

Opotiki Aquaculture and Harbour Development Projects: Assessment of Social and Community Benefits

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Executive Summary

Basis for assessment

The assessment is focused on social benefits likely to accrue as a result of the harbour development, marine farm, hatchery and processing factory, and various associated services.

Our methodology assumes that an automated seafood processing plant will be built in Opotiki – the importance of locally-based processing to the generation of direct and indirect benefits is illustrated in the model in the Conclusion chapter. The assessment of benefits is based on the situation at Year 12 when the mussel farm is in full production at 16,000 tonnes and all processing is done in the Opotiki-based facility.

The assessment calculates that the marine farm and processing will generate FTEs¹ in the vicinity of 190 direct FTEs and 65 indirect and induced FTEs² :

- Farming and farm service vessels: 26 direct, 6 indirect or induced.
- Processing and commercial management: 153 direct and 48 indirect or induced.
- Hatchery: 8 direct and 6 indirect or induced.
- Charter fishing or eco-tourism: 1.5 direct and 1 indirect or induced.
- Property investment and services: 1.8 direct and 4 indirect or induced.

Re-investment by Te Whakatōhea of dividends generated by its aquaculture investments into community-based projects would also stimulate employment in the region.

¹ Converting to FTEs adjusts for seasonal or part time work. Many of the processing positions will be for 8 months of the year.

² The indirect FTEs come about as a result of the establishment of a variety of marine/aquaculture related industries in the area, including transport. The induced FTEs arise as a consequence of the additional economic activity generated in the region.

Reflections from case studies

Three case studies have been undertaken to identify the range of potential benefits: Havelock, Coromandel Peninsula and Banks Peninsula. These show that:

- The aquaculture industry provides a wide range of occupations, skill levels and working hours and offers opportunities for career development and promotion.
- Some processing work can be year round rather than seasonal, but the bulk of processing positions will be for eight months of the year.
- Take home pay is higher than average wages because of longer hours and shift work (projected remuneration ranges from \$37,000 for processors to over \$100,000 for some managerial staff, which translates to an average take-home package per FTE of \$46,000; these pay levels are similar to that experienced in Havelock).
- Availability of an adequate workforce is crucial for the location of processing facilities – almost half Havelock mussels are trucked to Christchurch, all Banks Peninsula mussels are trucked to Christchurch or Marlborough, almost half of Coromandel mussels are trucked to Tauranga.
- Processing plants are the major generator of benefits for small communities – processing is a major employer and income generator (both direct and indirect) in Havelock, but very few benefits from aquaculture accrue to communities in Banks Peninsula.
- Aquaculture can lead to a wide range of support and secondary industries (especially in Havelock). Coromandel and Havelock have a range of tourist attractions and eating facilities based on the marine farming industry.
- Aquaculture can provide a focus for community fund-raising and other events that bring visitors to the area.

Quantifiable benefits from harbour development and aquaculture projects

Two quantifiable benefits have been identified: employment generation and reduction in benefit payments.

Increased employment and income

We estimate that when processing volume is at 16,000 tonnes, related activities will generate around 256 FTE jobs in the region.

The 2005 URS report estimated 930 FTEs. We believe this estimate is over-ambitious. But we also believe that 256 FTEs is a significant number of jobs in a town and sub-region with the population size and characteristics of Opotiki and the East Bay sub-region as a whole.

We estimate the total household income generated from these jobs will be in the vicinity of \$11 million per annum.

Reduction in benefit payments

Currently there are about 110 people registered as unemployed and seeking work in Opotiki. The Census data shows there is also a relatively high proportion of the population classified as “not in the workforce”. These are people who are not seeking work, or are at home looking after children, or who have some form of disability that precludes them from full-time work, or who are retired. The Havelock experience shows that with the right incentives, many of these people can take up at least part-time work.

Unemployment Benefit rates range from \$134 to \$335 per week. Furthermore, the more dependents there are, the higher the benefit is. In addition, these beneficiaries, depending on their circumstances may also qualify for an Accommodation Allowance and other supplementary benefits.

Given the commitment of the Whakatōhea Māori Trust Board to provide work-ready programmes and training programmes focused on the skills required for the marine farm industry and subsequent employment generators, we anticipate that at least 50 jobs will be filled by people on the unemployment register. Taking the lowest benefit payment as a baseline and reducing the number of unemployment beneficiaries by fifty, as a result of finding employment through these projects, would represent a saving in welfare payments of \$348,400 minimum per annum³. The actual amount would be greater than this as presumably beneficiaries with families (who are entitled to higher benefit payments) would be amongst those employed, and higher pay rates would reduce the necessity for Accommodation Allowances and other supplementary welfare payments.

³ \$6,958 per beneficiary for 52 weeks.

Other savings in welfare benefits are inevitable. In the year to June 2011, almost \$640,000 was paid out by Work and Income in Emergency Benefits and \$1.3 million in Accommodation Assistance benefits. These benefits are related to level of income (whether employed in paid work or not). Higher incomes would enable more households to survive without government welfare payments.

Non-Quantifiable benefits

A wide range of direct and indirect benefits have been identified. These are set out in the attached diagram. While these cannot be quantified in terms of costs saved or income generated, most will result in financial benefits.

Reduction in Criminal Offending

Opotiki has the highest crime rate of all districts in Eastern Bay and 19% higher than national average.

Earlier research, and the Havelock experience, indicates that employed people are less likely to offend and significant crime reductions can be achieved through getting people into paid work especially if the community as a whole takes ownership of behaviour and adopts a zero tolerance approach. This can include drug testing for those in work.

The 2005 URS report estimated crime reduction could be up to 10%. We consider this estimate to be conservative, especially if Opotiki as a whole acts to reduce crime in conjunction with lower unemployment rates.

In the year ended June 2011, the number of criminal offences recorded in Opotiki totalled 1,125 (an offender can commit several offences in one incident and a small number of offenders can be responsible for a disproportionate number of crimes). We anticipate that offences could be reduced by at least 20% (225 crimes) as a result of the direct and indirect employment opportunities resulting from these two projects together with a strengthening of community spirit and action (as demonstrated in Havelock).

Increased population (or halted population decline) and subsequent benefits

This can be expected from the inflow of people looking for employment and a decrease in the out-migration of current residents. More people needing to be accommodated will result in an increase in home building, an increase in house prices and increased subdivision activity. This will in turn increase the Council's rating base and thereby enable the Council to undertake improvements and provide facilities and services which the current low rating base precludes. An

increased population (especially with higher incomes) will increase the customer base and therefore viability of commercial services and community facilities.

Revitalisation of Iwi

The Whakatōhea MTB predicts that the employment opportunities arising from these projects will attract members of their iwi who have left the area back to their turangawaiwai. This will in turn provide a bigger population base to support cultural events and help with the maintenance of cultural facilities such as marae and urupa.

Profits from the marine farm venture will be used to establish other employment initiatives and community services according to the Whakatōhea Māori Trust Board.

The marine farm itself will provide an opportunity to showcase Māori entrepreneurship for which the local iwi were well known in earlier times.

The product from the marine farm will help to reduce the pressure on the natural sources of kaimoana especially as the Māori population increases as it is predicted to do.

Redevelopment of the harbour entrance will facilitate the aspiration of the Whakatōhea people to hold national waka ama events which would attract large numbers of visitors to Opotiki as well as generating cultural pride and a greater sense of wellbeing among the local iwi.

Benefits from improvements to harbour entrance

The proposed harbour works will enable direct access to the processing plant in Opotiki (processing becomes viable at levels of production > 6,000 tonnes annually.)

Locally-based processing will avoid the need for barging the raw mussels to Whakatane prior to trucking them to Tauranga, at an additional cost to the marine farm project of around \$1.3 million p.a. (In any event, capacity at the existing Tauranga processing facilities is likely to become constrained within 10 years, due to increased volumes being produced in the Coromandel).

By avoiding these costs, the profitability of the marine farm will be increased. This in turn will increase the profits available for funding new employment and community ventures as proposed by the Whakatōhea Trust Board.

The proposed harbour works will also improve access for marine-based recreation and tourism and facilitate the development of ancillary services to aquaculture.

1.0 Introduction

The authors were commissioned by the Opotiki District Council to research the social and community benefits of the harbour transformation project and the associated aquaculture venture. A broad outline of the financial and physical characteristics of the harbour development or aquaculture venture was provided to us with the provision that the scope of activities may change. In recognition of this, the report sets out the relationships between inputs and outcomes to enable the social benefits to be adjusted accordingly.

The social benefits we have taken into account are those that accrue to the Opotiki district and Eastern Bay of Plenty region. The findings presented in this report draw on existing studies and reports, interviews with a wide range of key informants and the experiences of other small communities which obtain a significant proportion of their economic wealth from the aquaculture industry.

1.1 Description of the projects

The subject of this analysis is two projects which are inextricably linked:

1. The Eastern Seafarms aquaculture venture which is a marine farm of 3,800 hectares located 8.5km of the Eastern Bay of Plenty coastline. Development forecasts produced by Eastern Seafarms estimate that by year twelve of the project there will be 804 longlines installed, covering a total of 3103 hectares and producing around 16,000 tonnes of mussels. The proposal also includes an automated processing plant located in Opotiki, and a hatchery dedicated to rearing mussel spat for the farm.

The project is being developed by Eastern Seafarms Ltd, Te Whakatōhea Māori Trust Board (which owns 54% of ESL) and the Opotiki District Council.

While the primary focus for the venture is on mussels, other species could include scallops, oysters, geoducks, paua, native seaweeds and sea cucumbers.

Having local servicing and processing facilities are key to the long-term viability of the farm's development. Currently the nearest landing place suitable for a mussel barge is Whakatane – a distance which would compromise the economic feasibility of the marine farm. The Whakatane and Ohiwa harbours both have difficult entrances and a lack of suitable land for service and processing facilities.

2. A large-scale infrastructure project to improve the navigability of the Opotiki Harbour entrance. This project is necessary to provide a level of access suitable for servicing the Eastern Seafarms marine farm. In addition to servicing offshore marine farm developments, an improved harbour entrance is expected to promote a variety of marine industry developments, and marine-based tourism and recreational activities.⁴

⁴ Opotiki Harbour Project: About the Project; p.2.

The works will involve the creation of a new river entrance 400m to the east of the existing entrance and the construction of two 500m long training walls, with erosion protection structures to confine the entrance. The development has all the necessary resource consents for the improvement works including Regional and District Council consents and restricted coastal activity approvals from the Minister of Conservation. The consents allow sufficient flexibility to enable alternative construction options to be developed through the detailed design process.⁵ The final design will take into account the need to balance the depth requirements for a navigable channel with the width requirements for sound flood management so that there is no increase in flood risk for Opotiki township⁶. The construction period for the harbour re-development is expected to take 1-2 years with the actual time depending on the final construction option selected and weather and sea conditions during construction⁷. Over time, commercial and residential land developments surrounding the harbourway are expected.

The two projects are interdependent: The benefits of the Opotiki harbour entrance improvements will only be fully realized if the Eastern Seafarms marine farm servicing and facilities can be located in Opotiki, generating downstream social and economic benefits to the community. Similarly, the infrastructure improvements are required before the marine farm can be serviceable.

1.2 Project year 12

Our analysis assumes that both projects have gone ahead, that the wharf and associated transport infrastructure has been completed, and that the marine farm is in its twelfth year. A processing plant is operational, as is a hatchery for producing spat. We have assumed that the marine farm produces roughly 16,000 tonnes of mussels, all of which is landed at the Opotiki wharf and processed at the local factory.

Our estimate presents a maximum level of social benefit because it assumes near-capacity production. In the first twelve years, while the farm is establishing its productive base and sending lower volumes to processing, the social and community benefits are likely to be at lower levels than those identified in this report. In particular, there is likely to be no processing related employment in Opotiki until production at the farm reaches at least 6,000 tonnes per annum. Currently this is estimated to occur at around year 5 of production.

⁵ Ibid.

⁶ Manager, Rivers and Drainage, Environment Bay of Plenty, personal communication.

⁷ The Opotiki Harbour Transformation Project, 2010, p.16.

2.0 Methodology

2.1 Information sources

This study relies on information from a wide range of documents and interviews, site visits, analysis of statistical data from various sources, and the findings of three case studies. The information sources included:

- Background documents on the projects, the aquaculture industry, the Opotiki district and its inhabitants, the Havelock community and the communities of Banks and Coromandel Peninsula (the documents consulted are listed as references at the end of this report).
- Information from a wide range of websites in particular <http://www.opotikiharbour.co.nz/> and the sites of aquaculture industry organisations.
- Statistical information from the Population Census, Police, Work and Income and Real Estate agencies.
- Detailed financial and employment information provided by Eastern Seafarms Limited.
- Interviews with key informants including staff and elected representatives of the Opotiki District Council, staff from Bay Of Plenty Regional Council, staff from the Whakatōhea Māori Trust Board, training providers based in Opotiki, community groups, community and social service providers, schools, real estate agents and government departments in Opotiki, Havelock and Coromandel.
- Field visits to the site of the proposed developments and the Opotiki township and surrounding area.
- Economic impact reports and multiplier data prepared for other regions or projects, including for Coromandel and Auckland aquaculture and the proposed Harbour Central Marine Precinct in Tauranga .

Case studies were undertaken of three relatively small communities with marine farming inputs to their economies. The purpose of these case studies was to test the assumptions about the potential benefits for Opotiki from a large mussel farming and processing operation based locally, and to identify factors that might influence the type and scale of benefits gained.

This report was finalised following presentation of the draft findings to the Opotiki Marine Farm Action Group and the Opotiki District Council.

2.2 An evidence-based approach

Proposals involving considerable public expenditure ought to be subject to careful and robust analysis of social and economic costs and benefits, to ensure that the investment is not only in the public interest but justifies the expenditure.

The Social Impact Analysis framework employed by this study encourages an evidence-based approach to reporting social benefits. This means providing references and sources for assertions made, and for all estimates of benefits - quantitative or qualitative.

It is our preference when preparing studies of this sort to quantify social impacts and express them in dollar terms to the extent practical. This requires determining the number of individuals, firms or groups affected, the size of the impact on each of these, and the total impacts (i.e. number affected * size of impact). Quantification helps test the assumptions and judgments involved in the formulation of conclusions and helps avoid double-counting costs and benefits. But quantification is not always possible when it comes to social impacts. In these cases, the benefits should be described as best as possible, drawing on any available qualitative evidence. Dollar figures should not be “invented” for their own sake.

A preference to quantify benefits as far as possible does not mean that benefits which cannot reasonably be quantified should be discounted heavily or ignored. Not everything of value can be measured. However, we consider that the nature of public benefits needs to be defined with some precision. To increase the rigour of our conclusions we have used a standard analysis framework for ranking non-quantifiable benefits. This framework is contained in the Conclusion section.

2.3 Assessment of benefits only

This report assesses social and community benefits from the harbour development project. It therefore only gives part of the picture: it does not identify or assess social and community costs. Such costs might include, for example, the diversion of labour resource from other industries such as horticulture during peak periods. They may also include the impacts of increased house prices or housing shortages, or increased demand on social services and facilities due to in-migration as a result of the project.

However, on balance, it is our feeling that the direct social costs of this project will be small relative to the benefits. In particular, the diversion of staff away from horticulture may not be as big a threat as feared. The Bay of Plenty Aquaculture Strategy notes that the seasonal processing requirements of aquaculture will fit well with the highly seasonal processing requirements of existing seasonal employment-based industries⁸ especially horticulture, which employs a relatively high percentage of unskilled/semi-skilled workforce in the region. However, at the time of writing this report, the kiwifruit industry (a significant component of the horticulture industry in the Bay of Plenty region including Opotiki District), is under threat from PSA bacteria. As a consequence, its future as a viable supplementary source of employment to marine farming is in question. The experience of Havelock however demonstrates that mussel farming can be organised in a way that it generates sufficient income for its workers over the year to represent a full-time salary with little need for a supplementary employment source.

There is one further, and crucial, cost that is not included in this report. That is the opportunity cost of what might have happened had the investment in the wharf and marine farm developments been utilised elsewhere in the region, on a different project. Social and economic impact assessments will often overlook the opportunity costs of a project, but a

⁸ World Class Aquaculture, Bay of Plenty Aquaculture Strategy.

rigorous analysis should consider what else might have been achieved if capital was invested elsewhere. We have assumed that the Council and other decision-makers have weighed up the alternatives and that the harbour transformation project is the preferred option, irrespective of social benefits.

2.4 Comparison against status quo

This analysis compares two states of the world: the status quo – baseline - and another state in which the investment has gone ahead and the project has been implemented. The baseline state has been represented using a collection of statistics about Opotiki's population, which are presented in section 4.

As noted above, the alternative state assumes that both projects have gone ahead and the marine farm is in its twelfth year with a processing plant in Opotiki processing roughly 16,000 tonnes of mussels.

2.5 Area of Interest

Our analysis of social and community benefits assess Opotiki separately (as the primary benefactor), the Eastern Bay (comprising Opotiki, Whakatane and Kawerau) as the wider area of beneficial impact and, when appropriate, have included the Western Bay census districts which make up the rest of the Bay of Plenty region. These other districts, which include Tauranga, parts of Rotorua and a number of coastal communities to the south of Tauranga, have quite different characteristics than those in the east, and since they include the region's primary employment centres of Tauranga and Rotorua, they are less likely to benefit directly from developments located in Opotiki. In all the tables, New Zealand as a whole is used as a comparison to illustrate the extent to which the characteristics of the areas potentially affected by the proposed development differ from the nation-wide characteristics.

3.0 Historical background

The Opotiki district is located in the Eastern Bay of Plenty and extends from the Ohiwa Harbour almost to East Cape. Opotiki was built around the use of the harbour for trading local produce grown on the district's extensive fertile plains. In 1853, six boatbuilding yards were operating in the township upstream of the current wharf (this area has since been reclaimed).⁹

In 1859, people from the local Iwi, Whakatōhea, owned at least 20 ships, each about 20 tons, for trading goods to and from Auckland. Following the land wars and confiscations in the 1860s, the Opotiki wharf continued to be a busy port with the Northern Steamship Company running a regular service between Opotiki and Auckland.

The last trading boat visited the Opotiki wharf in 1956. It was around that time that the focus of the town's economy moved to manufacturing. By the 1980s there was a dairy factory employing 140, a footwear and a clothing factory which together employed about 240 and a textile factory which at peak employed about 200. The number of jobs in these factories began to drop throughout the late 1980s and 90s and by the end of the 1990s all these factories had closed. The local hospital which employed about 100 people also closed. Together these closures resulted in a loss of about 400 local jobs.¹⁰

⁹ Opotiki Harbour Development Update, June 2008.

¹⁰ Personal communications with Mayor and with staff at Whakatōhea Māori Trust Board.

4.0 Opotiki population characteristics

This section describes the population of Opotiki in terms of trends in population numbers, age distribution, ethnic groups, household incomes, employment and education and training and compares those characteristics to those of the Eastern Bay sub-region as a whole, as well as national characteristics.

4.1 Population Trends

At the time of the 2006 population census, the population of the Opotiki District totalled 8,976 a decrease of 1.9% since the 2001 census and a decrease of 3.7% over the previous ten years since 1996. The Opotiki and Kawerau Districts are the only districts within the region that are experiencing a decline in population. The decline in Kawerau is much more dramatic with a loss of 11.6% between the period 1996 to 2006.

In 2006, 46.5% of the population (4,176) lived in Opotiki Township, with the remainder spread in small settlements along the coastline and small rural communities.

4.2 Age Distribution: Characteristics and Trends

When compared to the surrounding districts and to New Zealand as a whole, the population distribution in Opotiki District has some very distinctive characteristics. The proportion of children (pre-school and school age) is higher than for the Eastern Bay sub-region as a whole (27.5% compared with 26.2%) and significantly higher than the New Zealand average (21.5%).

On the other hand, the proportion of residents in the young and mid workforce age groups (15 and 44 years) is much lower in Opotiki (26.5% compared to 36.3% for the Eastern Bay sub-region as a whole and 42.3% for New Zealand.) In Opotiki the percentages of residents in the older working age group and those of retirement age are both higher than for the Eastern Bay sub-region as a whole and the national average.

Table 1: Age Groups for the Census Usually Resident Population Count (2006)

	0-4 years		5-14 years		15-29 years		30-44 years		45-64 years		65 and over		Total
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%	no.
Opotiki District	720	8.0	1,749	19.5	1,377	15.3	1,005	11.2	2,253	25.1	1,245	13.9	8,976
Eastern Bay sub-region *	3,891	7.9	9,024	18.3	8,214	16.7	9,666	19.6	12,096	24.6	6,306	12.8	49,197
NZ		6.8		14.7		20.2		22.1		23.8		12.3	

* Comprising Opotiki, Whakatane and Kawerau districts.

4.3 Ethnicity

At the time of the 2006 Population Census, 27% of the population in the Bay of Plenty region were classified as Māori or part-Māori (residents could choose more than one ethnic category). Kawerau and Opotiki Districts had the highest proportions of Māori residents of all the Districts in the region – more than four times the national average.

The balance of the population is mainly European/Pakeha with most districts recording less than 5% of “other” ethnic groups in the 2001 census. (Rotorua (7.5%) and Kawerau (5.3%) were the only exceptions. The national average for “other” ethnic groups was 13.8%.¹¹

The percentage of Māori among the population of Opotiki has increased by 2.6% over the ten years from 1996 to 2006 while other districts remained more or less the same except for Kawerau which experienced a 1.5% increase in the proportion of Māori. However, it is important to note that these figures refer to *percentages* of the population not the actual numbers. The number of Opotiki residents classified as Māori has actually declined over the ten years to 2006. Kawerau is the only other district in the region where this occurred.

Table 2 Proportion of Māori residents by local authority area 1996 - 2006

	Māori Ethnic Group		Total residents
	No.	%	No.
1996 Census			
Opotiki District	5,037	56.6%	8,895
Whakatane District	13,335	42.2%	31,614
Kawerau District	4,536	59.6%	7,614
Western Bay of Plenty District	6,207	18.3%	33,870
Tauranga City	12,243	16.2%	75,597
Rotorua District	21,894	35.4%	61,872
New Zealand Total	523,371	15.1%	3,466,518
2001 Census			
Opotiki District	4,986	57.5%	8,667
Whakatane District	13,203	42.2%	31,314
Kawerau District	3,915	59.9%	6,534
Western Bay of Plenty District	6,399	17.5%	36,654
Tauranga City	14,112	16.1%	87,516
Rotorua District	21,609	35.6%	60,693
New Zealand Total	526,281	14.7%	3,586,644

¹¹ The 2006 Census included a category “New Zealander” which was separate to European and classified as “other”. As a result, the figure for “other” was inflated and therefore misleading.

2006 Census			
Opotiki District	4,881	59.2%	8,238
Whakatane District	13,203	42.2%	31,308
Kawerau District	4,050	61.1%	6,627
Western Bay of Plenty District	6,927	17.4%	39,882
Tauranga City	16,569	16.5%	100,488
Rotorua District	22,734	36.4%	62,526
New Zealand Total	565,329	14.6%	3,860,163

4.4 Household incomes

Since at least the 1996 Census, the Districts that make up the Eastern Bay sub-region (Opotiki, Kawerau and Whakatane) have been characterised by low incomes and relatively high levels of benefit dependency relative to the national average and to the other districts which make up the Bay of Plenty region.

In 2006, the median income in Opotiki was \$17,400. This was \$6,000 less than the national median. Forty seven percent of incomes in Opotiki District were (in 1996) under \$20,000 (a total of 3,084 residents) compared to 38.8 percent nationally. Kawerau is the only district in the region with a higher percentage (nearly 49 percent). The district with the third highest percentage of low income residents is Whakatane.

All the districts that make up the Bay of Plenty region have lower than national average proportions of residents who have incomes in excess of \$50,000. Opotiki has the lowest percentage of residents in this group (8 percent, less than half the national average) followed by Kawerau at 11.8 percent.

Table 3 Total Personal Income for Usually Resident Population Aged 15 Years and Over

2006	\$5,000 or less	5,001-10,000	10,001 - 20,000	20,001 - 30,000	30,001-50,000	50,001 or more	Not stated	Total population	Median income
Opotiki District	690 (10.6%)	642 (9.9%)	1,752 (27.0%)	921	936	522	1,044	6,507	\$17,400
Whakatane District	2,625	1,977	5,526	3,498	4,323	3,555	3,294	24,798	\$21,700
Kawerau District	558	516	1,356	591	666	588	699	4,974	\$17,100
Western Bay of Plenty District	3,750	2,328	7,296	4,863	6,606	4,614	3,510	32,967	\$22,600
Tauranga City	8,265	5,421	19,605	12,672	17,388	11,694	7,005	82,050	\$23,200
Rotorua District	5,073	3,483	10,083	7,551	10,413	6,648	5,988	49,242	\$23,900
New Zealand	383,574	226,797	615,984 (19.5%)	434,958 (13.8%)	666,372 (21.0%)	511,800 (16.2%)	320,889 (10.1%)	3,160,374	\$24,400

Income from Welfare Payments ¹²

The number of residents who receive some form of welfare benefit has dropped significantly since the peak in 2002 and 2003 when almost 3,000 benefits were paid out through the Opotiki Service Centre. There are a number of factors that influence these figures including government policies and definitions of entitlement. However since 2008 the numbers of benefit payments have begun to rise again and at June 2010 totalled just short of 2,500. This increase is mostly attributable to a slight rise in the numbers of people receiving either New Zealand Superannuation or a Domestic Purpose Benefit.

In the year 2009-10, the allocation of welfare benefit payments to residents (*excluding* superannuation payments) in the Opotiki district totalled almost \$20.3 million. Work and Income estimates the total welfare spend in Opotiki district (*excluding* superannuation) for the year ending 30 June 2011 as just over \$26.8 million. These totals include benefit payments to widows, orphans, veterans, domestic purposes, emergency and sickness as well as unemployed.

Of the nearly \$20.3 million allocated in the year ended June 30 2010, only \$1.76 million was paid in job seeker (unemployment) benefits and accommodation allowances to job seekers. A further \$677,800 was paid in emergency benefits (associated with low incomes) and accommodation allowances to emergency beneficiaries. Sickness benefits and accommodation allowances to sickness beneficiaries totalled nearly \$2million. Payments to Domestic Purpose beneficiaries including accommodation assistance benefits to this group totalled \$7.4 million.

Expenditure in these four categories has significantly reduced since the peak in 2003 but since 2008 expenditure on these benefits has begun to increase. The PSA bacteria currently decimating much of the kiwifruit crop in the Bay of Plenty is likely to significantly increase the number of unemployed in the Eastern Bay sub-region as jobs on orchards and pack houses disappear.

4.5 Employment Status

At the time of the 2006 Census, 38.1 percent of Opotiki residents were employed full-time, more than 10 percent lower than the national average and lower than all the other districts in the Bay of Plenty region except Kawerau (36.4 percent). The percentage of residents employed part-time was also the lowest in the region apart from Kawerau and slightly lower than the national average.

The 1996 Census showed the Bay of Plenty region as a whole had a higher proportion of people who were either unemployed or not in the workforce than the national average. Kawerau had the highest percentage of unemployed of all the districts that make up the Bay of Plenty region followed by Opotiki District and this has been consistently so since at least

¹² Work and Income figures for investment in Opotiki.

1996. Since the 1996 Census, Kawerau has recorded more than double the national average of unemployed. The percentage of unemployed in Opotiki fell between 2001 and 2006 (from 8.9 percent to 5.6 percent) but was still higher than in the other districts that make up the region and almost 2 percent higher than the national average (3.4 percent).

The relatively high proportion of Opotiki residents classified as “not in the workforce” can be partly explained by the relatively high number of dependent children. (Eight percent are under 5 years old compared to 7.9 percent for the Eastern Bay sub-region and 6.8 percent nationally. A further 19.5 percent are under 15 years of age compared to 18.3 percent in the Eastern Bay as a whole and 14.7 percent nationally. Another contributing factor is the percentage of residents over the usual retirement age of 65 years which is 1.6 percent higher than the national average and higher than both Whakatane and Kawerau.

Table 4 Work and Labour Force Status, for the Census Usually Resident Population Count Aged 15 Years and Over (2006 Census)

	Employed Full-time		Employed Part-time		Unemployed		Not in Labour Force		Status Unidentifiable		Total No.
	No.	%	No.	%	No.	%	No.	%	No.	%	
Opotiki District	2,481	38.1%	888	13.6%	366	5.6%	2,394	36.8%	378	5.8%	6,507
Whakatane District	10,863	43.8%	3,570	14.4%	1,248	5.0%	8,115	32.7%	1,005	4.1%	24,798
Kawerau District	1,809	36.4%	600	12.1%	378	7.6%	2,004	40.3%	180	3.6%	4,974
Western BOP District	15,297	46.4%	5,103	15.5%	981	3.0%	10,059	30.5%	1,530	4.6%	32,967
Tauranga City	37,071	45.2%	11,886	14.5%	2,625	3.2%	28,572	34.8%	1,893	2.3%	82,047
Rotorua District	23,886	48.5%	6,939	14.1%	2,172	4.4%	14,190	28.8%	2,055	4.2%	49,239
BOP Region as a whole		45.4%		14.4%		3.9%		32.8%		3.4%	198,108
New Zealand Total		48.4%		14.4%		3.4%		30.4%		3.4%	3,160,371

Occupations

Almost a quarter (24.9%) of the residents in Opotiki who have paid employment are engaged in the agriculture (including horticulture), forestry and fishing sector. As the major industry in the district, it can be assumed that most of these people are employed within the kiwifruit industry.

This sector is also the biggest employer in the Western Bay of Plenty district (21.2%) and Whakatane District (13.5%) where the kiwi-fruit industry is also a major player.

Education and training, health, construction and the retail trade are the other major employers in Opotiki, Whakatane, Kawerau and Western Bay of Plenty. Manufacturing, primarily of wood products, is the biggest employment sector in Kawerau (24.3%).

Table 5 shows the major employment sectors in the Bay of Plenty region. Together they account for about 60 percent of the employment in Opotiki, Whakatane, Kawerau and Western Bay of Plenty. These sectors are also major employment generators in Rotorua and Tauranga. Wholesale trade and transport are also significant employers in Tauranga.

Table 5 Main Employment Sectors by District: 2006

	Agriculture, Forestry, Fishing	Manufacturing	Construction	Retail	Accommodation & Food	Professional, Scientific & Technical	Education Training	Health, social assistance	Others*
Opotiki	24.9%	4.0%	7.0%	9.4%	5.4%	2.8%	10.4%	6.6%	29.5%
Whakatane	13.5%	11.3%	7.7%	10.7%	4.3%	4.5%	9.5%	8.6%	29.9
Kawerau	5.2%	24.3%	6.8%	9.3%	4.5%	2.5%	9.7%	7.5%	30.2
Western BOP	21.2%	9.6%	9.3%	7.7%	3.4%	5.3%	5.4%	7.5%	30.6%
Tauranga	2.8%	6.8%	11.0%	12.5%	5.3%	7.1%	6.4%	9.9%	38.2%
Rotorua	7.6%	10.8%	6.8%	10.4%	8.9%	6.2%	7.9%	9.0%	32.4%
NZ	6.8%	10.9%	7.5%	9.8%	5.6%	7.7%	7.1%	8.1%	36.5

* “Others” includes mining, electricity, gas, water and waste services, wholesale trade, transport, postal and warehousing, information media and telecommunications, financial and insurance services, rental, hiring and real estate services, administrative and support services, public administration and safety, arts and recreation services.

4.6 Education and Training

Over 34% of the working age population in Opotiki have no formal qualifications. As shown in Table 6, this is the highest percentage of all the districts that make up the Bay of Plenty region and almost 12% higher than the national average.

Opotiki in particular and the Eastern Bay sub-region as a whole have significantly fewer residents with educational qualifications than the Western Bay and the country as a whole.

Table 6 Highest qualification for population aged 15 years and over 2006

	No qual.	Secondary school qual.	Vocational qualification	Bachelor degree	Post Graduate	Not elsewhere included**	Total
Opotiki	34.3%	29.4%	15.0%	4.1%	1.3%	15.8%	6,507
Eastern Bay sub-region	30.2%	31.0%	17.8%	5.2%	1.7%	14.0%	36,279
West BOP	24.5%	34.8%	20.0%	7.1%	2.5%	11.0%	164,256
New Zealand	22.4%	35.6%	17.6%	10.0%	1.8%	10.4%	

*Secondary school qualifications includes all NCEA levels 1-3 and level 4 undertaken in school plus overseas secondary school qualifications.

** "Not elsewhere included" includes uncodable responses, unidentifiable responses & incomplete responses.

The number of households in Opotiki District has increased slowly over the past 10 years (an increase of 116). All other districts in the Bay of Plenty region except for Kawerau have experienced much stronger growth. (Kawerau experienced a decline of 20 households over that period.) At the 2006 Census there were 3,189 occupied dwellings in Opotiki and 798 unoccupied (20 percent of the total housing stock).

4.7 Household tenure

Home ownership is one of the indicators used to determine the decile ratings for the Deprivation Index. As illustrated in Table 7, the number of Opotiki households living in rented accommodation is increasing and the number of owner-occupied houses has declined significantly. In 1996, the percentage of households living in rented accommodation was 30.7 percent but 10 years later the percentage had grown to 34 percent - more than 2 percent higher than for the Eastern Bay sub-region as a whole and 3 percent higher than the national average. Over that same period the percentage of households living in their own homes dropped by 17.3 percent – more than in the Eastern Bay as a whole and more than the national average.

Table 7 Household Tenure for private occupied dwellings: 1996 - 2006

Areas	Owner Occupied			Rented			Other**		
	1996	2006	% change	1996	2006	% change	1996	2006	% change
Opotiki	64.9%	47.6%	-17.3	30.7%	34%	+3.3	4.5%	18.4%	+13.9
Eastern Bay sub-region*	66.6%	51.6%	-15	29%	31.7%	+2.7	4.7%	16.6%	+11.9
NZ	67.9%	51.2%	-16.7	28.2%	31.1%	+2.9	4%	17.7%	+13.7

* Includes Opotiki, Whakatane and Kawerau districts.

** This category includes Family Trusts, information on which was not collected until 2006.

Interviews with real estate agents confirmed that the conversion of owner-occupied houses in Opotiki to rental houses is continuing, with the majority of residential properties on the market being bought as rental properties. At the time of the 2006 Census there were 1,083 occupied rental properties in Opotiki. Since then, this number is likely to have increased significantly since, according to a local real estate agent interviewed, a high percentage of the properties sold in Opotiki are to private landlords. There are at least three firms in Opotiki specialising in property management. Some real estate agents also manage rental tenancies on behalf of the owners.

4.8 Household size

Over-crowding (based on number of bedrooms relative to household size) is an indicator used to determine the decile ratings for the Deprivation Index. Most districts and cities in the region have relatively high proportions of households with five or more residents¹³. In Opotiki, household sizes tend to be larger than most other districts and larger than national averages.

Table 8 Number and Percentage Households with Five or more Occupants: 2006

	Five usual residents	Six usual residents	Seven usual residents	Eight or more usual residents
Opotiki	238 7.5%	122 3.8%	45 1.4%	45 1.4%
Whakatane	883 7.5%)	373 3.2%	178 1.5%	153 1.3%
Kawerau	199 8.3%	94 3.9%	44 1.8%	32 1.3%
Western BOP	1,069 6.9%	397 2.6%	117 0.8%	91 0.6%
Tauranga	2,207 5.5%	804 2.0%	249 0.6%	190 0.5%
Rotorua District	1,694 7.3%	748 3.3%	298 1.3%	231 1.0%
New Zealand	7.1%	2.7%	1.0%	0.9%

Low incomes are a major contributor to over-crowding either because the household does not have sufficient income to afford a larger house or because two or more households have to live together to save on rent costs or to assist with mortgage payments.

¹³ The exception is Tauranga which has a disproportionate number of single and two- resident households.

4.9 Ranking on Deprivation Index

The socio-economic issues confronting Opotiki are largely summarised by its ranking on New Zealand’s Deprivation index. This index is a Census-based tool for measuring the wellbeing of small areas within New Zealand using a range of socio-economic indicators. A relative deprivation score which represents a combination of nine variables from the 2006 census reflecting eight dimensions of deprivation is assigned to each meshblock area.¹⁴ The variables that make up the Index are listed in order of importance in the following table.

Table 9 Variables in the Deprivation Index

<i>Dimension of deprivation</i>	<i>Variable description (in order of decreasing weight)</i>
Income	People aged 18-64 receiving a means tested benefit
Income	People living in equivalised* households with income below an income threshold
Owned home	People not living in own home
Support	People aged <65 living in a single parent family
Employment	People aged 18-64 unemployed
Qualifications	People aged 18-64 without any qualifications
Living space	People living in equivalised* households below a bedroom occupancy threshold
Communication	People with no access to a telephone
Transport	People with no access to a car

*Equivalisation: methods used to control for household composition.

The NZ Deprivation Index is often analysed by decile, where decile 1 represents the 10% of meshblocks least deprived in NZ and decile 10, the most deprived. The deprivation index applies to areas, not individual people which means there can be wealthy people living in an area with a low decile rating and poor people living in areas with a high decile rating. The index represents an average.

Since the 1960s, the trends in most socio-economic indicators within the Opotiki district have been in decline. As at 2006, Opotiki township, most of Opotiki District and a significant area of Whakatane District was accorded the lowest ranking on the deprivation index.

4.10 Conclusion

The demographic analysis presented above illustrates that Opotiki and the Eastern Bay sub-region face formidable obstacles to social and economic well-being. As such, the social and

¹⁴ Meshblocks are geographical units defined by Statistics New Zealand, containing a median of approximately 87 people.

community benefits that arise from the proposed harbour and marine farm projects are likely to be more pronounced than what they would have been in more affluent communities.

5.0 Community facilities and services

5.1 commercial services

Opotiki township has a wide range of commercial services and retail outlets relative to its size, perhaps reflecting its previous manufacturing capabilities. Table 10 lists the services and available and the number of each.

Table 10 Commercial and retail outlets in Opotiki

Type of service/retailer	Number in central area*
Cafes/restaurants	9
Takeaway outlet	5
Banks/credit union	5
Hotel/bar/liquor wholesale	5
Car sales	4
Hairdressers	4
Hardware (e.g. chainsaws, Mitre 10)	4
Furniture., antiques, 2 nd hand goods	4
Appliances	3
Pharmacy/health shop	3
Service Stations	3
Property management service	3
Electrical /plumbing /bathroom suppliers	3
Clothing / drapery	3
Rural services (including pump supplier)	3
Butchery/seafood	3
Panel beaters/ auto repairs	3
Florist	2
Internet	2
Travel agents	2
supermarket	2
Security system services	2
Internet service	2
Building/supplies joinery	2
Trucking contractors	2
Budget goods (e.g. Coinshop)	2

* This list is compiled from a street survey and is unlikely to be comprehensive. Its purpose is to indicate the range of commercial services and retail outlets available in the town.

In addition, there is one supplier specialising in each of the following: stationary, paint and wallpaper, gifts, videos, toys, photos, sports equipment, computer repairs, trailer rentals as well as a laundromat, a dairy, a fruit and vegetable shop and offices for private accountants, lawyers, surveyors and planners.

No research has been undertaken on the financial viability of commercial and retail stores as part of this study. The existence of several empty properties in the town centre indicates that there is room for improvement and developments that increase the level of local household incomes and increase the customer base would benefit the existing commercial services and could attract more businesses.

5.2 Community social and services and facilities

Opotiki township also has a wide range of social and community services and facilities relative to its size. Table 11 lists the services and available and the number of each.

Table 11 Community services and facilities in Opotiki

Type of service/facility	Number in central area*
Schools	5
Pre-schools	3
Training/Learning centres	4
Churches	4
Health /medical centres (incl. dentist 1)	5
Family support centres	4
Plunkett	1
Daycare	1
Library	1
Museum	1
Cinema	1
YWCA	1
Arts Centre	2
Post Office	1
Court	1
RSA	1
Social Services Volunteers Network centre	1

* This list is compiled from a street survey and is unlikely to be comprehensive. Its purpose is to indicate the range of social support and community services available in the town.

In addition, the town has a Work and Income Centre, a Heartland Service Centre (where a range of government departments can be accessed), a Police station, a Post Office, Volunteer Fire Brigade and St John's Ambulance Service.

A noticeable gap in the social services available in Opotiki is a regular public transport service. While there is a bus service located in the town, its services are confined to school bus runs. There are no services for shoppers or commuters within Opotiki¹⁵. In season, the kiwifruit

¹⁵ The Bay Hopper does a return trip to Whakatane 3 days a week, the Intercity and the Naked Bus run daily between Opotiki and Whakatane but not at times suitable for commuters on normal working hours.

pack houses operate buses for pickers and pruners but others who do not live close to their place of work or who do not live within walking distance of shops and facilities must rely on private transport.

The lack of a more frequent bus services within the district could be an impediment to obtaining paid employment for some people. Opotiki has a relatively high percentage of households who do not have access to a motor vehicle (a total of 327 households in 2006, 10.3%, compared to the national average of 7.8%).

5.3 Recreation facilities

Opotiki District offers an extensive range of outdoor recreational activities for locals, visitors and tourists including fishing, hunting, walking, tramping, kayaking and rafting, cycling and swimming either in the sea or one of the many rivers in the area.

The Waioeka and Otara rivers are a significant whitebait fishery with the flood plain spawning ground on the Otara, adjacent to the Opotiki Township, considered to be the largest in the Bay of Plenty. The importance of protecting this fishery during the construction of the harbour entrance, by avoiding construction activity during the main whitebait-spawning period in autumn, has been acknowledged in planning documents and RMA consent conditions.¹⁶

The recreational values associated with Pakihi (the area from the entrance to the harbour to the junction of the Waioweka and Otara rivers) and the surrounding environments include:

- Use of the entrance for boating, including fishing (although these activities are currently limited by tide and depths).
- Fishing within the entrance and river system (whitebaiting, surfcasting and netting).
- Waka ama and kayaking.
- Collecting kai moana.
- Walking along the beach and within the sand dunes.
- Swimming.

The Dune Trail, currently under construction, is part of the Moutu Trails cycleway. The Motu Trails is one of the Great Rides officially sanctioned under the Nga Haerenga, The New Zealand Cycle Trail project. The Dune Trail forms a 10km link along Opotiki's stop banks and coast to link up with the 78km Motu Trail at the bottom of the Motu Coach Road. This section of the trail follows the historic coach road from Matawai (high on the ranges midway between Opotiki and Gisborne) to Opotiki. The decision to fund this trail as part of the New Zealand Cycle Trail programme recognised the economic benefit that such a major tourist attraction will bring to the region, the importance of the area's early Māori and European history and the immense scenic attraction of the coastal, bush and hill-country environments.

¹⁶ Opotiki Harbour Development: Update June 2008, p.3.

The trails have been designed to cater for a wide range of visitors from day trippers and ‘tourists on bikes’ to adventure riders and multi-day rides.¹⁷

There are several large native forest areas for walking and tramping including the Raukumara Conservation Area (which includes the Motu River, well known as a facility for rafting), the Urutawa Conservation Area and the Waioeka Conservation Area.

¹⁷ Pacific Coast Highway Guide, 2012, pg 34-35 Opotiki Site Visitor Information Centre.

6.0 Potential social and community benefits

6.1 Basis for assessment of benefits

Opotiki is a town which has been experiencing decline for a number of years, with services and facilities either being closed down or beginning to be run-down. Opotiki people, including Te Whakatōhea Iwi, are keen for economic development, which creates prosperity for local people without compromising the environment or lifestyle which they treasure.¹⁸ The Regional Council has ranked harbour access, both for aquaculture and tourism development, as the highest priority economic development project for Opotiki.¹⁹

A marine farm of the scale proposed requires a substantial support industry as demonstrated by the aquaculture industry in Havelock and the Coromandel. The support industries and infrastructure required are likely to include purpose-built wharves and unloading facilities, as well as sheds for the repair and storage of farm structures and equipment. In addition to the processing plant it is likely that a hatchery / research and development facility will also be established.²⁰ In addition, the proposed projects could provide the impetus for other developments around the harbour including:

- A range of support industries near the wharves and loading facilities, such as marine re-fuelling, storage and transport facilities ;
- Facilities required for commercial and recreational boating activities, including the possible construction of a marina; and
- Commercial and residential land developments surrounding the harbourway.

The redevelopment of the harbour will allow a variety of vessels to use the entrance and could thereby promote both marine industry development and enhanced marine-based tourism and recreation activities. This type of associated development, both commercial and recreational, will increase the benefits gained from improving access to the harbour.

The location of the processing facility in Opotiki is not a foregone conclusion. Its construction will be subject to a consenting process under the Resource Management Act. In the interim and until the harvest reaches a level which makes a new plant viable (estimated to be about 6,000 tonnes per annum) the mussels will be transported via the Whakatane wharf to processing facilities in Tauranga.

As noted in section 1, this assessment of benefits is based on the optimal outcome i.e. that a processing plant will be built in Opotiki and all processing will take place there, that the mussel farm will reach its full potential production of about 16,000 tonnes, that a range of services to support the aquaculture industry will be attracted to Opotiki. It is also assumed

¹⁸ Opotiki Harbour Project Community Benefits of Harbour Development and a Good Aquaculture Industry, p.1.

¹⁹ Bay of Plenty regional council, November 2008, p. 55.

²⁰ The Opotiki Harbour Transformation Project, 2010, p. 17.

that some additional tourist related activity will be stimulated by the harbour redevelopments but this is not expected to be significant generator of jobs and incomes.

The proposed projects have the potential to deliver a wide range of benefits that will improve the socio-economic wellbeing of Opotiki and the Eastern Bay of Plenty, which may spill over to the wider Bay of Plenty and the country as a whole. As noted in the Methodology section, most of these benefits are not able to be calculated and measured but they will be none the less real.

The social and community benefits we describe in this section include:

- Increased local employment;
- Improved household incomes and lower levels of welfare dependency;
- Increased home ownership and reduced overcrowding;
- Reduced crime levels;
- Strengthening of Māori culture and general wellbeing;
- Population growth;
- Increased Council rating base for improving services;
- Retention of young workforce in the community;
- Potential reduction in heavy traffic volumes;
- Expansion of recreational activities; and
- Increased tourism.

6.2 Increased local employment

Issue

While the percentage of Opotiki residents who are unemployed fell between 2001 and 2006 (from 8.9 percent to 5.6 percent) this was still higher than in the other districts that make up the region and almost 2 percent higher than the national average (3.4 percent). The percentage is likely to climb as a result of the PSA bacteria, which is currently threatening to destroy many of the kiwifruit orchards in the district. Opotiki and Whakatane are highly reliant on the kiwifruit industry for providing employment for low and semi-skilled workers. According to a major grower and community leader in Opotiki interviewed for this report *“The biggest employer in this town is kiwifruit industry. If the industry goes, it will kill the town.”*

Unemployment is a direct contributor to a range of social ills all with costs for society as a whole as well as the unemployed person and their family. There is a large body of social research which shows there is a significant relationship between unemployment and ill health, premature death, suicide, marital breakdown, child abuse, racial conflict, violence, crime, and alcohol and drug abuse.²¹ The financial pressures, low self-esteem, anger and frustration which commonly results from unemployment puts pressure on the whole family.²²

²¹ Royal Commission on Social Policy, 1987; Shirley et. al., 1990; Rivers Buchan Associates 1992.

²² Buchan D, 1992.

The Wellbeing Survey recently undertaken of members of the Whakatōhea whanau found that the most frequently cited dreams and aspirations of respondents related to meaningful employment.²³

In addition to the high percentage of unemployed, there is also a high percentage of Opotiki residents classified in the Census as “not in the labour force” (36.8%). Some of these people are likely to join the paid workforce if there were jobs available that matched their skills and other responsibilities. In Havelock for example, residents of retirement age have returned to work to help meet the demand for labour as have mothers of school-age children. The Bay of Plenty Regional Strategy notes that “workforce under-utilisation (mature workers, returning mothers, and unemployed youth)” is an issue for the region which the Strategy aims to address.²⁴

Scope of analysis

We have assessed the potential for job-creation in the Opotiki District. To perform this analysis we have utilised information provided to us by Eastern Seafarms regarding the proposed marine farm operation. In particular, Eastern Seafarms provided estimates of regional expenditure on various marine farm inputs and estimates of its labour requirements. This information was combined with employment multipliers for a comparable region by economists Sapere Research Group in order to estimate indirect and induced employment effects.

As noted in the Methodology section, this analysis assumes that a large-scale marine farm producing around 16,000 tonnes of mussels is operational off the coast from Opotiki and that the product from that farm is processed using an automated facility in or near Opotiki township. Spat for the marine farm is produced at a specialised research and development unit, also located in or near Opotiki. Eastern Seafarms estimates this scale of operation will be reached by Year 12 of its project. Sapere Research Group has also estimated employment in marine-based tourism, such as charter fishing or eco-tourism, and as a result of property developments in the wharf precinct.

Summary of findings

Our analysis shows that by Year 12, up to 255 Full Time Equivalent (FTE) jobs will be created in the region. Of these, 190 jobs will arise as a result of direct employment by the marine farm, processing operations, hatchery and property developments. A further 65 jobs will be generated as a result of indirect employment by industries in some way related to aquaculture (for example, marine services or transport) and induced employment as a result of higher regional incomes.

²³ APR Consultants Ltd, 2010, p.5.

²⁴ Bay of Plenty regional council, November 2008, p.32.

As demonstrated by the Havelock and Coromandel case-studies, it can be expected that a wide range of other employment opportunities (both in terms of occupations and skill levels) will flow on from these projects. These include associated industrial developments and supply services, cafes specialising in sea food, and increased demand for visitor accommodation. Our analysis of potential employment numbers recognises these flow-on effects.

Our research into the potential for aquaculture-related tourism (see section 6.11) indicates that the employment generated from this source is likely to be significantly less than has been previously estimated. We believe this industry will generate no more than 1.5 direct FTEs. This is based on an assumption of one commercial operator employing two guides, full time for six months of the year (November – April) and a further 0.5 FTE for the remaining 6 months. In comparison, the Whakatane industry supports about 10 FTEs.

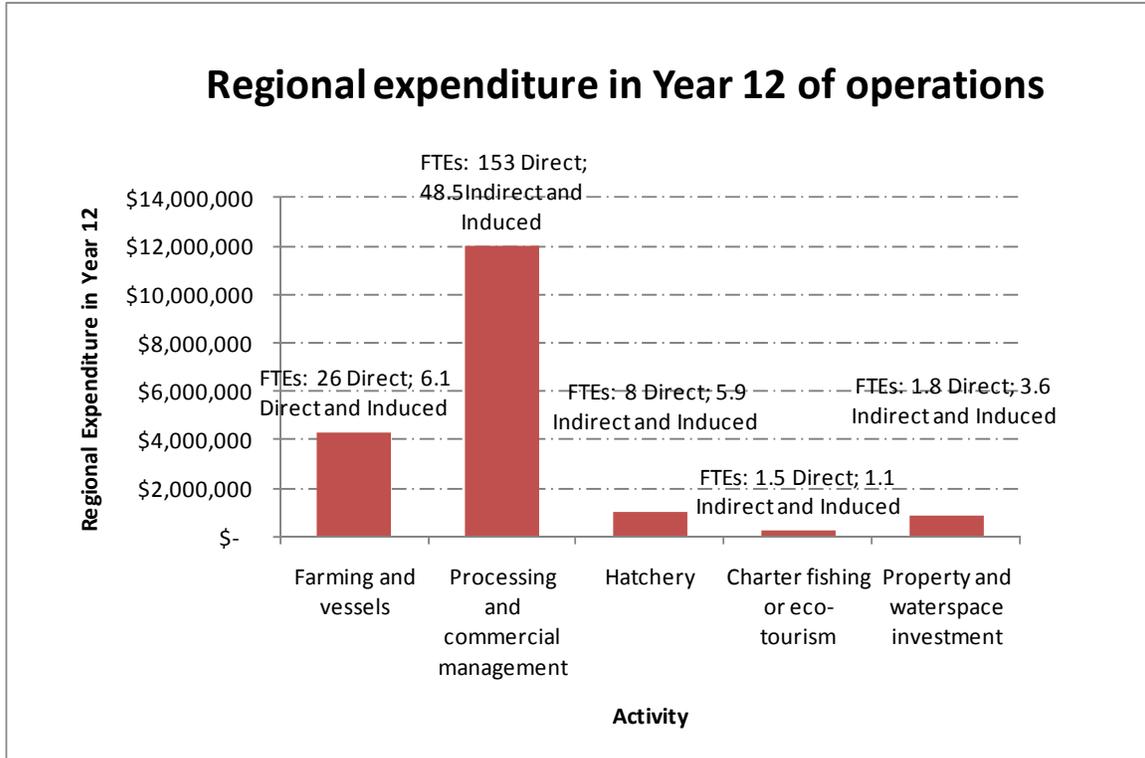
By way of comparison, the 2005 URS report on the potential benefits of the Eastern Seafarms marine farm and the harbour entrance improvements estimated that the two projects would result in the creation of over 930 jobs. We feel this estimate was over-ambitious.

Still, the number of jobs generated is very significant in a region with a small population and a high proportion of unemployed. The jobs generated from these projects will at least reduce the numbers of residents who are currently unemployed. The extent to which the number reduces will depend on the pro-active provision of training and the level of in-migration of those seeking work. In Opotiki and the wider region there is also a relatively high proportion of the population classified as “not in the workforce”. This indicates a significant pool of potential labour that could become available if working hours were made flexible to accommodate mothers of young children and fit retirees.

Regional expenditure assumptions

The regional expenditure estimates underpinning this employment analysis are summarised in the chart below. For ease of analysis, the marine farm project is broken down into component parts: Farming and vessels (i.e. the on-sea operations), Processing and Commercial Management (i.e. the factory and sales operations), and Hatchery (i.e. spat production and research and development), Charter fishing or Eco-tourism, and Property Investment.

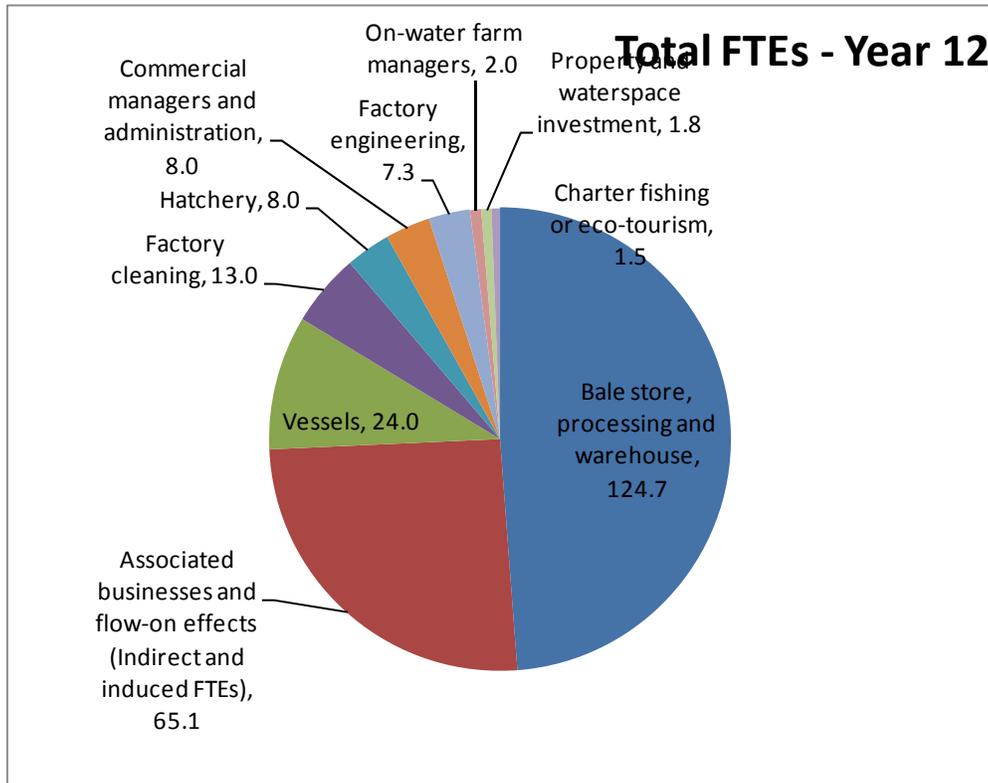
Figure 11: Regional expenditure estimates (Source: Eastern Seafarms and Sapere Research Group)



Employment type

The largest employer will be the processing plant (including bale store and warehouse), employing 124.7 FTEs. Factory cleaning and engineering employ a further 23.3 staff associated with the processing plant. The pie chart below summarises the positions generated.

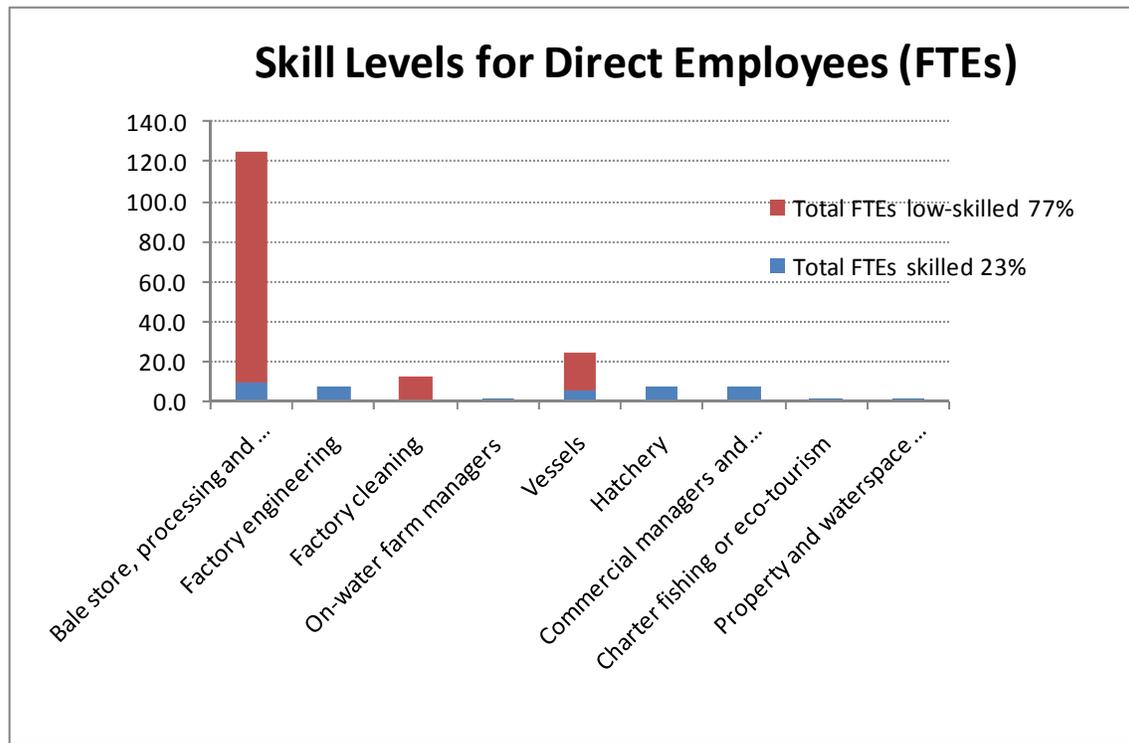
Figure 12 Jobs generated as a result of the marine farm project (Source: Eastern Seafarms and Sapere Research Group)



Skill levels for direct employees

Our analysis shows that the majority of jobs will require relatively low skill levels (146 FTEs, or 77% of the direct employees will have annualised wage packages of less than \$30,000). The processing plant and bale store will employ the bulk of the low-skilled people, roughly 115 FTEs. Higher skill levels will be required for 45 FTEs in positions such as processing manager, factory engineering, farm managers, vessel operators and hatchery staff. The chart below summarises.

Figure 13: Skill levels for direct employees



Source of labour

The URS study assumed that each new job created would result in a one-on-one reduction in the number of unemployed in Opotiki. However, they acknowledged that this was highly unlikely and that unemployment figures in Opotiki may not actually fall in absolute terms due to a potential growth in population (in-migration) associated with greater economic prosperity in the Opotiki district.²⁵

The URS report cites the amount of employment generated as a significant risk factor and noted that the mussel farm and processing plant were essential in reducing this risk.²⁶ URS

²⁵ URS, 2005, p.37.

²⁶ URS, 2005, p.59.

further cautioned that even with these developments, there is a risk that the available jobs will go to people outside the area resulting in a less than optimum reduction in the amount of local unemployment. The current experience in the kiwifruit industry is indicative of this risk.

Despite of the high levels of unemployment in the Eastern Bay sub-region several local residents commented on the migrant labour being brought in to service the horticulture operations rather than employing locals. Confirming this information, the Regional Strategy refers to significant labour shortages in the horticulture/kiwifruit industry and “*the need to source skilled migrants through the DoL Recognised Seasonal Employer scheme*”.²⁷

Caution

To minimise the risk that local people do not benefit from the employment generated (either directly or indirectly) by these projects, the range of skills required will need to be identified at an early stage and training courses put in place to ensure the local unemployed are work ready and have the skills required. In recognition of this need, the Bay of Plenty Aquaculture Strategy²⁸ includes an action plan aimed at ensuring that from 2010 the education and training needs are identified and responded to in a comprehensive and coordinated way “*in consultation with Te Ohu Kaimana, Iwi, Opotiki District Council, education providers and the Seafood Industry Training Organisation*”.

6.3 Improved household incomes and reduced welfare dependency

Issue

Low incomes (whether through low paid work or reliance on welfare payments) can result in poverty – the inability to provide for the necessities of life. People living in a state of poverty or near poverty are often unable to adequately house, clothe, feed, educate and maintain their health and their dependents. The number of people in Opotiki receiving emergency benefits and accommodation allowances is evidence that poverty is a significant issue in Opotiki.

Poverty leads to people making compromises which result in social dislocation and isolation from others in the community. Such compromises include disconnecting telephones, not owning computers, not being able to afford to attend social events, or join in community events and educational activities including school trips. These sorts of compromises affect the whole household and particularly children who are limited in their ability to participate in school life and other learning opportunities.

Low incomes (or incomes that are inadequate to adequately provide for one’s dependents) can lead to compromises in the quality and quantity of food consumed, quality of housing

²⁷ Bay of Plenty regional council, November 2008, p.32.

²⁸ World Class Aquaculture: Our coast. Our waters. Our future, p.23.

and the use of health and other services. Thus there is a strong connection between income levels and health.

Opportunity

In 2011, the allocation of welfare benefit payments to residents (excluding superannuation) in the Opotiki district totalled over \$26.8 million about half of which is related to unemployment (job seeker payments), limited opportunities for flexible employment arrangements (sickness and DPB payments) and incomes that are inadequate to meet ones needs (accommodation supplements and emergency benefits).

Additional demand for labour – especially unskilled and semi-skilled, with options for part-time employment - can be expected to result in a reduction in the number of recipients of these four benefits (job seekers, emergency, sickness and domestic purposes).

Unemployment Benefit rates range from \$134 to \$335 per week. Furthermore, the more dependents there are, the higher the benefit is. In addition, these beneficiaries, depending on their circumstances may also qualify for an accommodation allowance and other supplementary benefits.

Given the commitment of the Whakatoheia Māori Trust Board to provide work-ready programmes and training programmes focused on the skills required for the marine farm industry and subsequent employment generators, we anticipate that at least 50 jobs will be filled by people on the unemployment register. Taking the lowest benefit payment as a baseline, reducing the number of unemployment beneficiaries by 50 as a result of finding employment through these projects, this would represent a saving in welfare payments of \$348,400 minimum per annum²⁹.

Other savings are inevitable. In the year to June 2011, almost \$640,000 was paid out by Work and Income in Emergency Benefits and \$1.3 million in Accommodation Assistance benefits. These benefits are related to level of income (whether employed in paid work or not). Higher incomes would enable more households to survive without government welfare payments.

6.4 Increased home ownership and reduced over-crowding

One of indicators used in the Deprivation Index is home ownership. Home ownership levels in Opotiki and Eastern Bay sub-region relatively low. For most people, buying a home entails borrowing and Banks will not lend to people who are not in regular employment or do not have a savings record.

Renting rather than home ownership is not necessarily undesirable, especially if it results from a deliberate decision based on life-style choice, and the quality of rental housing is high. However, in poorer communities, renting tends to result from not being able to afford to buy, and the quality of the rental accommodation available tends to be less than optimal. Several

²⁹ *\$6,958 per beneficiary for 52 weeks.

of the people interviewed in Opotiki commented on the generally poor quality of the rental accommodation in the district.

Research in New Zealand, Australia, the United States of America and the United Kingdom indicates that provided home ownership does not create undue financial stress, owning your own home can generate many positive social outcomes at the individual household and community level. These include higher household life satisfaction and happiness. A review of a range of academic studies from various disciplines³⁰ found that home ownership contributes to household stability, social involvement, environmental awareness, local political participation and activism, good health, low crime and beneficial community characteristics.

Employment opportunities and increased levels of household income will enable more people to buy their own homes. Some of those living in overcrowded households will be able to rent larger homes, or, where there are two or more families in a house, separate accommodation could become possible.

Caution

In-migration of returning residents and others seeking work could put pressure on the available housing supply. It will be important to monitor housing demand, especially for rental accommodation to ensure supply of housing keeps up with demand so that those struggling to find affordable housing are not further disadvantaged.

6.5 Possible reduction in crime

Issue

(Police are providing statistics on crime in Opotiki relative to national figures.)

In response to a request for information on the percentage of crime committed by people who are unemployed, the Police statistics department advised that they were unable to provide such information because they “do not routinely collect information about the employment status of offenders”. Therefore the link between unemployment and crime cannot be supported by statistically based evidence.

Police experience indicates that while paid employment can reduce crime, there are also other factors influencing crime rates. For example, the client records of the Whakaatu Whanaungaru Trust (a pan-tribal social service agency based in Opotiki) show a strong circular link between financial stress (which can result from low incomes, as well as unemployment), drug and alcohol abuse and domestic violence³¹. Police at the Opotiki Station advised that in general terms, during periods of high employment such as the height

³⁰ Dietz RD, 2003.

³¹ Manager, Community Action on Youth and Drugs (CAYAD), Whakaatu Whanaungaru interview.

of the kiwifruit season, there tends to be “a slight reduction in crime”. However they noted that for some reason they did not experience the same decrease during the past (2010) season³². Clearly factors other than unemployment contribute to the level of criminal activity.

The Police in Havelock however (refer to Appendix 2 case study) are clear that the low crime rate experienced in that town is largely due to the high employment level which has resulted from the local aquaculture industry. *“As long as Sanford is harvesting and processing mussels here we won’t have crime. Employment eliminates most of the factors contributing to crime. People have a reason to get up in the morning, they have self respect, they don’t have to steal to get what they need. Theft is our biggest problem and it is mostly burglaries of holiday homes in the Sounds. Intent to injure offences can be a few incidences with several people involved.”*³³

Adding weight to perceptions that people in work are less likely to commit crimes, a study of the impacts of unemployment in Porirua City found strong evidence of a link between unemployment and crime. Because the Police statistics department was not able to provide figures on the occupation of offenders, for this research a manual search of police records was carried out. The research (dated 1992) found that while *“the percentage of unemployment in Porirua is no higher than 15% no matter what measure is used,, yet 55% of those arrested charged and processed at the Porirua Police station ... were unemployed”*. The report also found that the most common crimes in one of the poorest suburbs in Porirua City were shop-lifting and burglary and that the partners of the majority of residents in the Women’s Refuge were unemployed.³⁴

A comparison between crime rates per head of population in Opotiki (pop. 9,300, unemployment 8.6%) and Havelock including the Marlborough Sounds (pop. 2,000 unemployment 0.7%) shows that Opotiki has a much higher rate in all levels of crime while the reverse is true for Havelock. Table 14 provides some comparisons for a range of crime categories.

Table 14 Comparisons in recorded offences per 10,000 population: 2010/11

	Intent to injure	Sexual assault	Theft	Illicit drugs	Property damage
Havelock	35.3	3.2	147.4	64.1	80.1
Opotiki	245.7	33.1	301.7	91.7	254.6

Source: Police Statistics Department. These figures are presented as offences per 10,000 population to give a comparison relative to population size. For approximate actual numbers, Havelock figures (population for district about 2,000) should be multiplied by 0.2, and for Opotiki (population for district about 9,000) multiply figures by 0.9. For example the actual figure for Intent to Injure is 7 for Havelock and 220 for Opotiki.

³² Richard Miller, Opotiki Police, personal communication.

³³ Officer in Charge of Havelock station for more than 18 years, personal communication.

³⁴ Buchan, 1992, p. 16.

Opportunity

Reduced unemployment and increased incomes, in conjunction with the community development initiatives some of which will be funded by Whakatōhea Māori Trust Board from the profits of the aquaculture venture are, in our view, likely to work together to reduce crime rates in Opotiki and the Eastern Bay sub-region as a whole. The Whakatōhea Wellbeing Survey asked respondents what they thought would improve social connection between whanau and the wider community. The most frequently cited initiative (61% of the 750 respondents) was more community activities (e.g. sports days, market days, local hunting and fishing competitions).³⁵ These are the sort of activities that will build social capital, a sense of belonging and a commitment to the concept of community.

The URS cost/benefit report (2005, p.38) referred to the findings of an Australasian report which found that economic climate contributes to crime in regional areas, although not uniformly over types of offences. On that basis, URS estimated that the creation of about 500 jobs could result in up to a 10 percent reduction in crime in Opotiki.

The research undertaken in Porirua City on the relationship between unemployment and crime as well as the Havelock experience (Appendix 2) add weight to the conclusion that, through these projects and other the subsequent employment opportunities, a decrease in crime rates can be expected and the amount of that reduction could be significantly higher than the URS estimate. In our view, if backed up with a strengthening in community ownership and social capital, it should be possible to achieve a reduction of at least 20%.

In 2010/11 the total number of recorded offences in the Opotiki district was 1,125. A 20% reduction would result in a drop of about 225 incidents or more.

Caution

The URS cost benefit analysis³⁶ notes savings in crime as a significant risk in terms of achieving an optimum outcome from the projects. The report states that while their research indicates a link between unemployment and crime the link is by no means linear or well defined. It is true that there are many factors other than unemployment /poverty which lead people to commit criminal acts.

Two factors need to be considered in estimating the rate of crime reduction that could be achieved.

1. Crime rates tend to be associated with population size – in general, the larger the population, the more criminal activity occurs. Therefore the amount by which crime is reduced through the projects may be tempered by increased criminal activity resulting from the in-migration of people seeking work either on the harbour

³⁵ APR Consultants, 2010, p.15.

³⁶ URS,2005, p.59.

redevelopment, the marine farm or in associated industries and activities. Larger numbers of tourists coming into the area could also potentially increase the level of crime.

2. The low level of crime in Havelock is not just a result of having minimal unemployment in the town. Another contributing factor is the age and demographic profile, the high level of community interaction (necessary to run the high number of events, facilities and community organisations relative to the size of population), and the high degree of community policing and reporting of undesirable activity.

6.6 Strengthening of Iwi culture and wellbeing

Issue

About 12,000 people are affiliated with Te Whakatōhea but only about 20% of these live in the Eastern Bays sub-region. Many members of this iwi have left the area because they could not find work or their skills and qualifications did not match the work available. Te Whakatōhia Māori Trust Board think many now want to return to their turangawaiwai but are unable to because of the lack of work opportunities.

The declining iwi working age population is makes it difficult for those remaining to maintain iwi facilities (including marae and urupa) and to organise and host cultural events such as hui and tangi.

According to the Regional Strategy document, population forecasts show a trebling of the Māori population in the Bay of Plenty over the next 50 years due primarily to relatively high birth rates. One of the expected outcomes of this population increase is that “resources such as kaimoana ... will be subject to increasing demands”³⁷

Opportunity

There are three main iwi groups within the Opotiki district: Te Whakatōhea, Ngaitai and Te Whanau a Apanui. All these iwi have strong traditions of hunting, fishing and trading³⁸ The proposed works fall within the Whakatōhea rohe. Te Whakatōhea is a major partner in the proposed developments and has taken a leading role in the marine farm investigations since its inception.

The Bay of Plenty Aquaculture Strategy notes that while Māori are disproportionately represented in disadvantaged areas in the Bay, they stand to benefit significantly from these projects because they have both commercial interests in aquaculture as well as a cultural affiliation with the sea and its bounty³⁹. The promoters of the marine farm (including the

³⁷ Bay of Plenty regional council, November 2008, p.34

³⁸ *Opotiki Harbour Project Community Benefits of Harbour Development and a Good Aquaculture Industry*, p.1.

³⁹ *World Class Aquaculture: Our coast. Our waters. Our future*, p.30.

Whakatōhea Māori Trust Board) see it as an opportunity not only to raise income levels, employment opportunities and standards of living cross the Bay but also to showcase Iwi/Māori success in an industry with commercial and cultural dimensions.⁴⁰

Te Whakatōhea anticipate that these developments will encourage many of their iwi to return to their turangawaiwai and in so doing help strengthen the culture and the capacity of Te Whakatōhea to maintain their tribal lands and facilities and services.

Concerns about the ability of the natural kaimoana beds to provide for an increasing Māori population could also be addressed by supplementing the kaimoana harvested from the natural environment with supplies from the iwi's marine-farming activities.

Redevelopment of the harbour entrance will facilitate the aspiration of the Whakatōhea people to hold national waka ama events which would attract large numbers of visitors to Opotiki as well as generating cultural pride and a greater sense of wellbeing among the local iwi.⁴¹

The primary objective of the Te Whakatōhea Māori Trust Board is to improve the wellbeing of the people. They have stated an intention that any profits from the aquaculture venture will be put to that purpose as is the case with its existing commercial activities including dairy farms and kiwifruit orchards. These provide funding for education and health programmes, which in turn generate employment. The profits from the aquaculture venture will add to those funds thus increasing the resources available to improve wellbeing and also to develop other employment generating initiatives. The CEO of the Board is clear that these initiatives will not just benefit iwi: *“What is good for Whakatōhea will be good for Opotiki”*⁴².

6.7 Population Growth (or halted population decline)

Issue

As noted in Section 4, the population of both Opotiki and Kawerau are in decline. Opotiki experienced a decrease of 3.7% over the ten years between 1996 and 2006 and Kawerau's population dropped 11.6% over that same period. (The population in all other districts in the Bay of Plenty region are increasing).

If the declining population continues, the viability of the existing commercial and retail activities in the town will decline. Community organisations will find it increasingly difficult to maintain membership and to continue providing their services or maintaining their facilities. Schools and other government funded facilities may be threatened with closure.

⁴⁰ *World Class Aquaculture: Our coast. Our waters. Our future.*

⁴¹ Interview with staff of Whakatōhea Māori Trust Board.

⁴² Interview 8/12/11.

Although Opotiki has a relatively large number of residents classified in the Census as “unemployed” or “not in the workforce” (some of who may be able to take on at least part-time work) it is inevitable that a proportion of the jobs created by these projects either direct and indirect, will require skills and experience not available within Opotiki and the surrounding area. Employment opportunities will therefore extend throughout the region and even further afield. It is highly likely that a portion of these people will choose to relocate in or near Opotiki.

Opportunity

Increasing employment opportunities and higher wages than those available in other primary-sector work such as horticulture, is highly likely to encourage the return of some of those who have left the area. Te Whakatōhea Māori Trust Board is anticipating that a significant number of their people will take this opportunity to return. There is also the possibility that other, new people will be attracted to the district in search of work. This may be necessary to fill some of the more specialised jobs.

An increase in the population will provide a range of benefits to the Opotiki district. These include:

- **An increase in property values in response to an increased demand for housing.**
- **Increased demand for surveyors, builders and other tradesmen as a result of the housing demand. In addition to new houses, increased incomes are likely to facilitate upgrades and repairs to existing housing.**
- **Increased services and facilities should the increase in population make particular services and facilities more viable (for example it may become viable to provide a public transport service for commuters and shoppers).**
- **Increased viability of existing commercial operations and retail outlets.**
- **An increased pool of volunteers to help run community services such as St John Ambulance, the Volunteer Fire Brigade, school-based organisations and social and community services.**
- **The outcome of increased building and subdivision and increased property prices is likely to result in an increase in the rating base for the Opotiki District Council. The Opotiki District Council is currently severely constrained by its low income base – a result of the high percentage of non-rateable land within its boundary. (Approximately 70% of the district’s land area is either Nga Whenua Rahui or in the conservation estate.) This means that the Council has limited funds to improve services and to provide or support programmes aimed at raising the quality of life and social wellbeing of residents. Increased income from rates (and potentially wharf charges) will enable the Council to undertake projects that are currently unaffordable or to schedule work earlier than current funding allows (e.g. the upgrade of the existing wastewater reticulation and treatment system).**

Caution

Increases in population have both benefits and costs for an existing community. For example:

- **An increased demand for housing and therefore an increase in house prices** will benefit property owners wishing to sell, but it could have an adverse effect on first-home buyers, especially those on low incomes. If demand outstrips supply, over-crowding or inadequate housing (e.g. families living long-term in camping grounds) could occur. The potential impacts of an increase in demand for housing and the ability of the district to accommodate a sharp increase in demand requires further investigation.
- **An increase in subdivision and building activity will increase the demands on the District Council's regulatory services.** Ways to address any potential shortfall in capacity needs to be considered as part of the project planning.

6.8 Retention of young people – reduction in population distortion

Issue

The statistics on age distribution illustrate that Opotiki, as with many other non-urban areas in New Zealand, is experiencing net outward migration of its young people. The National Institute of Demographic and Economic Analysis (NIDEA) based at the University of Waikato has identified an accelerated structural aging process taking place in the populations of non-urban areas as a result of this trend.

Between 2006 and 2010, fifteen of New Zealand's Territorial Authorities either stopped growing or declined in size and all had proportions of residents aged 20-39 years that were lower than the national average. Most of these districts also had higher proportions of residents aged 65 years and over. Three of the districts with these characteristics (declining, loss of young workforce and a high proportion of older residents) are those which make up the Eastern Bay sub-region - the area which is likely to experience positive effects from the Opotiki harbour development and marine farm projects.

The NIDEA report highlights the implications of these trends for the communities concerned. The low numbers of young working age people (accelerated by outward migration) will result in rising costs of labour due to increased competition for labour market participants. Low numbers of young workers will also lead to increased difficulty in providing adequate services to the aging populations. The report concludes *“the social realities of population ageing will be played out at the local level, which is where labour has to be found, services delivered and much revenue gathered. Many responses to population ageing thus need to be directed at the local level ...”*⁴³. The report concludes that the ability to respond to an ageing population depends very much on the investment made in the youthful population

⁴³ Jackson, 2011 (p. 24).

(particularly Māori which has a much higher percentage of young people) through education, training and social support.

Opportunity

Anecdotally, a significant factor influencing the migration of young working age residents is the lack of local jobs available that are appropriate to their skill levels and which offer career prospects. The Havelock case study notes that while the workforce demands of the aquaculture industry has outstripped the capacity of the local labour market, this has not stopped young people leaving the area to spread their wings in larger centres. However, there is evidence that some of these people are beginning to return with skills, qualifications and experience that are needed in the aquaculture industry or some associated enterprise.

The aquaculture industry offers a variety of occupations with opportunities for advancement. Also the wide range of employment opportunities arising from the spin-off industries will help to redress the population imbalance.

6.9 Potential reduction in heavy traffic

Issue

Opotiki is located on the route between the East Cape forests and the Port of Tauranga. As a result of this, together with trucks associated with the horticulture and dairy industries, the amount of heavy traffic travelling through the township and along SH2 between the township and the port is significant.

Logging schedules for the forests in the area and the projected number of dairy tanker movements and horticulture-related traffic will affect how significant the additional traffic generated by the transport of aquaculture products will be and its cumulative effect on local traffic. The numbers of trucking movements associated with aquaculture will depend on whether a processing plant is constructed in Opotiki and whether the harbour entrance is redeveloped to allow direct access to the plant.

Until production reaches 6,000 tonnes the mussels from the Opotiki marine farm will be barged to Whakatane and then trucked to Tauranga for processing. This will increase the amount of road traffic between Whakatane and Tauranga, including heavy traffic travelling through the centre of Whakatane.

Police reporting show that the trend in vehicle crashes in the Opotiki District is increasing with just over 20 crashes recorded in 2000 and about 68 recorded in 2009. It is not known how many of these involved trucks but in any event, a significant increase in traffic and particularly heavy traffic is likely to increase the risk of traffic accidents. This in turn is likely to discourage less-confident drivers (particularly older drivers) from independent travel.

Opportunity

The creation of a safe, all weather harbour could provide an opportunity to develop a barging facility for forestry⁴⁴ and other products from Opotiki to the Port at Tauranga thus significantly reducing the amount of heavy traffic on local roads and highways. The reduction of heavy traffic would lead to a decrease in noise, pollution, danger and severance for local residents. This possibility is yet to be explored with the companies in question.

The building of a seafood processing factory at Opotiki will mean that the trucking of mussels from the wharf in Whakatane, through the city center to the port in Tauranga can cease once production from the farm has reached the level necessary to make a new processing plant viable (estimated at 6,000 tonnes). After that time only processed shellfish will be transported to the Port (presumably Tauranga) either by barge (if the harbour redevelopment project goes ahead) or by truck using SH2.

Opportunities to reduce existing traffic and limit the traffic impacts from the marine farm by barging heavy products through the harbour entrance will require further investigation. Relative transport costs of road compared to barge transport, government regulation on the use of roads for the transportation of logs, and the outcomes of current discussions on the establishment of an inland port in the region will affect the realisation of this opportunity. Rising fuel prices are likely to improve the relative costs of barging and trucking. If barging proves to be viable, this would add to the range of social benefits arising from the harbour development.

6.10 Expansion of recreational opportunities

Issue

Although the Opotiki Harbour has a long history of use as a trading port for coastal shipping vessels, these days navigation is currently limited to small recreational vessels and is further restricted by tides and weather conditions.⁴⁵ Fishing and boating activities are currently limited by tide and depths. Currently, only boats drawing less than about 0.5 metres can navigate through the channel and the channel is generally inoperable two hours either side of the low tide. For about 73 days of the year weather or bar conditions prevent boats using of the channel.⁴⁶

Opportunity

It is considered that the proposed harbour works, which aim to provide an all weather channel suitable for commercial cruise boats as well as small pleasure boats, will enhance all

⁴⁴ This possibility was also raised in the URS report, p. 20.

⁴⁵ Opotiki Harbour Transformation Project: The Key Step to a Brighter Future, p.5.

⁴⁶ URS, p.ES-1.

the current recreational experiences including boating, walking along the sand-dunes, swimming and fishing.⁴⁷

As demonstrated from the experience of other aquaculture areas (Marlborough Sounds and Coromandel Peninsula for example) mussel farms tend to act as man-made reefs and as such attract a large number of small fish. As a result, recreational fishing is greatly enhanced.

A reliable, all weather channel will make Opotiki more attractive to recreational boaters and could lead to the development of a marina and support services for recreational boating. The redevelopment could make waka ama activities more accessible for local residents.

Caution

Care will need to be taken in the planning of boating facilities in this area to ensure that the existing recreational activities popular in this area (swimming, walking and cycling) are not compromised.

6.11 Increased tourism

Issue

According to the Bay Of Plenty Regional Strategy, while the Opotiki District is largely dependent on land-based primary production, (dairy farming, forestry and kiwifruit), tourism is the fastest growing economic sector, with visitor levels rising at 20 – 30 percent, albeit from a low base. However, according to the Council, growth in tourism market is being compromised by the unreliable and inadequate harbour entrance. *“Most visitors are domestic tourists and activity-based (walking, cycling fishing etc.). A quarter of visitors try to book to visit White Island which is visible from the coast at Opotiki, but there is no service from the town because of the lack of harbour access. The lack of access also prevents Opotiki participating in the charter fishing market, with many Whakatane boats fishing off the Opotiki coast”*⁴⁸.

Opportunity

Our investigations indicate that while there is some potential for Fishing Charters and Eco-Tourism operators to locate in Opotiki and moor their vessels at the newly-developed wharf, the benefits from this should not be over-stated. Existing Bay of Plenty charter boat operators we interviewed cited a number of reasons why locating in Opotiki would have limited appeal, even if the wharf and harbour entrance was made navigable for larger vessels. All of those interviewed felt that at most there would be one or two small scale operators in Opotiki if the harbour project went ahead: these operators would be fishing at the mussel

⁴⁷ Ibid.

⁴⁸ Bay of Plenty regional council, November 2008, p.55.

farm and out towards Ranfurly Banks. Factors against a greater number of charter operators locating in Opotiki included the following:

- It is difficult to get tourists to travel as far as Opotiki, many only come as far as Whakatane and then venture away from the Bay.
- While the mussel farm provides excellent fishing opportunities, it is not geographically far from Whakatane: only nine nautical miles by boat. It is therefore easily serviced by charter fishing boats berthed at Whakatane.
- Whakatane has an established fishing reputation and cluster of fishing businesses, which an operator locating in Opotiki would struggle to compete with.
- The best fishing spots, according to the charter boat operators, tend to be near the islands, which are too far to service from Opotiki. Similarly, the best dolphin feeding grounds were reported as being between Te Kaha and Whakatane, i.e. closer to Whakatane than Opotiki.
- The national charter boat industry is shrinking, due to the cost of fuel and higher rates of private boat ownership. In Whakatane, one operator reported that the size of the fleet had halved in twelve years.

Based on this research, we believe there is potential for 1.5 additional direct FTEs in the charter boat industry. This is based on an assumption of one commercial operator employing two guides, full time for six months of the year (November – April) and a further 0.5 FTE for the remaining six months. In comparison, the Whakatane industry supports about 10 FTEs.

It is important to acknowledge that the district of Opotiki already offers a wide range of outdoor recreational activities which attract visitors and tourists. The Motu cycleway is expected to add significantly to the current range of attractions. The addition of aquaculture focused activities such as marine farm charters, seafood cafes and festivals together with more reliable harbour access for recreational boating will provide added value to an industry that is already developing. All these activities together will provide a more powerful package for tourism promotion than any single activity or a more limited range of options.

7. Conclusion

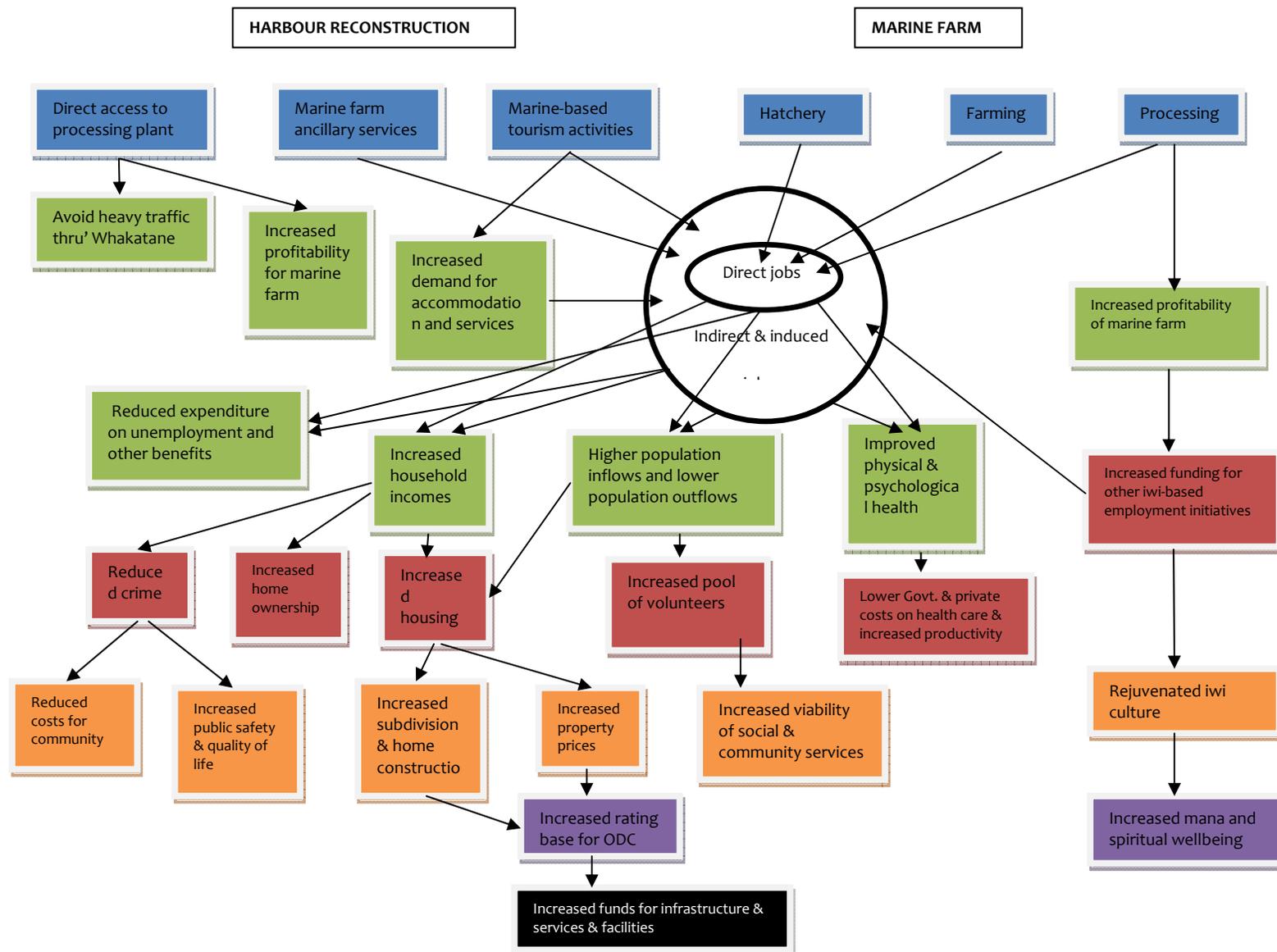
This report identifies a range of social and community benefits which will result as a consequence of the marine farm and harbour redevelopment projects.

The diagram on the following page sets out the range of benefits they are likely to accrue to a greater or lesser extent once these projects have been completed and the marine farm and processing plant are in full production. The diagram shows how the benefits are interlinked and shows how most stem from the direct and indirect employment generated by the projects and the increased household incomes that will result from a significant increase in the number of people employed at above the minimum wage level.

Many of these benefits would accrue from any new project in Opotiki that generates significant levels of employment that attracts above minimum wages. Opotiki District Council and the Whakatōhea Māori Trust Board have selected these projects as the options particularly suited to the qualities and resources of the area. These qualities include a marine environment which research to date indicates is particularly suited to the production of high quality seafood products.

An important aspect of these particular projects is that they build on the strong traditional connections of the local iwi with the sea, fishing and trading. Together they will enable the local iwi to reclaim their reputation as entrepreneurs and powerful traders and from that is likely to come a rebuilding of pride and spirit which will play a significant role in addressing many of the social ills currently besetting the Opotiki community.

Diagram of inter-relationships between projects and their potential benefits



Ranking of unquantifiable benefits

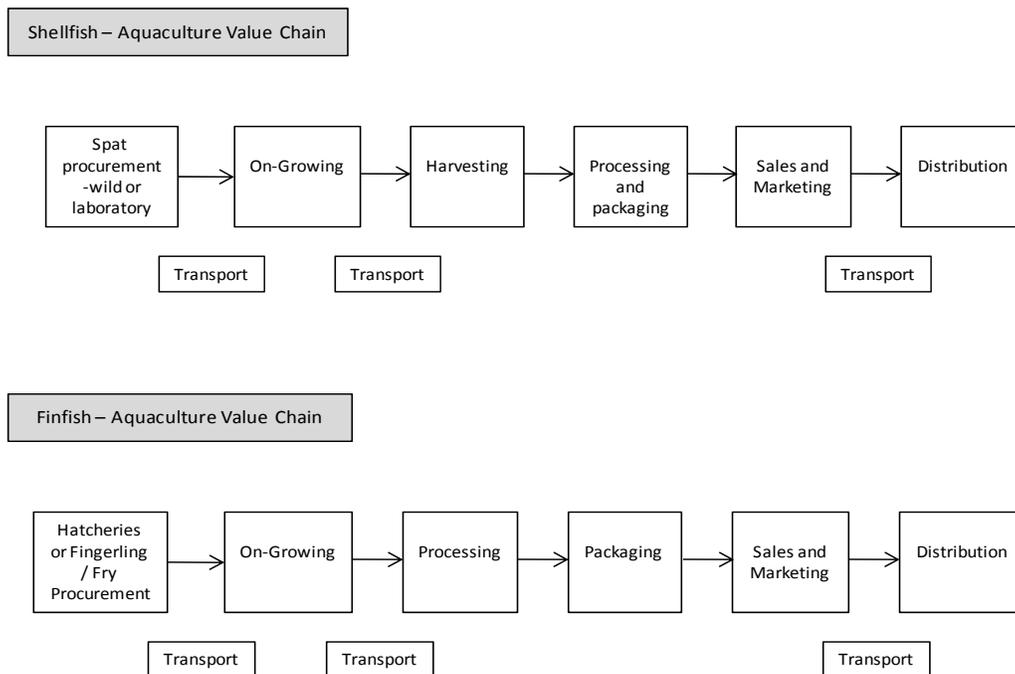
Ranking	Description	Benefit	Comment
Highly beneficial, high probability	Major positive impacts resulting in substantial and long-term improvements or enhancements of the existing environment.	Increased local employment; Increased household incomes; Population growth or halted population decline; Improved rating base; Strengthening of Iwi culture; Increased funding for other Iwi-based employment initiatives; Reduction in crime;	Depends on the extent of immigration to the region; “ Depends on in-migration and extent of property investment; Depends on profitability of aquaculture operations; “ Depends on strengthened social capital.
Highly beneficial, lower probability	As above, but less likely to occur	Reduced welfare dependency; Retention of Young People; Reduction in heavy truck traffic from logging and other products; Increased home ownership and reduced over-crowding;	Depends on the extent of immigration to the region; Young people will still seek opportunities in larger centres in their early working career.
Moderately beneficial, high probability	Moderate positive impact, possibly of short-, medium- or longer-term duration. Positive outcome may be in terms of new opportunities and outcomes of enhancement or improvement.	Increased property prices; Increased demand for accommodation and services.	Depends on extent of immigration and improvements in incomes; Depends on extent of immigration and growth of tourism.
Moderately beneficial, lower probability	As above, but less likely to occur	Increased tourism;	
Slightly beneficial, high probability	Minimal positive impact, possibly only lasting over the short-term. May be confined to a limited area.	Improved recreational opportunities;	Already a large number of recreational opportunities in the region, but better opportunities for larger vessels and waka ama events;
Slightly beneficial, lower probability	As above, but less likely to occur	Increased pool of volunteers;	Depends on extent of immigration and attitudes to volunteering.

Appendices

Appendix 1 – Aquaculture Industry Overview

The aquaculture industry consists of a value chain starting with suppliers of inputs for marine farms such as spat, ropes, weights and anchors, to distributors and exporters or to industries which use aquaculture products in their goods (e.g. nutraceuticals, cafes and restaurants). The aquaculture industry value chain was summarised by PricewaterhouseCoopers (2006) and was described as covering functions ‘from seabed to plate’. These functions are illustrated below.

Aquaculture value chain (Source: PricewaterhouseCoopers (2006))



The mussel farming process begins with the collection of the ‘raw material’; mussel spat. Spat are very young shellfish and mussel spat develop from a floating larval stage. Eastern Seafarms is proposing growing its own spat in a local hatchery. Alternatively, spat can be collected from dedicated spat-catching zones, or from naturally occurring deposits in other places in the country. Once delivered to the farms, the spat is placed in cotton stockings and attached to longlines, a process known as seeding. Longlines consist of long ropes attached to anchors and floats (buoys). The stockings are used to ensure that the spat attaches to the rope and does not drift away in the water. These ‘seed mussels’ are placed in the stocking so that they fix onto the rope at the rate of approximately 1,000 to 5,000 per metre. Once the spat has attached itself to the rope the stockings are no longer required. Over time these stockings biodegrade leaving the mussels attached to the longlines.

Mussels are filter feeders and feed on a wide range of food organisms including single cell algae, planktonic animals and detritus. These small particles are carried through the lines of suspended mussels by the constant tidal currents and provide a non-stop food source which occurs naturally in the sea water.

After a period of some 3-6 months the nursery lines are lifted and the young, but now larger (approximately 10-30 mm) mussels are stripped from the ropes. The process is then repeated with the mussels being seeded at a rate of approximately 150 to 200 per metre onto a thicker and much longer rope, using larger diameter cotton stocking to once again secure them until they attach to the rope of their own accord. If the longlines are not 'thinned out' in this manner there will be greater crop losses because mussels will fall off the ropes as they are squeezed for space as they grow. This rope is then fixed in loops or bights to the fixed surface longline where it will remain until harvest time. As before, the cotton stocking biodegrades after the mussels have firmly attached to the growing line.

The mussels are left to grow until they reach of a harvestable size, typically 8 to 11 cm. This entire process takes around 12 to 18 months. The exact timing of harvesting depends upon a couple of factors, including the time of spawning. Mussels are harvested prior to spawning to ensure they are as large as possible. This is because spawning causes them to lose a large proportion of their size and weight.

Harvesting of the mussels takes place using specialised harvesting barges. These barges have specialised machinery that lifts the longlines from the water, strips the mussels from the rope and loads the mussels in bags. The bags of harvested mussels are deposited at the wharf onto freight trucks and taken for processing.

Vessels are required for various purposes; the initial set-up of the longlines including seeding, maintenance and harvesting. Specialised barges may be used for the initial set-up and maintenance of the longlines. The process of seeding, ie attaching the spat to the lines using cotton stockings, is either undertaken by farmers themselves or contracted out. In some cases, farmers may purchase previously seeded longlines that have 'junior' mussels already attached. Smaller, less specialised vessels are often used for more routine maintenance of lines.

Harvesting typically requires specialised barges that have mechanical apparatus for raising the lines and removing and bagging the mussels. While some of the larger farms own and operate their own harvesting barges, many farms will contract out the harvesting function and a small number of operators provide harvesting services.

A mussel farm also requires a shorebase where various land-based activities can be carried out. Despite the marine nature of the industry, the work carried out on land constitutes a significant proportion of farmers' efforts. Specifically, at various times anchors, ropes and floats need to be stored, cleaned, repaired and maintained. Shorebases are also needed to store vehicles and fuel, prepare cotton stockings and as a location to carry out other miscellaneous activities. Shorebases may be owned by the farmer or leased from another operator.

Mussel processing is an activity requiring specialised equipment and labour. It involves cleaning off any material attached to the outside of the mussel shells. Depending upon the final product being produced, the mussels may or may not be removed from their shells,

frozen and/or heat shocked and then packaged. Once packaged, the mussels are distributed to either wholesale or retail markets, including export markets.

New Zealand Aquaculture

New Zealand’s aquaculture industry was first established in the 1960s and comprises approximately 6,250 hectares of farmed space. Predominately this is taken up by mussel farms (particularly in Marlborough Sounds, Golden Bay and Coromandel), with a significant oyster farming industry (particularly in Northland and Auckland), some areas for scallop growing and a small number of salmon farms. In 2010, aquaculture production in New Zealand was as follows:

Aquaculture production in New Zealand, 2010

<i>Species</i>	<i>NZ Greenshell mussels</i>	<i>NZ Pacific Oysters</i>	<i>NZ King Salmon</i>	<i>Paua</i>
Production	92,000 GWT	2,439 GWT	12,893 GWT	Approx. 10 GWT

Source: Aquaculture New Zealand

Aquaculture makes up approximately 20% of the total fisheries production in value, and 15% of New Zealand’s seafood exports by revenue. Approximately two thirds of New Zealand’s aquaculture production is exported – and distributed to 77 countries worldwide.⁴⁹

Research is underway by the industry and research institutions to explore options for farming new species, for example kingfish and hapuka, and to increase the quality and quantity of yields of existing farmed species. The aquaculture industry is recognised as a growth industry with aspirations for the New Zealand aquaculture sector to have sales of \$1 billion per annum by 2025.⁵⁰

⁴⁹ Aquaculture NZ export database.

⁵⁰ New Zealand Aquaculture Council (2006).

Appendix 2 - Case Study: The Benefits of the Aquaculture Industry to Havelock

Aquaculture in Marlborough

The mussel farm industry in the Marlborough Sounds started in the 1960s. There are now (2011) 565 operational marine farms in Marlborough (478 greenshell mussels, 6 salmon farms and a number of mussel spat catching and holding sites and various seaweed, paua and oyster farms).

The average size of marine farm in Marlborough is 3.0ha and the total area currently occupied by aquaculture operations in the region is 2,800ha (compared to the 3,800ha proposed for the Eastern Seafarms operation at Opotiki).

Marlborough produced 57,500 tonnes of mussels in 2010.

There are processing plants, boat building and equipment supply services at Picton, Blenheim, Renwick and Havelock and over 30 harvesters, seeding boats and farm work boats operate in the area.

Employment in Marlborough's Aquaculture industry

Marine farming contributes significantly to employment in Marlborough and the number of jobs created both directly and indirectly have been increasing over the last 15 years.

In his evidence to the hearing for the Kuku Mara marine farm at Admiralty Bay, Geoffrey Butcher (economist) quoted Marlborough's employment figures by industry. He compared figures from the 1996 census with data from the 1999 business directory. These showed that in 1996 there were 230 people employed in marine farming and 345 employed in fish processing. Three years later the Business Directory data showed that the number employed in marine farming had increased by 50 to 280, (165 of which were on mussel farms), and the number employed in fish processing had increased by 245 to 590 (535 of which were in mussel processing). In 1999, therefore, mussel farming and processing provided 700 FTE⁵¹ jobs in Marlborough⁵².

⁵¹ A FTE job is 30 hours or more per week for a full year. Since many jobs in the mussel industry are not full time, the actual number of people employed in the industry is more than 700.

⁵² Butcher, p.2.

The 2006 population census estimated the mussel farm industry was generating a total of 720 full-time equivalent (FTE's) jobs in Marlborough⁵³. This comprised:

Marine farming (harvesters, seeding, farmwork)	170
Processing	435
Shore-based support and suppliers	65
Administration and supervision	5

Havelock

Population characteristics: age and ethnicity

At the time of the 2006 Population census, Havelock had 480 residents. As with many small towns in New Zealand Havelock has a disproportionate number of people of retirement age (nearly 17% compared to 12% for New Zealand as a whole) with a correspondingly lower portion of people in the young to mid workforce category. (The percentage of people between the ages of 15 and 44 years is 36.5% compared to 42.3% nationally). The percentage of children is also lower than the national average with just under 17% under the age of 15 compared to 21.5% for New Zealand as a whole. Marlborough District shows a similar pattern in its population age distribution to Havelock but Havelock is more extreme.

Age Groups for the Census Usually Resident Population Count (2006 Census)

	0-4 years		5-14 years		15-29 years		30-44 years		45-64 years		65 and over		Total
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%	no.
Havelock area unit	27	5.6	54	11.3	75	15.6	90	18.8	153	31.9	81	16.9	480
Marlb.	2,370	5.6	5,553	13.1	6,786	16.0	8,715	20.5	12,243	28.8	6,876	16.2	42,543
New Zealand		6.8		14.7		20.2		22.1		23.8		12.3	

⁵³ John Cook and Associates, p.140.

At the time of the 2001 Census, the population of Havelock was almost entirely NZ European (95% compared to 80% for New Zealand as a whole) with 13.5% identifying as Māori or part-Māori compared to 14.7% for New Zealand as a whole. In 2006 a significant number of residents placed themselves in a new category of New Zealander which was included in the category “other ethnicity” separate from European. This dropped the percentage of European/Pakeha to 80.8% but the percentage of Māori or part-Māori stayed the same at 13.5% and the other there continued to be very small numbers from Pacific, Asian or MELAA⁵⁴ ethnic groups.

Services and facilities

For such a small population, Havelock has a significant range of shops, services and facilities. In part, these services are made viable by the employees and families associated with the seafood industry but being on the state highway between Nelson and Blenheim, Picton and the Queen Charlotte Sounds, passing tourists and other traffic also contribute significantly to the viability of these businesses. The services and facilities include:

- A medical centre which operates three days a week providing access to a wide range of specialist medical services as well as general health;
- A primary school and pre-school (the latter has the maximum number of pupils enrolled (64) and employs 12 teachers (including part-timers);
- A pharmacist;
- A 4Square store;
- Three cafes, a restaurant and a hotel;
- A library; and
- Two museums (one a fish museum with models of the types of fish found in the Sounds and a video display of the mussel industry in Havelock).

The aquaculture industry in Havelock

There are several aquaculture companies operating out of Havelock – Sanford, Talley's, Sealord's, United Fisheries as well as some independent producers. As the owner of approximately 200 marine farms in the Sounds covering a total area of 1,000 hectares producing 35,000 tonnes of mussels annually, Sanford is by far the largest. Talley's purchases mussels from private marine farms and trucks them elsewhere for processing.

⁵⁴ MELAA = Middle Eastern, Latin American and African is a new category introduced for the 2006 Census. Previously, 'MELAA' responses were counted to the 'Other ethnicity' category.

Sanford has about 60,000 tonnes of mussels growing in the Sounds at any one time. 17,000 tonnes are processed annually in Havelock and 15,000 tonnes are trucked to Christchurch for processing. The principle reason for out-of-region processing is the shortage of labour in Marlborough. According to the Marlborough Economic Development Strategy, the labour demand generated by the seafood industry is a major issue for the region with a limited labour force and the exponential growth being experienced in the winegrowing sector.⁵⁵

The aquaculture industry in Havelock provides a wide range of employment opportunities. For example, Sanford, by far the largest mussel farming and processing company in Havelock, currently employs 288 people at its Havelock operation. The range of occupations is shown in the following table.

Sanford employees based in Havelock: 2011

Processing factory (including 7 trades people)	215
Harvesting crew (13 vessels)	45
Managers	13
Boat managers	4
Marine engineers	7
Rope re-conditioners	4
Total	288

During the school holidays the company employs students to provide supplementary labour for rope conditioning.

The manager of Sanford's Havelock operation estimates that about 80% of his employees are locals – either living within Havelock township or within a 30 minute drive. The other 20% are almost all based in Blenheim.

In addition, Sanford's Havelock operation employs 6 staff in their Auckland-based head office to manage the accounts, human relations and marketing.

The Sanford processing factory has mechanised its operations to reduce labour requirements. Whereas before, 350 plus workers were needed for manual processing, mechanisation has reduced this to 215. Getting sufficient workers from such a small population has always been a problem. Young people tend to leave the

⁵⁵ Ibid, p.141.

district for the cities when they leave school. To reach the numbers required the company would employ “almost anyone who just walked in off the street” as well as taking in horticultural workers during their off-season. Even now with mechanisation, positions are hard to fill locally. The company currently employs between 20-30 people who have retired early and then returned to work. The company also employs about 20 people from other countries on work permits.

According to the Manager, the factory employs a lot of families with parents and off-spring or siblings working together.

Employment patterns in Havelock aquaculture industry

The cycle from seed to harvest takes between 12 to 18 months depending on the site and the number of mussels growing per metre of rope. Harvesting takes place throughout the year, timed to coincide with the mussels reaching peak condition. Harvesting is suspended during periods of heavy rain (to protect against bacteria ingestion), during spawning and if algal bloom infestation is detected.

Processors at the Sanford factory work 5 days a week for 12 months of the year in two shifts of 9 hours each followed by the cleaners who work a 6 hour shift. Full-time employment is achieved by sourcing spat from various locations that mature at different times.

Pay rates and prospects for aquaculture employees

Within the aquaculture industry there are opportunities to progress from a low-skill/low-wage position to a higher rate of pay through training and experience. Seventy-five percent of the people employed by Sanford’s Havelock-based operation are on minimum wage jobs. After two months the rate begins to increase in small increments. The average wage for processors is \$15.50 an hour. A processor can earn between \$36,000 and \$56,000 annually.

The average wage for harvesters working on the boats is \$16.50 an hour but because they work longer hours they can earn between \$60,000 and \$70,000 annually.

On-the-job training is provided using SITO standards. In the first two years employed in the processing factory a typical employee is expected to pass 5-7 units. To become a semi-skilled worker on a higher wage rate, up to six months of training is required.

Health and Safety representatives are trained off-site in Blenheim, Christchurch or Wellington.

Those wishing to progress to supervisor level in seafood processing are able to do so through correspondence study.

Computer training is provided in-house as is management training and accountancy training.

Benefits for Havelock from the aquaculture industry

James Baines in his evidence to the Kuku Mara marine farm hearing⁵⁶ stated that it should not be overlooked just how closely the revival and growth of Havelock and several other small communities in the Sounds in recent years is linked to the health and vitality of the mussel industry.

This was endorsed by a long-term resident and councillor for the area interviewed for this case study. In his view *“before the mussel industry, this place was going backwards. There was little employment and people were moving away.”*

Direct employment

According to one long term resident who has been involved in the industry for many years, *“at least half of the households in Havelock have an employment relationship with Sanford”*. Given that there are only 210 households in Havelock and the manager for Sanford’s Havelock operation estimates that about 230 of its employees (80% of 288) are residents of Havelock, this seems a reasonable observation.

The demand for labour generated by the local aquaculture industry cannot be met by the local workforce and as a result workers from Blenheim are bussed in each day and migrant labour on work permits are also brought in from other countries such as Brazil, Japan, Korea.

The industry also provides supplementary income for a group of retired people who for several days each month collect debris swept onto the beaches from the mussel farms.

Indirect employment

There are a large number of businesses in Havelock of varying sizes that provide associated services to the aquaculture industry. These include:

- Concrete block making for the mussel farms.
- Boat maintenance.

⁵⁶ Baines, Kuku Mara resource consent, 2000.

- Boat warranting services.
- Marine farm surveying service.
- Staff training for aquaculture companies.

There are also other businesses that have strong associations with the aquaculture industry and have located in the town because of the proximity of the industry.

- A nutraceutical company manufacturing Omega 3 oils from green-lip mussels.
- A fish retailer who runs a fish market on the wharf.
- A restaurant on the wharf specialising in seafood.
- Three cafes and a hotel all of which supply meals to the workforce and specialise in seafood dishes.
- Several cruise boats which have a marine-farm focus.

As a consequence of the number of direct and indirect jobs created by the aquaculture industry and the inability of Havelock and the surrounding district to meet the demand for labour, the 2006 Census recorded virtually no unemployed Havelock residents. There are also relatively low percentages receiving sickness benefits. While the percentage of people earning an income has changed little, the percentage on unemployment benefit has dropped significantly since 1996. Over that same period, the percentage of residents receiving some form of retirement allowance has decreased by nearly 19% to 17.8% although the table below shows the proportion of older people in the community is still nearly 5% higher than the national average.

Income Sources (Census 1996, 2001 and 2006)

	Wages, Salary, Self-employment or Business	Superannuation or Veterans Pension	Unemployment	Sickness Benefit
1996 Census	%	%	%	%
Havelock Area Unit	69.5	22.9	6.1	2.3
Marlborough DC	73.6	20.0	7.0	1.9
New Zealand Total	70.7	15.8	8.0	2.1
2001 Census	%	%	%	%
Havelock Area Unit	77.5	20.2	4.0	0.0
Marlborough DC	72.9	19.0	5.1	1.8
New Zealand Total	68.9	14.5	6.2	1.9
2006 Census	%	%	%	%
Havelock Area Unit	77.0	17.8	0.7	0.7
Marlborough DC	76.1	18.3	0.9	1.8
New Zealand Total	71.8	13.9	2.9	2.2

Impact of aquaculture industry on crime rates

The Havelock Police cover the whole of the Sounds and an area of the mainland which runs from the Whangamoia Hills to the Wairau Bridge including Havelock and the Rai Valley. The population within this Police precinct is about 2,000.

Crime, including domestic confrontations is, according to the Havelock police, is rare. The Officer in Charge at the Havelock station has been in that position for 18 years and previously served on the East Cape. He said there is no comparison in the crime rates between Havelock and the East Cape including Opotiki. According to this officer and his colleague there are two factors which contribute to the low rate of criminal offending:

1. Havelock and surrounds is a small, stable community where the residents take ownership of behaviour, taking action to address any sign of trouble
2. The lack of unemployed people in the area. They see a clear link between unemployment and criminal offending.

“Every town has its larrikins but here they are all too busy to get into trouble. Even the school kids are employed in after-school jobs and during the holidays”.

“Jobs give people a reason to get up in the morning, gives them some pride and self-respect. They don’t have to steal to get stuff they need. Full employment eliminates most of the factors that contribute to crime.”

While aquaculture is not the only employer (it competes with viticulture, silviculture and dairying for labour), it is the major employer in this area.

The aquaculture industry is also helping to reduce the incidence of drug abuse. According to the manager of the Sanford Havelock operation, in the past drug testing resulted in the rejection of about 2% of job applicants. The company has recently introduced a policy of charging applicants and employees \$25 for the test which is returned to them if they pass. This has significantly reduced the number of offences.

Impact of aquaculture industry on house prices

Although no firm long-term data on house sales and prices could be obtained within the time constraints for this study, anecdotal data provided by real estate agents and local residents interviewed indicated that although the registered values on houses in Havelock have (as with most areas in New Zealand) declined in recent years, on average, they are still slightly above Blenheim values. The demand for housing is steady and as a result prices are relatively stable. There is a significant rental housing market in Havelock much of which is taken up with workers at Sanford, including the workers from overseas who are operating on short-term work permits. Several Christchurch families have moved into rental housing in the area to get respite from the impacts of the earthquakes.

Impact of aquaculture industry on Havelock School and Pelorous Pre-School

As with most other schools in small towns, Havelock is experiencing a decline in school rolls. Over the past ten years the roll has dropped from 85 to 65 a drop of 23.5%. However, because of the aquaculture industry, the decline is not as great as it might have been and to date the school has remained viable. According to the school principal, about 50% of the pupils have at least one parent working in the industry and nine pupils have moved to the town because of employment in the aquaculture industry or an associated service.

Because of the need to import labour there is an increasing variety of cultures represented among the pupils at Havelock School which now includes students from Korea, Japan and Brazil. This diversity helps to broaden the pupils' understanding of other countries and exposes them to different cultures and values which, as an otherwise largely NZ European/Pakeha population they would be unlikely to be exposed to.

As shown in the following table the 2010 the Mussel Festival has contributed nearly \$11,000 in funds to the school. In addition people working in the aquaculture industry are members of the Board of Trustees and others contribute within the wider school community and its sphere of activities.

The roll at the Pelorous Pre-School is full and about 25% of the parents work in the aquaculture industry.

As shown in the following table up to 2010, financial contributions from the Mussel Festival to the Pre-School centre have totalled over \$5,700. In addition, both Sanford and Talleys donate mussels to both the school and the pre-school for fundraising events.

Strengthening of community infrastructure

The aquaculture industry has increased the pool of volunteers available for a wide range of community organisations and services. Among the Sanford employees:

- Eight are members of the volunteer fire brigade.
- Four are members of the Rural Fire Service.
- Two are members of the St John Ambulance Service.

Since their work is based in the centre of the town, they are available for call out during working hours when other members of these services may not be. In addition:

- Two Sanford employees are on the Board of Trustees for the Havelock primary school.
- Other employees are members of the local theatre group and other community organisations that organise events, raise funds and add to the social capital of the town.

For the past seven years, Havelock has organised a one-day Mussel Festival to celebrate the contribution the mussel industry makes to the town as well as being a major fund-raiser for community projects making a significant contribution to community pride and the wellbeing of the town and its residents. Depending on weather, the festival has attracted between 5,000 and 10,000 people. As illustrated in the following table, funds raised at the festival are used to support a wide variety of organisations in Havelock and the surrounding communities.

Havelock Mussel Festival: Distribution of Funds to Community Organisations

Organisation	Festival					Sub Total
	2006	2007	2008	2009	2010	
Canvastown School		1,000	330			1,330
Havelock Bowling Club	2,500			4,000		6,500
Havelock Civil Defence			2,000	300		2,300
Havelock Fire Service	2,500	3,000	5,000			10,500
Havelock Library		3,000		1,400		4,400
Havelock Mainly Music		300		350		650
Havelock Museum	1,000	1,181		5,000		7,181
Havelock School		5,500	600	2,280	2,500	10,880

Havelock Theatre Company		1,800	500	1,980		4,280
Havelock Youth Group					2,500	2,500
Linkwater School		1,904	488			2,392
Linkwater Fire Brigade					2,000	2,000
Marlborough Plunket	500					500
Marlborough Youth Trust		4,315		500		4,815
Pelorous Area Health Trust			1,755	1,755	900	4,410
Pelorous Community Preschool	4,000	1,217	550			5,767
Pelorous Netball	500		485	1,000	300	2,285
Pelorous Rugby Club		1,433	1,059	850		3,342
Pelorous Cluster Schools				1,500	800	2,300
Rai Valley Fire Brigade		3,292				3,292
Rai Valley Area School				1,455		1,455
Rai Valley Cultural & Archive Trust						1,000
Rai Valley Indoor Bowling Club					500	500
St John			25,000			25,000
Te Runanga o Ngati Kuia		1,000	1,000			2,000
Waitaria Bay School				1,500		1,500
Durville Island					2,000	2,000
Marlborough Hospice					1,500	1,500
Havelock Vision 2020					1,000	1,000
Annual Distributions	11,000	29,842	38,767	23,870	15,000	118,479

Source: Havelock Mussel Festival Inc website.

Direct contribution of Sanford to community wellbeing

In 2010, the Sanford factory was closed for three months while the automatic opening machine technology was installed. During that time, Sanford continued to pay its processing staff and made them available to the local community to undertake community projects. As a result of this initiative Sanford employees undertook a wide range of projects including:

- Maintenance and gardening projects at the school and pre-school.
- Repainting local marae.
- Created a walking track from Havelock around the edge of the harbour.

Enhancement of recreational fishing

Baines noted that snapper fishing around the periphery of marine farms has become popular for some charter trips. This is endorsed by several commentaries on the impacts of marine farming as well as the experiences of marine farmers themselves.⁵⁷

Enhanced tourist experience

Baines (2000) noted evidence of tourists requesting marine farm experiences. *“Mussel farm tours are a significant and growing part of some charter operations, and several tourism enterprises remarked on the levels of interest generated for their clients by mussel farming activities”*.⁵⁸

Several tourism operators based in Havelock have developed this aspect of their businesses. The main tourism operator is Greenshell Mussel Cruises which runs a tourist cruise departing daily from Havelock and which includes a visit to a mussel farm and meal of mussels served with a glass of wine.

In Marlborough, marine farming and tourism complement each other in various ways with Marlborough and Nelson now being packaged as wine and food destinations and some tourism operations clearly linked in with the growth of visitor interest in mussel farming.

Other ways Havelock has utilised the opportunities afforded by the local aquaculture industry to enhance its tourism and visitor experience is through the operation of two museums (one which shows the history of the area including the development of the industry and the other a fish museum with models of the types of fish found in the Sounds and a continuous showing of a video on the mussel industry in Havelock); and the specialty seafood dishes offered in the three cafes and hotel. In addition, the town has adopted the green-shell mussel as its symbol with mussel “sculptures” along the streets and on buildings.

Reflections

The Havelock experience is useful to illustrate the following points:

⁵⁷ Meyer-Hubbert and Cullen; 2004; personal communications with manager of Sanford operation in Havelock.

⁵⁸ Baines, Kuku Mara resource use application, p.17.

The aquaculture industry provides for a wide variety of occupations, skill levels and working hours. Retired people have been re-employed or have obtained part-time/casual work to supplement their pensions. School and tertiary students can get holiday work.

The work can be organised in a way that provides employment for most if not all of the year (10 – 12 months) and therefore cannot be classified as seasonal.

Although low skilled workers tend to start on a minimum wage rate, rates increase with experience and training and because of shift work and longer hours, workers can obtain higher incomes than in other low-skilled work (such as horticulture). For example, in Marlborough a processor can earn between \$36,000 and \$56,000 per annum.

The aquaculture industry in Havelock (and other parts of Marlborough) compete with viticulture and forestry for unskilled and semi-skilled workers. This together with the small population bases has made the filling of workforce requirements difficult.

Because Havelock and its surrounding districts have been unable to meet the labour demands for the processing of mussels from the local farms:

- The Sanford factory has been mechanised to reduce labour requirements (from 350 to 215).
- Almost half the company's annual crop (47%) is trucked to Christchurch for processing.
- Migrants on work permits are brought in to fill the gaps.

Although there are no figures to prove a direct link between unemployment and crime, it is clear that Havelock has a comparatively low level of crime and this is at least partly attributable to the high level of unemployment.

The aquaculture industry has spawned a plethora of support and secondary industries in Havelock including makers of parts and equipment for the marine farms, boat maintenance services, nutraceutical manufacturers, fish retailers and tourist cruises.

The employment opportunities provided by aqua-farming have not stopped young people moving away from the area although there is evidence that some of those who move away are now returning with qualifications to take up technical, scientific and management positions.

The aquaculture industry has revived the township of Havelock by:

- Maintaining population numbers.
- Providing income to support a wide range of community services and facilities (including the local school and pre-school).
- Increasing the pool of community volunteers.
- Providing a catalyst for a major community fun-raising event (the Havelock Mussel Fest) which enables the community to provide services and programmes for improving the wellbeing of the local area which would otherwise be unaffordable.
- Introducing a wider variety of cultures and values to the community through the migrant workers and people from other parts of New Zealand.
- Maintaining house values.

Appendix 3 – Case Study: The Benefits of the Aquaculture Industry to Coromandel

Aquaculture in Coromandel Peninsula

The Coromandel area is second only to the Marlborough Sounds in the importance of aquaculture – both in terms of the number of farms and the total area farmed. Its advantages are its sheltered waters, accessibility, favourable climate, good water quality and availability of nutrients. The region produces 24% of the mussels harvested in New Zealand and just under 20% of the oyster harvest.⁵⁹

The Coromandel Marine Farmers Association, which represents producers in the region, has approximately thirty members. Amongst this group, there are several larger producers, such as Greenshell NZ, Sanford and Sealord. Most of the remaining members are farmers with smaller holdings, who primarily serve the domestic market.

Marine farms in the area include mussel farming in the Firth of Thames, primarily in Wilson Bay, and numerous mussel and oyster farms in Coromandel and Manaia Harbours, Port Charles, Kennedy Bay, Whangapoua Harbour and Whitianga Harbour on the Coromandel Peninsula. The regional boundary also includes several proposed spat catching sites in the western Firth off Waimangu Point near Kaiaua.

In the last year, mussel farms in the Coromandel district harvested an estimated 31,000 tonnes. Thirty percent of the mussel harvest was processed in Whitianga township, on the opposite side of the Peninsula. The remainder were trucked to processing facilities in Auckland and Tauranga.⁶⁰

⁵⁹ Aquaculture New Zealand Levy data.

⁶⁰ Wyatt, S., *Economic Impacts of Coromandel Aquaculture*, August 2011

Coromandel's oyster farms produced half a million dozen oysters. Almost all the oysters harvested in the Coromandel area were either processed in Coromandel township or sold fresh to consumers and wholesalers.⁶¹

The aquaculture industry contributed an estimated \$31.4 million of value added, or regional gross domestic product (GDP), to the Waikato region in 2010/11. This is 0.2 percent of Waikato's total gross regional product (GRP); by comparison dairy farming and dairy factories contribute around 10.8 percent of GRP.⁶²

Employment in the Region's aquaculture industry

There are an estimated 432.3 full time equivalent jobs (FTEs) resulting from Coromandel's aquaculture industry in the Waikato region. These are comprised of 297.4 in direct farming and processing jobs, 72.5 indirect jobs as a result of related activity in other industries, and 62.4 induced jobs.⁶³

Not many ancillary services for aquaculture (i.e fuel supply, spat supply, research, marketing, legal services) are located in towns in the Waikato region. Instead, a lot of the products used in aquaculture come from Auckland or Marlborough regions. As a result, the economic and social impacts from aquaculture are lower relative to other regions where such ancillary services exist.

According to survey data, which is supported by Statistics New Zealand data, there are 297.4 Full Time Equivalent staff (FTEs) actively employed in aquaculture farming, processing, transport and administration in the Coromandel and Hauraki districts. This estimate includes owner-operators and contractors. Direct Gross Household Income (which includes wages, savings and taxation) is \$10.6 million, of which 52 percent is derived from farming, and the remaining 48 percent is derived from processing.

According to Statistics New Zealand, the number of FTEs employed in aquaculture in the Coromandel and Hauraki districts has fallen in recent years. There has been a drop from 383 FTEs in 2005 to the current 297.4, a fall of 22 percent (85.6 FTEs). In the same period, aquaculture production from Coromandel grew by an estimated 77

⁶¹ Sapere Research Group, *Economic Impacts of Coromandel Aquaculture*, August 2011

⁶² Sapere Research Group, *Economic Impacts of Coromandel Aquaculture*, August 2011

⁶³ Sapere Research Group, *Economic Impacts of Coromandel Aquaculture*, August 2011

percent (from 17,600 tonnes of mussels in 2005 to 31,200 tonnes in 2010). There are several reasons for this reduction: about a quarter of this drop is explained by the closure of the Coromandel mussel factory in 2005, which involved shifting Sanford's processing to a facility in Tauranga. Around 20 people were employed at the factory, many of whom transferred to Tauranga. The effects of this closure are discussed in the following section. The remaining reduction in employment could be explained by a substantial improvement in productivity, both on-farm and in processing operations. Another explanation is the greater level of integration between farming and processing operations in the district. There was also an adjustment to Statistics New Zealand's employment data collection methods between 2005 and 2011, which may explain some of the difference.

Loss of mussel processing facilities in Coromandel township

Sanford's mussel processing factory in Coromandel township closed in 2005, primarily due to capacity constraints following the expansion of marine farming in Wilsons Bay.

Mussels that were processed in Coromandel township are now sent to Tauranga to a substantially refurbished, specialised factory run as a joint venture between Sanford, Sealord and Greenshell New Zealand. Tauranga was chosen as the most suitable site for this facility because of its export port location and access to a larger labour pool than other, closer towns⁶⁴. The automated facility can process a large volume of mussels (up to 20,000 tonnes), which allows for significant economies of scale⁶⁵.

There were around 20 FTEs employed as mussel processors at the Coromandel facility. In a small community it was initially a shock for many to hear that the town's biggest employer was essentially shutting down, but many of the employees were quickly diverted into other aquaculture jobs. Permanent staff were offered positions in the new Tauranga factory and local seasonal workers were all offered positions at a mussel processing plant in nearby Whitianga.⁶⁶ Other staff went to work at the Coromandel oyster processing factory.

As a result, unemployment levels did not noticeably rise after the factory closure, and Census data indicates that it actually fell (Table A). Census data on income

⁶⁴ Sanford Annual Report 2005

⁶⁵ Sanford Sustainable Development Report, 2005; Sanford Annual Report 2005

⁶⁶ Sanford Sustainable Development Report, 2005, p.66

sources prior to and after the processing factory closure indicate that the percentage of residents relying on the unemployment benefit in Coromandel township decreased by 5% (from 7.9% in 2001 to 2.9% in 2006). This was a greater reduction in residents claiming the unemployment benefit than Thames-Coromandel District (4.1%), Waikato Region (4.0%) and New Zealand as a whole (3.5%) experienced between the 2001 and 2006 Census. Table A also shows a corresponding increase in the percentage of residents whose income came from employment between the 2001 and 2006 Census.

The closure of the factory does not appear to have had a lasting negative effect on the community. The main effect noted by those we interviewed was an initial drop in residents' shopping time in the local centre as a result of the workers now commuting to Whitianga or Tauranga. No impacts on the local school or preschool were noted. However, the Chair of Coromandel Business Association commented that *"it was a shame to see Sanford close their processing plant because aquaculture and tourism are the two best employment options for our people, and these industries work well together for us."*⁶⁷ The Chair also commented that the township and peninsula as a whole would be less susceptible to closures, and would benefit in general, if there was access to formal training such as the New Zealand Seafood Industry Training Organisation (SITO) qualifications. She believes that this would help to keep young residents in the district, and to attract new families.

Two townships: Coromandel and Whitianga

For the purposes of this study, the characteristics of two townships - Coromandel and Whitianga - are described in more detail below. These townships have been selected because of their focus and inter-relationship with the aquaculture industry in Coromandel - unlike the other settlements in the district which are predominantly holiday retreats.⁶⁸

Coromandel township

Aquaculture farming and processing in Coromandel township

The following aquaculture businesses are operated in or near Coromandel township:

⁶⁷ Lois Beaver, Chair, Coromandel Business Association, personnel communication (December 2011)

⁶⁸ Thames-Coromandel District Profile (part II, p4)

- Numerous mussel and oyster farms, which are serviced from Coromandel or Te Kouma.
- Pacific Marine Farms Ltd – the company is a subsidiary of Aotearoa Fisheries, which is the largest Maori-owned fisheries company in New Zealand. It is a significant employer in the township (29 FTEs, mostly seasonal for 9 months of the year). PMF is involved in farming and processing of locally and regionally sourced oysters. The products are for local and export markets.⁶⁹
- The Coromandel Oyster Company – an oyster processing plant and shop that serves freshly harvested and shucked oysters, and smoked oysters and muscles. The working plant has become a tourist attraction.
- Coromandel Smoking Company - established in 1997 to produce a range of smoked seafood. In 2004 the company joined forces with local oyster and mussel farmers to bring fresh, locally grown products to food retailers, residents and visitors.⁷⁰

Coromandel township's population characteristics

Coromandel township had a population of 1,476 residents at the time of the 2006 Census, which was a population increase of 2.7% over the five year period from the 2001 Census. However, this growth rate was less than half that experienced across New Zealand as a whole (7.8%). (Table B)

Coromandel township has a disproportionate number of people in the latter stages of their careers (31% of residents aged 45-64 compared to 24% nationally) and of retirement age (18% compared to 12% for New Zealand as a whole). The township has a correspondingly lower portion of young people in the latter stages of study and early stages of their careers. The percentage of people aged 15 - 29 years was 13% compared to 20% nationally. (Table C)

According to the 2006 Census, Coromandel township has a predominance of NZ European (77% compared to 68% for New Zealand as a whole) and Maori or part-Maori residents. The percentage of Maori or part-Maori residents (24%) was significantly greater than for New Zealand as a whole (15%). (Table D)

⁶⁹ www.coromandelaquaculture.co.nz

⁷⁰ Coromandel Smoking Company website www.corosmoke.co.nz

At the time of the 2006 Census, most employment opportunities in the Coromandel township involved the retail trade (17.9%), accommodation, cafes and restaurants (17.9%), manufacturing (9.0%), property and business services (8.0%), education (8.0%), health and community services (7.5%), and agriculture, forestry and fishing (7.1%). (Table E)

The most notable change in employment types in the township between the 2001 and 2006 Census was a 3.8% decline in agriculture, forestry and fishing. This was more than double the decline in New Zealand as a whole (-1.4%) and nearly double the decline in Thames-Coromandel (-2.1%). The other notable change in employment types was a 2.3% increase in jobs in property and business services. In comparison, the increase in Thames-Coromandel was 2.1%, and 2.3% in New Zealand as a whole.

Whitianga township

Aquaculture farming and processing in Whitianga township

OPC Fish and Lobsters Ltd (a subsidiary of Aotearoa Fisheries) provides the main processing facility for aquaculture on Coromandel Peninsula, and is a major employer in Whitianga township, employing 145 FTEs, mostly in the processing plant and 4 drivers. The company was established in 1980 to process and market the local product, specialising in Greenshell mussels. It also conducts tours of the processing plant.

Greenshell New Zealand Ltd has mussel farms off Whitianga. The mussels are processed in Tauranga and sold under the 'Ikana' brand.

Whitianga township's population characteristics

Whitianga township had a population of 3,768 residents at the time of the 2006 Census. This was an increase of 22.4% in the five years from the 2001 Census, which was a significantly greater population growth than in Thames-Coromandel district (3.0%) and across New Zealand as a whole (7.8%). (Table B)

As with Coromandel township, Whitianga township has a disproportionate number of people in the latter stages of their careers (32% of residents aged 45-64 compared to 24% nationally) and of retirement age (19% compared to 12% for New Zealand as a whole). The township also has a correspondingly lower portion of young people in the latter stages of study and early stages of their careers. (The percentage of people aged 15 - 29 years was 14% compared to 20% nationally). (Table C)

The population of Whitianga township is predominantly NZ European (80% compared to 68% for New Zealand as a whole). The proportion of Maori residents is less than in Coromandel township (13% compared to 24% for Whitianga).

The percentage of residents in Whitianga township who relied on the unemployment benefit decreased between the 2001 and 2006 Census (Table A). At the time of the 2006 Census, most employment opportunities in the Whitianga township involved the retail trade (20.7%), construction (14%), accommodation, cafes and restaurants (12.1%), manufacturing (10.1%), and property and business services (10.1%). (Table E)

The most notable change in employment types in the township between the 2001 and 2006 Census was a 4.4% decline in accommodation, cafes and restaurants. In comparison, the decline in the Thames-Coromandel district was 0.3% and only 0.1% in New Zealand as whole. However, the percentage of construction jobs in Whitianga township over this period increased by 3.8%, which was greater than in the Thames-Coromandel district (2.1%) and New Zealand as a whole (0.7%).

Benefits for Coromandel Peninsula from the aquaculture industry

Employment

Coromandel benefits from employment that is generated from the aquaculture industry in three main ways:

- directly from marine farming;
- businesses that add value to the raw product, such as processing facilities, restaurants and cafes using the raw product, and seafood wholesalers; and
- charter boat fishing companies.

Enhanced recreational fishing

Fishing around the mussel farms near Coromandel township, particularly those in Wilsons Bay, is popular for charter trips (barges and kayaks) and other recreational fishers. The mussel lines attract a wide range of fish species because of the easy availability of food. An employee at the Coromandel I-Site noted that *“it brought the gulf back to life after the Rugby World Cup had finished. The gulf brings visitors from Waikato and Auckland for fishing”*.

Various fishing competitions attract large numbers of fishers, such as the Coromandel Mussel Kitchen 50/50 Fishing Competition, which was held in early December 2011. Two hundred and fifty boats were registered for that competition.⁷¹

⁷¹ Coromandel I-Site, December 2011

Another popular competition is the Bounty Hunter Fishing Competition, which is held at the Top Pub in Coromandel in July.

Enhanced tourist experience

There is a close relationship between the aquaculture industry and tourism in the region. The Hauraki Coromandel Development Group, in conjunction with the Coromandel Marine Farming Association and NZ Trade and Enterprise, has created the “*Coromandel Aquaculture and Trail*”⁷². The trail is marketed in a brochure that provides a tourist map and summary of the range of aquaculture facilities and attractions on the peninsula.

Tourism activities that have been established as a direct result of the marine farms around Coromandel Peninsula include:

- *Mussel Barge Snapper Safaris*, which was established in 1997 in Coromandel town. It operates two charter boats for fishing trips and/or sightseeing around the mussel farms. Their customers are usually visitors to Coromandel Peninsula, particularly from New Plymouth, Napier, Tauranga, Auckland and Hamilton. One of the owners of the company reiterated the importance of aquaculture and tourism to the local economy. She noted that their charter business attracts a number of out-of-town school groups each year who stay for a night, which provides knock-on business for accommodation and restaurants in the township.⁷³
- *Coromandel Barge Fishing* was established in 2008 in Coromandel town. It operates one charter boat for fishing trips around the mussel farms, including a tour of harvesting and seeding the mussel farms.
- *Tangiara Kiwi Retreat* is an accommodation and conference facility that offers paua farm tours at Port Charles.

Coromandel Peninsula markets itself as a food and wine destination, building upon the reputation of its local aquaculture produce. Restaurants such as Coromandel Mussel Kitchen and Pepper Tree Restaurant specialise in locally-sourced dishes of Pacific Oysters and Coromandel green lipped mussels. The owners of the Coromandel Mussel Kitchen are working mussel farmers. The restaurant “*collects,*

⁷² www.coromandelaquaculture.co.nz

⁷³ Megan Andrews , Mussel Barge Snapper Safaris, personal communication (December 2011)

cultivates, harvests, cooks and serves” the mussels, and therefore maximises the value-added benefits of the local produce.⁷⁴ The Coromandel Smoking Company produces a range of smoked seafood, and works with local oyster and mussel farmers to bring fresh, locally grown products to food retailers, residents and visitors.

Three townships on the Coromandel Peninsula have established annual food and wine type events that celebrate local aquaculture produce. The largest is the *Whitianga Scallop Festival*, which has been held annually over the past seven years. Whitianga township hosts it as a weekend-long festival in spring. Pre and post festival events are also provided in conjunction with the festival, including activities at local bars and restaurants in the week leading up to, and during, the festival. The festival was originally established by Tourism Coromandel to drive domestic tourism. The festival has attracted between 4,550 - 7,500 visitors each year, the majority of whom are from the surrounding regions of Auckland, Waikato and Bay of Plenty. The 2011 event attracted approximately 500 local visitors and 4,000 regional and international visitors. Unlike the Havelock Mussel Fest, this event does not raise funds to support local community facilities and services. With the exception of 2010 (where the festival ran at a loss), the festival raises enough funds to break even after setting aside fees for the event coordinator and other expenses.⁷⁵

The third annual *Port Charles Paua Festival* has recently been held (October 2011). It is a day-long event in which fifty percent of the proceeds go to the Colville Community Health Trust.

Coromandel township hosts the *Mussel Fritter Competition* as part of the Homegrown Festival (which runs throughout the Coromandel in May each year).

Reflections

The Coromandel case study is useful to illustrate the following points:

- The aquaculture industry has created an identity for Coromandel Peninsula, which contributes to its attraction as a tourist destination. This benefits the community by providing local business and employment opportunities for charter boat fishing and food establishments in particular. It also benefits the community by bringing visitors to the Peninsula who may not have

⁷⁴ Coromandel Mussel Kitchen website www.musselkitchen.co.nz

⁷⁵ Megan Etherington, Destination Coromandel, personal communication (December 2011)

otherwise been attracted to it, or who may extend their stay because of the attractions built around the aquaculture industry.

- The closure of the mussel processing facility in Coromandel township has not been detrimental to the community because alternative work was found for the employers within commuter-distance. This illustrates:
 - the benefit of having aquaculture companies with a strong social responsibility
 - the benefit of clustering aquaculture activities within a region
 - that relocation of an industry (as long as it is within reasonable travelling distance) will not necessarily result in a decline in population. Life style quality and commercial operations built around the aquaculture industry have helped to ensure that the population in the two townships predominantly affected by the closure of the processing plant have continued to grow.
- The Tauranga processing plant, which recently began taking product from the closed Coromandel factory (after a substantial refurbishment) was located in Tauranga as a result of deliberate commercial decision-making by the joint venture partners who established it. Two reasons were cited for this decision:
 - proximity to Tauranga’s export port location – Opotiki does not have a port;
 - access to a larger labour pool than other closer towns, in particular, Whitianga.

This case study illustrates the risks involved in assuming that a processing facility will be located in Opotiki. The Tauranga facility, (which currently processes around 16,000 tonnes of mussels, but could process up to 30,000 tonnes), would be of a similar size to that proposed in Opotiki (which is expected to produce around 16,000 tonnes by year 12 but could produce greater volumes when fully developed). The workforce in Whitianga is a similar size (2,277) to that of Opotiki (2,480) but Whitianga was overlooked as a suitable site for the processing factory for the reasons noted above. However, in Whitianga there are very few people (about 150) of working age who are not in the workforce which indicates the town has reached full employment. This is significantly different to the situation in Opotiki where almost half the residents of working age are not in paid employment.

Supporting tables:

Table A Income Sources (Census 2001 and 2006)

	Wages, Salary, Self-employment or Business	Superannuation or Veterans Pension	Unemployment Benefit	Domestic Purposes Benefit
2001 Census	%	%	%	%
Coromandel AU	65.6%	23.9%	7.9%	4.4%
Whitianga AU	68.3%	25.0%	6.6%	3.6%
Thames-Coromandel DC	64.2%	27.2%	6.3%	3.8%
Waikato Region	73.9%	15.7%	7.0%	4.5%
New Zealand	73.4%	15.5%	6.6%	3.9%
2006 Census	%	%	%	%
Coromandel AU	74.1%	22.0%	2.9%	3.1%
Whitianga AU	77.1%	22.3%	1.6%	3.4%
Thames-Coromandel DC	70.2%	25.6%	2.2%	3.1%
Waikato Region	77.1%	15.6%	3.0%	3.6%
New Zealand	76.5%	14.8%	3.1%	3.1%

Table B: Population change between 2001 and 2006

	2001 Census, Census Usually Resident Population Count	2006 Census, Census Usually Resident Population Count	% change (2001-2006)
Coromandel AU	1,437	1,476	+2.7%
Whitianga AU	3,078	3,768	+22.4%
Thames-Coromandel District	25,176	25,938	+3.0%
Waitako Region	357,726	382,713	+7.0%
New Zealand Total	3,737,280	4,027,947	+7.8%

Table D: Ethnic groups – European, Maori and Other (Census 2006)

	European Ethnic Groups		Māori Ethnic Group		Other Ethnic Groups*	
	No.	%	No.	%		
Coromandel Area Unit	1,098	77.4%	333	23.5%	162	11.4%
Whitianga Area Unit	2,910	80.3%	474	13.1%	459	12.7%
Thames-Coromandel District	19,596	78.2%	4,017	16.0%	3,468	13.8%
Waikato Region	257,322	70.4%	76,572	21.0%	41,964	11.5%
New Zealand Total	2,609,589	67.6%	565,329	14.6%	430,878	11.2%

* includes the new category of “New Zealander

Table C: Age profile (Census 2006)

	0-4		5-14y		15-29		30-44		45-64		65 and over		Total
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%	
Coromandel AU	69	4.7	198	13.5	195	13.3	285	19.4	459	31.2	264	18.0	1,470
Whitianga AU	198	5.3	444	11.8	537	14.2	687	18.2	1,209	32.1	696	18.5	3,771
Thames-Coromandel District	1,365	5.3	3,192	12.3	3,273	12.6	4,629	17.8	7,983	30.8	5,502	21.2	25,944
Waikato Region	27,669	7.2	59,868	15.6	75,936	19.8	80,532	21.0	91,080	23.8	47,628	12.4	382,713
New Zealand Total	275,076	6.8	592,497	14.7	813,618	20.2	891,813	22.1	959,337	23.8	495,603	12.3	4,027,944

Table E: Industry categories for the Workplace Address (Census 2001 and 2006)

	Agriculture, Forestry and Fishing			Manufacturing			Retail Trade			Accommodation, Cafes and Restaurants			Property and Business Services		
	2001	2006	% change	2001	2006	% change	2001	2006	% change	2001	2006	% change	2001	2006	% change
Coromandel AU	10.9%	7.1%	-3.8%	9.2%	9.0%	-0.2%	16.1%	17.9%	+1.8%	17.8%	17.9%	+0.1	5.7%	8.0%	+2.3
Whitianga AU	4.2%	2.0%	-2.2%	11.7%	10.1%	-1.6%	19.2%	20.7%	+1.5%	16.5%	12.1%	-4.4	8.0%	10.1%	+2.1
Thames-Coromandel	10.7%	8.6%	-2.1%	12.0%	10.7%	-1.3%	18.3%	16.9%	-1.4%	10.1%	9.8%	-0.3	7.5%	9.1%	+1.6
Waikato Region	16.4%	13.5%	-2.9%	12.6%	12.0%	-0.6%	13.3%	13.2%	-0.1%	5.0%	5.2%	+0.2	8.9%	10.9%	+2.0
New Zealand	8.4%	7.0%	-1.4%	13.7%	12.2%	-1.5%	13.0%	13.0%	0%	5.0%	5.1%	+0.1	11.8%	13.7%	+1.9

Appendix 4 - Case Study: The Benefits of the Aquaculture Industry to Banks Peninsula

Background on aquaculture near Banks Peninsula

The main aquaculture activity near Banks Peninsula is mussel farming. This is spread over a number of small farms totalling roughly 164 hectares in Pigeon Bay, Squally Bay and Port Levy, producing roughly 800 tonnes of mussels (generating revenue of approximately \$4.1 million). These farms tend to be contract farms which work on a seasonal basis. The farms employ four FTEs. There is also a salmon farming operation in Akaroa Harbour, employing six FTEs and producing roughly 160 tonnes of fish for the domestic market. Lastly, there is a pāua farming operation in Akaroa Harbour producing meat and blue pearls. The firm employs a total of eight staff directly and produces more than 5000 pearls per year. In terms of processing, roughly a quarter of the region's mussel production is processed at the Sanford-owned factory in Christchurch, with the remaining three quarters travelling to Marlborough for processing. All of the finfish and paua are processed in Christchurch.⁷⁶

Open ocean farm

The region is home to the other approved large-scale open ocean marine farming site, a 2,700 hectare site located at Pegasus Bay just north of Banks Peninsula. This site is a joint venture between Sanford and Ngai Tahu. The site is still an 'experimental' site, and as such no mussels have been harvested from it as yet. Original development plans had it establishing within 3-5 years of consent approval, but this timing appears to have been pushed back as line experiments continue. If the site can be successfully farmed, it could support production of 6000 tonnes per year. At this level of production, it is expected to create 200 jobs, mainly at the Sanford-owned processing facility in Christchurch⁷⁷

⁷⁶ Meyer-Hubbert and Cullen; 2004, p.4 and Sapere Research Group

⁷⁷ The Press 19/12/2009; Sanford Managing Director's Address, 26 January 2011

Reflections

Despite the presence of farms on the peninsula, the economic and social impacts on the Banks Peninsula communities of Akaroa, Pigeon Bay, Squally Bay and Port Levy are relatively small. The existing farms employ only 10-12 people in total, some of whom would travel from elsewhere in the region or who would be 'lifestyle' farmers. The processing facilities, which employ most of the aquaculture-related staff, are located in Christchurch or further north in the Marlborough region. This means that many of the benefits of aquaculture do not flow to small communities, but instead to other established centres.

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