. It is estimated that during the peak season there were 61 full

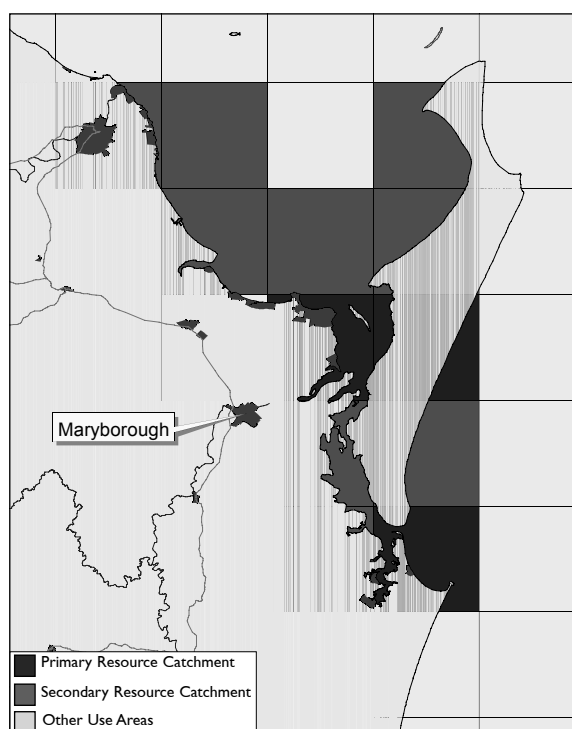


Figure 23.2 Maryborough TRC: Location of Resource Use

time equivalent employees while during the off-peak season there were an estimated 58 full-time equivalent employees.

Business Ownership and Size

Table 23.8 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 18 years, with 53% of businesses being owned by the current owner for less than 15 years.

Table 23.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	13.3	13.3
6-10	4	26.6	39.9
11-15	2	13.3	53.2
16-20	2	13.3	66.5
21-25	1	6.7	73.2
26-30	2	13.3	86.5
31+	2	13.3	100.0
Total	15	100.0	

Mean Number of Years owned or operated 18.0
Difference of TRC mean to QLD mean (14.6)+3.4

Note: Standard errors for number of years ownership (sample =3.4. QLD population = 0.37).

Table 23.6
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	13.3	11	73.3	10	66.7
1	7	46.7	4	26.7	4	26.7
2-3	6	40.0	0	0.0	1	6.7
4-5	0	0.0	0	0.0	0	0.0
6-7	0	0.0	0	0.0	0	2.2
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.0	0	0.0
20-21	0	0.8	0	0.0	0	0.0
Total Businesses	15	100.0	15	100.0	15	100.0
Total Employees	20		2		3	
Mean Number of Employees per Business (Peak)						
Estimated Number Employed within the TRC						
1.7						
61						
Off-Peak Season						
Nil	1	6.7	12	80.0	13	86.7
1	8	53.3	3	20.0	1	6.7
2-3	6	40.0	0	0.0	1	6.7
4-5	0	0.0	0	0.0	0	0.0
6-7	0	0.0	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
0	0	0.0	0	0.0	0	0.0
20-21	0	0.0	0	0.0	0	0.0
Total Businesses	15	100.0	15	100.0	15	100.0
Total Employees	21		1.5		1.5	
Mean Nos Employees per Business (Off-Peak)						
Estimated Number Employed within the TRC						
1.6						
58						

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 36 fishing businesses (Table 23.1)

The average number of years the business had been operating was 25 years (Table 23.8), which was significantly longer than the average for all Queensland fishing businesses (18.2 years).

Table 23.8
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	2	13.3	13.3
6-10	4	26.6	39.9
11-15	2	13.3	53.2
16-20	2	13.3	66.5
21-25	1	6.7	73.2
26-30	2	13.3	86.5
31+	2	13.3	100.0
Total	15	100.0	
Mean Number of Years owned or operated			25.0
Difference of TRC mean to QLD mean (18.2)			+6.8

Note: Standard errors for number of years operated
(sample = 9.3; QLD population = 0.46)

Table 23.9 shows that the majority of fishing businesses within this TRC operated either one or two boats (60%).

Table 23.9
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	6	40.0
2	3	20.0
3	1	6.7
4	2	13.3
5	0	0.0
6+	3	20.0
Total Number of Businesses	15	100.0
Mean Number of Boats Operated		3.0
Difference of TRC mean to QLD mean (1.7)		+1.3

Note: Standard errors for number of boats operated
(sample = 0.6; QLD population = 0.05)

Table 23.10 shows the frequency distribution for length of boats. Sixty-two percent of boats were found to be between 3 and 6 metres, with the mean length of all boats and the mean length of the largest boat also being significantly shorter than the Queensland average.

Table 23.10
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	28	62.2
7-10	16	35.5
11-14	1	2.2
15-18	0	0.0
19-22	0	0.0
23+	0	0.0
Total Number of Boats	45	100.0
Mean Length of Boats Operated (metres)		6.2
Difference of TRC mean to QLD mean (9.9)		-3.7
Mean Length of Largest Boat Operated (metres)		7.7
Difference of TRC mean to QLD mean (11.4)		-3.7

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.5; QLD population=0.14)

Value of Production and Location of Sales

Table 23.11 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Maryborough TRC. In the Maryborough TRC there is a higher percentage of businesses with production values less than between \$100,000 per annum (80%) when compared to the Queensland average (43%). In addition, the median GVP of \$50,426 for the Maryborough TRC is significantly lower than the Queensland median GVP of \$128,629.

Within the Maryborough TRC it is estimated that the 36 fishing businesses had a gross value of production of approximately \$1.8 million, which is approximately 0.6% of the total value of production of the Queensland commercial fishing industry.

Table 23.11
Wholesale Value of Product (Annual value)

Wholesale Value (\$'000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	12	80.0	42.8
\$101 - \$200	3	20.0	21.4
\$201 - \$300	0	0.0	16.2
\$301 - \$400	0	0.0	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	15	100.0	100.0

Median GVP for TRC	\$50,426
Estimated Total GVP for TRC	\$1,815,000
Median GVP for QLD Population	\$128,629
Estimated Total GVP for QLD Population	\$314,241,000
Percent of Total Queensland Production	0.6%

Note: Estimated TRC population total is based on an estimate of 36 businesses within the TRC, with a median GVP of \$50,426
Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 23.12 shows the value of sales to specific locations within Australia for the sample of 15 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 23.12, and as shown in Figure 23.3, 44% of sales (\$0.8 million) occurs directly within Hervey Bay, \$0.5 million to Maryborough, while a further \$0.2 million is sold in Brisbane. It is probable that much of the sale to overseas markets (\$0.2 million) occurred firstly within the towns of Hervey Bay, Maryborough and Brisbane, thereby increasing the total value of sales within these locations.

Table 23.12
Town Location of Sales to Customers (\$'000)

Location	Sample Value of Sales	Percent of Sample	Estimated Sales
Hervey Bay	445	44.4	806
Maryborough	269	26.9	488
Brisbane	120	12.0	218
New South Wales	42	4.2	76
Mooloolaba	27	2.7	49
Victoria	14	1.4	25
Total Sales (Australia)	917	91.6	1,662
Total Sales (Overseas)	84	8.4	153
Total Sales	1,001	100.0	1,815

Note: Hervey Bay includes Urangan.
The sample value of sales is based on GVP as reported by businesses in the survey.
The estimated value of business sales (Table 23.12) is proportionally distributed to all locations on the basis of sample percentages.

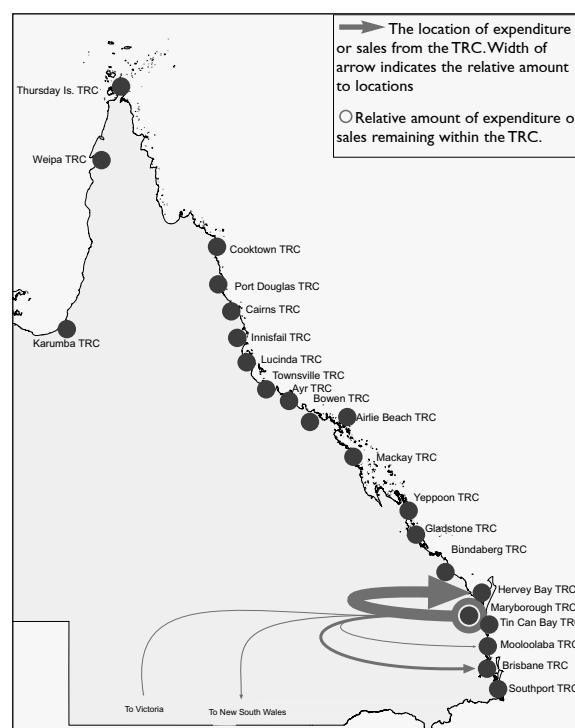


Figure 23.3 Maryborough TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 23.13 and Figure 23.4 show that approximately \$0.9 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 within the towns of Maryborough (\$0.6 million) and Brisbane (\$0.1 million).

Table 23.13

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)
Maryborough	344	68.1	644
Brisbane	74	14.6	138
Hervey Bay	45	8.9	84
Bundaberg	15	3.0	28
Gympie	14	2.8	26
Forest Hill	4	0.8	8
Gatton	4	0.8	8
Ipswich	4	0.8	8
Rockhampton	1	0.2	2
Total Expenditure	505	100.0	946

Note: Hervey Bay includes Urangan.

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.

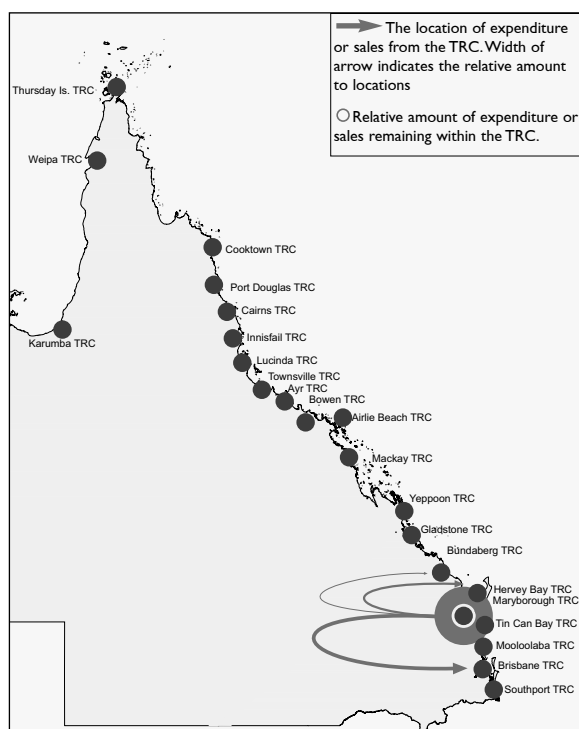


Figure 23.4 Maryborough TRC: Location of Business Expenditure

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 2.15 shows that 83% of businesses within the Maryborough TRC had no debt. The mean debt level within the TRC was 5% of business assets, which was significantly lower than the Queensland industry average of 16.6%.

Table 23.14

Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	10	83.3	60.1
1 - 10%	1	8.3	6.4
11 - 20%	0	0.0	5.2
21 - 30%	0	0.0	6.4
31 - 40%	0	0.0	3.3
41 - 50%	1	8.3	9.6
51 - 60%	0	0.0	1.8
61 - 70%	0	0.0	1.2
71 - 80%	0	0.0	1.1
81 - 90%	0	0.0	1.6
91 - 100%	0	0.0	3.3
Total	12	100.0	100.0

Mean Debt Level for TRC

5.0%

Median Debt Level for QLD Population

16.6%

Difference of TRC mean to QLD mean (16.6)-11.6%

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

EMPLOYEE PROFILES

Town of Residence

Table 23.15 indicates that the majority of employees reside within the town of Maryborough (92%).

Table 23.15

Town of Residence

Town of Residence	Sample Count	Percent of Sample
Maryborough	22	91.6
Aldershot	1	4.2
Fraser Island	1	4.2
Total	24	100.0

Months Employed in the Fishing Industry

Table 23.16 shows that during the past 12 months owner-operators are more commonly employed in the fishing industry between November and March, while employees are more commonly employed between March and July.

Table 23.16

Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	100.0	66.7	90.9	80.7
February	100.0	66.7	90.9	82.3
March	100.0	83.3	95.5	86.1
April	93.8	83.3	90.9	86.8
May	93.8	83.3	90.9	87.3
June	93.8	83.3	90.9	87.8
July	93.8	83.3	90.9	86.7
August	93.8	66.7	86.4	86.3
September	87.5	66.7	81.8	86.8
October	93.8	66.7	86.4	85.4
November	100.0	66.7	90.9	84.4
December	100.0	100.0	100.0	82.3

Note: Owner-operator sample of 17; employee sample of 7.

Location of Household Expenditure

Table 23.17 shows the location of household expenditure related to individual income derived from employment in the fishing industry. Maryborough attracts 92% (\$1.1 million) of all annual employee household expenditure from within the TRC. As shown in Table 23.17 there is only relatively minor expenditure to other towns.

Table 23.17

Town Location of Household Expenditure (all commodities and services)

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Maryborough	438	91.6	1,115
Cairns	10	2.1	26
Rainbow Beach	8	1.7	21
Gold Coast	6	1.2	15
Gympie	6	1.2	15
Hervey Bay	6	1.2	15
Bundaberg	3	0.6	7
Brisbane	2	0.4	5
Total Expenditure	479	100.0	1,217

Note: The gross individual annual income of fishers within this TRC was estimated as \$32,800 (Table 2.19). 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 \$19,952, with total household expenditure across all 61 (Table 23.6) employees to be \$1.2 million (Table 23.17).

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 23.18. As might be expected, Maryborough (91%) is the primary town location for school and employment.

Table 23.18

School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Maryborough	41	91.1
Gladstone	2	4.4
Other towns	2	4.4
Total Family Members	45	100.0

Note: Hervey Bay includes Urangan.

Counts and percentages based on all family members.

Other towns includes all towns with a frequency of one.

Employee Social and Demographic Profiles

Table 23.19 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 23.19 Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	36	25	61	7,088
Mean age of fisher	44.2	26.7	39.1	37.3
Age range	28-64	15-38	15-64	15-79
Percent males	100.0	100.0	100.0	94.8
Mean years resident in town	25.8	16.0	22.9	19.1
Mean number of years in fishing industry	21.8	4.8	16.8	12.6
Median hours per week in fishing industry	60.0	72.0	60.0	60.0
Percent moved town to retain employment	5.9	14.3	8.3	20.5
Percent currently employed in other industry	5.9	28.6	12.5	34.2
Percent previously employed in other industry	76.5	42.9	66.7	69.2
Housing tenure				
Rent	11.8	42.9	20.8	33.6
Mortgage	29.4	0.0	20.8	20.1
Own home	52.9	0.0	37.5	31.1
Other (eg. live with parents, on boat)	5.9	57.2	20.8	15.2
Educational				
Year completed school				
Primary school	11.8	14.3	12.5	5.2
Year 8	5.9	0.0	4.2	8.0
Year 9	11.8	0.0	8.3	11.9
Year 10	52.9	71.4	58.3	44.4
Year 11	5.9	0.0	4.2	10.1
Year 12	11.8	14.3	12.5	20.2
Percent completed trade or TAFE certificate	6.3	28.6	13.0	37.7
Percent completed industry or business course	11.8	14.3	12.5	15.2
Percent with business plan ^c	11.8	—	11.8	22.9
Percent active fishing group member	41.2	0.0	30.4	25.7
Marital Status				
Percent married or relationship	88.2	42.9	75.0	62.0
Percent with partner employed in business ^d	26.7	—	26.7	56.1
Median hours per week employed in business	25.0	—	25.0	20.0
Partners Income^{de}				
Full-time employment	26.7	66.7	33.3	28.3
Part-time employment	46.7	33.3	44.4	18.5
Casual employment	6.7	0.0	5.6	11.6
Not employed	20.0	0.0	16.7	41.5
Family Composition				
Mean family size	3.6	1.3	2.9	2.6
Estimated number of total family members	130	32	177	18,429
Dependency Ratios				
Age Dependency Ratio ^f	48.8	12.5	42.8	33.4
Elderly Dependency Ratio	0.0	0.0	0.0	2.3
Child Dependency Ratio	48.8	12.5	42.8	31.2
Family Member Industry Dependency Ratio ^g	23.1	0.0	23.1	23.9
Gross Individual Income				
Less than \$16,000	14.3	33.3	20.0	34.6
\$16,000 - \$26,000	14.3	16.7	15.0	19.6
\$26,000 - \$36,000	35.7	50.0	40.0	22.1
\$36,000 - \$52,000	14.3	0.0	10.0	11.7
\$52,000 - \$78,000	7.1	0.0	5.0	6.6
Over \$78,000	14.3	0.0	10.0	5.4
Average Income (\$)	37,571	21,667	32,800	27,471

Note: ^a Owner/operator sample of 17, employee sample = 7.

^b Based on peak estimates derived in Table 23.6.

^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).

24 TIN CAN BAY TRC

The Tin Can Bay TRC consists of the main urban centres of Tin Can Bay and Rainbow Beach. Figure 24.1 shows the geographic location of this TRC.

BUSINESS PROFILES

Location and Use of Ports

Table 24.1 shows the number of licence holders within the Tin Can Bay TRC and the number of survey respondents who reported having homeports within the TRC. On the basis of the sample, it is estimated that there are 78 commercial fishing businesses within this TRC and that we can be 95% confident that the true population count of commercial fishing businesses within the TRC is between 61 and 95.

Table 24.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Tin Can Bay	50	28	68	87.2
Rainbow Beach	12	4	10	12.8
Total TRC	62	32	78	100.0
95% Confidence Interval for Estimated TRC Count				61-95
Percent of Total Active Licence Holders in QLD				3.2%

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 businesses. 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 Tin Can Bay as a homeport, several fishing businesses used this port when travelling to or from fishing areas. Table 24.2 shows the majority of these businesses having their homeports in Bundaberg (23%) and Mooloolaba (23%).

Table 24.2
Homeports of Businesses Using Tin Can Bay as a Port

Homeports	Sample Count	Percent
Bundaberg	5	22.7
Mooloolaba	5	22.7
Noosa	2	9.1
Southport	2	9.1
Brisbane	1	4.5
Budina	1	4.5
Gold Coast	1	4.5
Hervey Bay	1	4.5
New South Wales	1	4.5
Ningi	1	4.5
Rainbow Beach	1	4.5
Scarborough	1	4.5
Total Businesses	22	100.0

Note: Noosa includes Noosa Heads

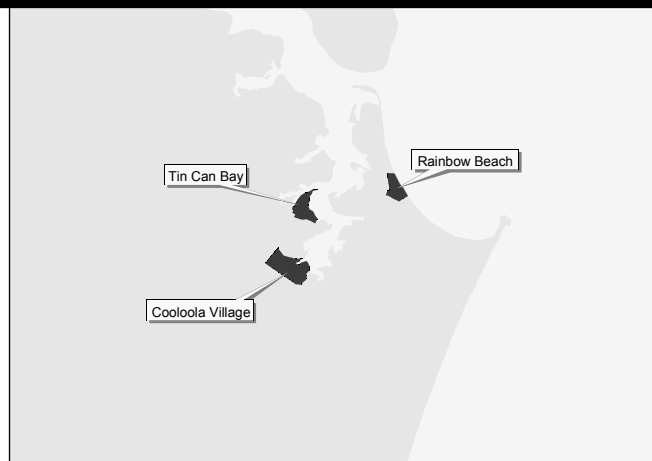


Figure 24.1 Location of the Tin Can Bay TRC

Fishing Activity and Type

Table 24.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Trawling (53%) and line fishing (31%) are the primary fishing activities within the Tin Can Bay TRC.

Table 24.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Trawling	17	53.1
Line fishing	10	31.3
Netting	6	18.8
Crabbing	3	9.4
Spanner Crabs	2	6.3
Total Sample	32	100.0

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

With the exception of netting and line fishing, which tended to co-occur (Table 24.4), most other fishing activities by businesses within this TRC were relatively independent.

Table 24.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting
Line fishing	10 <i>100.0</i>	1 <i>5.9</i>	2 <i>66.7</i>	3 <i>50.0</i>
Trawling	1 <i>10.0</i>	17 <i>100.0</i>	0 <i>0.0</i>	0 <i>0.0</i>
Crabbing	2 <i>20.0</i>	0 <i>0.0</i>	3 <i>100.0</i>	1 <i>16.7</i>
Netting	3 <i>30.0</i>	0 <i>0.0</i>	1 <i>33.3</i>	6 <i>100.0</i>

Note: Spanner crabs has been excluded given the low sample count.
The co-occurrence table should be read by column.
Column percentages are given as italics.

Table 24.5 shows the peak months for fishing activity within the TRC to be between March and April.

Table 24.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	5	20.0	24.5
February	4	16.0	29.7
March	9	36.0	43.9
April	10	40.0	42.8
May	7	28.0	38.1
June	6	24.0	33.5
July	5	20.0	23.9
August	5	20.0	19.9
September	7	28.0	23.5
October	7	28.0	24.8
November	5	20.0	26.2
December	4	16.0	21.4

Location of Resource Use

Figure 24.2 shows the location of resource use by commercial fishing operations in the Tin Can Bay TRC. The primary resource catchment is restricted to coastal areas in Hervey Bay and surrounding Fraser Island. The secondary resource catchment on the other hand extends generally north and includes coastal and reefal areas between Princess Charlotte Bay and Cape York, coastal areas between Cairns and Cooktown and coastal areas between Double Island Point and Gladstone.

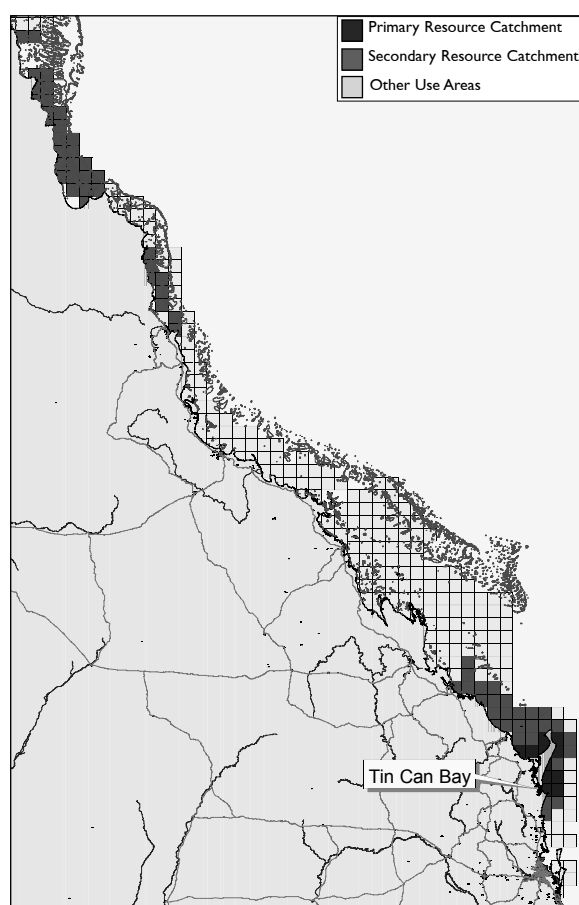


Figure 24.2 Tin Can Bay TRC: Location of Resource Use

Fishing Industry Employees

Table 24.7 identifies the number of employees of commercial fishing businesses within this TRC for both peak and off-peak seasons. The majority of businesses within the peak had between 2-3 full-time employees (which would include the owner or operator), while in the off-peak season the majority of businesses employed one full-time person. The average number of employees per business during the peak season was 2.5 employees per business and in the off-peak season it was 2.3. In total, it is estimated that during the peak season there were 195 full time equivalent employees while during the off-peak season there were an estimated 179 full time equivalent employees.

Table 24.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between June and October, trawling between March and December and netting between May and October (Table 24.6).

Table 24.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	6	60.0	64.6
February	6	60.0	64.3
March	6	60.0	68.1
April	6	60.0	70.4
May	7	70.0	74.7
June	9	90.0	78.7
July	9	90.0	82.0
August	10	100.0	80.8
September	9	90.0	79.7
October	9	90.0	79.7
November	7	70.0	78.2
December	6	60.0	70.6
Trawling			
January	13	76.5	74.7
February	13	76.5	79.0
March	17	100.0	75.1
April	17	100.0	69.4
May	17	100.0	67.2
June	17	100.0	58.5
July	17	100.0	52.0
August	17	100.0	50.2
September	16	94.1	53.3
October	16	94.1	55.9
November	17	100.0	66.4
December	16	94.1	72.1
Netting			
January	5	83.3	57.5
February	5	83.3	72.9
March	5	83.3	73.9
April	5	83.3	74.2
May	6	100.0	77.6
June	6	100.0	79.9
July	6	100.0	75.9
August	6	100.0	73.9
September	6	100.0	69.6
October	6	100.0	64.2
November	5	83.3	55.9
December	5	83.3	54.5

Note: Crabbing and fishing for spanner crabs have been excluded due to the low sample count

Table 24.7
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	3	9.4	24	75.0	30	93.8
1	9	28.1	5	15.6	2	6.2
2-3	15	46.9	2	6.2	0	6.7
4-5	2	6.2	1	3.1	0	0.0
6-7	3	9.4	0	0.0	0	2.2
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.0	0	0.0
20-21	0	0.0	0	0.0	0	0.0
Total Businesses	32	100.0	32	100.0	32	100.0
Total Employees	71		7		1	
Mean Number of Employees per Business (Peak)		2.5				
Estimated Number Employed within the TRC		195				
Off-Peak Season						
Nil	3	9.4	28	87.5	29	90.6
1	23	71.9	2	6.2	2	6.2
2-3	2	6.2	1	3.1	0	0.0
4-5	3	9.4	1	3.1	1	3.1
6-7	1	3.1	0	0.0	0	0.0
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.0	0	0.0
20-21	0	0.0	0	0.0	0	0.0
Total Businesses	32	100.0	32	100.0	32	100.0
Total Employees	68		4		3	
Mean Nos Employees per Business (Off-Peak)		2.3				
Estimated Number Employed within the TRC		179				

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 78 fishing businesses (Table 24.1)

Business Ownership and Size

Table 24.8 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 14 years, with 56% of businesses being owned by the current owner for less than 10 years.

Table 24.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	13	40.6	40.6
6-10	5	15.6	56.2
11-15	6	18.7	74.9
16-20	0	0.0	74.9
21-25	2	6.2	81.1
26-30	3	9.4	90.5
31+	3	9.4	100.0
Total	32	100.0	
Mean Number of Years owned or operated		14.0	
Difference of TRC mean to QLD mean (14.6)		-0.6	

Note: Standard errors for number of years ownership (sample = 2.7; QLD population = 0.37).

The average number of years the business had been operating was 17.2 years (Table 24.9), which was similar to the average for all Queensland fishing businesses (18.2 years).

Table 24.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	10	31.2	31.2
6-10	4	12.5	43.7
11-15	6	18.7	62.4
16-20	0	0.0	62.4
21-25	3	9.4	71.8
26-30	4	12.5	84.3
31+	5	15.6	100.0
Total	32	100.0	
Mean Number of Years owned or operated		17.2	
Difference of TRC mean to QLD Mean (18.2)		-1.0	

Note: Standard errors for number of years operated (sample = 2.8; QLD population = 0.46)

Table 24.10 shows that the majority of fishing businesses within this TRC operated one boat (71%).

Table 24.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	22	71.0
2	6	19.4
3	1	3.2
4	0	0.0
5	0	0.0
6+	2	6.4
Total Number of Businesses	31	100.0
Mean Number of Boats Operated		1.5
Difference of TRC mean to QLD mean (1.7)		+0.2

Note: Standard errors for number of boats operated (sample = 0.2; QLD population = 0.05)

Table 24.11 shows the frequency distribution for length of boats. Thirty-five percent of boats were found to be between 15 and 18 metres. The mean length of all boats and the mean length of the largest boat were similar to the Queensland average.

Table 24.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	11	22.4
7-10	14	28.6
11-14	7	14.3
15-18	17	34.7
19-22	0	0.0
23+	0	0.0
Total Number of Boats	49	100.0
Mean Length of Boats Operated (metres)		10.9
Difference of TRC mean to QLD mean (9.9)		+1.0
Mean Length of Largest Boat Operated (metres)		12.2
Difference of TRC mean to QLD mean (11.4)		+0.8

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 24.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Tin Can Bay TRC. In the Tin Can Bay TRC there is a lower percentage of businesses with production values less than between \$100,000 per annum (37%) when compared to the Queensland average (43%). In addition, the median GVP of \$178,796 for the Tin Can Bay TRC is somewhat higher than the Queensland median GVP of \$128,629.

Within the Tin Can Bay TRC it is estimated that the 78 fishing businesses had a gross value of production of approximately \$13.9 million, which is approximately 4.4% of the total value of production of the Queensland commercial fishing industry.

Table 24.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	12	37.5	42.8
\$101 - \$200	5	15.6	21.4
\$201 - \$300	6	18.7	16.2
\$301 - \$400	2	6.2	8.5
\$401 - \$500	1	3.1	3.8
\$501 - \$600	3	9.3	1.8
\$601 - \$700	0	0.0	1.3
\$701 - \$800	0	0.0	0.4
\$801 - \$900	1	3.1	1.0
\$901 - \$1,000	0	0.0	0.3
Over \$1,000	0	0.0	2.3
Total	32	100.0	100.0
Median GVP for TRC			\$178,796
Estimated Total GVP for TRC			\$13,946,000
Median GVP for QLD Population			\$128,629
Estimated Total GVP for QLD Population			\$314,241,000
Percent of Total Queensland Production			4.4%

*Note: Estimated TRC population total is based on an estimate of 78 businesses within the TRC, with a median GVP of \$178,796
Queensland total GVP based on 2,443 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.*

Table 24.13 shows the value of sales to specific locations within Australia for the sample of 32 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 24.13, and as shown in Figure 24.3, 25% of sales (\$3.5 million) occurs directly within Tin Can Bay and 16% or \$2.2 million to Cairns. It is probable that much of the sale to overseas markets (\$4 million) occurred firstly within the towns of Tin Can Bay and Cairns, thereby increasing the total value of sales within these locations.

Table 24.13
Town Location of Sales to Customers (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Tin Can Bay	1,829	25.4	3,542
Cairns	1,116	15.5	2,162
Maryborough	503	7.0	976
NSW	455	6.3	879
Sunshine Coast	303	4.2	586
Brisbane	231	3.2	446
Gladstone	194	2.7	377
Innisfail	108	1.5	209
Bundaberg	99	1.4	195
Hervey Bay	72	1.0	139
Gympie	59	0.8	112
Gold Coast	56	0.8	112
Mooloolah	48	0.7	98
Scarborough	42	0.6	84
Total Sales (Australia)	5,115	71.0	9,902
Total Sales (Overseas)	2,085	29.0	4,044
Total Sales	7,200	100.0	13,946

Note: The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 24.13) is proportionally distributed to all locations on the basis of sample percentages.

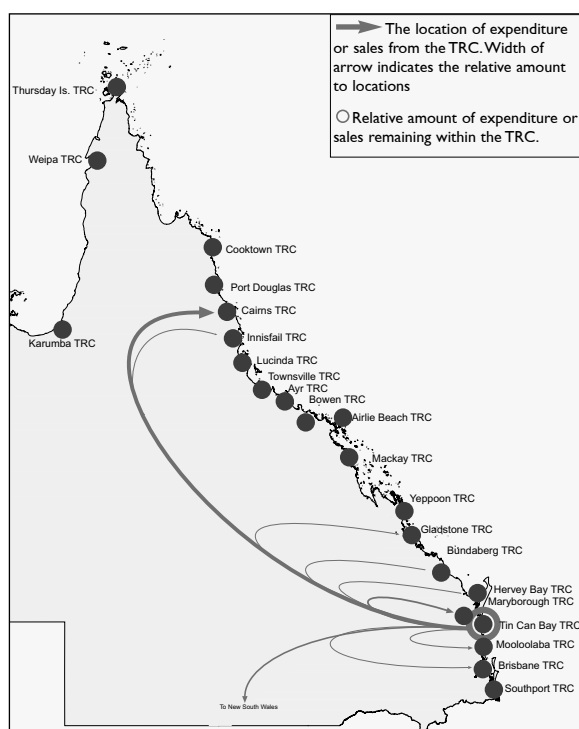


Figure 24.3 Tin Can Bay TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 24.14 and Figure 24.4 shows that approximately \$7.3 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 within the towns of Tin Can Bay (\$2.7 million), Cairns (\$1.6 million) and Townsville (\$0.9 million).

Table 24.14
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)
Tin Can Bay	1,363	37.6	2,732
Cairns	797	22.0	1,599
Townsville	434	12.0	872
Brisbane	223	6.2	450
Gympie	150	4.1	298
Hervey Bay	139	3.8	276
Bundaberg	131	3.6	262
Gladstone	94	2.6	189
NSW	70	1.9	138
Mooloolaba	66	1.8	131
Gold Coast	41	1.1	80
Bowen	39	1.1	80
Caboolture	31	0.9	65
Redcliffe	27	0.7	51
Turkey	10	0.3	22
Maryborough	4	0.1	7
Rainbow Beach	3	0.1	7
Total Expenditure	3,623	100.0	7,266

Note: Hervey Bay includes Uranang.
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.

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

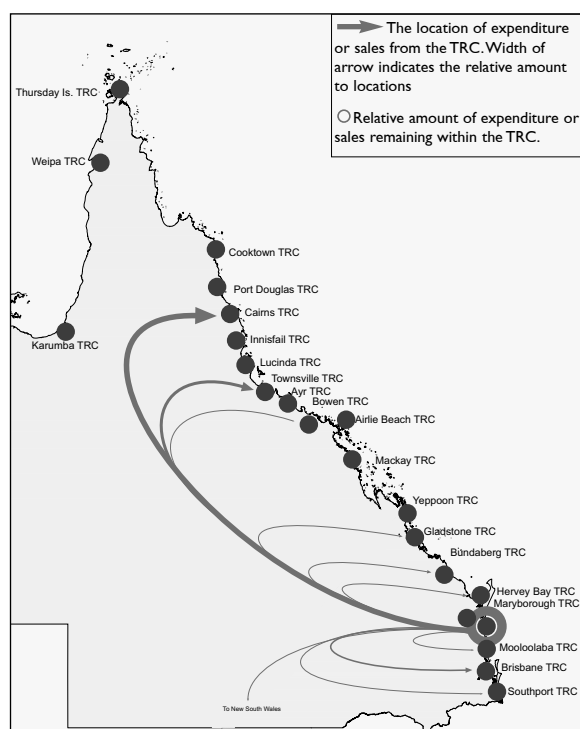


Figure 24.4 Tin Can Bay TRC: Location of Business Expenditure

debt. Table 24.15 shows that 59% of businesses within the Tin Can Bay TRC had no debt. The mean debt level within the TRC was 19% of business assets, which was somewhat higher than the Queensland industry average of 16.6%.

Table 24.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	17	58.6	60.1
1 - 10%	1	3.4	6.4
11 - 20%	0	0.0	5.2
21 - 30%	6	20.6	6.4
31 - 40%	0	0.0	3.3
41 - 50%	2	6.8	9.6
51 - 60%	0	0.0	1.8
61 - 70%	0	0.0	1.2
71 - 80%	0	0.0	1.1
81 - 90%	2	6.8	1.6
91 - 100%	1	3.4	3.3
Total	29	100.0	100.0

Mean Debt Level for TRC 19.0%
Median Debt Level for QLD Population 16.6%
Difference of TRC mean to QLD mean (16.6) +2.4%

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

EMPLOYEE PROFILES

Town of Residence

Table 24.16 indicates that the majority of employees reside within the town of Tin Can Bay (97%).

Table 24.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Tin Can Bay	28	96.6
Rainbow Beach	1	3.4
Total	29	100.0

Months Employed in the Fishing Industry

Table 24.17 shows that during the past 12 months owner-operators are more commonly employed in the fishing industry between May and December, however there is no clear seasonal trend in relation to the employment of employees.

Table 24.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner-Operators	Employee	Total Within TRC	All QLD Employees
January	82.6	83.3	82.8	80.7
February	82.6	66.7	79.3	82.3
March	91.3	83.3	89.7	86.1
April	91.3	83.3	89.7	86.8
May	95.7	83.3	93.1	87.3
June	100.0	83.3	96.6	87.8
July	100.0	83.3	96.6	86.7
August	100.0	83.3	96.6	86.3
September	95.7	83.3	93.1	86.8
October	95.7	83.3	93.1	85.4
November	95.7	66.7	96.1	84.4
December	95.7	83.3	93.1	82.3

Note: Owner/operator sample of 23, employee sample of 6.

Location of Household Expenditure

Table 24.18 and Figure 24.5 show the location of household expenditure related to individual income derived from employment in the fishing industry. Tin Can Bay attracts 45% (\$2.4 million) of all annual employee household expenditure from within the TRC, while Gympie attracts an additional 37% (\$2 million). As shown in Table 24.18 there is only relatively minor expenditure to other towns.

Table 24.18
Town Location of Household Expenditure (all commodities and services)

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Tin Can Bay	351	45.0	2,447
Gympie	292	37.4	2,033
Maryborough	47	6.0	326
Redcliffe	37	4.7	256
Meadowvale	20	2.6	141
Cairns	14	1.8	98
Maroochydore	6	0.8	43
New South Wales	6	0.8	43
Sunshine Coast	4	0.5	27
Rainbow Beach	3	0.4	22
Total Expenditure	780	100.0	5,437

Note: The gross individual annual income of fishers within this TRC was estimated as \$45,840 (Table 24.20). The Household Expenditure Survey for Queensland: 1993-1994 (ABS, 1996²) 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 \$27,884, with total household expenditure across all 195 (Table 24.7) employees to be \$5.4 million (Table 24.18)

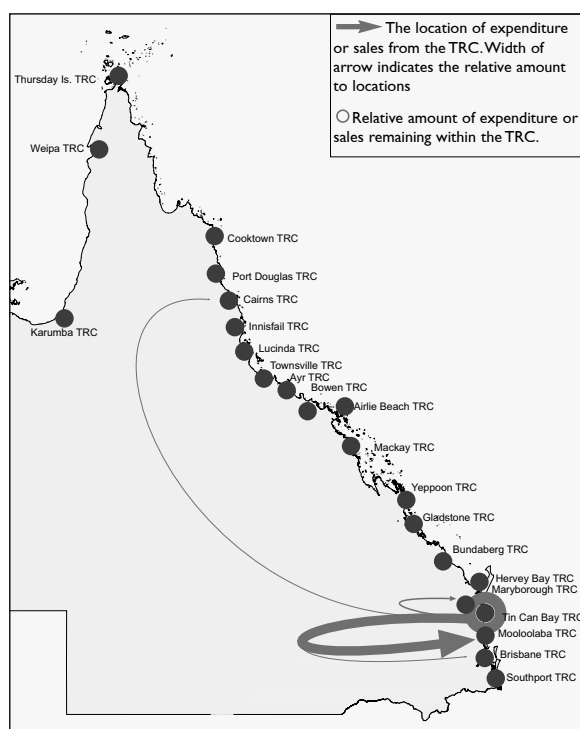


Figure 24.5 Tin Can Bay TRC: Location of Household Expenditure

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 24.19. As might be expected, Tin Can Bay (77%) is the primary town location for school and employment.

Table 24.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Tin Can Bay	33	76.7
Melbourne	2	4.7
Other towns	8	18.6
Total Family Members	43	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 24.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 24.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	78	117	195	7,088
Mean age of fisher	43.7	39.0	42.8	37.3
Age range	26-66	20-58	20-66	15-79
Percent males	100.0	100.0	100.0	94.8
Mean years resident in town	28.4	16.0	25.8	19.1
Mean number of years in fishing industry	21.0	12.2	19.1	12.6
Median hours per week in fishing industry	72.0	55.0	70.0	60.0
Percent moved town to retain employment	13.0	0.0	10.3	20.5
Percent currently employed in other industry	8.7	16.7	10.3	34.2
Percent previously employed in other industry	65.2	66.7	65.5	69.2
Housing tenure				
Rent	13.0	60.0	21.4	33.6
Mortgage	21.7	0.0	17.9	20.1
Own home	60.9	20.0	53.6	31.1
Other (eg. live with parents, on boat)	4.3	20.0	7.1	15.2
Educational				
Year completed school				
Primary school	4.3	0.0	3.6	5.2
Year 8	4.3	0.0	3.6	8.0
Year 9	17.4	20.0	17.9	11.9
Year 10	56.5	60.0	57.1	44.4
Year 11	4.3	20.0	7.1	10.1
Year 12	13.0	0.0	10.7	20.2
Percent completed trade or TAFE certificate	30.4	66.7	37.9	37.7
Percent completed industry or business course	21.7	16.7	20.7	15.2
Percent with business plan ^c	34.8	—	34.8	22.9
Percent active fishing group member	47.8	16.7	41.4	25.7
Marital Status				
Percent married or relationship	69.6	83.3	72.4	60.0
Percent with partner employed in business ^d	56.3	—	56.3	56.1
Median hours per week employed in business	33.7	—	33.7	20.0
Partners Income^{de}				
Full-time employment	40.0	40.0	40.0	28.3
Part-time employment	13.3	0.0	10.0	18.5
Casual employment	6.7	40.0	15.0	11.6
Not employed	40.0	20.0	35.0	41.5
Family Composition				
Mean family size	2.7	2.3	2.6	2.6
Estimated number of total family members	211	269	507	18,429
Dependency Ratios				
Age Dependency Ratio ^f	17.0	7.7	15.2	33.4
Elderly Dependency Ratio	3.8	0.0	3.0	2.3
Child Dependency Ratio	13.2	7.7	12.2	31.2
Family Member Industry Dependency Ratio ^g	31.2	14.3	28.2	23.9
Gross Individual Income				
Less than \$16,000	9.5	0.0	20.0	34.6
\$16,000 - \$26,000	0.0	25.0	15.0	19.6
\$26,000 - \$36,000	19.0	50.0	40.0	22.1
\$36,000 - \$52,000	28.6	25.0	10.0	11.7
\$52,000 - \$78,000	33.3	0.0	5.0	6.6
Over \$78,000	9.5	0.0	10.0	8.4
Average Income (\$)	48,524	31,750	45,840	27,471

Note: ^a Owner/operator sample of 23; employee sample = 6.

^b Based on peak estimates derived in Table 24.7.

^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).

25 MOOLOOLABA TRC

The Mooloolaba TRC consists of the main urban centres of Mooloolaba, Maroochydore, Tewantin, Noosa, Nambour, Caloundra and Kawana Waters (Figure 25.1).

BUSINESS PROFILES

Location and Use of Ports

Table 25.1 shows the number of licence holders within the Mooloolaba TRC and the number of survey respondents who reported having homeports within the TRC. On the basis of the sample, it is estimated that there are 218 commercial fishers within this TRC and that we can be 95% confident that the correct population count of commercial fishers within the TRC is between 192 and 244.

Table 25.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Maroochydore UC	35	61	148	67.9
Tewantin-Noosa UC	30	19	46	21.1
Kawana Waters UC	56	4	10	4.6
Caloundra UC	16	2	5	2.3
Nambour UC	4	2	5	2.3
Buderim	20	1	2	0.9
Beerwah	5	1	2	0.9
Gympie	8	0	0	0.0
Eumundi	4	0	0	0.0
Palmwoods	3	0	0	0.0
Pomona	3	0	0	0.0
Mooloolah	2	0	0	0.0
Kenilworth	2	0	0	0.0
Coolum Beach UC	2	0	0	0.0
Other Towns	17	0	0	0.0
Total TRC	207	90	218	100.0

95% Confidence Interval for Estimated TRC Count 192-244
Percent of Total Active Licence Holders in QLD 8.9%

Note: Tewantin-Noosa UC includes Tewantin, Noosa Heads, Noosaville and Noosa.
Maroochydore-Mooloolaba UC includes Mooloolaba, Maroochydore, Mountain Creek and Alexandra Headland.
Kawana Waters UC includes Buddina, Minyama, Warana, Wurtulla, Bokarina, Bokarina Beach and Kawana Waters
Caloundra UC includes Caloundra, Currimundi, Aroona, Moffat Beach and Golden Beach.
Nambour UC includes Nambour and Woombye.
Coolum Beach UC includes Coolum.
Other towns includes other towns within the TRC with a count of one.
Adjusted database count is based on the postal address as recorded in the licencing information, which may not be the homeport of the fishing businesses. 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 Mooloolaba as a homeport, several fishing businesses used this port when travelling to or from fishing areas. Table 25.2 shows the majority of these businesses having their homeports in New South Wales (30%) and Southport (20%).

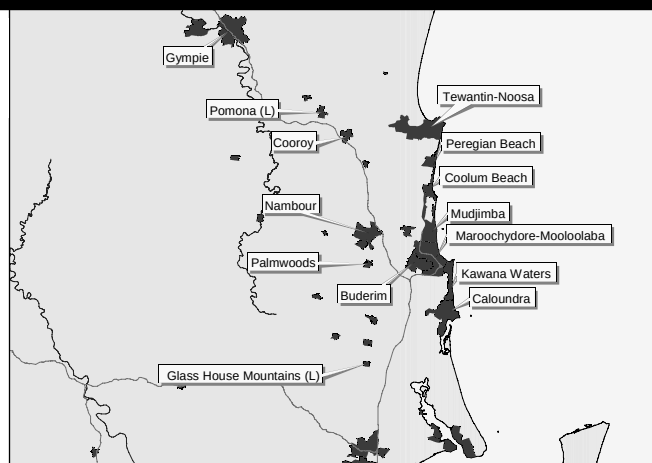


Figure 25.1 Location of the Mooloolaba TRC

Table 25.2.
Homeports of Businesses Using Mooloolaba as a Port

Homeports	Sample Count	Percent
New South Wales	3	30.0
Southport	2	20.0
Bribie Island	1	10.0
Brisbane	1	10.0
Gold Coast	1	10.0
Scarborough	1	10.0
Tin Can Bay	1	10.0
Total Businesses	10	100.0

Fishing Activity and Type

Table 25.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Trawling (51%) and line fishing (48%) are the primary fishing activities within the Mooloolaba TRC.

Table 25.3.
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Trawling	46	51.1
Line fishing	43	47.8
Spanner Crabs	25	27.8
Netting	21	23.3
Crabbing	8	8.9
Total Sample	90	100.0

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

Table 25.4 indicates that 62% of fishers engaged in netting are also engaged in trawling and that 52% of those fishers engaged in fishing for Spanner crabs are also engaged in line fishing.

Table 25.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting	Spanner Crabs
Line fishing	43 <i>100.0</i>	13 <i>28.3</i>	4 <i>50.0</i>	7 <i>33.3</i>	13 <i>52.0</i>
Trawling	13 <i>30.2</i>	46 <i>100.0</i>	4 <i>50.0</i>	13 <i>61.9</i>	4 <i>16.0</i>
Crabbing	4 <i>9.3</i>	4 <i>8.7</i>	8 <i>100.0</i>	3 <i>14.3</i>	6 <i>24.0</i>
Netting	7 <i>16.3</i>	13 <i>28.3</i>	3 <i>37.5</i>	21 <i>100.0</i>	3 <i>12.0</i>
Spanner crabs	13 <i>30.2</i>	4 <i>8.7</i>	6 <i>75.0</i>	3 <i>14.3</i>	25 <i>100.0</i>

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

Table 25.5 shows the peak months for fishing activity within the TRC to be between February and June.

Table 25.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	21	25.3	24.5
February	31	37.3	29.7
March	37	44.6	43.9
April	29	34.9	42.8
May	24	28.9	38.1
June	28	33.7	33.5
July	21	25.3	23.9
August	17	20.3	19.9
September	18	21.7	23.5
October	20	24.1	24.8
November	15	18.1	26.2
December	14	16.9	21.4

Table 25.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Trawling is most common between October and April, crabbing between February and June, netting between May and August and fishing for Spanner Crabs between February and October (Table 25.6).

Location of Resource Use

Figure 25.2 shows the location of resource use by commercial fishing operations in the Mooloolaba TRC. The primary resource catchment is identifiable in Figure 25.2 and extends from Sandy Cape on Fraser Island in the north of Cape Morton on Morton Island in the south. The secondary resource catchment on the other hand is somewhat more dispersed and extends from the Swains Reefs in the north to the News South Wales and Queensland border in the south.

Table 25.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	30	75.0	64.6
February	28	70.0	64.3
March	28	70.0	68.1
April	27	67.5	70.4
May	28	70.0	74.7
June	29	72.5	78.7
July	30	75.0	82.0
August	28	70.0	80.8
September	27	67.5	79.7
October	27	67.5	79.7
November	26	65.0	78.2
December	26	65.0	70.6
Trawling			
January	39	83.0	74.7
February	44	93.6	79.0
March	42	89.4	75.1
April	41	87.2	69.4
May	37	78.7	67.2
June	36	76.6	58.5
July	36	76.6	52.0
August	36	76.6	50.2
September	37	78.7	53.3
October	38	80.9	55.9
November	39	83.0	66.4
December	40	85.1	72.1
Crabbing			
January	4	44.4	74.7
February	5	55.6	79.0
March	5	55.6	75.1
April	6	66.7	69.4
May	6	66.7	67.2
June	6	66.7	58.5
July	4	44.4	52.0
August	4	44.4	50.2
September	4	44.4	53.3
October	4	44.4	59.9
November	3	33.3	66.4
December	4	44.4	72.1
Netting			
January	15	71.4	57.5
February	13	61.9	72.9
March	12	57.1	73.9
April	15	71.4	74.2
May	19	90.5	77.6
June	19	90.5	79.9
July	18	85.7	75.9
August	19	90.5	73.9
September	16	76.2	69.6
October	15	71.4	64.2
November	14	66.7	55.9
December	14	66.7	54.5
Spanner Crabs			
January	18	75.0	64.8
February	19	79.2	64.8
March	20	83.3	64.8
April	21	87.5	67.0
May	20	83.3	67.0
June	19	79.2	65.9
July	20	83.3	69.3
August	21	87.5	75.0
September	21	87.5	80.7
October	21	87.5	85.2
November	17	70.8	68.2
December	14	58.3	47.7

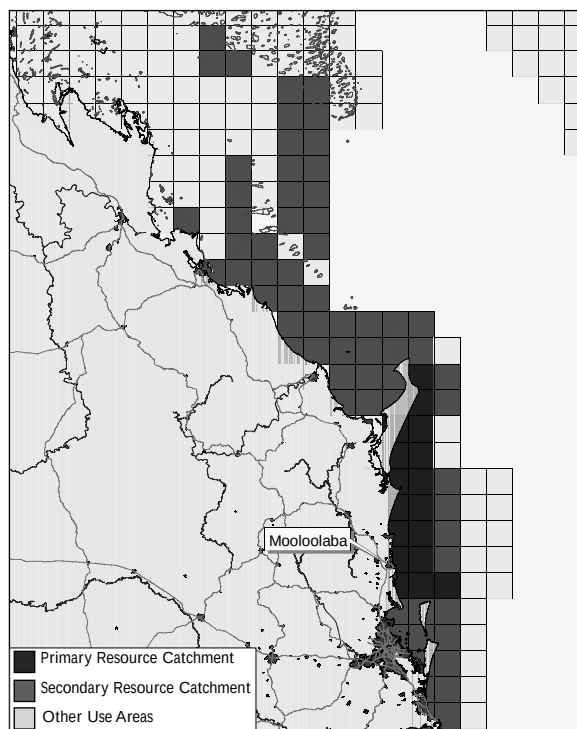


Figure 25.2 Mooloolaba TRC: Location of Resource Use

Fishing Industry Employees

Table 25.7 identifies the number of employees of commercial fishing businesses within this TRC for both peak and off-peak seasons. The majority of businesses within the peak and off-peak seasons had between 1-3 full-time employees (which would include the owner or operator). The average number of employees per business during the peak season was 3.1 employees per business and in the off-peak season it was 2.4. In total, it is estimated that during the peak season there were 676 full time equivalent employees while during the off-peak season there were an estimated 523 full time equivalent employees.

Business Ownership and Size

Table 25.8 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 15 years, with 57% of businesses being owned by the current owner for less than 15 years.

Table 25.9. 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	7	7.8	70	77.8	73	93.8
1	30	33.3	11	12.2	7	6.2
2-3	34	37.8	6	6.7	6	6.7
4-5	9	10.0	2	2.2	1	0.0
6-7	6	6.7	1	1.1	1	2.2
8-9	2	2.2	0	0.0	1	0.0
10-11	0	0.0	0	0.0	1	0.0
12-13	1	1.1	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.0	0	0.0
20-21	0	0.0	0	0.0	0	0.0
22-23	1	1.1	0	0.0	0	0.0
Total Businesses	90	100.0	90	100.0	90	100.0
Total Employees	237		19		25.5	
Mean Number of Employees per Business (Peak)		3.1				
Estimated Number Employed within the TRC		676				
Off-Peak Season						
Nil	10	11.1	76	84.4	80	88.9
1	34	37.8	8	8.9	8	8.9
2-3	33	36.7	5	5.6	0	0.0
4-5	7	6.2	1	1.1	0	0.0
6-7	2	2.2	0	0.0	2	2.2
8-9	2	2.2	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	1	1.1	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.0	0	0.0
20-21	1	1.1	0	0.0	0	0.0
22-23	0	0.0	0	0.0	0	0.0
Total Businesses	90	100.0	90	100.0	90	100.0
Total Employees	198.5		11.5		11	
Mean Nos Employees per Business (Off-Peak)		2.4				
Estimated Number Employed within the TRC		523				

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 218 fishing businesses (Table 25.1)

Table 25.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	20	22.5	22.5
6-10	13	14.6	37.1
11-15	18	20.2	57.3
16-20	9	10.1	67.4
21-25	9	10.1	77.5
26-30	9	10.1	87.6
31+	6	6.7	100.0
Total	32	100.0	
Mean Number of Years owned or operated			15.1
Difference of TRC mean to QLD mean (14.6)			+0.5

Note: Standard errors for number of years ownership (sample =1.2; QLD population = 0.37).

The average number of years the business had been operating was 19.1 years (Table 25.9), which was similar to the average for all Queensland fishing businesses (18.2 years).

Table 25.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	13	15.1	31.2
6-10	16	18.6	43.7
11-15	16	18.6	62.4
16-20	12	11.6	62.4
21-25	10	12.8	71.8
26-30	11	12.8	84.3
31+	8	9.4	100.0
Total	32	100.0	
Mean Number of Years owned or operated			19.1
Difference of TRC mean to QLD Mean (18.2)			+0.9

Note: Standard errors for number of years operated (sample = 1.8; QLD population = 0.46)

Table 25.10 shows that the majority of fishing businesses within this TRC operated one boat (59%).

Table 25.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	53	58.9
2	18	20.0
3	7	7.8
4	4	4.4
5	4	4.4
6+	4	4.4
Total Number of Businesses	90	100.0
Mean Number of Boats Operated		1.9
Difference of TRC mean to QLD mean (1.7)		+0.2

Note: Standard errors for number of boats operated (sample = 0.2; QLD population = 0.05)

Table 25.11 shows the frequency distribution for length of boats. Thirty-one percent of boats were found to be between 3 and 6 metres. The mean length of all boats and the mean length of the largest boat were similar to the Queensland average.

Table 25.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	56	31.5
7-10	50	28.1
11-14	16	9.0
15-18	34	19.1
19-23	20	11.2
23+	2	1.1
Total Number of Boats	178	100.0
Mean Length of Boats Operated (metres)		10.7
Difference of TRC mean to QLD mean (9.9)		+0.8
Mean Length of Largest Boat Operated (metres)		11.7
Difference of TRC mean to QLD mean (11.4)		+0.3

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boat (sample = 0.5; QLD population=0.14)

Value of Production and Location of Sales

Table 25.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Mooloolaba TRC. In the Mooloolaba TRC there is a higher percentage of businesses with production values less than \$100,000 per annum (48%) when compared to the Queensland average (43%). In addition, the median GVP of \$112,612 for the Mooloolaba TRC is somewhat lower than the Queensland median GVP of \$128,629.

Within the Mooloolaba TRC it is estimated that the 218 fishing businesses had a gross value of production of approximately \$13.3 million, which is approximately 4.2% of the total value of production of the Queensland commercial fishing industry.

Table 25.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	43	47.8	42.8
\$101 - \$200	13	14.4	21.4
\$201 - \$300	13	14.4	16.2
\$301 - \$400	6	6.7	8.5
\$401 - \$500	7	7.8	3.8
\$501 - \$600	0	0.0	1.8
\$601 - \$700	1	1.1	1.3
\$701 - \$800	1	1.1	0.4
\$801 - \$900	2	2.2	1.0
\$901 - \$1,000	0	0.0	0.3
Over \$1,000	4	4.4	2.3
Total	90	100.0	100.0
Median GVP for TRC			\$112,612
Estimated Total GVP for TRC			\$13,288,000
Median GVP for QLD Population			\$128,629
Estimated Total GVP for QLD Population			\$314,241,000
Percent of Total Queensland Production			4.2%

Note: Estimated TRC population total is based on an estimate of 218 businesses within the TRC, with a median GVP of \$112,612
Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 25.13 shows the value of sales to locations within Australia for the sample of 90 businesses. From Table 25.13, and as shown in Figure 25.3, 33% of sales (\$4.5 million) occurs directly within the Maroochydhore-Mooloolaba Urban Centre, and, in particular, the town of Mooloolaba. Other locations for sales includes \$1 million to New South Wales, \$0.7 million to Brisbane and \$0.5 million each to Cairns and Gladstone. It is probable that much of the sale to overseas markets (\$4.9 million) occurred firstly within Mooloolaba, New South Wales, Brisbane and Cairns, thereby increasing the total value of sales within these locations.

Table 25.13
Town Location of Sales to Customers (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Mooloolaba UC	6,402	33.5	4,451
New South Wales	1,439	7.5	997
Brisbane UC	998	5.2	691
Cairns	686	3.6	478
Gladstone	686	3.6	478
Townsville	430	2.2	292
Caloundra UC	323	1.7	226
Victoria	301	1.6	213
Kawana Waters UC	277	1.5	199
Tewantin – Noosa UC	174	0.9	120
Bowen	122	0.6	80
Bundaberg	110	0.6	80
Scarborough	83	0.4	53
Gold Coast	73	0.4	53
Sunshine Coast	59	0.3	40
Nambour	32	0.2	22
Redcliffe	5	0.1	13
Panorama Heights	4	0.1	13
Total Sales (Australia)	12,104	63.4	8,425
Total Sales (Overseas)	6,995	36.6	4,863
Total Sales	19,099	100.0	13,288

Note: Kawana Waters UC includes Buddina, Kawana. Tewantin-Noosa UC includes Tewantin and Noosa. Maroochydhore-Mooloolaba UC includes Mooloolaba, Maroochydhore, Mountain Creek and Alexandra Headland.

The sample value of sales is based on GVP as reported by businesses in the survey. The estimated value of business sales (Table 2.12) is proportionally distributed to all locations on the basis of sample percentages.

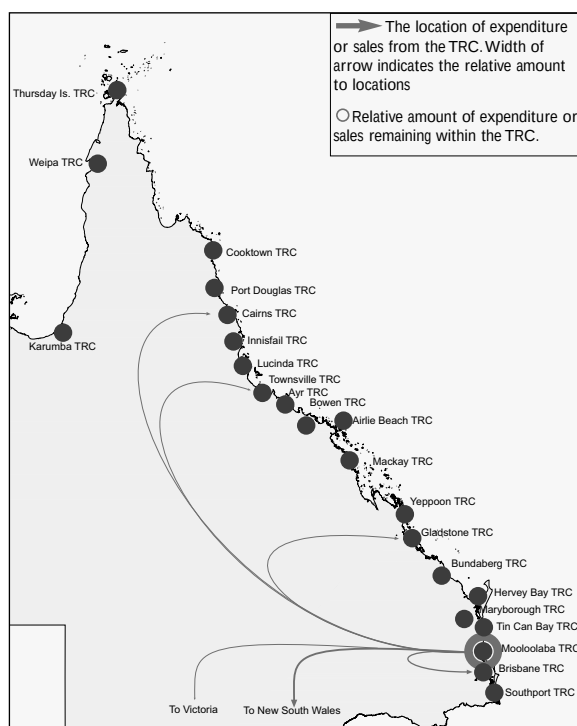


Figure 25.3 Mooloolaba TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 25.14 shows that approximately \$6.9 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 within the Maroochydhore-Mooloolaba Urban Centre (\$4.2 million). Although relatively minor, other locations for expenditure included Cairns (\$0.7 million) and Gladstone (\$0.6 million).

Table 25.14
Town Location of Business Expenditure
(All costs, excluding salaries and wages)

Location of Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Value of all Sales (\$'000)
Mooloolaba UC	6,069	61.3	4,244
Cairns	1,009	10.2	706
Gladstone	880	8.9	616
Tewantin-Noosa UC	587	5.9	408
Brisbane	434	4.4	305
Townsville	310	3.1	215
Bowen	120	1.2	83
Hervey Bay	83	0.8	55
Caloundra	72	0.7	48
Kawana Waters	58	0.6	42
Bundaberg	56	0.6	42
Nambour	47	0.5	35
Tin Can Bay	45	0.5	35
Coolangatta	43	0.4	28
Redcliffe	26	0.3	21
Innisfail	18	0.2	14
Mackay	13	0.1	7
Maryborough	9	0.1	7
Rainbow Beach	8	0.1	7
Beerwah	4	0.1	7
Cardwell	4	0.1	7
Crohamhurst	4	0.1	7
Ingham	4	0.1	7
Total Expenditure	9,898	100.0	6,923

Note: Tewantin-Noosa UC includes Tewantin, Noosa Heads, Noosaville and Noosa.
Maroochydhore-Mooloolaba UC includes Mooloolaba, Maroochydhore, Mountain Creek and Alexandra Headland.
Kawana Waters UC includes Buddina, Minyama, Warana, Wurtulla, Bokarina, Bokarina Beach and Kawana Waters
Caloundra UC includes Caloundra, Currimundi, Aroona, Moffat Beach and Golden Beach.
Nambour UC includes Nambour, Woombye, Sunshine Coast
Coolum Beach UC includes Coolum.
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.

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 25.15 shows that 53% of businesses within the Mooloolaba TRC had no debt. The mean debt level within the TRC was 20% of business assets, which was somewhat higher than the Queensland industry average of 16.6%.

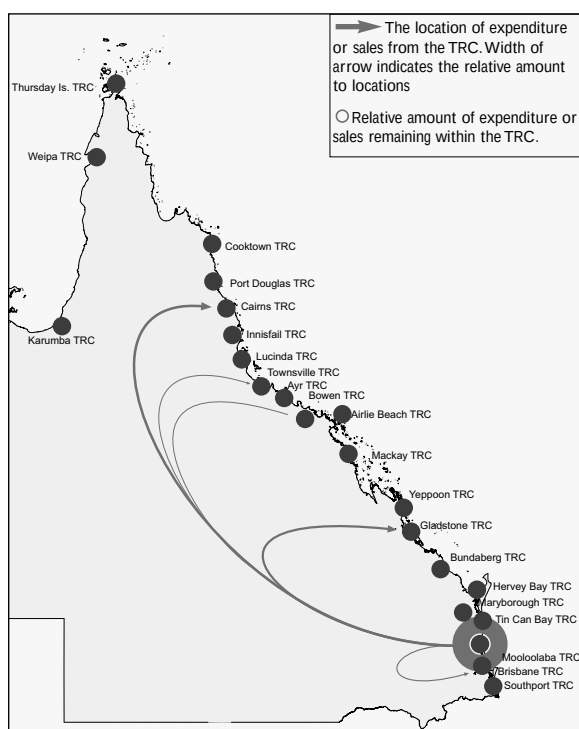


Figure 25.4 Mooloolaba TRC: Location of Business Expenditure

Table 25.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	41	52.6	60.1
1 – 10%	3	3.8	6.4
11- 20%	7	9.0	5.2
21 - 30%	5	6.4	6.4
31 – 40%	4	5.1	3.3
41 – 50%	9	11.5	9.6
51 – 60%	2	2.6	1.8
61 – 70%	2	2.6	1.2
71 – 80%	1	1.3	1.1
81 – 90%	0	0.0	1.6
91 – 100%	4	5.1	3.3
Total	78	100.0	100.0

Mean Debt Level for TRC	20.5%
Median Debt Level for QLD Population	16.6%
Difference of TRC mean to QLD mean (16.6)	+3.9%

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

EMPLOYEE PROFILES

Town of Residence

Table 25.16 indicates that the majority of employees reside within the three urban centres of Maroochydore-Mooloolaba (37%), Tewantin-Noosa (22%) and Kawana Waters (13%).

Table 25.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Mooloolaba UC	49	36.6
Tewantin-Noosa UC	30	22.4
Kawana Waters UC	17	12.7
Gympie	10	7.5
Caloundra UC	6	4.5
Buderim	5	3.7
Nambour UC	3	2.2
Beerwah	2	1.5
Cooroy	2	1.5
Eudlo	1	0.7
Eumundi	1	0.7
Glasshouse Mountains	1	0.7
Kenilworth	1	0.7
Landsborough	1	0.7
Palmview	1	0.7
Palmwoods	1	0.7
Pomona	1	0.7
The Pocket	1	0.7
Yandina	1	0.7
Total	134	100.0

Note: Tewantin-Noosa UC includes Tewantin, Noosa Heads, Noosaville and Noosa.

Maroochydore-Mooloolaba UC includes Mooloolaba, Maroochydore, Mountain Creek and Alexandra Headland.

Kawana Waters UC includes Buddina, Minyama, Warana, Wurtulla, Bokarina, Bokarina Beach and Kawana Waters

Caloundra UC includes Caloundra, Currimundi, Aroona, Moffat Beach and Golden Beach.

Nambour UC includes Nambour, Woombye, Sunshine Coast Coolool Beach UC includes Coolool.

Months Employed in the Fishing Industry

Table 25.17 shows that during the past 12 months owner/operators are more commonly employed in the fishing industry between March and August, however there is no clear seasonal trend in relation to the employment of employees.

Table 25.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	92.1	67.5	84.5	80.7
February	88.8	70.0	82.9	82.3
March	93.3	72.5	86.8	86.1
April	94.4	72.5	87.6	86.8
May	95.5	80.0	90.7	87.3
June	95.5	82.5	91.5	87.8
July	96.6	80.0	91.5	86.7
August	94.4	77.5	89.1	86.3
September	92.1	85.0	89.9	86.8
October	91.0	80.0	87.6	85.4
November	91.0	77.5	86.8	84.4
December	89.9	75.0	85.3	82.3

Note: Owner/operator sample of 103, employee sample of 41.

Location of Household Expenditure

Table 25.18 shows the location of household expenditure related to individual income derived from employment in the fishing industry. The Maroochydore-Mooloolaba Urban Centre attracts 35% (\$4.8 million) of all annual employee household expenditure from within the TRC, while the Kawana Waters and Tewantin-Noosa Urban Centres each attract an additional 18% (\$2.5 million).

Table 25.18
Town Location of Household Expenditure
(all commodities and services)

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Mooloolaba UC	698	35.1	4,820
Kawana Waters UC	358	18.0	2,472
Tewantin-Noosa UC	357	18.0	2,472
Nambour UC	168	8.4	1,153
Gympie	100	5.0	687
Caloundra UC	84	4.2	577
Beerwah	59	3.0	412
Coolangatta	39	2.0	275
Cooroy	19	1.0	137
Coolum Beach UC	18	0.9	124
Gladstone	12	0.6	82
Cairns	10	0.5	69
Karumba	10	0.5	69
NSW	10	0.5	69
Quamby	10	0.5	69
Rockhampton	10	0.5	69
Yeppoon	10	0.5	69
Brisbane	6	0.3	41
Rainbow Beach	6	0.3	41
Palmwoods	3	0.1	14
Pomona	2	0.1	14
Total Expenditure	1,989	100.0	13,731

Note: Tewantin-Noosa UC includes Tewantin, Noosa Heads, Noosaville and Noosa.
Maroochydore-Mooloolaba UC includes Mooloolaba, Maroochydore, Mountain Creek and Alexandra Headland.
Kawana Waters UC includes Buddina, Minyama, Warana, Wurtulla, Bokarina, Bokarina Beach and Kawana Waters
Caloundra UC includes Caloundra, Currimundi, Aroona, Moffat Beach and Golden Beach.
Nambour UC includes Nambour, Woombye, Sunshine Coast
Coolum Beach UC includes Coolum.
The gross individual annual income of fishers within this TRC was estimated as \$33,391 (Table 25.20). 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 \$20,312, with total household expenditure across all 676 (Table 25.7) employees to be \$13.7 million (Table 25.18)

Table 25.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Mooloolaba UC	103	37.6
Tewantin-Noosa UC	38	13.9
Kawana Waters	26	9.5
Brisbane UC	21	7.7
Nambour UC	13	4.7
Buderim	10	3.6
Coolangatta	8	2.9
Caloundra UC	7	2.6
Gympie	7	2.6
Palmwoods	4	1.5
Cooroy	3	1.1
Eumundi	3	1.1
The Pocket	3	1.1
New South Wales	3	1.1
Bundaberg	2	0.7
Ipswich	2	0.7
Kenilworth	2	0.7
Overseas	2	0.7
Other towns	17	6.2
Total Family Members	274	100.0

Note: Tewantin-Noosa UC includes Tewantin, Noosa Heads, Noosaville and Noosa.
Maroochydore-Mooloolaba UC includes Mooloolaba, Maroochydore, Mountain Creek and Alexandra Headland.
Kawana Waters UC includes Buddina, Minyama, Warana, Wurtulla, Bokarina, Bokarina Beach and Kawana Waters
Caloundra UC includes Caloundra, Currimundi, Aroona, Moffat Beach and Golden Beach.
Nambour UC includes Nambour, Woombye, Sunshine Coast
Coolum Beach UC includes Coolum.
Counts and percentages based on all family members.
Other towns includes all towns with a frequency of one.

Employee Social and Demographic Profiles

Table 25.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 25.19. As might be expected, the Maroochydore-Mooloolaba Urban Centre (38%) is the primary town location for school and employment.

Table 25.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	218	458	676	7,088
Mean age of fisher	46.7	30.8	42.0	37.3
Age range	23-74	15-63	15-74	15-79
Percent males	96.8	97.6	97.0	94.8
Mean years resident in town	18.4	15.3	17.5	19.1
Mean number of years in fishing industry	20.2	8.9	16.7	12.6
Median hours per week in fishing industry	70.0	50.0	60.0	60.0
Percent moved town to retain employment	21.5	29.3	23.9	20.5
Percent currently employed in other industry	19.4	36.6	24.6	34.2
Percent previously employed in other industry	76.9	65.9	73.5	69.2
Housing tenure				
Rent	16.3	36.6	22.6	33.6
Mortgage	38.0	24.4	33.8	20.1
Own home	45.7	17.1	36.8	31.1
Other (eg, live with parents, on boat)	0.0	22.0	6.8	15.2
Educational				
Year completed school				
Primary school	6.5	2.4	5.2	5.2
Year 8	11.8	4.9	9.7	8.0
Year 9	14.0	17.1	14.9	11.9
Year 10	38.7	46.3	41.0	44.4
Year 11	10.8	9.8	10.4	10.1
Year 12	18.3	19.5	18.7	20.2
Percent completed trade or TAFE certificate	48.4	41.5	46.3	37.7
Percent completed industry or business course	17.4	17.1	17.3	15.2
Percent with business plan ^c	25.8	—	25.8	22.9
Percent active fishing group member	56.5	24.4	46.6	25.7
Marital Status				
Percent married or relationship	87.1	41.5	73.1	62.0
Percent with partner employed in business ^d	59.5	—	59.5	56.1
Median hours per week employed in business	20.0	—	20.0	20.0
Partners Income^{de}				
Full-time employment	27.3	35.3	28.7	28.3
Part-time employment	22.1	11.8	20.2	18.5
Casual employment	10.4	23.5	12.8	11.6
Not employed	40.3	29.4	38.3	41.5
Family Composition				
Mean family size	3.7	1.9	3.1	2.6
Estimated number of total family members	802	882	2,124	18,429
Dependency Ratios				
Age Dependency Ratio ^f	26.9	24.0	26.4	33.4
Elderly Dependency Ratio	2.9	0.0	2.4	2.3
Child Dependency Ratio	24.0	24.0	24.0	31.2
Family Member Industry Dependency Ratio ^g	27.7	4.2	25.1	23.9
Gross Individual Income				
Less than \$16,000	16.0	38.2	22.6	34.6
\$16,000 - \$26,000	16.0	20.6	17.4	19.6
\$26,000 - \$36,000	16.0	26.5	19.1	22.1
\$36,000 - \$52,000	33.3	8.8	26.1	11.7
\$52,000 - \$78,000	9.9	5.9	8.7	6.6
Over \$78,000	8.6	0.0	6.1	5.4
Average Income (\$)	37,630	23,294	33,391	27,471

Note: a Owner/operator sample of 103; employee sample of 41.

b Based on peak estimates derived in Table 25.7.

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).

26 BRISBANE TRC

The Brisbane TRC consists of the main urban centre of Brisbane, including Caboolture in the north and the Russell-Macleay Island Urban Centres in the South. The Brisbane TRC also includes North Stradbroke Island including the localities of Point Lookout and Amity Point (Figure 26.1). Essentially the Brisbane TRC consists of all towns and communities adjacent to Morton Bay and while it may have been more reasonable to include distinct TRCs within the Brisbane TRC, the distribution of sample locations do not permit this level of detail in the analysis.

BUSINESS PROFILES

Location and Use of Ports

Table 26.1 shows the number of licence holders within the Brisbane TRC and the number of survey respondents who reported having homeports within the TRC. On the basis of the sample, it is estimated that there are 382 commercial fishing businesses within this TRC and that on the basis of the 95% confidence interval, the true population count of commercial fishing businesses within the TRC is between 352 and 412.

Table 26.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Brisbane UC	259	122	297	77.7
Bongaree UC	21	14	34	8.9
Amity Point (L)	10	6	15	3.9
Caboolture UC	6	3	7	1.8
Point Lookout (L)	8	3	7	1.8
Stradbroke Island	3	3	7	1.8
Point Talburpin (L)	3	2	5	1.3
Deception Bay UC	11	1	2	0.5
Dunwich (L)	3	1	2	0.5
Macleay Islands UC	7	1	2	0.5
Ningi (L)	3	1	2	0.5
Victoria Point UC	13	1	2	0.5
Burpengary UC	10	0	0	0.0
Morayfield UC	3	0	0	0.0
Beachmere UC	7	0	0	0.0
Donnybrook (L)	2	0	0	0.0
Raby Bay	2	0	0	0.0
Elimbah	1	0	0	0.0
Total TRC	372	158	382	100.0

95% Confidence Interval for Estimated TRC Count 352-412
Percent of Total Active Licence Holders in QLD 15.6%

Note: Brisbane UC includes Beenleigh, Brisbane, Bulimba, Carina, Cleveland, Eagleby, Redcliffe, Sandgate, Scarborough, Wynnum, Morton Bay
Bongaree UC includes Brinie Island.
Deception Bay UC includes Deception Bay
Dunwich Locality includes Dunwich
Russell-Macleay Islands UC includes Macleay Island
Point Talburpin Locality includes Redland Bay
Adjusted database count is based on the postal address as recorded in the licencing information, which may not be the homeport of the fishing businesses. 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.

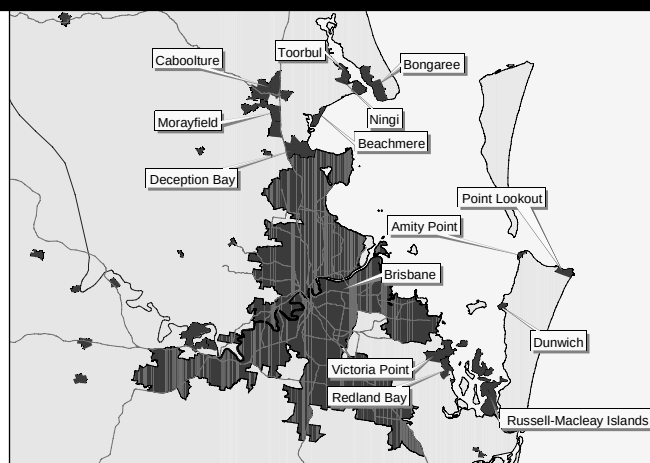


Figure 26.1 Location of the Brisbane TRC

Fishing Activity and Type

Table 26.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Trawling (51%) is the primary fishing activity within the Brisbane TRC, followed by netting (39%) and crabbing (33%).

Table 26.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Trawling	81	51.3
Netting	62	39.2
Crabbing	53	33.5
Line fishing	28	17.7
Spanner Crabs	15	9.5
Total Sample	158	100.0

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

Table 26.4 indicates that 54% of fishers engaged in line fishing are also engaged in crabbing and that 62% of those fishers engaged in crabbing are also engaged in netting.

Table 26.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting	Spanner Crabs
Line fishing	28 100.0	8 9.9	15 28.3	8 12.9	3 20.0
Trawling	8 28.6	81 100.0	9 17.0	9 14.5	1 6.7
Crabbing	15 53.6	9 11.1	53 100.0	33 53.2	14 93.3
Netting	8 28.6	9 11.1	33 62.3	62 100.0	7 46.7
Spanner crabs	3 10.7	1 1.2	14 26.4	7 11.3	15 100.0

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

Table 26.5 shows the peak months for fishing activity within the TRC to be between February and June.

Table 26.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	46	32.4	24.5
February	58	40.8	29.7
March	71	50.0	43.9
April	67	47.2	42.8
May	59	41.5	38.1
June	50	35.2	33.5
July	32	22.5	23.9
August	22	15.5	19.9
September	24	16.9	23.5
October	24	16.9	24.8
November	27	19.0	26.2
December	33	23.2	21.4

Table 26.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between June and September, trawling between January and April, crabbing between November and February, netting between May and August and fishing for Spanner Crabs between August and November (Table 26.6).

Location of Resource Use

The location of resource use by commercial fishing operations in the Brisbane TRC is shown in Figure 26.2. The primary resource catchment is essentially restricted to Morton Bay, while the secondary resource catchment extends from the Bunker Group of Islands in the north to coastal areas near the Queensland and New South Wales border in the south.

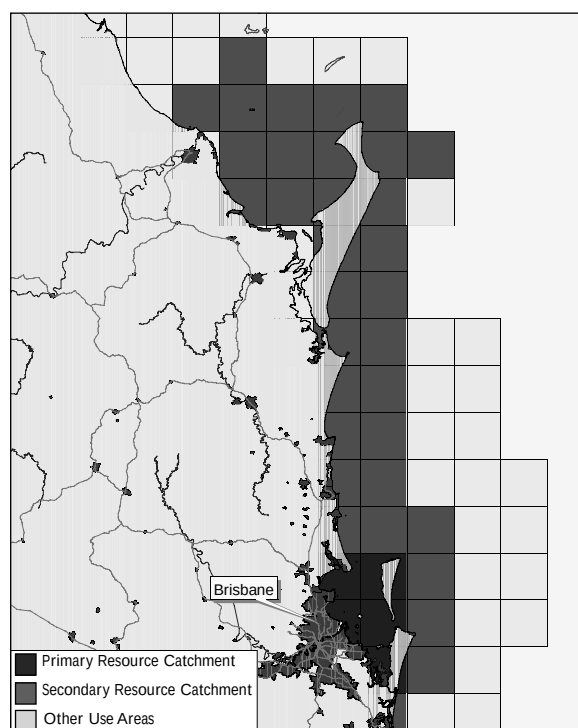


Figure 26.2 Brisbane TRC: Location of Resource Use

Table 26.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	19	73.1	64.6
February	19	73.1	64.3
March	19	73.1	68.1
April	18	69.2	70.4
May	19	73.1	74.7
June	24	92.3	78.7
July	24	92.3	82.0
August	23	88.5	80.8
September	20	76.9	79.7
October	18	69.2	79.7
November	15	57.7	78.2
December	15	57.7	70.6
Trawling			
January	74	91.4	74.7
February	75	92.6	79.0
March	78	96.3	75.1
April	77	95.1	69.4
May	68	84.0	67.2
June	62	76.5	58.5
July	56	69.1	52.0
August	53	65.4	50.2
September	64	79.0	53.3
October	68	84.0	55.9
November	71	87.7	66.4
December	70	86.4	72.1
Crabbing			
January	47	90.4	74.7
February	44	84.6	79.0
March	38	73.1	75.1
April	36	69.2	69.4
May	32	61.5	67.2
June	23	44.2	58.5
July	22	42.3	52.0
August	21	40.4	50.2
September	30	57.7	53.3
October	33	63.5	59.9
November	42	80.0	66.4
December	47	90.4	72.1
Netting			
January	39	65.0	57.5
February	36	60.0	72.9
March	37	61.7	73.9
April	39	65.0	74.2
May	50	83.3	77.6
June	54	90.0	79.9
July	49	81.7	75.9
August	46	76.7	73.9
September	37	61.7	69.6
October	35	58.3	64.2
November	38	63.3	55.9
December	40	66.7	54.5
Spanner Crabs			
January	6	40.0	64.8
February	6	40.0	64.8
March	7	46.7	64.8
April	7	46.7	67.0
May	8	53.3	67.0
June	8	53.3	65.9
July	9	60.0	69.3
August	13	86.7	75.0
September	15	100.0	80.7
October	15	100.0	85.2
November	12	80.0	68.2
December	14	46.7	47.7

Fishing Industry Employees

Table 26.7 identifies the number of employees of commercial fishing businesses within this TRC for both peak and off-peak seasons. The majority of businesses within the peak and off-peak seasons had between 2-3 full-time employees (which would include the owner or operator). The average number of employees per business during the peak season was 2.8 employees per business and in the off-peak season it was 2.4. In total, it is estimated that during the peak season there were 1,070 full-time equivalent employees while during the off-peak season there were an estimated 917 full time equivalent employees.

Business Ownership and Size

Table 26.8 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 17 years, with 51% of businesses being owned by the current owner for less than 15 years.

Table 26.8

Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	39	24.7	24.7
6-10	20	12.6	37.3
11-15	22	13.9	51.2
16-20	18	11.4	62.6
21-25	30	19.0	81.6
26-30	13	8.2	89.8
31+	16	10.1	100.0
Total	158	100.0	

Mean Number of Years owned or operated	16.6
Difference of TRC mean to QLD mean (14.6)	+2.0

Note: Standard errors for number of years ownership (sample = 0.9. QLD population = 0.37).

Table 26.7 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	9	5.7	134	84.8	147	93.0
1	52	32.9	14	8.9	4	2.5
2-3	77	48.7	7	4.4	5	3.2
4-5	11	7.0	2	1.2	0	0.0
6-7	1	0.6	0	0.0	0	0.0
8-9	3	1.9	0	0.0	1	0.6
10-11	1	0.6	0	0.0	1	0.6
12-13	2	1.2	0	0.0	0	0.0
14-15	0	0.0	1	0.6	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.0	0	0.0
20-21	1	0.6	0	0.0	0	0.0
22+	1	0.6	0	0.0	0	0.0
Total Businesses	158	100.0	158	100.0	158	100.0
Total Employees	406		26		18.5	

Mean Number of Employees per Business (Peak)	2.8
Estimated Number Employed within the TRC	1,070

Off-Peak Season

Nil	13	8.2	141	89.2	146	92.4
1	62	39.2	12	7.6	6	3.8
2-3	70	44.3	4	2.5	4	2.5
4-5	7	4.4	0	0.0	0	0.0
6-7	1	0.6	0	0.0	0	0.0
8-9	1	0.6	0	0.0	0	0.0
10-11	1	0.6	0	0.0	2	1.1
12-13	2	1.1	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	1	0.6	0	0.0
20-21	0	0.0	0	0.0	0	0.0
22+	1	0.6	0	0.0	0	0.0
Total Businesses	158	100.0	158	100.0	158	100.0
Total Employees	339.5		19.5		18.5	

Mean Nos Employees per Business (Off-Peak)	2.4
Estimated Number Employed within the TRC	917

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 382 fishing businesses (Table 26.1)

The average number of years the business had been operating was 20.2 years (Table 26.9), which was somewhat higher than the average for all Queensland fishing businesses (18.2 years).

Table 26.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	28	18.2	18.2
6-10	15	9.7	27.9
11-15	19	12.3	40.2
16-20	20	13.0	53.2
21-25	34	22.1	75.3
26-30	18	11.7	87.0
31+	20	13.0	100.0
Total	154	100.0	

Mean Number of Years owned or operated 20.2
Difference of TRC mean to QLD Mean (18.2) +2.0

Note: Standard errors for number of years operated (sample = 1.3; QLD population = 0.46)

Table 26.10 shows that the majority of fishing businesses within this TRC operated one boat (65%).

Table 26.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	102	65.0
2	30	19.1
3	12	7.6
4	7	4.4
5	2	1.3
6+	4	2.5
Total Number of Businesses	157	100.0

Mean Number of Boats Operated 1.7
Difference of TRC mean to QLD mean (1.7) 0.0

Note: Standard errors for number of boats operated (sample = 0.1; QLD population = 0.05)

Table 26.11 shows the frequency distribution for length of boats. Forty-eight percent of boats were found to be between 3 and 6 metres. The mean length of all boats and the mean length of the largest boat were somewhat lower than the Queensland average.

Table 26.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	129	47.6
7-10	73	26.9
11-14	45	16.6
15-18	16	5.9
19-23	8	3.0
23+	0	0.0
Total Number of Boats	271	100.0

Mean Length of Boats Operated (metres) 8.4
Difference of TRC mean to QLD mean (9.9) -1.5

Mean Length of Largest Boat Operated (metres) 10.0
Difference of TRC mean to QLD mean (11.4) -1.4

Note: As mean length of boats is a multiple response, standard errors cannot be computed. Standard errors for mean length of largest boats (sample = 0.3; QLD population=0.14)

Value of Production and Location of Sales

Table 26.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Brisbane TRC. In the Brisbane TRC there is a higher percentage of businesses with production values less than \$100,000 per annum (57%) when compared to the Queensland average (43%). In addition, the median GVP of \$86,825 for the Brisbane TRC is somewhat lower than the Queensland median GVP of \$128,629.

Within the Brisbane TRC it is estimated that the 382 fishing businesses had a gross value of production of approximately \$33.2 million, which is approximately 10.6% of the total value of production of the Queensland commercial fishing industry.

Table 26.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	90	57.0	42.8
\$101 - \$200	41	25.9	21.4
\$201 - \$300	14	8.9	16.2
\$301 - \$400	4	2.5	8.5
\$401 - \$500	2	1.3	3.8
\$501 - \$600	2	1.3	1.8
\$601 - \$700	1	0.6	1.3
\$701 - \$800	0	0.0	0.4
\$801 - \$900	0	0.0	1.0
\$901 - \$1,000	1	0.6	0.3
Over \$1,000	3	1.9	2.3
Total	158	100.0	100.0

Median GVP for TRC \$86,825
Estimated Total GVP for TRC \$33,167,000
Median GVP for QLD Population \$128,629
Estimated Total GVP for QLD Population \$314,241,000
Percent of Total Queensland Production 10.6%

*Note: Estimated TRC population total is based on an estimate of 382 businesses within the TRC, with a median GVP of \$86,825
Queensland total GVP based on 2,443 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.*

Table 26.13 shows the value of sales to specific locations within Australia for the sample of 158 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 26.13, and as shown in Figure 26.3, 43% of sales (\$14.2 million) occurs directly within the Brisbane urban centre. Other locations for sales includes \$1.3 million to New South Wales, \$1.2 million to the Gold Coast. It is probable that much of the sale to overseas markets (\$12.4 million) occurred firstly within Brisbane and New South Wales thereby increasing the total value of sales within these locations.

Table 26.13
Town Location of Sales to Customers (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Brisbane UC	10,897	42.8	14,195
New South Wales	991	3.9	1,293
Gold Coast	934	3.7	1,227
Cairns	487	1.9	630
Bowen	423	1.7	564
Victoria	399	1.6	531
Gladstone	377	1.5	498
Innisfail	278	1.1	365
Bribie Island	209	0.8	265
Hervey Bay UC	195	0.8	265
Bundaberg	141	0.6	199
Mackay	105	0.4	133
Stradbroke Island	85	0.3	100
Amity Point	80	0.3	100
Mooloolaba	76	0.3	100
Townsville	65	0.3	100
Maleny	48	0.2	66
Point Lookout	48	0.2	66
Rockhampton	39	0.2	66
Coolangatta	15	0.1	33
Macleay Island	10	0.1	33
Redland Bay	10	0.1	33
Caloundra	6	0.1	33
Dunwich	2	0.1	33
Total Sales (Australia)	15,920	62.6	20,763
Total Sales (Overseas)	9,520	37.4	12,404
Total Sales	25,440	100.0	33,167

Note: Brisbane UC includes Carina, Redcliffe, Sandgate, Scarborough, Shorncliffe & Wynnum
Hervey Bay UC includes Urangan
The sample value of sales is based on GVP as reported by businesses in the survey.
The estimated value of business sales (Table 2.12) is proportionally distributed to all locations on the basis of sample percentages.

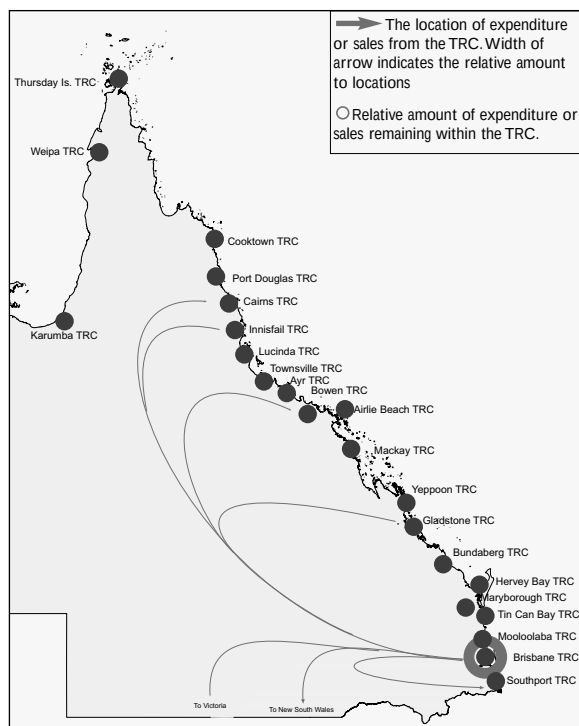


Figure 26.3 Brisbane TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 26.14 shows that approximately \$17.3 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 within the Brisbane urban centre (\$8.9 million) and Cairns (\$5 million).

Table 26.14
Town Location of Business Expenditure
(All costs, excluding salaries and wages)

Location of Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Value of Expenditure (\$'000)
Brisbane UC	6,673	51.5	8,899
Cairns	3,810	29.4	5,080
Southport	295	2.3	397
Gladstone	281	2.2	380
Bowen	218	1.7	294
Tin Can Bay	217	1.7	294
Townsville	201	1.6	276
Bribie Island	197	1.5	259
Bundaberg	154	1.2	207
Hervey Bay	140	1.1	190
Mooloolaba	130	1.0	173
Amity Point	116	0.9	156
Mackay	113	0.9	156
Dunwich	79	0.6	104
Gold Coast	72	0.6	104
Innisfail	52	0.4	69
Point Lookout	33	0.3	52
Stradbroke Island	32	0.3	52
Redland Bay	29	0.3	52
Clontarf	18	0.1	17
Victoria	18	0.1	17
Western Australia	18	0.1	17
Toowoomba	12	0.1	17
Burnett Heads	10	0.1	17
Rockhampton	8	0.1	17
New South Wales	7	0.1	17
Caboolture	5	0.1	17
Ingham	5	0.1	17
Beaudesert	3	0.1	17
Total Expenditure	12,946	100.0	17,280

Note: Brisbane UC includes Beenleigh, Capalaba, Carina, Cleveland, Mt Cotton, Redcliffe, Sandgate, Scarborough and Wynnum.
Hervey Bay UC includes Urangan
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.

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 26.15 shows that 69% of businesses within the Brisbane TRC had no debt. The mean debt level within the TRC was 12% of business assets, which was somewhat lower than the Queensland industry average of 16.6%.

Table 26.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	93	68.9	60.1
1 – 10%	10	7.4	6.4
11 – 20%	5	3.7	5.2
21 – 30%	5	3.7	6.4
31 – 40%	3	2.2	3.3
41 – 50%	10	7.4	9.6
51 – 60%	3	2.2	1.8
61 – 70%	1	0.7	1.2
71 – 80%	1	0.7	1.1
81 – 90%	1	0.7	1.6
91 – 100%	3	2.2	3.3
Total	135	100.0	100.0

Mean Debt Level for TRC	12.2%
Median Debt Level for QLD Population	16.6%
Difference of TRC mean to QLD mean (16.6)	-4.4%

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

EMPLOYEE PROFILES

Town of Residence

Table 26.16 indicates, as might be expected, that the majority of employees reside within the Brisbane urban centre (73%).

Table 26.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Brisbane UC	163	73.1
Bribie Island	17	7.6
Amity Point	11	4.9
Deception Bay	8	3.6
Caboolture	5	2.2
Point Lookout	5	2.2
Ningi	3	1.3
Russell-Macleay Island UC	3	1.3
Beachmere	2	0.9
Dunwich	2	0.9
Victoria Point	2	0.9
Morayfield	1	0.4
Redland Bay	1	0.4
Total	223	100.0

Note: Brisbane UC includes Banyo, Beenleigh, Brighton, Camp Hill, Capalaba, Carina, Cleveland, Deagon, Eagleby, Mt Gravatt, Redcliffe, Rothwell, Sandgate, Scarborough, Shorncliffe, Wynnum & Morton Bay

Months Employed in the Fishing Industry

Table 26.17 shows that during the past 12 months owner-operators are more commonly employed in the fishing industry between November and June, however there is no clear seasonal trend in relation to the employment of employees.

Table 26.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	90.8	73.4	85.7	80.7
February	92.2	71.9	86.2	82.3
March	94.1	78.1	89.4	86.1
April	93.5	76.6	88.5	86.8
May	90.8	78.1	87.1	87.3
June	90.2	73.4	85.3	87.8
July	86.3	73.4	82.5	86.7
August	85.0	70.3	80.6	86.3
September	88.9	76.6	85.3	86.8
October	88.2	78.1	85.3	85.4
November	90.8	76.6	86.6	84.4
December	91.5	68.8	84.8	82.3

Note: Owner/operator sample of 165, employee sample of 71.

Location of Household Expenditure

Table 26.18 shows the location of household expenditure related to individual income derived from employment in the fishing industry. The Brisbane urban centre attracts 79% (\$15.7 million) of all annual employee household expenditure from within the TRC.

Table 26.18
Town Location of Household Expenditure
(all commodities and services)

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Brisbane	3,245	78.9	15,728
Bribie Island	306	7.4	1,475
Caboolture	156	3.8	757
Deception Bay	127	3.1	618
Amity Point	44	1.1	219
Cairns	34	0.8	159
Dunwich	28	0.7	140
Point Lookout	22	0.5	100
Beachmere	19	0.5	100
Innisfail	19	0.5	100
Morayfield	19	0.5	100
Broadbeach	15	0.4	80
Logan Village	15	0.4	80
Weipa	15	0.4	80
Hervey Bay	9	0.2	40
Ningi	9	0.2	40
Gold Coast	8	0.2	40
Mooloolaba	6	0.1	20
Ingham	4	0.1	20
Redland Bay	4	0.1	20
Victoria Point	4	0.1	20
Corndale	2	0.1	20
Total Expenditure	4,110	100.0	19,934

Note: Brisbane UC includes Banyo, Beenleigh, Capalaba, Carina, Cleveland, Deagon, Fig Tree Pocket, Loganholme, Redcliffe, Sandgate, Scarborough, Shorncliffe, Strathpine, Sunnybank and Wynnum

The gross individual annual income of fishers within this TRC was estimated as \$30,627 (Table 26.20). 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 \$18,630, with total household expenditure across all 1,070 (Table 26.7) employees to be \$19.9 million (Table 26.18)

School and Employment Locations of Family Members

The towns in which family members attend school and are employed are shown in Table 26.19. As might be expected, the Brisbane urban centre (66%) is the primary town location for school and employment.

Table 26.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Brisbane UC	318	66.1
Bribie Island	47	9.8
Deception Bay	18	3.7
Amity Point	16	3.3
Caboolture	13	2.7
Point Lookout	13	2.7
Dunwich	12	2.5
Russell-Macleay Island UC	8	1.7
Ningi	6	1.2
Beachmere	4	0.8
Mooloolaba	3	0.6
Victoria Point	3	0.6
Clontarf	2	0.4
Gold Coast	2	0.4
Hervey Bay	2	0.4
Woongoolba	2	0.4
New South Wales	2	0.4
Other towns	10	2.1
Total Family Members	481	100.0

*Note: Brisbane UC includes Beenleigh, Capalaba, Cleveland, Eagleby, Loganholme, Redcliffe, Sandgate, Scarborough, Shorncliffe, Thornside, Wynnum & Morton Bay
Counts and percentages based on all family members.
Other towns includes all towns with a frequency of one.*

Employee Social and Demographic Profiles

Table 26.20 provides profile information about employees within the TRC. Information is provided separately for owner-operators and non owner-operator employees of businesses within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 26.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	382	688	1,070	7,088
Mean age of fisher	45.2	33.1	41.5	37.3
Age range	20-79	15-68	15-79	15-79
Percent males	99.4	94.0	97.8	94.8
Mean years resident in town	28.3	21.2	26.1	19.1
Mean number of years in fishing industry	22.1	9.7	18.3	12.6
Median hours per week in fishing industry	65.0	40.0	60.0	60.0
Percent moved town to retain employment	20.3	16.4	19.1	20.5
Percent currently employed in other industry	16.7	46.3	25.6	34.2
Percent previously employed in other industry	67.3	57.6	64.4	69.2
Housing tenure				
Rent	15.4	40.3	22.9	33.6
Mortgage	28.2	20.9	26.0	20.1
Own home	54.5	17.9	43.5	31.1
Other (eg, live with parents, on boat)	1.9	20.9	7.6	15.2
Educational				
Year completed school				
Primary school	7.1	1.5	5.4	5.2
Year 8	9.7	14.9	11.3	8.0
Year 9	15.5	7.5	13.1	11.9
Year 10	43.2	40.3	42.3	44.4
Year 11	3.2	13.4	6.3	10.1
Year 12	21.3	22.4	21.6	20.2
Percent completed trade or TAFE certificate	38.7	40.3	39.2	37.7
Percent completed industry or business course	16.4	17.9	16.9	15.2
Percent with business plan ^c	17.4	—	17.4	22.9
Percent active fishing group member	43.2	14.9	34.7	25.7
Marital Status				
Percent married or relationship	87.7	47.8	75.7	62.0
Percent with partner employed in business ^d	50.4	—	50.4	56.1
Median hours per week employed in business	17.5	—	17.5	20.0
Partners Income^{de}				
Full-time employment	25.2	28.1	25.8	28.3
Part-time employment	18.1	12.5	17.0	18.5
Casual employment	10.2	6.3	9.4	11.6
Not employed	46.5	53.1	47.8	41.5
Family Composition				
Mean family size	3.7	2.1	3.1	2.6
Estimated number of total family members	1,413	1,445	3,317	18,429
Dependency Ratios				
Age Dependency Ratio ^f	38.4	27.3	36.1	33.4
Elderly Dependency Ratio	2.6	3.6	2.8	2.3
Child Dependency Ratio	35.8	23.6	33.3	31.2
Family Member Industry Dependency Ratio ^g	37.2	16.3	34.1	23.9
Gross Individual Income				
Less than \$16,000	16.2	61.4	29.5	34.6
\$16,000 - \$26,000	14.0	22.8	16.6	19.6
\$26,000 - \$36,000	28.7	10.5	23.3	22.1
\$36,000 - \$52,000	22.8	1.8	16.6	11.7
\$52,000 - \$78,000	8.1	1.8	6.2	6.6
Over \$78,000	10.3	1.8	7.8	5.4
Average Income (\$)	36,640	16,281	30,627	27,471

Note: a Owner/operator sample of 165, employee sample = 71.

b Based on peak estimates derived in Table 26.7.

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).

27 SOUTHPORT TRC

The Southport TRC consists of the main urban centre of the Gold Coast, including Paradise Point and Southport in the north and Coolangatta in the south (Figure 27.1).

BUSINESS PROFILES

Location and Use of Ports

Table 27.1 shows the number of licence holders within the Southport TRC and the number of survey respondents who reported having homeports within the TRC. On the basis of the sample, it is estimated that there are 98 commercial fishing businesses within this TRC and that we can be 95% confident that the correct population count of commercial fishers within the TRC is between 80 and 116.

Table 27.1
Location of Homeports

Town	Adj. Database Count	Sample Count	Estimated Count	Percent within TRC
Southport	8	25	61	62.2
Gold Coast UC	41	13	32	32.7
Jacobs Well	5	2	5	5.1
Woongoolba	5	0	0	0.0
Steiglitz	2	0	0	0.0
Helensvale	2	0	0	0.0
Nerang	2	0	0	0.0
Norwell	1	0	0	0.0
Oxenford	1	0	0	0.0
Tallebudgera	1	0	0	0.0
Total TRC	68	40	98	100.0

95% Confidence Interval for Estimated TRC Count 80-116
Percent of Total Active Licence Holders in QLD 4.0%

Note: Gold Coast UC (Balance) excludes Southport but includes Arundel, Runaway Bay, Biggera Waters, Labrador, Currumbin, Ashmore, Coombabah, Gold Coast, Tugun, Paradise Point, Coolangatta, Bellevue Park, Hollywell, Broadbeach Waters, Chirn Park, Bundall, Worongary.

Adjusted database count is based on the postal address as recorded in the licensing information, which may not be the homeport of the fishing businesses. 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 Southport as a homeport, several fishing businesses used this port when travelling to or from fishing areas. Table 27.2 shows the majority of these businesses having their homeports in New South Wales (44%) and Mooloolaba (33%).

Table 27.2
Homeports of Businesses Using Southport as a Port

Homeports	Sample Count	Percent
New South Wales	4	44.4
Mooloolaba	3	33.3
Redland Bay	1	11.1
Amity Point	1	11.1
Total Businesses	9	100.0

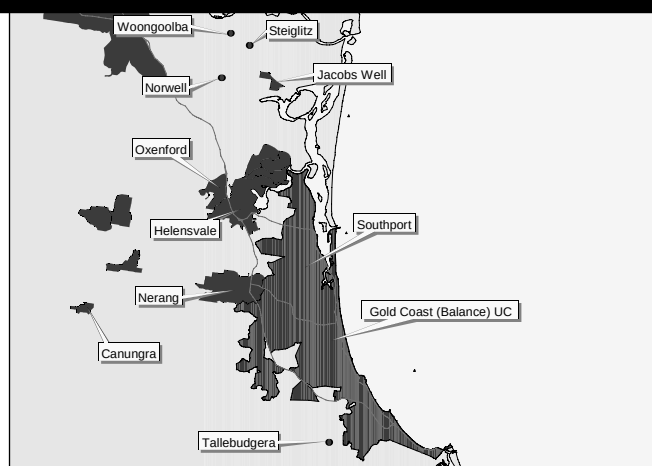


Figure 27.1 Location of the Southport TRC

Fishing Activity and Type

Table 27.3 shows the type of fishing activity undertaken within the last year by fishing businesses within this TRC. Trawling (60%) is the primary fishing activity within the Southport TRC.

Table 27.3
Type of Fishing Activity (During the last 12 months)

Fishing Type	Sample Count	Percent within TRC
Trawling	24	60.0
Netting	11	27.5
Line fishing	5	12.5
Spanner Crabs	5	12.5
Crabbing	4	10.0
Total Sample	36	100.0

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

Table 27.4 indicates that 80% of fishers engaged in line fishing are also engaged in crabbing and that 17% of those fishers engaged in trawling are also engaged in line fishing.

Table 27.4
Co-occurrence of Fishing Activities

	Line Fishing	Trawling	Crabbing	Netting	Spanner Crabs
Line fishing	5 100.0	4 16.7	0 0.0	1 9.1	0 0.0
Trawling	4 80.0	24 100.0	0 0.0	0 0.0	0 0.0
Crabbing	0 0.0	0 0.0	4 100.0	2 18.2	2 40.0
Netting	1 10.0	0 0.0	2 50.0	11 100.0	1 20.0
Spanner crabs	0 0.0	0 0.0	2 50.0	1 9.2	5 100.0

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

Table 27.5 shows the peak months for fishing activity within the TRC to be between January and July.

Table 27.5
Peak Fishing Months During Past 12 Months

Months	Sample Count	Percent within TRC	Percent of QLD Fishery
January	10	27.8	24.5
February	11	30.6	29.7
March	11	30.6	43.9
April	13	36.1	42.8
May	18	50.0	38.1
June	17	47.2	33.5
July	13	36.1	23.9
August	9	25.0	19.9
September	5	13.9	23.5
October	5	13.9	24.8
November	5	13.9	26.2
December	6	16.7	21.4

Table 27.6 provides a more detailed description of the seasonal variation in fishing activities by businesses. Line fishing is most common between March and November, trawling between January and October. Fishing for Spanner Crabs and netting appears common throughout the year (Table 27.6).

Location of Resource Use

Figure 27.2 shows the location of resource use by commercial fishing operations in the Southport TRC. That there is a high percentage of trawlers within the TRC and at the same commercial net operations give rise to some divergence in relation to the primary and secondary resource catchments. The primary resource catchment for instance is highly localised to coastal areas adjacent to Southport and the outer parts of Morton Bay. In contrast, the secondary catchment which is essentially the trawling operations extends from the Queensland and New South Wales border to coastal areas to the east of Lucinda and Hinchinbrook Island in the north.

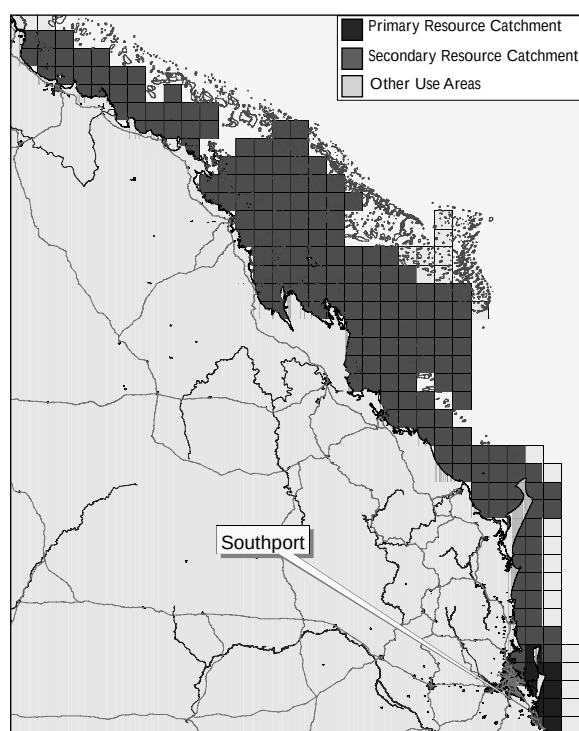


Figure 27.2 Southport TRC: Location of Resource Use

Table 27.6
Seasonal Variations in Fishing Activity

Months	Sample Count	Percent within TRC	Percent of Fishery
Line Fishing			
January	2	40.0	64.6
February	2	40.0	64.3
March	4	80.0	68.1
April	4	80.0	70.4
May	4	80.0	74.7
June	4	80.0	78.7
July	4	80.0	82.0
August	5	100.0	80.8
September	5	100.0	79.7
October	5	100.0	79.7
November	4	80.0	78.2
December	1	20.0	70.6
Trawling			
January	21	91.3	74.7
February	22	95.7	79.0
March	22	95.7	75.1
April	23	100.0	69.4
May	23	100.0	67.2
June	23	100.0	58.5
July	23	100.0	52.0
August	22	95.7	50.2
September	21	91.3	53.3
October	20	87.0	55.9
November	18	78.3	66.4
December	15	65.2	72.1
Netting			
January	9	81.8	57.5
February	9	81.8	72.9
March	9	81.8	73.9
April	10	90.9	74.2
May	11	100.0	77.6
June	11	100.0	79.9
July	11	100.0	75.9
August	11	100.0	73.9
September	10	100.0	69.6
October	9	81.8	64.2
November	9	81.8	55.9
December	9	81.8	54.5
Spanner Crabs			
January	4	80.0	64.8
February	4	80.0	64.8
March	4	80.0	64.8
April	4	80.0	67.0
May	4	80.0	67.0
June	3	60.0	65.9
July	3	60.0	69.3
August	3	60.0	75.0
September	3	60.0	80.7
October	5	100.0	85.2
November	5	100.0	68.2
December	4	80.0	47.7

Note: Crabbing is not reported as the sample size for this activity is too low.

Table 27.7 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	1	2.5	36	90.0	36	90.0
1	10	25.0	3	7.5	2	5.0
2-3	26	65.0	0	0.0	0	0.0
4-5	2	5.0	1	2.5	1	2.5
6-7	1	2.5	0	0.0	1	2.5
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.6	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.0	0	0.0
20-21	0	0.6	0	0.0	0	0.0
22+	0	0.6	0	0.0	0	0.0
Total Businesses	40	100.0	40	100.0	40	100.0
Total Employees	81		4		6	
Off-Peak Season						
Nil	4	10.0	36	90.0	36	90.0
1	12	30.0	2	5.0	2	5.0
2-3	22	55.0	1	2.5	0	0.0
4-5	1	2.5	1	2.5	1	2.5
6-7	1	2.5	0	0.0	1	2.5
8-9	0	0.0	0	0.0	0	0.0
10-11	0	0.0	0	0.0	0	0.0
12-13	0	0.0	0	0.0	0	0.0
14-15	0	0.0	0	0.0	0	0.0
16-17	0	0.0	0	0.0	0	0.0
18-19	0	0.0	0	0.6	0	0.0
20-21	0	0.0	0	0.0	0	0.0
22+	0	0.0	0	0.0	0	0.0
Total Businesses	40	100.0	40	100.0	40	100.0
Total Employees	70		5		6	
Mean Number of Employees per Business (Peak)	2.3					
Estimated Number Employed within the TRC	225					
Mean Nos Employees per Business (Off-Peak)	2.0					
Estimated Number Employed within the TRC	196					

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 98 fishing businesses (Table 27.1)

Fishing Industry Employees

Table 27.7 identifies the number of employees of commercial fishing businesses within this TRC for both peak and off-peak seasons. The majority of businesses within the peak and off-peak seasons had between 2-3 full-time employees (which would include the owner or operator), with less than 10% of businesses having part-time or casual employment. The average number of employees per business during the peak season was 2.3 employees per business and in the off-peak season it was 2.0. In total, it is estimated that during the peak season there were 225 full time equivalent employees while during the off-peak season there were an estimated 196 full time equivalent employees.

Business Ownership and Size

Table 27.8 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 21 years, with 54% of businesses being owned by the current owner for less than 20 years.

Table 27.8
Number of Years of Current Ownership of the Fishing Business

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	7	17.9	17.9
6-10	2	5.1	23.0
11-15	4	10.2	33.2
16-20	8	20.5	53.7
21-25	4	10.2	63.9
26-30	7	17.9	81.8
31+	7	17.9	100.0
Total	39	100.0	
Mean Number of Years owned or operated	21.3		
Difference of TRC mean to QLD mean (14.6)	+6.7		

Note: Standard errors for number of years ownership (sample =2.1, QLD population = 0.37).

The average number of years the business had been operating was 24.1 years (Table 27.9), which was somewhat higher than the average for all Queensland fishing businesses (18.2 years).

Table 27.9
Number of Years Business has been Operating

Number of Years	Sample Count	Percent within TRC	Cumulative Percent
1-5	5	13.5	13.5
6-10	2	5.4	18.9
11-15	5	13.5	32.4
16-20	7	18.9	51.3
21-25	4	10.8	62.1
26-30	4	10.8	72.9
31+	10	27.0	100.0
Total	37	100.0	
Mean Number of Years owned or operated			24.1
Difference of TRC mean to QLD mean (18.2)			+5.9

Note: Standard errors for number of years operated
(sample = 2.8; QLD population = 0.46)

Table 27.10 shows that the majority of fishing businesses within this TRC operated one boat (80%).

Table 27.10
Number of Boats Operated by Fishing Businesses

Number of Boats	Sample Count	Percent within TRC
1	32	80.0
2	4	10.0
3	2	5.0
4	1	2.5
5	0	0.0
6+	1	2.5
Total Number of Businesses	40	100.0
Mean Number of Boats Operated		1.5
Difference of TRC mean to QLD mean (1.7)		-0.2

Note: Standard errors for number of boats operated
(sample = 0.2; QLD population = 0.05)

Table 27.11 shows the frequency distribution for length of boats. Forty percent of boats were found to be between 3 and 6 metres. The mean length of all boats and the mean length of the largest boat were somewhat higher than the Queensland average.

Table 27.11
Length of Boats Operated by Fishing Businesses

Length of Boat (metres)	Sample Count	Percent within TRC
3-6	22	39.3
7-10	10	17.8
11-14	4	7.1
15-18	18	32.0
19-23	2	3.6
23+	0	0.0
Total Number of Boats	56	100.0
Mean Length of Boats Operated (metres)		10.3
Difference of TRC mean to QLD mean (9.9)		+0.4
Mean Length of Largest Boat Operated (metres)		12.0
Difference of TRC mean to QLD mean (11.4)		+0.6

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 27.12 shows for the 12 months prior to the survey, the wholesale value of all products sold by fishing businesses within the Southport TRC. In the Southport TRC there is a lower percentage of businesses with production values less than \$100,000 per annum (30%) when compared to the Queensland average (43%). However, there is a relatively higher percentage of businesses with production values between \$200,000 and \$400,000. In addition, the median GVP of \$188,581 for the Southport TRC is somewhat higher than the Queensland median GVP of \$128,629.

Within the Southport TRC it is estimated that the 98 fishing businesses had a gross value of production of approximately \$18.5 million, which is approximately 5.9% of the total value of production of the Queensland commercial fishing industry.

Table 27.12
Wholesale Value of Product (Annual value)

Wholesale Value (\$,000)	Sample Count	Sample Percent	Queensland Percent
Less than \$100	12	30.0	42.8
\$101 - \$200	9	22.5	21.4
\$201 - \$300	9	22.5	16.2
\$301 - \$400	8	20.0	8.5
\$401 - \$500	1	2.5	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	1	2.5	2.3
Total	40	100.0	100.0
Median GVP for TRC			\$188,581
Estimated Total GVP for TRC			\$18,481,000
Median GVP for QLD Population			\$128,629
Estimated Total GVP for QLD Population			\$314,241,000
Percent of Total Queensland Production			5.9%

Note: Estimated TRC population total is based on an estimate of 98 businesses within the TRC, with a median GVP of \$188,581
Queensland total GVP based on 2,444 businesses (2,679 licenced businesses with 8.8% latency) with a median GVP of \$128,629.

Table 27.13 shows the value of sales to specific locations within Australia for the sample of 40 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 27.13, and as shown in Figure 27.3, 36% of sales (\$6.7 million) occurs directly to Southport. Other locations for sales include \$3.8 million to Innisfail, \$3.0 million to the Gold Coast and a further \$1.5 million to Bowen. It is probable that much of the sale to overseas markets (\$0.9 million) occurred firstly within Southport thereby increasing the total value of sales within Southport

Table 27.13
Town Location of Sales to Customers (\$'000)

Location of Sales	Sample Value of Sales	Percent of Sample	Estimated Sales
Southport	4,943	36.1	6,672
Innisfail	2,840	20.7	3,826
Gold Coast UC	2,238	16.3	3,012
Bowen	1,082	7.9	1,460
New South Wales	691	5.0	924
Hervey Bay	431	3.1	573
Townsville	322	2.3	425
Brisbane UC	162	1.2	222
Gladstone	60	0.4	74
Mackay	22	0.2	37
Total Sales (Australia)	12,791	93.3	17,243
Total Sales (Overseas)	918	6.7	1,238
Total Sales	13,709	100.0	18,481

Note: Brisbane UC includes Beenleigh
Hervey Bay UC includes Urangan
Gold Coast UC includes Burleigh, Coolangatta & Paradise Point
The sample value of sales is based on GVP as reported by businesses in the survey.
The estimated value of business sales (Table 27.13) is proportionally distributed to all locations on the basis of sample percentages.

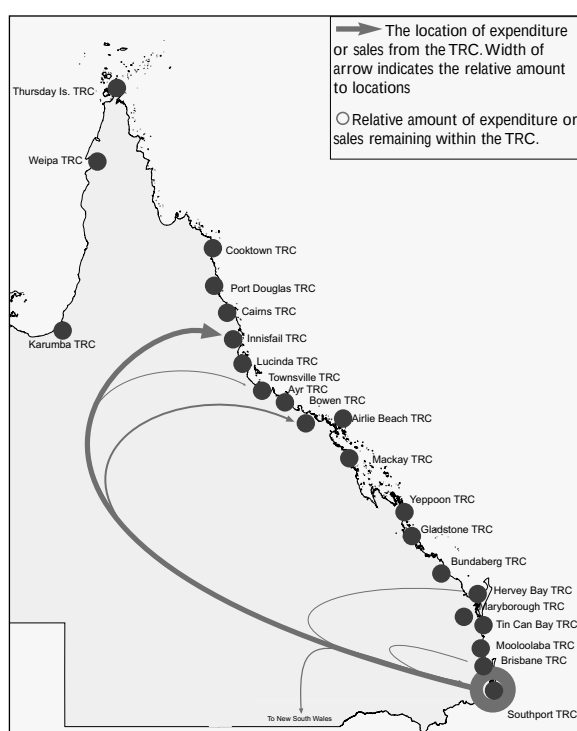


Figure 27.3 Southport TRC: Location of Business Sales

Business Expenditure and Debt Levels

Table 27.14 and Figure 27.4 show that approximately \$9.6 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 within Southport (\$4.8 million), Innisfail (\$1.6 million) and the Gold Coast (\$1.5 million).

Table 27.14
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)
Southport	3,501	50.1	4,814
Innisfail	1,151	16.5	1,589
Gold Coast UC (Balance)	1,083	15.5	1,492
Bowen	399	5.7	549
Brisbane	352	5.0	481
Townsville	190	2.7	260
NSW	81	1.2	116
Mooloolaba	44	0.6	58
Cairns	42	0.6	58
Gladstone	40	0.6	58
Hervey Bay UC	40	0.6	58
Mackay	33	0.5	48
Bundaberg	32	0.5	48
Total Expenditure	6,990	100.0	9,629

Note: Gold Coast UC (Balance) includes Coolangatta, but excludes Southport
Hervey Bay UC includes Urangan
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.

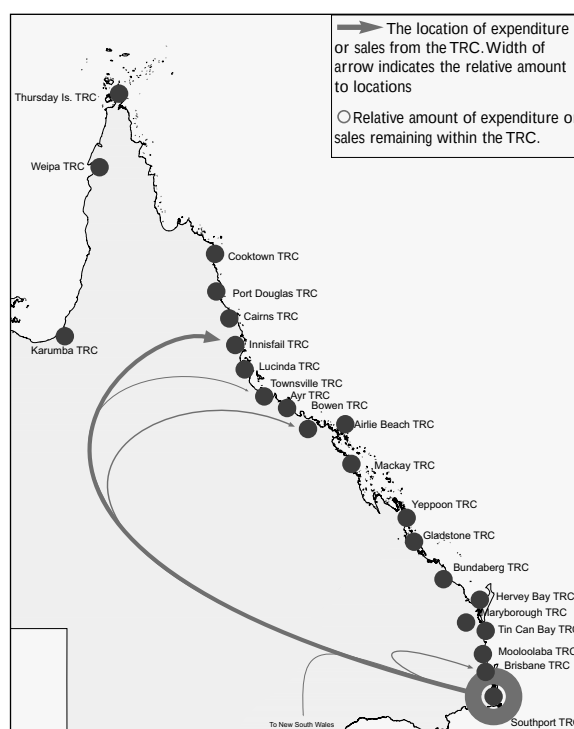


Figure 27.4 Southport TRC: Location of Business Expenditure

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 27.15 shows that 72% of businesses within the Southport TRC had no debt. The mean debt level within the TRC was 10% of business assets, which was somewhat lower than the Queensland industry average of 16.6%.

Table 27.15
Business Debt Levels

Percent of Assets Not Owned	Sample Count	Sample Percent	Queensland Percent
Nil	26	72.2	60.1
1 – 10%	4	11.1	6.4
11- 20%	1	2.8	5.2
21 - 30%	0	0.0	6.4
31 – 40%	1	2.8	3.3
41 – 50%	0	0.0	9.6
51 – 60%	2	5.6	1.8
61 – 70%	0	0.0	1.2
71 – 80%	1	2.8	1.1
81 – 90%	0	0.0	1.6
91 – 100%	1	2.8	3.3
Total	36	100.0	100.0
Mean Debt Level for TRC			10.3%
Median Debt Level for QLD Population			16.6%
Difference of TRC mean to QLD mean (16.6)			-6.3%

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

EMPLOYEE PROFILES

Town of Residence

Table 27.16 indicates, as might be expected, that the majority of employees reside within the Gold Coast urban centre (51%) and Southport (37%).

Table 27.16
Town of Residence

Town of Residence	Sample Count	Percent of Sample
Gold Coast UC (Balance)	26	51.0
Southport	19	37.2
Tweed Heads	2	3.9
Helensvale	1	2.0
Jacobs Well	1	2.0
Nerang	1	2.0
Tallebudgera	1	2.0
Total	51	100.0

Note: Gold Coast UC (Balance) excludes Southport but includes Ashmore, Biggera Waters, Gold Coast, Labrador, Paradise Point, Runaway Bay & Tugun

Months Employed in the Fishing Industry

Table 27.17 shows the distribution of employment in the fishing industry during the last 12 months. An inspection of Table 27.17 indicates no clear seasonal trends in employment.

Table 27.17
Months Employed in the Fishing Industry During the Past 12 Months

Months	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
January	91.2	62.5	82.0	80.7
February	94.1	62.5	84.0	82.3
March	94.1	56.3	82.0	86.1
April	97.1	62.5	86.0	86.8
May	100.0	75.0	92.0	87.3
June	100.0	75.0	92.0	87.8
July	100.0	81.3	94.0	86.7
August	94.1	81.3	90.0	86.3
September	94.1	62.5	84.0	86.8
October	91.2	68.8	84.0	85.4
November	88.2	62.5	80.0	84.4
December	85.3	75.0	82.0	82.3

Note: Owner/operator sample of 36, employee sample of 16.

Location of Household Expenditure

Table 27.18 shows the location of household expenditure related to individual income derived from employment in the fishing industry. The Gold Coast urban centre and Southport attract 88% (\$4.3 million) of all annual employee household expenditure from within the TRC.

Table 27.18
Town Location of Household Expenditure
(all commodities and services)

Location of Household Expenditure	Sample Value of Expenditure (\$'000)	Percent of Sample	Estimated Expenditure (\$'000)
Gold Coast UC (Balance)	625	59.0	2,870
Southport	307	29.0	1,411
Tweed Heads	32	3.0	146
Brisbane UC	26	2.5	122
New South Wales	22	2.1	102
Townsville	19	1.8	88
Innisfail	9	0.8	39
Cairns	7	0.7	34
Mossman	7	0.7	34
Bowen	2	0.2	10
Mackay	2	0.2	10
Total Expenditure	1,058	100.0	4,866

Note: Brisbane UC includes Beenleigh
Gold Coast UC (Balance) includes Currumbin, Paradise Point, Runaway Bay & Tugun.
The gross individual annual income of fishers within this TRC was estimated as \$35,545 (Table 27.20). 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 \$21,622, with total household expenditure across all 225 (Table 27.7) employees to be \$4.9 million (Table 27.18)

School and Employment Locations of Family Members

towns in which family members attend school and are employed are shown in Table 27.19. As might be expected, the Gold Coast urban centre (43%) and Southport (41%) are the primary towns for school and employment.

Table 27.19
School and Employment Locations of Family Members

Location of Employment or School	Sample Count	Percent of Sample
Southport	44	42.7
Gold Coast UC (Balance)	42	40.8
New South Wales	5	4.8
Tweed Heads	3	2.9
Brisbane UC	2	1.9
Mackay	2	1.9
Other towns	5	4.8
Total Family Members	103	100.0

Note: Brisbane UC includes Beenleigh, Capalaba, Cleveland, Eagleby, Loganholme, Redcliffe, Sandgate, Scarborough, Shorncliffe, Thornside, Wynnnum & Morton Bay
Gold Coast UC includes Runaway Bay, Surfers Paradise & Tugun
Counts and percentages based on all family members.
Other towns includes all towns with a frequency of one.

Employee Social and Demographic Profiles

Table 27.20 provides profile information about fishing industry employees within the TRC. For comparative purposes, information is also provided for all employees throughout Queensland.

Table 27.20. Owner-Operator and Employee Profiles

Profile	Owner/ Operators	Employee	Total Within TRC	All QLD Employees
Estimated Number of Employees ^b	98	127	225	7,088
Mean age of fisher	51.9	33.0	45.6	37.3
Age range	25-70	20-65	20-70	15-79
Percent males	100.0	100.0	100.0	94.8
Mean years resident in town	30.3	16.4	25.8	19.1
Mean number of years in fishing industry	26.0	9.1	20.7	12.6
Median hours per week in fishing industry	65.0	77.5	70.0	60.0
Percent moved town to retain employment	31.4	31.3	31.4	20.5
Percent currently employed in other industry	14.3	50.0	25.5	34.2
Percent previously employed in other industry	70.6	62.5	68.0	69.2
Housing tenure				
Rent	8.8	37.5	18.0	33.6
Mortgage	38.2	18.8	32.0	20.1
Own home	50.0	25.0	42.0	31.1
Other (eg, live with parents, on boat)	2.9	18.8	8.0	15.2
Educational				
Year completed school				
Primary school	22.9	0.0	15.7	5.2
Year 8	14.3	0.0	9.8	8.0
Year 9	8.6	12.5	9.8	11.9
Year 10	31.4	18.8	27.5	44.4
Year 11	5.7	31.3	13.7	10.1
Year 12	17.1	37.5	23.5	20.2
Percent completed trade or TAFE certificate	35.3	43.8	38.0	37.7
Percent completed industry or business course	14.7	25.0	18.0	15.2
Percent with business plan ^c	12.5	—	12.5	22.9
Percent active fishing group member	45.7	18.8	37.3	25.7
Marital Status				
Percent married or relationship	82.9	43.8	70.6	62.0
Percent with partner employed in business ^d	34.6	—	34.6	56.1
Median hours per week employed in business	8.5	—	8.5	20.0
Partners Income^{de}				
Full-time employment	20.0	14.3	18.8	28.3
Part-time employment	32.0	14.3	28.1	18.5
Casual employment	8.0	0.0	6.3	11.6
Not employed	40.0	71.4	46.9	41.5
Family Composition				
Mean family size	3.6	2.2	3.1	2.6
Estimated number of total family members	353	279	697	18,429
Dependency Ratios				
Age Dependency Ratio ^f	32.2	34.7	32.8	33.4
Elderly Dependency Ratio	5.8	3.8	5.3	2.3
Child Dependency Ratio	26.4	30.9	27.5	31.2
Family Member Industry Dependency Ratio ^g	18.3	9.1	16.9	23.9
Gross Individual Income				
Less than \$16,000	3.2	30.8	11.4	34.6
\$16,000 - \$26,000	25.8	23.1	25.0	19.6
\$26,000 - \$36,000	22.6	30.8	25.0	22.1
\$36,000 - \$52,000	22.6	7.7	18.2	11.7
\$52,000 - \$78,000	22.6	7.7	18.2	6.6
Over \$78,000	3.2	0.0	2.3	5.4
Average Income (\$)	39,871	25,231	35,545	27,471

Note: a Owner/operator sample of 36, employee sample = 16.

b Based on peak estimates derived in Table 27.7.

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).