

# South Australian Wine Industry Employment Strategy Project

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## WORKFORCE PROFILE

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**AUGUST 31st 2007**

*This report is based on ABS 2001 Census data. It is anticipated that the report will be updated once the 2006 Labour force data becomes available.*

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This project was completed by the Food, Tourism & Hospitality Industry Skills Advisory Council SA Inc. (FTH Skills Council) with funding provided by the Government of South Australia through the Department of Further Education, Employment, Science and Technology (*South Australia Works* program) and the Department of Primary Industries and Resources SA.

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**Contact:**

Food, Tourism & Hospitality  
Industry Skills Advisory Council SA Inc  
Telephone: 08 8362 6012



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## SOUTH AUSTRALIAN WINE INDUSTRY OVERVIEW

*This report is based on ABS 2001 Census data. It is anticipated that the report will be updated once the 2006 Labour force data becomes available.*

The Australian Bureau of Statistics classifies businesses according to their main economic activity. The Australian and New Zealand Standard Industrial Classification (ANZSIC) defines a hierarchy, with the most precise description of an industry at the Industry Class level. Most of the data that follows is based on the detailed ANZSIC Class data.

The wine industry for the purposes of this summary includes the following ANZSIC Classes:

- 0114 – Grape growing
- 2183 – Wine manufacturing
- 2184 – Spirit manufacturing

### Industry Composition

The wine industry (as defined by the 3 ANZSICs listed above) employed 11,977 people in South Australia in 2001, equivalent to 0.8 per cent of the state's total employment. Across the 3 separate industry categories employment was as follows:

- |                               |       |        |          |
|-------------------------------|-------|--------|----------|
| ▪ 0114 – Grape growing        | 6,287 | people | employed |
| ▪ 2183 – Wine manufacturing   | 5,673 | “      | “        |
| ▪ 2184 – Spirit manufacturing | 17    | “      | “        |

*Grape growing accounts for approximately 53 per cent of total employment in the wine industry, while wine and spirit manufacturing employs approximately 47 per cent of the total employed.*

According to the *Australian and New Zealand Wine Industry Directory 2007*, there are 563 wine producers in South Australia, an increase from 502 in 2006. Of those wine producers, 18 South Australian producers crush more than 10,000 tonnes of grapes per year, representing 51 per cent of large producers in Australia. Conversely, 80 per cent of wine producers in South Australia crush less than 500 tonnes per year. In addition, approximately 45% of wine and grape enterprises have been established for less than ten years.

### Area and Production

The Australian Bureau of Statistics produces an annual compendium of activity in grape growing and wine production. From that publication, *Australian Wine and Grape Industry* (ABS Catalogue Number 1329.0), South Australia is recorded as having 73,088 hectares of vines in 2006, 43.3 per cent of the total plantings across Australia. South Australia's production of 881,346 tonnes of wine grapes in 2006 represented 49.5 per cent of the total wine grape crush in Australia.

South Australia produces approximately half of Australia's total wine output each year. In 2006, South Australia produced 724 million litres of wine, 50.6 per cent of total wine production in Australia.

### Exports

Approximately 60 per cent of all wine produced goes to export. In 2005/06, Australian exports of wine were worth 2.8 billion dollars. In 2005-06, South Australia produced almost 60 per cent of all wine exported from Australia. The value of wine exports, at 1,539 million dollars, represented approximately 16 per cent of total exports from South Australia in 2005-06.

## WINE INDUSTRY WORKFORCE

While the wine industry accounts for a substantial export value each year, total direct employment in the industry represents less than 2 per cent of the State's workforce (ABS Population Census 2001).

### Age and Sex

The gender distribution of people employed in the wine industry is roughly similar between the grape growing and wine and spirit manufacturing industries, with just over 30 per cent of the workforce being female in each case.

Generally, females were most often employed in clerical and administrative positions within the wine industry, although almost 30 per cent of farm hands in the grape growing industry were female. Within wine and spirit manufacturing this separation of roles was less distinct, with females present in substantial proportions in processing roles, though many of the clerical and administrative occupations were once again primarily filled by female workers.

As can be seen in the following table, the wine industry has an age profile almost identical to average industry employment in the state, with slightly higher proportions of older people (55 years or older). This slight weighting towards older people is common in agricultural industries generally.

**Age Groups in Wine Industry, 2001**

| Age group   | Number of people employed | Share of total wine industry employment | Share of all other industry employment |
|-------------|---------------------------|---|--|
| 15-24 years | 1,712                     | 14.3%                                   | 16.3%                                  |
| 25-34 years | 2,682                     | 22.4%                                   | 22.3%                                  |
| 35-44 years | 3,095                     | 25.9%                                   | 25.9%                                  |
| 45-54 years | 2,679                     | 22.4%                                   | 23.8%                                  |
| 55 and over | 1,792                     | 15.0%                                   | 11.7%                                  |

Source: ABS Population Census 2001

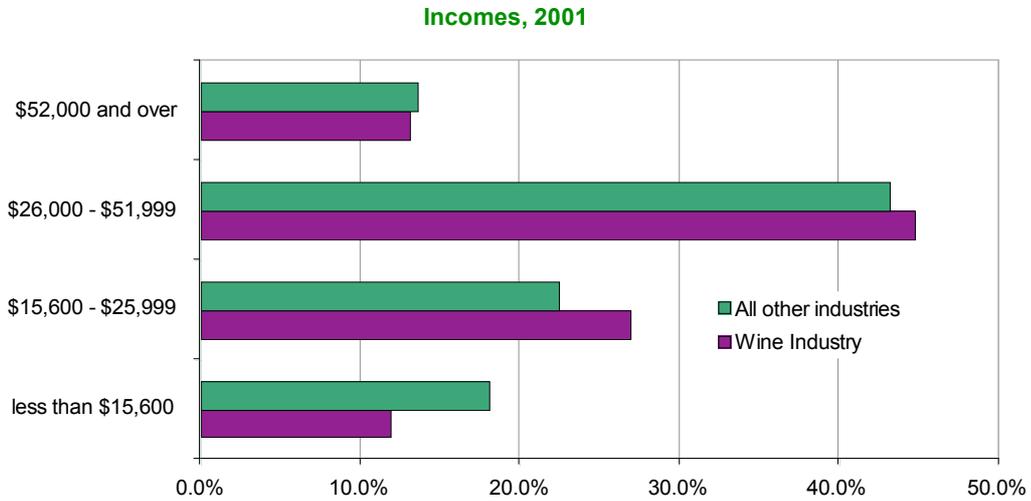
### Nature of employment

From the ABS Labour Force Survey of February 2007, 64 per cent of people working in horticulture and fruit growing were working as employees, and 30 per cent were self-employed. These proportions have fluctuated highly over the last few years, with self-employment reaching up to 50 per cent of all employment in the industry in the mid 1990s. In contrast, involvement in wine and spirit manufacturing is almost universally in paid employment; at various times up to 7 per cent of people involved reported being self-employed, with self-employment averaging around 2 per cent of all employment in this industry in recent years. *(Note that this information refers to the broader industry groups rather than specifically to grape growing and wine and spirit manufacturing.)*

From the same source, part-time employment is seen to a much greater degree in the horticulture and fruit growing industry (averaging at 24 per cent of total employment since late 2001) than in wine and spirit manufacturing (an average of 10 per cent). The wine and spirit manufacturing industries experience more fluctuations in levels of part-time employment, from highs around 20 per cent to lows around 4 per cent, while part-time employment in grape growing ranges from 15 to 30 per cent of the total workforce.

**Income**

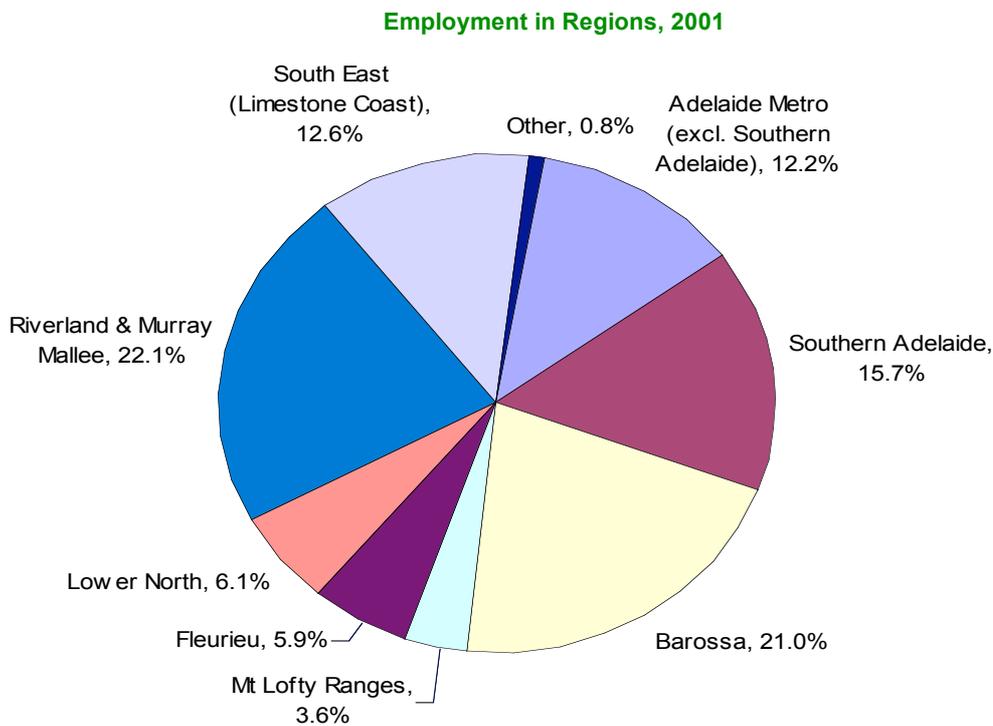
The distribution of incomes across the wine industry is similar to that of other industries, as seen in the following chart. The wine industry has lower proportions of employed people in both the highest income range and in the lowest income range. Incomes are generally higher in the lower to middle incomes. Generally, incomes are higher in the Wine Manufacturing group and lower in the Grape Growing group.



Source: ABS Population Census 2001

**Regional Distribution**

South Australia’s wine industry is concentrated in well-known regions. In terms of employment, the largest employing regions are the Riverland/Murray Mallee region and the Barossa. The regions depicted in the following graph are Statistical Subdivisions, and reflect the residence of the person employed rather than their work location. It is important to note that this information does not take into account possible travelling across regions to work, though this is more prevalent in the Adelaide metropolitan area than in country regions.



Source: ABS Population Census 2001

The approximate matching of where GI Zones fit into Statistical Subdivisions follows:

| Statistical Subdivision                  | Wine GI Zone                               |
|--|--|
| Adelaide Metro (excl. Southern Adelaide) | Adelaide Plains                            |
| Southern Adelaide                        | Adelaide Hills (part), McLaren Vale (part) |
| Barossa                                  | Barossa                                    |
| Mt Lofty Ranges                          | Adelaide Hills                             |
| Fleurieu                                 | Fleurieu, McLaren Vale (part)              |
| Lower North                              | Clare Valley                               |
| Riverland & Murray Mallee                | Riverland                                  |
| South East (Limestone Coast)             | Limestone Coast                            |

The potential workforce for the wine industry is affected by many factors, including distribution of populations, competing industries, and the like. The following table measures the size of the total workforce and unemployment in regions across South Australia. As mentioned previously, the residential location of the labour force is not always an indicator of the location of their work; regions close to the Adelaide metropolitan area in particular are likely to experience people travelling across regions to work.

#### Regional Labour Force Statistics, December 2006

|  | Labour Force | Unemployment rate |
|--|--------------|-------------------|
| Adelaide Metro (excl. Southern Adelaide) | 412,544      | 5.4%              |
| Southern Adelaide                        | 173,044      | 5.2%              |
| Barossa                                  | 19,698       | 3.1%              |
| Mt Lofty Ranges                          | 21,082       | 2.9%              |
| Fleurieu                                 | 14,240       | 5.1%              |
| Lower North                              | 10,546       | 2.8%              |
| Riverland & Murray Mallee                | 34,273       | 5.2%              |
| South East (Limestone Coast)             | 33,741       | 4.2%              |

Source: DEWR Small Area Labour Markets, December Quarter 2006

#### Education and Qualifications

Data from the 2001 Population Census shows that people employed in the wine industry generally have a slightly lower level of qualifications than other industries.

Almost 68 per cent of people employed in grape growing have no formal post-school qualifications, and 54 per cent of people employed in wine manufacturing. The average across all other industries was 51 per cent.

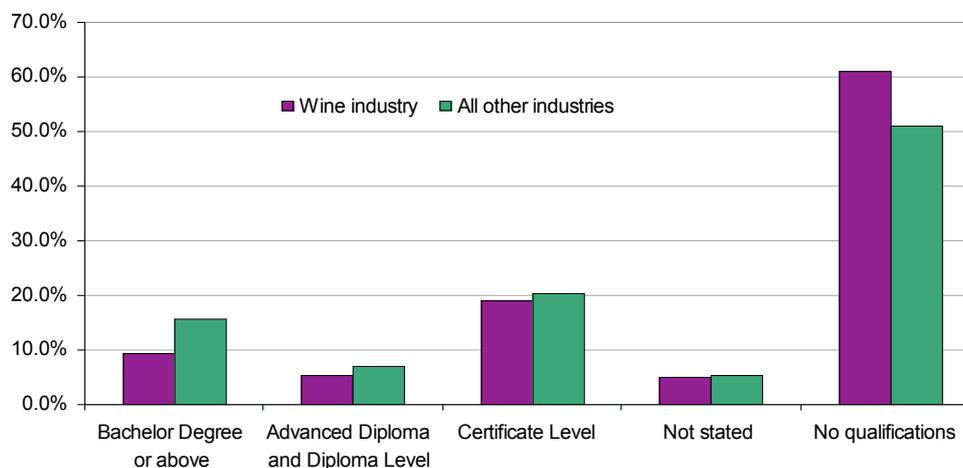
#### Level of Qualifications in Wine Industry, 2001

| Highest Qualification              | Grape Growing | Wine Manufacturing | Wine Industry |
|------------------------------------|---------------|--------------------|---------------|
| Bachelor degree or above           | 389           | 726                | 1,115         |
| Advanced Diploma and Diploma Level | 278           | 377                | 655           |
| Certificate Level                  | 1058          | 1,210              | 2,268         |
| Level of education not stated      | 307           | 300                | 607           |
| No qualifications                  | 4,256         | 3,059              | 7,316         |
| Total                              | 6,288         | 5,672              | 11,961        |

Source: ABS Population Census 2001

The most common qualification level for the wine industry was the certificate level, with 19 per cent of people employed holding qualifications at that level (20.5 per cent for all other industries). Those people with tertiary qualifications at the bachelor degree level or above comprised 9.3 per cent of wine industry employees (15.3 per cent in all other industries).

### Level of Qualifications, 2001



Source: ABS Population Census 2001

### Education, training and apprenticeships

As discussed in the section on occupations, there are a wide variety of tasks and roles in the wine industry, many of which will involve formal training and qualifications of some sort, including traineeships and apprenticeships. The following table shows numbers in traineeships and apprenticeships associated with the wine industry.

#### Commencements of Apprenticeships and Traineeships, Wine Industry

|                               | 2004 | 2005 | 2006 |
|-------------------------------|------|------|------|
| Grape Growing                 | 13   | 6    | 13   |
| Wine and Spirit Manufacturing | 118  | 236  | 181  |

Source: National Centre for Vocational Education Research (NVCEr)

As can be seen in the following table, most apprentices and trainees in the wine industry are training at lower end occupations; with more than 40 per cent training for labourer or related positions. There are also significant numbers of people training in the Associate Professional and Intermediate Production and Transport Worker fields.

#### Apprentices and Trainees – Associated Occupation groups

|  | 2004 | 2005 | 2006 |
|--|------|------|------|
| Managers & Administrators                      | 0    | 0    | 3    |
| Professionals                                  | 1    | 0    | 0    |
| Associate Professionals                        | 14   | 63   | 34   |
| Tradespersons & Related Workers                | 4    | 10   | 10   |
| Advanced Clerical & Service Workers            | 0    | 0    | 0    |
| Intermediate Clerical, Sales & Service Workers | 7    | 10   | 6    |
| Intermediate Production & Transport Workers    | 14   | 22   | 61   |
| Elementary Clerical, Sales & Service Workers   | 0    | 0    | 0    |
| Labourers & Related Workers                    | 91   | 137  | 79   |
| Total  | 131  | 242  | 193  |

Source: National Centre for Vocational Education Research (NVCEr)

VET students may also be undertaking a range of studies which are not so easily identifiable, with the intention of working in the wine industry.

There are a range of courses available through South Australian universities directly relevant to the wine industry. The major courses are listed in the following table. As can be seen, the majority of students are undertaking studies in either Oenology or Wine Marketing. Students may also study by distance education at other universities, which are not included in this table.

#### Higher Education South Australia - Number of students and completions, 2005

|   | Ongoing Students | Students completing study |
|---|------------------|---------------------------|
| Bachelor of Agricultural Science (Oenology)                       | 92               | 49                        |
| Bachelor of Agricultural Science (Viticultural Science)           | 6                | 6                         |
| Wine Marketing (Bachelor and Diploma level)                       | 335              | 40                        |
| Wine Business (Master, Graduate Diploma and Graduate Certificate) | 67               | 16                        |
| Oenology – other course levels                                    | 62               | 4                         |
| Viticulture – other course levels                                 | 12               | 7                         |

Source: South Australian Universities

It should be noted that other studies may also contribute to careers in the wine industry, particularly given the wide range of occupations as previously noted.

#### School based viticulture and wine activities

Students at South Australian secondary schools have various opportunities to engage in various levels of wine industry activity. While some schools base their courses outside formal vocational education and training (VET) programs, production horticulture is often combined with viticulture activities - planting, pruning, crop and water management and disease control combine with crushing, fermenting, cellaring and bottling wine. Wine making activities can also be conducted as part of formal chemistry classes, while art classes provide an opportunity to design wine labels.

- in 2006 there were 46 VET students enrolled in food processing (wine) and 264 VET students enrolled more broadly in Rural Operations/ horticulture (it is not possible to determine how many of these students are enrolled in viticultural activities)
- Australian School based apprenticeships (ASbA) - 3 students are currently in training in Food Processing (wine) while 10 students are enrolled in Rural Operations as at July 2007.
- extensive activities occur in the major winegrowing regions of the state – Coonawarra, Clare, Barossa and McLaren Vale areas
- local area partnerships between various schools contribute to the establishment of regional “centres” such as those operating between Willunga High School and Tatachilla Lutheran College.
- Nuriootpa High School produces four wines annually and is the main wine production school in the district. Faith Lutheran College in the Barossa opened a purpose built winery in 2002 expanding their annual crush from half a tonne of fruit in 1995 to 15 tonne in 2004.
- several suburban schools offer vineyard management and winemaking training which includes picking grapes, taking cuttings, hand pruning vines, canopy maintenance and the identification of pests and diseases.

### Trends in employment

Updated information on employment is generally not available at the level of detail to specifically identify the wine industry. However, it is possible to make some estimate of employment by looking at broader levels of industry, and the share of employment that the wine industry has of those broader industry groups.

Most employment data available is from the 2001 Population Census. The ABS monthly Labour Force Survey (LFS) publishes employment by industry on a quarterly basis, but at a higher level of aggregation (3 digit ANZSIC), so that data from that source is available for the broader industry descriptions of Horticulture and Fruit Growing (ANZSIC Group 011) and Beverage and Malt Manufacturing (ANZSIC Group 218).

ANZSIC class 0114 (Grape Growing) accounted for 54 per cent of employment in Horticulture and Fruit Growing in 2001, and Wine and Spirit Manufacturing comprised 88 per cent of all employment in Beverage and Malt Manufacturing at the same time.

The following graph represents estimated employment growth within the wine industry from August 2001. The data is based on the share of employment calculated above, and assumes that share of employment in broader industries has continued at the same rate.

As can be seen, employment has fluctuated considerably over the last several years, reaching a high point in late 2003 before declining through to late 2006. The latest data from February 2007 shows a resurgence of employment generally in the industry. The general trend in the industry shows declining employment in grape growing and growing employment in wine and spirit manufacturing, though employment in both industries has fluctuated considerably over the last few years.



Source: ABS Labour Force Survey

## Occupations

Because of the disparate nature of activities within the wine industry, there is a similar wide spread of occupations involved. Similar to the industry classification mentioned earlier, The ABS has a classification of occupations, based on common groupings of tasks undertaken. Based on this classification, the top 10 occupations in the wine industry are shown in the following table.

### Major Occupations in Wine Industry, 2001

| Occupation   | Number of people employed | Share of total wine industry employment |
|--|---------------------------|---|
| Fruit, Vegetable or Nut Farm Hand                    | 4,082                     | 34.1%                                   |
| Fruit and Nut Grower                                 | 2,660                     | 22.3%                                   |
| Packager and Container Filler                        | 909                       | 7.6%                                    |
| Oenologist   | 384                       | 3.2%                                    |
| Fitter   | 140                       | 1.2%                                    |
| Agricultural and Horticultural Mobile Plant Operator | 140                       | 1.2%                                    |
| Forklift Driver                                      | 135                       | 1.1%                                    |
| Secretary  | 111                       | 0.9%                                    |
| General Clerk  | 92                        | 0.8%                                    |
| Sales Assistant (Food and Drink Products)            | 91                        | 0.8%                                    |

Source: ABS Population Census 2001

Just over one-third (34.1 per cent) of all people employed in the wine industry are farm hands, and a further 22.3 per cent are fruit growers.

In attempting to more simply understand the myriad of occupations in the wine industry, the following table depicts employment in categories that have been generally accepted as descriptors of major activity. The table aggregates occupations according to their best fit into a category of activity, or job family. It is acknowledged that many occupations will span more than one category, and that some employees will have a range of duties that may make it difficult to accurately classify their role in the sense of a definable occupation.

### Major Activities in Wine Industry, 2001

| Activities                    | Number of people employed | Share of total wine industry employment |
|-------------------------------|---------------------------|---|
| Vineyard operations           | 7,158                     | 58.0%                                   |
| Cellar Operations             | 431                       | 3.5%                                    |
| Cellar Door Sales             | 218                       | 1.8%                                    |
| Laboratory Operation          | 169                       | 1.4%                                    |
| Bottling and Packaging        | 2,084                     | 17.5%                                   |
| Warehouse and Distribution    | 178                       | 1.5%                                    |
| Marketing and Sales           | 211                       | 1.8%                                    |
| Management and Administration | 1,472                     | 12.3%                                   |

Source: ABS Population Census 2001

## WINE INDUSTRY WORKFORCE FORECASTS

*It needs to be remembered that even the best forecasting models do only a moderate job of projecting employment levels into the future. The complexity of the wine industry and the broader economy is such that it is not possible to make accurate projections of future labour/skill needs in any detail, or for more than a few years into the future. The projections below are the best estimate we can provide based on the available data, remembering we are still utilising 2001 Census figures.*

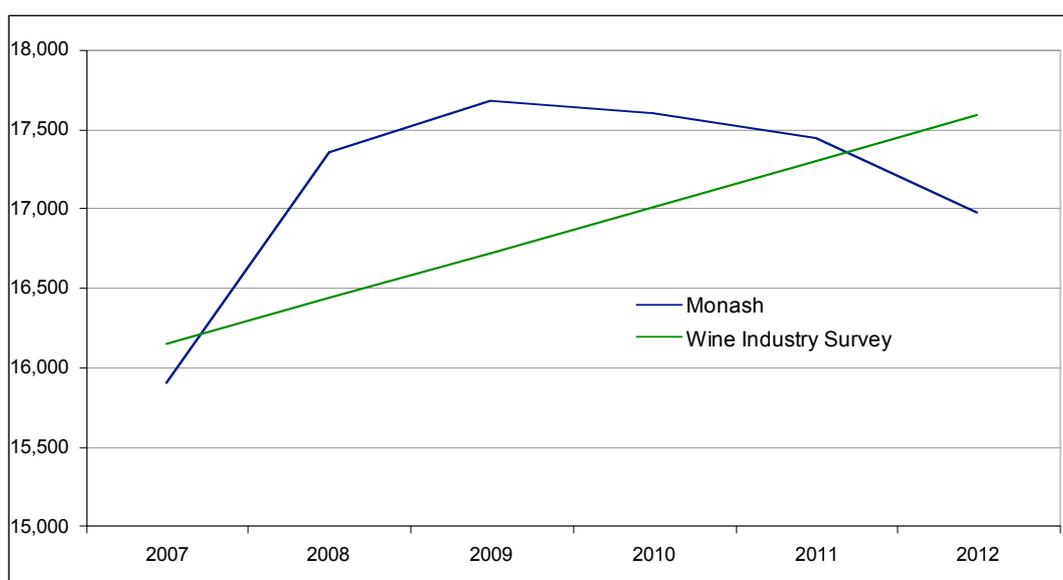
### Wine Industry - Future employment levels forecasts

The following graph compares potential changes to the workforce based on employment growth forecasts contained in the Monash model and data collected in the SA Wine Industry Employment Strategy surveys.

The Wine Industry survey projections are based on the employment level expectations of employers to 2010, and constant rates of growth are assumed.

As can be seen, employer expectations project the wine industry workforce to grow at a rate of 1.8 per cent per year, resulting in total growth of just over 1,400 people to 2012. Following this model, the total wine industry workforce would increase from 16,140 employees in 2007 to 17,600 in 2012.

The Monash projection series projects initial strong growth to 2009 and a following decline in employment, with the net result of an increase of almost 1,100 employees over the period (indicating an average increase of 1.4 per cent per year). The Monash series forecasts workforce of 15,900 in 2007, rising to a peak of 17,700 employees in 2009 before declining to 17,000 in 2012.



### Projected employment estimates for 2010 are:

- **Monash: 17,600**
- **Wine Industry Survey: 17,007**

### These projections are based on the following assumptions:

#### Monash

The Monash model produces employment projections for ANZSIC Groups 011 (Horticulture and fruit growing) and 218 (Beverage and Malt Manufacturing). Projections for the wine industry in total were calculated based on the share of employment at the 2001 Census of ANZSIC Classes 0114 (Grape Growing), 2183 (Wine Manufacturing) and 2184 (Spirit manufacturing).

**Wine Industry Survey**

Projections for the Wine Industry Survey were based on the following –

- Estimate of base population at mid-2007, plus
- Employer expectations of employment levels at 2010.

The base population was calculated using average employment levels from both the Large Employer Survey and the Small Employer Survey, plus an estimate of grapegrowers from the 2006 Labour Force Survey, minus an estimate of those grapegrowers who might also have been counted in employment levels in either of the surveys (to avoid possible duplication)

**Permanent employees mid-2007 base population estimate**

The estimate was calculated in the following way:

- Winetitles Industry Directory 2007 lists 563 enterprises in SA
- Micro-med size enterprises average 9 employees (average from SAWIES small employer survey of 235 enterprises) x 551 enterprises = 4959
- Large companies average 456 (average from SAWIES large employer survey of 10 enterprises) x 12 enterprises = 5472

**Estimated total permanent employees: 10,431**

LARGE COMPANY SEASONAL Full Time Equivalents: average 73 x 12 enterprises = 876

*Employees counted above with main activity as grape growing:*

- 10 large companies averaged 73 employees x 12 = 876
- 235 small averaged 3.2 employees x 551 = 1,770
- Estimated total: 2,646

2006 Labour Force Survey estimate of employees involved in grapegrowing: 7,480,

- 2,646 (less those already counted in survey population)

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= 4,834

**TOTAL INDUSTRY EMPLOYMENT ESTIMATE:**

10,431 (winetitles) + 876 (seasonal FTEs)+ 4834 (grape growers) = **16, 141**

**ADDITIONAL EMPLOYEES REQUIRED FOR 2010**

4 of 10 large companies indicated they intend to recruit additional staff.

- TOTAL 48 employees

55% of small companies indicated they intend to recruit additional staff:

- MEAN 2.7 employees

55% of 551 companies (303) x average 2.7 employees = 818

**ESTIMATED ADDITIONAL STAFF: 866**