

February 2005

SKILL SHORTAGE ASSESSMENT OCCUPATION: BOAT BUILDER

Current situation: Skill shortage

Short term outlook: Skill shortage

Executive summary

1 The results of the Survey of Employers who have Recently Advertised (SERA) indicate that there is a considerable shortage of boat builders in New Zealand. Employers included in the sample were able to fill only 41% of vacancies within six weeks of advertising and received eight suitable applicants for every 10 vacancies. This report considers these survey results in the context of trends in the demand for and supply of boat builders.

Table 1: employer survey indicators, 2004

	Fill rate	Average number of suitable applicants per vacancy
Boat-builders	41%	0.8
All trades surveyed	41%	0.8

Source: Department of Labour, SERA

- 2 The employment of boat builders grew rapidly between 1996 and 2001. This was driven by strong growth in the boat building industry following New Zealand's winning of the America's Cup in 1995 and hosting of it in 2000. This growth has been sustained, with exports rising from \$91 million in 1999 to \$295 million in 2003. The demand for boat builders is expected to continue rising in the short term as the industry benefits from a weakening domestic currency and a strengthening US economy.
- 3 There has been a strong increase in the number of trainees achieving the National Certificate in Boat Building (level 4) since 2000. A comparison of the number of qualifications achieved with the number of employed boatbuilders shows that the rate of training (4.0%) is considerably higher than the average rate for all trades surveyed (1.8%). This level of training greatly exceeds the number of boat builders retiring each year. However, boat builders are lost through occupational wastage (boat builders moving into other occupations) which is prompted by the sometimes unpleasant conditions boat builders work under. There are further losses through net outward migration.
- 4 On balance it appears that the growth in supply has not matched the growth in demand and a considerable shortage of boat builders exists. These supply and demand trends are likely to continue and DoL concludes that shortages will persist in the short term.

Introduction

The purpose of this report is to investigate skill shortages in the boat builder occupation in New Zealand. It aims to provide an assessment of whether there is a shortage of boat builders and an insight into the demand and supply factors contributing to this situation. The report also offers an outlook for the shortage situation in this occupation.

Boat builders (code 71123 under the New Zealand Standard Classification of occupations) make and repair sailing, fishing, pleasure and motor boats. DoL estimates that approximately 2,100 boat builders were employed in New Zealand in 2003.

A background and technical note to this report is available from DoL. The note provides an overview of the broader Job Vacancy Monitoring Programme, of which this report is an output. It also provides a brief description of the employer survey conducted for this report and explanations of indicators and definitions used in the report.

Demand for boat builders

Historical demand

The number of people employed as boat builders decreased by an average of 1.3% per annum between 1991 and 1996. Over the following five-year period, employment grew rapidly as a consequence of growth in New Zealand's boat building industry. Employment over this period grew by an average of 7.2% per annum.

Table 2: employment growth of boat builders 1991-2001

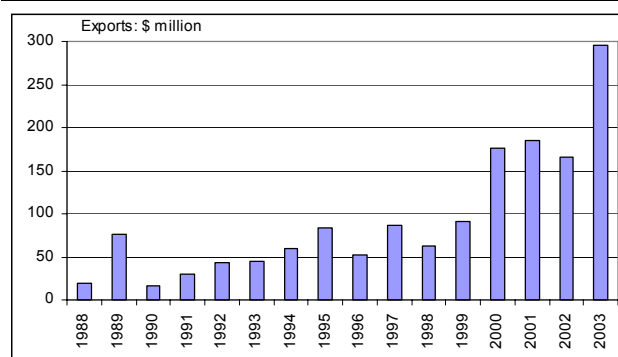
	Annual growth		
	1991-1996	1996-2001	1991-2001
Boat builder	-1.3%	7.2%	2.9%
All trades	0.0%	-0.4%	-0.2%
All occupations	3.2%	1.2%	2.2%

Source: Statistics New Zealand, Census of Population and Dwellings 1991, 1996 and 2001

The America's Cup provided the impetus for growth in the boat building industry. The hosting of the Louis Vuitton Cup in late 1999 and the America's Cup in 2000 enabled New Zealand to showcase its boat building expertise to the world's yachting fraternity. A surge in international orders followed, with exports rising from NZ\$91 million in 1999 to \$295 million in 2003 (figure 1). By 2003, sales to the international market exceeded domestic sales with exports accounting for 56% of boat production.

Despite the loss of the America's Cup in 2002, the boat building industry continues to grow, as illustrated by the strong growth in 2003. The New Zealand boat building industry is well

Figure 1: exports from New Zealand of boats and ships



Source: Statistics New Zealand

organised and organisations such as New Zealand Marine Export Group and New Zealand Trade and Enterprise actively promote the sector on international markets.

Future demand

The boat building industry is likely to continue its long-term growth into the future as it capitalises on its relatively low labour costs and reputation for innovation and quality. However, conditions in the industry are cyclical. It is a project-driven business and staffing requirements vary according to the order book. After a rapid expansion over the past five years, a number of companies have recently experienced a slowdown due to the strengthening of the New Zealand Dollar. However, a number of employers have indicated that big orders were in the pipeline and this should place the industry back on an expansionary path. The industry will be buoyed by the strengthening economy in the United States as well as the continuing strength of the Australian economy. Together, these two countries account for more than 60% of exports. Domestic sales will continue to remain high due to the strength of the New Zealand economy and associated high levels of consumer expenditure. Therefore, DoL foresees strong growth in demand for boat builders over the short term, although demand can fluctuate with the start up and completion of large projects.

Summary

The employment of boat builders grew rapidly between 1996 and 2001. This was driven by strong growth in the boat building industry following New Zealand's winning of the America's Cup in 1995 and hosting of it in 2000. This growth has been sustained, with exports rising from \$91 million in 1999 to \$295 million in 2003. The Department of Labour (DoL) expects demand for boat builders to continue rising in the short term as the industry benefits from a weakening domestic currency and a strengthening US economy.

Supply of boat builders

Training – National certificate (Level 4) qualifications and equivalent

This section investigates the growth in supply of *fully qualified* boat builders through training. Three sources of supply through training are considered:

1. The award of the National Certificate in Boat Building (Level 4) by the Boating Industry Training Organisation (BITO). This is the nationally recognised qualification for boat builders which is designed by BITO to meet the needs of employers of boat builders. It takes an average of three years to attain this qualification.
2. The award of the National Certificate in Boat Building (Level 4) by other providers such as polytechnics.
3. The award of qualifications apart from national certificates which are deemed to be equivalent to the national certificate in terms of level and number of credits.

Training data shows that all National Certificates in Boat Building (level 4) were awarded by BITO over the period 2001 to 2003 and that there were no non-national certificate qualifications at the equivalent level of the national certificate awarded over this time period. New Zealand's participation in the America's Cup has added a great deal of glamour to boat building and has encouraged young people into the trade. This, coupled with successful marketing of boat building training courses by BITO has led to strong growth in enrolments for the National Certificate in Boat Building (Level 4) between 2000 and 2004. The number of trainees achieving this qualification has also increased

strongly over this period but has recently dropped from the peak in 2002. A list of national certificate level 4 and equivalent qualifications and the number of trainees enrolled for these qualifications is provided in Appendix 1.

Table 3: National Certificate in boat building enrolments and number achieving level 4

	2000	2001	2002	2003	2004*
Total enrolments	223	393	486	501	500
Number achieving L4	33	38	112	85	79

Source: Boating Industry Training Organisation
* BITO estimates for 2004

Training rate indicators are given in table 5. A comparison of trainees achieving level 4 with average employment of boat builders yields a *training rate (NC level 4)* of 4.0%. This indicator provides a crude measure of the rate at which the supply of fully qualified cabinetmakers can potentially grow through training¹. This rate is considerably higher than the New Zealand average for all trades surveyed by the DoL (1.8%) and is the highest training rate measured among the 16 trade occupations assessed in 2004.

An alternative measure of training levels is the *enrolment rate (NC level 4)* which compares the number of trainees enrolled for the national certificate with the number of boat builders employed. The enrolment rate for boat builders was 23.7% in 2003.

Training – Other related qualifications and courses

While the level 4 national certificate may be regarded as the qualification required to be a *fully qualified* boat builder, there are other lower level qualifications available in boat building (such as the Certificate in Boat building). These qualifications may be regarded as adequate to some employers of boat builders, especially during times of acute skill shortages. They are also of significance as these qualifications may staircase trainees towards the national certificate level 4 qualifications. Credits obtained in these qualifications may be recognised towards a national certificate level 4, should the trainee later wish to become a fully qualified tradesperson. A list of these qualifications and the proportion of trainees enrolled in courses leading to these qualifications is provided in Appendix 1.

Training in these courses is reflected in the training enrolment rate (all related training) which compares the number of trainees enrolled in all boat builder-related training with the number of employed boat builders. The enrolment rate (all related training) is measured at 43.1% for 2003 (table 4).

A number of other government-funded vocational educational and training programmes (including Training Opportunities, Youth Training and Skill Enhancement Training) offer trades related training which lead to credit achievement on the National Qualifications Framework². A further 33 people were enrolled for this training in 2003 (see Appendix 1).

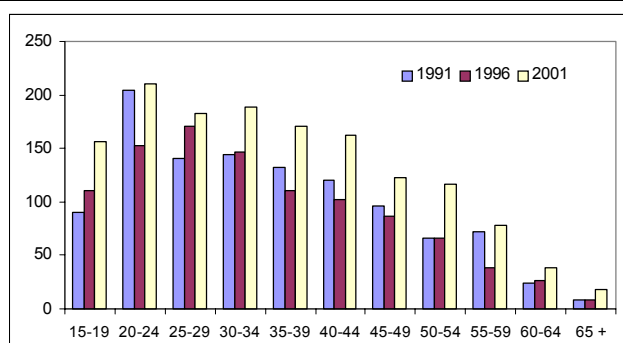
¹ This assumes that there is full employment of boat builders. This is a reasonable assumption in the current environment of low unemployment and skill shortages.

² Enrolments in these programmes are not included in the training enrolment rate (all related training).

Table 4: training rates for boat builders, 2003

Indicator	Explanation	Boat builders (NZ)	All SERA trades surveyed (NZ)	Boat builders (NSW, Australia)	All trades (NSW, Australia)
Training rate (national certificate L4 and equivalent)	Number of trainees achieving relevant national certificates (level 4) and equivalent non-national certificate qualifications expressed as a percentage of employment in that occupation.	4.0%	1.8%	not available	2.8%
Training enrolment rate (national certificate L4 and equivalent)	Number of trainees enrolled for relevant national certificates (level 4) and equivalent non-national certificate qualifications expressed as a percentage of employment in that occupation.	23.7%	16.3%		
Training enrolment rate (all related training)	Number of trainees enrolled in all relevant courses expressed as a percentage of employment in that occupation.	43.1%	30.5%		

Figure 2: age profile of boat builders



Source: Statistics New Zealand, Census

The relatively high number of young people entering the trade is reflected in the age profile of boat builders (figure 2) which shows growth in the number of boat builders in the 15-19 and 20-24 year age groups between 1991 and 2001. This sets the boat building trade apart from most other trades. Most trades have seen a sharp decline in the number of young people entering the occupations in the 1990s. In stark contrast to employers of other tradespersons, employers in the boat building industry reported that they had more applicants for apprenticeships than they were able to appoint.

Occupational wastage

Employers reported that a considerable number of people trained as boat builders leave the occupation. While young people are attracted by the glamour of yachting the reality is that boat builders often need to work with unpleasant chemicals under dusty and dirty conditions. A number of employers mentioned that higher wages offered in the construction sector were luring some boat builders away from the boating industry.

Migration

Employers and industry sources tell us that a sizeable number of New Zealand trained boat builders leave the country to earn higher salaries overseas. Destinations include Australia, the United States and Europe. The Marine Industry Association is currently setting up an exchange programme with the United Kingdom to allow local boat builders to work in the UK for a one-year period. The loss of boat builders through outward

migration is partially compensated by a small number of overseas trained boat builders entering New Zealand.

Retirement

It is estimated from the 2001 population census that about 0.8% of the boat builder workforce retires each year. This amounts to a loss of approximately 20 boat builders each year.

Summary

There has been a strong increase in the number of trainees achieving the National Certificate in Boat Building since 2000. The current national certificate training rate (4.0%) is considerably higher than the national average (1.8%) for all trades surveyed. This level of training greatly exceeds the number of boat builders retiring each year. However, some boat builders are lost through occupational wastage (boat builders moving into other occupations) which is prompted by the unpleasant conditions that boat builders sometimes have to work under. Further losses occur through outward migration.

Employer recruitment experiences

Is there a shortage of boat builders

The results of SERA indicate that there is a considerable shortage of boat builders with employers included in the sample able to fill only 41% of vacancies within six weeks of advertising. This fill rate is the same as the rate for all trades surveyed. Employers had little choice among candidates and received an average of 0.8 suitable candidates for every boat builder vacancy advertised. This is slightly higher than the all-trades average of 0.7.

Table 4: fill rate and average number of suitable applicants

	Number of employers	Number of positions	Positions filled	Fill rate	Suitable applicants	Average number of suitable applicants per vacancy
Boat builders	11	29	12	41%	23	0.8
All trades surveyed	240	453	186	41%	337	0.7

Source: Department of Labour, SERA

What are employers paying?

Boat builders are relatively well paid compared with other trades. Employers included in SERA were offering an average wage of \$21.27 per hour. This was somewhat higher than the average boat builder wage of \$19.74 measured in the Labour Cost Index (LCI)³. This was in turn slightly higher than the average wage for all trades of \$19.54. Employers told us that wages could go as high as \$35 per hour for a highly experienced boat builder.

³ The LCI is not designed to produce statistically accurate estimates of wage levels. The LCI estimates of wage levels are merely indicative.

Table 5: wages of boat builders and all trades workers

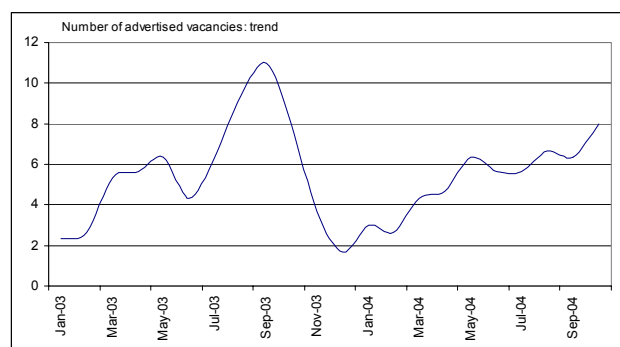
	Mean
SERA – boat builders	\$ 21.27
Labour Cost Index – boat builders	\$19.74
Labour Cost Index – all trades	\$19.54

Source: Department of Labour (SERA), Statistic New Zealand (LCI)

Changes in market conditions

Boat building is a cyclical industry and recruiting conditions vary over time. The Job Vacancy Monitor shows a strong growth in the number of advertised vacancies for boat builders between January and September 2003 suggesting strong growth in demand and a deepening of shortages. Demand appears to have eased substantially over the next few months. Since December 2003 there has been an upward trend in the number of advertised vacancies suggesting a tightening of the market.

Figure 3: Number of advertised vacancies for boat builders



Source: Department of Labour, Job Vacancy Monitor

Outlook

Demand for boat builders has grown rapidly since the mid 1990s and most rapidly since 2000 when New Zealand hosted the America's Cup and the industry was showcased to the world. DoL expects demand for boat builders to continue rising in the short term as the industry benefits from a strengthening US economy and sustained strength of the domestic and Australian economies. However, the industry is volatile and conditions in the market can be influenced by the start up and completion of large projects. The supply of boat builders has been growing strongly because outflows from training have been rising, but this has been partially negated by the movement of boat builders into other occupations which pay higher wages and have more pleasant conditions. On balance it appears that the growth in supply has not matched the growth in demand and a considerable shortage of boat builders exists. These supply and demand trends are likely to continue and DoL concludes that shortages will persist in the short term.

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APPENDIX 1. TRAINING ENROLMENTS FOR BOAT BUILDING TRADE: 2003

Enrolments in National Certificate Level 4 and equivalent qualifications: 2003

Qualification Title	Provider Name	Level	Credits	Share of Enrolments (%)
NC in Boatbuilding - Alloy Boatbuilding strand Version 3	Boating Industries	4	133	10.0%
NC in Boatbuilding - Alloy and Steel Combined strands	Boating Industries	4	133	0.3%
NC in Boatbuilding - Composite & Marine Cabinetmaking	Boating Industries	4	133	2.1%
NC in Boatbuilding - Composite & Marine Painting	Boating Industries	4	133	0.6%
NC in Boatbuilding - Composite & Marine Systems Engineering	Boating Industries	4	133	0.3%
NC in Boatbuilding - Composite Boatbuilding	Boating Industries	4	133	36.3%
NC in Boatbuilding - Composite Sparmaking and Marine Rigging Combined strands	Boating Industries	4	133	0.1%
NC in Boatbuilding - Marine Cabinetmaking	Boating Industries	4	133	4.1%
NC in Boatbuilding - Marine Cabinetmaking and Marine Painting Combined strands	Boating Industries	4	133	0.1%
NC in Boatbuilding - Marine Painting strand Version 3	Boating Industries	4	133	7.1%
NC in Boatbuilding - Marine Rigging	Boating Industries	4	133	0.4%
NC in Boatbuilding - Marine Systems Engineering strand version 3	Boating Industries	4	133	3.1%
NC in Boatbuilding - Sparmaking (Composite)	Boating Industries	4	133	3.4%
NC in Boatbuilding - Sparmaking (Metal)	Boating Industries	4	133	0.1%
NC in Boatbuilding - Steel Boatbuilding	Boating Industries	4	133	0.9%
NC in Boatbuilding - Wood & Marine Cabinetmaking	Boating Industries	4	133	1.5%
NC in Boatbuilding - Wooden Boatbuilding	Boating Industries	4	133	6.8%
NC in Boatbuilding - Wooden and Marine Painting Combined strands	Boating Industries	4	133	0.1%
NC in Boatbuilding - Steel and Wooden Combined strands	Boating Industries	4	133	0.3%
NC in Boating - Combined Composite & Wood	Boating Industries	4	133	22.2%
Total				100.0%

Enrolments in other qualifications

Qualification Title	Qualification Code	Provider Name	Level	Credits	Share of Enrolments (%)
Boatbuilding and Maintenance	NC0543	Northland Polytechnic	na	na	2.6%
Boatbuilding and Maintenance	NC0543	Northland Polytechnic	na	na	16.3%
Certificate in Boatbuilding	CA2160	Unitec New Zealand	3	120	27.0%
Certificate in Boatbuilding (Pre-Trade)	BP3251	Bay of Plenty Polytechnic	3	120	8.2%
Certificate in Power Boat Engineering	CA2207	Unitec New Zealand	2	120	1.7%
Introductory Boatbuilding	BP3322	Bay of Plenty Polytechnic	na	na	0.9%
Introductory Boatbuilding	BP3322	Bay of Plenty Polytechnic	na	na	7.3%
Northland Polytechnic Certificate in Composite Boat Building	NT4650	Northland Polytechnic	2	121	4.3%
NP Cert. Joinery, Furniture Making & Marine Cabinet Making	NT4633	Northland Polytechnic	2	120	3.9%
NP Cert. Joinery, Furniture Making & Marine Cabinet Making	NT4633	Northland Polytechnic	2	120	0.4%
Underwater Diver Construction Programme	PC9199	Academy of Diving Trust	4	75	16.7%
NC in Marine Sales and Services		Boating Industries	4	73	6.0%
MA in Boatbuilding (Marine Electrical and Electronic Installation)		Boating Industries	3	69	4.7%
Total					100.0%

Enrolments in Training Opportunities Programme, Youth Training and Skill Enhancement Training related to the boat building trade

Course name	Programme type	Share of Enrolments (%)
Boat Building Introduction	TOP	100.0%
Total		100.0%